

Attachment B
Early Scoping Comments

Submission Number	Date Submitted	Submitter Name	E-mail	Street Address	City	State	Zip Code	Organization	Form Letter	Submission Type	Duplicate
ES01	17 Apr 19	Will Hickman	Will.Hickman@shell.com							E-mail	
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ES03	25 Apr 19	Brandt Mannchen	brandtshnfbt@juno.com	20923 Kings Clover Court	Humble	TX	77346			E-mail	
ES04	25 Apr 19	Brandt Mannchen	brandtshnfbt@juno.com	20923 Kings Clover Court	Humble	TX	77346			Mail	Yes
ES05	27 Apr 19	David Baldwin	SuperOne@comcast.net							E-mail	
ES06	29April19	Marian Finnell	marian.finnell@gmail.com							E-mail	
ES07	30April19	Micheal Huffmaster	Michael.Huffmaster@att.net							E-mail	
ES08	30April19	Suzanne Berdlau		20214 Monkswood	Katy	TX	77450			Public Meeting	
ES09	30April19	David Drake	Daviddrake1981@att.net	21523 Indigo Hill Ln	Katy	Tx	77450			Public Meeting	
ES10	30April19	Will Hickman	will.hickman@shell.com	106 Electra Dr	Houston	Tx	77079			Public Meeting	
ES11	30April19	Micheal Huffmaster	Michael.Huffmaster@att.net	102 Cove Correl Ln	Houston	Tx	77042			Public Meeting	
ES12	30April19	Judith McGlaughlin	judith.hall.mcgloughlin@gmail.com	3122 Misty Brook Ln	Houston	TX	77084			Public Meeting	
ES13	30April19	Fred Neill	fneill_katy@yahoo.com	20911 Park Canyon Dr	Katy	TX	77450			Public Meeting	
ES14	30April19	Tom Specht	ttspecht@sbcglobal.net	326 Jewel Park Lane	Houston	TX	77094			Public Meeting	
ES15	30April19	Brian Weatherall	skridlo@sbcglobal.et	19611 Cottage Park Circle	Houston	TX	77094			Public Meeting	
ES16	1May19	Darell Stucky	darrell313@aol.com							E-mail	
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ES20	2May19	Anonymous								Public Meeting	
ES21	2May19	Dalia Azios	azios2@sbcglobal.net	10807 Candlewood Dr	Houston	Tx	77042			Public Meeting	
ES22	2May19	Toma Boane	tmbokane@aol.com	1507 Village Green Ct	Houston	TX	77077			Public Meeting	
ES23	2May19	Mel Derong	salesderong@aol.com	2810 Redbud	Katy	Tx	77493			Public Meeting	
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ES25	2May19	Beverly Kimmitt	bkimmitt57@gmail.com	615 Yellow tulip Trail	Houston	Tx	77079			Public Meeting	
ES26	2May19	Frederick Plummer	fbplummer@gmail.com	866 Plainwood Dr	Houston	Tx	77079			Public Meeting	
ES27	2May19	Robert Rossen	robertrossen@att.net	1122 Fleetwood Place Dr	Houston	TX	77029			Public Meeting	
ES28	2May19	Jeanluc Streiff	jeanlaustreiff@yahoo.com	560 Rancho Baker Dr	Houston	TX	77079			Public Meeting	
ES29	3May19	Chris Melton	jcmr1@gmail.com							E-mail	
ES30	3May19	Colin Leach	leachcp@swbell.net	1019 Trapper Hill Dr	Houston	TX	77077			E-mail	
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ES34	4May19	Linda Wilshire	ewilshire@comcast.net	14207 Bonney Brier Dr	Houston	TX	77069			E-mail	
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ES46	7May19	Micheal Huffmaster	micheal.huffmaster@att.net	102 Cose Creek Ln	Houston	TX	77042			Public Meeting	
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ES51	09-May-2019	J. Tracy Thorleifson	jtthorleifson@gmail.com							E-mail	
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ES54	10-May-2019	James Fisher	fisherjb@sbcglobal.net							E-mail	
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ES82	20-May-2019	Christopher Abel	chris.abel@kwcommercial.com	920 S. Fry Road	Katy	TX	77450		Yes -- #1	E-mail	
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ES86	20-May-2019	Rick Wolfe	rickwolfe@sbcglobal.net						Yes -- #1	E-mail	
ES87	20-May-2019	Friedhelm & Judann Leuning	fluening@mac.com	12470 Honeywood Trail	Houston	TX	77077			Mail	
ES88	21-May-2019	Jack McClure	mcclorejrjr@gmail.com							E-mail	
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ES90	21-May-2019	Michael Chan	michael.chan@dell.com	2718 King Poin View Lane	Spring	TX	77388			E-mail	
ES91	21-May-2019	Janet Beall	janbeall1861@yahoo.com		Spring	TX				E-mail	
ES92	21-May-2019	Ann May	abmay11@gmail.com	11846 Castle Ridge Drive	Houston	TX	77077			E-mail	
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ES94	21-May-2019	Joseph/Joan Colquitt	jmcollquitt@aol.com	4610 Drake Falls Court	Katy	TX	77450		Yes -- #1	Mail	
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ES103	22 May 19	Randall L. Jones		14303 Cindywood Drive	Houston	TX	77079	Memorial Super Neighborhood Council		Mail	
ES104	22 May 19	Rose Mary Smith		337 Champions Colony III	Houston	TX	77069			Mail	
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ES114	24 May 19	Guy Hagstette	Ghagstette@kinderfoundation.org	2229 San Felipe, Suite 1700	Houston	TX	77019			E-mail	
ES115	24 May 19	Mike & Peggy O'Neil	mike.peggy.o@gmail.com	15123 Pebble Bend Drive	Houston	TX	77068			E-mail	
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ES118	24 May 19	Paul M. Scott	eyemd18@sbcglobal.net	5143 Loch Lomond Drive	Houston	TX	77096			Mail	
ES119	25 May 19	Robert Chin	r.w.chin@att.net	21302 Crystal Greens Drive	Katy	TX	77450			E-mail	

ES120	25 May 19	Mary Jo Martin	maryjom@cynapsus.com							E-mail	
ES121	25 May 19	Mark Kosmoski, P.E.	mark@kirstkosmoski.com	2400 Augusta, Ste 405	Houston	TX	77057			Mail	
ES122	25 May 19	Bill & Natalie Lamont	bnlamont@earthlink.net	5235 Indigo St.	Houston	TX	77096			Mail	
ES123	25 May 19	Larry McCord	lnfmccord@gmail.com	19430 Enchanted Stream Dr	Spring	TX	77388			Mail	
ES124	26 May 19	Mark & Pat Hubert	mark_hubert@sbcglobal.net	22014 Ravenna Lane	Katy	TX	77450			E-mail	
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ES127	26 May 19	Leonard Teich	teichlm@comcast.net							E-mail	
ES128	26 May 19	DeLaine R. Stehle	DeLaine.Stehle@gmail.com	703 Trademark Pl	Houston	TX	77079-2413			E-mail	
ES129	27 May 19	Cindy Chapman	WCCPresident@westburycrier.com	5322 W Bellfort, Suite 100	Houston	TX	77035	Westbury Civic Club		E-mail	
ES130	27 May 19	Charles Billington		5403 Beechnut St	Houston	TX	77096			Mail	
ES131	28 May 19	Kay Haslam	kayhaslam@ymail.com	1718 Potomac Dr.	Houston	TX	77057			E-mail	
ES132	28 May 19	Nettie and Dan May	dmay6565@aol.com							E-mail	
ES133	28May19	Elizabeth Jensen	ejhekp@prontomail.com							E-mail	
ES134	28May19	John Glen Poole	jgp43@comcast.net	19314 Enchanted Oaks Dr.	Spring	TX	77388			E-mail	
ES135	28May19	Patti Rocco	patti.rocco@gmail.com							E-mail	
ES136	28May19	Terry Cominsky	txcominsky@aol.com	8923 Atwell	Houston	TX	77096			E-mail	
ES137	28May19	James Langley	jlangley001@gmail.com							E-mail	
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ES139	28May19	Dana M & Elizabeth G. Barkley	dbarkley@sbcglobal.net; ebarkley@sbcglobal.net	5242 Imogene St.	Houston	TX	77096			E-mail	
ES140	28May19	Honorable KP George		301 Jackson St	Richmond	TX	77469	Fort Bend County		Mail	
ES141	28May19	Angus and Trisha Sites	trishasites@att.net	2410 Randal Point Ct	Spring	TX	77388			Mail	
ES142	28May19	Orville Wiens	wiensOT@yahoo.com	6209 Pecan Lane	Katy	TX	77493			Mail	
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ES145	29May19	Nan Lv	Lvanan@yahoo.com	2422 Underwood St	Houston	TX	77030			E-mail	
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ES147	29May19	Whitney Smith-Bogardus	wsmitty1961@yahoo.com	2330 Glen Haven Blvd	Houston	TX	77030	Yes -- #2		E-mail	
ES148	29May19	Laurie Lonergan	snorkkus@yahoo.com	2526 Blue Bonnett	Houston	TX	77030	Yes -- #2		E-mail	
ES149	29May19	Deborah McCoy & Robert Keenan	dmccoy11@comcast.net	2351 Kelving Street	Houston	TX	77030			E-mail	
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ES158	29May19	Steven Finkelman	stevef@seopeimp.com	5303 Baesheather Dr	Houston	TX	77096			E-mail	
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ES168	29May19	Don Paul Jones	donpjones@gmial.com	30 Stillforest St	Houston	TX	77024			Mail	
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ES175	30May19	Don Paul Jones	donpjones@gmial.com	30 Stillforest St	Houston	TX	77024			E-mail	Yes
ES176	30May19	Pamela Campbell	dcampbell63@sbcglobal.net					Yes -- #1		E-mail	
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ES206	30May19	Cyndy Sax	c.sax@sbcglobal.net	5314 Carew	Houston	TX	77096			Mail	
ES207	30May19	Rebecca Stuart	drstuart@swbell.net	4918 Loch Lomond Dr	Houston	TX	77096			Mail	
ES208	30May19	Kay Swint	kayswint@gmail.com	5402 Carew St	Houston	TX	77096			Mail	
ES209	31May19	Shelly Austin	6.13@att.net							E-mail	
ES210	31May19	Chris Girrens	Chris.J.Girrens@p66.com							E-mail	
ES211	31May19	Marcia Livingston	maliving@gmail.com	5814 Portal Dr	Houston	TX	77096			E-mail	
ES212	31May19	Carolyn White	cwhite@memorialparkconservancy.org	7575 North Picnic Ln	Houston	TX	77007	Memorial Park Concervancy		E-mail	Yes -- 186
ES213	31May19	Cary Watson	cary.watson1@att.net	2425 Fountain Vew Suite 360	Houston	TX	77057			E-mail	
ES214	31May19	Robin Acevedo	robinacevedo@peoplepc.com						Yes -- #1	E-mail	
ES215	31May19	Colleen Sweeney	colleen@cdcasa.net	5202 Indigo St	Houston	TX	77096			E-mail	
ES216	31May19	John Groweg	jgroweg@att.net	1010 Andrew Hill Rd	Houston	TX	77077			E-mail	
ES217	31May19	Kelly Levitt	kelly.levitt@gmail.com							E-mail	
ES218	31May19	Janet Griffiths	dgriffiths1@sbcglobal.net							E-mail	
ES219	31May19	Brian Heil	jb_heil@sbcglobal.net	1010 Orchard Hill	Houston	TX	77077			E-mail	
ES220	31May19	Larry Benthall	larry.benthall@gmail.com	8806 Prichett Dr	Houston	TX	77096			E-mail	
ES221	31May19	Philip Kuetka	pkunetka@aol.com	5611 Edith St	Houston	TX	77081			E-mail	
ES222	31May19	Richard Ward	cacree@abhr.com	3200 Southwest Freeway Suite 2600	Houston	TX	77027	Willow Fork Drainage District		E-mail	
ES223	31May19	Jordan Macha (Bayou City Waterkeeper) Bob Stokes (Galveston Bay Foundation) Jill Boullion (Bayou Land Conservancy) Beth White (Houston Parks Board) Sarah Bernhardt (Bayou Preservation Association) Deborah January-Bevers (Houston Wilderness) Anne Olson (Buffalo Bayou Partnership) Mary Anne Piacentini (Katy Prairie Conservancy) Helen E. Drummond (Houston Audubon)	lisag@houstonparksboard.org	300 North Post Oak Lane	Houston	TX	77024	Greater Houston Conservation Flood Mitigation Group		E-mail	
ES224	31May19	Sarah Bernhardt	sbernhardt@bayoupresevation.org	7305 Naigation Bld. Suite A	Houston	TX	77011	Bayou Presevation Association		E-mail	
ES225	31May19	Ryan Bernard	ryan@rybernard.com	2226 Welch St	Houston	TX	77019			E-mail	
ES226	31May19	Robert Hoff	ptrsh3@cs.com							E-mail	
ES227	31May19	Crystal Dunbar	crissyrose21@yahoo.com		Houston	TX	77084			E-mail	

ES228	31May19	Howard Sears	beetfield@hotmail.com	4749 Hidden Springs Dr	Houston	TX				E-mail	
ES229	31May19	Elizabeth Burnham	elizabeth@jdmetails.com							E-mail	
ES230	31May19	Lee Guner	lgunner@comcast.net							E-mail	
ES231	31May19	Nat Uresti	naturesti@yahoo.com	5807 Ludington Dr	Houston	TX	77035			E-mail	
ES232	31May19	Martha Johnson	martha7796@gmail.com	4600 Holt St	Bellaire	TX	77401			E-mail	
ES233	31May19	Stephen Polnaszek	spolnaszek@comcast.net							E-mail	
ES234	31May19	John Davis	John.D@langfordeng.com	1080 West Sam Houston Pkw N #200	Houston	Tx	77043			E-mail	
ES235	31May19	Sesha Duvvuri	sesha.duvvuri@gmail.com							E-mail	
ES236	31May19	Neelima Godugu	ngodugu@gmail.com	4735 Blueberry Hill Drive						E-mail	
ES237	31May19	William and Karen Cook	langhamcreeknow@gmail.com							E-mail	
ES238	31May19	Beth White Houston Parks Board	lisag@houstonparksboard.org	300 North Post Oak Lane	Houston	TX	77024	Houston Parks Board		E-mail	
ES239	31May19	Sherry Hibbert	sherry.hibbert@gmail.com							E-mail	
ES240	31May19	Luis Gonzales	president@ascehouston.org	PX Box 420472	Houston	TX	77242	American Society of Civil Engineers		E-mail	
ES241	31May19	Heath Melton Augustus "Auggie" Campbell	acampbell@westhouston.org	820 Gessner Rd Suite #1310	Houston	Tx	77024	West Houston Association		E-mail	
ES242	31May19	Scott Jones	sjones@galvbay.org	1100 Hercules Ave Suite #200	Houston	Tx	77058	Galveston Bay Foundation		E-mail	
ES243	31May19	Mary Anne Piacentini	maryanne@katyprairie.org	5615 Kirby Dr Suite 867	Houston	Tx	77005	Katie Prairie Conservancy		E-mail	
ES244	31May19	Cynthia Hand Neely	cynthia.neely7@gmail.com	403 Hallow Dr	Houston	Tx	77024			E-mail	
ES245	31May19	Jim Robertson	jhyer@aol.com	12422 Normont Dr	Houston	Tx	77070			E-mail	
ES246	31May19	Naomi McElroy	jobswingaldy@gmail.com	2710 Barclay Lake Lane	Spring	Tx	77388			E-mail	
ES247	31May19	Claudette McCamley	cmc197@sbcglobal.net							E-mail	
ES248	31May19	J S Gee	jesgee1@gmail.com							E-mail	
ES249	31May19	Rick Turrentine	rickturrentine@comcast.net	14902 Carolcrest Dr	Houston	TX	77079			E-mail	
ES250	31May19	Beverly Schorre	bschorre@sbcglobal.net							E-mail	
ES251	31May19	John Polisini	johnpolisini@sbcglobal.net	5446 Valkeith Dr	Houston	Tx	77096			E-mail	
ES252	31May19	Howard Sacks	sackshow@aol.com	9407 Brown Leaf Circle	Houston	TX	77096			E-mail	
ES253	31May19	Jordan Macha	jordan@bayoucitywaterkeeper.org	2010 N Loop West Ste 103	Houston	TX	77005	Bayou City Waterkeeper		E-mail	
ES254	31May19	Gianni Matteucci	gwrmatteucci@gmail.com	14722 Broadgreen Dr.	Houston	TX	77079			E-mail	
ES255	31May19	Susan Chadwick	sbb@savebuffalobayou.org					Save Buffalo Bayou		E-mail	
ES256	31May19	Eric Munschner	emunscher@swca.com	10245 West Little York Rd	Houston	TX	77040	Turtle Survival Alliance		E-mail	
ES257	31May19	Richard Hyde	rnhyde@gmail.com							E-mail	
ES258	31May19	Darlene Marmottin	dmarmottin@sbcglobal.net	5506 Peace Court	Houston	TX	77041			E-mail	
ES259	31May19	Jeffery Peters	jeffpeters81@gmail.com	4419 Osby Dr	Houston	TX	77096			E-mail	
ES260	31May19	Janet Hill	janetjhill@gmail.com	4314 Wigton Dr	Houston	TX	77096			E-mail	
ES261	31May19	Bill Ware	billware@energybusiness.com							E-mail	
ES262	31May19	Vanessa Sommer	vsommer@mac.com	2430 Randa point Ct	Spring	Tx	77388			E-mail	
ES263	31May19	Thor Hanson	thorhanson@comcast.net	19019 Lakeside Cove	Houston	TX	77094			Mail	
ES264	31May19	Clet Lahdry	marsha_landry50@yahoo.com	6201 Pecan Ln	katy	Tx	77493			Mail	
ES265	31May19	Rita Marsales	marita@lobal.net	4729 Spellman Rd	Houston	TX	7705			Mail	
ES266	31May19	Sally Miller	sallymillerphd@gmail.com	7516 Morningside Dr	Houston	TX	77030			Mail	
ES267	31May19	Breisen Miller	breisen@gmail.com	7516 Morningside Dr	Houston	TX	77516			Mail	
ES268	31May19	Ann Vise Nunes	annunes@gmail.com	5411 Rutherglenn Dr	Houston	Tx	77096			Mail	
ES269	31May19	Rhonda Sampier	rhona.sampiere@gmail.com	8902 Ferris Dr	Houston	TX	77096			Mail	
ES270	31May19	William Stanton	stantoninterests@aol.com	7802 Ella Lee	Houston	TX	77063			Mail	
ES271	31May19	Mary Van Kerrebrook		777 Preston Apt 40F	Houston	TX	77002			Mail	
ES272	31May19	Louis Lester	lesterlouisM@gmail.com	6518 Euerhill Cir	Katy	Tx	77450			Mail	
ES273	01June19	Susan Thacker	supperswapping@sbcglobal.net							E-mail	
ES274	01June19	Eric and Lana Grossman	ericpgrossman@comcast.net	19914 Westside Forest Dr	Houston	TX	77094		Yes -- #1	E-mail	
ES275	01June19	Beta Fox	bfox71@comcast.net						Yes -- #1	E-mail	
ES276	01June19	Jane Bock	janebock@comcast.net	6211 Braes Heather Dr	Houston	TX	77096			Mail	
ES277	02June19	John McCrevey	mccrevey@yahoo.com							E-mail	
ES278	02June19	Neil McHugh	neilmchugh@outlook.com	5435 Grape St	Houston	TX	77096			E-mail	
ES279	02June19	Ed Browne	drainage.coalition@gmail.com					Residence Against Flooding		E-mail	

From: Will.Hickman@shell.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou
Date: Wednesday, April 17, 2019 5:08:23 PM

Thank you for providing a forum for public feedback.

I live near the beltway and Buffalo at the confluence of Rummel Creek.

Our neighborhood was under water for 2 weeks during the dam releases,
and will be again next time the flood gates are opened, unless there are infrastructure changes.

In short, I am in favor of any increases of storage and conveyance, and removing the bottleneck at the Beltway.

Increase Storage:

-01

Make Addicks and Barker reservoirs deeper and larger

Reduce flow rates into Addicks and Barker reservoirs

Increase inline storage along Buffalo

Increase Conveyance:

-02

Tunnel from Addicks and Barker reservoirs to ship channel

Tunnel or canal connecting Buffalo with Braes and Brazos along Centerpoint easement (near Wilcrest)

Complete 1965 widening and straightening project from Beltway to Shepherd

Remove Bottleneck at Beltway 8:

-03

Two options, increase conveyance downstream and complete 1965 widening and straightening project from Beltway to Shepherd, or

reduce conveyance upstream by undoing the partially completed 1965 project, and allowing channel to revert to natural state from highway 6 to Beltway.

I look forward to your townhall meetings in the coming weeks.

Yours,

Will Hickman

281-222-3497

From: [Weber, Andrew R CIV USARMY CESWG \(USA\)](#)
To: [CESWT-BBTRS](#)
Subject: FW: [Non-DoD Source] Buffalo Bayou Study - Disposal Wells
Date: Wednesday, April 24, 2019 1:34:34 PM

-----Original Message-----

From: Mark Cockram [<mailto:macockram@gmail.com>]
Sent: Wednesday, April 17, 2019 1:05 PM
To: Weber, Andrew R CIV USARMY CESWG (USA) <Andrew.R.Weber@usace.army.mil>;
districtg@houstontx.gov
Subject: [Non-DoD Source] Buffalo Bayou Study - Disposal Wells

Dear Mr Weber,

I read the study summary issued by the office of Greg Travis. It was very informative and thanks for sharing. As a victim of Harvey, it is great to see the progress being made towards long term solutions.

As an additional option, I was wondering if water disposal wells had been considered? I am a fellow Oil & Gas Well Engineer and maybe somewhat biased, but this should be cost effective and simple to implement in a timely manner using proven surface / subsea oilfield technology - something Texas is very good at!

The wells could be placed in Barker / Addicks and would just be a wellhead & pump that would not be environmentally obtrusive. I am not an expert on the Geology below Houston, but I believe there are 3 aquifers, 2 of which are well below the groundwater supply, which could be safely isolated.

There are already over 50,000 water disposal wells in Texas;

Blocked<https://www.rrc.state.tx.us/about-us/resource-center/faqs/oil-gas-faq/faq-injection-and-disposal-wells/>

With the right design and power supply, they could be sized to inject high rates. If required, I have worked with wells that can inject 20,000 bopd (80 scf/min). This would of course depend on the formation, and a test well would have to be drilled.

Additionally, wells could be drilled directionally and connect to other facilities, such as the tunnels to the Gulf of Mexico (or other land based storage areas).

Overall, on top of controlled releases, retention, etc, this would be a quick way of draining the reservoirs in times of need.

Yours Sincerely,

Mark Cockram

14827 Bramblewood Dr
Houston, Tx 77079
+1 832 680-8740

From: brandtshnfbt@juno.com
To: [CESWT-BBTRS](#)
Cc: brandtshnfbt@juno.com; elmerz@hal-pc.org; frankblake@juno.com; [Piacentini MaryAnne](#); susanchad@yahoo.com; jaime.gonzalez@tnc.org
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study Scoping Comments
Date: Thursday, April 25, 2019 12:00:43 PM
Attachments: [Buffalo Bayou Tributaries Resiliency Study Comments 2019.docx](#)

Dear Mr. Weber,

Attached are my personal scoping comments about the Buffalo Bayou and Tributaries Resiliency Study.

Brandt Mannchen
20923 Kings Clover Court
Humble, Texas 77346
281-570-7212
brandtshnfbt@juno.com

Top Gut Doctor: I Beg Americans To Throw Out This Vegetable
dr-pedre-md.com

<Blocked<http://thirdpartyoffers.juno.com/TGL3132/5cc1e5a45b4a565a4055bst01vuc>>

Blocked<http://thirdpartyoffers.juno.com/TGL3132/5cc1e5a45b4a565a4055bst01vuc>

<Blocked<https://d32oduq093hvot.cloudfront.net/icons/sponsoredlinksby.png>>

April 25, 2019

Mr. Andrew Weber
Project Manager
Buffalo Bayou and Tributaries Resiliency Study
U.S. Army Corps of Engineers
Galveston District
P.O. Box 1229
Galveston, Texas 77553-1229

Dear Andrew,

Enclosed are my personal comments regarding the Buffalo Bayou and Tributaries Resiliency Study that the U.S. Army Corps of Engineers (Corps), Galveston District, along with the local sponsor, Harris County Flood Control District (HCFCD), is conducting. Since I will be on vacation for three weeks, I am providing these comments early. I have no information about the study but will provide you with some thoughts about flood control in the Buffalo Bayou Watershed.

-01 1) The protection of natural or semi-natural streams, rivers, bayous, creeks, etc., or segments of these habitats, and their floodplains, so that natural flood protection and detention capacities are protected along with biological, ecological, recreational, and historical elements and values, is my number one priority. We have so little left of natural or semi-natural streams and what we do have is often degraded or will be destroyed or significantly reduced due to current and future planned HCFCD, City of Houston, Corps, and other entity flood control projects.

-02 Some of the areas which still have a natural or semi-natural ecosystem or ecological processes that function appropriately in the Harris County Area include Buffalo Bayou, lower Greens Bayou (below Highway 90), the Sheldon Lake Watershed, Cypress Creek, Spring Creek, San Jacinto River, Little White Oak Bayou (Woodland Park) East and West Forks of the San Jacinto River, Peach Creek, Caney Creek, Berry Bayou, Clear Creek, Carpenters Bayou, Cedar Bayou, Armand Bayou, and Luce Bayou.

I realize some of these streams are outside the Buffalo Bayou Watershed. But the Buffalo Bayou Watershed is often connected to them. They are important and should be considered in the larger Corps flood study that is being done. I request that I be placed on the public notification list for this larger flood study.

-03 I want the Corps and HCFCD to prepare a list of natural and semi-natural streams in the Buffalo Bayou Watershed and treat these streams or segments of streams differently than how most streams are treated. These streams should be treated as natural floodplain, wildlife, and recreation amenity and not as streams to be dredged out deeper and wider and not as streams where the floodplains and wetlands are cleared, destroyed, and developed.

-04

-04 | These natural and semi-natural streams are vastly more important than streams that have
-05 | been dredged, constructed (natural channel design), and had trees planted. The same
ecological and biological benefits are not shared by streams that have been channelized
(dug deeper and wider). Therefore, the natural and semi-natural streams are worth more
and should be looked upon as “jewels” that should be protected and allowed to evolve.

-06 | 2) For the Corps and HCFCD, resiliency should not just refer to humans. Resiliency
originally was an ecological term and refers to the protection of existing ecosystems that
function well and depend upon floods (natural disturbances) to create, operate, and
maintain these ecosystems. Resilient streams bounce back because they are not stable.
Streams are not supposed to be stable and when the Corps and HCFCD insist they must
be they are destroying a stream’s ability to be ecologically resilient.

-07 | 3) Connectivity between and along the Buffalo Bayou Watershed is important so that
Beaver, River Otter, American Alligator, Alligator Snapping Turtles, fish, and other wildlife
can migrate and occupy new habitat. The Corps and HCFCD should ensure that natural
connectivity is maintained and restored if it has been degraded or destroyed.

-08 | 4) I fear for the environmental and ecological quality of Houston and Harris County. It
appears that all the bad flood projects that in the past people opposed are being
advocated as necessary when they will not stop a Hurricane Harvey flood. I do not want
to see Buffalo Bayou become a channelized conduit.

In the book, **“Habitat Fragmentation and Landscape Change, an Ecological and
Conservation Synthesis”, David B. Lindenmayer and Joern Fischer, Island Press,
2006**, the problem of environmental incremental degradation that we see on our streams
and rivers today is described. The book states, “There is a current propensity for some
political leaders, resource economists, and policy makers to treat the environment like a
“magic pudding” that can provide all things to all people, and every time another slice of
it is taken away then it somehow magically grows back.”

-09 | “Despite such warnings, there is rarely any serious “landscape accounting” for these
developments. That is, whether landscapes can realistically and ecologically support the
continued expansion of these industries and, at the same time, maintain other key
environmental values, ecosystem services, and viable populations of native plants and
animals.”

“Ultimately, many kinds of landscape management problems cannot be tackled seriously
until levels of resource allocation, and type and level of resource use are better planned.”

-10 | It seems the Corps and HCFCD are engaged in “magic pudding” creation and
fragmentation domination. Once natural ecosystems and their ecological processes and

- 10 | the way they function are destroyed it is very difficult to ever have them come back to what they were originally. I fear this study is headed in this direction.
- 11 | 5) Houston flooded in Hurricane Harvey due to rainfall and not storm surge. Ike Dike (coastal barrier, coastal spine, central spine, etc.) cannot prevent rainfall floods. The Corps and HCFCD must address rainfall floods via extensive buy-outs in the 100 and
-12, | 500-year floodplains, require houses be significantly elevated, restore floodplain and
-13 | prairie ecosystems, protect natural landscapes, reduce paved surfaces, reduce watershed development, protect and restore wetlands and streams, and implement other positive ideas. The interaction of this study with coastal barriers and other large-scale
-14 | coastal projects must be revealed to the public so the public knows what will be lost and how the systems operate or conflict together.
- 15 | 6) The Corps and HCFCD need to cultivate the political courage to say “No”, “this must change”, and “we will protect our environment”. As principles, the Corps and HCFCD must keep people out of harm’s way by not putting them there in the first place and work with and not against Nature. We keep repeating our mistakes by making them bigger and so they cover a larger area. That dog will not hunt! We must insert these principles into our planning, public education and participation, flood prevention and control, and regulatory efforts for us to truly change our views.
- 16 | 7) The Corps and HCFCD, in order to protect watersheds that connect to the Buffalo Bayou Watershed and affect it, like the Cypress Creek Watershed, need to prepare and implement a program that protects farmland, ranchland, and forestland around cities and
-17 | counties in the Houston Region. This means buying large areas of the Katy Prairie in Harris and Waller Counties and preserving it for its flood retention, detention, evaporation, and percolation values as well as wildlife, aesthetics, and recreational benefits.
- 18 | 8) The Corps and HCFCD must assume 100% buildout and 80% impervious surface in each watershed for planning, public education and participation, flood prevention and control, and regulatory efforts. In this way we overprotect (maybe) and buffer our flood control efforts.
- 19 | 9) The Corps and HCFCD, as a medium-term goal (50 years), should work toward a total buy-out of the 100-year floodplain and as a long-term goal (100 years), should work toward a total buy-out of the 500-year floodplain.
- 20 | 10) The Corps and HCFCD must take into account building codes and floodplain regulations that require that all structures be pier and beam construction and elevated 3-6 feet higher than indicated by flood maps or other information; require that all county, city, town, village, MUD, and other entities show flood levels on signs in areas susceptible to flooding; require that revised flood maps be prepared every 3 years; require that all legal documents connected with ownership of property or structures reveal the most

- 20 | current 100 and 500-year flood data and the flood history of the property; and require robust and adequately funded public education and participation programs for all flood related issues.
- 21 | 11) The Corps and HCFCD must plan for and implement climate change impact mitigation for more rainfall, more rainfall events, more intense rainfall, more storms, more powerful storms, sea level rise, for all local, state, and federal actions. This is not an option but is a crucial requirement that must not be ignored or underutilized.
- 22 | Local, state, and federal entities must implement a climate change ecological resilience and resistance plan (CCERRP) which reduces climate change air pollutants, mitigates for the effects that, currently and in the future, will occur due to climate change air pollutants that have already been or will be released, and adapts to and protects natural landscapes. Some of the provisions of this plan would protect existing functioning ecosystems; reduce stressors on those ecosystems; restore natural functioning ecological processes; use natural recovery in most instances; acquire buffers and corridors to expand and ensure connectivity of ecosystems; intervene to manipulate (manage) ecosystems as a last resort; reduce climate change gasses from actions/activities.
- 23 | The Corps and HCFCD should implement local, state, and federal buy-out policies that implement climate change mitigation and flood prevention using local, state, and federal created funds and other money generated methods to maximally implement “strategic withdrawal”, “keep people out of harm’s way”, and “protect our ecosystems and green infrastructure” philosophies. Begin these programs with voluntary buy-outs but retain mandatory buy-outs when public safety, health, and ecological health are at risk.
- 24 | Implement a policy of acquisition (fee title or conservation easement), protection, and restoration of local, state, and federal public landscapes and ecosystems (with appropriate compatible recreational use and protection of wildlife habitat from too much human disturbance) for at least 50-80% of the landscape in each watershed.
- 25 | 12) The Corps and HCFCD should not support or study massive underground floodwater conduits to Galveston Bay. These proposals are not only environmental destructive and cost a lot of money, but they result in a water pollution point source that will affect Galveston Bay with sediment and water pollutants. We can do much better than this.
- 26 | What we need is a principle that we will delay water as much as possible instead of shooting downstream or into Galveston Bay. Protection of Galveston Bay must be a priority.
- 27 | 13) The Corps and HCFCD should require that a human carrying capacity study be conducted for each watershed for water quality, quantity, and flooding purposes and discuss, publicize, and implement programs to implement this carrying capacity. We also

-27 | need a local, state, and federal population and development growth study and policy that is prepared for discussion, publication, and implementation.

I appreciate this opportunity to comment. Thank you.

Sincerely,

Brandt Mannchen
20923 Kings Clover Court
Humble, Texas 77346
281-570-7212
brandtshnfbt@juno.com

April 25, 2019

Mr. Andrew Weber
Project Manager
Buffalo Bayou and Tributaries Resiliency Study
U.S. Army Corps of Engineers
Galveston District
P.O. Box 1229
Galveston, Texas 77553-1229

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It seems the Corps and HCFCD are engaged in "magic pudding" creation and fragmentation domination. Once natural ecosystems and their ecological processes and

the way they function are destroyed it is very difficult to ever have them come back to what they were originally. I fear this study is headed in this direction.

5) Houston flooded in Hurricane Harvey due to rainfall and not storm surge. Ike Dike (coastal barrier, coastal spine, central spine, etc.) cannot prevent rainfall floods. The Corps and HCFCD must address rainfall floods via extensive buy-outs in the 100 and 500-year floodplains, require houses be significantly elevated, restore floodplain and prairie ecosystems, protect natural landscapes, reduce paved surfaces, reduce watershed development, protect and restore wetlands and streams, and implement other positive ideas. The interaction of this study with coastal barriers and other large-scale coastal projects must be revealed to the public so the public knows what will be lost and how the systems operate or conflict together.

6) The Corps and HCFCD need to cultivate the political courage to say "No", "this must change", and "we will protect our environment". As principles, the Corps and HCFCD must keep people out of harm's way by not putting them there in the first place and work with and not against Nature. We keep repeating our mistakes by making them bigger and so they cover a larger area. That dog will not hunt! We must insert these principles into our planning, public education and participation, flood prevention and control, and regulatory efforts for us to truly change our views.

7) The Corps and HCFCD, in order to protect watersheds that connect to the Buffalo Bayou Watershed and affect it, like the Cypress Creek Watershed, need to prepare and implement a program that protects farmland, ranchland, and forestland around cities and counties in the Houston Region. This means buying large areas of the Katy Prairie in Harris and Waller Counties and preserving it for its flood retention, detention, evaporation, and percolation values as well as wildlife, aesthetics, and recreational benefits.

8) The Corps and HCFCD must assume 100% buildout and 80% impervious surface in each watershed for planning, public education and participation, flood prevention and control, and regulatory efforts. In this way we overprotect (maybe) and buffer our flood control efforts.

9) The Corps and HCFCD, as a medium-term goal (50 years), should work toward a total buy-out of the 100-year floodplain and as a long-term goal (100 years), should work toward a total buy-out of the 500-year floodplain.

10) The Corps and HCFCD must take into account building codes and floodplain regulations that require that all structures be pier and beam construction and elevated 3-6 feet higher than indicated by flood maps or other information; require that all county, city, town, village, MUD, and other entities show flood levels on signs in areas susceptible to flooding; require that revised flood maps be prepared every 3 years; require that all legal documents connected with ownership of property or structures reveal the most

current 100 and 500-year flood data and the flood history of the property; and require robust and adequately funded public education and participation programs for all flood related issues.

11) The Corps and HCFCD must plan for and implement climate change impact mitigation for more rainfall, more rainfall events, more intense rainfall, more storms, more powerful storms, sea level rise, for all local, state, and federal actions. This is not an option but is a crucial requirement that must not be ignored or underutilized.

Local, state, and federal entities must implement a climate change ecological resilience and resistance plan (CCERRP) which reduces climate change air pollutants, mitigates for the effects that, currently and in the future, will occur due to climate change air pollutants that have already been or will be released, and adapts to and protects natural landscapes. Some of the provisions of this plan would protect existing functioning ecosystems; reduce stressors on those ecosystems; restore natural functioning ecological processes; use natural recovery in most instances; acquire buffers and corridors to expand and ensure connectivity of ecosystems; intervene to manipulate (manage) ecosystems as a last resort; reduce climate change gasses from actions/activities.

The Corps and HCFCD should implement local, state, and federal buy-out policies that implement climate change mitigation and flood prevention using local, state, and federal created funds and other money generated methods to maximally implement "strategic withdrawal", "keep people out of harm's way", and "protect our ecosystems and green infrastructure" philosophies. Begin these programs with voluntary buy-outs but retain mandatory buy-outs when public safety, health, and ecological health are at risk.

Implement a policy of acquisition (fee title or conservation easement), protection, and restoration of local, state, and federal public landscapes and ecosystems (with appropriate compatible recreational use and protection of wildlife habitat from too much human disturbance) for at least 50-80% of the landscape in each watershed.

12) The Corps and HCFCD should not support or study massive underground floodwater conduits to Galveston Bay. These proposals are not only environmental destructive and cost a lot of money, but they result in a water pollution point source that will affect Galveston Bay with sediment and water pollutants. We can do much better than this. What we need is a principle that we will delay water as much as possible instead of shooting downstream or into Galveston Bay. Protection of Galveston Bay must be a priority.

13) The Corps and HCFCD should require that a human carrying capacity study be conducted for each watershed for water quality, quantity, and flooding purposes and discuss, publicize, and implement programs to implement this carrying capacity. We also

need a local, state, and federal population and development growth study and policy that is prepared for discussion, publication, and implementation.

I appreciate this opportunity to comment. Thank you.

Sincerely,

A handwritten signature in cursive script that reads "Brandt Mannchen".

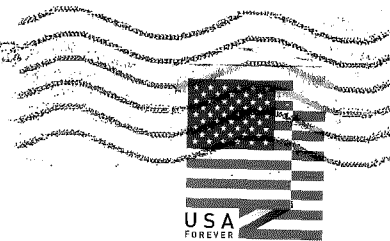
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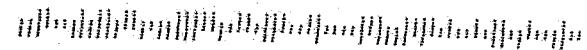
NORTH HOUSTON TX 77057

25 APR 2019 PMS 1



Mr. Andrew Weber
Project Manager
Buffalo Bayou & Tributaries
Resiliency Study
U.S. Army Corps of Engineers
Galveston District
P. O. Box 1229
Galveston, Texas 77553-1229

77553-122929



From: [Dave Baldwin](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Revised comments on BBTRS-April 27, 2019
Date: Saturday, April 27, 2019 4:33:38 PM
Attachments: [usace rev comments.pdf](#)

Mr. Andrew Weber,

The purpose of the attached comments is to revise my earlier comments submitted April 25, 2019 regarding the USACE Study of Buffalo Bayou and Tributaries, including Addicts/Barker reservoirs. My interest is specifically the Cypress Creek watershed.

I participated in the webinar held on April 25, 2019 and recorded the audio for later use in preparing comments. After re-reading the earlier comments I submitted and listening to the audio, I was not satisfied that I had successfully made my points regarding pumping stations that came up in questions toward the end of the webinar presentation. My main concern is that the USACE seems to be dismissing a perfectly viable, technically feasible, cost effective alternative in movement of large volumes of stormwater to prevent flooding especially while relying strictly on a gravity method which has so much baggage associated with it. The outright failure to even address the potential of a well-designed and operated pumping station to move stormwater runoff, costing several orders of magnitude less than an alternative such as a gravity operated tunnel with its baggage of high cost and extended complex construction time, is indefensible and an insult to a massive technical community. There are too many old-timers like myself (80 y.o.) who have spent their long careers in the oil industry working with pumps of all kinds, size and mission to accept such a blatant prohibition of pumps as a possible solution for stormwater movement.

You mentioned that you were not clear on what was being proposed by me and asked that I attend an upcoming Public Meeting to discuss the issue with your Engineers. I would normally readily accept the invitation but I have a serious mobility issue with my knees and ankles and, after three falls last year, have decided not to go anywhere unless I am familiar with the surroundings and accessibility issues. I am available, however, to discuss any issue with one of the project engineers by telephone and can be reached at 281-440-4345.

Cordially,

Dave Baldwin
 Resident
 Olde Oaks Community Impr. Assoc.

STORMWATER DISCHARGE OPTIONS FOR UPPER CYPRESS CREEK WATERSHED
USACE BUFFALO BAYOU & TRIBS RESILIENCY STUDY
APRIL 27, 2019

Submitted herewith are revised comments pertaining to the captioned study by the USACE as requested in the webinar held on April 25, 2019.

A tunnel for Cypress Creek (CC) is surely an option if one can find 2-3 Billion of loose change lying around and available and over ten years to complete construction. There are other options, however, that would accomplish the same result quicker and at a much cheaper cost. Unfortunately, it would take vision on the part of our politicians and backbone to see changes made in the State water code. Currently, there is a legal prohibition against moving stormwater from one basin to another basin. Several years ago that prohibition was no hill to climb when it was decided that more water was needed in Lake Houston as a source of drinking water for the ever accelerating development along the Grand Parkway and Katy Prairie and the City of Houston. An exemption was proposed in the law and the Governor quickly signed the new law to allow the initiation of the Luce Bayou Interbasin Water Exchange project to move forward. Water is lifted out of the Trinity River basin and pumped to a detention basin for settlement of sediment, then moved to Lake Houston within a canal and ends up in Luce Bayou which drains into Lake Houston which is in the San Jacinto basin.

-02 In the case of Upper Cypress Creek, it would be much cheaper and faster to simply install a pumping station and short pipeline or canal to move stormwater drainage to the Brazos River which has massive extra conveyance ability available and is only 10 miles away. Although a challenge politically, it is not by any means a show stopper for people that think out of the box and have the best interests of CC residents in mind. There are pumping stations all over the world that do the same thing and this project would have no significant technical challenges.

-03 One item of concern that has not been widely discussed by anyone so far but that has been mentioned to the folks along L. Houston via their Chamber of Commerce representative in an earlier message a month or so ago during the equity discussions on the Bond projects is that the volume of water to hit the lake area with a tunnel can be devastating. In a major storm like Harvey and even storms smaller than that one, the watersheds of Spring Creek, Lake Creek, and Cypress Creek and other sources such as the drainage from the San Jacinto River and Luce Bayou and more sources will all be dumping their contents on the lake at one time. With the presence of a tunnel also dumping upward of 10, 000 cubic feet per second of drainage onto the lake, the flooding associated with a Tropical Storm in the lake areas of Kingwood, Humble and all around the periphery of the lake could be devastating like never before seen even during Harvey. Tunnels move water much faster than creeks and bayous. That's good for the upper watershed but possibly not as good for the lower watershed (Me for example as a resident of Olde Oaks Community on CC) or the area just downstream of I-45 all the way to the lake. I'm not saying the tunnel is a no-go idea just that there are many pros and cons all of which need to be evaluated along with cost/benefits. All of these drainage sources to Lake Houston can be modeled to determine what the impact on the Lake will be.

-04 The above possible drawback would not be present if the water was split with the equivalent volume of a tunnel moved in the opposite direction to the Brazos instead of stacked on top of what flows through the

natural watersheds to the lake. There have been other options offered in past studies of upper CC drainage that involve allowing movement of water through Addicks to Barker with a larger connection between the two and then draining Barker to the south to the Brazos with the assistance of natural elevation changes. Costello Inc. depicted two such pathways for that water in their study of Feasibility Study for Improvements to Addicks and Barker Reservoirs, March 2000. Lots of options exist that are cheaper than 2-3 Billion dollars and faster than "extensive years" of construction time.

Quoting from an article in Community Impact Newspaper by Shawn Arrajj on April 17, 2019, "Brian Gettinger pitched the tunnel system to the Cypress Creek Flood Control Coalition at the nonprofit's annual meeting in March 2019. He said if the tunnel becomes a reality, it could cost \$2 billion-\$3 billion and would take years to build.

"Tunnels are an option of last resort," he said. "You do them because everything else is too expensive, too environmentally challenging to permit, or people don't let you do it because they don't want their property torn up."

The main goal of a tunnel is to move stormwater through the county faster by increasing the amount of water that can be carried through the system at once, Gettinger said. The tunnel would provide a parallel path to Cypress Creek that would also reduce the amount of water the creek would have to hold during storms.

Where the tunnel would start and end would have to be determined as a part of a routing study, Gettinger said. One possible route he suggested would involve starting around the Kickerillo-Mischer Preserve at Hwy. 249 and Cypresswood Drive, traveling down Hwy. 249 to Beltway 8 and then going along Beltway 8 to Lake Houston. The tunnel could end at Lake Houston or potentially be extended to the Houston Ship Channel, he said.

Putting the route along major highways would reduce the amount of right of way the county would need to purchase, and the preserve would make a good starting point because of its existing capacity to hold stormwater, Gettinger said.

"Part of the design concept is to prevent sediment accumulation," he said. "The reason I indicated we should start this at a detention facility is because those detention facilities have lower sediment load than the side of the channel."

Matt Zeve, deputy executive director with the Harris County Flood Control District, also spoke at the March meeting. He said tunnels can be a viable alternative to widening a creek or bayou, a process that can entail rebuilding bridges, moving utility lines and buying property.

"What an underground tunnel does is ... it allows us to avoid all those things," Zeve said. "In fact, if we were to build a tunnel here in Harris County, you wouldn't even know it was going on because it would be 200 feet beneath your feet. You wouldn't be able to feel it, see it, smell it, hear it."

The tunnel could be excavated using machines that are capable of mining 2-3 miles per year, Gettinger said. A hypothetical tunnel along the 25-mile route from Hwy. 249 to Lake Houston could be done in segments that could be carried out simultaneously, he said.

"This tunnel could be built in, say, five years of construction," he said. "We're probably three to five years away from starting construction if everything happens in the best possible way. You have to think about it in a generational-investment mindset."

HCFCF received a \$320,000 grant in February to conduct a feasibility study into whether a flood tunnel can be supported by the geology of Harris County. Another \$2.5 million has been set aside for two future studies that would determine the cost of building a flood tunnel, the amount of water the tunnels can move, and where the water will be transported to and from, among other details.

Other Harris County waterways Gettinger said he thinks could benefit from a tunnel include Buffalo Bayou and Brays Bayou. With a price tag of roughly \$2.5 billion, any flood tunnel would likely depend on federal funding sources, and Zeve said the district is in negotiations with the Federal Emergency Management Agency to find that funding." End Quote.

Detractors of other options to tunnels often say that moving water to the Brazos will affect the downstream residents of that watershed. In fact, during Harvey, satellite photos indicated not a single drop of Brazos water could be seen inside of the Levee District systems of Fort Bend County at Richmond and Rosenberg, Texas. Granted there was some flooding that occurred but not from the Brazos. Those areas that were developed inside Levee Districts were not flooded from the Brazos. What flooding that did occur was the result of 3 feet of rain dropping inside the levees, missing pumping systems, an internal levee that was removed prior to Harvey for the convenience of commuters without compensating increased pumping capacity of the downstream levee district, pumping systems that failed to perform their designed purpose, pumping systems inoperable due to poor maintenance, slabs lower than the regulated level of acceptance, etc. Not a single drop of Brazos water can be seen inside of the levee systems after Hurricane Harvey.

Granted, those people that built homes outside of the levee systems, and inside of the 100 yr. floodplain had flooding damages. Harvey was a storm that exceeded the 100 yr. floodplain so flooding should have been expected by those homeowners. The point is that Harvey did not flood homeowners inside of levee systems as a result of Brazos water levels. It can be concluded, therefore, that the inconsequential addition of water from CC added to the massive Brazos available conveyance volume will not substantially have any additional effect on downstream areas unless there is another storm that exceeds the tenacity of Hurricane Harvey. The impacts of any downstream effects can be modeled by the appropriate computer runs using existing hydrologic models. There is not much hope for all the areas that are developed inside the 100 yr. floodplain without flood mitigation/prevention techniques other than flood insurance.

-05 Then there's the naysayers that say a pumping station is too complex or subject to failure while in use, or more costly to install than other options. There is no way that a pumping station, maintained properly, designed properly including backup capability, and operated properly can possibly be as costly as a tunnel or even close to the cost of a tunnel by several orders of magnitude. Experience with tunnels is vastly less than experience with pumping stations. What if a tunnel blows a gasket? There's one installed every 6 ft. or so in the construction process to effect a seal between joints. A 25 mile tunnel will have more than

- 05 | 22,000 sealing gaskets installed which could make the tunnel inoperable during a storm with the failure of just one gasket. What experience is there with a tunnel and the sugar sand we have here along the watersheds of the County. What will the sediment situation involve? What if flow slows down for a period during a storm and a sediment plug forms which either entirely plugs the tunnel or throttles the flow? What's going to happen to that flood control you were counting on during the storm? If a pump goes down during a storm one only has to throw a switch and bring on a backup pump. There is just no comparison to a well-designed pumping station and a never before used in our territory tunnel dealing with sugar sand.
- 06 |

In summary, it is recommended the following conveyance techniques be evaluated for the upper CC headwater area as to cost/benefits and effectiveness assuming no major obstacles from regulation/laws.

- 07 | a. Pumping station with discharge of upper CC/Mound creek stormwater to the Brazos River.
b. Major detention reservoir (3rd Reservoir).
- 08 | c. Tunnel options with discharge to either Brazos River or Lake Houston.
d. Diversion of Mound creek/upper CC drainage volume into Addicks, transfer it to Barker
- 09 | through a new connection sized for the objective, then drain Barker south to the Brazos River.

ATTACHMENT: WEST CLOSURE COMPLEX BUILT BY USACE IN NEW ORLEANS AS AN EXAMPLE OF WHAT CAN BE DONE WITH A PUMPING STATION.

DMB
4/27/19



WEST CLOSURE COMPLEX

Updated June 2013

U.S. ARMY CORPS OF ENGINEERS

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Public safety is the Corps of Engineers' top priority. Congress has fully authorized and funded the Hurricane and Storm Damage Risk Reduction System (HSDRRS) for southeast Louisiana. The \$14.45 billion HSDRRS includes five parishes and consists of 350 miles of levees and floodwalls; 73 non-Federal pumping stations; 3 canal closure structures with pumps; and 4 gated outlets.

Project Summary

The Gulf Intracoastal Waterway - West Closure Complex is a major feature of the HSDRRS which reduces risk for residences and businesses in three parishes on the west bank of the Mississippi River: Orleans, Jefferson and Plaquemines parishes. This risk reduction feature is located approximately one half mile south of the confluence of the Harvey and Algiers canals on the Gulf Intracoastal Waterway. Constructing the complex at this location eliminates 26 miles of levees and floodwalls parallel to the canals from the west bank's perimeter risk reduction system and allows the Harvey and Algiers canals to serve as a detention basin for rainwater draining from the three parishes.



The structural features of the project reduce the risk associated with a storm surge event that has a one percent chance of occurring in any given year, or a 100-year storm surge. The total construction value for the West Closure Complex is an estimated \$1 billion.

Project Features

The GIWW - West Closure Complex consists of a navigable floodgate, a pumping station, floodwalls, water control structures, foreshore protection and an earthen levee. The project also required the dredging of Algiers Canal, as well as the realignment of Bayou Road. Project challenges include maintaining navigation traffic on the GIWW (a Federal navigation channel with heavy commercial barge traffic) and the location of the complex in relationship to the Environmental Protection Agency's Bayou aux Carpes Clean Water Act (CWA) 404(c) area, a wetland area of national significance.

The complex significantly reduces the risk to a large area of the west bank by removing 26 miles of levees, floodwalls, a gate and pumping stations along the Harvey and Algiers canals from the direct impacts of storm surge.

Project Status

Construction of this risk reduction feature began in August 2009 and is approximately 97% complete. All 100-year risk reduction features are ready to defend against a 100-year storm; however construction will continue through 2013.

- Over -

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WEST CLOSURE COMPLEX

Updated June 2013

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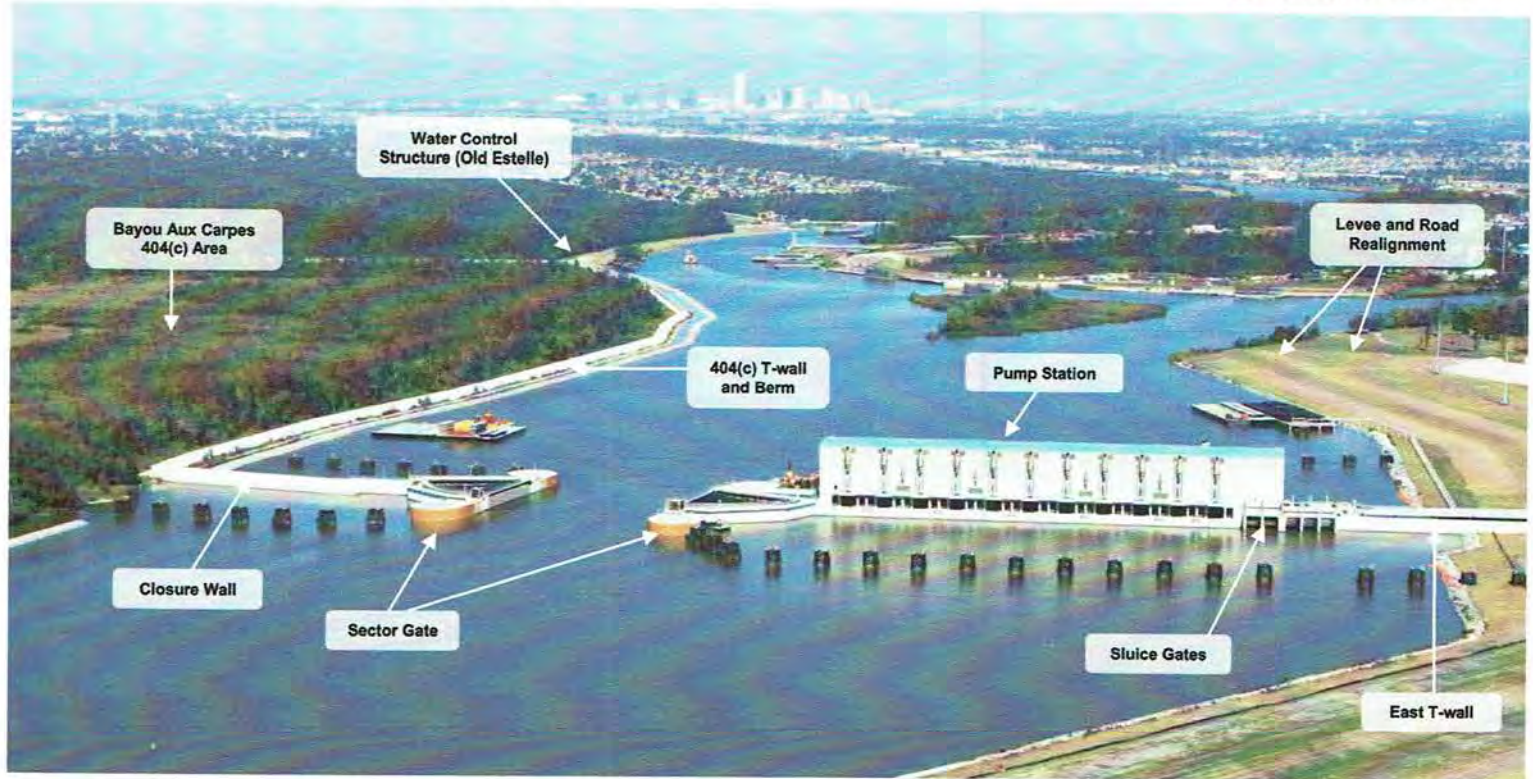


Image of the GIWW-West Closure Complex

West Closure Complex features include:

- 19,140 cfs Drainage Pumping Station (11 x 1740 cfs vertical "Flower Pot" pumps)
- 225-foot Navigable Floodgate
- 5 Sluice Gates (each 16' x 16')
- 4200 ft Concrete T-Wall along edge of Bayou aux Carpes CWA 404(c) wetlands (4200' X 100' construction corridor)
- Water Control Structure (with two – 8'x 8' gates)
- Levee and East Bayou Road Realignment
- Environmental Mitigation and Augmentations
- Foreshore Protection
- Algiers Canal Dredging

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From: [Marian Finnell](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Cypress Creek watershed flooding solutions
Date: Monday, April 29, 2019 1:10:33 PM

As a citizen that lives VERY close to Cypress Creek in Spring, I have been following the news and information made available to the public regarding the flood solution issues.

After watching floodwaters come up to our door step a few times over the years and then getting 30" of water in our house due to Harvey, I am very concerned about all the development that has occurred since Harvey. Due to all the permeable land that has been paved over, we now have to rely on drainage systems to remove the flood water from our neighborhoods.

- 01 | Since it has been documented that weather patterns are changing, oceans warming and rising, etc., I believe we do not have the luxury of the time it would take to build the proposed underground tunnels. I have been following a neighborhood expert, Dave Michael, and agree with his opinion that installing pumps is a better use of our financial resources and will provide a solution in much less time.
- 02 |

Thank you for the opportunity to submit citizen input.

Marian Finnell (Wimbledon Estates)

From: [Michael Huffmaster](#)
To: [Weber, Andrew R CIV USARMY CESWG \(USA\)](#); [CESWT-BBTRS](#)
Cc: [Fisher, Melinda CIV USARMY CESWF \(USA\)](#)
Subject: [Non-DoD Source] RE: USACE: Buffalo Bayou & Tributaries Resiliency Study
Date: Tuesday, April 30, 2019 3:51:32 PM

Andrew,

Thank you for the stakeholder update last week. I shared information and encouraged residents in my super neighborhood to participate in public meetings..

I also would like to communicate my comments and inputs:

- 01 1. The study has tentatively made selection of alternatives to evaluate, and those to disregard. Little public input was taken. I encourage you to withhold final selection pending input from stakeholders and the upcoming public sessions. Please communicate to the public that their input is welcome, valued and will be considered.
- 02 2. The acknowledgement of consideration for nature based and natural systems is appreciated. This goes to reducing runoff from the prairie through infiltration and evaporation in the watersheds of Addicks and Barker e as well as respecting natural values in all areas, but especially Buffalo Bayou
- 03 3. Buffalo Bayou is cherished by Houstonians and valued for its natural features, but post Harvey and recent flood events there is a shift to realism, recognizing that conveyance improvements are needed to reduce flooding. Although rectification and concrete lining of the bayou will likely not be seen as acceptable, there can be acceptance of selective handling of constrictions in ways which preserve natural features.
- 04 4. Criteria for targeted performance or improvement should be communicated. Hopefully this study will address resilience in terms of repeated flooding along Buffalo Bayou from significant rain events as well major impact and releases associated with management of Addicks as and Barker. Whereas the criteria of cost benefit analysis if understood, there should also an objective engineering standard such as servicing watershed for 100 yr event without flooding outside 100 year flood plain. The Houston area and entire region have development standard and regulation and engineering practice which are to perform at 100 year event without flooding; the watershed improvements should achieve this as well. Certainly
- 05 higher standards should be considered as well, such as handling full range of operation release from Addicks and Barker or 500 year event or reducing WSE in lieu of buy outs to protect substantial assets and developments in proximity to Buffalo Bayou.

Thank you and study buy USACE is much appreciated,

Michael Huffmaster

Super Neighborhood Alliance
 Briar Forest Super Neighborhood.

-----Original Message-----

From: Weber, Andrew R CIV USARMY CESWG (USA)
[mailto:Andrew.R.Weber@usace.army.mil]
Sent: Wednesday, April 17, 2019 9:25 PM
To: michael.huffmaster@att.net
Cc: Fisher, Melinda CIV USARMY CESWF (USA) <Melinda.Fisher@usace.army.mil>
Subject: USACE: Buffalo Bayou & Tributaries Resiliency Study

Hello,

The US Army Corps of Engineers, Galveston District, in partnership with Harris County Flood Control District, has recently initiated the Buffalo Bayou and Tributaries, Texas Resiliency Study. The study will identify and evaluate the feasibility of reducing flood risks on the Buffalo Bayou, both upstream and downstream of Addicks and Barker Reservoirs in Harris County, Texas, while simultaneously completing a Dam Safety Modification Evaluation (DSME) on the two dams.

The study will identify critical data needs and recommend a comprehensive plan that would modify the existing project to more efficiently and effectively convey water throughout the system and reduce the flooding risk. A number of structural measures are being considered including but not limited to: tunnels, bypass channels, new reservoirs, detention ponds, dredging of existing detention ponds and reservoirs, operational changes, and spillway modifications. Non-structural measures, such as large scale buy-outs, are also being considered. The study will evaluate potential benefits and impacts of the reasonable array of alternatives including direct, indirect and cumulative effects to the human and natural environments that balance the interests of flood damage reduction and environmental impacts.

We have identified your organization as potentially having interest in this study since you participated in other Federal and Non-Federal Studies involving the Buffalo Bayou and/or the surrounding watersheds. We invite you or a representative from your organization to participate, by webinar, in a discussion of the study and provide feedback on for opportunities to address the problems, issues of concern, or significant resources within the study area on Thursday, 25 April at 1:00 PM CST.

To attend the webinar you will need to log-in using the following web-address, then click on the "Call Me" feature and it will connect you to the webinar.

Blocked<https://usace.webex.com/join/melinda.fisher>

If you cannot access the webinar, you may call in using the following call-in information:

USA Toll-Free: (877)336-1839
Access Code: 1204539

Please reply with your interest and share your availability.

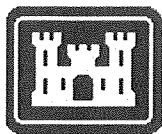
Thank you for your consideration of this request.

Andrew Weber, P.E.
Project Manager
andrew.weber@usace.army.mil
(O)409.766.3118
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4/30/19

Comment #: ES08



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

- 01 1) Nottingham Looks To have "Controlled" Flooding, Streets Fill up, Houses Don't Flood, Streets Drain. With more up stream Development & less prairie, will this controlled flooding still hold true. esp. for mason creek
- 02 2) What happened to the Detention ponds that were supposed to be put in to make up for all cement laid out in each neighborhood.
- 03 3) 2 years after the flood, the corner of N Barker Cypress & Groeschke Rd has 500 apartments going in. Last I checked, that is a flood zone.
- 04 4) Mason Creek & Buffalo Bayou still have tons of silt & fill up fast in just a few inches of rain. The park at Saums & N Barker Cypress fills up now with just 4 inches of rain.
- 05 5) Why do they keep letting developers parc over everything, make their money, and walk away.
- 06 6) Clear out mason creek drain holes, they have had trees growing out of them for years.
- 06 7) ~~Can't~~ You better go faster. Climate change is real & we had 3 major floods in 3 yrs.

Name
Nombre

SUCANNE M. BREDLAW

Affiliation
Afilación

Nottingham Country
BOARD OF DIRECTORS

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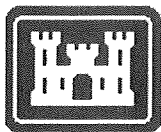
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Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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- 01 ALTHOUGH I TRULY APPRECIATE THE CORPS' RECENT EFFORTS TO BE MORE OPEN AND TRANSPARENT WITH THE PUBLIC CONCERNING THE CURRENT CONDITIONS OF THE DRAINAGE AND FLOOD CONTROL PROJECTS IT OVERSEES, I AM OF THE BELIEF THAT THIS SHOULD BECOME THE NORM FROM HERE OUT. A TREMENDOUS AMOUNT OF PROPERTY LOSS COULD HAVE BEEN PREVENTED IF THE CORPS HAD BEEN MORE OPEN AND FORTHCOMING WITH THEIR FLOOD PREDICTIONS IN THE IMMEDIATE AFTERMATH OF HURRICANE HARVEY'S LANDFALL AND SUBSEQUENT RAIN EVENT. ONCE RESIDENTS WERE TOLD THAT THEY LIKELY WOULD OR DEFINITELY WOULD FLOOD, MANY, MANY RESIDENTS HAD NO TIME TO SAVE VEHICLES OR DO MUCH TO SAVE MUCH OF THE CONTENTS OF THEIR HOMES.
- 02 I UNDERSTAND THAT PROCESSES, STUDIES, REVIEWS, COMMENT PERIODS, PLAN DESIGNS ALL TAKE TIME, BUT SINCE IT WILL STILL TAKE YEARS TO GAIN FUNDING AND ACTUALLY GET AROUND TO STARTING THE CHOSEN PROJECTS, WE ASK THAT THE CORPS ACT IN AN EXPEDIENT MANNER AS POSSIBLE TO SPEED ALL OF THESE PROCESSES.
- 03 AND OF COURSE, PLEASE KEEP THE COMMUNITY ABREAST OF ALL FUTURE DEVELOPMENTS.

Name DAVID DRAKE
Nombre

Affiliation PRESIDENT, CINCO MUD 7
Afilación

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Dirección de Envío

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Ciudad

State TX
Estado

Zip Code 77450
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E-mail DAVID DRAKE 1981 @ ATT.NET
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Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

4/30/19

Comment #: ES10



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I am in favor of all conveyance and storage improvements that would minimize structure flooding in West Houston next time there is a large release: (For reference I live at the beltway and Buffalo Bayou)

1) Remove bottlenecks in Buffalo at Beltway 8 by:

a) Increasing conveyance from BW8 to Shepherd & raise & widen bridges - or -

b) Decrease conveyance from Hwy 6 to BW8, undo 1960's widening & straightening project, & allow Buffalo to revert to its natural course to match the natural state downstream of BW8.

2) Create a hydraulic connection between Buffalo, Braes, & Brazos with a canal or tunnel.

This would allow diversion of excess flow in one channel to another with capacity.

3) Modify dam release plan to start releases sooner when reservoir capacity is anticipated. Slowly ramp up release rate, but cap at 4000 cfs.

Name Will Hickman
Nombre

Affiliation Memorial Glen HOA
Afilación

Address 106 Electra Dr., #
Dirección de Envío

City Houston
Ciudad

State TX
Estado

Zip Code 77079
Código Postal

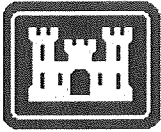
E-mail will.hickman@shell.com
Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

4/30/19

Comment #: ES11



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-01

① Please keep stakeholders updated and engaged in the study phase to provide feedback and assessment & maintain public relations

Phase consider me as stakeholder participant on 22 Watershed Study
② I am Michael Huffman, president of Briar Forest Superneighborhood and past chair of Houston's Super Neighborhood Alliance. Briar Forest Super Neighborhood ~~is~~ boarder Buffalo Bayou. I have significant engagement with the community across Houston

Name / Nombre MICHAEL HUFFMASTER Affiliation / Afilación BFSN

Address / Dirección de Envío 102 Cove Creek Ln

City / Ciudad HOUSTON State / Estado TX Zip Code / Código Postal 77042

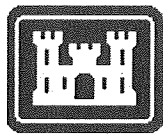
E-mail / Correo Electrónico michael.huffman@att.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

4/30/19

Comment #: ES12



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-01

Will the study evaluate the capability of natural grasslands in The Katy Prairie to store water and mitigate flooding risk? This is the proposal of Rice University's Jim Blackburn, who has (I think) presented his ideas to USACE.

Will USACE include an evaluation of this proposal in its study?

If not, how can it be included in the dialogue?

Name Judith McGlaughlin Affiliation
Nombre Judith McGlaughlin Afiliación

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Dirección de Envío 3122 Misty Brook Lane

City Houston State TX Zip Code 77084
Ciudad Houston Estado TX Código Postal 77084

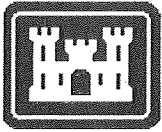
E-mail judith.hall.mcgloughlin@gmail.com
Correo Electrónico judith.hall.mcgloughlin@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

4/30/9

Comment #: ES13



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I am someone who had my property near White Oak ~~Bayou~~ Bayou bought out after the October 2002 flood by HCFCD. Most of the neighborhood is now a park like, undeveloped area. I think buyouts make a lot of sense - more sense than repeated rebuilding of flooded structures.

~~I~~ I also collect rainwater from my roof for irrigating my garden. I can save about 200 gallons at this time. I would like the engineers to consider the feasibility of creating many small reservoirs throughout the watershed that will not only control runoff but also allow the water to be used for irrigation through dedicated channels or pipes. Using runoff for irrigation would help solve one of the Houston area's other water issue. Water is becoming more difficult to provide to our growing population.

-01

Name
Nombre

Freel Neill

Affiliation
Afilación

Address
Dirección de Envío

20911 Park Canyon Dr

City
Ciudad

Katy

State
Estado

TX

Zip Code
Código Postal

77450

E-mail

Correo Electrónico

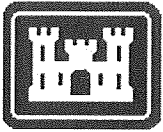
freel-neill-katy@yahoo.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

4/30/19

Comment #: ES14

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-01

If not already completed, modifications to the dam operations should be reviewed and approved prior to any 2019 storm events. These modifications can be completed in-house and should require a five year review.

Name
Nombre Tom SpechtAffiliation
Afilación _____Address
Dirección de Envío 326 Jewel Park LaneCity
Ciudad HoustonState
Estado TXZip Code
Código Postal 77094E-mail
Correo Electrónico tt.specht@sbcglobal.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

4/30/19

Comment #: ES15



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-01

THE CONCERN THAT COMES TO MIND w/ ANY OF THESE
POTENTIAL SOLUTIONS IS IF THERE IS A TROPICAL
STORM OR HURRICANE THAT PRODUCES A HEAVY STORM
SURGE + PREVENTS OR GREATLY REDUCES BAYOU
FLOW INTO THE OCEAN THIS BACKING UP THE
BAYOUS + RESERVOIRS

THANKS FOR ALL OF YOUR WORK!!

Name BRIAN WEATHERALL
Nombre

Affiliation —
Afilación

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Dirección de Envío

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Ciudad

State TX
Estado

Zip Code 77094
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E-mail SKRIDLO@SWBELL.NET
Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Darrell Stucky](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and tributaries resiliency study
Date: Wednesday, May 1, 2019 12:07:15 PM

Ladies and gentlemen,

-01 Being an upstream Barker area resident and having flooded, downstream convenience is incredibly important in this
study. I wholeheartedly endorse the tunnel under I-10 to the gulf. I think that this is the most obvious solution. Cost
-02 should not be a deterrent because other alternatives such as buyout of those affected would be more, not to mention
potential liability for repeated area-wide flooding in the future without this tunnel. This tunnel should have entry
points downstream of the dams to get buy-in from downstream folks as well as upstream people. As to cleaning,
-03 widening and straightening Buffalo Bayou downstream, political forces will probably keep that from happening.
Even if it is straightened, widened and cleaned, it would likely not provide downstream conveyance to the level
required. Another potential solution to get downstream folks attention is to lower the Barker overflow to no higher
than 95 feet.

Thank you, Darrell Stucky

Darrell313@aol.com <<mailto:Darrell313@aol.com>>

281-610-7887

From: [susan fickert](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou / Harvey flood control study
Date: Wednesday, May 1, 2019 9:11:21 PM

(Sent by email on 4/18 and later instructed to send to this email address.)

Dear Mr. Weber,

[...]

I found the study website very informative and thought-provoking. The storage strategies issue particularly captured my attention. I am a fairly recent law school graduate, and took water law while in school. I somewhat understand the value of this commodity and its related ownership rights. It struck me that there are opportunities to be had by retaining (runoff) rainwater and pumping it in to storage tanks/towers for future use by local farmers during dry times, thus increasing assurances of crop productivity and possibly reducing their use of groundwater consumption. (Crop productivity may also increase property values, thus increasing county ad valorem tax receipts.)

-01

Alternatively, it could be sold or otherwise transferred to drought-stricken communities. Furthermore, I believe excessive runoff (floodwaters) would not be subject to property owners' surface water rights (but this issue definitely requires further analysis). An advantage might be that the retention ponds needed to accumulate runoff in order to pump it into tanks/towers would not require extensive property condemnation to accomplish the storage component of this plan. Also, pumping the runoff out of the retention ponds shortly after a major rain event makes those ponds available for future near-term runoff. Capturing the runoff and transferring it to some form of holding facility also limits the freshwater that is discharged into saltwater. While this may seem to be a short-term gain, it may also increase saltwater salinity long term and that has its own ramifications. As you know, this is a complex issue! Please let me know if you would like to discuss any of this further and we can arrange a time to talk.

Will you take note of my comments, or do I need to raise them during the meeting?

Thank you for taking time to respond, and I look forward to meeting you at the 5/2 meeting.

Best,
Susan Fickert
(832) 423-7082

From: mabkaminski@comcast.net
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Rummel Creek
Date: Thursday, May 2, 2019 3:35:51 PM
Attachments: [Rummel Creek_000164.pdf](#)

Hi,

Thank you for conducting the scoping meetings.

I didn't notice Rummel Creek in the tributary maps of the presentation materials and wanted to make sure it is being considered in the study. Attached are maps of the location of the creek. As you can see, it begins at the northwest corner of I-10 and west Beltway 8 which is just southeast of Addicks Reservoir. This creek runs under I-10 and through neighborhoods, whose streets drain into the creek, south to Buffalo Bayou.

-01

Rummel Creek's flow backed up when Buffalo Bayou flooded during Hurricane Harvey, causing flood damage to at least dozens of homes near the creek south of I-10.

Rummel Creek would likely catch the runoff from any significant overflow from the eastside Addicks Reservoir spillway. A more severe leak from the east or south sides of the reservoir would cause catastrophic damage to the neighborhoods along the creek.

Floodwater from under I-10 and Beltway 8, which would also catch overflow from any reservoir leakage, is pumped into a water detention pond at the southwest corner of the intersection which has spillways which flow into Rummel Creek.

The creek has a right-angle turn, to the west of Rummel Creek Elementary, which impedes its flow.

Please evaluate the resiliency of Rummel Creek in your study.

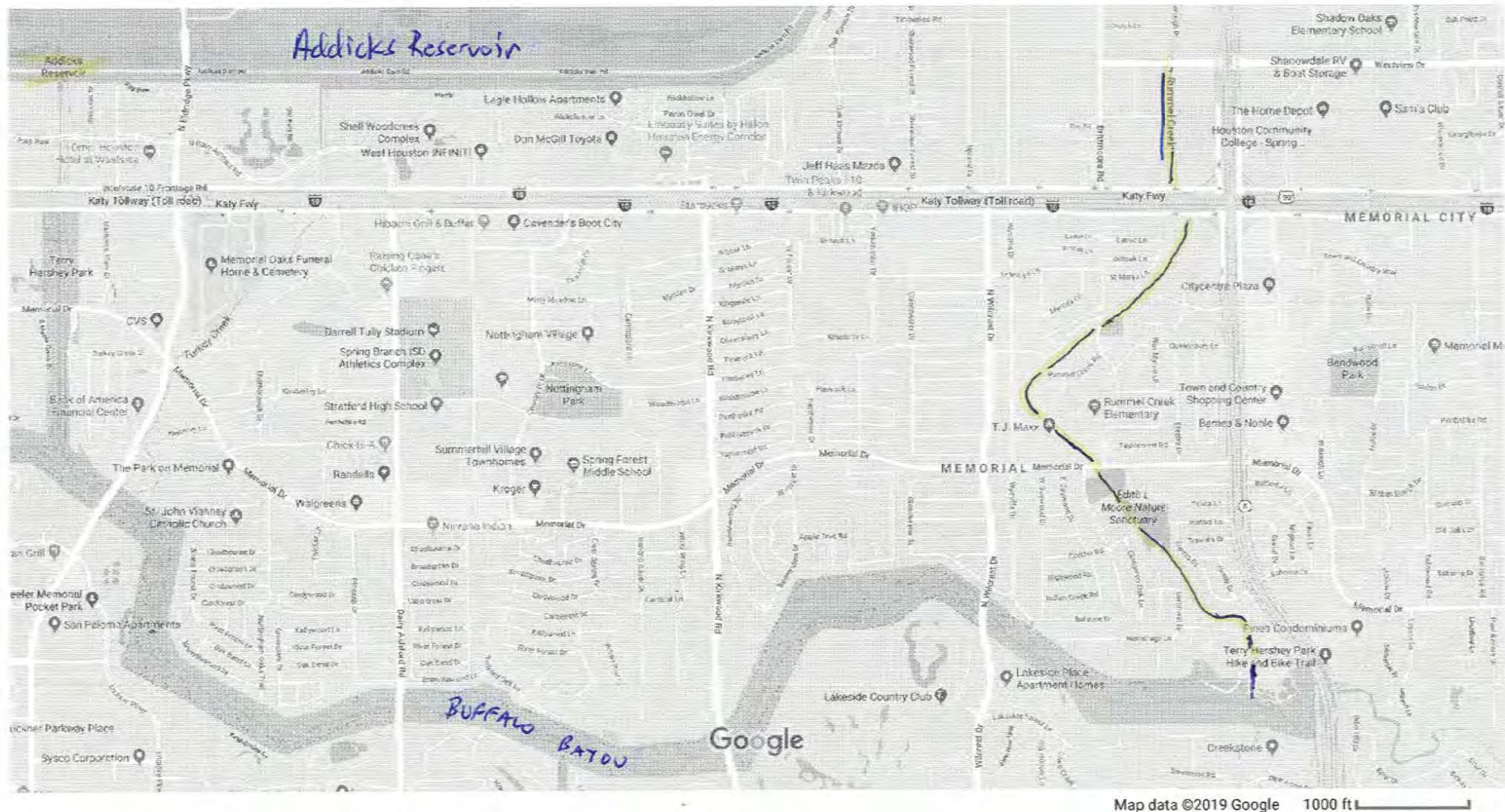
Thank you,

Marie B. Kaminski

10838 St. Mary's Ln.

Houston, TX 77079

Google Maps



NOTE: This map was attached as a PDF and a JPG to the e-mail. Duplicate file not incorporated. -- M. Fisher 5/16/2019

From: [Adie](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Levee Proposal
Date: Thursday, May 2, 2019 8:16:12 PM

-01

It is my understanding that a levee is being considered that would keep water overflow from Cypress Creek from flowing to Addicks Dam. We have lived in our house for 30 years in Lakewood Forest and flooded for the first time during Hurricane Harvey. This proposal sounds as if instead of helping the flooding and overflow problems from Cypress Creek, you are going to stop the flow to Addicks Dam, thereby causing more flooding problems for all of the residents in my area. I do not understand how this makes sense to anyone and would appreciate an explanation.

-02

In addition, I would like to know whether engineers involved in flood control plans coordinate and work together with all of the people building and removing trees/fields in our area, which also impacts and causes more flooding in our area?

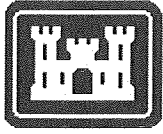
Thank you.

Adie Tucker

Sent from my iPhone

5/2/19

Comment #: ES20



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-01
① DO NOT "improve outlet discharge capacity" by increasing rates of flow thru the gates! (cfps) This should NOT be an option in your "flood management measures."

-02
② Linear detention must be further completed between Huyb + Eldridge. I am aware that there are artifact issues, but these must be addressed so linear detention can be done between Huyb + Eldridge - asap. We are ground zero - must be prioritized.

Name
Nombre

Affiliation
Afilación

Address
Dirección de Envío

City
Ciudad

State
Estado

Zip Code
Código Postal

E-mail
Correo Electrónico

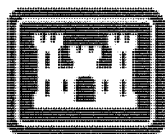
③ NO - do not increase discharge capacity.

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES21



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-01

Re: Overflow release from one reservoir to the other when one reservoir is exceeding capacity. Right now, there isn't a means to release overflow, say, from Addicks to Barker. A valve & spillway needs to connect both reservoirs for that capability. Right now, both reservoirs act independently.

Name Dalia Azios
Nombre

Affiliation Lakeside Forest neighborhood
Afilación

Address 10807 Candlewood Dr.
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City Hou
Ciudad

State TX
Estado

Zip Code 77042
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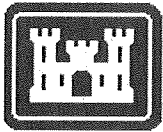
E-mail azios2@sbcglobal.net
Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES22



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- 01 ① PLAN TO CLEAR S. SIDE OF BUFFALO BAYOU (Hwy 6 - BW8)
IS A SMALL STEP TO MITIGATE FLOODING
BUT - WHAT CLEARING/CONTROL WILL BE EFFECTED BW8
TO LOOP 610?
- 02 ② RESIDENTIAL/COMMERCIAL DEVELOPMENT WEST OF Hwy 99
IS PROCEEDING APACE AND WILL NEGATE MANY PLANS/IDEAS
THAT ARE BEING DEVELOPED.
- ③ THIRD DAM @ CYPRESS CRK - NOT IN MY LIFETIME!
ONE WONDER HOW, WITH ALL OF THE LOSS OF
NATURAL IMPOUNDMENT AREAS WEST OF THE DAMS,
ANYTHING ECONOMICALLY FEASIBLE IS POSSIBLE.

Name
Nombre

Tom Boane

Affiliation
Afilación

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1507 Village Green CT / 77077

City

Ciudad

HOU

State

Estado

TX

Zip Code

Código Postal

E-mail

Correo Electrónico

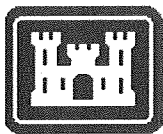
tboane@aol.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES23



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I live in the town of Katy, and specifically in the Pine Forest subdivision. I have been a resident in that subdivision since 1984.

The Cane Island Branch of the Buffalo Bayou is very near to my subdivision. The Cane Island Branch has not been dredged or cleaned out since around 1990. As a result, my subdivision has been flooded on Tax Day and Hurricane Harvey. There is an immediate need for work to dredge, widen, deepen, and clean out the Cane Island Branch from US Hwy 90 to Clay Road in order to reduce flooding in the Katy area and the Pine Forest subdivision.

-01

Name

Nombre Mei Devong

Affiliation

Afiliación

Address

Dirección de Envío 2810 Redbud

City

Ciudad Katy

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Estado TX

Zip Code

Código Postal 77493

E-mail

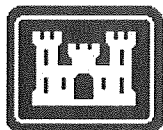
Correo Electrónico salesdevong@aol.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES24



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I am an offshore project manager and managed numerous complex and expensive offshore projects in the past (4-8 billion \$). For these projects, the first oil is reached in 5-6 years from the start of concept phases. 10-15 year completion schedule is 2 to 3 times longer than the technologically complex big offshore projects. In my mind you should have 1 year concept development of selection + 1 year FEED of the selected concept and 2-3 years of EPC (Detailed Design, Procurement, Construction) = 5 to 6 years. You must have a lot of government bureaucracy slowing you down. We need some measures in place urgently!

Name

Nombre

Demir Karson

Affiliation

Afilación

Retired PM, PhD, PE

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City

Ciudad

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State

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Correo Electrónico

dikarson@sbglobal.net

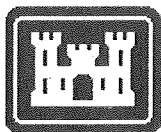
★ OUR HOME GOT FLOODED! ★

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES25



**US Army Corps
of Engineers**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

-01

Please divert water - more storage will also be overrun.

-02

HCFCD needs to repair the erosion in Turkey Creek soon or the same things will happen in this area. Turkey Creek helped flood the substation as well as many businesses (oil) in this area and nothing has been done and this is not a large project compared to others. Please address this!

Name
Nombre

Beverly Kimmitt

Affiliation
Afilación

Address

Dirección de Envío

615 Yellow Tulip Trail

City

Ciudad

Houston

State

Estado

TX

Zip Code

Código Postal

77079

E-mail

Correo Electrónico

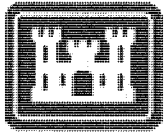
bkimitt51@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES26

**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)**Buffalo Bayou and Tributaries Resiliency Study***Comment Period: April 29, 2019 through May 31, 2019*

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

In my opinion there are two
items missing from this program.

- SUSTAINED-VISIBLE LEADERSHIP
- ALIGNMENT OF ALL THE SHAREHOLDERS

UNTIL WE GET THAT WE WILL NOT HAVE
THE SUCCESS WE NEED.

Name FREDERICK PLUMMER JR Affiliation _____
Nombre FREDERICK PLUMMER JR Afiliación _____

Address 866 PLAINWOOD DRIVE
Dirección de Envío 866 PLAINWOOD DRIVE

City HOUSTON State TX Zip Code 77079
Ciudad HOUSTON Estado TX Código Postal 77079

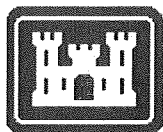
E-mail f b plummer @ gmail . com
Correo Electrónico f b plummer @ gmail . com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES27



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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-01 IF IT IS DECIDED THAT VOLUME OF FLOW THROUGH THE BAYOUS IS CRITICAL, THERE NEEDS TO BE SOME WAY TO INSURE THAT THE VILLAGES CLEAN OUT AND DREDGE THEIR PORTIONS OF THE BAYOUS

-02 NEED TO INSURE THAT BUILDERS CANT CONTINUE TO DEVELOP AREAS PRONE TO FLOODING.

Name ROBERT ROSEN

Nombre

Affiliation

Afiliación

FLEETWOOD

Address 1122 FLEETWOOD PLACE DR

Dirección de Envío

City HOUSTON

Ciudad

State TX

Estado

Zip Code 77059

Código Postal

E-mail robertrosen@att.net

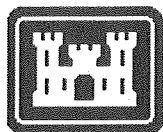
Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

5/2/19

Comment #: ES28



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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The schedule is much, much too long

contingency measures are urgent need to avoid a further obligation to open the valves

Buffalo Bayou need to be and merged within the next 2 years to allow more efficient discharge. Water transport need to drop from 2 to 3 hours

Name JeanLuc Strelitz Affiliation
Nombre JeanLuc Strelitz Afiliación

Address 560 Rancho Baker Dr
Dirección de Envío 560 Rancho Baker Dr

City Houston State TX Zip Code 77078
Ciudad Houston Estado TX Código Postal 77078

E-mail JeanLucStrelitz@yahoo.com
Correo Electrónico JeanLucStrelitz@yahoo.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Chris Melton](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Cypress Creek
Date: Friday, May 3, 2019 9:26:24 AM

Thank you for the opportunity to comment on your proposed flood relief plan for the areas west of the Addicks Dam area. This relief includes building a levee along the south shore of Cypress Creek that would funnel water away from the protected area and into Cypress Creek.

True, the area was devastated by Harvey related flooding. However, many of these property owners purchased property that was clearly part of an area designed to provide flood relief and that was noted in their closing documentation. Prior to Harvey, flooding was not a major issue in that area, and Harvey was, at least, a thousand year flood. The area surrounding Cypress Creek further downstream; however, floods routinely. Very few, if any of the property owners in these areas, which stretch for many miles, were provided with notice that their homes were built in flood relief areas. Nevertheless, that is precisely what this proposal intends to do-use the regularly flooded properties downstream as flood relief for those whose properties were originally intended as flood relief.

I am confident that no one contemplated that so much recent development along Cypress Creek would be permitted and so much wetland (areas that previously provided flood relief) would be permitted to be removed. This activity, for some unknown reason, is still being allowed, as demonstrated by the recent clearing and elevation of a number of acres just north of Cypress Creek and just west of Cutten Road. The residents that live in the vicinity of Cypress Creek (no one that I am aware of lives right along the creek) have been begging for flood relief for years. Dredging of the creek to remove silt deposited from runoff from recent development is not permitted. Berms are not permitted. Every idea that I am aware of has been shot down while the flooding continues to become more frequent and gets worse.

Now, the Corps of Engineers comes along and proposes to create more flooding in order to protect homes that were built with notice of the danger. The only logical conclusion one can draw from this proposal is that the Corps intends to protect one set of homeowners at the expense of another.

Please, do not build the levee south of Cypress Creek as part of the plan to protect property west of Addicks Dam. If you decide to build the levee, be prepared for inverse condemnation lawsuits the next time the homes downstream flood when it rains five or six inches.

Thank you again for the opportunity to comment.

Chris Melton

From: gnady@sbccglobal.net
 To: [CESWT-BBTRS](#)
 Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study (BBTRS) - Public Comment
 Date: Monday, May 20, 2019 9:37:34 AM
 Attachments: [image001.png](#)

Hello,

-01

As you consider various flood control options in this study, I ask that you consider this as an opportunity to greatly increase/improve the recreational amenities in and around the Addicks and Barker reservoirs. These reservoirs encompass about 26,000 acres, a massive greenspace in a major urban area and much larger than Memorial Park (1466 acres) or New York's Central Park (840 acres). These reservoirs are located in the Houston Galveston Area Region with a population of ~7.3 mln people, with many more projected over the next 25-50 years. The George Bush, Terry Hershey, Fort Bend Freedom, Cullen Park, Mayde Creek and Addicks Chatterton hike and bike trails in and around the Barker and Addicks Reservoirs, Bear Creek Park, Cullen Park and many natural surface trails are already highly valued natural assets in these reservoirs.

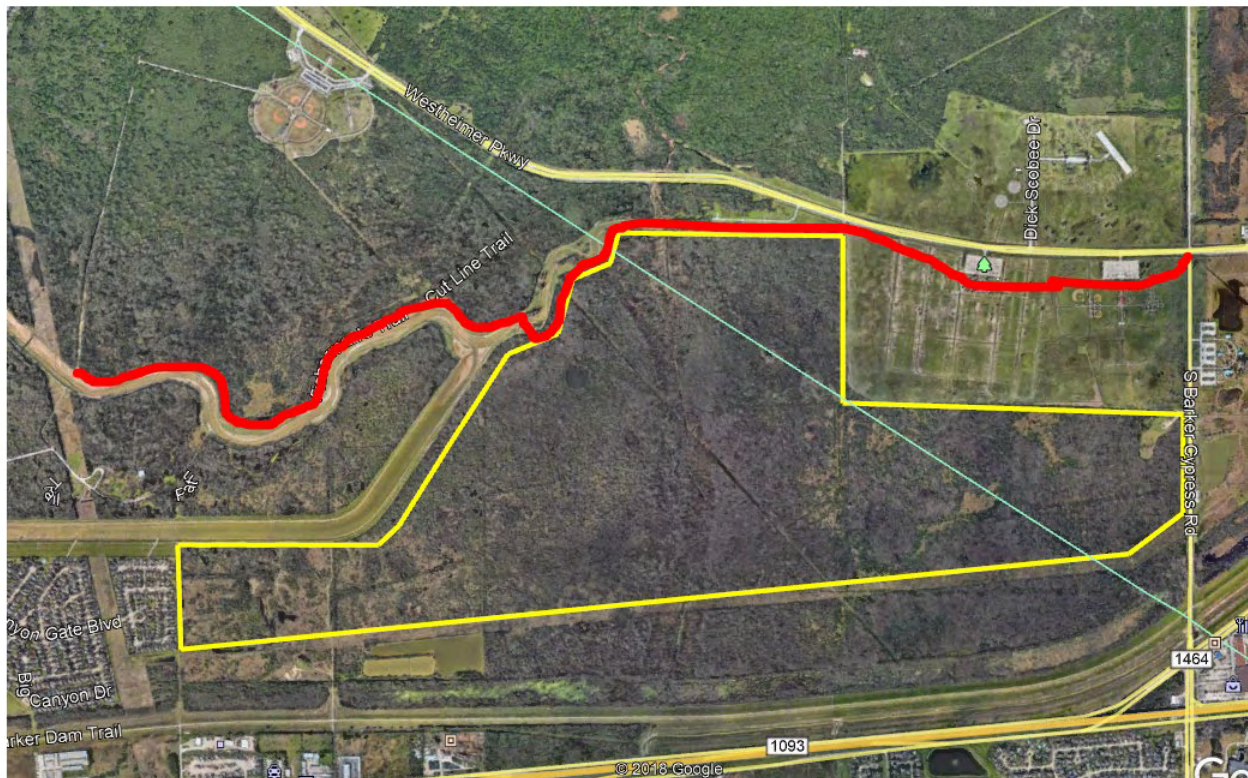
-02

As you consider new work in the reservoirs, please do so with a view to preserve greenspaces, provide higher elevation alignments for cross reservoir trails, deeper water lakes for fishing, create filtration wetlands, native prairies and removal of invasive species, particularly McCartney's Rose and Chinese Tallow.

-03

Some examples of what could be done relative to trail alignments would be:

1. Improving the all weather viability of the Noble Road trail from the George Bush/Barker Clodine trail to Briar Forest & Hwy 6.
2. An east-west trail through the Addicks Reservoir from War Memorial or Patterson & N. Eldridge Pkwy to Brittmoore Rd near Hammerly or Kempwood.
3. A north-south trail from War Memorial & Clay Rd to West Little York Rd.
4. A north-south trail from the Cullen Park trail to Pine Forest Ln just west of the Bill Archer Bark park (crossing Groschke Rd).
5. An east-west trail from the existing Fort Bend Freedom Park trail, east along Buffalo Bayou, crossing to the south side of Buffalo Bayou at the existing concrete bridge, then following the proposed Long Point Slough detention basin to the S. Barker Cypress/Westheimer Pkwy intersection (see screenshot below with proposed trail alignment in red and proposed detention basin in yellow).



-04

If you decide to relocate the spillways, please consider building hike and bike trail bridges at least 10' in width from rail to rail over these spillways. For example, if the northwest Barker Reservoir spillway is moved east and flows in the Barker Ditch, this would cross the existing hike and bike trail. A bridge crossing this spillway outlet would allow the continued use of these highly valued trails.

Thank you for the opportunity to comment and please feel free to email or call me at 832-260-5064 if you have questions or need clarification of any of these comments.

From: [Chancie Davis](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Barker Flooding Recommendations
Date: Monday, May 20, 2019 2:11:12 PM

May 20, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

Thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30.

I have the following recommendations:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

I would welcome the opportunity to discuss these further with you.

Thanks,
Chancie Davis

From: [Jerry Vertal](#)
To: [CESWT-BBTRS](#)
Cc: [Jerry Vertal](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Monday, May 20, 2019 2:27:11 PM

Dear Sir/Madam,

My wife and I are residents of Harris County, TX. We fully support the recommendations made by the Barker Flood Prevention advocacy group regarding the subject study.

Specifically, we recommend the following:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions should include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Thank you,

Jerry Vertal
jerry.vertal@gmail.com

From: [Robert Stowe](#)
To: [Barker Flood Control](#); [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Re: Supporters- Call to Action
Date: Monday, May 20, 2019 2:37:11 PM

O agree with the comments in the letter noted below and recommend no further study expended to expand the current dam structure at Barker Dam.

On May 20, 2019, at 2:04 PM, Barker Flood Control <brfloodprevention@gmail.com> wrote:

Supporters- CALL TO ACTION!

The USACE is soliciting comments from the public regarding the scope of the study, potential alternatives that should be considered, and environmental resources and impacts that should be addressed during the study process. Comments should be postmarked by May 31, 2019 for consideration during the formulation and technical analyses phase. Comments can be provided in one of two ways:

- Submit electronically to: BBTRS@usace.army.mil
- Mail to: USACE, Galveston District, Attn: BBTRS, P.O. Box 1229, Galveston, TX 77553-1229

For additional information on the study, visit: [Blockedhttps://www.swg.usace.army.mil/](https://www.swg.usace.army.mil/)

A letter has been submitted to the Corps on behalf of Barker Flood Prevention (see below). Please feel free to use this submission as a guide for your own correspondence. You may copy the letter verbatim if you wish.

For more information, please visit [Blockedwww.barkerfloodprevention.org](http://www.barkerfloodprevention.org).

May 16, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

On behalf of the Barker Flood Prevention advocacy group, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. We were pleased with the turnout and hope it will yield valuable feedback.

Our steering committee members also attended, and after careful consideration, have adopted the following recommendations:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
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(Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)

5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.

6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.

7. Do not increase the Barker Reservoir flood pool by extending spillways.

8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Barker Flood Prevention has a membership and support base of more than 600 people. We expect that the Corps can rely on this substantial support base in addition to our steering committee and leadership when considering and valuing these recommendations.

We would welcome the opportunity to discuss these further with you.

Yours sincerely,

Marlin Williford and Wendy Duncan

Founding Partners

Barker Flood Prevention

Steering Committee Members:

John Barrett, David Clark, Libby Clark, Chancie Davis, Susana Dias, Patrick Friend, Tim Miller, James Uhl, Erich Schroeder, Jay Wheeler

From: johnavoll@comcast.net
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment on flood control - water management
Date: Monday, May 20, 2019 2:56:28 PM

My suggestion is that when think about flood control we should also think about water use and retention. Is there a place to send water where it can be stored and used during the next draught? Flood control is only one aspect of water management.

I very much like to big tunnel idea. Maybe it doesn't have to head to the Galveston Bay and gulf though.

John A Voll
630-300-8328

Form Letter #1

Comment # ES82

From: [Christopher Abel](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Barker Reservoir Flood Study
Date: Monday, May 20, 2019 3:36:43 PM

May 20, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

On behalf of the Barker Flood Prevention advocacy group, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. We were pleased with the turnout and hope it will yield valuable feedback.

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6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Barker Flood Prevention has a membership and support base of more than 600 people. We expect that the Corps can rely on this substantial support base in addition to our steering committee and leadership when considering and valuing these recommendations.

We would welcome the opportunity to discuss these further with you.

Yours sincerely,

Chris Abel

Director

Commercial Real Estate
713.444.9008



920 S. Fry Rd
Katy, TX 77450

at  Signature

Texas law requires all license holders to provide the [Information About Brokerage Services](#) form to prospective clients.

From: [Leslie Eldred](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Monday, May 20, 2019 4:37:54 PM
Attachments: [BBTRS Comment Form_1.pdf](#)

Attached is the comment form for the Buffalo Bayou and Tributaries Resiliency Study.

Leslie Eldred
713.492.8791



**US Army Corps
of Engineers®**

Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

Comment Period: April 29, 2019 through May 31, 2019

The U.S. Army Corps of Engineers is in the process of developing the Buffalo Bayou and Tributaries Resiliency Study which includes both Flood Risk Management and a Dam Safety Modification Study (DSMS). The flood risk management will identify and evaluate alternatives to reduce flooding upstream of the Addicks and Barker Dams as well as below in the Buffalo Bayou watershed. The DSMS will identify and evaluate alternatives to address Phase II measures of the Dam Safety Modifications on Addicks and Barker. Public input is especially needed regarding alternatives to consider.

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

Place
Stamp
Here

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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We were affected by Hurricane Harvey and our home took on just over 12" of water due to Cypress Creek flooding. Our home was not in a flood plain, and wasn't even close to one. As a result of this, and the fact that nothing in the area had flooded to our knowledge at any point in the past, we did not have flood insurance. I realize that Hurricane Harvey was a storm like no other, and one that will hopefully never happen again. However, I do think it makes sense for this issue to be studied. With all of the studies going on, why not look at this area as well?

-01

Cypress Creek is a rural creek that is trying to do an urban drainage job - and failing! Since Harvey, we now get 6" of rainfall and the creek rises drastically. If we insist on burdening this creek more, the flooding along Harris County's longest stream and largest watershed will only worsen. Please use this opportunity to explore all of the issues that occurred during Harvey. Thank you for taking time to read my thoughts.

Name

Nombre Leslie Eldred

Affiliation

Afiliación _____

Address

Dirección de Envío 18507 Arlan Lake Drive

City

Ciudad Spring

State

Estado TX

Zip Code

Código Postal 77388

E-mail

Correo Electrónico lesliekay9@outlook.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

No Substantive Comments Identified

Comment #: ES84

From: [Michelle Salvant](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] BBTRS Comments
Date: Monday, May 20, 2019 6:44:21 PM

Never had Memorial Hills which backs up to Cypress Creek flooded before Harvey in 50 years. Situated on 1960 between Hardy Toll Road and Aldine Westfield. It's in zip 77073. I never want my house to flood again nor have to endure another high water rescue. Please do something to secure our safety. Thank you,
Michelle Salvant

From: [Kelly Tate](#)
To: [CESWT-BBTRS](#)
Cc: [kdtate7](#)
Subject: [Non-DoD Source] Projections for Brays Bayou
Date: Monday, May 20, 2019 9:57:47 PM

Good evening,

-01 | I just attended Brays Bayou Association's Town Meeting tonight. We were asked to email our comments on your proposals. My recommendation is to make sure you look at each reservoir, watershed and bayou as a stand alone and do what is best to make sure each and every neighborhood is safe from flooding. I believe the underground tunnels is a go, as long as it does not feed from one water retention area into another. Please do not "rob Peter to pay Paul". This mentality will hurt us all in the long run. Thank you for allowing me to share my voice with you.

Kelly D. Tate
281-620-8553
Resident of Maple Wood West

From: [Rick Wolfe](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Recommendations for the Barker and Addicks Reservoirs
Date: Monday, May 20, 2019 11:35:55 PM

May 20, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

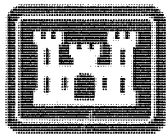
I would like for the Corps of Engineers to adopt the following recommendations for the Barker and Addicks Reservoirs :

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions I support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

I would welcome the opportunity to discuss these further with you.

Yours sincerely,

Rick Wolfe



**US Army Corps
of Engineers**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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-01

1. Focus on Exposure and Vulnerability

Acquire land upstream in Katy Prairie (before it is all concreted over or further developed) to recreate and/or preserve the historical natural retention capability of that area.

-02

2. Convey Water

Create tunnels to improve water conveyance from Babes Reservoir to east of downtown Houston.

It is important to eliminate the pinch points in the Villages area. The channel improvement in the area (between Beltway 8 and Downtown) has always been delayed/postponed by property ownership issues and political pressures. We need to overcome this with appropriate measures such as tunneling!

3 Increased reservoir storage capacity of Babes and Addicks should be actively pursued a more immediate solution. After 2 years we have not prepared anything tangible for the new hurricane season.

Name
Nombre

FRIEDHELM & JUDANN LUENING

Affiliation
Afilación

Address

Dirección de Envío

12476 HONEYWOOD TRAIL

City

Ciudad

HOUSTON

State

Estado

TX

Zip Code

Código Postal

77077

E-mail

Correo Electrónico

FLUENING & MAC.COM

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Jack McClure](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Flood feedback
Date: Tuesday, May 21, 2019 8:28:36 AM

-01 | I suggest we dredge and channelize Buffalo Byou form Highway 6 to the ship channel. River Oaks must be made to deal with channel widening through their area. Get the water moving no grandfather protection.

Jack McClure
Katy, Texad

From: [John Barrett](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments on Buffalo Bayou and Tributaries Resiliency Study
Date: Tuesday, May 21, 2019 8:47:46 AM

Date: 5-21-19

From: John Barrett

4319 Perdido Bay Dr.

Katy, TX 77450

To: United States Army Corps of Engineers (USACE)

Thank you for hosting the scoping meeting on April 30 for the Buffalo Bayou and Tributaries Resiliency Study and for the opportunity to submit comments. Those of us who were flooded by Harvey are very interested in the final solutions and appreciate the work being done by the USACE. If not already part of your study, I ask that you please consider the following:

-01

The USACE purchased land to approximately 95' elevation for Barker Reservoir. Since then, homes, businesses, schools, whole communities have been built around the reservoir outside the 95' elevation boundary. Now that this land is developed, Barker Reservoir capacity should be limited to the 95' elevation owned by the Corps. The emergency spillways should be reset at 95' to prevent flooding around the reservoir. This will also provide a higher safety factor for the dam. If more storage capacity is needed, there are other alternatives, including excavation and additional reservoirs.

-02

When the USACE studied flood solutions years ago, engineers saw the need for more flow capacity downstream of Barker and Addicks. Drawings show a separate channel to the bay, bypassing Buffalo Bayou. Some type of solution to accomplish this must be part of the overall plan. Another way to release water from Barker Reservoir at a higher flowrate will reduce the need to store water and will help alleviate problems in Buffalo Bayou downstream of the dam.

I realize the Corps will prepare a cost-benefit analysis of the alternatives. Over 9,000 homes and multiple businesses and schools were flooded upstream of the reservoirs during Harvey. This was caused by storing water beyond government owned land. The combination of alternatives listed above will help prevent that from happening again and will help reduce flooding downstream.

-03

I am certain the Corps will consider all these alternatives together, as they do not appear to be independent remedies, and it doesn't make sense to flood one group of people to prevent flooding somewhere else. The combination of solutions must include sufficient collection of water in a place where it will not damage property, combined with a discharge channel or tunnel capable of moving water safely to the bay without flooding property along the way.

Our house is finally rebuilt and our neighborhood is coming back to life. It's taken a long time to recover, but it's starting to feel like home again. My neighbors are united in finding solutions and support to protect our homes. We all realize this is a big task, but that is why the Corps must be the ones to come up with the plan. Please let me know if there is any way I can help.

Thank you for your consideration.

John Barrett

4319 Perdido Bay Dr.

Katy, TX 77450

Cell: 281-224-4626

From: Michael.Chan@dell.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study missing Cypress Creek!
Date: Tuesday, May 21, 2019 12:27:30 PM
Importance: High

Greetings all:

My name is Michael Chan and I live at
2718 King Point View Ln.
Spring, TX 77388

My home is in a near the edge of 500 year floodplain, but we flooded during Harvey.

[Blockedhttps://photos.app.goo.gl/7DOyo7VZEfHv81BJ2](https://photos.app.goo.gl/7DOyo7VZEfHv81BJ2)

-01

Any study that affects Little Cypress Creek will eventually affect people downstream (Cypress Creek and the rest of people in Spring area) and we need to be included in that study.

Thanks!

Michael Chan

SQL Server Platform Architect

Dell EMC | Dell Consulting Practice

EMCTAe, CompTIA Security+, VCP 5.5, 5, 4.1 MCITP: DBA SQL, CiRBA, CCSA, CDP, BCSD, MCSE, RHCT

office + 1 281 404 5583, **cell** + 1 281 630 8204

From: [Janet Beall](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Water diversion
Date: Tuesday, May 21, 2019 1:14:57 PM

I am responding to the solution and proposal to address flooding by The Army Corps of Engineers to mitigate flooding in the Addicks Dam.

As a concerned citizen who

Lives near Cypress Creek and seen first hand the damage caused and disruption of lives with the onset of Hurricane Harvey. As depicted on page 16 of attachment, one of the proposals to minimize water into the Addicks area is to erect a berm or levee south of Cypress Creek in the western part of Harris County. This levee would prevent waters spilling out of Cypress Creek from flowing south to Addicks as they have always done. With the levee in place all the flood waters would be contained in the Cypress Creek watershed. This means water for us.

Cypress Creek is a rural creek and adding more water to this with the proposal of a levee diverting water meant to flow toward Addicks Dam would make our area flood even more.

What I propose is to add tunnels which would divert the water and widen areas and granted this would be expensive, I would be willing to pay more in property taxes by preventing another Harvey flood scenario.

Sincerely,

Jan Beall

Spring Texas

Sent from my iPhone

From: [Ann May](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study Comments
Date: Tuesday, May 21, 2019 1:44:42 PM

-01

1. Please do not rely on averages of past events (e.g. amount and duration of rainfall) when planning measures to handle future rainfall events. I think you should design to account for Hurricane Harvey as the baseline, and add a cushion. We have no idea how much future events will be.

-02

2. Please read the story about Frank Gehry, in May 2019 Wall Street Journal Magazine. It's about creating a sprawling master plan to reimagine the L.A. River—and solve an infrastructural problem that has vexed the city for generations." "Gehry envisions adding parkland and platforms to come sections, transforming the river into a vibrant public space." Please consider some creative solutions like this. Unfortunately, the article relates that the disaster in 1938 flood "prompted the Army Corps of Engineers to fix the river in place by paving its entire length with 3.5 million barrels of concrete, creating the world's longest rain gutter. "

[Blockedhttps://www.wsj.com/articles/at-90-frank-gehry-is-juggling-more-than-ever-11556109269?mod=searchresults&page=1&pos=4](https://www.wsj.com/articles/at-90-frank-gehry-is-juggling-more-than-ever-11556109269?mod=searchresults&page=1&pos=4)

[FEATURE](#)

[At 90, Frank Gehry Is Juggling More Than Ever](#)

By Tony Perrottet

April 24, 2019 8:34 am ET

-Ann May
11846 Castle Ridge Dr.
Houston, TX 77077
Abmay11@gmail.com
713-502-7528



Memorial Drive Acres Section I, HOA

14027 Memorial Dr. #196
Houston, TX 77079-6826
[www. Memorialdriveacres.com](http://www.Memorialdriveacres.com)

May 21, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

On behalf of Memorial Drive Acres Section 1, Homeowner's Owners Association, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on May 2 at St. John Vianney Catholic Church. We hope it will yield valuable feedback.

- 01 1) Increase the storm water storage capacity in the Barker and Addicks Reservoirs through select excavations. For example, a 737-acre project that has been presented to the Corps located east of the Canyon Gate community in the Cinco Ranch Area.
- 02 2) Effectively manage the release rates and conveyance out of the Barker and Addicks Reservoirs to not structurally and emotionally impact downstream property owners. Solutions we support include flood tunnel(s), diversion channels, channel improvements, bridge raising and bypasses.
- 03 3) Improve and restore channel conveyance and capacity downstream of Barker and Addicks Reservoirs and within both reservoirs, including dredging, desilting and de-snagging.
- 04 4) Add intermediate detention/retention capacity upstream and downstream of Barker and Addick Reservoirs, and,
- 5) Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.

Memorial Drive Acres Section 1 HOA has a membership and support base of 117 family dwellings east of State Highway 6 between I-10 (Katy Freeway) and Buffalo Bayou. We expect that the Corps can rely on this support base when considering and valuing these recommendations.

Sincerely,

Kurt A. Nelson, Treasurer
Member of Board of Directors

May 21, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

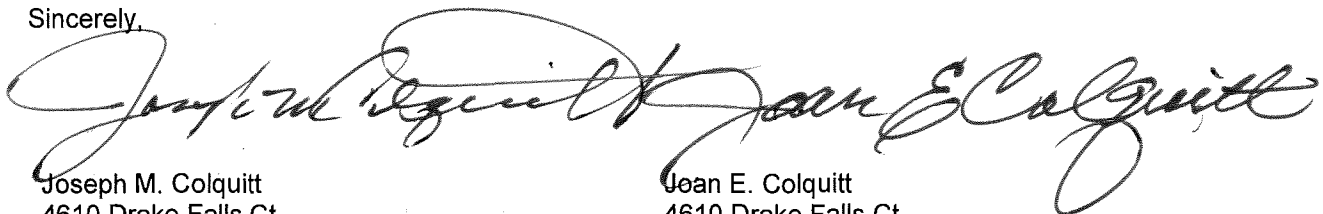
Dear Sir/Madam:

Thank you for the opportunity to provide input to the Buffalo Bayou and Tributaries Resiliency Study. As victims of the Barker Reservoir over-fill/flood during Hurricane Harvey we are encouraged to know the Corps of Engineers is taking an active interest in preventing a reoccurrence of this catastrophe and pray it will be successful and a future flood(s) will never be permitted to occur.

We are members of the Barker Flood Prevention advocacy group and support the following recommendations:

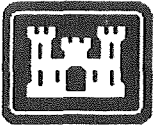
- Limit the Barker Reservoir flood pool to the current government owned land.
- Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include:
 - flood tunnel(s),
 - diversion channels,
 - channel improvements and/or bypass.
- Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including:
 - Dredging
 - Desilting
 - De-snagging.
- Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs.
 - (Example. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
- Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
- Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
- Do not increase the Barker Reservoir flood pool by extending spillways.
- Do not destroy our existing neighborhoods, schools and businesses via large scale buyouts.

Sincerely,



Joseph M. Colquitt
4610 Drake Falls Ct.
Katy, Texas 77450
281-799-3441
jmcolquitt@aol.com

Jean E. Colquitt
4610 Drake Falls Ct.
Katy, Texas 77450
281-799-1736
jmcolquitt@aol.com



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

We live in the Brays Bayou watershed. Our subdivision Meyerland is ground zero for the flooding in Houston. The tunnels would be terrific! The diversion points placing storm water in Brays that previously flowed into Buffalo is absolutely unacceptable to the Brays watershed residents. How can the Brays watershed ^{handle} additional unrestricted flow? Project Brays is only intended to provide relief for what is currently flowing in, thus the reason the out flows from our streets and neighborhoods are not allowed to be increased unless there is some mitigation offset. We appreciate your efforts, but moving water from Buffalo to Brays Bayou is not an acceptable option.

William R. Gamble Alice G. Gamble 05/22/2019

Name William R. & Alice G. Gamble Affiliation Homeowners
Nombre William R. & Alice G. Gamble Afiliación Homeowners

Address 5118 Queensloch Dr
Dirección de Envío 5118 Queensloch Dr

City Houston State TX Zip Code 77096
Ciudad Houston Estado TX Código Postal 77096

E-mail wrgamble711@aol.com
Correo Electrónico wrgamble711@aol.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Paul Cerone](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Addicks Dam Proposal
Date: Wednesday, May 22, 2019 7:09:49 AM

-01

To whom it may concern:

The information I'm receiving on the proposals to mitigate flooding in the Addicks Dam area indicates flood issues would get worse for Cypress Creek residents. This assumes the proposal to erect a berm or levee south of Cypress Creek is adopted and would prevent waters spilling out of Cypress Creek flowing south to Addicks. Thus resulting in more water staying in the creek. Is that the case or is the information I'm receiving on the topic inaccurate? Are there other mitigation plans for Cypress Creek that would alleviate the downstream issues? As a homeowner in the Champions area I have concerns over potential flood damage to our community in the future.

Thanks

Sent from my iPad

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From: [Lynn Wilkinson](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Barker Flood Control
Date: Wednesday, May 22, 2019 3:34:22 PM

05/22/2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

On behalf of the Barker Flood Prevention advocacy group, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. We were pleased with the turnout and hope it will yield valuable feedback.

Our steering committee members also attended, and after careful consideration, have adopted the following recommendations:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Barker Flood Prevention has a membership and support base of more than 600 people. We expect that the Corps can rely on this substantial support base in addition to our steering committee and leadership when considering and valuing these recommendations.

Sincerely,
Lynn F. Wilkinson
CMC, CMIS, CMOM
19751 Twin Canyon Ct
Katy, Tx 77450-8811
Cell 713-562-5831

PRIVACY NOTICE: *This email may contain confidential information protected by State and Federal Law. Please destroy if received in error. Thank You!*

From: [Bill Gamble](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment Form for Buffalo Bayou and Tributaries Resiliency Study
Date: Wednesday, May 22, 2019 5:43:27 PM
Attachments: [Comment Form from William R & Alice G Gamble 05-22-2019.pdf](#)

Please see attached comment form. Thanks for your consideration of our comments!



US Army Corps
of Engineers

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

We live in the Brays Bayou watershed. Our subdivision Meyerland is ground zero for the flooding in Houston. The tunnels would be terrific! The diversion points placing storm water in Brays that previous flowed into Buffalo is absolutely unacceptable to the Brays watershed residents. How can the Brays watershed ^{channel} additional unrestricted flow? Project Brays is only intended to provide relief for what is currently flowing in, thus the reason the out flows from our streets and neighborhoods are not allowed to be increased unless there is some mitigation offset. We appreciate your efforts, but moving water from Buffalo to Brays Bayou is not an acceptable option.

William R. Gamble Alice G. Gamble 05/22/2019

Name William R. & Alice G. Gamble Affiliation Homeowners
Nombre Afiliación

Address 5118 Queensloch Dr
Dirección de Envío

City Houston State TX Zip Code 77096
Ciudad Estado Código Postal

E-mail wrgamble711@aol.com
Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

Comment Period: April 29, 2019 through May 31, 2019

The U.S. Army Corps of Engineers is in the process of developing the Buffalo Bayou and Tributaries Resiliency Study which includes both Flood Risk Management and a Dam Safety Modification Study (DSMS). The flood risk management will identify and evaluate alternatives to reduce flooding upstream of the Addicks and Barker Dams as well as below in the Buffalo Bayou watershed. The DSMS will identify and evaluate alternatives to address Phase II measures of the Dam Safety Modifications on Addicks and Barker. Public input is especially needed regarding alternatives to consider.

USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Place
Stamp
Here

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

From: [Hank Wenzler](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Fort Bend County Flood Response (Barker Flood Prevention Group)
Date: Wednesday, May 22, 2019 7:45:46 PM
Attachments: [May 16.docx](#)

Dear Sir/Madam,

The above insert is my response to action requested by the Barker Flood Prevention Group.

Sincerely,

Henry R. Wenzler

hwenzler3@sbcglobal.net <<mailto:hwenzler3@sbcglobal.net>>

May 16, 2019

U.S. Army Corps of Engineers Galveston District

Attn: BBTRS

P.O. Box 1229

Galveston, TX 77553-1229

Dear Sir/Madam:

On behalf of the Barker Flood Prevention advocacy group, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. We were pleased with the turnout and hope it will yield valuable feedback.

Our steering committee members also attended, and after careful consideration, have adopted the following recommendations:

Limit the Barker Reservoir flood pool to the current government owned land.

2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.

3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging

4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)

5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.

6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.

7. Do not increase the Barker Reservoir flood pool by extending spillways

8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

9. While the above comments cover most of the efforts needed NOW, I wish to add some comments of my own. Studies: How many times has the Corps studied these same problems, it is time to get on with the solutions necessary to solve the flooding issue. Also, since these problems exist and now seem to have come to the public's attention, why has nothing been done in the past 70+ years since the dams were built. You have county agencies willing and able to undertake these dredging and desilting projects, but all you can do is fight over permits and other admin details that are useless. Get it on!! The counties have the funds for the work that is needed. You need to get on it before the politicians get their hands into the pie!

Barker Flood Prevention has a membership and support base of more than 600 people. We expect that the Corps can rely on this substantial support base in addition to our steering committee and leadership when considering and valuing these recommendations.

We would welcome the opportunity to discuss these further with you.

Yours sincerely,

Henry R. Wenzler

3510 Hunstanton Ct.

Katy, TX 77450

We had three feet of water in our home thanks to not opening the gates soon enough!

From: [Stephen Hinson](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] BBTRS comments
Date: Wednesday, May 22, 2019 7:51:44 PM

This is a long overdue study and I'm happy to see it making some progress, but also a bit frustrated that it took the historic devastation of Harvey for it to finally be taken seriously.

I would like to submit a couple comments in relation to the materials presented for the public scoping meetings:

- 01 1. There seems to be somewhat of a mismatch in the process and communication to the public, in that the communication was primarily to the residents with the Buffalo Bayou watershed, but the study is considering solutions that could impact those in neighboring watersheds. While the material indicates that impact analysis will be done for Brays and White Oak Bayous, it does not seem that those stakeholders have been included in the discussion/communication. This seem in conflict with the listed opportunity to "increase public awareness and education".
- 02 2. Similarly, the inclusion of diversion as a possible solution seems worrying for several reasons. HCFCD and CoH have long held that no new inflows can be added to the bayou without a corresponding offset created from increasing detention capacity. This is not identified in the materials and Alt #5-C2 shows diversion as a standalone option with no combination with storage (such as Alt#8, which seems like the only place that diversion should be considered). This seems in conflict with the listed constraint of "no unmitigated adverse impacts"
- 03 3. It is unclear why diversion options for Sims bayou have been included, which is completely outside of the scope boundaries (i.e. not even listed for impact analysis).
- 04 4. Finally, I worry that the inclusion of certain diversion options creates an even worse dilemma for the USACE during future event, where rather than struggling with a decision about whether or not to make a release with devastating impact to residents downstream, they could now be faced with making a "winners and losers" decision about which watershed do they choose to release into. This would likely affect residents in lower income areas more negatively, as certainly any decision would be based on potential cost impact (i.e. higher priced homes and businesses) rather than any criteria that residents might consider as "fair" (even things like the number of people or dwellings impacted would be difficult to get people to agree on). Considering options such as these, that would create the appearance that someone from the USACE could pick "winners and losers" during future flood events, seems like a risk that should be more clearly articulated in the study criteria/analysis, so that the all potential impacts (i.e. future litigation) will be included.

Thank you for the opportunity to comment.

Regards,
Stephen Hinson
4425 Willowbend Blvd
Houston, TX 77035

From: [Kelly Tate](#)
To: [CESWT-BBTRS](#)
Cc: [kdtate7](#)
Subject: [Non-DoD Source] Public Information Response
Date: Wednesday, May 22, 2019 9:31:24 PM
Attachments: [KT PUB INFO MTG.PDF](#)

Please find attached my comments to the Buffalo Bayou and Tributaries Resiliency Study. Thank you again for allowing me to share my thoughts



**US Army Corps
of Engineers**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

To Whom It May Concern:

I attended last night a town meeting with the Brays Bayou Association, my recommendation is to make sure you look at each resolution for each reservoir, watershed and bayou as a stand alone. Please make sure you look at what is best to make sure each and every neighborhood is safe from flooding. Making decisions based on "the lesser of two evils", ie; comparing how many millions of loss between two or more communities is ludicrous. This type of mentality will hurt us all in the long run. Bottom line I am in favor of a plan that will divert water away in the opposite direction in which communities were prone to flood. Thank-you for allowing me to share my voice.

Name *Kelly D. Tate* Affiliation *Brays Bayou Association*
Nombre *Kelly D. Tate* Afiliación *Brays Bayou Association*
Address *7655 S. Braeswood Blvd #27*
Dirección de Envío *7655 S. Braeswood Blvd #27*
City *Houston* State *TX* Zip Code *77071*
Ciudad *Houston* Estado *TX* Código Postal *77071*
E-mail *Kdtate7@gmail.com*
Correo Electrónico *Kdtate7@gmail.com*

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

22MAY19

Comment #: ES102

Kitty Kenyon
1914 Mission Springs Dr.
Katy, TX 77450

USACE
U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

I am a member of the Barker Flood Prevention advocacy group. In addition to their comments, I would like to offer mine or reiterate their suggestions but with comment.

1. Limit the Barker Reservoir flood pool to the current government owned land. This is extremely important unless the government intends to do a buyout of properties below a certain elevation.
2. Increase conveyance out of the Barker and Addicks Reservoirs. This is also extremely important however, I would not like to see other measures delayed just in order to accomplish these major projects. (i.e. delay of desilting etc)
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and with the reservoir (dredging, desilting, and de-snagging) **It has been almost 2 years since Harvey and this has yet to be done.** We live very near Mason Creek and there is a large amount of sand that has been deposited and will severely hamper future flow into Barker. This will create flooding upstream next time we have a storm.
4. Add capacity within Barker and Addicks reservoirs through select excavation in the resevoirs. **DO IT NOW!**
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs. Total agreement.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. **DO NOT** increase the Barker Reservoir flood pool by extending spillways. This just backs water up further behind reservoir.

Form
Letter

8. I might be in favor of large scale buyouts of those that live below flood mark of Barker Reservoir and have been flooded several times. Only after the options above have been implemented.

-02

The bottom line is that there are several action items that can be implemented sooner rather than later and haven't been. **There does not need to be two years of study to begin improving the conveyance channels and adding capacity to the current reservoirs.** I also believe that controlled release of flood waters should begin sooner rather than later in the event of a major flood event.

Thanks for your time and attention.

Sincerely,

A handwritten signature in cursive script that reads "Kitty Kenyon".

Kitty Kenyon

MEMORIAL SUPER NEIGHBORHOOD COUNCIL
A Texas Non-Profit Corporation
14303 Cindywood Drive
Houston, Texas 77079

May 22, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

On behalf of the Memorial Super Neighborhood Council, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on May 2 at St. John Vianney Catholic Church. We hope it will yield valuable feedback.

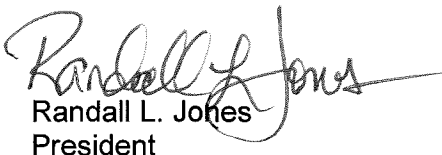
After careful consideration, our delegation has adopted the following recommendations:

- 01 | 1. Increase the storm water storage capacity in the Barker and Addicks Reservoirs through select excavations. For example, a 737-acre project that has been presented to the Corps located east of the Canyon Gate community in the Cinco Ranch area.
- 02 | 2. Effectively manage the storm water release rates and conveyance volume out of the Barker and Addicks Reservoirs to not structurally impact downstream property owners. Solutions we support include flood tunnel(s), diversion channels, channel improvements, bridge raising and bypasses.
- 03 | 3. Improve and restore channel conveyance and capacity downstream of Barker and Addicks Reservoirs and within both reservoirs, including dredging, desilting and de-snagging.
- 04 | 4. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
- 05 | 5. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.

The Memorial Super Neighborhood Council has a membership and support base of thousands of residents living east of St. Highway 6 between I-10 (Katy Freeway) and Buffalo Bayou in the City of Houston. We expect that the US Army Corps of Engineers can rely on this substantial support base and leadership when considering and valuing these recommendations.

We welcome the opportunity to discuss these recommendations further with you.

Sincerely,


Randall L. Jones
President

cc: U.S. Congresswoman Lizzie Fletcher, Texas Congressional District 7
Texas Lt. Governor Dan Patrick
Texas State Senator Joan Huffman, District 17
Texas State Representative Jim Murphy, District 133
Mayor Sylvester Turner, City of Houston
Councilmember Greg Travis, City of Houston District G
Harris County Judge Lina Hidalgo
Harris County Precinct 3 Commissioner Steve Radack
Russ Poppe, Executive Director, Harris County Flood Control District
Executive Committee, Memorial Super Neighborhood Council

5/22/2019

Dear Sirs,

Please reconsider a berm or levee south of Cypress Creek in western Harris County.

Cypress Creek gave us more flood water during Harvey. We had 5 to 6 feet of water. This levee would give us additional water.

Please find another solution as we need to find a way to reduce water not add more to Cypress Creek.

Sincerely,

Rose Mary Smith
337 Champions Colony III
Houston, TX 77069

7907 Aleta Drive

Spring, Texas 77379

May 22, 2019

To Whom It May Concern;

I live in the Spring-Klein area and I am concerned about the future plans for Addicks Dam and Flood Control in Harris County. Because of Cypress Creek certain streets in our area had severe flooding and damage during Harvey. Furthermore I remember some years ago when water backed up in the streets of my subdivision and I know that this could happen again and in a most severe way.

-01 I ask you to consider the areas north, northwest of the city of Houston, which might be put in harms way when planning for a particular problem south of them. I ask you to broaden the scope of your flood planning and secure safe plans for all citizens of Harris County, including those in the Cypress Creek area.

Thank you,



Shirley Varsel

P.S.
My husband and I have been residents of Harris County for 40 plus years. My husband, Charles Varsel, fully agrees with the above statement.

From: [Charlotte](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] IMPORTANT READ: CONCERNS LOCF
Date: Thursday, May 23, 2019 9:20:30 AM

I was one who flooded during Harvey because of the water backing up and the overflowing of Cypress Creek. There must be way to clear out Cypress Creek and Addicks when too much water comes as a result of a Hurricane or some other force of nature. Doing anything that would purposely cause damage to property and or loss of life is wrong.

From: [Phillip J Allan](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou
Date: Thursday, May 23, 2019 1:19:51 PM

-01 |

Take a look at what Los Angeles has done with the L.A. and Santa Ana rivers. We need to increase the size of our bayous substantially.

thanks

Phil Allan
RE/MAX Northwest
281-894-8300 ext. 209
cell: 281-734-7887

From: [Dorsey Home](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 23, 2019 1:42:02 PM
Attachments: [Comment Form Brays WaterShed.pdf](#)

To Whom It May Concern:

Please see my attached comments.

Thank you,
Patricia Dorsey
BVWCA, VP
Neighborhoods To Trails SW
Blockedwww.neighborhoodstotrails.org <Blockedhttp://www.neighborhoodstotrails.org>



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

-01 | Thank you for the opportunity to comment on the proposed study. First, I think we still
need to examine the former Ruffino Hills property which has completed studies indicating
that no hazardous waste was put there. If this property were used for detention, it would
offset flooding in the Brays watershed. I am not in favor of tunnels that could possibly
water from Buffalo Bayou to Brays Bayou. I think a 30 year+ construction project is too
long for the area. Ruffino Hills property could be a much shorter project alleviating flooding
-02 | much sooner. Two weeks ago, we had a rainfall of 10-12 inches. Keegan's Bayou came
out of its banks at Roark Road. Streets in Braeburn Valley West were flooded. Folks
could not get in or out of the neighborhood. How many more times do we need to have
this happen? Thankfully, no home was flooded, but it creates enough worry that a more
feasible, short-term project is warranted. I vote for Ruffino Hills detention pond!!!

Name

Nombre

Affiliation

Afiliación

Address

Dirección de Envío

City

Ciudad

State

Estado

Zip Code

Código Postal

E-mail

Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

Comment Period: April 29, 2019 through May 31, 2019

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USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Place
Stamp
Here

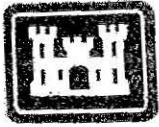
**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

From: [Carol Burns](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Subject: Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 23, 2019 4:05:46 PM
Attachments: [BraysBayou.pdf](#)

Please see attached my comment form for the above issue. Please note this page was emailed to you today, May 23, 2019.

Thank you

Carol Burns



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" Do not make any plans which
will add anymore water under any
circumstances to the Brays Bayou
watershed!

Name
Nombre

Paul + Carol Burns

Affiliation
Afilación

resident

Address
Dirección de Envío

5235 Imogene Street

City
Ciudad

Houston

State
Estado

TX

Zip Code
Código Postal

77096

E-mail
Correo Electrónico

clburns53@comcast.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

10-

From: [Pieper, Nicholas J](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment Form - Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 23, 2019 4:08:25 PM
Attachments: [Buffalocomment-signed.pdf](#)

To whom it may concern,

Please find attached a comment form in regards to the Buffalo Bayou and Tributaries Resiliency Study.

Thank you.

Nicholas J. Pieper, CPL

EP Energy E&P Company, L.P.

1001 Louisiana Street

Houston, Texas 77002

(713) 997-4888

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-01

PLEASE DO NOT MAKE ANY PLANS WHICH WILL ADD ANY MORE WATER UNDER ANY CIRCUMSTANCES TO THE BRAYS BAYOU WATERSHED! MY 4 AND 6 YEAR OLD KIDS ARE STILL TORMENTED BY OUR HOUSE FLOODING DURING HARVEY AND HAVING TO EVACUATE IN THE MIDDLE OF THE NIGHT BY BOAT. WE ARE SO GRATEFUL FOR PROJECT BRAYS AND DONT WANT ANY OPPORTUNITY FOR ADDITIONAL WATER TO ENTER THE BRAYS BAYOU WATER SHED TO BE CONSIDERED. PLEASE, PLEASE REJECT THIS PROPOSAL THAT WILL ENDANGER OUR FAMILIES AND HOMES!

MEYERLAND HAS FLOODED SUBSTANTIALLY 3 TIMES IN THE LAST 5 YEARS. PLEASE DON'T HELP CONTRIBUTE TO ANOTHER!

Name
Nombre

Nicholas J. Pieper
Nicholas J. Pieper

Affiliation
Afilación

Address
Dirección de Envío

5139 Loch Lomond Drive

City
Ciudad

Houston

State
Estado

Texas

Zip Code
Código Postal

77096

E-mail

Correo Electrónico

Nicholas.Pieper@EPEnergy.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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Comment Form Instructions

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USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Place
Stamp
Here

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

Received 23 May 19, by mail.

Jep Pate
18502 Arlan Lake Dr
Spring, TX. 77383

USACE
Galveston District
Attn: BBTRS
PO Box 1229
Galveston, Texas
77553-1229

Re; Cypress Creek Flood Study

Gentlemen:

-01 I am concerned that consideration of construction of a dam or levee to keep water in Upper
-02 Cypress watershed from flowing into Addicks/Barker Dams is under way. This would prevent
waters spilling from Cypress Creek Basin from flowing South into Addicks Reservoir as it has
always in the past. As a result this would cause more flooding potential in Cypress Creek
unless compensating storage detention ponds are constructed to mitigate additional flood
damages. In addition to additional storage I recommend that areas in the Katy prairie be
reserved to act as an additional flood mitigation measure.

-03 Construction of a levee in Upper Cypress watershed will worsen an already bad situation
unless compensating measures are taken in the form of storage detention areas and
reservation of the Katy prairie areas for storage of excess storm water in Cypress Creek.

Very truly yours



Jep Pate

CC:

HCFCID

Harris County has Commissioner R. Jack Cagle

HCWCID No. 110

5209 Jessamine St
Bellaire, Texas-77401
May 23,2019

USACE GALVESTON DISTRICT
Attn: BBTRS
P.O. Box 1229
Galveston, Texas 77553-1229

BBTRS,

Ref: Comment on how to solve the flooding on Brays Bayou Watershed.
Ref: "The Sebesta Solution" for Brays Bayou

I am including a copy of the "Sebesta Solution" that was submitted to HCFCD as a potential solution for solving the flooding on Brays. I must point out that on April 22, 2019 I attended the kick-off meeting with HCFCD to do a feasibility study for this approach. It was not easy to get HCFCD to consider this approach because Mr. Russ Poppe and Mr. Alan Black are very anti-pump. It required a political solution to get them to consider this approach. By Political solution I contacted the County Judge and the four Commissioner and recommended they replace Mr. Poppe or educate him that by properly specifying a high quality pump, pumps can be reliable. Note: a properly specified pumps and control system is super critical to making this system reliable. The final layout and design must have the ability to periodical exercise the pumps otherwise we can find ourselves in trouble during a flood condition. Pumps need to be powered by diesel or natural gas fired engines to make sure they are available during a flood or hurricane situation.

- 01 | The Sebesta Solution should be combined with adding more detention on the Bayou and also increasing the width of the Bayou. I see where a lot of dollars are proposed for buyouts, increasing bayou width and raising bridges over Bray. I would think that by increasing the velocity of the water in the bayou you could reduce this cost. It may be more cost effective to take this money and apply it to pumps and solve the flooding problem.
- 02 | A lot of interest and studies have been devoted to building tunnels to move more water to the bay. I would suggest that we look at large diameter pipelines to accomplish this. The pipelines could be fabricated from plastic pipe and buried in the bottom of brays bayou or in the banks of Brays To move the required water quantities would require installing pumping station along the route to obtain high velocity. The high velocity would scourge the pipeline eliminating the concern of build-up in a tunnel. Note: if the study of the Sebesta solution indicates we cannot move sufficient water in Brays , it may be wise to install a small pipeline in this route to move the required water flow. I also think that a pipeline would work better running through areas with a high water table or unstable ground. The soils in the gulf coast are not very suitable for tunnel construction.
- 03 |
- 04 | Once we overcome the resistance to using pumps we can now considering using pumps to move water via a channel in the power line easement that runs along the railroad track. This channel could be used to move water from Brays to Sims and vis verse. It there is too much

-04 | resistance to this approach then this channel could be used to move water from Brays to detention ponds in an more affordable and undeveloped area. Jefferson Parish in Louisiana uses a large diameter pipeline in their "Pump it to the River" flood control project. It is my understand this system uses two pumping stations along he pipeline to transfer water out of the Parish. The Louisiana Project on the St Johns Floodway is more comparable to Brays Bayou in the terms of size of the pumping station and the amount of water that needs to be moved.

-05 | One important option that is available for building the large pumping station near the ship channel, it allows considering building the pumps and control building as modular construction. This would allowing using modules built anywhere in the world. The closure gate could be built as a modular swing gate barge and have some pumps built into the barge.
I need to also point out the by increasing the height of the flood gate and any levees required to prevent back-flow, we can address future ocean level rise.

-06 | When you build in swamp you have to drain the swamp. The best way to do it is with pumps. The Dutch have been very successful at draining the swamp and their swamp's starting point is below sea level.

I am available to discuss my solution.-713-302-4513.

Sincerely yours,

A handwritten signature in black ink, appearing to read "Daniel Sebesta", with a long horizontal flourish extending to the right.

Daniel .Sebesta, a retired Professional Engineer with years of pump experience

THE SEBESTA SOLUTION

HOW TO SOLVE THE FLOODING ON BRAYS BAYOU?

A real engineering solution to the Brays Bayou flooding issue. It is a very simple solution increase the flow velocity of the water. To increase the flow velocity, you need to increase the out flow of Brays into the Houston Ship channel. To do this you would build a flood gate at the outlet of Brays that could be closed when the level in Brays will experience flooding conditions. This flood gate plus a huge bank of big pumps that would pump out the bayou upstream of the closed flood gate. By lowering the level of brays at this point we have increased the hydraulic head (gradient) of the water in Brays. We now have converted Brays from a lazy flowing tide restricted bayou to a stream that could potentially become a white water stream. Since total water flow is a function of water velocity times cross section of flow area, therefore increasing the velocity increases the total capacity of the bayou in a direct relationship to how much we increased the velocity. Being we have eliminated the tidal effect on Brays we can now also dig the bayou deeper to increase the cross sectional area (provided we do not have excessive intrusion of ground water). We can also close the flood gate at the early stage of a big rain event and create a huge detention volume by firing up the pumps and pumping down Brays Bayou.

$Q = A \times V$ Q = flow, A = Cross section area of stream, V = Water velocity

HCFCF current approach is to try and increase the cross section area, which is very difficult to do because of all the structures along most of our bayous. Increasing the velocity can be accomplished by building a flood gate on the bayou near the outflow and pumping down the level of water upstream of the closed flood gate. This approach creates a gradient slope on the bayou. This could be compared to a white water kayaking course that has a large gradient to create extreme velocities.

For naysayers about using pumps, just drive down to Texas City to see this approach in use. Texas City uses 8 screw pumps to protect their city during hurricanes or flooding rains. Texas City did not have a single death from flooding during Harvey, compare this to Harris County deaths.

We also need to look to our east where Jefferson Parish solved the flooding with the Project "Pump It to the River" using pumps to solve the flooding. We also have the "Madrid Floodway Project" on the St Johns Bayou. It is possible to site numerous other cities that have solved their flooding problem with pumps.

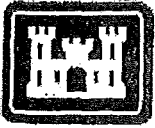
The above solves only part of the total issue, the other big issue is Harris County/Houston giving developers a free gift by not requiring sufficient detention. The current requirement of 50% or less is too low.

Some of the advantage of the Sebesta Solution

- Would not have to spend large sums of money for buyouts along bayous
- The Bayous would not have to be widen
- This method eliminates the tidal effects on bayou outflows
- We can overcome future rising sea levels
- Can remove structures out of the flood plain
- Pumps can be used to move water to the gulf via underground pipes/or above ground channels
- Can create detention volume (a saleable commodity) in the existing bayous by starting the pumps early

Comments by Dan Sebesta, an elite trained, retired Professional Engineer, that has spent the last eight years studying flooding, causes, effects, results, and solutions all over the world to solve the flooding issue at his farm.

11-11-2018 DRS



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-01 I do not support any solution that puts more water into Braes bayou. Braes Bayou has been an infamous and frequently flooded area. Meyerland has made national news for it's frequent flooding. Our homes have been too often impacted.

Please look at other options such as tunnels, another reservoir, or anything Netherlands can suggest. Do not doom our neighborhood to help another.

Name
Nombre

Mindy Travillian

Affiliation
Afilación

Address
Dirección de Envío

5219 Imogene St

City
Ciudad

Houston

State
Estado

TX

Zip Code
Código Postal

77096

E-mail

Correo Electrónico

~~not~~ mkttravillian@hotmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Guy Hagstette](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments - USACE Buffalo Bayou and Tributaries Resilience Study
Date: Friday, May 24, 2019 11:44:23 AM

May 24, 2019

To USACE:

In the materials presented at the BBTRS public meeting on May 8th, we noted that:

- 01 1. Both a bypass channel and a detention basin of some sort in Memorial Park are among ideas being considered during the alternatives analysis. Please note that Memorial Park is currently undergoing at \$205 million restoration program that will be completed in nine years. Not only would these projects damage Houston's largest urban park and a truly unique ecosystem, but it also would do so at the cost of negating the largest single investment in a public park in Houston's history.
- 02 2. Increased conveyance is a primary alternative, with channel capacity being one strategy. If increased channel capacity of any type is considered, the impact of increased water flow and possibly speed on the bayou's natural banks must be considered. Many areas along the bayou are suffering from increased erosion already, and this problem will only grow worse if USACE increases the volume of water or its speed. Impacted areas include private property and public parkland where major investments have been made in recent years. This is a particularly relevant issue for Buffalo Bayou Park and areas downstream where millions of private dollars already have been spent removing silt and repairing damage from Harvey (the silt due to erosion upstream), and HCFCD is preparing to spend millions more federal funds repairing larger-scale bank failures in the park in the coming months.
- 03 3. Modified operation of the dams is being studied. Please note that the current operation of the dams results in long periods of elevated water from dam releases after heavy rains, which submerges low-lying plants along the channel in muddy water, cutting them off from light and ultimately killing them. This results in the toe of the natural banks being devoid of plants whose roots can help stabilize the banks. The results are less stable slopes, more erosion and more bank failures. This clogs the channel with silt and debris from fallen trees, which is counter-productive to water conveyance. We ask that USACE include these impacts in its study of dam operations.
- 04 4. Increased storage within the existing reservoirs will be studied and the alternatives analysis will also focus on natural systems and recreation benefits. The scope of a project to increase the storage capacity of the existing reservoirs will result in many more benefits if ecosystem restoration, recreation and use of the property as public greenspace are core goals of the project rather than afterthoughts. The same approach should apply to new reservoirs and detention basins that can also serve as natural areas and parks when they are not needed during rain events. The Houston Parks Board, Buffalo Bayou Partnership and Katy Prairie Conservancy are logical partners to involve in this type of work, and a project scope that
- 05

includes landscape and ecological specialists along with engineers will maximize benefits.

Thank you for providing an opportunity for the public to provide comments.

Guy Hagstette

Vice-President, Parks and Civic Projects

2229 San Felipe, Suite 1700 Houston, TX 77019

713-529-5537 (o) 713-529-2106 (f)

Kinderfoundation.org

From: [Mike & Peggy O'Neil](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Cypress Creek Watershed Issues
Date: Friday, May 24, 2019 3:03:17 PM

The Addicks Dam Proposal and the Impact on Cypress Creek is especially worrisome to my family that live in the Olde Oaks Subdivision adjacent to the creek. This proposal cannot move forward without mitigating action to expand the watershed for Cypress Creek.

-01 | The failure of local governments to stop building in critical watershed areas has made Cypress Creek more vulnerable to flooding.

Your intercession on this matter is critical to our community. Thank you for your interest.

**Mike & Peggy O'Neil
15123 Pebble Bend Drive, Houston, TX 77068
281-440-0286**

From: [James Martin](#)
To: [CESWT-BBTRS](#)
Cc: [Jeanne and Jerry Martin](#); [James Martin](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study--Brays Bayou Watershead
Date: Friday, May 24, 2019 3:20:13 PM
Attachments: [Comment Form JBM244.pdf](#)
[Comment Form JGM243.pdf](#)

Dear Sir or Madam:

Attached please find 2 PDF documents that contain images of my comments and my spouse's comments on the captioned study and its possible impact on the Brays Bayou Watershed and the lives of the individuals who live within the Brays Bayou Watershed.

Please accept and process our comments along with the other comments you receive regarding the above-described matters.

Should you have any question or desire to discuss our comments, please do not hesitate to contact me or my spouse at your convenience.

Thanks for your attention to these important matters.

James G. Martin, Jr.
Jeanne B. Martin

4901 Jessamine St.
Bellaire, TX 77401-4406
(713) 898-3815 [JGM's Cell Phone]
(713) 898-4347 [JBM's Cell Phone]

Two attachments were sent in the e-mail. Attachments were duplicates, so only included one copy. -- M. Fisher 5/29/19



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Public Information Meeting

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-01 We (and our neighbors) have suffered substantial economic and psychological harm from flooding of Brays Bayou in recent years. We strongly oppose any plan, or course of action, that would provide for, or result in, any additional water being diverted from Buffalo Bayou or any other watershed into Brays Bayou or Brays Watershed, as that would only compound the harm we might otherwise suffer as a result of flooding of Brays Bayou.

Name
Nombre

Jeanne B. Martin
Jeanne B. Martin

Affiliation
Afilación

Address

Dirección de Envío *4901 Jessamine Street*

City

Ciudad *Bellaire*

State

Estado *TX*

Zip Code

Código Postal *77401-4406*

E-mail

Correo Electrónico *jbmjgm@yahoo.com*

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [John Young](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Cypress Creek
Date: Friday, May 24, 2019 5:03:26 PM

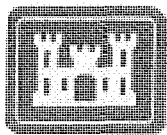
To Whom It May Concern:

- 01 | Please, please do not add more runoff water to Cypress Creek. If it happens, I can guarantee
-02 | flooding with 6+ inches. Houston has discussed flood control for years. If we can stop the
unnecessary clearing of valuable wooded areas, we can protect the drainage areas. Water does
not drain thru cement!! Please stop the rampant growth in this city.

Thank you.
John C Young
--

Regards,

John C. Young
832-588-3261
johnclementyoung@gmail.com



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

PLEASE: DO NOT MAKE ANY PLANS
WHICH WILL ADD ANY MORE WATER
UNDER ANY CIRCUMSTANCES TO
THE BRAES BAYOU WATERSHED!

5/23/2019

Name
Nombre

PAUL M. SCOTT

Affiliation
Afilación

Address

Dirección de Envío

5143 LOCH LOMOND DRIVE

City

Ciudad

HOUSTON

State

Estado

TX

Zip Code

Código Postal

77096

E-mail

Correo Electrónico

eye md 18@sbglobal.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

No Substantive Comments Identified

Comment #: ES119

From: [Bob Chin](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] RE: Supporters- Call to Action
Date: Saturday, May 25, 2019 10:26:10 AM

May 25, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

Thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study.

I support the recommendations that the Barker Flood Prevention group has already submitted to you. I won't repeat them here, but will stress priority.

In my opinion, other than limiting the Barker Reservoir flood pool to current government owned land, increasing conveyance of water out of the reservoirs is the highest priority and the flood tunnel should be seriously considered and evaluated. Obviously, conveyance into Barker Reservoir must be maintained/improved as well.

Yours sincerely,

[Robert Chin](#)

[21302 Crystal Greens Drive](#)

[Katy, TX 77450](#)

From: maryjom@cynapsus.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Cypress Creek Flooding
Date: Saturday, May 25, 2019 1:18:52 PM

-01

In my humble opinion, the best way to prevent homes from flooding in the Cypress Creek watershed is to take a much harder line on development. An example of this is a 51-acre plot at Cutten Rd. and Vintage Preserve Parkway. This property nearly abuts Cypress Creek and I believe parts of it are in a floodplain and parts in a floodway. And yet, Harris County approved the permit. One of the things envisioned is a high-rise apartment for seniors.

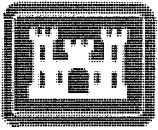
I vividly remember two senior-living facilities having to be evacuated after Harvey.

How stupid are we to not have learned lessons from that?

Sorry to vent but this just drives me crazy. When I contacted Harris County engineering for an explanation of why this permit was granted, I never received a response.

I'm hoping you guys will be more responsive.

Best,
Mary Jo Martin
Champion forest Resident (flooded in the Tax Day Flood)



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-01

We did sims before with a different goal Drain a days water in a day. It proved to work in Harvey. The plans I shared w/ Sam Culberson (when he was in office) was 2-26' foot tunnels for both Buffalo and Brazos. I had estimated 20 million a mile.

Culberson had funded the work when he was in office ... the 1940 plans were also funded. You have my support to Drain Houston.

Call me. let's visit. call 832-465-2700

Name Mark Kosmoski P.E. Affiliation Consultant
Nombre Mark Kosmoski P.E. Afiliación Consultant

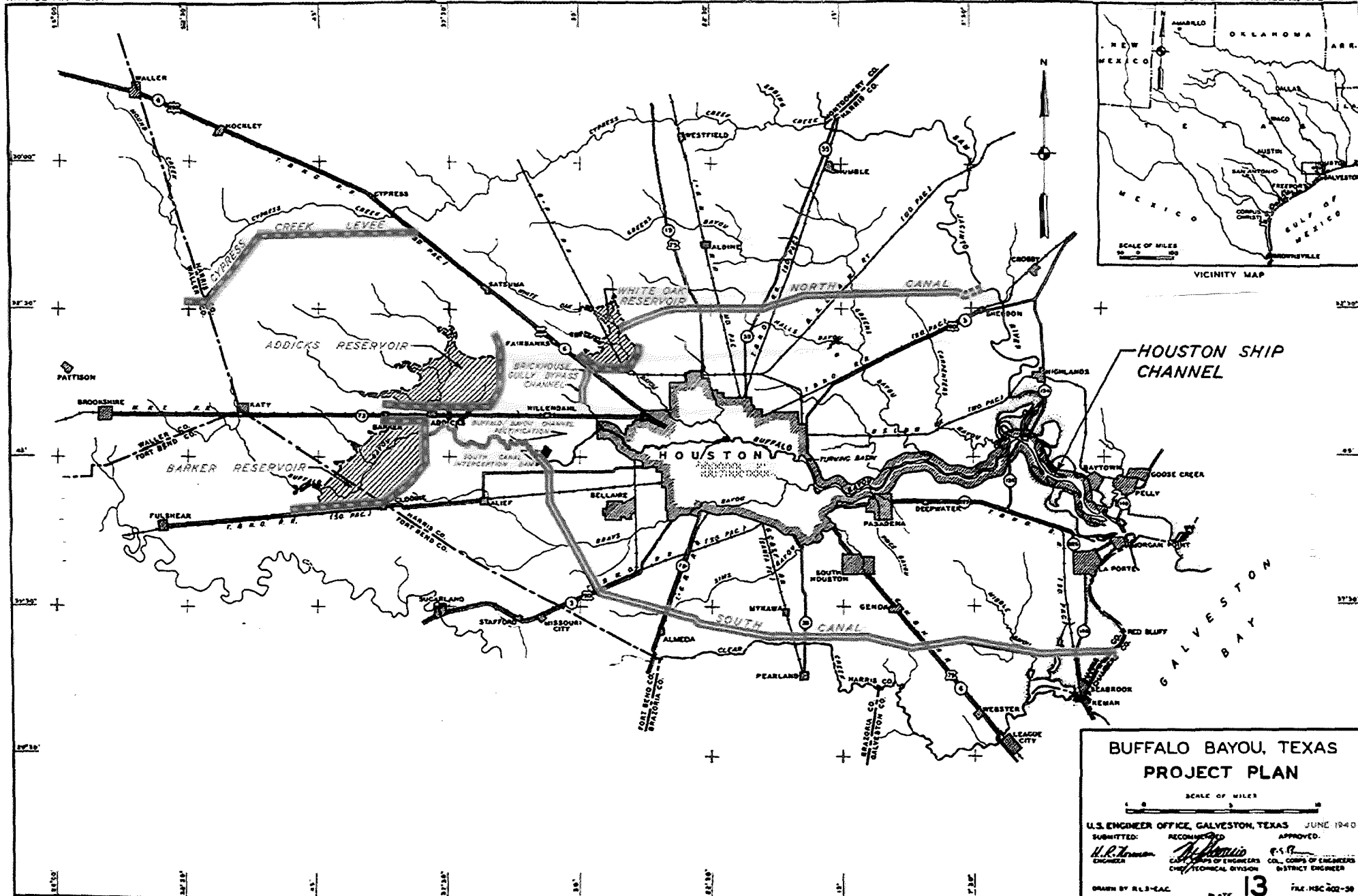
Address 2400 Augusta Ste 405
Dirección de Envío 2400 Augusta Ste 405

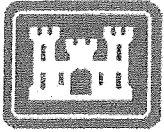
City Houston State TX Zip Code 77057
Ciudad Houston Estado TX Código Postal 77057

E-mail mark@kirstkosmoski.com
Correo Electrónico mark@kirstkosmoski.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffer-Bayou-and-Tributaries-Resiliency-Study/>



**US Army Corps
of Engineers****No Substantive Comments Identified**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)*Buffalo Bayou and Tributaries Resiliency Study**Comment Period: April 29, 2019 through May 31, 2019*

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We have lived in Meyerland since 1991 and we have been fortunate to have never flooded. "Harvey" brought water within one inch of coming into our home.

Please don't make any changes that would add MORE WATER to Brays Bayou.

Thank you for all the progress that has been made on widening the Bayou.

Name Bill & Natalie Lamont

Nombre

Affiliation
AfilaciónAddress 5235 Indigo St.

Dirección de Envío

City Houston

Ciudad

State TX

Estado

Zip Code 77096

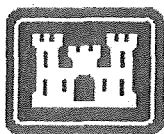
Código Postal

E-mail bnlamont@earthlink.net

Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)**Buffalo Bayou and Tributaries Resiliency Study***Comment Period: April 29, 2019 through May 31, 2019*

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OPENING UP CYPRESS CREEK DRAINAGE UNDER I-45

WOULD ELIMINATE BACKUP OF WATER WEST OF I-45
OR REDUCE

PRESSENT CONDITIONS ACT AS A DAM FOR WATER
AND DEBRIS

Name
Nombre

LARRY MCCORD

Affiliation
Afilación

Resident - ENCHANTED OAKS

Address

Dirección de Envío

19430 ENCHANTED STREAM DR

City

Ciudad

SPRING

State

Estado

TX

Zip Code

Código Postal

77388

E-mail

Correo Electrónico

LAFMCCORD@GMAIL.COM

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffer-Bayou-and-Tributaries-Resiliency-Study/>

From: [Mark & Pat Hubert](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Sunday, May 26, 2019 12:49:46 PM

I understand that the Army Corps of Engineers is requesting information from the public regarding the scope of the Buffalo Bayou and Tributaries Resiliency Study.

Please include the following in the scope of your study:

1. The construction of a tunnel to convey water from the Barker reservoir.
2. The removal of silt within the Barker reservoir and the general excavation of the Barker reservoir to increase reservoir capacity.

Thank you,
Mark and Pat Hubert
22014 Ravenna Lane
Katy, Texas

From: [David Lidsky](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] BBTRS Comment Form
Date: Sunday, May 26, 2019 1:30:38 PM
Attachments: [USACE Comment Form.pdf](#)

Please see attached comment form re: Brays Bayou Watershed.

--

DAVID H. LIDSKY ARCHITECT

713.301.5613

dhlidsky@gmail.com <<mailto:dhlidsky@gmail.com>>



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

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-01

My house, built in 1955, had never flooded until 2015; it flooded again in 2016 and 2017. Now, after repeated delays, we are getting closer to completion of Project Brays. I am outraged at the suggestion of creating any diversion points bringing stormwater from the Barker Reservoir and/or the Clodine Area Ditch into Brays Bayou. At the completion of Project Brays, the bayou still won't be capable of handling stormwater from another Harvey type event; creating the mechanism for stormwater to be diverted from a different watershed into Brays will only exacerbate the problem.

Name

Nombre

DAVID LIDSKY

Affiliation

Afiliación

BRAYS BAYOU ASSOCIATION

Address

Dirección de Envío

8911 ENDICOTT LANE

City

Ciudad

HOUSTON

State

Estado

TX

Zip Code

Código Postal

77096

E-mail

Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

No Substantive Comments Identified

Comment #: ES126

From: [DeLaine Stehle](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public Info Mtg: Comment Form (attached)
Date: Sunday, May 26, 2019 2:49:35 PM
Attachments: [USACE Comment Form - 05-26-19.pdf](#)
Importance: High

Dear Sir or Madam:

Please find attached my Comment Form after attending a recent USACE presentation regarding Measures Being Considered within the Buffalo Bayou and Tributaries Resiliency Study.

Sincerely,

DeLaine R. Stehle

703 Trademark Pl

Houston, TX 77079-2413



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

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Dear Sir or Madam:

I live in a neighborhood that was 75-80% destroyed when the Army Corps of Engineers opened the Barker Cypress + Addicks Reservoir floodgates after Hurricane Harvey in 2017. I live about as close to both reservoirs as one can get.

I am writing in support of the following:

- 1) 3 Road Tunnel from Barker-Cypress Reservoir to the Houston Ship Channel, as proposed by Brian Guttinger, brian.guttinger@freese.com, of Freese and Nichols
- 2) New Reservoir / Dam
- 3) Increase Reservoir Storage Capacity
- 4) Modify Dam Operations
- 5) Improve Reservoir + Dam Safety, including Spillways
- 6) Update Emergency Action Plans + 3 Road Warning Systems - there is + was no excuse for those in harms way to have not been given adequate + advanced warning to prepare for consequences of steps the Corps was about to take.

Name / Nombre DeGaine R. Stable Affiliation / Afiliación N/A

Address / Dirección de Envío 7033 roadmark Pe

City / Ciudad Houston State / Estado TX Zip Code / Código Postal 77079-2413

E-mail / Correo Electrónico DeGaine.Stable@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Len Teich](#)
To: [CESWT-BBTRS](#)
Cc: [steich1@comcast.net](#); [info@oldbraeswood.com](#); [cohnconnor@gmail.com](#)
Subject: [Non-DoD Source] Buffalo Bayou Watershed Study
Date: Sunday, May 26, 2019 3:31:23 PM

Dear Army Corps of Engineers:

I live in Old Braeswood.

-01 | The Old Braeswood neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during tropical storm Allison but by the time of Harvey, although many of our streets were flooded, very few houses were. We attribute that difference to the Brays Bayou Widening project having been completed as far as Old Braeswood and slightly upstream by the time of Harvey. It has taken over 30 years to get this project to this stage and it is still only 80% finished. It has only been designed to handle water from the Brays Bayou Watershed. If water from Buffalo Bayou were to be released into Brays Bayou during the next Harvey event all those 30 years of work would be threatened. There is no reason to solve Buffalo Bayou's problem by making it Brays Bayou's problem.

I cannot possibly believe any assurances given by the Army Corps of Engineers or anybody else that the transfer of water from Buffalo to Brays would only be done if it caused no damage to Brays Bayou property. The pressure to use the diversion would simply be overwhelming during the next Harvey regardless of the damage to downstream Brays property. The decision will be taken out of the Corps' hands.

-02 | If you are actually looking for a relatively low cost solution to future flooding in the Buffalo Bayou Watershed during a future Harvey event, build the Levees at Barker and Addicks reservoirs higher,
-03 | not lower, and ban any further development in the flood plain behind the levees. It is frankly insanity to allow developers to keep building in a flood plain that you know will flood in the next storm, and then "protect" the houses built there by allowing neighborhoods that were established 80 years ago in the Bray's Watershed to be flooded.

I know that this is all being styled as a study only, but the outcome of the study will be preordained by the options included. If diversion from Buffalo to Brays is the only low cost option looked at then we will be faced with a done deal whenever the study is finished. Let's take the diversion off the table or the political fight will bog your study down for way too long and the next Harvey will be upon us with no progress. Let's get started with something that doesn't outrage approximately 800,000 people in the Bray's Watershed, most of whom vote, and make the study a realistic set of alternatives.

Leonard Teich

From: [DeLaine Stehle](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] FW: Requested Flood Tunnel Support Data to Forward to Stephen Costello
Date: Sunday, May 26, 2019 5:08:25 PM

Dear Sir or Madam:

Please find additional Comments below, regarding Measures Being Considered from the Buffalo Bayou and Tributaries Resiliency Study presented at the recent USACE Public Information Meeting, at St. John Vianney Church. I submitted a Comment Form to you earlier this afternoon, via email attachment, but I am also forwarding you an email sent today to my Houston City Council Member, Greg Travis, to be forwarded on to Houston Chief Recovery Czar for Hurricane Harvey efforts, Stephen Costello.

It documents not only my support for the proposed Flood Tunnel, but also the suggestion that the Ike Dike & Flood Tunnel Projects be linked, in order to achieve cost savings & project efficiencies.

Thank you for your time & attention.

With regards,
DeLaine R. Stehle

703 Trademark Pl
Houston, TX 77079-2413

DeLaine.Stehle@gmail.com

From: DeLaine Stehle <DeLaine.Stehle@gmail.com>
Sent: Sunday, May 26, 2019 3:48 PM
To: 'CNL District G' <districtg@houstontx.gov>
Cc: 'Brian Gettinger' <Brian.Gettinger@freese.com>; 'travis@hooverslovacek.com' <travis@hooverslovacek.com>; 'Greg Sergesketter' <Greg@sergesketter.com>
Subject: Requested Flood Tunnel Support Data to Forward to Stephen Costello

Dear Council Member Travis:

As requested, after speaking with you at the recent US Army Corps of Engineers Public Information Meeting on Measures Being Considered from the Buffalo Bayou and Tributaries Resiliency Study, at St. John Vianney, I am sending you information that you stated you would like to forward to Stephen Costello, Houston's Chief Recovery Czar for Hurricane Harvey efforts. I am writing in strong support of the Flood Tunnel, proposed by Brian Gettinger, P.E., Tunneling Service Leader, for Freese and Nichols, brian.gettinger@freese.com.

As you & I discussed, I was perplexed when you quoted much higher cost figures per mile than had been reported to the Memorial Super Neighborhood Council, on February 25, 2019, & documented

by Brian Gettinger at [Blockedhttps://www.freese.com/blog/tunneling-offers-solution-houstons-flooding-problems](https://www.freese.com/blog/tunneling-offers-solution-houstons-flooding-problems). You stated you received your figures from Recovery Czar, Stephen Costello. Mr. Gettinger stated the cost would be a “probable \$100M/mile” though it could possibly be “only \$70-75M/mile”, resulting in a total cost of \$1.5 – 2B. Mr. Gettinger stated this total was “much less than other considered projects”.

Mr. Gettinger made a most compelling case which withstood a multitude of questions from engineers & others among our Memorial Super Neighborhood Delegates, many of whom were flooded themselves after the post-Hurricane Harvey USACE reservoirs release.

-01

In addition, I would suggest looking into cost savings & efficiencies that could be obtained by cutting through bureaucratic red-tape, by linking certain aspects of the Ike Dike & Flood Tunnel Projects, such as using excavated soil from the, hopefully, approved Flood Tunnel Project for building the Ike Dike. Such soil could serve as a foundation for the Ike Dike, which then could be covered with aesthetically & environmentally pleasing & consistent sand. This idea was discussed with & deemed feasible by USACE Geologist, Frederick Fenner, at the above mentioned USACE Public Information Meeting. Mr. Fenner is a member of the USACE Ike Dike project team. Mr. Fenner stated in order to link such projects & achieve resulting cost savings & efficiencies, it would take someone with more authority than he to cut through the entrenched bureaucratic red-tape.

In speaking with you, Council Member Travis, & with your stated plans to forward my email to Chief Recovery Czar Stephen Costello, I was hoping to perhaps kickstart such a possible project linkage, vision & savings.

With kind regards,

DeLaine R. Stehle
Memorial Super Neighborhood Non-HOA Delegate

703 Trademark Pl
Houston, TX 77079-2413
832-288-3209 (h)
330-639-8400 (c)
DeLaine.Stehle@gmail.com

From: [Westbury Civic Club President](#)
To: [CESWT-BBTRS](#); [Westbury Civic Club President](#); [Westbury Civic Club](#)
Subject: [Non-DoD Source] Comments about Buffalo Bayou and Tributaries Resilience Study
Date: Monday, May 27, 2019 12:17:09 PM

See photo of comments on the official comment form.

Thank you. Cindy Chapman



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Public Information Meeting

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Buffalo Bayou and Tributaries Resiliency Study

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I AM CONCERNED ABOUT 2 ISSUES:

① LACK of Public Input and Meetings for residents in the BRAYS Watershed.

② After Project Brays is completed, more than 90,000 people will still be in 100-year flood plain. Diverting Buffalo Bayou water to Brays seems to place higher value on \$ Property in Buffalo Bayou than the PEOPLE and Property in Brays Bayou.

Name
Nombre

Cindy Chapman

Affiliation
Afilación

Westbury Civic Club

Address

Dirección de Envío

5322 W Bellfort, Suite 100,

City

Ciudad

Houston

State

Estado

TX

Zip Code

Código Postal

77035

E-mail

Correo Electrónico

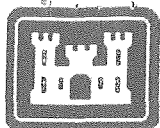
WCCPresident@Westburycivic.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffer-Bayou-and-Tributaries-Resiliency-Study/>

No Substantive Comments Identified

Comment #: ES130

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Public Information Meeting

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I vote for
Option 2.

Name
Nombre

Charles Brillington

Affiliation
Afilación

Home Owner

Address

Dirección de Envío

5403 Beechnut St

City

Ciudad

Houston

State

Estado

TX

Zip Code

Código Postal

77096

E-mail

Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Kay Haslam](#)
To: [CESWT-BBTRS](#); [Weber, Andrew R CIV USARMY CESWG \(USA\)](#)
Subject: [Non-DoD Source] BBTRS
Date: Tuesday, May 28, 2019 12:16:43 PM

To whom it may concern:

Please deny USACE permit to dump a unprecedented volume of storm water run off from the Beltway 8 Drainage System and the commercial centers of CityCenter and Town & Country Village into Tributary W153. This disastrous project was entitled Memorial Drive Drainage and Mobility Project and more recently retitled Memorial Drive Reconstruction Project. This project is backed by TxDOT, TIRZ 17, COH, HCFCD, and LAN. LAN (Lockwood, Andrews, & Newman) is the same company presently being sued in Flint, MI for allegedly killing over a dozen adults with Legionare's Disease and allegedly poisoning over 600 children with lead.

This proposed "dump" of storm water run off from the southeast quadrant of Beltway 8/ IH-10 will be unmitigated, unfiltered, and untreated water.

Furthermore, Memorial Drive and Memorial Green are contaminated with large plumes emanating from two dry cleaning sites. The plumes contain trichloroethylene, one of the 10 most dangerous poisons on Planet Earth. LAN is burying 2 gigantic 10x 10 foot box culverts beneath the Memorial Drive roadway, so LAN will be excavating into the plumes. The LAN Project Mgr. Ricky Gonzalez is not an engineer. The Goodman Corp., a company which aides in obtaining grants, will be testing the plumes. Goodman is not an engineering company with experience in testing for contaminants.

A LAN study states that the project will cause erosion at the outfall, so the project will cause erosion into the plumes.

The project is impounding storm water from the SE quadrant of Beltway 8 and IH-10 and conveying this water one mile under Memorial Drive into Tributary 153, a tremendous volume of water that LAN does not compute, because LAN says that city regs do not require LAN to compute volume. Without computations, LAN will obviously import an unprecedented volume of water into Tributary W153. This volume of water will raise the water table, and disturb the contaminated plumes.

Tributary W153 is a pristine ravine that supports a variety of wildlife. Tributary W153 provides shelter to migrating birds and butterflies. Tributary W153 is fed by a crystal stream that arises northeast of the Tallowood bridge and that flows into W153 continuously. The stream never dries up, not even in drought years. This stream provides fresh water to Buffalo Bayou and is under the authority of USACE.

Lastly, TxDOT, TIRZ 17, COH, HCFCD, and LAN are selling this Memorial Drive Project to the public as a drainage project that will mitigate flooding. This project in fact will create man made flooding in Tributary W153. LAN and City of Houston are denying to the public that the project will connect to the Sam Houston Tollway frontage road trunkline. In fact, the trunkline is already connected to the Memorial Drive system and becomes surcharged throughout its length in a heavy rain and overflows into the Memorial Drive system.

If you do not wish to cancel this evil project, please at least delay the project until you have finished your six million dollar environmental study on the tributaries of Buffalo Bayou. Otherwise, your expensive study will be sabotaged by this Memorial Drive Project, which proposes to dump gasoline, antifreeze, pesticides, and trichloroethylene into Buffalo Bayou.

Kay Haslam
kayhaslam@ymail.com
713 485 5017

1718 Potomac Dr.

Houston, Tx 77057

Sent from my iPhone

From: [Nettie May](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributary Resiliency Study
Date: Tuesday, May 28, 2019 1:47:57 PM

My husband and I recently purchased our home in Enchanted Oaks--just north of Cypress Creek. Our house is 1/2 block from Bonds Gully which drains into nearby Cypress Creek.

- 01 | We support the idea of a tunnel to help drain the Cypress Creek watershed in flood conditions, but
- 02 | wonder how much water would be diverted to the tunnel. Would enough water be left in the creek and its tributaries to support the ecology of those waterways? Please include this issue in your study.

Nettie May and Dan May

From: [EJ](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] feedback in support of bayou resiliency study
Date: Tuesday, May 28, 2019 2:24:29 PM

To whom it may concern, I documented the local experience in the area of Spring, TX during hurricane Harvey relative to water height observations and Lake Conroe activities. In case it may be useful, FYI:

[Blockedhttps://patch.com/texas/houston/did-san-jacinto-river-flooding-make-cypress-creek-flooding-worse-hypothesis](https://patch.com/texas/houston/did-san-jacinto-river-flooding-make-cypress-creek-flooding-worse-hypothesis)

-Elizabeth Jensen, PhD, PE, CSP

Sent with [ProtonMail](#) Secure Email.



Humble, TX



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Events

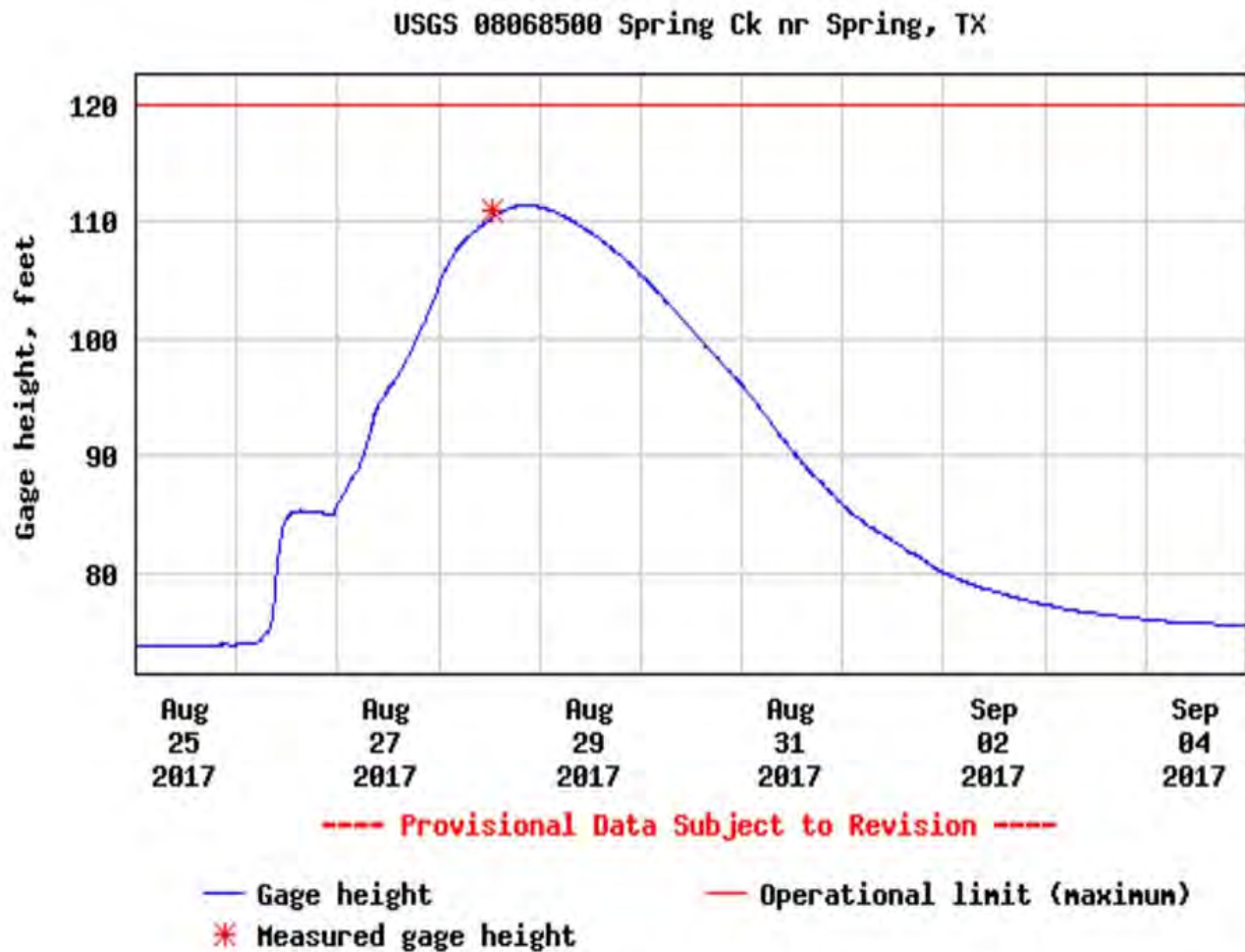
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Did the San Jacinto River flooding make the Cypress Creek Flooding Worse?--A HYPOTHESIS

The areas flooded by Cypress Creek varied with the height of Spring Creek. Why? Did the Lake Conroe release increase upstream flooding?

By [Elizabeth Jensen](#) | Sep 9, 2017 2:14 pm ET | Updated Sep 12, 2017 8:22 am ET

This post was contributed by a community member.



Background



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Anyone who remembers Angry Beavers, probably remembers the "big happy"/"little meanie" episode, when the brothers try to dam two different types of rivers. While talking to a park ranger at Mercer Arboretum, my kids and I learned that the descriptions can be applied to Cypress Creek (big happy) and Spring Creek (little meanie). This was because Spring Creek, being smaller, reacted more to conditions of rain and drought. During the Harvey rains, flooding occurred on an unprecedented scale here in the Spring Park Village/North Hills Estates area. Spring Park Village has a very large detention pond that was doing its job collecting rain water from the neighborhood and the nearby shopping areas. This was until Cypress Creek overflowed its banks and filled in the remaining capacity of the detention pond, which then started backing up into the streets. At its deepest, the street flooding was higher than my knee on Monday night (Aug 28th). North Hills Estates was sufficiently underwater in places that relatively large boats were able to navigate among the submerged homes. All of this was Cypress Creek water. Over the next 12 hours, the water receded. Spring Park Village's detention pond was again able to drain the water gathered in the streets, and homes in North Hills Estates that had never flooded before were emptied. The problem: the Cypress Creek water gauge didn't show a significant drop in water level. Spring Creek on the other hand was dropping rapidly.

Subscribe

Hypothesis



South of our location on Cypress Creek is where Spring Creek and Cypress Creek merge into the west fork of the San Jacinto River. Cypress Creek, being the "big happy" naturally dominates the flow between the two creeks, but one has to consider the effect of an unusually swollen Spring Creek with the release of water from Lake Conroe around August 26th/27th [Reference 1]. Did this release cause a flow disruption to Spring and Cypress Creeks? Being that Spring Creek is smaller, is the effect of the disruption more noticeable in its flow? Assuming that a barrier artificial or natural exists in the area where the creeks merge with the river, it's entirely possible that the water pressure from the San Jacinto river caused a back pressure in Spring and Cypress Creeks. This back pressure would impact the volume of water from both creeks that continues to flow downstream. Any disruption in flow to Cypress Creek should cause the water level to rise. That wasn't what the Cypress Creek gauge measured, rather it kept the same height when it reached its peak. Even as Spring Park Village's detention pond filled with water from Cypress Creek, the gauge was keeping relatively the same height. Was the peak height of Cypress Creek more of a measure of the height at which it was overflowing into the surrounding areas? What volume of water comprised this overflow? Why did the flooding water in Spring Park Village return to Cypress Creek while its height did not change much several hours later? Would this overflow of Cypress Creek make the Spring Creek gauge more accurate in understanding the volumetric effect of the back pressure from the San Jacinto River's increased flow?

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OPEN

Did the extra water in the San Jacinto River from the Lake Conroe releases during



Answers

While we are still in recovery, it will be some time before the events of the flooding are analyzed from a geological/hydrological point of view. The data required include the gauge readings of the various bodies of water, the amount of water released from Lake Conroe, the structure of the various creek walls, beds, and bends, and models for the flows. Engaging in this work is important, not just for developing new local water management and flood control approaches, but also for developing REGIONAL water management and flood control approaches. If the hypothesis is correct, that Lake Conroe's water release into the San Jacinto River caused a significant amount of the flood damage from Cypress Creek, then the sheer cost of the damage demonstrates that a regional plan must be developed. Either the flood plain designations must be broadened for including these non-linear sources, or other release mechanisms need to be developed to address the problem of bodies of water such as Lake Conroe overfilling.

[1] "San Jacinto Rivera Authority reverses course, releasing water", Conroe Courier, <http://www.yourconroenews.com/...>

The views expressed in this post are the author's own. Want to post on Patch? [Register for a user account.](#)

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From: [Glen](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] img089.pdf
Date: Tuesday, May 28, 2019 2:26:52 PM
Attachments: [img089.pdf](#)

<file:///C:/Users/br/Documents/img089.pdf>

Sent from [Mail](#) for Windows 10



Public Information Meeting

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Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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-01 Before you consider doing anything in the Addix area to force more water down Cypress Creek, you need to fix Cypress Creek. I have lived here for 45 yrs and haven't seen anything done to improve flood control. Because of sediment washing down stream, it's not as deep as it used to be. It needs to be dredged to make it deeper and wider. Also there is a package at the I45 Bridge that needs to be corrected.

Please don't do anything to make the flooding worse here in Enchanted Oaks.

Name
Nombre John Glen Poole

Affiliation
Afilación

Address
Dirección de Envío 19314 Enchanted Oaks Dr.

City
Ciudad Spring

State
Estado Texas

Zip Code
Código Postal 77388

E-mail
Correo Electrónico JGP43@Comcast.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Patti Rocco](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Addicks Da proposal and Impact on Cypress Creek.
Date: Tuesday, May 28, 2019 2:28:22 PM

To Whom it May Concern:

-01

It is unbelievable to me that you are considering a levee south of cypress Creek. With this levee in place flood water would be contained in the cypress Creek watershed.

This rural creek cannot to an urban drainage job. It overtops with a 6" rain these days. If we burden it more there will only be more flooding. Have you already forgotten Harvey? Meyer park on cypress wood often flooded before this. Our church St. Ignatius flooded with Harvey. Our church is built up not on street level. Some areas had 8 feet of water. We had to completely gut and rebuild our church which cost millions of dollars. We have a huge campus with lots of building and everything was ruined.

We had church in a tent for months and months. This flooding stopped 1/2 mile from my home. Next time we won't be so lucky if you put in this levee. This area is not new to flooding and will only get worse. I have friends that have been flooded more than once in this area.

Surely there is another humane solution for Addicks Dam, rather than insuring flooding to an area that already floods. This proposal does not even make sense!

Respectfully,

Patti Rocco

From: txcominsky@aol.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment on Buffalo Bayou Resiliency study
Date: Tuesday, May 28, 2019 4:10:06 PM
Attachments: [Public comment.pdf](#)

Please confirm receipt of this study.



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To whom it may concern -

*As President of Super Neighborhood 31-
Greater Meyerland area - I am very
disappointed that a public meeting was
not scheduled for our area which is
directly impacted by Brays Bayou's
discuss this study -
although I am not fully informed of the
proposals and their impacts. I do want
to make it clear that the Meyerland
area residents have suffered enough
from flooding. The widening of Brays
will help but will not solve all of
our flooding issues.*

*It is imperative that any construction planned
should be analyzed to NOT send ANY
ADDITIONAL WATER FLOW TO Brays Bayou!*

Name
Nombre

Levy Cominsky

Affiliation
Afilación

Super Neighborhood 31

Address

Dirección de Envío

8923 Atwell

City

Ciudad

Houston

State

Estado

TX

Zip Code

Código Postal

77096

E-mail

Correo Electrónico

TXcominsky@aol.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Jim](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Solution for Flood Water Management
Date: Tuesday, May 28, 2019 8:28:19 PM

To better drain west Houston we need to bypass Buffalo Bayou. In Harvey we saw that heavy flooding cannot move quickly down the bayou.

-01

Likewise a Giant Tunnel will not solve the problem. The elevation in the Addicks area is not sufficiently higher than the ship channel to allow drainage without pumping assist. Giant Pumps would be required to service the Giant Tunnel.

The BETTER solution is to design and build a Big Ditch running due south from the Barker area to the Gulf. It would be straight and wide and afford the highest natural flow rate for surplus water. (Buffalo Bayou would still drain from Highway 6 east through the city.)

-02

The Big Ditch would cross the Brazos and San Bernard rivers, allowing addition flood relief from heavy rains in central Texas. This additional capacity would likely eliminate downstream flooding along these two rivers. Providing this Big Ditch would allow new development west of Houston, providing additional tax base to help pay for the project. Civil engineering friends estimate the cost at \$10-15 billion. Start it now before real estate developers seize the farm land for housing!

James Langley
Langley Associates LLC
713-398-8267

From: [Randall Wolf](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public Scoping Meetings for Buffalo Bayou and Tributaries Resiliency Study
Date: Tuesday, May 28, 2019 10:46:58 PM

Comments I would like included.

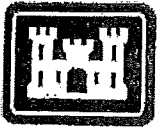
- 01 1. Revise the USACE's operating manual to stop closing the floodgates when the rain comes or is anticipated, only to open them wide at a certain reservoir level, creating a damaging bow wave. Keep them open until 2000 cfs reached at Piney Point, then partially close to regulate to max 4000 cfs as prescribed by exception. The Corps' operating procedure is to be blamed for much downstream damage and economic loss.
- 02 2. Clear the vegetation of Barker and Addicks Reservoirs. That, in itself, might increase capacity equal to a new reservoir.
- 3. Identify likely funding limits of study outcomes, which is to say, don't bother studying solutions that will never be funded.
- 03 4. Clear Buffalo Bayou of debris until the Corps changes its procedures (point #1) to stop eroding the Bayou's banks, causing trees and sand to diminish carrying capacity. I don't know how many tons of debris was removed after Harvey, but I have photos of the barge and other equipment in action. Private ownership of land along the Bayou didn't seem to be a barrier then!

Randall Wolf

9115 Briar Forest Drive

77024

346-233-8205



US Army Corps
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Tunnels - only viable solution but feds will
have to fund + need ASAP - not 30
years from now

NO ADDITIONAL FLOWS INTO
BRAYS BAYOU AT ALL!!!

Name / Nombre Dana M + Elizabeth G. Affiliation / Afiliación Brays Watershed Residents
Address / Dirección de Envío 5242 Imogene St. BARKLEY
City / Ciudad Houston State / Estado TX Zip Code / Código Postal 77096
E-mail / Correo Electrónico dbarkley@sbcglobal.net
ebarkley@sbcglobal.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



COUNTY JUDGE

Fort Bend County, Texas

The Honorable KP George
County Judge

(281) 341-8608
Fax (281) 341-8609

May 28, 2019
U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

To Whom It May Concern,

Thank you for providing the community and local governments the ability to submit input for the Buffalo Bayou and Tributaries Resiliency Study. As the local stakeholder with direct ties to our jurisdiction, we are well aware of the situation and issues our residents face. Many parts of the Buffalo Bayou were severely tested during Hurricane Harvey and with new rainfall data, it is expected that the frequency of this level of storm will only increase. We must do everything we can to help plan for that possibility and mitigate the risk to lives and property.

Over 50% of the homes that flooded in Fort Bend County during Harvey resulted from the pool elevations in Barker Reservoir extending outside the limits of the government owned land; therefore, Fort Bend County (Fort Bend County Judge; Fort Bend County Commissioner Precinct 3; Fort Bend County Drainage District) recommend the following;

1. Provide increased conveyance capacity downstream of Barker and Addicks Reservoirs to allow continuous releases from the reservoirs. Improvements to facilitate increased downstream conveyance could be provided by channel clearing and/or excavation along Buffalo Bayou. Diversion channels, or similar functioning structures, constructed from the reservoirs to the ship channel would also be acceptable.
2. Increase the storage capacity within the reservoirs so that the reservoirs release rates and storage capacities are sufficient to contain the "Maximum Probable Event" within the limits of the Government owned land.
3. Construct structures to eliminate the impact of Cypress Creek overflows on the storage capacities and release rates of Addicks and Barker Reservoirs.

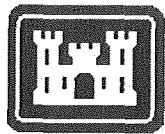
These are just three suggestions to help mitigate the problem that our communities faced during Hurricane Harvey and should be incorporated into the Resiliency Study. Some if not all of the suggestions help considerably in ensuring that our communities are better protected both in terms of lives and property.

If you require any further information or have additional questions, please do not hesitate to reach out to my office.

Respectfully,

A handwritten signature in black ink, appearing to read "KP George", followed by a long horizontal line.

KP George
County Judge
Fort Bend County



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We live in Lakes of Cypress Forest which is a neighborhood on Cypresswood near I-45. We have 2 gullies outside our neighborhood and the property backs up to Cypress Creek near I-45. Our neighborhood and Enchanted Forest were ~~abandoned~~ devastated by Harvey. We had 2 bodies of water in our neighborhood. The gully which feeds into Cypress Creek. There is a narrowing of the creek between us and I-45. This area needs to be cleaned out and perhaps be opened up so when we have large amounts of rain the water will be able to move easier through the creek. It doesn't take much rain for I-45 to flood where Cypress Creek runs under it.

Name Angus & Trisha Sitas Affiliation Homeowner
 Nombre Angus & Trisha Sitas Afiliación Homeowner

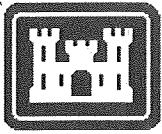
Address 2410 Randal Point Ct
 Dirección de Envío 2410 Randal Point Ct

City Spring State TX Zip Code 77388
 Ciudad Spring Estado TX Código Postal 77388

E-mail trishasitas@aatt.net
 Correo Electrónico trishasitas@aatt.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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- 1) Regarding Cypress Creek overflow into Addick's Reservoir, Cypress creek also overflows into barker reservoir. This should be prevented.
- 2) Need to restore Cypress creek drainage from Sharp Road to 99. Cypress Creek is overgrown and clogged.
- 3) Regarding possible plan to divert Cypress creek. Diversion needs to be farther west into Waller county. The current plan diverts cypress creek into Cane Island creek only making water issues worse in city of Katy.
- 4) Need to create reservoir like Addicks and Barker on cypress creek, west of 99.
- 5) Need to increase capacity of Barker and Addicks by digging inside and lowering the base of the reservoirs.

-01

Name Orville Wiens Affiliation Harris Co. Resident
 Nombre Orville Wiens Afiliación Harris Co. Resident

Address 6209 Pecan Ln
 Dirección de Envío 6209 Pecan Ln

City Katy State Tx Zip Code 77493
 Ciudad Katy Estado Tx Código Postal 77493

E-mail Wiens OJ @ Yahoo, com
 Correo Electrónico Wiens OJ @ Yahoo, com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

No Substantive Comments Identified

Comment #: ES143

From: [Edward Fastow](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment Form - Buffalo Bayou and Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 8:48:09 AM
Attachments: [USACE Galveston District.pdf](#)

Please see attached.

Thanks,

Ed Fastow



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Public Information Meeting

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Please, Please DO NOT MAKE ANY PLANS WHICH WILL
ADD ANY MORE WATER UNDER ANY CIRCUMSTANCES
TO THE BRAYS BAYOU WATERSHED,

Name EDWARD FASTOW Affiliation Marilyn Estates Association
Nombre EDWARD FASTOW Afiliación Marilyn Estates Association

Address 5411 Valkeith Dr
Dirección de Envío 5411 Valkeith Dr

City Houston State TX Zip Code 77096
Ciudad Houston Estado TX Código Postal 77096

E-mail efastow@sbcglobal.net
Correo Electrónico efastow@sbcglobal.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From:

To:

Subject:

Date:

Attachments:

[Dylan Seff](#)

[CESWT-BBIRS](#)

[Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study

Wednesday, May 29, 2019 1:17:37 PM

[image001.jpg](#)

Dear Army Corps of Engineers:

I live in Old Braeswood.

The Old Braeswood neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during tropical storm Allison, but by the time of Harvey, although many of our streets were flooded, very few houses were. We attribute that difference to the Brays Bayou Widening project having been completed as far as Old Braeswood and slightly upstream by the time of Harvey. It has taken over 30 years to get this project to this stage and it is still only 80% finished. It has only been designed to handle water from the Brays Bayou Watershed. If water from Buffalo Bayou were to be released into Brays Bayou during the next Harvey event all those 30 years of work would be threatened. There is no reason to solve Buffalo Bayou's problem by making it Brays Bayou's problem.

-01

I cannot possibly believe any assurances given by the Army Corps of Engineers or anybody else that the transfer of water from Buffalo to Brays would only be done if it caused no damage to Brays Bayou property. The pressure to use the diversion would simply be overwhelming during the next Harvey regardless of the damage to downstream Brays property. The decision will be taken out of the Corps' hands.

If you are actually looking for a relatively low-cost solution to future flooding in the Buffalo Bayou Watershed during a future Harvey event, build the Levees at Barker and Addicks reservoirs higher, not lower, and ban any further development in the flood plain behind the levees. It is frankly insanity to allow developers to keep building in a flood plain that you know will flood in the next storm, and then "protect" the houses built there by allowing neighborhoods that were established 80 years ago in the Bray's Watershed to be flooded.

-02

I know that this is all being styled as a study only, but the outcome of the study will be preordained by the options included. If diversion from Buffalo to Brays is the only low-cost option looked at then we will be faced with a done deal whenever the study is finished. Let's take the diversion off the table or the political fight will bog your study down for way too long and the next Harvey will be upon us with no progress. Let's get started with something that doesn't outrage approximately 800,000 people in the Bray's Watershed, most of whom vote, and make the study a realistic set of alternatives.

-03

Dylan Seff

Dylan Seff

Vitol Inc
2925 Richmond Ave., 11th Floor, Houston TX 77098
T: +1 713-230-2000
M: +1 713-870-8393
E: dys@vitol.com



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No Substantive Comments Identified

Comment #: ES145

From: [nan lv](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] oppose diversion of flood water into Brays Bayou
Date: Wednesday, May 29, 2019 1:40:01 PM

Dear Army Corps of Engineers:

I live in Old Braeswood.

I do not believe it is a good use of public funds to divert water to Brays Bayou and place homes in the neighborhood at risk.

Thanks,

Nan

Nan Lv
2422 Underwood Street

No Substantive Comments Identified

Comment #: ES146

From: [Randy Newman](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 1:55:50 PM

After review I do not believe that it would be a good use of public funds to divert water to Brays bayou and place homes already at risk of flooding further in jeopardy.

Randy Newman
President
713-201-7290
Hi-Tec Flooring Dist
Representing =
Nurazzo Terrazzo Tile
Ecore
Polyflor
Eco surfaces
Allstate base
Zandur
Cobalt surfaces
Aphelion tile collection
Schonox (underlayments)
Dinoflex
Eco Grip safety flooring

Form Letter #2

Comment #: ES147

From: [Whitney Bogardus](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Brays Bayou Watershed
Date: Wednesday, May 29, 2019 2:10:18 PM
Attachments: [BB Whitney.pdf](#)

Please see my attached comment letter.

Whitney Smith-Bogardus

(wk) 713-308-2782

(cell) 713-320-5763



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PLEASE SEE ATTACHED LETTER

Name WHITNEY S. BOGARDUS Affiliation RESIDENT
Nombre WHITNEY S. BOGARDUS Afiliación RESIDENT

Address 2330 GLEN HAVEN BLVD
Dirección de Envío 2330 GLEN HAVEN BLVD

City HOUSTON State TX Zip Code 77030
Ciudad HOUSTON Estado TX Código Postal 77030

E-mail WSMITTY1961@YAHOO.COM
Correo Electrónico WSMITTY1961@YAHOO.COM

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

May 29, 2019

Dear Army Corps of Engineers:

I live in Old Braeswood.

The Old Braeswood neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during tropical storm Allison, but by the time of Harvey, although many of our streets were flooded, very few houses were. We attribute that difference to the Brays Bayou Widening project having been completed as far as Old Braeswood and slightly upstream by the time of Harvey. It has taken over 30 years to get this project to this stage and it is still only 80% finished. It has only been designed to handle water from the Brays Bayou Watershed. If water from Buffalo Bayou were to be released into Brays Bayou during the next Harvey event all those 30 years of work would be threatened. There is no reason to solve Buffalo Bayou's problem by making it Brays Bayou's problem.

I cannot possibly believe any assurances given by the Army Corps of Engineers or anybody else that the transfer of water from Buffalo to Brays would only be done if it caused no damage to Brays Bayou property. The pressure to use the diversion would simply be overwhelming during the next Harvey regardless of the damage to downstream Brays property. The decision will be taken out of the Corps' hands.

If you are actually looking for a relatively low-cost solution to future flooding in the Buffalo Bayou Watershed during a future Harvey event, build the Levees at Barker and Addicks reservoirs higher, not lower, and ban any further development in the flood plain behind the levees. It is frankly insanity to allow developers to keep building in a flood plain that you know will flood in the next storm, and then "protect" the houses built there by allowing neighborhoods that were established 80 years ago in the Bray's Watershed to be flooded.

I know that this is all being styled as a study only, but the outcome of the study will be preordained by the options included. If diversion from Buffalo to Brays is the only low-cost option looked at then we will be faced with a done deal whenever the study is finished. Let's take the diversion off the table or the political fight will bog your study down for way too long and the next Harvey will be upon us with no progress. Let's get started with something that doesn't outrage approximately 800,000 people in the Bray's Watershed, most of whom vote, and make the study a realistic set of alternatives.

Thank you,

A handwritten signature in black ink that reads "Whitney Bogardus". The signature is written in a cursive, flowing style.

Whitney Bogardus
2330 Glen Haven Blvd
Houston, TX 77030
Wsmitty1961@yahoo.com

Form Letter #2

Comment #: ES148

From: [Whitney Bogardus](#)
To: [CESWT-BBTRS](#)
Cc: [Laurie Loneragan](#)
Subject: [Non-DoD Source] Brays Bayou Watershed
Date: Wednesday, May 29, 2019 2:17:14 PM
Attachments: [BB Laurie.pdf](#)

Please see attached comment letter.

Whitney Smith-Bogardus

Equity Trading – WRAP

Fayez Sarofim & Co. | Two Houston Center, Suite 2907

Houston, Texas 77010 | wbogardus@sarofim.com <<mailto:wbogardus@sarofim.com>>

WRAP TRADING 713.308.2886 | TRADING FAX 713.654.7904 | wrap@sarofim.com
<<mailto:wrap@sarofim.com>>

Direct 713.308.2782

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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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PLEASE SEE ATTACHED LETTER

Name LAURIE LONERGAN Affiliation RESIDENT
Nombre LAURIE LONERGAN Afiliación RESIDENT

Address 2526 BLUE BONNETT
Dirección de Envío 2526 BLUE BONNETT

City HOUSTON State TX Zip Code 77030
Ciudad HOUSTON Estado TX Código Postal 77030

E-mail SNORKKUS@YAHOO.COM
Correo Electrónico SNORKKUS@YAHOO.COM

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

May 29, 2019

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Thank you,



Laurie Lonergan
2526 Blue Bonnett
Houston, TX 77030
snorkkus@yahoo.com

From: [Deborah McCoy](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 2:22:44 PM
Attachments: [BBTRS Comment Form_3.pdf](#)

I am attaching my comment opposing the use of Brays Bayou watershed as a solution to the problems with Buffalo Bayou.

Sincerely,

Deborah McCoy



**US Army Corps
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Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

Comment Period: April 29, 2019 through May 31, 2019

The U.S. Army Corps of Engineers is in the process of developing the Buffalo Bayou and Tributaries Resiliency Study which includes both Flood Risk Management and a Dam Safety Modification Study (DSMS). The flood risk management will identify and evaluate alternatives to reduce flooding upstream of the Addicks and Barker Dams as well as below in the Buffalo Bayou watershed. The DSMS will identify and evaluate alternatives to address Phase II measures of the Dam Safety Modifications on Addicks and Barker. Public input is especially needed regarding alternatives to consider.

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

Place
Stamp
Here

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ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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-01 I live in Old Braeswood which is part of the Brays Bayou watershed. My home was built in 1929. It is my understanding that there is a proposal to dig a trench from Buffalo Bayou to Brays Bayou as a low cost option to prevent overflow of Buffalo Bayou. This proposal will put my home and neighborhood at risk of flooding. I do not think that putting our residential neighborhood and the medical center at risk to improve Buffalo Bayou watershed is a prudent plan. Although the costs are attractive, the risks associated with this plan are too great. The recent improvements to Brays Bayou definitely prevented major flooding in our neighborhood during Harvey, although some homes were impacted. If the Buffalo Bayou proposed project is approved, I fear that my home and that of others in our neighborhood will be put in harm's way so that others in another area will be spared. There are other alternatives to consider, that although more expensive, have a lower risk profile, and do not put others at risk in order to mitigate the risk in another area. Therefore, I am adamantly opposed to using the Brays Bayou watershed to improve the Buffalo Bayou watershed. I urge you to consider alternative plans to alleviate the problems with Buffalo Bayou which do not endanger other communities.

Name Deborah McCoy and Robert Keenan **Affiliation** _____
Nombre Deborah McCoy and Robert Keenan **Afiliación** _____

Address 2351 Kelving Street
Dirección de Envío 2351 Kelving Street

City Houston **State** TX **Zip Code** 77030
Ciudad Houston **Estado** TX **Código Postal** 77030

E-mail _____
Correo Electrónico _____

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [J.R](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 2:26:51 PM

To whom it may concern,

My name is Jesse Rodriguez I live in the Old Braeswood neighborhood close to Brays Bayou. When hurricane Harvey hit Houston, the water rose up to my door step but thankfully didn't make it in. What the Army Corps of Engineers is proposing will cause major flooding to a neighborhood that was barely spared from all the flooding during Harvey! Brays Bayou can not hold more water without causing major damage to the neighborhoods surrounding it. I cant believe any assurances given by the Army Corps of Engineers. Find another way to fix Buffalo Bayou without hurting other neighborhoods!!!

-01

From: [Sharon Coan](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Braes bayou
Date: Wednesday, May 29, 2019 2:48:00 PM
Attachments: [comments_coan.pdf](#)

My comments are attached.

We do not believe it is a good use of public funds to divert water to Brays Bayou and place homes in the neighborhood at risk.

Sharon Coan

sharoncoan@comcast.net <<mailto:sharoncoan@comcast.net>>
281.798.1629
Sent from my iPhone

Begin forwarded message:

From: "Coan, Sharon P" <Sharon.P.Coan@uth.tmc.edu <<mailto:Sharon.P.Coan@uth.tmc.edu>> >
Date: May 29, 2019 at 2:43:00 PM CDT
To: "sharoncoan@comcast.net <<mailto:sharoncoan@comcast.net>> " <sharoncoan@comcast.net <<mailto:sharoncoan@comcast.net>> >
Subject: flooding the bayou



Comment Form (Formulario do Comentarios Escritos)

Comment Period: April 29, 2019 through May 31, 2019

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

E-mail
Correo Electrónico _____

<https://www.swg.usace.army.mil/Missions/Projects/Buffer-Bayou-and-Tributaries-Resiliency-Study/>

From: [Ann Schutt-Aine](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 3:09:57 PM

Dear Army Corps of Engineers:

I am a resident of Old Braeswood, and write to oppose the proposed diversion of flood water from Buffalo Bayou to Brays Bayou.

The Old Braeswood neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during tropical storm Allison, but by the time of Harvey, although many of our streets were flooded, very few houses were. We attribute that difference to the Brays Bayou Widening project having been completed as far as Old Braeswood and slightly upstream by the time of Harvey. This project has been in the works for over 30 years and is about 80% completed. It is ONLY designed to handle water from the Brays Bayou Watershed, and diverting water from Buffalo Bayou to Brays could cause disastrous effects for our neighborhood, and threaten all of the work that has been accomplished. It is simply unfair to negatively impact another watershed by diversion from Buffalo Bayou.

It is not realistic to believe that the transfer of water from Buffalo to Brays would not threaten Brays Bayou property - one only had to look out of the window during Harvey and see the massive street flooding to know that we were very close to many homes being flooded and lost - the addition of water from another watershed would certainly push us over the top. The reassurance that the Army Corps of Engineers would not allow diversion if property was threatened in the Brays Watershed is similarly unrealistic - the pressure to use the diversion would simply be overwhelming during the next Harvey regardless of the damage to downstream Brays property, and the decision will be taken out of the Corps' hands.

There are certainly other solutions to help prevent future flooding in the Buffalo Bayou Watershed during a future Harvey event: the levees at Barker and Addicks reservoirs could be raised/built higher, and future development could be banned in the flood plain behind the levees. Allowing developers to continue building in a flood plain that is sure to flood in the next storm, and then "protecting" the houses built there by allowing established, historic neighborhoods that were established many years downstream to flood is both unfair and ludicrous.

While this is currently "only a study," it is certain that, if only one low-cost option is included, it is likely to prevail in the end. Let's take the diversion off the table or the political fight will prolong the study for far too long, and the next Harvey will be upon us with no progress. Let's get started with something that doesn't outrage approximately 800,000 people in the Brays Watershed, most of whom vote, and make the study a realistic set of alternatives.

Sincerely,

[REDACTED]

Resident, Old Braeswood
2534 Glen Haven Blvd
Houston, TX 77030

From: [Schwartz](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] I live in the Brays Bayou Watershed and wish to comment on the proposed plans for the Buffalo Bayou and Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 3:11:42 PM
Importance: High
Sensitivity: Confidential

Dear Sirs,

Larry Schwartz
Member of the Brays Bayou Association
Board member of Meyerland Community Improvement Association –
Section 8W
5223 Yarwell Dr
Houston, TX 77096
M_l.schwartz@comcast.net

I wish to provide comments and feedback on the proposed plans for the Buffalo Bayou and Tributaries Resiliency Study. Living for over 30 years in the Brays Bayou Watershed I want to share my thoughts and concerns about some of the elements proposed.

- **Conveyance Strategies** - Please do not connect the Southern end of the reservoirs and Buffalo Bayou into the Brays Bayou system. My concerns if they are connected who will actually make a decision on opening flow. Our watershed is of lower value than many parts of Buffalo Bayou and thus concerned we would be flooded in deference to Buffalo Bayou residents based only upon economic valuations.
- Tunnels proposed. I have heard from Brian Gettinger and wish to support this opportunity. My preference is for a tunnel from the Eastern Edge of Meyerland [29°40'46.6"N 95°27'36.0"W] which is at South Braeswood and the 610 feeder Road. This tunnel would inlet there and run to the Ship Channel/ Buffalo Bayou downstream of where Brays Bayou enters Buffalo Bayou. Total distance is approximately 13.6 miles.
- Additional detention in the headwaters of Brays Bayou; This would include but not totally exclusive of Westwood Country Club, Ruffino Hills and Braeburn Country Club. Either purchasing or acquiring through eminent domain these would provide 500+ acres of land and several thousand acre-feet of detention capacity.
- Flood warning systems that cover the whole region not just Harris County alone.

- Additional monitoring stations for rainfall along the watersheds this would help to make better determination of impacts of rainfall.

Thanks for the opportunity to comment on this BBTRS, just sorry that the Brays Bayou Association was not included in the dissemination of the project and request for comments.

Larry Schwartz

From: Robin.Fredrickson@lw.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 3:21:00 PM
Attachments: [Buffalo Bayou Study.pdf](#)

Robin S. Fredrickson

LATHAM & WATKINS LLP

811 Main Street
Suite 3700
Houston, TX 77002
Direct Dial: +1.713.546.7467
Fax: +1.713.546.5401
Email: robin.fredrickson@lw.com
[Blockedhttp://www.lw.com](http://www.lw.com)

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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

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I absolutely think that it would not be a good use of public funds to divert water to Brays Bayou. Brays Bayou is overloaded and diverting water will place homes in surrounding areas at risk.

Name Robin Fredrickson

Nombre

Affiliation

Afiliación

Address 2338 Underwood St

Dirección de Envío

City Houston

Ciudad

State TX

Estado

Zip Code 77002

Código Postal

E-mail robin.fredrickson@lw.com

Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: ljafred1@gmail.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 4:19:36 PM

Buffalo Bayou and Tributaries Resiliency Study

Dear Army Corps of Engineers.

I live in Old Braeswood.

The Old Braeswood neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during tropical storm Allison, but by the time of Harvey, although many of our streets were flooded, very few houses were. We attribute that difference to the Brays Bayou Widening project having been completed as far as Old Braeswood and slightly upstream by the time of Harvey. It has taken over 30 years to get this project to this stage and it is still only 80% finished. It has only been designed to handle water from the Brays Bayou Watershed. If water from Buffalo Bayou were to be released into Brays Bayou during the next Harvey event all those 30 years of work would be threatened. There is no reason to solve Buffalo Bayou's problem by making it Brays Bayou's problem.

I cannot possibly believe any assurances given by the Army Corps of Engineers or anybody else that the transfer of water from Buffalo to Brays would only be done if it caused no damage to Brays Bayou property. The pressure to use the diversion would simply be overwhelming during the next Harvey regardless of the damage to downstream Brays property. The decision will be taken out of the Corps' hands.

If you are actually looking for a relatively low-cost solution to future flooding in the Buffalo Bayou Watershed during a future Harvey event, build the Levees at Barker and Addicks reservoirs higher, not lower, and ban any further development in the flood plain behind the levees. It is frankly insanity to allow developers to keep building in a flood plain that you know will flood in the next storm, and then "protect" the houses built there by allowing neighborhoods that were established 80 years ago in the Bray's Watershed to be flooded.

I know that this is all being styled as a study only, but the outcome of the study will be preordained by the options included. If diversion from Buffalo to Brays is the only low-cost option looked at then we will be faced with a done deal whenever the study is finished. Let's take the diversion off the table or the political fight will bog your study down for way too long and the next Harvey will be upon us with no progress. Let's get started with something that doesn't outrage approximately 800,000 people in the Bray's Watershed, most of whom vote, and make the study a realistic set of alternatives.

Thank you,

Robert Frederick

2310 Glen Haven Blvd.

Houston, Texas 77030

From: [Jim Bogardus](#)
To: [CESWT-BBTRS](#)
Cc: [info@oldbraeswood.com](#); [wsmitty1961@yahoo.com](#); [gisette@theleathers.com](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study - Comment Form
Date: Wednesday, May 29, 2019 4:31:59 PM
Attachments: [Buffalo Bayou and Tributaries Resiliency Study - Comment Form.pdf](#)

Dear ACOE Representative,

Attached, please find my comments regarding the Buffalo Bayou and Tributaries Resiliency Study.

Kind regards,

James W Bogardus



**US Army Corps
of Engineers**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)
Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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May 29, 2019

Dear Army Corps of Engineers:

My name is Jim Bogardus and I live Old Braeswood. I am a geologist by academic training and hold a BS and MS degrees with significant hydrological course work.

I have lived in my Old Braeswood home since 1995 and experienced the flooding from both Tropical Storm Allison (June, 2001) and Hurricane Harvey (August, 2017). While my home did not flood in either event, I experienced similar water encroachment: right to the base of the steps leading into my home. Of course, between these two events, the Brays Bayou Widening project took place (I am told that it is still not complete and lacks the remaining 20%). It doesn't take a hydrologist to recognize that if Braes Bayou Widening project had not taken place, Old Braeswood flooding during Harvey would have been much more severe.

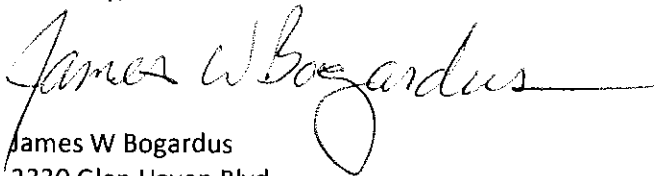
It is also common sense to recognize that the proposed diversion of water from Buffalo Bayou catch basin into Braes Bayou would be disastrous for residents along Braes Bayou. Why would anyone consider taking a problem existing in one watershed and transferring it to another? I know, from the water levels I experienced during Harvey, that a similar future event would cause catastrophic flooding along Braes Bayou if water were diverted from Buffalo Bayou. **TRANSFERRING THE PROBLEM IS NOT A SOLUTION.**

The Corps employs a lot of brilliant people. Use that grey matter to tackle the root of the scientific problem: where to store runoff. Obviously, you will have to partner with politicians to deal with the human factor: the development that has already taken place in the best retention locations. I've heard the argument that the water diversion proposal is being pushed because it is inexpensive relative to other options. Personally, I don't buy this argument. Any proposal that does not solve the problem is just pouring money down the drain (excuse the metaphor). Cheap isn't the answer to a complex problem, and undeniably, the solution will be as complex (and expensive) as the problem.

My point is this: the Corps is better than the diversion proposal, use your smart people. However, if logic doesn't prevail, there is always litigation. I doubt anyone wants to go down that route, nonetheless, we have our fair share of lawyers, doctors and professionals living within the Braes Bayou catch basin. This option will waste time and money...and won't solve the problem. Meanwhile, Houston will experience more flooding and more human misery.

Again, you don't have to be a hydrologist to understand that logic.

Sincerely,



James W Bogardus
2330 Glen Haven Blvd
Houston, TX 77030
wsmitter1961@yahoo.com

Name	<u>JAMES BOGARDUS</u>	Affiliation	<u>CONCERNED</u>
Nombre		Afiliación	<u>RESIDENT</u>
Address			
Dirección de Envío	<u>2330 GLEN HAVEN BLVD</u>		
City	State	Zip Code	
Ciudad	Estado	Código Postal	
<u>HOUSTON</u>	<u>TX</u>	<u>77030</u>	
E-mail			
Correo Electrónico	<u>WSMITTY1961@YAHOO.COM</u>		

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Draetta, Giulio](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 4:33:26 PM

Dear Army Corps of Engineers:

I live in Old Braeswood.

The Old Braeswood neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during tropical storm Allison, but by the time of Harvey, although many of our streets were flooded, very few houses were. We attribute that difference to the Brays Bayou Widening project having been completed as far as Old Braeswood and slightly upstream by the time of Harvey. It has taken over 30 years to get this project to this stage and it is still only 80% finished. It has only been designed to handle water from the Brays Bayou Watershed. If water from Buffalo Bayou were to be released into Brays Bayou during the next Harvey event all those 30 years of work would be threatened. There is no reason to solve Buffalo Bayou's problem by making it Brays Bayou's problem.

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Giulio Draetta, MD PhD

Senior Vice-President and Head, Therapeutics Discovery Division

Chief Scientific Officer

Sewell Family Chair in Genomic Medicine

The University of Texas MD Anderson Cancer Center, Unit 1954

1515 Holcombe Blvd.

Houston, TX 77030

713-792-6370

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Skype: giulio-usa

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From: [Steve Finkelman](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou Comment Form
Date: Wednesday, May 29, 2019 5:20:32 PM
Attachments: [USACOE Buffalo Bayou Comment Form.pdf](#)

Please contact me if you need any additional information.

Thanks,
Steve

Steven Finkelman
Chief Financial Officer
Scope Imports, Inc.
6300 West Loop S, Suite 100
Bellaire, Tx 77401
T 832-767-2001 (direct)
F 713-680-2548
E stevef@scopeimp.com



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)
Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

I live in the Braes Bayou watershed. I am extremely concerned about certain elements of the plan which will directly impact Braes Bayou watershed. Not only for the potential impact, but even more so regarding the lack of notice to those in the Braes Bayou watershed. My understanding, as well, is crossing over watersheds is highly unusual.

Thanks very much,

Name
Nombre

Steven Finkelstein

Affiliation
Afilación

individual

Address

Dirección de Envío

5303 Braesheather Drive

City

Ciudad

Houston

State

Estado

TX

Zip Code

Código Postal

77096

E-mail

Correo Electrónico

stevefe@scopeinc.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Bill Murray](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 5:34:15 PM

I live in Old Braeswood at 2402 Maroneal St. Houston TX 77030.

The Old Braeswood neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during tropical storm Allison, but by the time of Harvey, although many of our streets were flooded, very few houses were. We attribute that difference to the Brays Bayou Widening project having been completed as far as Old Braeswood and slightly upstream by the time of Harvey. It has taken over 30 years to get this project to this stage and it is still only 80% finished. It has only been designed to handle water from the Brays Bayou Watershed. If water from Buffalo Bayou were to be released into Brays Bayou during the next Harvey event all those 30 years of work would be threatened. There is no reason to solve Buffalo Bayou's problem by making it Brays Bayou's problem.

I cannot possibly believe any assurances given by the Army Corps of Engineers or anybody else that the transfer of water from Buffalo to Brays would only be done if it caused no damage to Brays Bayou property. The pressure to use the diversion would simply be overwhelming during the next Harvey regardless of the damage to downstream Brays property. The decision will be taken out of the Corps' hands.

If you are actually looking for a relatively low-cost solution to future flooding in the Buffalo Bayou Watershed during a future Harvey event, build the Levees at Barker and Addicks reservoirs higher, not lower, and ban any further development in the flood plain behind the levees. It is frankly insanity to allow developers to keep building in a flood plain that you know will flood in the next storm, and then "protect" the houses built there by allowing neighborhoods that were established 80 years ago in the Bray's Watershed to be flooded.

I know that this is all being styled as a study only, but the outcome of the study will be preordained by the options included. If diversion from Buffalo to Brays is the only low-cost option looked at then we will be faced with a done deal whenever the study is finished. Let's take the diversion off the table or the political fight will bog your study down for way too long and the next Harvey will be upon us with no progress. Let's get started with something that doesn't outrage approximately 800,000 people in the Bray's Watershed, most of whom vote, and make the study a realistic set of alternatives.

Sincerely,
William J Murray

Sent from [Mail](#) for Windows 10

From: [Bill Murray](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 5:53:37 PM
Attachments: [BBTRS Comment Form 1.pdf](#)

See Attachment comment for Buffalo Bayou & Tributaries Resiliency Study

Sent from Mail <Blocked<https://go.microsoft.com/fwlink/?LinkId=550986>> for Windows 10



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Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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I am a resident of Old Braeswood and the neighborhood is part of the Brays Bayou Watershed. We experienced significant flooding during Allison and our streets were flooded Harvey. The Brays Bayou Widening Project has been designed to handle water from the Brays Bayou Watershed. There is no reason to solve the Buffalo Bayou problem by making it Brays Bayou's Problem. I do not believe it is a good use of public funds to divert water from Buffalo Bayou to Brays Bayou and place homes in Old Braeswood at risk.

Name William J Murray **Affiliation** Old Braeswood Property Owner
Nombre William J Murray **Afiliación** Old Braeswood Property Owner

Address 2402 Maroneal St
Dirección de Envío 2402 Maroneal St

City Houston **State** TX **Zip Code** 77030
Ciudad Houston **Estado** TX **Código Postal** 77030

E-mail wjcm@wjcmurray-assoc.com
Correo Electrónico wjcm@wjcmurray-assoc.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [derek](#)
To: [C.J. Yeoman](#); [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Re: The Future of Brays Bayou Flooding...
Date: Wednesday, May 29, 2019 6:34:01 PM
Attachments: [Flooding study.pdf](#)

Attached you will find a suggestion / question concerning the two reservoirs operations.

Derek I Lowenstein, PhD

Has the study considered that the operations specifications for the two reservoirs be modified. Suggest that you consider the implications of lowering the normal stored water volume and not lowering it from its present values during or just before a large rain event.

Derek I. Lowenstein , PhD

Brookhaven National Laboratory)retired)

5522 Rutherglenn Dr
Houston, TX 77096

dereklowenstein@gmail.com

From: [Alan Morris](#)
To: [ALAN MORRIS](#)
Subject: [Open-Side Source] Buffalo Bayou and Tributary Resiliency Idea
Date: Wednesday, May 29, 2019 4:47:00 PM

The natural flow of water through Buffalo Bayou and its tributaries are continuously hindered by the bank erosion of sand and other sediments that can cause water to back up and reduce the channel's flow rate. This can ultimately lead to more severe flooding in upstream areas and significant waterway maintenance events following storms.

There are sediment collection systems available, such as the Streamside Sediment Collection system that are already approved by ERDC for this purpose. It monitors stream velocity and turns on during storm events to pull sediment out of these waterways. Companies such as Placement Area Solutions operate these units and manage the collected material on an as-needed basis.



Photo taken from: (29 7287888, -95 7786557)



Photo taken from: (29 7255075, -95 7617662)

V/R,

A.J. Morris
Katy, TX Resident

From: [Mike Dach](#)
To: [CESWT-BBTRS: Ciliske, Charles W CPT USARMY CESWG \(USA\)](#); [Long, Richard K CIV USARMY CESWG \(US\)](#)
Cc: [Jeff Lindner](#); [Lopez Matt](#); [Robert Lazaro](#); [Poppe Russ](#); [Gabe Baker](#); [Jack Cagle](#); [Steve Radack](#); [Brenda Stardig](#); [Dan Crenshaw](#); [Lizzie Fletcher](#); [Zach Despart](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study - Mike Dach Comments
Date: Wednesday, May 29, 2019 6:53:39 PM
Attachments: [Buffalo Bayou Resiliency Measures 20190529 LOEN Comments Summary.pdf](#)

Bcc: Addicks Watershed CA & MUD Network
Bcc: LOEN CA Board of Directors
Bcc: Addicks Watershed LOEN Interests

To All: My comments are provided as Text in this Email body, and as an attached pdf file.

Date: March 29, 2019

To: USACE Galveston District
Attn: BBTRS
PO Box 1229
Galveston, TX 77553-1229
EMA: BBTRS@usace.army.mil

From: Michael Dach

- Addicks Watershed Flood Mitigation Network, Coordinator (1)
- Lakes On Eldridge North (LOEN), Flood Prevention Committee, Chairperson (2)

6014 Ballina Canyon Ln
Houston, TX 77041-5795
Ph (C): 281-787-2322; EMA: dachauto1@gmail.com

Subject: **Buffalo Bayou and Tributaries Resiliency Study**
Study Phase: Public/Stakeholder Scoping Comment Period
Input Re: Addicks Watershed Flood Mitigation for
Addicks Reservoir North East and North Central Perimeter Communities

--

Summary of Priority Flood Mitigation Needs for Addicks Reservoir Perimeter Communities

1. Do not extend the Addicks Reservoir operational flood pool beyond current Reservoir boundary.
 - a. Perimeter CAs do not want major Loss of Community from this Option.
 - b. MUDs, CyFair-isd, and Harris County do not want major Loss of Property Tax Base, from this Option.
2. Do not extend the NE Armored Auxiliary Spillway to cross Tanner Rd and approach WLY Rd.
 - a. ACOE informally mentioned this 108 ft elevation Spillway is not to be raised. No additional Reservoir capacity can be gained, because the ground elevation of adjacent communities (LOE & LOEN), and Tanner Rd, is 107-112 ft.
3. Consider moving the NE Armored Auxiliary Spillway closer to the Dam Outlet Structure.
 - a. This will reduce the Dam overflow volume passing thru lower elevation communities, businesses, and industries (bounded by East Levee to SH-8, and Tanner Rd to Memorial Dr); without changing the total Dam overflow entering Buffalo Bayou.
 - b. Reservoir Flood Pool could be kept closer to the Government owned boundary, by so moving the Auxiliary Spillway, plus lowering it to about 106-107 ft elevation.
4. Start storage projects in a timely manner, such that actual excavation volumes provide real-time storage volumes. It is neither prudent for Perimeter Communities, nor cost-effective for Governments, to wait for significant flood protection from mega-projects to become available around 2037, based on the Public Scoping Meeting handout on "Estimated Project Schedule".

- a. **Total additional storage needed for Addicks Watershed to be roughly 50,000 - 90,000 acre-ft.**
 5. **Increase stormwater storage in Addicks Reservoir downstream of flood threatened communities.**
 - a. **Within the Reservoir, Remove accumulated silt and debris, Desilt clogged tributary channels, Excavate topsoil, Dig new pump-out basins, and Build new settling basins.**
 6. **Increase stormwater storage (dry basins and/or pump-out basins) upstream of flood threatened communities. Electric pumps would not have to be actuated until well after a rain event was over.**
 - a. **Upgrade upstream dry storage basins to long-term Retention, rather than short-term Detention. Automate the Retention Valves using level sensors.**
 - b. **Encourage large private wet (scenic) storage ponds to lower normal levels (by simple gravity flow) prior to heavy rain events. This provides cost effective and timely additional storage.**
 7. **Modify Dam Operations to release more water during and after heavy rain events, without flooding downstream structures. Currently, ACOE finds the first house floods when the flow at Buffalo Bayou Piney Point Metering Station exceeds 4,300 CFS. Cost-effectively increase Buffalo Bayou safe flow capacity, from the Dams' outlet to Shepherd Rd, using channel improvements.**
 8. **Provide a Phone Flood Alert System that predicts Addicks Reservoir Pool Elevation vs Time. Individual CAs can correlate this to local street flooding. Residents can sign-up for one or both Alert Systems. Informal info indicates that HCFCD is developing a Phone Flood Alert System.**
-

Note (1): The Addicks Watershed Flood Mitigation Network includes 30 Members who are local community leaders. These Members are mostly Directors from Bear Creek Village/Hunter's Park Civic Assoc (BCV/HP), Concord Bridge HOA, Eldridge Park HOA, Lakes On Eldridge (LOE) CA, LOE MUD 341, Lakes On Eldridge North (LOEN) CA, LOEN MUD 370, Twin Lakes CA, and Twin Lakes MUD 255. These comments have not be authorized by the Network Members ... no time to do so.

Note (2): The LOEN Flood Prevention Committee is a LOEN CA Board-appointed advisory committee. LOEN is a 1,081-residence community association east of N Eldridge Parkway, between Tanner Rd & West Little York (WLY) Rd. LOEN CA has a 5 Member Board of Directors, with 2 such Directors on the Flood Prevention Committee. These comments have not been authorized by the LOEN CA ... no time to do so.

Addicks Reservoir Perimeter Communities - Flooding Threats

It is well known that Reservoir perimeter community streets and structures have encountered past flooding from Langham Creek and/or Horsepen Creek during heavy rain events. Flooding has been due to both conveyance forward-flow bank topping, and Reservoir pool back-flow. Area communities face future flooding from heavy rain events, during which conveyances will route surges of stormwater (larger and faster) to the Reservoir, due to the following circumstances:

- HCFCD is doing a good job of rapidly desilting and repairing Major Tributaries upstream of Reservoir boundaries.
- Major Tributaries and Maintained Channels encounter Obstructions (silting/sandbars, plant growth on sandbars, elevated Clay Rd, and/or restrictive Clay Rd Bridge support beams) when crossing onto ACOE property in Addicks Reservoir.
- ACOE imposes work limits on MUDs and HCFCD, when authorized to perform channel clearing and maintenance on their respective conveyances inside the Reservoir boundary north of Clay Rd.
- ACOE does not plan to provide timely flood relief via **Completed Mega Projects** (Increased conveyance out of the Dams; Desilting of channels / Removal of accumulated debris / Excavation of new basins w/in the Dams; and Construction of a 3rd Reservoir north of the Dams).

Estimated Mega Project Completion Date = (Ref: Handout on Estimated Project Schedule:
= Start Date + Study + Design + Build = (Oct 2018) + (3 Yrs) + (2 to 5 Yrs) + (10 to 15 Yrs) = ~ **2037**

Should the Resiliency Study Team have questions about these Comments, we would be glad to meet with you and/or furnish documentation of the additional data and analysis that was developed to support these Comments.

Michael M Dach

MMD/
Chairperson

Michael Dach, LOEN Flood Prevention Committee,

Copies by Email

Long, Richard K	ACOE Natural Resources Manager	Richard.K.Long@usace.army.mil
Ciliske, CPT Chuck	ACOE Houston Project Office Manager	Charles.W.Ciliske@usace.army.mil
Poppe, Russell A	HCFCF Executive Director	Russ.Poppe@hcfcd.org
Zeve, Matt	HCFCF Director of Operations	[please forward to Matt]
Williams, Byron	HCFCF Chief of Project Management	[please forward to Byron]
Lazaro, Robert	HCFCF Communications Officer	Robert.Lazaro@hcfcd.org
Lindner, Jeffrey	HCFCF Dir Hydrologic Operations Div, Meteorologist	Jeff.Lindner@hcfcd.org
Lopez, Matt	HCFCF Precinct Coordinator	Matthew.Lopez@hcfcd.org
Hidalgo, Lina	Harris County Judge	Online Contact Form
Baker, Gabe	Harris County Judge's Asst	gabe.baker@cjo.hctx.net
Cagle, Jack	Harris County Commissioner Precinct 4	commissionercagle@hcp4.net
Radack, Steve	Harris County Commissioner Precinct 3	pct3@pct3.com
Stardig, Brenda	Houston Councilwoman District A	DistrictA@houstontx.gov
Crenshaw, Dan	US Congressman TX Second District	Blockedhttps://crenshaw.house.gov
Crenshaw, Dan	US Congressman TX Second District	RepDanCrenshaw@mail.house.gov
Fletcher, Lizzie	US Congresswoman TX Seventh District	RepLizzieFletcher@mail.house.gov
Despart, Zach	Houston Chronicle Reporter	Zach.Despart@chron.com

From: [Crocker, Maureen - HPW](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] HPW comments - Buffalo Bayou and Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 7:36:28 PM
Attachments: [image003.png](#)
[HPW comments.19may29.pdf](#)

Please find attached comments from Houston Public Works regarding the BBTRS. Please contact me if additional information is required.

Maureen Crocker

Assistant Director | Infrastructure Planning & Prioritization
Transportation & Drainage Operations | Houston Public Works
(832) 395-3222 | Maureen.Crocker@houstontx.gov





CITY OF HOUSTON

Houston Public Works

Sylvester Turner

Mayor

Carol Ellinger Haddock, P.E.
Director
P.O. Box 1562
Houston, Texas 77251-1562

832.395.2500
www.publicworks.houstontx.gov

May 29, 2019

Mr. Andrew Weber, P.E.
Project Manager, Galveston District
U.S. Army Corps of Engineers
P.O. Box 1229
Galveston, Texas 77553-1229

Dear Mr. Weber:

Houston Public Works (HPW) is responsible for construction, operation and maintenance of City of Houston infrastructure. HPW is working closely with its local partner, Harris County Flood Control District, to plan, design and construct drainage improvements throughout the City of Houston. Houston Public Works supports the U.S. Army Corps of Engineers (USACE) Buffalo Bayou and Tributaries Resiliency Study and its goal of developing alternatives for reduction of flood risks on Buffalo Bayou.

The potential measures that have been outlined to date are numerous and varied, including both structural and non-structural options. It is understood that a combination of both will be required to provide the greatest reduction in potential loss of life and property and avoid unmitigated adverse impacts.

Storage concepts outlined to date include additional detention within existing reservoirs and along existing channels. Conveyance concepts include tunnels and bridge modifications along existing channels.

These concepts have flood reduction benefits as well as potential impacts to City of Houston right-of-way and infrastructure. Houston Public Works would like to work closely with the U.S. Army Corps of Engineers during the upcoming alternative evaluation and analysis phase as the draft report is developed. HPW looks forward to further coordination in the coming year. I can be reached at Maureen.Crocker@houstontx.gov or (832) 395-3222.

Sincerely,

Maureen Crocker
Assistant Director
Houston Public Works

Council Members: Brenda Stardig Jerry Davis Ellen R. Cohen Dwight A. Boykins Dave Martin Steve Le Greg Travis Karla Cisneros
Robert Gallegos Mike Lastler Martha Castex-Tatum Mike Knox David W. Robinson Michael Kubosh Amanda K. Edwards Jack Christie

Controller: Chris B. Brown

From: [derek](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Feedback to flooding study
Date: Wednesday, May 29, 2019 7:38:30 PM
Attachments: [Comment Form.pdf](#)



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Buffalo Bayou and Tributaries Resiliency Study

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Has the study considered the operations aspects of modifying the normal reservoirs water level specifications, to avoid having to release water just prior to or during a large rain event and exasperbate downstream flooding?

Name
Nombre Derek I Lowenstein, PhD

Affiliation
Afiliación Brookhaven National Laboratory
(retired)

Address
Dirección de Envío 5522 Rutherglenn Dr

City
Ciudad Houston

State
Estado TX

Zip Code
Código Postal 77096

E-mail
Correo Electrónico dereklowenstein@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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From: [Westphal, David W. \(LDZX\)](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Input for BBTRS
Date: Wednesday, May 29, 2019 9:35:36 PM

To the US Corps of Engineers:

I would like to add my input to the Buffalo Bayou and Tributaries Resiliency Study (BBTRS). I am a resident of the Lakes on Eldridge subdivision located adjacent to Addicks Reservoir and west of the Addicks northeast auxiliary spillway. I am also the president of the Board for the Lakes on Eldridge Community Association, Inc., my personal home was flooded and also my son's home in the nearby Concord Bridge community was flooded.

After meetings with many interested parties, considerations of the reasons that upstream residents were flooded, and reviewing of proposed actions to mitigate future flooding risks, I have the following recommendations:

1. Flood mitigation will probably best be accomplished through a plurality of projects that will each incrementally reduce flooding impact and flood risk in West Houston both upstream and downstream of Addicks and Barker Reservoirs.
2. I support projects that would increase the capacity of the Addicks Reservoir flood pool within the current government owned land.
3. I support projects that will increase the safe conveyance rate of water out of the Addicks and Barker Reservoirs such as flood tunnel(s), diversion channels, channel improvements and/or bypass.
4. I support projects that will safely impound storm water upstream of Addicks and Barker Reservoirs to reduce peak water elevations in the reservoirs and keep the water level in those reservoirs within the government land.
5. I support a Flood Warning System to alert subdivisions adjacent to a reservoir of any potential flood pool that could exceed 103 ft elevation.
6. I am strongly opposed to extending the levees to hold more storm water within Lakes on Eldridge or any private property.
7. I support expediting the BBTRS but also the prompt and un-delayed undertaking of projects and controls (even modest projects) that are certain to safely reduce flood risk such as expanding the capacity of Addicks and Barker Reservoirs through soil excavation.

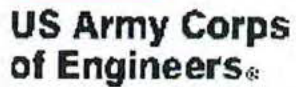
Thank you for your attention and consideration.

David W. Westphal

From: [Amanda Chancey](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment on Buffalo Bayou and Tributaries Resiliency Study
Date: Wednesday, May 29, 2019 9:59:17 PM
Attachments: [Buffalocomment 5434 Indigo St.pdf](#)

Attached please find my comments.

I am a resident in the Brays Bayou watershed, and don't want to see yet another flood in my neighborhood.
Amanda



Comment Form (Formulario de Comentarios Escritos)
Buffalo Bayou and Tributaries Resiliency Study

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This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

E-mail
Correo Electrónico _____

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

Don Paul Jones, 30 Stillforest, Houston, TX 77024 (713-823-5063)

USACE
Galveston District
P.O Box 1229
Galveston, TX 77553-1229
Attention: BBTRS

Ref: Buffalo Bayou Meanders – The case against Tunneling or Channel Shortcuts to Straighten out the Bayou

Dear Sirs:

My property at #30 Stillforest St along with my neighbor at #31 Stillforest St, is located on a Buffalo Bayou meander or point. I understand there is a study to determine the feasibility of cutting through the point by either a tunnel or a channel to straighten out the bayou to lessen flooding upstream.

My father built the house at #30 Stillforest St in 1955. Fortunately he built the house on the higher elevation of the point that was certified to be above the 100 year floodplain before Hurricane Harvey. I have lived there since 1991 and have witnessed the behavior of Buffalo Bayou throughout many storms and hurricanes.

My house at #30 Stillforest St is located on the highest elevation of our point where the rest of the point is much lower. The 2007 FEMA map showed my house to be in the bayou's floodway. We proved by survey that this was a mistake by whoever drew the map. In 2012 I received from FEMA a "Letter of Map Revision Floodway Determination Document (Removal)" It was determined by survey that if the house was not in the 100 year floodplain it could not be in the floodway.

Elevations on the point go from about 64' to 40' or lower as you go east across the point. When the elevation of Buffalo Bayou goes up during a typical hurricane or flood event (2015 Memorial Day Flood or 2016 Tax Day Flood), the whole point floods because of its low elevation. Our house at #30 Stillforest has only flooded one time since 1955. That would be the biggest rain event in the history of the United States, Hurricane Harvey when we caught the crest of the flood and had one foot of water in our house for 8 hours.

Page 2

Buffalo Bayou Meanders

I have witnessed many times that when the bayou rises due to any rain or hurricane event, the bayou, by its nature, cuts across and floods approximately 90% of the point.

WHAT WOULD BE THE SENSE OF TUNNELING OR DIGGING A CHANNEL ACROSS THE POINT TO STRAIGHTEN OUT BUFFALO BAYOU WHEN THE BAYOU DOES IT NATURALLY??? HOW MUCH WOULD YOU GAIN TO PREVENT FLOODING UPSTREAM?

Please see the attached documents.

I invite anyone interested in determining the validity of straightening Buffalo Bayou by cutting across meanders to inspect "Jones Point". Please call me at 713-823-5063 and I will show you the point and what happens during a flood.

Thank you,

A handwritten signature in black ink, appearing to read "Don Paul Jones", with a long horizontal stroke extending to the right.

Don Paul Jones
30 Stillforest St
Piney Point Village
Houston, TX 77024
713-823-5063
donpjones@gmail.com

Google Maps

#30 Stillforest



Imagery ©2019 Google, Map data ©2019 Google 100 ft

#31 Stillforest



Texas 249 Houston, TX



Kerrville TX

**Home**

30 Stillforest St, Piney Point Village, TX 77024



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Google Maps

HURRICANE HARVEY

Buffalo Bayou

Buffalo Bayou

Buffalo Bayou

Buffalo Bayou

Google

Map data ©2019 Google

50 ft

2015-FLOOD
2016-FLOOD
EVERY STORM BEFORE
HURRICANE HARVEY

🕒 Texas 249 Houston, TX

🕒 Kerrville TX

🏠 Home
30 Stillforest St, Piney Point Village, TX 77024

📍 Set a work address

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Search this area

80°



#31 Stillforest

05/26/2015 10:39

From: stmaunder@aol.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment for the Record: Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 6:58:24 AM

US Army Corp of Engineers, Galveston District

I am providing the following comments for consideration in the Buffalo Bayou and Tributaries Resiliency Study.

My home lies in the upper reach of the Barker impoundment area, "south of Fry and East of Peek". My home flooded in Hurricane Harvey.

I recommend that some amount of the study funds be expended on developing "off the shelf" response plans for the range of storms recently experienced.

Between 2015 and 2017, Houston in general and the Barker and Addicks watersheds in particular experienced three major rain events.

The storms varied in intensity with Hurricane Harvey >>>> Tax Day 2016 >> Memorial Day 2015. District responses and approvals varied as well.

I am not aware that any homes within the Barker confines were flooded by Tax Day or Memorial Day although it was close for Tax Day.

We all know that Harvey's deluge and the impoundment behind Barker flooded a multitude of properties. Recovery actions following Harvey, in particular channel desilting, were delayed by the regulatory process.

I don't believe I am alone in being frustrated by how long it took for silt excavation external to the reservoir to begin.

I am still frustrated that, so far as I know, such work on "government land" has not begun. Your glacial progress in this matter is unbelievable and unconscionable..

Delayed desilting still places upstream properties / residents being at a continuing higher flooding risk from lower intensity storms due to the choked channels.

I believe the time necessary for any near term response could be significantly shortened if these recent experiences are used to develop "off the shelf" plans.

The recent experiences can be used as templates for permitting and response actions. This should prevent "reinventing the wheel" for each event.

Having such plans available should also help dispel the perception and belief that the Corp sits on their hands and carries on as if no storm was experienced.

Thank you for providing an opportunity to provide comments on the scope of the Resiliency Study. Thanks as well for considering my recommendation for inclusion in the Study.

Respectfully submitted,

Thomas E. Maunder, P.E.
5918 Scarlett Bay Ct
Katy, TX 77450

From: [Kristin Lucas](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou
Date: Thursday, May 30, 2019 7:10:04 AM

Good Day,
My thoughts on Buffalo Bayou:

The rivers and beaches of Texas belong to the people of Texas. If the river (or the beach) shifts and changes the contours of private land, then this can result in a loss of land for the private owner, but the private owner takes on this risk and does not have the right to modify the river or the beach.

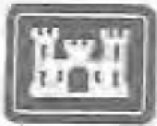
I do not want the private owner nor the state nor any government agency to prevent the river from doing what it would naturally do. Having natural rivers and natural areas (not jacked around via construction projects) is the best long-term course of action for the people of Texas.

Kristin Lucas
6739 Lindyann
Houston, TX 77008

From: [Jonathan Shear](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Flooding
Date: Thursday, May 30, 2019 8:01:35 AM
Attachments: [army corps.pdf](#)

My thoughts

Jonathan Shear



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

I DO NOT THINK ADDITIONAL WATER SHOULD BE ADDED TO THE BRAES BAYOU WATERWAY. THE CHANNEL HAS ENOUGH PROBLEMS HANDLING INFLOWS THAT OCCUR. ADDITIONAL WATER WILL EXAGGERATE THE PROBLEM. PROJECT BRAES WILL HAVE A LITTLE BUT NOT BEAT IT AS TO SOMEONE WHO LIVES DOWN STREAM, IN MARYLAND STATE, I REMEMBER THAT SHARP GROUND ON EAST BEND COUNTY DAMP WATER WITH DRAES & VEEBANS BAYOU. MY HOUSE FLOOD MEMORIAL DAY 2015 - WE SPENT 1,000,000.00 TO BUILD A NEW HOUSE, GOING UP 6' ON PIER & BORN WITH A CMA X-100. MY FLOOD INSURANCE DID NOT PAY SEVERAL - MY ADJUTANT WAS FOR A CASHIER. KEEP BRAES CURRENT - LET IT BE WILD FIGURE OUT THEIR OWN SOLUTIONS!

Name
Nombre JONATHAN STARR

Affiliation
Afilación homeowner

Address
Dirección de Envío 9707 CRENSHAW ST

City
Ciudad HOUSTON

State
Estado TX

Zip Code
Código Postal 77096

E-mail
Correo Electrónico JONATHAN.STARR55@gmail.com

832-684-4274

Additional information can be found at:

<https://www.swp.usace.army.mil/Missions/Projects/Buffer-Bayou-and-Tributaries-Resiliency-Study/>

From: [Vogler, Mark](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study Comments
Date: Thursday, May 30, 2019 8:21:52 AM
Attachments: [document.pdf@fortbendcountytexas.gov_20190530_081211.pdf](#)

Attached is Fort Bend County Drainage District's input for the Buffalo Bayou and Tributaries Resiliency Study.
Thank you for the opportunity to comment.



DRAINAGE DISTRICT

Fort Bend County, Texas

May 30, 2019
U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

To Whom It May Concern,

Thank you for providing the community and local governments the ability to submit input for the Buffalo Bayou and Tributaries Resiliency Study. As the local stakeholder with direct ties to our jurisdiction, we are well aware of the situation and issues our residents face. Many parts of the Buffalo Bayou were severely tested during Hurricane Harvey and with new rainfall data, it is expected that the frequency of this level of storm will only increase. We must do everything we can to help plan for that possibility and mitigate the risk to lives and property.

Over 50% of the homes that flooded in Fort Bend County during Harvey resulted from the pool elevations in Barker Reservoir extending outside the limits of the government owned land; therefore, Fort Bend County Drainage District recommend the following;

1. Provide increased conveyance capacity downstream of Barker and Addicks Reservoirs to allow continuous releases from the reservoirs. Improvements to facilitate increased downstream conveyance could be provided by channel clearing and/or excavation along Buffalo Bayou. Diversion channels, or similar functioning structures, constructed from the reservoirs to the ship channel would also be acceptable.
2. Increase the storage capacity within the reservoirs so that the reservoirs release rates and storage capacities are sufficient to contain the "Maximum Probable Event" within the limits of the Government owned land.
3. Construct structures to eliminate the impact of Cypress Creek overflows on the storage capacities and release rates of Addicks and Barker Reservoirs.

These are just three suggestions to help mitigate the problem that our communities faced during Hurricane Harvey and should be incorporated into the Resiliency Study. Some if not all of the suggestions help considerably in ensuring that our communities are better protected both in terms of lives and property.

If you require any further information or have additional questions, please do not hesitate to reach out to my office.

Respectfully,


Mark Vogler, P.E.

Fort Bend County Drainage District Manager

From: [Jim Stevens](#)
To: [CESWT-BRTS](#)
Subject: [Non-Dod Source] By pass Buffalo Bayou
Date: Thursday, May 30, 2019 8:34:07 AM

Its time to design and build an underground by-pass channel to drain Addicks and Barker reservoirs.

This has been the know solution for years.

Its also a way to save Buffalo Bayou and keep the environmentalists somewhat happy, since if its bypassed it can still maintain a percentage of flow and stay natural looking.

The technology exists to do this. Other cities have build drainage tunnels.

The only challenge would be avoiding and crossing the geologic faults.

[Blockedhttps://www.therobbinscompany.com/products/tunnel-boring-machines/](https://www.therobbinscompany.com/products/tunnel-boring-machines/)

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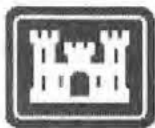
thanks,
Jim Stevens
10714 Cranbrook Road
Houston, Tx 77042

From: [Dessauer, Patrick](#)
To: [CESWT-BBTRS](#)
Cc: dessauers@yahoo.com
Subject: [Non-DoD Source] Comment Form - Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 8:45:06 AM
Attachments: [20190530083421618.pdf](#)

Patrick Dessauer

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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

My family and I have lived in Old Braeswood, a neighborhood that is part of the Braes Bayou Watershed just west of the Texas Medical Center, for over 20 years. During our 20+ years of living in Old Braeswood, we have experienced several major flood events. Although our home has so far been spared from floodwaters, on multiple occasions, flood water has gotten to within a few feet of our front door. Unfortunately, many of our neighbors closer to Braes Bayou have not been so lucky.

It has come to my attention that the ACOE is considering a plan to dig a trench to divert water from the Buffalo Bayou Watershed into the Braes Bayou Watershed to help mitigate future flooding in the Buffalo Bayou Watershed. I cannot see how anyone would see this is a logical thing to do other than those who want to simply pass on the flooding problems of one group of people to another. Clearly all that redirecting flood water from the Buffalo Bayou Watershed to the Braes Bayou Watershed will accomplish is increasing the likelihood of flooding neighborhoods boarding the Braes Bayou Watershed. While this may create some relief for the citizens living along the Buffalo Bayou Watershed it will do so at the expense of the citizens living along the Braes Bayou Watershed. This is patently unfair and misguided.

I urge the ACOE to look for more meaningful solutions that will actually address the real problem rather than simply diverting it to others. Certainly any plan the ACOE is considering should start with improve the levee system around the current reservoirs and the widening and deepening of the Buffalo Bayou Watershed similar to what is underway with the Braes Bayou Watershed. Anything short of this will simply be a band aid which will simply transfer the flood problems of one group to another.

Name
Nombre

Patrick Dessauer

Affiliation
Afilación

Address

Dirección de Envío

2338 BELLEFONTAINE STREET

City

Ciudad

Houston

State

Estado

TEXAS

Zip Code

Código Postal

77030

E-mail

Correo Electrónico

dessauers@yahoo.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Don Jones](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] WHY CUT ACROSS MEANDERS WHEN THE BAYOU DOES IT NATURALLY?
Date: Thursday, May 30, 2019 9:32:22 AM
Attachments: [2019_05_30_09_25_30.pdf](#)
[Meanders.docx](#)

USACE
Galveston District
P.O Box 1229
Galveston, TX 77553-1229

Attention: BBTRS

Ref: Buffalo Bayou Meanders – The case against Tunneling or Channel
Shortcuts to Straighten out the Bayou

Dear Sirs:

My property at #30 Stillforest St along with my neighbor at #31 Stillforest St, is located on a Buffalo Bayou meander or point. I understand there is a study to determine the feasibility of cutting through the point by either a tunnel or a channel to straighten out the bayou to lessen flooding upstream.

My father built the house at #30 Stillforest St in 1955. Fortunately he built the house on the higher elevation of the point that was certified to be above the 100 year floodplain before Hurricane Harvey. I have lived there since 1991 and have witnessed the behavior of Buffalo Bayou throughout many storms and hurricanes.

My house at #30 Stillforest St is located on the highest elevation of our point where the rest of the point is much lower. The 2007 FEMA map showed my house to be in the bayou's floodway. We proved by survey that this was a mistake by whoever drew the map. In 2012 I received from FEMA a "Letter of Map Revision Floodway Determination Document (Removal)" It was determined by survey that if the house was not in the 100 year floodplain it could not be in the floodway.

Elevations on the point go from about 64' to 40' or lower as you go east across the point. When the elevation of Buffalo Bayou goes up during a typical hurricane or flood event (2015 Memorial Day Flood or 2016 Tax Day Flood), the whole point floods because of its low elevation. Our house at #30 Stillforest

has only flooded one time since 1955. That would be the biggest rain event in the history of the United States, Hurricane Harvey when we caught the crest of the flood and had one foot of water in our house for 8 hours.

I have witnessed many times that when the bayou rises due to any rain or hurricane event, the bayou, by its nature, cuts across and floods approximately 90% of the point.

WHAT WOULD BE THE SENSE OF TUNNELING OR DIGGING A CHANNEL ACROSS THE POINT TO STRAIGHTEN OUT BUFFALO BAYOU WHEN THE BAYOU DOES IT NATURALLY??? HOW MUCH WOULD YOU GAIN TO PREVENT FLOODING UPSTREAM?

Please see the attached documents.

I invite anyone interested in determining the validity of straightening Buffalo Bayou by cutting across meanders to inspect “Jones Point”. Please call me at 713-823-5063 and I will show you the point and what happens during a flood.

Thank you,

Don Paul Jones
30 Stillforest St
Piney Point Village
Houston, TX 77024
713-823-5063
donpjones@gmail.com

Google Maps

#30 Stillforest



Imagery ©2019 Google, Map data ©2019 Google 100 ft

#31 Stillforest



Texas 249 Houston, TX



Kerrville TX



Home

30 Stillforest St, Piney Point Village, TX 77024



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Google Maps

HURRICANE HARVEY

Buffalo Bayou

Buffalo Bayou

Buffalo Bayou

Buffalo Bayou

Google

Map data ©2019 Google

50 ft

2015-FLOOD
2016-FLOOD
EVERY STORM BEFORE
HURRICANE HARVEY

🕒 Texas 249 Houston, TX

🕒 Kerrville TX

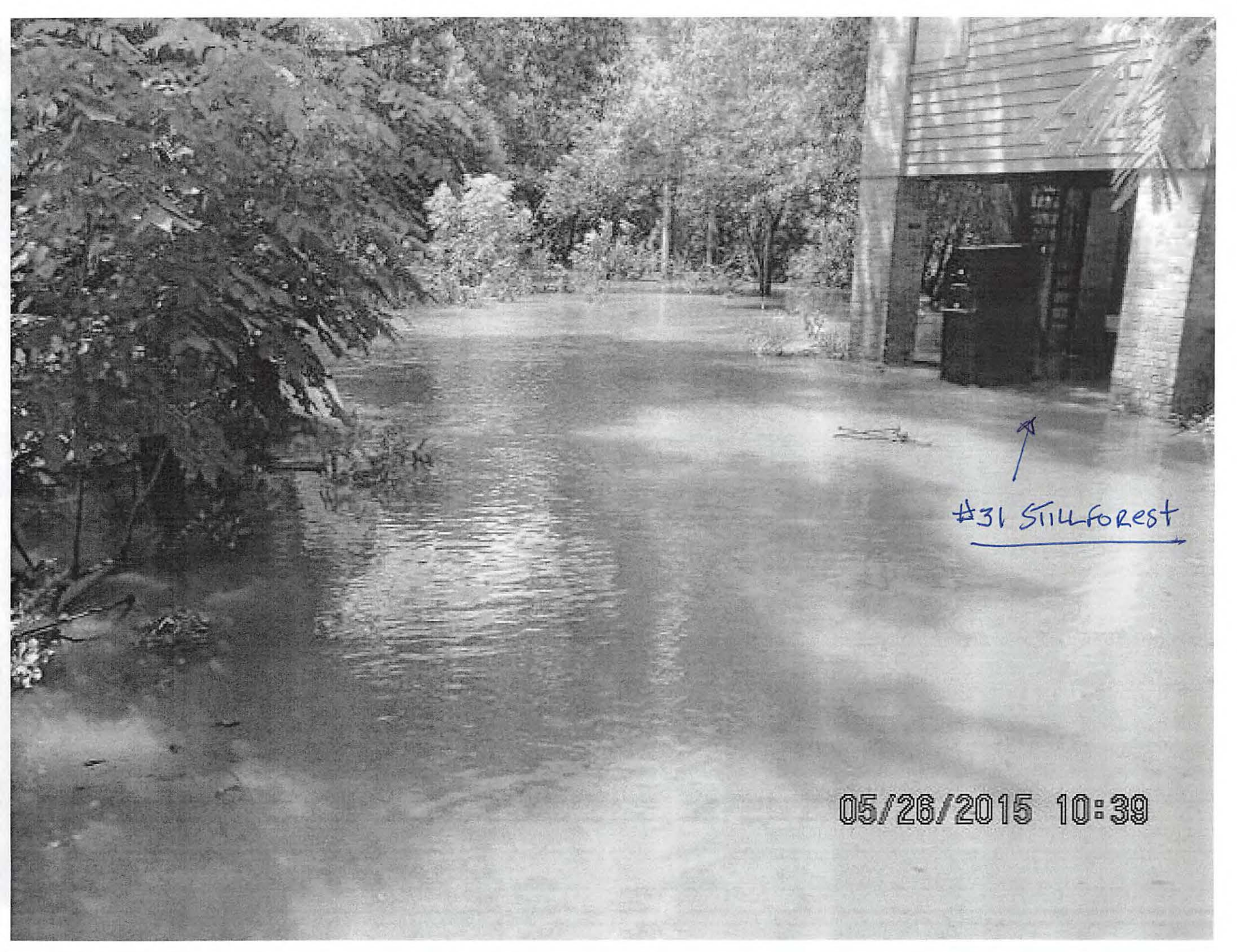
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30 Stillforest St, Piney Point Village, TX 77024

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#31 Stillforest

05/26/2015 10:39

From: [Darrell Campbell](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Barker Flood Prevention
Date: Thursday, May 30, 2019 9:49:10 AM

Dear Sir/Madam,

As a victim of the recent Barker Reservoir flooding, I support the following proposals to prevent this from happening in the future:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions I support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

I lost my house, my furniture, my vehicles, and most importantly, lots of pictures and memorabilia that can never be replaced. In addition to being displaced from my home for months, it cost me a large portion of my savings to repair the house. Additionally, the incident devalued my house and impacts my ability to sell.

I would appreciate it if you would consider the above proposals and moreover, prevent my property from being intentionally flooded again.

Sincerely,
Pamela T. Campbell

From: [Scott McCay](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments on Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 10:00:50 AM
Attachments: [Comments on Buffalo Bayou and Tributaries Resiliency Study.pdf](#)

To the U.S. Army Corps of Engineers:

Attached are our comments on the Buffalo Bayou and Tributaries Resiliency Study that we would like you to consider and implement to greatest extent possible. If you have any questions or would like some clarification, please notify me by email. It would be appreciated if you could acknowledge receipt of these comments by reply email.

Sincerely yours,

R Scott McCay

Comments on Buffalo Bayou and Tributaries Resiliency Study

Date: May 30, 2019

To: U.S. Army Corps of Engineers

We live upstream of the Barker Reservoir and our house did not flood during Hurricane Harvey, though the reservoir waters backed up into our yard. To mitigate future flooding events in this area, we think the U.S. Army Corps of Engineers (“Corps”) should excavate large areas of the Barker Reservoir to allow for more water retention. The remaining land level after the excavation should be about a foot higher than the typical groundwater level. The existing parklands and fields could be rebuilt after the excavation, though we realize that they might be flooded more frequently since they would be closer to the water table. This might also allow more wetlands-related vegetation to grow in the reservoir and attract migratory birds.

The removed dirt from the excavation should be used to dam the western, upstream portion of the reservoir to minimize a repeat of the Harvey flooding. This should be done, first, by ensuring that all residences that stayed dry in Harvey remain dry in future Harvey-type storms. Second, the upstream dams should protect the residences that were only minimally flooded. Third, the tributaries that lead into the reservoir should have their sides strengthened to avoid spillovers. Fourth, those tributaries’ connections to the reservoir might need some dams or devices that regulate flow into the reservoir and prevent backflow out from the reservoir.

Finally, those residences that were severely flooded and will likely be flooded again should be bought out for the price they paid for the houses, plus some equitable inflation factor for houses that are more than ten years old, or some other reasonable period. Those houses should then be demolished and incorporated into the buffer zone for the reservoir.

From: R Scott and Rebecca McCay
2018 Bendstone Circle, Katy, TX 77450.
Email address: scott_mccay@yahoo.com

From: wamique@aol.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source]
Date: Thursday, May 30, 2019 11:04:58 AM

Dear Sir/Madam

It has come to our attention that the Army Corp of Engineers (ACOE) has been conducting a \$6M federally funded study to mitigate flooding issues for the Buffalo Bayou watershed. We believe that is it not good use of public funds to divert water to Brays Bayou and place homes in the neighborhood at risk,.

We sincerely hope that someone will listen to our concern.

Yours sincerely

Wamique

Syed Wamique Yusuf
2325 Blue Bonnet Blvd
Houston
Tx 77030

From: [Maureen Glancy](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and tributaries resiliency study
Date: Thursday, May 30, 2019 11:23:58 AM
Attachments: [filename-1.pdf](#)

Please see attached comment form.



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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Dear Army Corps of Engineers,
I live in Old Braeswood.
I do not believe it is a good use of
public funds to divert water to Brays Bayou,
and place homes in this neighborhood at
risk.

Sincerely,
Maureen Glancy

Name / Nombre Maureen Glancy Affiliation / Afiliación _____
Address / Dirección de Envío 2325 Blue Bonnet Blvd
City / Ciudad Houston State / Estado TX Zip Code / Código Postal 77030
E-mail / Correo Electrónico maureenglancy3@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [o.state](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Input to BBTRS
Date: Thursday, May 30, 2019 11:30:40 AM

May 30, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229
BBTRS@usace.army.mil

Dear Sir/Madam:

Thank you for the opportunity to provide community input regarding the Buffalo Bayou and Tributaries Resiliency Study (BBTRS). I am a resident of the Lakes on Eldridge subdivision located adjacent to Addicks Reservoir and west of the Addicks northeast auxiliary spillway. I am also the Chairman Lakes on Eldridge (LOE) Community Association, Inc., Flood Mitigation Committee. The LOE subdivision contains 748 homes, many which flooded during hurricane Harvey.

After meetings with many interested parties, considerations of the reasons that upstream residents were flooded, and reviewing of proposed actions to mitigate future flooding risks, I have the following recommendations:

1. Expedite actions and BBTRS to implement projects and administrative controls to reduce flood pool risk to 'upstream' reservoir stakeholders. Understanding the study may extend into 2021 and project design/construction phases could take over and additional 15 years, please consider taking more immediate action that will reduce upstream flood pool risk, such as expanding the capacity of Addicks reservoir through soil excavation. In order to capture greatest benefit, I recommend the excavations begin along Langham Creek on the southern end of the reservoir and transition to the north and west to insure every cubic yard of soil removed will result in an equal volume of capacity increase.
2. Limit the Addicks Reservoir flood pool to the current government owned land.
3. Increase conveyance out of the Addicks and Barker Reservoirs such as flood tunnel(s), diversion channels, channel improvements and/or bypass.
4. Construct safe storm water storage upstream of Addicks Reservoir to manage Cypress Creek Overflow. Storage should be a minimum of 65,000 to 100,000 acre-ft and enable 4 to 6 weeks of storage (Addicks Reservoir held Tax Day (2016) storm water for approximately 11 weeks).
5. Implement meaningful upgrades to a Flood Warning System to alert subdivisions adjacent to a reservoir of any potential flood pool that could exceed 103 ft elevation.
6. Do not increase the Addicks Reservoir flood pool by extending spillways.

Thank you for your attention and consideration. I would welcome the opportunity to discuss these further with you.

Regards,

Kenneth Casey

From: [Carol Caul](#)
To: [CESWT-BBTRS](#)
Cc: [Susan Chadwick](#); [Ed Browne](#)
Subject: [Non-DoD Source] Comments: Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 11:35:34 AM
Attachments: [comments re BBTRS to USACE dated may 30 2019.pdf](#)

685 N Post Oak Lane
Houston TX 77024-4606
713-680-3931

May 30, 2019

USACE Galveston District
Attn: BBTRS
PO Box 1229
Galveston TX 77553-1229
BBTRS@usace.army.mil

Comments: Buffalo Bayou and Tributaries Resiliency Study Scoping Meeting: Feasibility Report

Dear USACE BBTRS Staff:

I submit the attached comments regarding scoping for the Buffalo Bayou and Tributaries Resiliency Study Scoping Meeting: Feasibility Report.

Best wishes,
Carol Caul, Esq
713-680-3931

685 N Post Oak Lane
Houston TX 77024-4606
713-680-3931

May 30, 2019

USACE Galveston District
Attn: BBTRS
PO Box 1229
Galveston TX 77553-1229
BBTRS@usace.army.mil

Comments: Buffalo Bayou and Tributaries Resiliency Study Scoping Meeting: Feasibility Report

Dear USACE BBTRS Staff:

I submit my comments regarding scoping for the Buffalo Bayou and Tributaries Resiliency Study Scoping Meeting: Feasibility Report.

Authorization Cited for the Study Gives Very Broad Latitude to the Corps; Updated Earmarks Are Needed To Secure Authorization Through Completion of the Study

I do not have a problem at all with another study, but the funding for it should be tightened up as an earmark.

The Corps should ask Congress to tighten up the authorization for this study much like the authorization for the Ike Dike. The authorization is very vague to have earmarked the sums of money needed for completion of the study and later execution of the program. We have had other studies re needed repairs for Addicks and Barker Cypress Dams.

Section 216 of the River and Harbor Flood Control Act of 1970 (Public Law 91-611), Dec 31, 1970, does not mention Harris County Texas, Buffalo Bayou, or the two dams. The project does mention a number of studies as authorized, but does not include Buffalo Bayou among the earmarked..

Flood Control Act of 1954, Public Law 83-780 does mention Buffalo Bayou, but it does not refer to funding for studies, and the sum mentioned is too low. Again, this should be clarified and or funds should be authorized in Congress.

BUFFALO BAYOU BASIN, TEXAS

The project for Buffalo Bayou and tributaries, to provide flood protection for the city of Houston, Texas, as authorized by the Flood
53 Stat. 1414. Control Act approved August 11, 1939, and previous Acts, is hereby
modified substantially in accordance with the recommendations of the
Chief of Engineers in House Document Numbered 250, Eighty-third

Congress, at an additional estimated cost of \$16,191,600. (This is not adequate and has probably expired.)

DEIS should be disaggregated from scoping and feasibility study and prepared when options are winnowed down.

First, this report should not focus on resiliency (recovery), but rather on prevention and your goal to identify water resources and opportunities. At this stage, we are scoping and we should not use this stage of scoping to come up with preferred alternatives and a DEIS. That is far too broad a task to be able to execute on a reasonable timeline. I would recommend something like “Scoping: Feasibility of acquisition of resources for prevention and resiliency”, then move from scoping to a reduced set of alternatives with USACE’s preferred projects.

It looks as if the USACE plan is to construct a combined Draft Feasibility Report and Environmental Impact Statement. I assume that will be a draft environmental impact statement which will involve picking preferred alternatives (there should be more than one) rather than a (final) EIS. Each channel can be evaluated for its own preferred alignment or route, but again with water, the cost of gravity vs pumping and combinations thereof must be part of the costing.

I am a very strong supporter of NEPA analyses, but I am not certain a feasibility report requires a NEPA analysis at this stage unless the Corps mean to use the Feasibility Report to describe competing alternatives and choose among them as an action plan. That will be too many options to choose among. I think combining the two operations—feasibility report and NEPA analysis—will be very cumbersome and will take much more time than doing the documents separately. A scoping study should be broad enough to allow looking at pros and cons of all options before reducing the scope to a DEIS appropriate point. In any event, the public needs to be able to comment on the DEIS which would be followed by an FEIS.

Third, if a NEPA analysis is done combined with the feasibility study, USACE should be lead agency. Harris County should be required to sign a certification that it will not allow land developers to influence its input and that it will actually construct its portion of the facilities on a timely basis.

Each proposed form of infrastructure should have a marked Area of Study.

Again, buttressing my comment that the scoping stage before scoping is narrowed to a few options is too broad and complicated to try to prepare a DEIS. Each area for which a dam or channel is proposed should have its own area of study, or at least separate the types of projects.

Land Use and Cost Issues; Land Developers

How the Corps plans to keep developers away from its infrastructure is a major problem. Land developers and bad local land use planning and regulations and enforcement thereof cause the US Government a huge problem. Land developers should have to pay a cost if they develop within the boundaries of a study area.

Land development and land use create a huge problem for the project. Unlike local flooding projects which can be designed and modified or enhance to a fairly short term, the large scale

projects the Corps is looking at must have an appropriate design year. For a large project such as dam modification, the design needs to be constructed for a design year.

Fourth, the DEIS must not omit Indirect and Cumulative Impacts. The NEPA analysis must also include indirect and cumulative impacts in addition to predictive modeling of land use and population for the design year.

Water Control Facilities:

Storage Facilities: Dams, Reservoirs, and Detention Construction

Should a New Dam or Dams Be Built?

New dam construction at a proper place and size is an idea I support.

New dams could go one of two ways, or both: We could build a single new dam to handle Cypress Creek and development around Cypress Creek, and/or a series of say 3 smaller dams near our other major tributaries. The smaller dams would allow us to hedge our land use and development and climate change issues.

Land and land options

Developers should be kept away. The siting should be done ASAP. Land acquisition should be financed sooner rather than later. The land can always be resold if a project is not built.

Operations cost, land costs, land availability, and usable storage are all issues for the feasibility study. These facilities should either be scalable and a 20 year design or not scalable and a 50 year design.

Existing Dam Modifications: Dam Safety Modification Evaluation (DSME) on the two dams.

The website information about dam safety modification indicates three primary problems to be addressed:

1. Flooding downstream of the reservoirs on Buffalo Bayou
2. Performance and risk issues related to flow around and over the uncontrolled spillways
3. Flooding upstream of the reservoirs

Design Year for Modifications to Addicks and Barker Cypress. USACE and HCFCD should confer as to what that period is, e.g. 20 years for modifications for Addicks and Barker Cypress. A 20 year design will require a forecast or prediction of the various rainfalls that might occur during that time.

Scalability. Whatever change is made for a 20 year design period, the dams must be modified to be scalable to be increased in size at the end of the 20 year period. This can be something like the ability to dig out more depth or increase the height of the dam walls.

In terms of indirect (both remote and future) impacts, climate must be considered in the design year. I firmly believe we have to protect ourselves against the extremities of **climate change**. (I prepared comments for Citizens' Transportation Coalition for the Ike Dike, February 2019, because many transportation and fuel issues are involved with coastal flooding: shipping, freight rail, hazardous fuels, and evacuation routes. This study does not implicate transportation directly, so I am preparing these comments as an individual.).

Our reservoirs should focus more on rain capture.

The dams must be modified to deal with more rain. Of course, we may run to the "Spreading Desert", which is a theory about lack of rainfall. But safety is a goal. It is much safer to build for more rain than less rain.

Pumping. Pumping facilities need to be available and should be used, as needed, as a substitute for lack of elevation and used extensively like it is used for agricultural irrigation. Pumps use a lot of electricity. There may be a basis for using distributed, renewable energy not dependent on the grid.

Equipment and staffing: Dams and major reservoirs should be equipped with redundant measurement and release systems and staffing redundancies. Software should aid in early notification of releases. There should be funding for NOAA personnel to communicate with on site COE staff who communicate daily with decision makers. Early warning and release metrics and protocols must be put in place.

Detention facilities. Harris County can develop systems for detention facilities management and drainage, but it must be subject to strong reporting and oversight. Bond practices should be reviewed.

Land Development Ordinances and Practices. The Corps does not have control over this issue. The joint feasibility study will have to include direct punishment such as withholding funds for development or indirect punishment such as suspension and debarment from participating in FEMA grants.

Harris County and its cities are at the whims of land developers. Nobody knows this better than the Corps, e.g. Cinco Ranch. The City of Houston is the worst. Council Members and the Mayor are really corrupt about land development. As long as the city and the county do not build in accordance with standards and conform to FEMA mapping standards rather than allowing for political horsetrading, variances and grandfathering Until HCFCD and City of Houston

Reservoirs and Water Storage Facilities to Store Fresh Water; Pumping Projects May Be Needed

If our population grows or if we get into water wars, we may need to use some of the facilities as a reservoir. With climate change, it can be hard to envision, but Houston's fresh water supply is not that secure.

With our flat rivers, it is hard to imagine using our local dams as reservoirs unless accompanied with fake elevation, i.e. pumping. I strongly support pumping of water, whether pumping water out of depressed freeways or for agriculture or for storing clean fresh water.

Water Conveyance Facilities:

Getting right to it, I do NOT support a channel to the Gulf. This might have worked 40 years ago, but I am skeptical now and in the 10-20 years it might take to build.

If we do have to do this, and I hope not, the project should be commenced upstream heading toward the Gulf. That way if the project has to be abandoned like a light rail construction might be stopped due to funding or political issues, the channeling built to date might be able to connect to a different tributary and be of some use. Of course, any digging could be covered and the land sold to land developers.

If you build one, it will need its own Ike Dike to stop mini storm surge and salt water incursion.

Land costs will be astronomical and much condemnation will probably be necessary.

It might be possible to build a series of interconnected channels to accomplish the same goal.

I support smaller channeling projects, and they can be complex and innovative. Channeling initiatives should be honestly evaluated with respect to effectiveness in our flat river environment. Channeling does not all have to be concreted especially if concrete does not friction where the water does not move. The Corps needs to decide what is more effective in terms of conveyance and in terms of environmental attributes.

Pumping should be considered rather than relying solely on elevation changes.

Drinking Water Conveyance Facilities:

Neither of the authorizations really cover anything specifically or in a great enough sum of money, so the study should be expanded to include drinking water conveyance. The city's drinking water compacts are not secure and are covered by state law which is mercurial. If we can spend billions building a ditch to the Gulf of Mexico, we can consider piping in water and storing it at a dam. I cannot imagine such a dam would provide a headwall for hydroelectric power or even recreational facilities, but the idea should be considered at least on a co-benefit analysis basis.

Coordination with City and County Stormwater and Drainage Infrastructure and Land Development

USACE should strongly urge the city and county to adhere to their stormwater and drainage ordinances and guidances, land development and planning. The Corps could discuss penalties for noncompliance. With noncompliance by local entities, more pressure is put on the Corps and Corps costs are increased.

Costs to the Corps due to noncompliance by local entities must be included as an indirect impact because the Corps will bear the ultimate responsibility.

Hurricane Harvey Resiliency

Resiliency is a good thing, but prevention and avoidance are better. There was a major study in place discussing needs for the dams. Why was the on the ground preparedness so bad?

The Corps had to make some horrible choices as a result of operations of Barker Cypress and Addicks. Why gauges failed and there were redundancies, why there was no operations manual or other training teaching the Corps what to do, why water was not released earlier, are all questions that have to be asked, and they are not intended as Monday morning quarterbacking.

The Dam Studies and Modifications Should Not Be Used As an Excuse To Avoid Legal Liability For Tucker Act Claims Arising Out of Hurricane Harvey. This Sort of Tactic Is Often Used In Harris County by Both the County and the City of Houston.

I do not like it, but we already had a dam study. The Corps should have had release and notification plans. The Corps should have had equipment and staff redundancies. Bad decisions were made. That is very unfortunate, but it is not an act of God.

I greatly appreciate the opportunity to submit comments at this stage of your scoping and look forward to further opportunities for public comment.

Respectfully submitted,
This 30th Day of May, 2019

/s/ Carol Caul
685 N Post Oak Lane
Houston TX 77024-4606
Ph: 713-680-3931

From: [Parisi, Terry](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Barker Flood Control
Date: Thursday, May 30, 2019 11:54:38 AM

To whom it should concern,

On behalf of the Barker Flood Prevention advocacy group and myself I won't to thank you for the time you have spent trying to relieve a bit of the concern myself and many of my neighbors have concerning the progress made in the solutions to flooding in the Katy/Fort Bend area. Below are the points discussed and studies to be considered. I understand it will take a while to commit to a solution. Meanwhile the community lives in a state of panic (PTSD) every time it rains. First and foremost the Buffalo Bayou from 99 and Peek to the Barker Reservoir need to be restored to the original depth. De-silting and restoring the banks should be a top priority before another storm like Harvey approaches the coast.

Our steering committee members also attended, and after careful consideration, have adopted the following recommendations:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Barker Flood Prevention has a membership and support base of more than 600 people. We expect that the Corps can rely on this substantial support base in addition to our steering committee and leadership when considering and valuing these recommendations.

We would welcome the opportunity to discuss these further with you.

Yours sincerely,

Terry Parisi

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<Blockedhttp://www.soarnet.com/images/TREC_1.pdf>

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Wire Fraud is Real. Before wiring any money, call the intended recipient at a number you know is valid to confirm the instructions. Additionally, please note that the sender does not have authority to bind a party to a real estate contract via written or verbal communication.

From: [Russell Rush](#)
To: [CESWT-BBTRS](#)
Cc: commissionercagle@hcp4.net; dwayne.bohac@house.texas.gov; matt.zeve@hcfcd.org;
joel.green@mail.house.gov; crenshawoffice@mail.house.gov
Subject: [Non-DoD Source] BBTRS - Public Comment from Harris County MUD 341
Date: Thursday, May 30, 2019 12:24:29 PM
Attachments: [HARRIS COUNTY MUD 341.docx](#)

To whom it may concern,

Please see attached letter from the Directors of Harris County MUD 341, providing comments and recommendations regarding the Buffalo Bayou and Tributaries Resiliency Study.

Thank you,

Russell Rush
President, Harris County MUD 341

HARRIS COUNTY MUD 341

c/o Schwartz, Page and Harding L.L.P.
1300 Post Oak Boulevard, Suite 1400
Houston, TX 77056

May 30, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229
BBTRS@usace.army.mil

Dear Sir/Madam:

Thank you for the opportunity to provide community input regarding the Buffalo Bayou and Tributaries Resiliency Study (BBTRS). I am the President of Harris County MUD 341 and a resident of Lakes on Eldridge, which is a community located adjacent to Addicks Reservoir and west of the Addicks northeast auxiliary spillway. You are probably aware that Hurricane Harvey flooded our entire community. As a result, over 225 homes flooded, causing massive evacuations of the majority of the residents.

For your consideration and action, the following recommendations are provided:

1. Limit the Addick's Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Addicks and Barker Reservoirs such as flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Construct safe storm water storage upstream of Addicks Reservoir to manage Cypress Creek Overflow. Storage should be a minimum of 65,000 to 100,000 acre-ft and enable 4 to 6 weeks of storage (note: Addicks Reservoir held Tax Day (2016) storm water for approximately 11 weeks).
4. Implement meaningful upgrades to a Flood Warning System to alert subdivisions adjacent to a reservoir of any potential flood pool that could exceed 103 ft elevation.
5. Do not increase the Addicks Reservoir flood pool by extending spillways.

In closing, please take action to expedite the BBTRS and implement projects and administrative controls to reduce flood pool risk to 'upstream' reservoir stakeholders. Understanding that the study may extend into 2021, please consider taking more immediate action that is factually known to reduce flood pool risk, such as

expanding the capacity of Addicks reservoir through soil excavation. In order to capture greatest benefit, I recommend the excavations begin along Langham Creek on the southern end of the reservoir and transition to the north and west to insure every cubic yard of soil removed will result in an equal volume of capacity increase.

From: [Iona Alphonso](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Addicks dam proposa
Date: Thursday, May 30, 2019 12:27:58 PM

I want to voice my displeasure and one for NO DAM on the Addicks reservoir since it will affect the area where I live. I flooded during Harvey and had NEVER flooded before. The proposed Addicks dam will make things worse for us here in Spring.

Thank you,

Iona Alphonso
19803 Broadhead Manor Dr
Spring TX 77379
281-704-7138

From: [Mohamed Shehata](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Barker reservoir flood prevention advocacy group
Date: Thursday, May 30, 2019 12:41:56 PM

Re:

Blocked<https://www.barkerfloodprevention.org/>

Blocked<https://www.barkerfloodprevention.org/assets/Barker%20Flood%20USACE%20Recommendation%20%2005162019.pdf>

Dear Sir/Madam:

On behalf of all landowners WITHIN the Barker Reservoir who were or were not flooded, and the Barker Flood Prevention advocacy group, I'd like to thank you for the opportunity to provide my input on future plans for Barker Reservoir flood prevention remediation.

My home was flooded during Harvey, and although it is just one in many tens of thousands, it has had a serious, long-term, emotional and financial impact on our family. I hope you will consider this in the grand scheme of things!

Here are my recommendations:

1. Please find a way to remove the stored water quickly using bypass tunnels or other means; of course, avoiding further flooding in downtown Houston. From the performance of the reservoir/dam during Harvey, it seems that the stored waters should be removed through a different path. A bathroom tub has an overflow system to prevent the water from reaching the floor and similarly, there ought to be one in this reservoir to prevent it from filling and backing up into our neighborhoods.
2. Increase the flow through the neighborhoods by dredging the bayous, so the water doesn't get high enough to breach them into our neighborhoods. Although dredging was done in Buffalo Bayou northwest of Peek and Fry roads, the section from Fry Road southeast to where the government-owned land starts, was not. This had a dramatic effect during the Dec 7, 2018 rainfall. Happy to hear that permission was given to dredge this section, although I do not know the progress. I have dramatic pictures with water just 18-24" below the bayou lip, the day before and after this deluge.
3. Increase the capacity of the reservoir on government-owned land, so that it can hold more water and not back up into our neighborhoods. An enormous amount of silt has collected further reducing the capacity of the reservoir. This needs to be dredged, just like the bayous.

I'm sure there are many things that can be done, but I believe just ensuring these three things, will essentially eliminate the catastrophe that happened on the upstream side.

Thank you for your time and effort in helping us retain the value of our investments and for keeping us safe.

Mohamed Shehata. MD FACP
Sent from my iPhone

From: [Carolyn White](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public Comment - Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 1:17:27 PM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[2019-05-30_USACE Comment Letter_BBTRS.pdf](#)

May 30, 2019

Andrew Weber, P.E, Study Manager
USACE Galveston District
P.O. Box 1229
Galveston, TX 77553-1229
ATTN: BBTRS

Email: BBTRS@usace.army.mil

Dear Mr. Weber,

Thank you for providing the opportunity to comment on the Buffalo Bayou and Tributaries Resiliency Study (BBTRS). As Conservation Director of Memorial Park Conservancy (MPC), and a fluvial geomorphologist formerly with the Harris County Flood Control District (HCFCD), I have a strong interest in preserving the natural Buffalo Bayou channel, while achieving site stability, water quality improvements, and public access.

MPC is a non-profit organization that manages 1,100 acres of Memorial Park that is bounded on its southern edge by a natural 3.8-mile segment of Buffalo Bayou. Over many decades adjacent landowners have installed structures to harden the edge of Buffalo Bayou, resulting in deleterious impacts to the natural streambanks. Addicks and Barker reservoir release schedules have also greatly impacted the slope stability by inducing sustained high flows and rapid drawdown. In addition, the last three major storms - Tax Day, Memorial Day, and Harvey - have exacerbated this streambank stress, resulting in extreme land loss. Memorial Park has experienced 20-50 feet of horizontal erosion on multiple entrenched streambanks ranging from 10-20 feet vertical relief. This amount of erosion and sedimentation within Buffalo Bayou has direct impacts to water quality, conveyance capacity, and dredging requirements for the Port of Houston.

MPC advocates addressing the flood damage reduction issues within the Buffalo Bayou watershed through 1) conveyance improvements using natural stable design principles and 2) appropriate siting and design of detention facilities, as outlined below.

Conveyance with Geomorphic Stability

Harris County Flood Control District (HCFCD) has invested much effort in developing a Natural Stable Channel Design Guidance Manual that outlines principles of fluvial geomorphology within a local flood conveyance framework. The USACE staff should work with HCFCD staff to incorporate those

guidelines into the BBTRS.

Channel instability and sediment transport issues are remedied through stream restoration that appropriately resets the bayou's:

- channel cross section – building bankfull benches; establishing connectivity to geomorphic floodplain
- longitudinal profile – establishing pool and riffle complex for effective transport of sediment and flow as well as habitat enhancement
- meander pattern – alleviating overtighten meander bends and establishing oxbow habitat

USACE should study the permitted Memorial Park Demonstration Project as an example of reach-scale stream restoration on Buffalo Bayou (SWG-2012-01007).

MPC also recommends that the USACE conduct a comprehensive geomorphic assessment and Watershed Assessment of River Stability and Sediment Supply (WARSSS) of Buffalo Bayou that follows up on the work of Harris County Flood Control District's Charting Buffalo study. The Technical Appendix from this study provides details regarding Buffalo Bayou channel stability, erosion rates, Bank Erosion Hazard Index (BEHI), sediment transport, habitat, as well as recommendations for conveyance improvements.

In looking at conveyance options that were presented at the BBTRS public meeting on May 8th, I noted that some type of bypass channel within the Memorial Park reach is being considered. USACE staff should note that Memorial Park Conservancy, along with project partners is implementing the Master Plan that was approved by Houston City Council in 2015. A large-scale project to construct bypass channels or tunnels within Memorial Park would cause damage to the park and its ecosystem.

In a 2016 Initial Biological Assessment, MPC consultants discovered a breeding population of a State-listed reptile, the alligator snapping turtle (*Macrochelys temminckii*). Because of this finding, distributional research of this species within Memorial Park and all of Buffalo Bayou has continued to augment information on the conservation status of the reptile.

Appropriate Detention

The effectiveness of flood damage reduction from a detention facility should be fully understood prior to advancing and publishing alternative information. Detention within lower watershed areas will not effectively remove structures from the floodplain. To address flood damage reduction within Buffalo Bayou watershed, it is more appropriate to look at areas upstream of the reservoirs and remove structures from the floodplain. Buyouts of properties inside the reservoirs and increased reservoir capacity are effective detention alternatives.

In the materials presented at the BBTRS public meeting on May 8th, I noted that a detention basin alternative is being considered within Memorial Park. USACE staff should be aware of the Memorial Park master plan implementation projects currently funded at \$205 million to be completed in the next nine years. Memorial Park is Houston's largest urban park with a truly unique ecosystem, as

well as state historic landmark status.

In reviewing the information provided in the public meeting, it seems that USACE staff are not familiar with Memorial Park, the 2015 Master Plan, nor its reverter-holder interests. I would be happy to meet with USACE staff to discuss the unique features of Memorial Park. In addition, I have a strong interest in USACE continuing to refine the geomorphic analyses that HCFCD started with the Charting Buffalo study and broadened with their Natural Stable Channel Design Guidance Manual. I would be happy to discuss or participate in fluvial geomorphology workshops or field tours. If you have any questions, or would like to discuss further, please contact me at: cwhite@memorialparkconservancy.org or 832-799-0955. Thank you.

Sincerely,

Carolyn White

Conservation Director

Memorial Park Conservancy

7575 North Picnic Lane, Houston, Texas 77007

832-799-0955 (Cell)

713.863.8403 (MPC main)

cwhite@memorialparkconservancy.org

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President & CEO
Shellye Arnold

May 30, 2019

Andrew Weber, P.E, Study Manager
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www.memorialparkconservancy.org



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The effectiveness of flood damage reduction from a detention facility should be fully understood prior to advancing and publishing alternative information. Detention within lower watershed areas will not effectively remove structures from the floodplain. To address flood damage reduction within Buffalo Bayou watershed, it is more appropriate to look at areas upstream of the reservoirs and remove structures from the floodplain. Buyouts of properties inside the reservoirs and increased reservoir capacity are effective detention alternatives.

In the materials presented at the BBTRS public meeting on May 8th, I noted that a detention basin alternative is being considered within Memorial Park. USACE staff should be aware of the Memorial Park master plan implementation projects currently funded at \$205 million to be completed in the next nine years. Memorial Park is Houston's largest urban park with a truly unique ecosystem, as well as state historic landmark status.

In reviewing the information provided in the public meeting, it seems that USACE staff are not familiar with Memorial Park, the 2015 Master Plan, nor its reverter-holder interests. I would be happy to meet with USACE staff to discuss the unique features of Memorial Park. In addition, I have a strong interest in USACE continuing to refine the geomorphic analyses that HCFCD started with the Charting Buffalo study and broadened with their Natural Stable Channel Design Guidance Manual. I would be happy to discuss or participate in fluvial geomorphology workshops or field tours. If you have any questions, or would like to discuss further, please contact me at: cwhite@memorialparkconservancy.org or 832-799-0955. Thank you.

Sincerely,

Carolyn White
Conservation Director

7575 North Picnic Lane

Houston, TX 77007

713.863.8403

www.memorialparkconservancy.org

From: [Anne Profilet](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study Comments
Date: Thursday, May 30, 2019 2:09:22 PM

Dear USACE Project Manager:

As a Braesmont resident near Brays Bayou who has experienced three major flood events (Tax Day, Memorial Day, Hurricane Harvey) and subsequent street flooding in relatively small storms (less than 3 inches), I adamantly oppose the proposed construction of a new diversion channel from the Barker Reservoir to Brays Bayou. We do not want to add any more water to the Brays Bayou Watershed under any circumstances.

Thank you for the opportunity to comment.

Anne Profilet

5322 Edith Street

Houston TX 77096

From: [Anne Olson](#)
To: ["bbtrs@usace.army.mil"](mailto:bbtrs@usace.army.mil)
Subject: [Non-DoD Source] FW: Buffalo Bayou and Tributaries Resilience study
Date: Thursday, May 30, 2019 2:19:22 PM

From: Anne Olson
Sent: Thursday, May 30, 2019 2:16 PM
To: bbtrs@usace.army.mil
Subject: Buffalo Bayou and Tributaries Resilience study

TO USACE Representatives:

On behalf of Buffalo Bayou Partnership (BBP), thank you for the opportunity to provide comments on the various materials that were presented at your agency's recent public meetings.

In the presented materials it was stated that increased conveyance is a primary alternative with channel capacity being one strategy. Please know that if increased channel capacity of any type is considered, the impact of increased water flow and possibly speed on the bayou's natural banks must be considered. Many areas along Buffalo Bayou are already suffering severe erosion, and this problem will only grow worse if USACE increases the speed and volume of the water. Both private and public land will be greatly affected. Of particular concern is Buffalo Bayou Park and areas downstream. Buffalo Bayou Park is a recently completed \$58 million project led by Buffalo Bayou Partnership. Because of Hurricane Harvey and other severe storms, our organization has spent millions of dollars removing silt and repairing bank failures in the park. The banks continue to be eroding and as a result, we are losing large swaths of the park's open space.

Another item cited in the materials presented at the public meetings is the modified operation of the dams. Currently, the operation of the dams results in extensive periods of elevated water after heavy rains, causing the submergence of low-lying plants along the channel. This cuts the plants off from sunlight and destroys them. This results in the toe of the natural banks being devoid of plants and deep roots which help stabilize the banks. The resulting unstable slopes, increased erosion and bank failures clogs the channel with silt and debris, and this greatly affects water conveyance.

Finally, increased storage capacity of the existing reservoirs and development of new reservoirs and detention basins can offer significant recreational and ecosystem benefits. Please keep the many multiple benefits that can be achieved with thoughtful planning and design.

Once again, many thanks for the opportunity to provide these comments.

Sincerely,

Anne Olson
President

Anne Olson

President, Buffalo Bayou Partnership
713.752.0314 ext. 102 / 713.223.3500 fax
aolson@buffalobayou.org
buffalobayou.org / [Facebook](#) / [Twitter](#)

Please mail to: 1019 Commerce Street, Suite 200, Houston, TX 77002

Buffalo Bayou Partnership is the non-profit organization revitalizing and transforming Buffalo Bayou, Houston's most significant natural resource.

From: [Bill Wilson](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 3:36:40 PM

Focusing on collecting and conveying more storm water faster—and destroying our natural landscape and drainage system in order to do it—only leads to more flooding. Dredging, deepening, and widening the bayou and other streams only leads to bank collapse, constant maintenance and repair, and more flooding. Preserving old stands of trees, natural swales, wetlands, oxbows, vegetated riparian areas, and meanders; building small weirs, sediment structures, wet gardens, and setback levees; lengthening streams, and accepting large woody debris in the channel are useful techniques. Using these practices to work with the natural motion of the river is more effective – and less expensive – in reducing flood damage.

Bill Wilson

5417 Floyd St

Houston, TX 77007

From: [Gary Reese](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resilience Study Comments
Date: Thursday, May 30, 2019 4:56:40 PM

Dear USACE Project Manager:

As a Braesmont resident near Brays Bayou who has experienced three major flood events (Tax Day, Memorial Day, Hurricane Harvey) and subsequent street flooding in relatively small storms (less than 3 inches). I adamantly oppose the construction of a new diversion channel from the Barker Reservoir to Brays Bayou. We do not want to add any more water to the Brays Bayou Watershed under any circumstances.

Thank you for hearing my comments.

Gary Reese
5334 Edith Street
Houston TX 77096

From: [Brenda Trevino](#)
To: [CESWT-BBTRS](#); [Maske, Craig \(Flood Control](#)
Cc: [Patino, Laura - MYR](#); [Byrnes, Rich](#); [Ruchhoeft, Richard](#); [Casebeer, David](#); [Spencer Chambers](#); [Bridget Elmore](#)
Subject: [Non-DoD Source] Comments from Port Houston on the 216 Buffalo Bayou and Tributaries Resiliency Study 5-30-19
Date: Thursday, May 30, 2019 5:05:08 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[Port of Houston Authority Comments on the Buffalo Bayou and Tributaries 216 Study_ 5-30-19.docx](#)

Andrew Webber/Craig Maske,
Attached is a one page document with comments from Port Houston regarding the Buffalo Bayou and Tributaries Study currently out for public comment. Port Houston would welcome discussion on any of the comments at your convenience.

We look forward to your reply and to working with you to incorporate management and mitigation of sediment specifically in the Houston Ship Channel Turning Basin and in the regional watersheds involved in this study either as the local sponsor of the Houston Ship Channel or with the recently formed sedimentation workgroup.

Brenda C. Trevino, PE PMP
Director, Technical & Business Analytics



E: btrevino@poha.com • PortHouston.com
O: 713.670.2470 • **F:** 713.670.2448 • **M:** 713.530.4538
111 East Loop North • Houston, Texas 77029



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Port of Houston Authority Comments on the Buffalo Bayou and Tributaries 216 Study

Provided in the spirit of cooperation on May 30, 2019

1. The Port of Houston Authority and the City of Houston should be on an advisory board for the project, to have the ability to provide input directly on the topic of sedimentation management.
2. The study should include evaluation of sedimentation of the waters being conveyed (the transportation and deposition of sediment).
3. The Study should include impacts to the Houston Ship Channel (HSC) that impact Houston region economics as well as area growth and jobs, as navigation continues to be impacted. Authorized draft in the HSC has not been available for over 4 years and continues to degrade with time. Due to the USACE process required to dredge the channel, a prior storm event is not mitigated in time for the next event. This is a continual issue that the Port Authority is not authorized to manage.
 - a. While the expenditures we have for emergency dredging may seem a relatively small few million dollars item, the real issue is avoiding commercial impacts of a few million *per day* of transportation cost impacts.
4. The Study should regulate sedimentation rates due to development. Previous attempts by Harris County and the City of Houston (collectively MS4s) to regulate sedimentation in Harris County have been opposed by specific local organizations that represent contractors and engineers due to the difficulty of controlling sediment loads on small parcels of land during development.
5. The study affords the ability to review policies on sediment at a more macro scale and to develop solutions that not only consider conveyance, but also the ability to reduce sediment loads on a macro scale created by micro elements; including, but not limited to construction activities, slope failures, the lack of vegetation, surface runoff, and other sediment sources.
6. Sediment Capture and Control (SCC) should be a design criterion/ consideration for any flood control or navigation channel project – not every project needs to incorporate a SCC feature, as in some cases the benefit cost analysis (BCA) may not justify it, but every project should consider it consistently and should act on the result as recommended.
 - a. Structural solutions like sumps, diversions, etc.
 - b. Vegetative solutions
 - c. Restorative measures for beneficial use sites utilizing the material removed
 - d. Other features to be investigated and placed in the tool box
7. Benefits should consider downstream savings – if SCC eliminates unit for unit volumes of dredging and increases DMPA longevity due to available capacity, these can be recognized as USACE benefits.

8. The plan for sediment control in the Study scope only includes areas west (upstream) of the reservoirs, in order to preserve storm water storage capacity downstream. Sediment control and transportation should be viewed systematically throughout every watershed in the Study, and especially the receiving end of the Study, the Houston Ship Channel.

Questions for Resolution in the Study

First, how is the Corps going to prevent damage to the Houston Ship Channel (water and sediment)?
(This may require regional/local projects, policy changes, partnering, the use of comprehensive views to our waterways and the movement of soil.)

Next, shouldn't the Study define a net-zero impact to water surface elevation criteria for new flood control projects that also includes the net-zero increase in soil deposition into our waterways?

The SCC Work Group

This group has formed to provide synergy around the topic of sediment management in our bayous and tributaries. This group includes participants from the Port of Houston Authority, The City of Houston, HCFCD and USACE. We are working to identify ways large and small to address this issue to make a difference in our communities and our region.

From: [Andrew Richardson](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou Flooding Study input
Date: Thursday, May 30, 2019 6:29:13 PM

I was affected by the flooding when the dam was released at Addicks and Barker reservoir.

My proposal is to lay a pipeline at the base of the existing bayous (Buffalo specifically). It would be below the waterline so would be invisible to the general public, and would not need an expensive land purchasing or excavation

In times of need, this pipeline would be used to pump excess water from the reservoirs out to the ship channel. With pumps and a bit of local oil and gas know how, the pipeline would be able to shift water out to the ship channel much more rapidly than relying on the regular flow of the bayou.

It would look good, it would be inexpensive (relatively speaking), it would use Houston expertise, and it might even be a patentable design for use in other urban areas

thanks
Andrew Richardson

From: [Max Altorfer](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study - My Comments and suggested Proposal
Date: Thursday, May 30, 2019 6:47:57 PM
Attachments: [Buffalo Bayou Study - My Comments and Proposal.pdf](#)

Please find attached my Comments and Proposal to the area of Fry Rd. and Westheimer Pkwy. in Katy.

I appreciate any improvement to the Barker Reservoir Flood Area.

Sincerely,
Max Altorfer
21807 Cinco Blvd.
Katy, TX 77450
e-mail: maxaltorfer@gmail.com



US Army Corps
of Engineers®

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

Barker Reservoir - Katz Area

- Proposed Protection of the Residence Area east of Fry Rd (plus Area west of Fry Rd) and south and north of Westheimer Pkwy.

- Proposal to install a dam (Levees) to limit the Barker Reservoir Flooding Area.

The Westheimer Pkwy. has to be elevated in order to cross over the dam.

See attached Google Maps with Mark-ups.

5/30/2019

M. Altorfer

+ 2 attached Maps

Name / Nombre Max ALTORFER

Affiliation / Afiliación /

Address / Dirección de Envío 21807 CINCO BLVD

City / Ciudad Katz

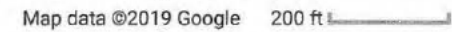
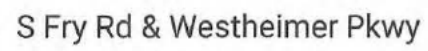
State / Estado TX

Zip Code / Código Postal 77450

E-mail / Correo Electrónico maxaltorfer@gmail.com

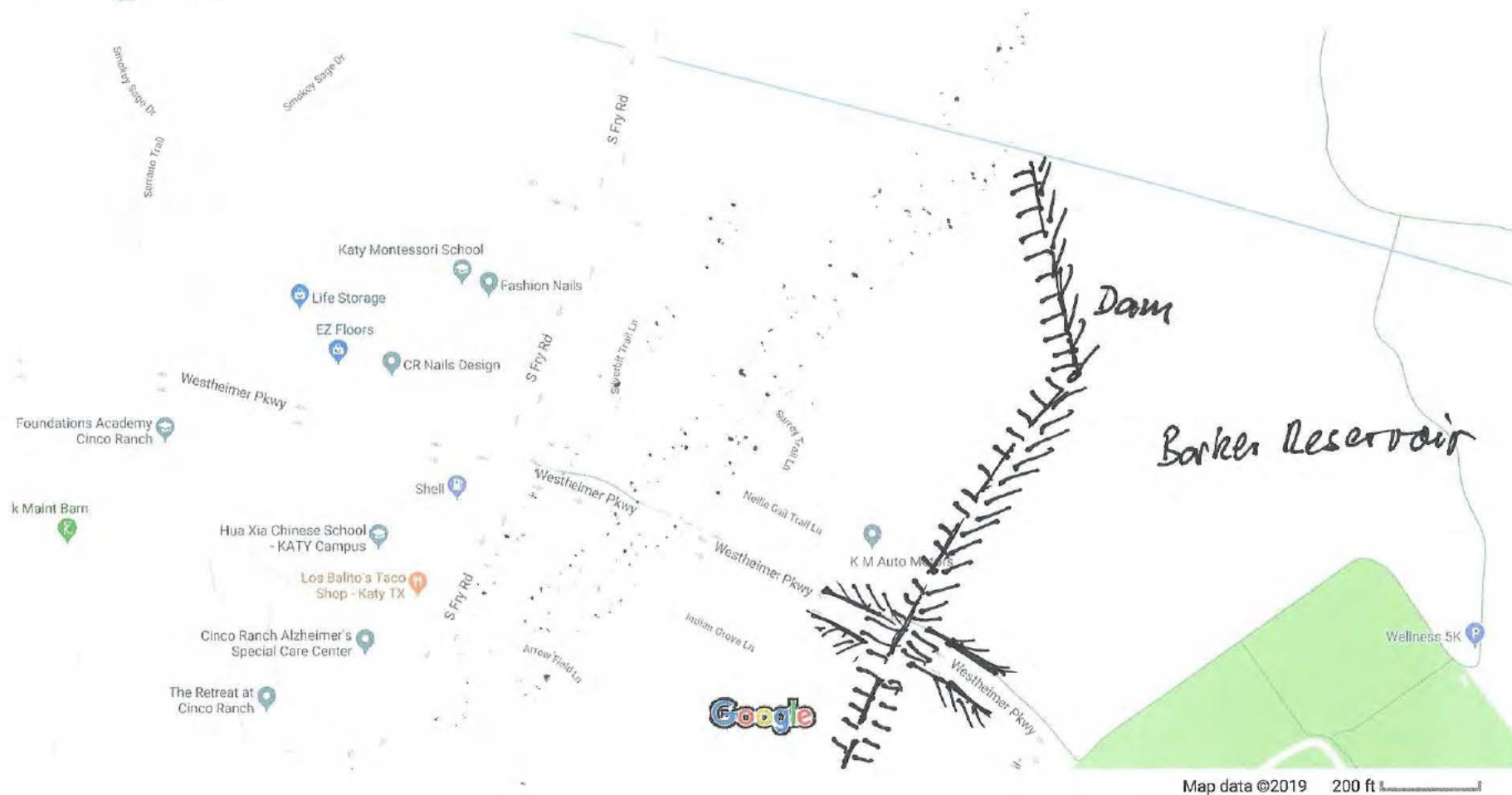
Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



5/30/2019 M. Chaf

Google Maps



South Fry Road & Westheimer Parkway Texas

2911 Norwood Hills Drive Katy, TX

5/30/2019 M. Anfer

From: [Leola Ross](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] re: the Buffalo Bayou and Tributary Resiliency Study
Date: Thursday, May 30, 2019 7:55:25 PM

Dear Sir/Madam:

Thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. I attended this meeting, and my husband and I have attended several meetings over the past 18 months in order to be educated and informed on the problems, issues, and possible solutions for mitigating future devastating floods in our area.

I wholeheartedly endorse the recommendations of the Barker Flood Prevention advocacy group, which are to:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Additionally, while I understand the necessity for conducting a thorough study, I cannot help but ask the following: Why don't you immediately initiate the following, OBVIOUSLY-NEEDED action : (SEE ITEM #4 above) **restore the original capacity and conveyance within the Barker and Addicks Reservoirs.**

These reservoirs are full of silt. Their effectiveness is compromised. This is obvious. No one needs a study to determine this fact. Excavating and de-silting should be done regardless of the outcome of the study. Please request funding immediately to do this work.

Yes, I have flood insurance, and have had flood insurance ever since moving to Katy in 2008, although we were told it wasn't necessary.

Now, I also have an Aqua-Dam system to protect my home. My neighbors do not, and I dread seeing them have to renovate their homes again. It will be heart-breaking.

I, fortunately/unfortunately, have acquired enough knowledge and information since being flooded during Harvey, that I have no confidence that any governmental entity will help me.

Nevertheless, I do appreciate the opportunity to provide input for your study. I would rather see immediate action.

Sincerely,

Leola Ross

22402 Piper Terrace Ln

Katy, TX 77450 (Fort Bend county, Precinct 3)
tel. 281-579-7998

From: [Kelli Nottingham](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Cypress Creek flooding concern area
Date: Thursday, May 30, 2019 8:02:57 PM

Hello. I would like to submit a concern about Cypress Creek flooding for your Buffalo Bayou and Tributaries Resiliency Study.

My neighborhood is Enchanted Oaks Subdivision, located on the west side of I-45 just north of Cypress Creek (in Spring, TX), and was flooded terribly during Hurricane Harvey, due primarily to direct flooding from Cypress Creek as it overflowed its banks.

Since the hurricane, a large forest between my neighborhood and Cypress Creek has been completely cleared, and huge quantities of dirt have been trucked in to build up the ground levels on that property. The cleared land is now around 4-6 feet higher than it was before the hurricane, dwarfing the level of the street.

Many of us in the neighborhood are concerned, since we already had significant flooding during Harvey due to floodwaters flowing from the creek and along the streets into the neighborhood. Now there is an even higher ground elevation and no forest to absorb that water, leading many of us to suspect that any future flooding will be even worse due to runoff. This is especially true if (when) a business buys the property and builds or paves over the ground.

Thank you for your attention. Please feel free to reach out to me if you need any clarification.

Kelli Nottingham
kelli_nottingham@hotmail.com

From: [Mark Gredell](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributary Resiliency Study
Date: Thursday, May 30, 2019 8:12:34 PM

June 30, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

I am writing in response to solicitation of comments from the public on the scope of the Buffalo Bayou and Tributary Resiliency Study. I am a resident of a home built in 2000 and located inside the Barker Reservoir (at 21807 Hollow Field Lane, Katy TX 77450). Our house was flooded during Harvey with 2 feet of water in the house for approximately 4 days.

As a geological engineer by profession, I certainly appreciate the complexity of the task in investigating potential solutions to preventing catastrophic flooding both upstream and downstream of the Barker and Addicks Reservoirs. In my understanding the downstream urban development along Buffalo Bayou has resulted in major changes in the operations of the dams from their original design, for example significant reduction of maximum release rates from the reservoirs, higher storage levels and impoundment time in the reservoirs, and changes in normal rain event and emergency operations. Many of these changes have increased the risk of higher reservoir levels and upstream flooding above the limits of government owned lands (GOL) within the reservoirs.

Specifically I support any projects which would help restore or at least come closer to the original design and operation of the reservoirs, including 1) modifying the dam operations and emergency release conditions (including higher releases *during* rain events and not just at specific reservoir levels), 2) increasing the drawdown rate of the Barker and Addicks Reservoirs through flood tunnels, diversion or bypass channels, or other channel improvements both upstream and downstream, 3) increasing the capacity of the reservoirs within the limits of the GOL (excavations), 4) new levees or new levee system within the Barker Reservoir at or near the GOL limits to protect upstream properties.

Aside from the possible technical solutions, I fully appreciate the fact that the original design intent of the reservoirs was to prevent downstream flooding. However no one at this point can reverse the decades of urban development downstream of the dams that has dictated the changes in the original design and operation of the dams, except perhaps with downstream property buyouts, which seem to be an impractical and contentious solution. For the same

reasons as those opposed to downstream buyouts, as an upstream resident I am opposed to property buyouts to remove the upstream neighborhoods above the limits of government owned lands (GOL). If property buyouts become a viable solution, my request is that a fair and equitable distribution of buyouts be applied to both upstream and downstream properties.

Thank you for the opportunity to comment on the BBTRS.

Sincerely,

Mark Gredell

21807 Hollow Field Ln

Katy, TX 77450

cell 713-204-1689

Resident of Cinco Ranch, Saddlebrook Crossing neighborhood in Barker Reservoir

From: [Ray Lamborn](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo-Bayou Study Feedback
Date: Thursday, May 30, 2019 8:54:05 PM

As a 7 year resident living within 500 yards north of Cypress Creek, I have witnessed a “near-flood” during 2017 (tax-day) and a dramatic community-wide flood in 2018 (Hurricane Harvey) that impacted 180 of our 330 homes in Lakes of Cypress Forest. In both cases, Cypress Creek exceeded it’s banks and began flowing directly into our (18 acre) retention pond that is parallel to the creek – both events resulted in dozens of truckloads of sand deposited in our retention pond. As this property is privately owned, the homeowners cumulatively spent over \$125,000 to clean-up the public areas, in addition to their own private home damage. The Seals Gully is along our eastern border and drains into Cypress Creek – this gully begins to back-up when Cypress Creek cannot drain fast enough and this resulted in flooding on our east side homes as well as the street closure of Cypress Creek.

I have attended 1 of your Army Corp presentations on this subject and my feedback is as follows:

- There must be no bottlenecks for rain water drainage - starting at the watershed until it reaches the Gulf of Mexico
- A recognized bottleneck on Cypress Creek is at I-45 north, which is only 1 mile from our community. This MUST be addressed ASAP.
- If a levee is placed between the Cypress Creek watershed and the Addicks-Barker reservoirs, there will be ~40% MORE water trying to drain through Cypress Creek instead of going to Addicks-Barker reservoirs. This will create more flood damage, more often, and on a wider scale.
- The commercial and residential development throughout the watersheds need to consider the impact on the downstream communities – there should be a “new development” tax that is large enough to cover the downstream changes required as a result of the new development. I would imagine this type of tax will also discourage the accelerated pace of development that reduces our wetlands acreage and natural groundwater drainage.
- The “canal” the Army Corp of Engineers envisioned/proposed in the 1950’s to drain water from west Houston to the Gulf of Mexico must be revisited – maybe underground tunnels could replace above ground canals? Our existing natural waterways cannot handle the rainwater we are receiving unless the rainwater is under 4-6 inches at a time.

We are counting on your wise recommendations to literally save lives, maintain our communities, and keep our local business economy viable.

I am serving my second year as a Director for the Lakes Of Cypress Forest Community Association. My contact name and address is:

Raymond K. Lamborn
2715 Randal Lake Lane
Spring, Tx 77388
raylamborn@gmail.com
713-304-5526

From: [Jerry Helfand](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Feedback on Flood control options for Buffalo Bayou & Braes Bayou, Houston
Date: Thursday, May 30, 2019 9:11:51 PM
Attachments: [190429 BBTRS Public Meetings.pdf](#)

I heard about the presentation to the Braes Bayou Association after the fact. After reviewing it online, I have some concerns:

- 01 1) I just saw a presentation by a grad student that shows that the Braes Bayou watershed is larger than previously published. Assuming he hasn't made large mistakes, this may necessitate a change to flood risk assumptions. Hopefully, the USACE will use the latest elevation data, including current changes being made to Braes Bayou, for its flood modeling.
- 02 2) As much as I want my local flooding risk to be reduced, I worry more about the tunnels, as illustrated, causing more flooding along the industrialized part of Buffalo Bayou (the Houston Ship Channel) which includes a lot of industrial sites containing hazardous materials. Hopefully, downstream risks are also being evaluated.
- 3). As I write, I have to admit that I don't exactly understand all the options. Are there web links that describe them in greater detail?
- 4). Have you presented to the Harris-Galveston Area Council?

Regards,
Jerry Helfand
(Living 0.3 miles south of Braes Bayou, within the 100 year flood plain)

Blocked <https://www.swg.usace.army.mil/Portals/26/190429%20BBTRS%20Public%20Meetings.pdf>

Sent from my iPad

From: [Margaret Sweeney](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 9:19:56 PM

Dear To Whom It May Concern:

I am strongly opposed to the idea of diverting water from the Barker Reservoir to the Brays Bayou watershed. I have lived in Meyerland for fifty-seven years. The bayou has always flooded occasionally, but recent floods have been catastrophic. We had three severe floods in three years and then Harvey, which devastated the area.

We do not need overdeveloped West Memorial's water. Buy land there and dig a lake. Better yet, reverse the development of Katy Prairie.

Sincerely,
Margaret Sweeney
5522 Grape
Houston TX 77096

From: [nick singleton](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Oppose Barker Cypress diversions to Braes Bayou
Date: Thursday, May 30, 2019 9:42:35 PM

Gentlemen- I am writing to vehemently oppose the plan being studied to potentially divert storm water runoff from Barker Cypress Reservoir into Braes Bayou!

Have you completely lost your minds??

The Braes Bayou watershed has suffered 3 devastating out of bank flood events during the last decade and is still trying to recover from the flood losses caused by Harvey! Moving water from one flood prone area into another is an extremely poor idea and no solution at all!

I strongly urge the COE to discontinue this ill conceived plan!

Sincerely
Nick Singleton
5522 Grape St.
Houston, Texas 77096

-01

From: [Julie Cohn](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Thursday, May 30, 2019 10:29:09 PM

-01

Greetings. Please add this message to your public comments on the proposed study of flood risk mitigation options for Buffalo Bayou. I live a block and a half away from Brays Bayou and I have witnessed high water and bayou overflow during numerous storms over the past 26 years. I must say quite simply that it would be the height of folly, and disingenuousness, for the Army Corps of Engineers to decide that the best plan for protecting property in the Buffalo Bayou Watershed is to divert water to the Brays Bayou Watershed. Residents of the Brays Bayou watershed have suffered enough. Surely you can engineer solutions to our region's flood control problems without increasing the risk to a significant population in order to minimize risk to our neighbors to the north. I strongly urge you to eliminate this option from your study and focus instead on comprehensive solutions that take into consideration the challenges faced by all residents in the region.

Thank you for the opportunity to share my perspective.

Sincerely,
Julie Cohn, Ph. D.

Julie Cohn, Ph.D.
Research Historian, Center for Public History
University of Houston, 315 McElhinney Hall
Houston, TX 77204-3007
cohnconnor@gmail.com <<mailto:cohnconnor@gmail.com>>

Author: The Grid: Biography of an American Technology (MIT Press, 2017)
Blocked<https://mitpress.mit.edu/books/grid>

From: [chadwick.sullivan](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Flood control on buffalo bayou
Date: Thursday, May 30, 2019 11:02:12 PM

-01

Easiest way to reduce flooding is to widen the bayou inside beltway 8, allowing for a larger flooding area and more area for the bayou to flow. Any improvements made upstream of beltway 8 will have negligible effects without opening up the bayou inside the beltway.

Sent from my iPhone

From: [Jennifer Claridge](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Future Flood Mitigation Options
Date: Thursday, May 30, 2019 11:02:56 PM

My expertise comes from simply being a lifetime Houston resident. I live in Meyerland, my home flooded 3 times in 27 months, most recently from the 5 feet of water Harvey put in it = and I am still not home. I also grew up at Memorial and Hwy 6. Between the 2015 and 2016 floods we stayed in that home for 16 months - it was not an option once the dam release emptied water directly into the home. Needless to say my parents have moved after 40 years there.

- 01 | I care about the city and it needs to be livable and a viable place to live and work. Another dam that is just going to end up being developed (who builds in a flood pool?) like Barker and Addicks, or release flooding streets like Tax Day or homes like Harvey, is not the answer. Honestly I do not think it would have helped the widespread flooding we had in Harvey. It would have maybe kept the Corp from thinking it needed to release when it did, but the rest of the city had flooded already. Another reservoir will not stop that. (I know every storm is unique but they nonetheless flood Meyerland).
- 02 | Clearing and widening the channels - besides imminent domain issues, the bayous have been straightened, paved, widened, cleared....we keep flooding. It is not going to help enough. Water seems to overtake the improvements time and time again.
- 03 | The best answer is the underground tunnels like those in San Antonio. It is no more expensive than the other plans, doesn't move the water to cause a problem for someone else, no imminent domain issues. It is the only way to make Houston viable and livable.

From: [Michael Huffmaster](#)
To: [CESWT-BBTRS](#)
Cc: [Weber, Andrew R CIV USARMY CESWG \(USA\)](#)
Subject: [Non-DoD Source] BBTRS Comments
Date: Thursday, May 30, 2019 11:18:04 PM
Attachments: [BFSN Buffalo Bayou and Tributaries Resiliency Study comments.1.pdf](#)
[Buffalo Bayou Bridges and Oxbows.4.pdf](#)
[5.21.19 Buffalo Bayou Advocates-MAH7.pdf](#)

May 30, 2019

U.S. Army Corps of Engineers Galveston District

BBTRS@usace.army.mil

Attn: BBTRS

P.O. Box 1229

Galveston, TX 77553-1229

Dear Sir/Madam:

Please find enclosed comment letter for the Buffalo Bayou and Tributaries Resiliency Study. It is very much appreciated that USACE presented the study material and story boards to the community and especially that public input was period extended to end of May with public comments and input graciously invited and considered.

Thank you,

Michael Huffmaster

President BFSN

Attachments: BFSN Buffalo Bayou and Tributaries Resiliency Study
Comments.1.pdf
supporting attachments: presentation 5.21.19 Buffalo Bayou Advocates-MAH7.pptx
discussion document Buffalo Bayou Bridges and Oxbows.4.pdf.



Virus-free. Blockedwww.avast.com

May 30, 2019

U.S. Army Corps of Engineers Galveston District

BBTRS@usace.army.mil

Attn: BBTRS

P.O. Box 1229

Galveston, TX 77553-1229

Dear Sir/Madam:

On behalf of Briar Forest Super Neighborhood, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on May 2. We were pleased with the community response and hope it will provide valuable input.

Our infrastructure committee members offer following comments and recommendations:

- 01 | 1. Improve and channel conveyance and capacity downstream of Addicks/Barker Reservoir. Development in the non-impounded watershed often has little or no detention and has increased peak flow rates to levels pre-Addicks/Barker. Options to consider include :
 - Selective Channel Improvements between Beltway 8 and Shepherd, in particular restriction removal and bypass (oxbow or bridge bypasses, bridge elevation or bridge channel opening – please see presentation 5.21.19 Buffalo Bayou Advocates-MAH7.pptx and Buffalo Bayou Bridges and Oxbows.4.pdf)
 - Flood Tunnel: Addicks/Barker to Ship Channel with connection at BW-8 and I-610
 - Implement the north canal bypass at Buffalo Bayou /White Oak confluence – to protect downtown from other conveyance improvements.
- 02 | 2. Work with City of Houston and Harris County to provide detention downstream of Addicks and Barker, especially in non-impound areas of Clodine and I-10 and Brittmore (east face of Addicks to BW-8) as these contribute significantly to peak flow in Buffalo Bayou.
- 03 | 3. Add intermediate detention/retention capacity upstream of Barker and Addicks Reservoirs especially utilizing natural prairie features providing ponding and detention along natural tributary channels.
- 04 | 4. Add capacity within Barker and Addicks Reservoirs through selective excavation in the reservoirs.
- 05 | 5. Manage Cypress Creek with infrastructure through a combination of solutions such as detention in northwest section of the watershed and channel conveyance improvement which will reduce overflow to Addicks
- 06 | 6. Utilize nature based and natural solutions including acquiring undeveloped lands on the Katy Prairie to hold runoff, promoting ponding, evaporation and percolation.

We would welcome the opportunity to discuss these further with you.

Yours sincerely,



Michael Huffmaster

Briar Forest Super Neighborhood President

Infrastructure Committee:

Michael Huffmaster, Kathy Clark, Judson Bryant, Fred Graves, Selim Shaker, Dean Barnes

Buffalo Bayou Bridges and Oxbows

for USACE Buffalo Bayou Tributaries Resiliency Study

Summary of Proposal for Conveyance Improvement

This document addresses reducing flooding along Buffalo Bayou by improving conveyance. This would be achieved by improving bridges which interfere with flow and also by installing high-flow bypass - supplemental pathways for stormwater at selective oxbow bends in Buffalo Bayou. This approach - flow bypasses - can be high benches or buried big-box culverts to carry floodwater across the necks of oxbow bends - and could be adopted now. It could be done in an environmentally sensitive way and could be carried out in phases, as budgets allow. This notes accompanies a presentation (5.21.19 Buffalo Bayou Advocates MAH7.pdf)

The entire bayou does not need rectification. There are over 33 bridge crossings and 20 oxbows which restrict flow in a 100-year event. Much improvement can be realized by focusing first on five low bridges and ten-or-so oxbows. The work can start downstream and work its way upstream to minimize adverse impact -- beginning with the planned North Canal downtown and working westward toward I-610, Memorial Park, the villages and west to Beltway 8. Improving conveyance in this way will reduce back water level and reduce flooding along the entire length of Buffalo Bayou.

Reducing the hydrologic profile of bridges is familiar technology, increasing channel cross-section at the bridge or elevating structure out of water flow path. Our idea for supplemental stormwater pathways at oxbow bends is a long also an established practice but this selective application warrants explaining

Meanders in the bayou between Beltway 8 and Shepherd worsen flooding, especially from Gessner westward to Highway 6, where about 10,000 homes flooded during Harvey. This does not propose to do away with the meanders for they are key to Buffalo Bayou's natural feel. We just want to make them work better. Our proposal involves letting the bayou flow normally around meanders at normal water flow, when it is not swollen with floodwaters. What we propose is to bury big-box culverts across the necks of oxbow bends at an elevation above normal water levels - call it flood level. When stormwater swells the bayou above normal levels, these culverts would provide a bypass, or for excess flow.

To smooth the implementation of this approach, we are searching for oxbow bends that appear unplatted to any owner. In addition to sites already publicly owned, such as those in Memorial Park or at Beltway 8, unplatted sites would be easiest to access first because they would not require ROW purchase via eminent domain. Even at sites where rights to private land need to be negotiated, the amount of ROW needed is limited, basically a stretch cutting across the "base" of the oxbow, and would be pursued with willing property owners. These proposed culvert paths vary in length from 300 feet to 1,500 feet. We are not talking about digging the Houston Ship Channel here!

There are many benefits to this approach. It can be done while preserving the existing meanders in the bayou. And once the high-flow big-box culverts are buried, the land above them can be restored to previous uses - as golf course fairways, hiking paths, private backyards or simply undeveloped greenspace. Improving Buffalo Bayou stormwater conveyance in this way would mitigate erosion, since velocity on the wear banks would be reduced, with the benefit of reducing the need for silt-removal in Buffalo Bayou Partnership Park and Houston Ship Channel. Supplementing meanders between Beltway 8 and Shepherd also meshes nicely with adding detention basins west of Beltway 8, at Brittmore (east of Addicks), and west of Highway 6 at Clodine. Both detention areas would lower the peak level of Buffalo Bayou downstream and allow needed increase in outfall rates from neighborhoods along the route.

To dig into the weeds technically, the flow gradient in Buffalo Bayou at flood stage is about 5 feet per mile, 0.1%. Reduction in the length of the flow path, although a small contribution in this proposal, will provide direct benefit of up to approximately 1 ft water level per 1000 ft of channel, depending on the severity of a particular flood.

A classic oxbow represents about a 360-degree turn for the flowing water – a 90-degree turn, a 180 degree turn and another 90 degree turn. The head loss, height of water for energy to overcome resistance through the typical ox-bow bend in the natural channel at incipient flood is approximately:

$$\text{Head loss, feet} = 0.5 * (\text{degrees}/90)^{.5} \times \text{velocity}^2/2gc$$

$$\text{For } 90 + 180 + 90 \text{ oxbow} = 0.5 * (1 + 1.41 + 1) * (3 \text{ ft/sec})^2 / (2 * 32 \text{ ft/sec}^2) = 0.24 \text{ ft}$$

The head loss is a function of water velocity, radius of turn and roughness of bank. During high flow of Harvey the velocities were higher and observed head loss on many oxbows was 0.5 to 0.8 feet.

With a flow reduction through the oxbow reduced to half the head loss is reduced to one-quarter.

Suggested locations for early focus are:

1. River Oaks and Houston Country Clubs can be approached to make a dollars and sense deal, appeal to the higher community interest and restore the surface use for fairways, improving the golf course in the end.
2. At I-610 there is an oxbow in Memorial Park – city property, and again can provide surface restoration or a channel and bridge.
3. Further west, near Kinkaid, near Buckingham, on east side and west side are non-platted properties north of Stoney Brook and old Farm road.
4. Another opportunity looks to be east and west of Gessner on what might already be drainage ROW
5. Just East of BW8 a single property for a modest sum would allow access to build an oxbow bypass
6. Just west of Beltway 8, just below the waste water plant, a HCFCD owned oxbow can be relieved with double benefit of reducing losses at the BW8 bridges.

The materials in the presentation examine prospective oxbow locations and properties with indicate plat lines. Note that most areas listed above are not platted to single-family residential ownership, those which are can be assessed by an easement with one or two owners.

Restrictions which cause backwater and flooding along Buffalo Bayou are bridges and a tortuous path made by many oxbows, mainly between Beltway 8 and Shepherd. Additionally, multiple bridges along the bayou downtown as well as the White Oak confluence with Buffalo Bayou. Addressing these flow impediments will reduce flooding in downtown Houston and all along the bayou to Highway 6.

Please consider support for a project be included in Flood Bond and in USACE Buffalo Bayou and Tributaries Resiliency Study to relieve oxbow restrictions. It will take all of our neighbors and officials working together to get this project underway. All of our communities and Houston can benefit.

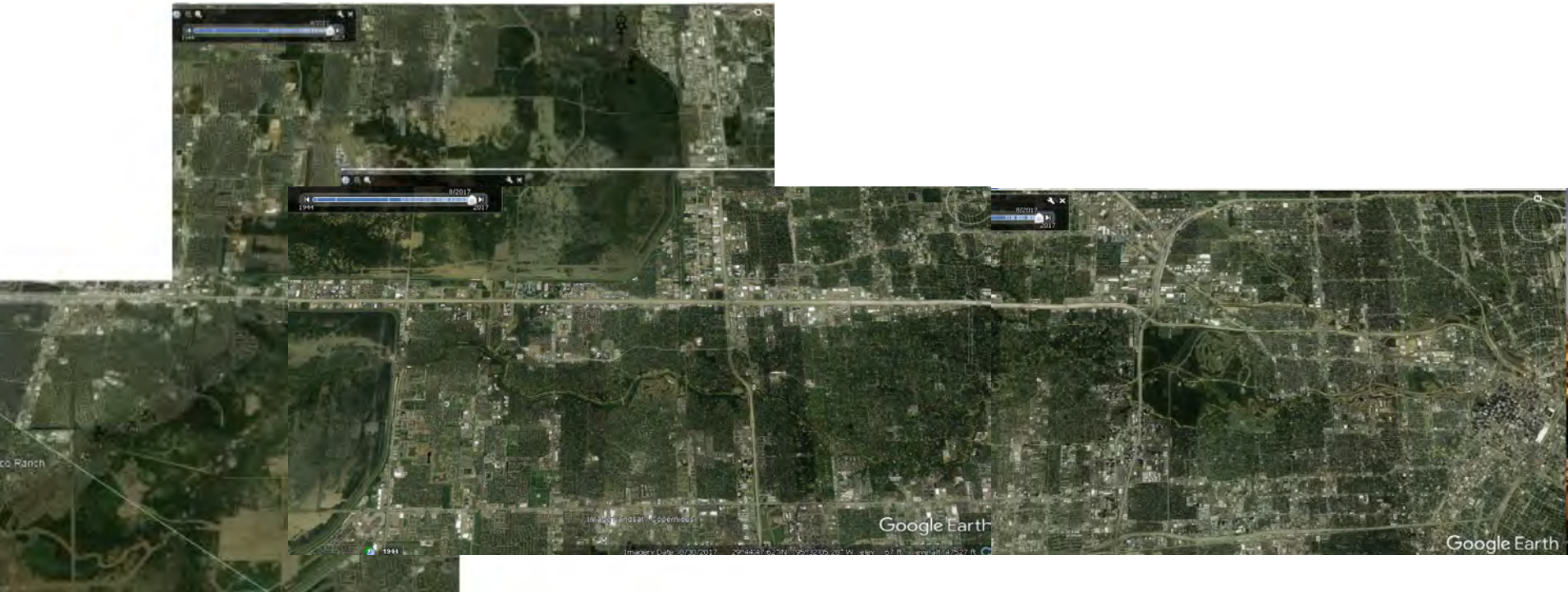
Buffalo Bayou Coalition Advocates for Funding Flooding Reduction

Flood Control Enhancements

Improve Conveyance

Preserve Natural Character

Buffalo Bayou



Flood impacted areas

Harvey – August 2017

Goal

Secure funding
to provide conveyance improvements
through the mid-reach of Buffalo Bayou
to reduce the future risk of flooding

Harvey release created a lake from Gessner to Highway 6, inundating 10,000 homes —

Today We Are Right Where We Were Last Year!

but things are beginning to happen

Opportunity: reduce flow restrictions at oxbows and bridges in mid-reach

Flood Bond - Buffalo Bayou Projects

mid-reach conveyance projects

F-58 W100-00-00-LIN CI-017 W100-BCON	Construction of Linear Detention on Buffalo Bayou Design & Construction of Replacement Bridges Along Buffalo Bayou	\$ 3,000,000	10,000,000
CI-016 W100-B	Study Investigations of Bridges over Buffalo Bayou and Conveyance Improvement/Bypasses (Huitt Zollars)	\$ \$385,000	500,000
F-82 W100- CI-018 W140-00-00-GEN	COMMERCE Demolition of Structure Rehabilitation of W140-00-00 to Restore Channel Conveyance Capacity	\$ 2,000,000 \$ 2,000,000	
F-59 W140-00-00-X005 F-80 W141-00-00-GEN	Spring Branch Creek Stabilization Planning, Right-Of-Way Acquisition, Design and Construction Along Soldiers Creek	\$ 4,000,000 \$ 10,000,000	
CI-014 W151-00-00-GEN	Planning, Right-Of-Way Acquisition, Design and Construction Along W151-00-00	\$ 10,000,000	
F-81 W153-00-00-GEN	Planning, Right-Of-Way Acquisition, Design and Construction Along W153-00-00	\$ 10,000,000	
F-79 W157-00-00-GEN	Planning, Right-Of-Way Acquisition, Design and Construction Along W157-00-00	\$ 10,000,000	
CI-009 W190-JOINT	Partnership Project with Fort Bend County on Right-of-Way Acquisition, Design, and Construction of General Drainage Improvements along Clodine Ditch	\$ 30,000,000	
W-NRCS	Storm Repairs in Buffalo Bayou Watershed	\$ 5,890,000	
C-39 E200-02-00-NC	White Oak Bayou North Canal downtown Houston	\$ 20,000,000	100,000,000

HCFCFCD \$2.5 Billion Bond Election

- Not Much Money for Buffalo Bayou mid-reach
- No New Funds for Years
- Most funds Designated
- \$500 Million Not Allocated
- Challenge to Consider Equity
- North Canal is an enabling project, providing relief downstream

Buffalo Bayou Coalition Advocates

- Support Addicks and Barker Improvements
- Support Natural /Nature-based Solutions
- Support Third Reservoir/Reducing Cypress Creek Overflow
- Support North Canal /White Bayou Bypass
- Support Addition of Detention Where Feasible
- Support Greater Operating Range of Buffalo Bayou
- Support HCFCD – Working With Community
- **Advocate Funding to Remove Restrictions in Mid-Reach Improve Conveyance of Buffalo Bayou**

Impediments to Action

- Rights-of-way challenge

”people in the Villages, Tanglewood, River Oaks own to middle of the bayou”

- Political Aversion to work in Mid-Reach

- Misconception:

Buffalo is well protected

whereas

reality is Buffalo had not been tested between 1935 and Harvey

Reality

- People Who Flooded Want Something Done!
- Near-term Solutions can:
 - Improve Conveyance
 - Reduce Erosion
 - Lower Water Surface in Major Events
 - Preserve the Natural-Stream Character

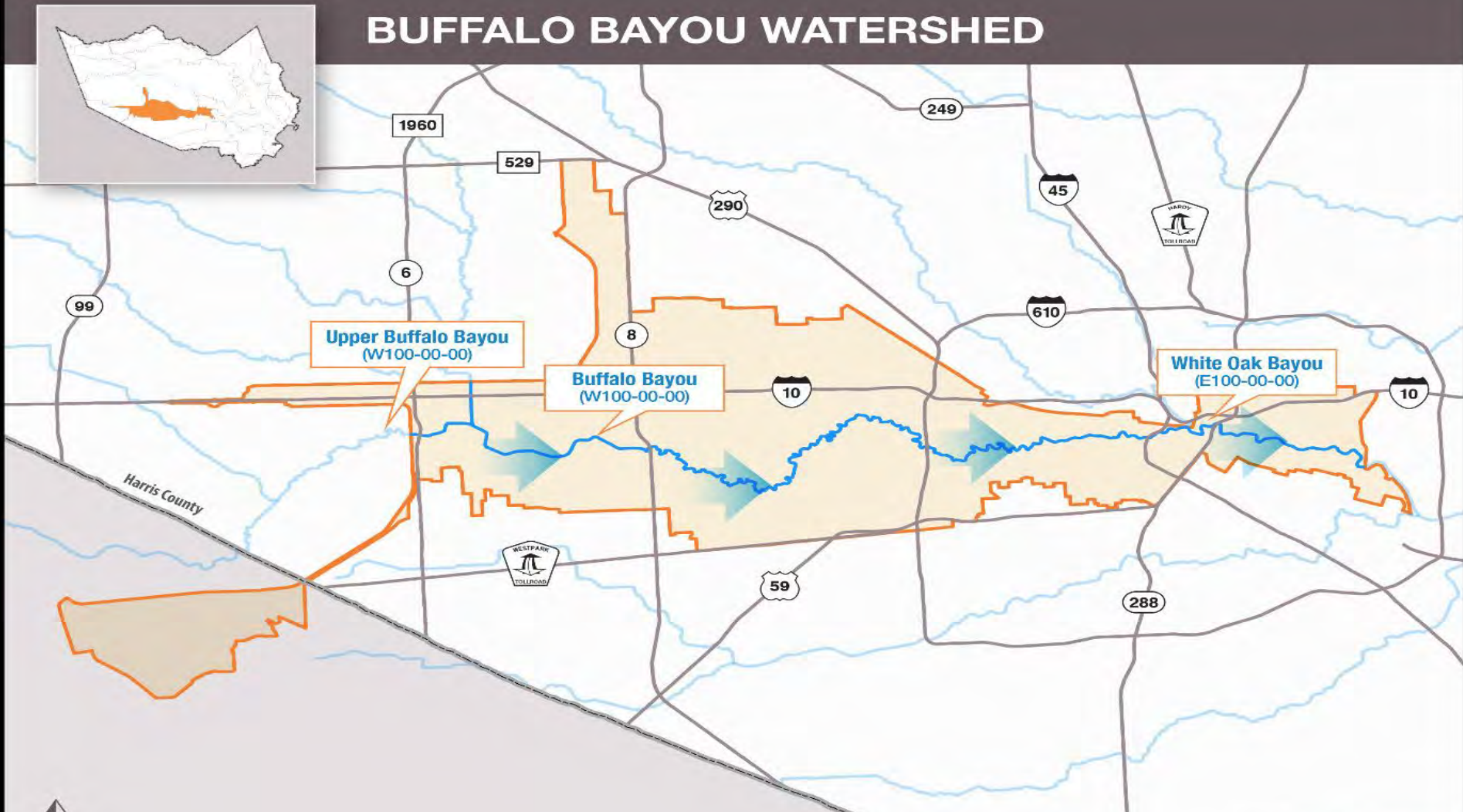
Buffalo Bayou:

West of Beltway 8 - straightened, smooth

East of Beltway 8 - tortuous, constricted, restricted

Both have numerous bridges restricting conveyance

BUFFALO BAYOU WATERSHED



Framework Proposed for Solutions

- High Flow Bypasses for 10-20 Oxbows
 - High flow tunnels
 - High flow benching
- Bridge Adjustments to Relieve Obstructions
 - Bridge Openings Increased
 - Bridge Elevation/ Replacement
 - High flow bridge by-passes
- Work from East to West
 - Start with the North Canal Bypass
 - Relieve down stream constrictions/ avoid adverse impact

*improve conveyance for entire bayou
same rain, same flow, lower water surface elevation*

Oxbows and Bridges Impede Flow

Needed: \$300 million*

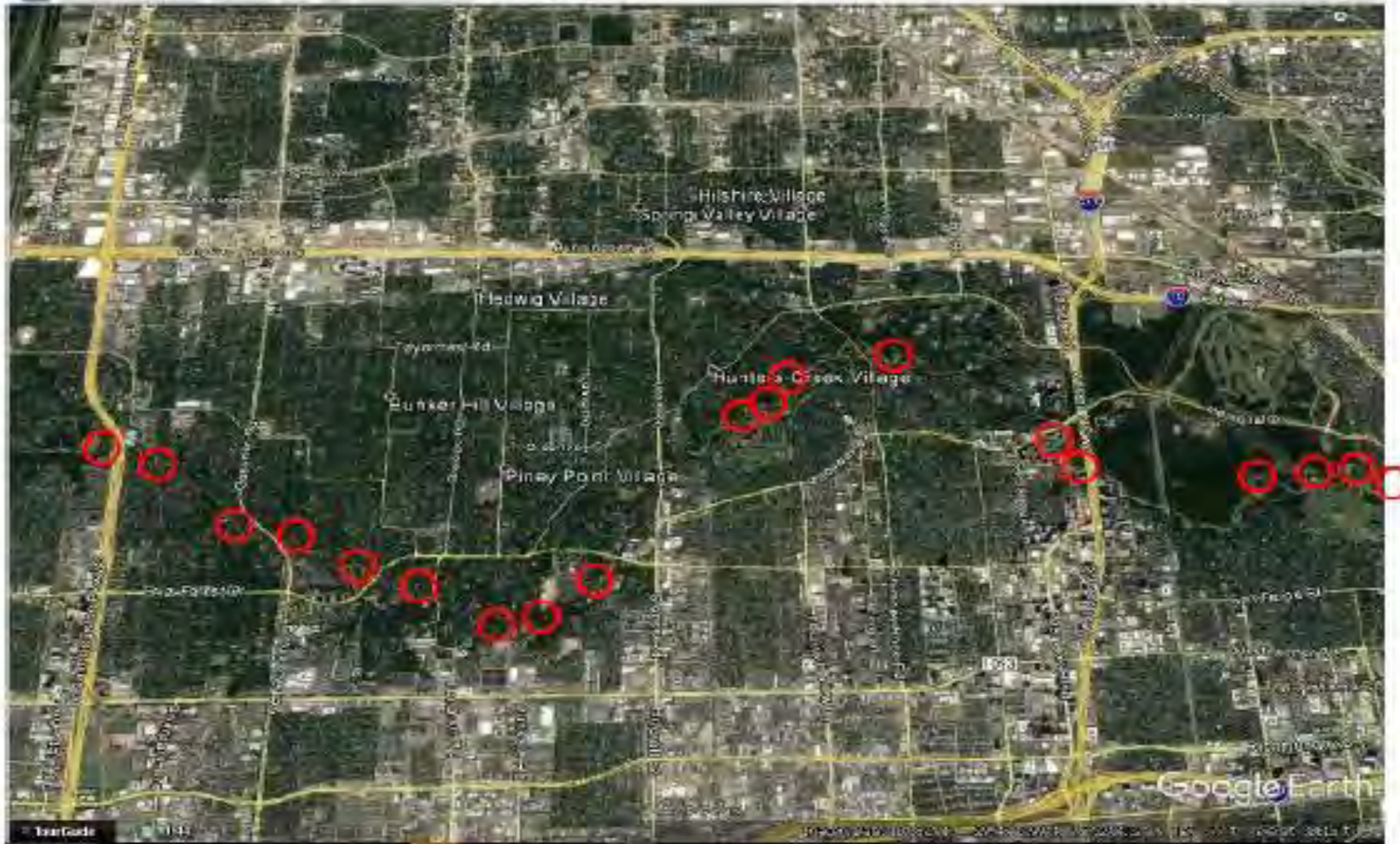
- \$100,000,000 from Harris Bonds
- \$200,000,000 from Federal Government

Lower Water Levels a Minimum of 2 Feet
Reduce flooding along all of Buffalo Bayou

* pending results of HCFCD C-16 Study

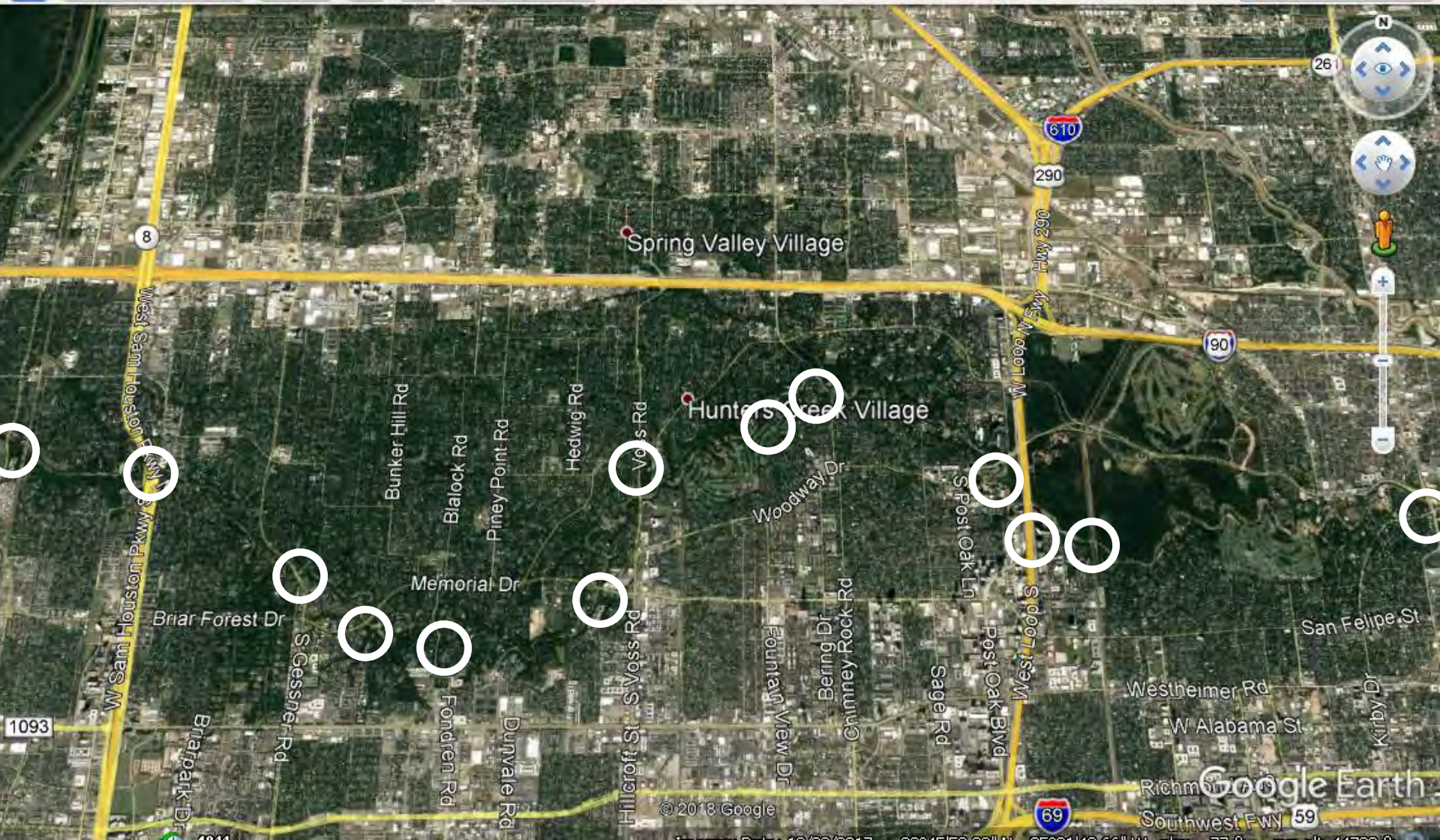
Oxbows Impede Flow

○ oxbows



Bridges Impede Flow

○ bridges



Oxbow Near Buckingham and Kinkaid at the Old Farm property
Oxbow relief - bypass across neck of the oxbow for high flow

Kinkaid School

528 feet

Old Farm

Google Earth

Oxbow Relief – *a high flow bypass*

Water at oxbow makes 360 degree turn

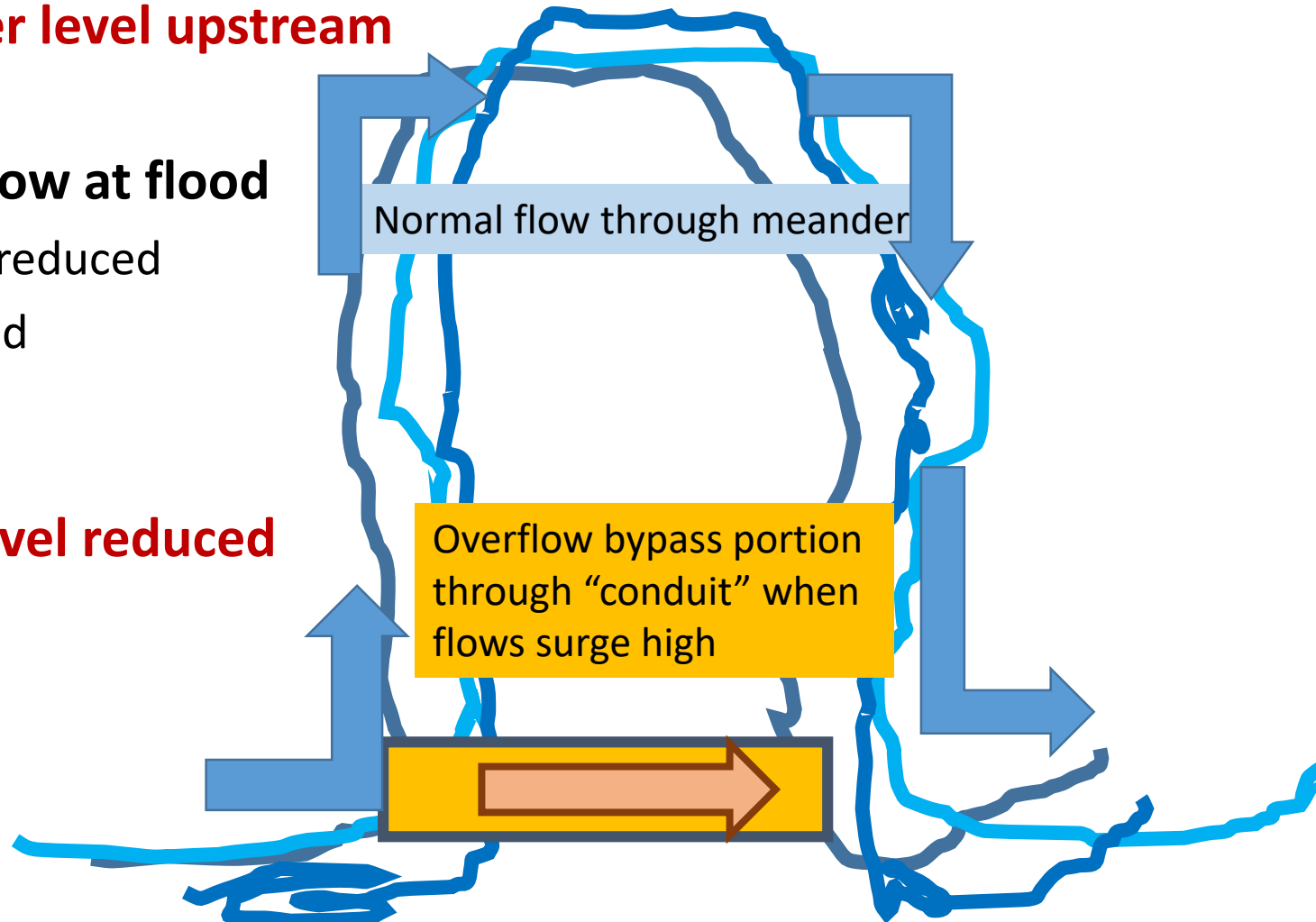
- Head loss ($V^2/2g$ + friction)
increases water level upstream

- Erosion at turns

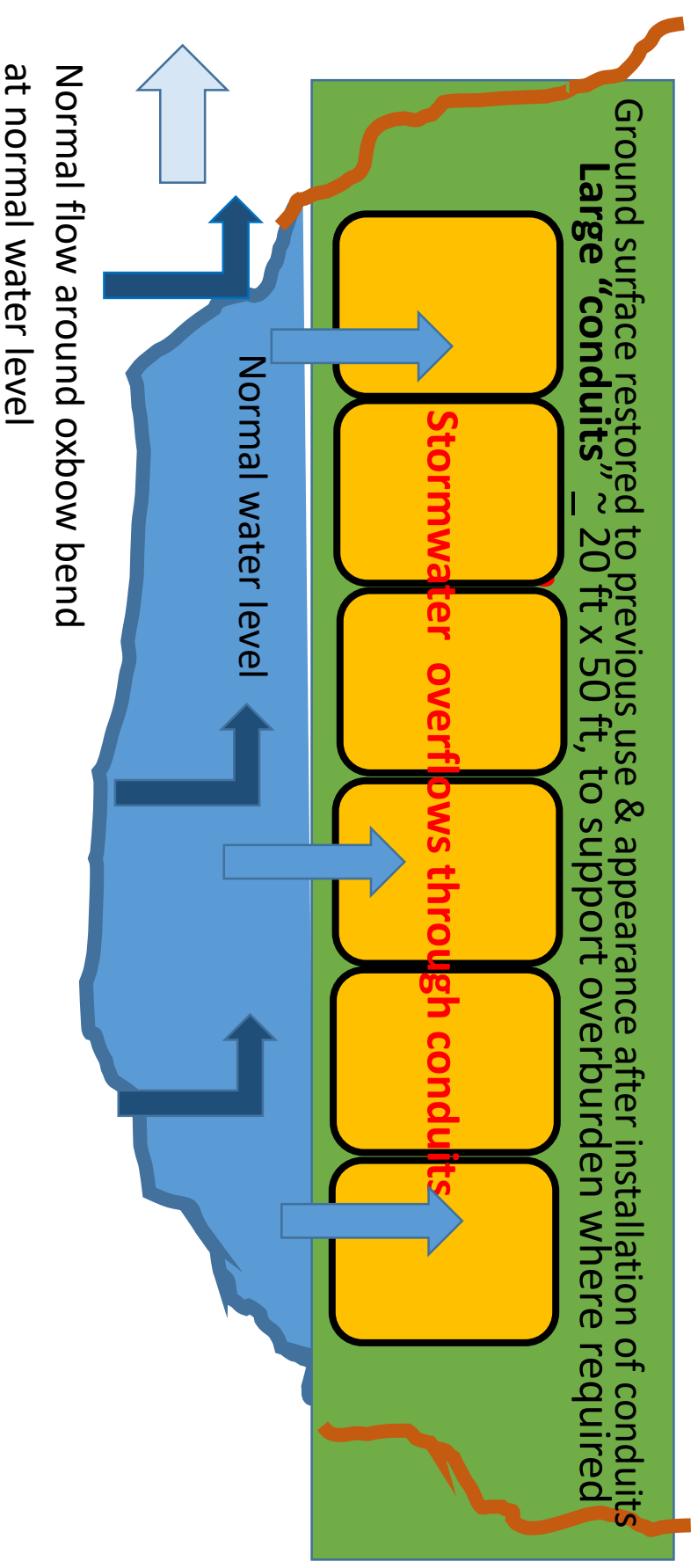
Bypass half of flow at flood

- Velocity in turns reduced
- Head loss reduced to one quarter
- Erosion reduced

Overall water level reduced



Oxbow Bypass Proposal



Oxbow Opportunities

Selective ROW or easement

only where bypass is installed, not entire bayou
only where property owners are amenable

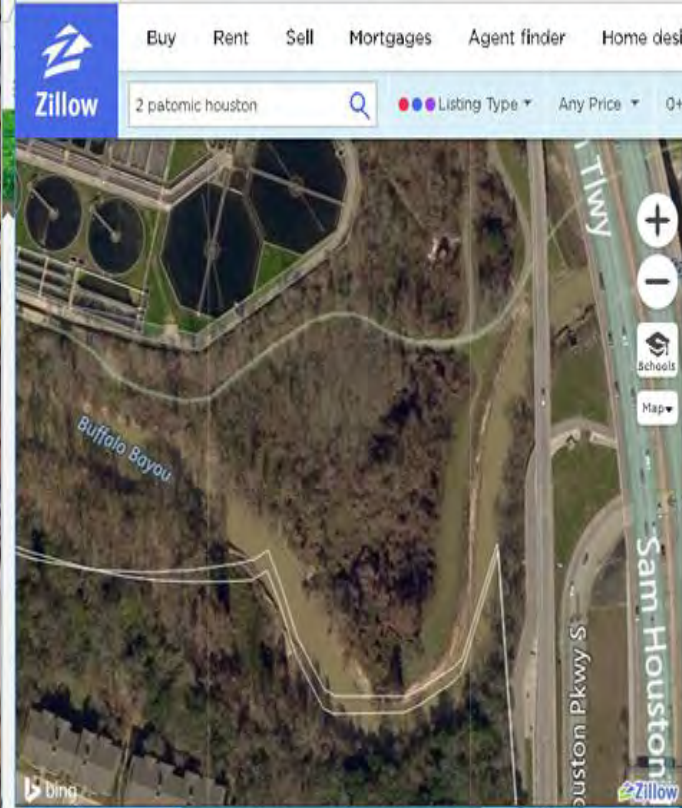
Oxbow west of BW8 bridge, HCFCD owned land

Beltway 8

500
feet

© 2018 Google

Google Earth



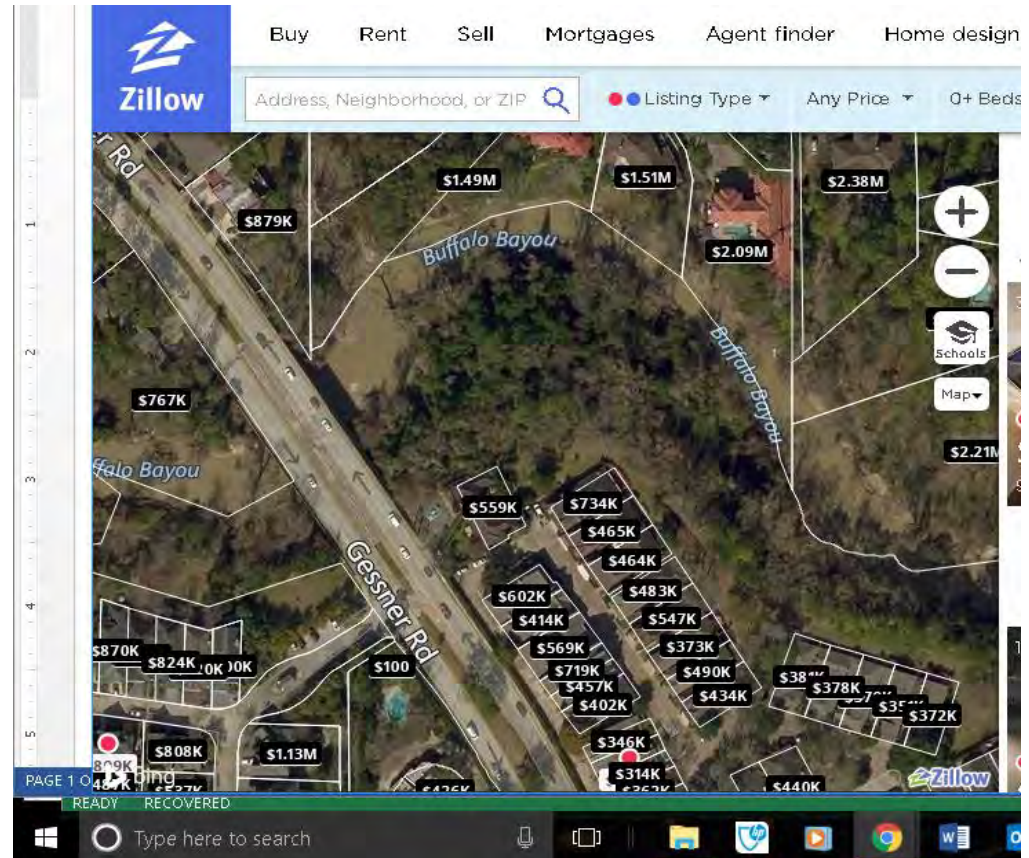
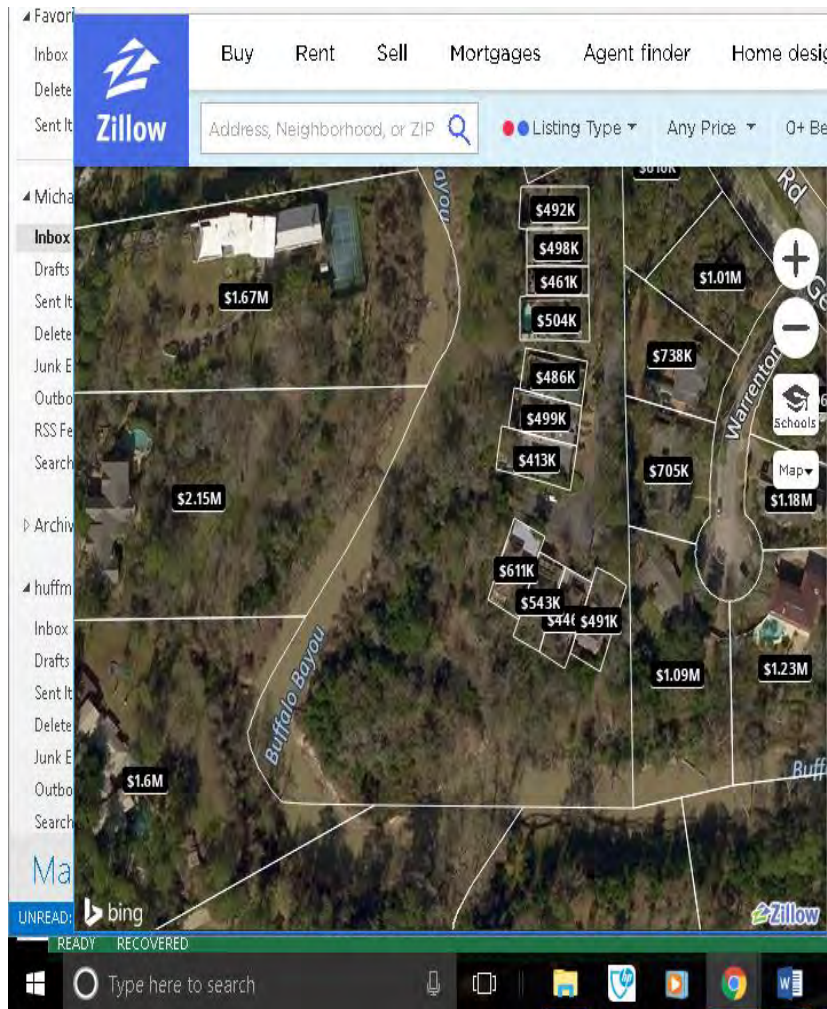
West of Gessner

Areas not developed, not platted

Is it land public? Drainage easement?

Possibilities do exist for high flow bypass

And east of Gessner



S. Piney Point at the Buffalo Bayou
October 28, 2017

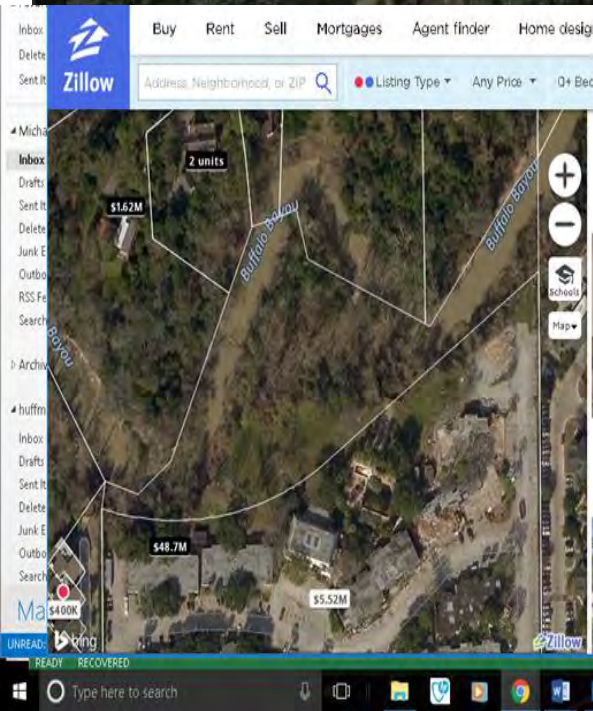


633 feet



Just east of the old Vargo's site where S. Piney Point meets Fondren, just north of W

739 feet



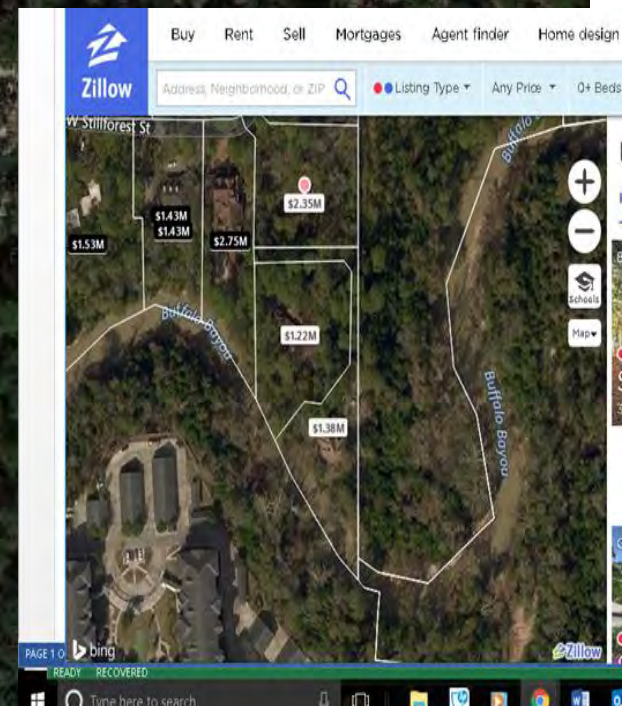
Google Earth

Across the Bayou from the Old Farm property

Kinkaid School

528 feet

Old Farm



Kinkaid School

316 feet

Google Earth

Buy Rent Sell Mortgages Agent finder Home design

Listing Type

Any Price

0+ Beds

Buffalo Bayou

Stoney Brook Dr

7 uni \$158K

8 uni \$20K

2 units

7 units

\$1.38M

\$2.3M

\$76K

\$1.86M

\$2.14M

\$1.52M

\$69.3K

\$140K

\$140K

\$439K

\$782K

\$869K

\$490K

\$393K

\$451K

\$485K

\$140K

\$425K

\$445K

\$151K

bing

READY RECOVERED

Type here to search

Memorial Drive

Riverbend West of Voss

264
feet

370 feet

Hunters Creek Village

Shorter Alternate in Hunters Village

250
feet

250
feet

369
feet

369 feet

475 feet

1,000 feet

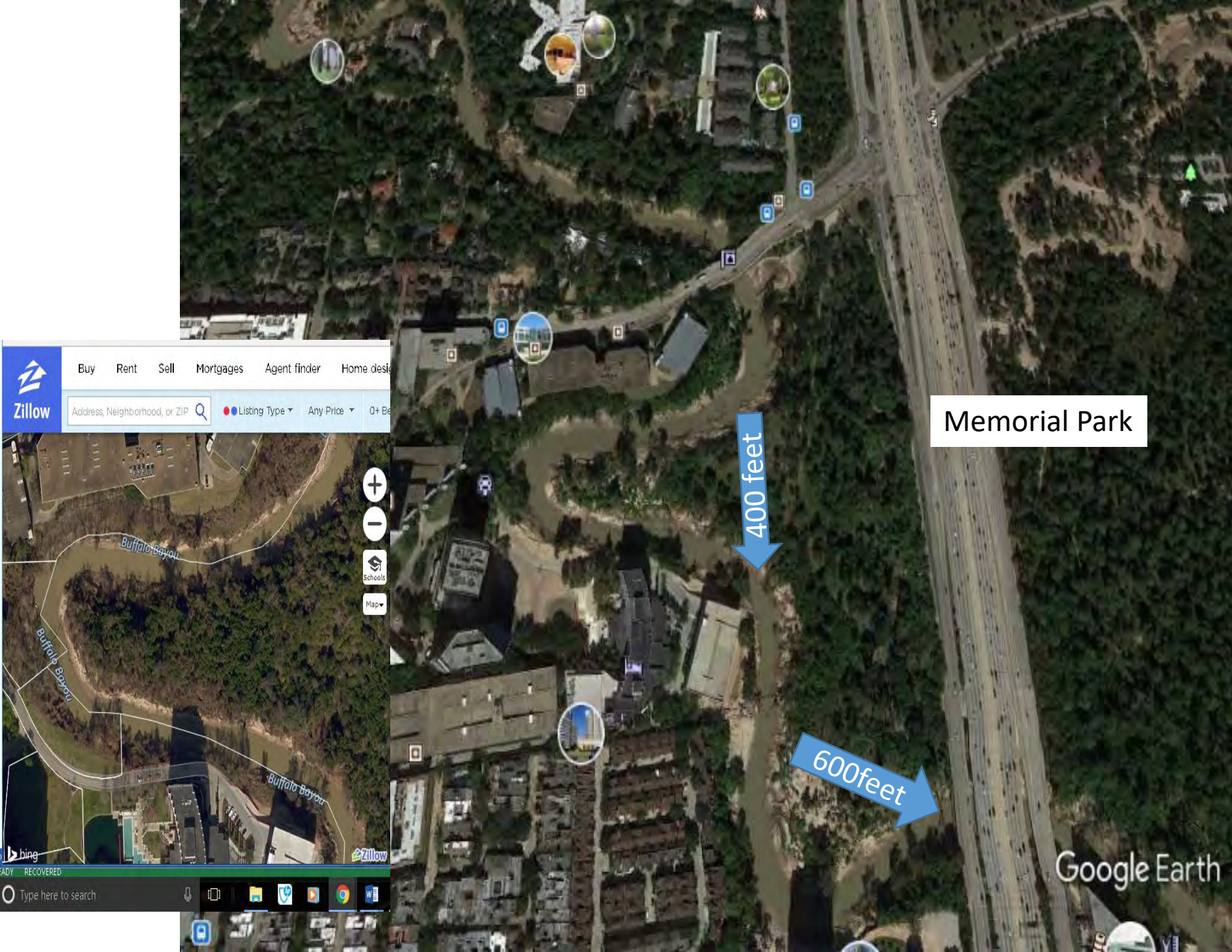
Houston Country Club

Google Earth

Chimney Rock Rd

~500
feet

Google Earth



Memorial Park

400 feet

600 feet

Google Earth



500 feet

500 feet

400
feet

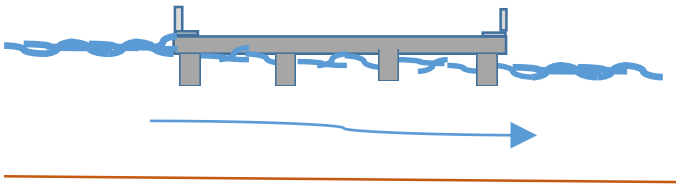
River Oaks Country Club

Google Earth

Bridges – dealing with flow constraints

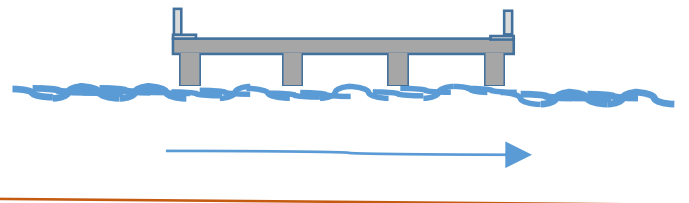
Restriction

- Structural members or roadway submerged = flow obstructed



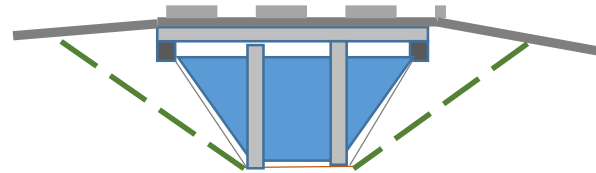
Relief

- Raise bridge and roadway



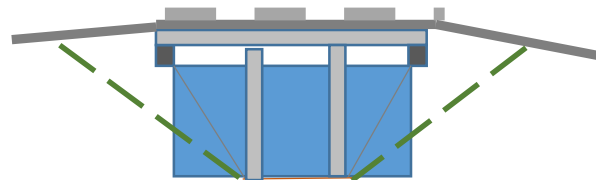
Restriction

- Reduced channel cross section or substructure = acceleration / deceleration



Relief

- Increase cross section
Square-off sides
Deepen channel/Bypass



Bridge Submergence Level Buffalo Bayou

Bridge	event year level	10	50	100	500
• Highway 6		-	-	-	1.5
• Eldridge		-	-	-	0
• Dairy Ashford		-	-	0	3.5
• Kirkwood		-	-	-	0
• Wilcrest		-	0	2	5
• Sam Houston		-	-	0	4

Bridge elevations basis FEMA Flood Insurance Study Harris County January 2017
Event basis: United States Geological Service Report (USGS), Asquith (1988)

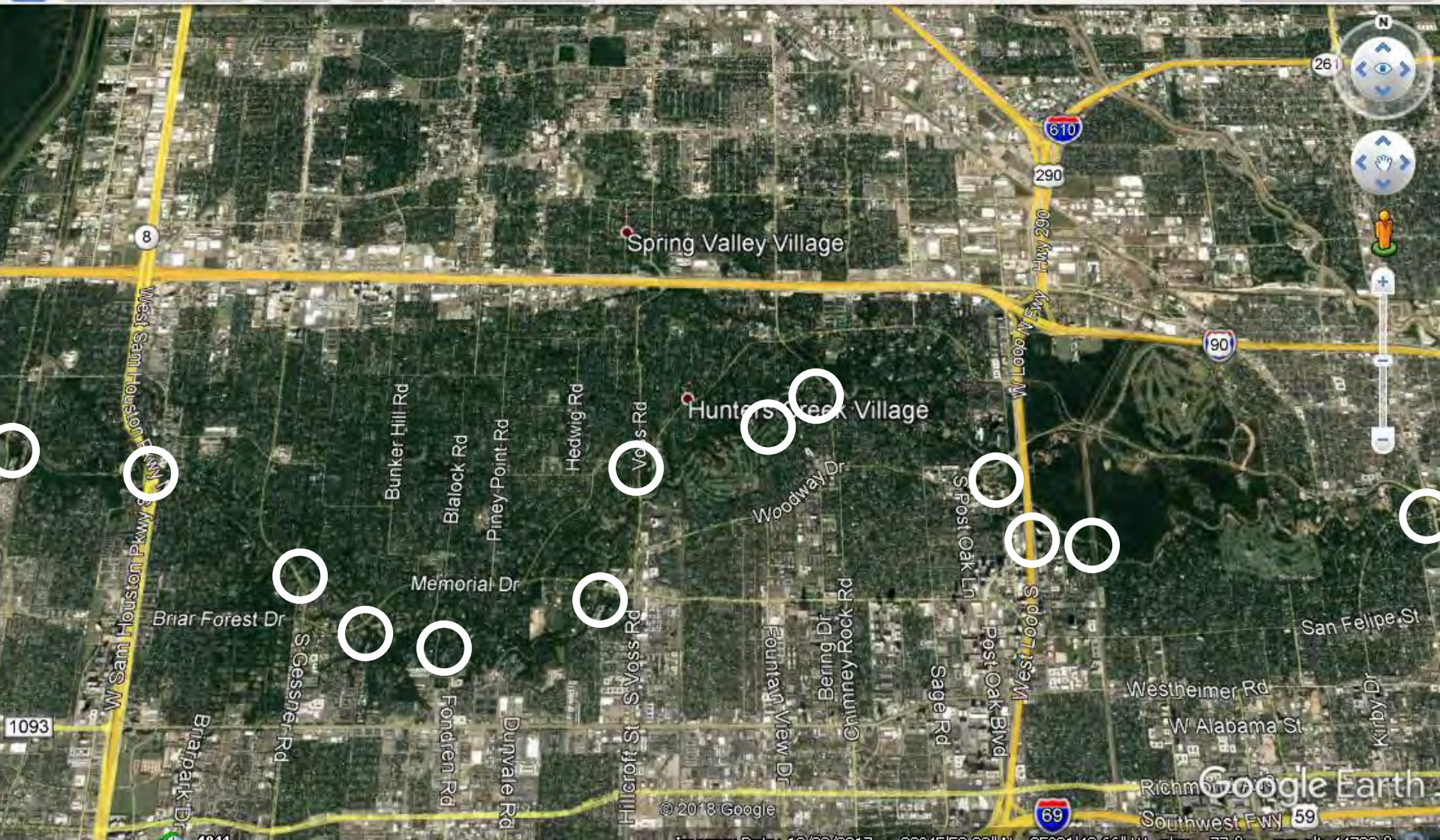
Current City of Houston standard is lowest stringer at 500-yr event level

Bridge Submergence Level Buffalo Bayou

Bridge	event year	level	10	50	100	500
• Gessner	-	-	-	1	3	7
• Briar Forest	-	-	-	-	-	3
• S. Piney Point	-	-	-	-	-	2
• San Felipe	-	-	-	-	1.5	6.5
• Voss	-	-	-	-	-	2
• Further Point	-	-	-	-	1.5	6.5
• Chimney Rock	-	-	-	-	-	2
• Woodway	-	-	-	-	2.5	7.5
• I-610	-	-	-	-	-	5

Bridge elevations basis FEMA Flood Insurance Study Harris County January 2017
Event basis: United States Geological Service Report (USGS), Asquith (1988)

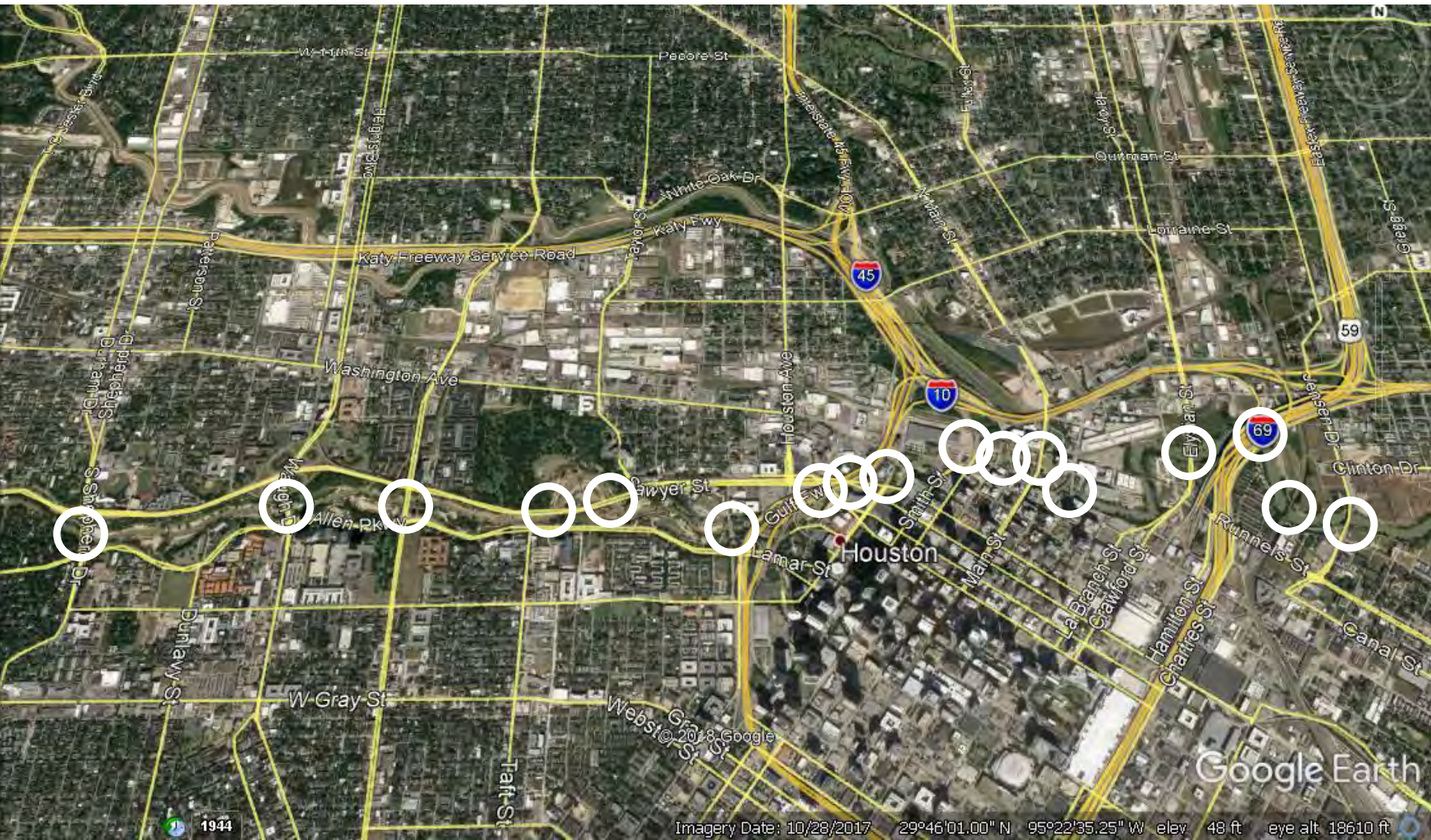
Bridges Impede Flow – Wilcrest to Shepherd



Bridge Submergence Level Buffalo Bayou

Bridge	event year	level 10	50	100	500
• Shepherd		-	-	1.5	7.5
• Waugh		-	-	-	4
• Montrose		-	-	1	7
• Memorial		2	6	9	15
• Memorial		4	8	11	17
• Texas/Sabine		-	-	2	7
• Louisiana /Franklin/ Capital/Allen		-	5.5	8.5	13.5
• Milam		7	11	14	19
• Travis/Smith/Preston		-	4	7	12
• Prairie/Bagby		-	-	0	5
• Congress		-	1.5	4.5	9.5
• Main		-	-	-	-
• Fannin		-	-	0	5
• San Jacinto		-	-	1.5	8

Bridges East of Shepherd , Downtown



Bridge Opportunities

(based on structure elevation)

Highway 6 to Beltway 8

- High Benefit
 - Wilcrest, Beltway 8
- Secondary Benefit
 - Dairy Ashford

Beltway 8 to Loop 610

- High Benefit
 - Gessner, San Felipe, Further Point, Woodway, I-610
- Secondary Benefit
 - Briar Forest, Voss, Chimney Rock

Loop 610 – Downtown

- High Benefit – all bridges except Main St and secondary
- Secondary Benefit – Fannin, Prairie, Bagby

Beltway 8 Bridges



Bridges Increase Downstream Erosion





Gessner Bridge



Briar Forest Bridge



NE Downtown at I-10, looking upstream



Buffalo Bayou – Improve Conveyance

- **Achievable:** Bypass oxbows, Improve bridge sections, Raise bridges
- **Aesthetic:** Protect and restore natural features, Reduce flooding risk
- **Affordable:** Selected ROW purchase, High value improvements
- **Benefits:** Greatly reduces future flood risks, Protects thousands of homes in the mid-reach of Buffalo Bayou

Strategy

- Develop Coalition of Residents along Buffalo Bayou
- Inventory Credible Concepts
- Establish Formal Advocacy Organization
- Formal Study and Assessment
- Take HC/HCFCD \$300MM Proposal – Spring 2019
- Engage Judge Hidalgo, Commissioners Radack and Cagle, HCFCD Director Poppe
- Provide input to USACE Buffalo Bayou Tributaries Study
- Engage Congressman Fletcher

Advocacy

- Political Acceptance and Support for Improvements in Mid-Reach of Buffalo
- Identify ROW/Easements – Selective Oxbow bypass
- Take HC/HCFCD \$300MM Proposal
 - Funds for right-of-way
 - Funds for conveyance
 - Preservation of bayou character
 - \$100MM local; \$200MM federal match
- Request Support Federal Representative Fletcher

Buffalo Bayou – Improve Conveyance

Buffalo Bayou Coalition

Advocates For Funding Flood Reduction

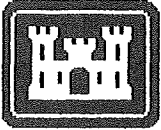
- Achievable: Bypass oxbows, Raise bridges, Protect thousands of homes west of Gessner
- Aesthetic: Keep natural features along Buffalo Bayou, reduce flooding risk
- Affordable: No litigation, no condemnation, selected ROW and purchase

Our community must speak with a strong, coherent voice:

- improve conveyance
- add detention at storm water sources

Next Steps

- Future Meetings and Future Participants
 - Consolidate Support
 - Discussion with Rep Fletcher
 - Presentation to BBP, BPA, Parks
 - Develop Acceptable Solutions with HCFCD
 - Commissioner's Court – 2019
-
- Contact: Michael Huffmaster michael.Huffmaster@att.net



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

DEAR ARMY CORPS OF ENGINEERS

I live in OLD BRAESWOOD, a part of the BRAES Bayou watershed that lies just upstream from the Texas Medical Center. There is no reason to solve BUFFALO Bayou's problem by making it BRAES Bayou's problem.

I CANNOT believe ANY ASSURANCES given by the ARMY CORPS OF ENGINEERS OR ANYBODY ELSE that the transfer of water from BUFFALO to BRAES Bayou would only be done if it CAUSED NO DAMAGE to BRAES Bayou property.

If you are actually looking for a relatively Low-COST solution to future flooding in the BUFFALO Bayou watershed during a future HARVEY event, build the levees at BARBER AND adding reservoirs higher, NOT LOWER, and ban any further development in the flood plain behind the levees. Please apply this thinking in your study.

David H Miller MD

5-31-19

Name / Nombre DAVID H. MILLER MD Affiliation / Afilación OLD BRAESWOOD Homeowner & Medical Center Physician

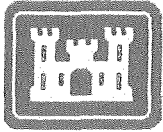
Address / Dirección de Envío 7516 Morningside Drive

City / Ciudad HOUSTON State / Estado TX Zip Code / Código Postal 77030

E-mail / Correo Electrónico davidhmillermd@yahoo.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

No tunnels.

No to option 2.

More detention spaces.

When you build in an area, the buildings must either be the same size ~~as the~~ or if larger, the builder must, by law, do whatever it takes to not incur any flooding in that area.

-01

Name Cyndy Sax Affiliation Braesmont Civic Club
Nombre Cyndy Sax Afiliación Braesmont Civic Club

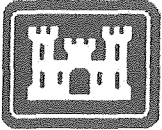
Address 5314 Carew
Dirección de Envío 5314 Carew

City Houston State TX Zip Code 77096
Ciudad Houston Estado TX Código Postal 77096

E-mail c.sax@shcglobal.net
Correo Electrónico c.sax@shcglobal.net

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-01

Please do not make any plans which will add any more water under any circumstances to the Brays Bayou Watershed.

Our house in Meyerland was flooded by the Tax Day Flood and Harvey (26"). We are currently rebuilding up to City of Houston code. It concerns me greatly that USACE is considering diverting stormwater into Brays that previously flowed into Buffalo. The people of Brays have "paid our dues".

-02

USACE should explore other alternatives like the proposed North Canal project on White Oak Bayou and a South Canal through the Clayton Homesite to reduce the flow into Buffalo rather than diverting it into Brays.

Name
Nombre

Rebecca Stuart

Affiliation
Afilación

Homeowner

Address
Dirección de Envío

4918 Loch Lomond Dr.

City
Ciudad

Houston

State
Estado

Tx

Zip Code
Código Postal

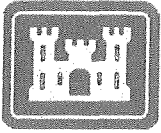
77096

E-mail
Correo Electrónico

drstuart@swbell.net

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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Option 1, based on success in other sites, should be investigated thoroughly. If the evidence supports this option, it should be prioritized & expedited.

-01

Option 2 - Before this should be done, a very clear methodology for decision-making needs to be developed & authorized that would prevent additional flow from the Clodine ditch/Barker Reservoir that could result in flooding Bays watershed homes & businesses

-02

Option 3 - Concern that some residents & businesses could be adversely impacted

Name

Nombre

Kay Swint

Affiliation

Afiliación

Baerment Civic Club Pres. & Super-Neighborhood 31 - Recording Sec.

Address

Dirección de Envío

5402 Carew St

City

Ciudad

Houston

State

Estado

Tx

Zip Code

Código Postal

77096

E-mail

Correo Electrónico

kayswint@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffer-Bayou-and-Tributaries-Resiliency-Study/>

From: [Shelly Autin](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] This is the Buffalo Bayou and Tributaries Resiliency Study (United States Army Corps of Engineers-Presentation)
Date: Friday, May 31, 2019 12:14:00 AM

-01 | Please be aware of what your proposal will do in adding more run off into Braes Bayou. Tunnels would be good but sending over flow into Braes Bayou should not be an option. Buffalo Bayou should keep its own water.

Thank you,
Shelly Autin

Sent from my iPad

From: [Girrens, Chris J](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] BBTRS comment
Date: Friday, May 31, 2019 1:04:03 AM

- 01 | Please have priority for conveyance of water out of the Barker Reservoir, including changes to operating procedures to to release water faster and longer duration to prevent flood pooling on property not owned by the Corps.
- 02 | De-silt and maintain or increase capacity with excavation. Add more conveyance capacity to empty Barker Reservoir faster, with tunnel and/or widening bayou to gulf.

Thanks

C. J. Girrens
Sent from my iPhone

From: [Marcia Livingston](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Flood control proposal comment
Date: Friday, May 31, 2019 8:00:11 AM

- 01 | I am writing as a concerned homeowner in Westbury to urge you to absolutely reject any plan that would bring MORE water into Braes Bayou. By no means should water be diverted from Buffalo Bayou to Braes. We are struggling as it is.
- 02 | It is about time for the government to look at this infrastructure and limit development that contributes to the destruction of neighborhoods like ours. More reservoirs are a good idea. So are tunnels. But diverting water from one flooding bayou to another is pure folly and would not be quietly abided in this part of town, after what we've been through.

Sincerely,

Marcia Livingston
5814 Portal Dr.
Houston, TX. 77096

From: [Carolyn White](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] REVISED: Comments on BBTRS
Date: Friday, May 31, 2019 8:03:09 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[2019-05-30_USACE Comment Letter_BBTRS.pdf](#)

May 30, 2019

Andrew Weber, P.E, Study Manager
USACE Galveston District
P.O. Box 1229
Galveston, TX 77553-1229
ATTN: BBTRS
Email: BBTRS@usace.army.mil

Dear Mr. Weber,

Thank you for providing the opportunity to comment on the Buffalo Bayou and Tributaries Resiliency Study (BBTRS). As Conservation Director of Memorial Park Conservancy (MPC), and a fluvial geomorphologist formerly with the Harris County Flood Control District (HCFCD), I have a strong interest in preserving the natural Buffalo Bayou channel, while achieving site stability, water quality improvements, and public access.

MPC is a non-profit organization that manages 1,100 acres of Memorial Park that is bounded on its southern edge by a natural 3.8-mile segment of Buffalo Bayou. Over many decades adjacent landowners have installed structures to harden the edge of Buffalo Bayou, resulting in deleterious impacts to the natural streambanks. Addicks and Barker reservoir release schedules have also greatly impacted the slope stability by inducing sustained high flows and rapid drawdown. In addition, the last three major storms - Tax Day, Memorial Day, and Harvey - have exacerbated this streambank stress, resulting in extreme land loss. Memorial Park has experienced 20-50 feet of horizontal erosion on multiple entrenched streambanks ranging from 10-20 feet vertical relief. This amount of erosion and sedimentation within Buffalo Bayou has direct impacts to water quality, conveyance capacity, and dredging requirements for the Port of Houston.

MPC advocates addressing the flood damage reduction issues within the Buffalo Bayou watershed through 1) conveyance improvements using natural stable design principles and 2) appropriate siting and design of detention facilities, as outlined below.

Conveyance with Geomorphic Stability

Harris County Flood Control District (HCFCD) has invested much effort in developing a Natural Stable Channel Design Guidance Manual that outlines principles of fluvial geomorphology within a local flood conveyance framework. The USACE staff should work with HCFCD staff to incorporate those guidelines into the BBTRS.

Channel instability and sediment transport issues are remedied through stream restoration that appropriately resets the bayou's:

- channel cross section – building bankfull benches; establishing connectivity to geomorphic floodplain
- longitudinal profile – establishing pool and riffle complex for effective transport of sediment and flow as well as habitat enhancement
- meander pattern – alleviating overtighten meander bends and establishing oxbow habitat

USACE should study the permitted Memorial Park Demonstration Project as an example of reach-scale stream restoration on Buffalo Bayou (SWG-2012-01007).

MPC also recommends that the USACE conduct a comprehensive geomorphic assessment and Watershed Assessment of River Stability and Sediment Supply (WARSSS) of Buffalo Bayou that follows up on the work of Harris County Flood Control District's Charting Buffalo study. The Technical Appendix from this study provides details regarding Buffalo Bayou channel stability, erosion rates, Bank Erosion Hazard Index (BEHI), sediment transport, habitat, as well as recommendations for conveyance improvements.

In looking at conveyance options that were presented at the BBTRS public meeting on May 8th, I noted that some type of bypass channel within the Memorial Park reach is being considered. USACE staff should note that Memorial Park Conservancy, along with project partners is implementing the Master Plan that was approved by Houston City Council in 2015. A large-scale project to construct bypass channels or tunnels within Memorial Park would cause damage to the park and its ecosystem.

In addition to concerns about the park's ecosystem, in a 2016 Initial Biological Assessment, MPC consultants discovered a breeding population of a State-listed reptile, the alligator snapping turtle (*Macrochelys temminckii*). Because of this finding, distributional research of this species within Memorial Park and all of Buffalo Bayou has continued to augment information on the conservation status of the reptile.

Appropriate Detention

The effectiveness of flood damage reduction from a detention facility should be fully understood prior to advancing and publishing alternative information. Detention within lower watershed areas will not effectively remove structures from the floodplain. To address flood damage reduction within Buffalo Bayou watershed, it is more appropriate to look at areas upstream of the reservoirs and remove structures from the floodplain. Buyouts of properties inside the reservoirs and increased reservoir capacity are effective detention alternatives.

In the materials presented at the BBTRS public meeting on May 8th, I noted that a detention basin alternative is being considered within Memorial Park. USACE staff should be aware of the Memorial Park master plan implementation projects currently funded at \$205 million to be completed in the next nine years, and executing the plan was made an ordinance by Houston City Council (COH 2018-0367). Memorial Park is Houston's largest urban park with a truly unique ecosystem, as well as state

historic landmark status.

In reviewing the information provided in the public meeting, it seems that USACE staff are not familiar with Memorial Park, the 2015 Master Plan, nor its reverter-holder interests. I, along with other MPC staff, would be happy to meet with USACE staff to discuss the unique features of Memorial Park. In addition, I have a strong interest in USACE continuing to refine the geomorphic analyses that HCFCF started with the Charting Buffalo study and broadened with their Natural Stable Channel Design Guidance Manual. I would be happy to discuss or participate in fluvial geomorphology workshops or field tours. If you have any questions, or would like to discuss further, please contact me at: cwhite@memorialparkconservancy.org or 832-799-0955. Thank you.

Sincerely,

Carolyn White
Conservation Director

Carolyn White

Conservation Director

Memorial Park Conservancy

7575 North Picnic Lane, Houston, Texas 77007


832-799-0955 (Cell)

713.863.8403 (MPC main)

cwhite@memorialparkconservancy.org

CPESC #4723



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Richard Hightower

Kenneth Huewitt

Dennis Johnston

Sabrina Kirwin

John Paukune

Carrie Pepi

John Porter

Dena Prasher

Philip Schneidau

Ashley Small

Anita Smith

Terri Thomas

Catherine Wilde

Charles H. Wilson

Russell Windham

President & CEO

Shellye Arnold

May 30, 2019

Andrew Weber, P.E, Study Manager

USACE Galveston District

P.O. Box 1229

Galveston, TX 77553-1229

ATTN: BBTRS

Email: BBTRS@usace.army.mil

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Houston, TX 77007

713.863.8403



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Houston, TX 77007

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www.memorialparkconservancy.org



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Sincerely,

Carolyn White
Conservation Director

7575 North Picnic Lane

Houston, TX 77007

713.863.8403

www.memorialparkconservancy.org

From: [cary watson](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] opposition to proposal
Date: Friday, May 31, 2019 8:05:13 AM

-01 | Dear Sirs: Any attempt to place more water during flood conditions in Brays Bayou in order to save richer
-02 | neighborhoods along Buffalo Bayou is misguided and clearly politically motivated. Please save federal
-03 | dollars and stick to ways to strengthen the Addicks Reservoir and Buffalo Bayou independently of Brays
Bayou such as making the dam stronger in order to avoid release of any water at all. This will
permanently cause property values in Bellaire and Meyerland areas to be adversely affected.

Cary S. Watson

Attorney at Law

Grayson L. Davis, PLLC

2425 Fountain View, Suite 360

Houston, Texas 77057

Office 713 339-4800

Cell 979 220-8495

Fax 713 952-7712

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From: [Robin Acevedo](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Flood prevention recommendations
Date: Friday, May 31, 2019 9:26:11 AM

On behalf of the Barker Flood Prevention advocacy group, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. We were pleased with the turnout and hope it will yield valuable feedback.

Our steering committee members also attended, and after careful consideration, have adopted the following recommendations:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Barker Flood Prevention has a membership and support base of more than 600 people. We expect that the Corps can rely on this substantial support base in addition to our steering committee and leadership when considering and valuing these recommendations.

We would welcome the opportunity to discuss these further with you.

Yours sincerely,

Marlin Williford and Wendy Duncan
Founding Partners
Barker Flood Prevention

Steering Committee Members:

John Barrett, David Clark, Libby Clark, Chancie Davis, Susana Dias, Patrick Friend, Tim Miller,
James Uhl, Erich Schroeder, Jay Wheeler

From: [M Colleen Sweeney](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] No diversion to Brays
Date: Friday, May 31, 2019 9:30:48 AM

Subject: FW: Buffalo Bayou and Tributaries Resiliency Study Comments

To: BBTRS@usace.army.mil

Subject: Buffalo Bayou and Tributaries Resiliency Study Comments

Dear USACE Project Manager:

As a Meyerland resident near Brays Bayou who has experienced three major flood events (Tax Day, Memorial Day, Hurricane Harvey) and subsequent street flooding in relatively small storms (less than 3 inches), I adamantly oppose the proposed construction of a new diversion channel from the Barker Reservoir to Brays Bayou. We do not want to add any more water to the Brays Bayou Watershed under any circumstances.

Thank you for the opportunity to comment.

Colleen Sweeney
5202 Indigo St
Houston TX 77096

From: [John Groweg](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 10:01:16 AM

Hello,

I am very concerned about rapid residential development in the Addicks and Barker Reservoir watersheds north of I-10 and south of Hwy 290. Katy, Cyfair, and 99 toll road areas are exploding. The runoff rates into the reservoirs will be accelerated compared to historical data. The reservoirs will be much more at risk of rapid overcapacity than all previous flood events except Harvey because development didn't accelerate until after the 99 toll road opened.

-01

Please make sure that your hydrological studies account for extensive residential development in the reservoir watersheds

Thanks,
John Groweg
1010 Arrow Hill rd
Houston, Texas 77077

Flooded from Barker dam release, outside 500 year flood plain

Sent from my iPhone

From: [Kelly Levitt](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 10:03:55 AM

-01

I implore the Army Corps of Engineers to avoid solutions that involve diverting water from one watershed/bayou to another. At some point the decision will have to be made to release water into Braes Bayou (or Sims) despite the consequences for those in that watershed. This is an unacceptable option.

Sincerely,
Kelly Levitt

No Substantive Comments Identified

Comment #: ES218

From: [DAVID J. GRIFFITHS](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments on Buffalo Bayou flooding study
Date: Friday, May 31, 2019 10:05:32 AM

I am for acquiring as much floodplain as possible for the detention of storm water.
Janet Griffiths

Sent from my iPhone

From: [Brian Heil](#)
To: [CESWT-BBTRS](#)
Cc: [JB_HEIL@SBCGLOBAL.NET](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study Comment Form
Date: Friday, May 31, 2019 10:38:21 AM
Attachments: [Buffalo Bayou and Tributaries Resiliency Study Comment Form.pdf](#)

See attached comment form please

Brian Heil RA NCARB
Architect

VLK|ARCHITECTS
o: 281.671.2300 | d: 832.678.4382

[Blockedwww.vlkarchitects.com](#)



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- 01 1. ~~Initiate a seven county moratorium on unchecked development and destruction of Katy wetlands. Prohibit development creating excessive impervious surfaces and insufficient detention~~
- 02 2. ~~Widen and clear Buffalo Bayou between Sam Houston Tollway and Shepard Drive. Create additional detention and clear all obstructions.~~
- 03 3. ~~Deepen Addicks and Barker reservoirs, strengthen dam structures and add alternate drainage channels to reroute watershed runoff to these reservoirs~~
- 04 4. ~~Require commercial property owners to retrofit and reduce impervious surfaces and install detention on existing properties, primarily at strip center retail establishments.~~
- 05 5. ~~Notify Harris County residents the voter approved 2 billion dollar bond funding for flood control improvements has been redirected by the county judge Lina Hidalgo and State Representative Rodney Ellis to not be equitably distributed to each district. Initiate a lawsuit against the city and county to reallocate funding~~

Name Brian Heil Affiliation COH Resident
Nombre 1010 Orchard Hill Afiliación
Address
Dirección de Envío
City Houston State TX Zip Code 77077
Ciudad Estado Código Postal
E-mail jb_heil@sbcglobal.net
Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Larry Benthall](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] comments on Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 10:53:51 AM
Attachments: [Buffalocomment my comments.pdf](#)

attached are my comments in your form

Larry Benthall
8806 Prichett Dr
Houston, TX 77096



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

-01 I understand the desire of Buffalo Bayou property owners to divert water to someone else's watershed, but I oppose such a plan. On paper, making a decision to divert "when Brays is lower" sounds good, but I see an inevitable conflict of interest leading to a mistake or a political power play that would lead to flooding the Brays watershed from a source for which the Brays Bayou modifications are not designed to handle.

-02 Buffalo Bayou watershed folks should do what the Brays Project did: Modify the watershed to handle a larger flow. The environmental folks need to back off on this one, and allow Buffalo Bayou what Brays allowed.

I like the concept of tunnels, but the proposed solution is too costly and distant. Perhaps talk to Elon Musk about his tunneling technology to build something innovative.

Name Larry Benthall
Nombre

Affiliation homeowner
Afilación

Address 8806 Prichett Dr
Dirección de Envío

City Houston
Ciudad

State TX
Estado

Zip Code 77096
Código Postal

E-mail Larry.Benthall@gmail.com
Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



**US Army Corps
of Engineers®**

Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

Comment Period: April 29, 2019 through May 31, 2019

The U.S. Army Corps of Engineers is in the process of developing the Buffalo Bayou and Tributaries Resiliency Study which includes both Flood Risk Management and a Dam Safety Modification Study (DSMS). The flood risk management will identify and evaluate alternatives to reduce flooding upstream of the Addicks and Barker Dams as well as below in the Buffalo Bayou watershed. The DSMS will identify and evaluate alternatives to address Phase II measures of the Dam Safety Modifications on Addicks and Barker. Public input is especially needed regarding alternatives to consider.

USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Place
Stamp
Here

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

From: [Philip Kunetka](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Brays Bayou and general flood planning for the Houston Area comment
Date: Friday, May 31, 2019 11:10:44 AM

I am a member of the Brays Bayou Association, have been briefed over the years by many of the experts knowledgeable of Houston flooding and I work with multiple elected and community leaders who recognize me as an advocate with objective knowledge on the subject. Additionally, I am President of the Maplewood Civic Club. Maplewood is near Brays Bayou but was not flooded in the recent flood events in the area but is economically affected by Brays flooding.

I wish to object one particular possibility proposed by the Corps. There is a proposal to put a floodgate, or construction of such effect, in the southern side of the Barker Reservoir for the purpose of diverting water destined for the Buffalo Bayou watershed into the Brays Bayou Watershed.

-01

Overall, I object to the concept of “man” deciding who gets potential floodwaters. History has shown that man does a poor job of countermanding the laws of nature. Also, the diversion would actually be putting water from a “more-rarely” flooded watershed into an often flooded watershed. The concept is a poorly thought out overreaction to the single anecdote of Harvey rather than a long-term consideration.

Diversion of water from one watershed to another is fraught with the possibility of human error, both scientific failure of judgement and political expediency. It would put decision makers into the role of picking winners and losers....often done so with less than honorable considerations. It would also pit communities against one another. If one person is about to flood, they would want the floodgates opened - survival mode limiting the further considerations of other people in other places - without thinking about the neighbors over the hill.

The rule of nature is best. By keeping all watersheds consistent, it also allows homeowners and builders to utilize a single, if still difficult to quantitate, floodplain scale.

I can also assure you, the senior political leadership in the Houston area would be opposed.

I believe enhancement to the existing Addicks/Barker system, additional reservoir resources and many other proposals put forth by the Corps are a better and more responsible investment.

Phil Kunetka
President - Maplewood Civic Club
5611 Edith St.
Houston, TX 77081
832-215-3233 cell

From: [Cindy Acree](#)
To: [CESWT-BBTRS](#)
Cc: [Steve Robinson](#); [Harry Thompson](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 11:51:25 AM
Attachments: [USACE Letter.pdf](#)

Dear Sir/Madam, Attached is correspondence from Willow Fork Drainage District with respect to the Buffalo Bayou and Tributaries Resiliency Study. Please contact us if you have any questions or comments regarding the attachment.

Thank you,

Cindy Acree on behalf of Steve Robinson and Harry Thompson

Cindy Acree

Assistant to Stephen M. Robinson, Annette F. Stephens and Harry H. Thompson

ALLEN BOONE HUMPHRIES ROBINSON LLP

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WILLOW FORK DRAINAGE DISTRICT

**Fort Bend and Harris Counties, Texas
3200 Southwest Freeway, Suite 2600
Houston, Texas 77027**

May 31, 2019

U. S. Army Corps of Engineers, Galveston District
Attn: BBTRS
P. O. Box 1229
Galveston, Texas 77553-1229
BBTRS@usace.army.mil

Re: Buffalo Bayou and Tributaries Resiliency Study Update (the "Study")

Dear Sir/Madam:

This letter is to express Willow Fork Drainage District's (the "District") comments to the ongoing Study being undertaken by the U. S. Army Corps of Engineers, Galveston District ("USACE").

The District expresses its gratitude to USACE's commitment to addressing residual risks associated with flood impacts to structures in the flood pool area upstream of both Barker and Addicks Reservoirs and downstream along Buffalo Bayou. We understand this study will investigate flood risk management opportunities in the Houston region, including Fort Bend and Harris Counties, by analyzing the primary watersheds (including the Addicks and Barker Reservoirs), identifying feasible risk reduction measures, and optimizing performance from a multi-objective systems performance perspective.

The District is located immediately adjacent and upstream of Barker Reservoir in Fort Bend and Harris Counties and was created to finance the acquisition or construction of major outfall drainage facilities, trunk storm sewer facilities, and related projects to serve the land located within the District. There are over 11,000 single-family residential homes within the approximately 5,718 acres of land served by the District. The District is directly impacted by the operation and maintenance of Barker Reservoir and experienced extensive flooding of homes, businesses and public facilities during Hurricane Harvey.

CURRENT PROCESS

-01

Contrary to the Study's approximation of a "3-Year" timeframe, the Study itself concedes that only proceeding to a "Washington-level Review" will take a minimum of 3 years, with no discussion into the process for review, budgeting, permitting or implementation necessary to execute the Study's findings. Following these processes, it is conceivable that a solution could be more than 10-15 years or more from completion. In the meantime, the Reservoirs and Buffalo Bayou are still holding the excess silt accumulated from Harvey, and have less capacity than ever before. At this time, no remedial measures have been undertaken by the USACE to reduce the flood risk from Barker Reservoir.

SHORT TERM SOLUTIONS

-02

No study is required to reach a conclusion that additional reservoir capacity is needed today. Interim solutions should be undertaken that provide tangible flood mitigation prior to the completion of the Study and subsequent to implementation. An interim report as a part of the Study could include (1) immediately commence desilting and vegetation removal from all channels within Barker and Addicks Reservoirs, and (2) excavation activities as soon as practicable within Barker and Addicks Reservoirs. Three main issues can begin to be mitigated by prompt excavation of the Reservoirs: (1) flooding downstream of the Reservoirs on Buffalo Bayou; (2) flooding Upstream of the reservoirs from impoundment of water above government owned land; and (3) performance and risk issues related to flow around and over the uncontrolled spillways. By excavating the Reservoirs and Buffalo Bayou, more capacity is created, thus tilting the balance of storage more towards government-owned land than private land, including areas in the District. Whether only removing earth from certain areas, or generally extracting dirt from the Reservoirs, such a process would immediately begin increasing storage and addressing the aforementioned issues.¹

Form
Master
#1

In addition to excavation, other alternatives must be considered by the Study to mitigate flood risk. For example, the District respectfully recommends USACE investigate the following possible options:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Reservoirs (e.g. flood tunnel(s), diversion channels, channel improvements and/or bypass).

¹ It is important to note that a 737-acre project (USACE located due east of Canyon Gate in the Cinco Ranch Area) has been presented to the USACE and recommended by the District. An additional alternative would be to pile the excavated dirt into large hill/small mountain within the Reservoir, thus decreasing transportation costs and creating an amenity that could provide recreational use to the community.

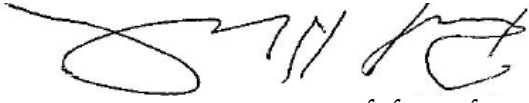
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the Reservoir, including dredging, desilting and de-snagging.
4. Add intermediate detention/retention capacity upstream and downstream of the Reservoirs.
5. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
6. Do not increase the Barker Reservoir flood pool by extending spillways.
7. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

It is important that the tool of an Interim Chief's Report be seen as a continuing obligation and option to the USACE. As further alternatives are identified in the future, it is incumbent upon the USACE to implement any viable alternatives in as timely a fashion as possible, and long-term studies simply constrain the swift implementation of likely life-saving flood prevention measures.

Potential non-federal sponsors of the USACE's efforts to alleviate flood risk in the Buffalo Bayou Watershed include the Harris County Flood Control District, Fort Bend Drainage District, the District, the City of Houston, and several other local governmental entities affected by flooding during Hurricane Harvey. Further, Harris County voters resoundingly approved a \$2.5 billion flood bond referendum related to 237 qualified projects that will be implemented over the next decade beginning immediately, Fort Bend County has undertaken a drainage study to study every one of its drainage channels over the next 18 to 24 months, and the Texas legislature passed SB 6, SB 7 and SB 8 dedicating more than \$3 Billion in funds to address flood planning and resiliency.

The District respectfully requests due consideration of these comments submitted to the USACE.

Very truly yours,



Richard Ward

President, Board of Directors

From: [Lisa Graiff](#)
To: [CESWT-BBTRS](#)
Cc: [Beth White](#); [Place, Charles](#); [Piacentini MaryAnne](#); [Jill Boullion](#); [Jordan Macha](#); [January-Bevers, Deborah](#); [Anne Olson](#); [Sarah Bernhardt \(sbernhardt@bayoupreservation.org\)](#); [Helen Drummond](#); [Stokes, Bob](#); [Scott Jones](#); [Place, Charles](#)
Subject: [Non-DoD Source] USACE - Buffalo Bayou and Tributaries Resiliency Study - CFMG comments
Date: Friday, May 31, 2019 12:06:05 PM
Attachments: [190531_USACE-BBTRS-CFMGLetter-FINAL.pdf](#)

Dear BBTRS Coordinator,

Attached are comments from the Greater Houston Conservation Flood Mitigation Group (CFMG) on the Buffalo Bayou and Tributaries Resiliency Study. We are a group of conservation focused non-profits that have a joint interest in nature-based solutions to flooding in our region.

As organizations who have been working in conservation and nature-based flood mitigation in our region for decades, we are here to offer our collective expertise. Please let us know if you have any comments or would like any additional information.

Thanks you for your work on this study.

Best Regards,

Lisa Graiff

Houston Parks Board

on behalf of the Greater Houston Conservation Flood Mitigation Group

lisag@houstonparksboard.org

300 North Post Oak Lane

Houston, TX 77024

O: 713-942-8500 x44

M: 832-335-0078

[Blockedwww.houstonparksboard.org](http://www.houstonparksboard.org)

The Houston Parks Board is a 501 (c) (3) non-profit organization dedicated to creating, improving, protecting and advocating for parks for everyone.

May 31, 2019

USACE Galveston District
Attn: BBTRS
P.P. Box 1229
Galveston, TX 77533-1299

RE: USACE Buffalo Bayou and Tributaries Resiliency Study Public Comments

Dear BBTRS Coordinator:

The Conservation Flood Mitigation Group (CFMG) consists of conservation-focused nonprofits that are concerned about the effects of flooding in our region. The group has been meeting informally to share their joint interest in nature-based solutions (NBS) to flooding. The International Union for the Conservation of Nature (IUCN) defines NBS as actions to protect, sustainably manage, and restore natural or modified ecosystems to address societal challenges effectively and adaptively, simultaneously providing human well-being and biodiversity benefits. As noted in the USACE's *Engineering With Nature Strategic Plan*, significant progress has been made in the development and application of practical methods that demonstrate the benefits of an ecosystem approach to infrastructure development and operations. [see <https://ewn.el.erdc.dren.mil/pub/EWN-StrategicPlan2018-2023FINAL.pdf>, p. 5].

We are encouraged to see that the USACE is undertaking a study of Buffalo Bayou and tributaries with the intention of increasing resilience. We believe now is the time to work together to protect residents of Harris County proactively. To that end we offer our collective expertise in conservation and nature-based flood mitigation solutions.

The CFMG was formed because we recognized the need for a flood mitigation plan that is objective, regional, science-based, and forward-thinking. It should marry nature-based and natural infrastructure with innovative engineering technologies. Such a plan is vital to creating an effective and durable system for the protection and resilience of the Greater Houston Region at the same time that we maintain the quality of life and desirability of our area. Our organizational knowledge can help to optimize this comprehensive plan.

Many of the organizations involved in this planning effort have been working to successfully conserve land for decades. Some focus on preserving land, either along creeks and bayous or other large-scale conservation activities. Others advocate for protection of our natural assets and work to heighten public and governmental understanding of their importance.

Our work is centered in the Gulf Coast Region from the headwaters of our streams to the bay waters of Galveston Bay. Our conservation activities provide significant benefits to the region, in the context of recreation, wildlife habitat, improvements in air and water quality, economic fairness, and – last but not least – flood mitigation.

The CFMG convened to identify natural infrastructure projects and nature-based solutions appropriate for flood mitigation. The organizations agreed on guiding objectives *before identifying specific projects*,

bearing in mind the potential cost-effectiveness, both long and short term, associated with natural infrastructure and nature-based solutions.

Guiding objectives:

- Maximize buyouts to increase riparian corridor preservation and remove people and property from harm's way to decrease flood losses. This includes:
 - Preserving natural riparian corridors in undeveloped areas,
 - Targeting developed areas, especially where the public needs land for increased flood mitigation,
 - Providing full relocation services to home owners and tenants,
 - Preventing future development of these areas and converting them to public parks or open space.
- Undertake large-scale, landscape-level conservation (large tracts of undeveloped land) for maximum impact,
- Identify innovative approaches to reduce flooding. Engage experts with experience in nature-based solutions and conduct research necessary to optimize these solutions,
- Develop site specific detention requirements. Calculate detention / retention and release rates to reflect pre-development run-off rates, including the study of pre-agriculture simulation to show actual run-off rates for undeveloped land.
- Fix Existing Infrastructure
 - Restore and expand the capacity of existing reservoirs and detention ponds by removing invasive species and sediment and silt, possibly excavating for additional capacity, and other activities that expand flood storage.
 - Restore trails or other existing amenities impacted by bayou flood control activities.
- Improve conveyance by preserving/increasing protection of floodways and floodplains
 - Increased conveyance should not flood downstream or upstream, nor should it overwhelm the drainage system.
 - Increase the use of localized detention to supplement large-scale efforts.
 - Use natural system design for bayous to restore sinuosity, which increases capacity and slows water flow.
 - Maintain/restore native trees and grasses as appropriate to increase water absorption.
- Flood control projects, particularly nature-based infrastructure (NBI), should be designed to support multi-use activities to the greatest extent practicable so as to provide additional community benefits, including recreational and natural open space and improved water quality.

Our recommendations fall into six categories:

1. **Acquisition** - Land acquisition, especially large tracts of land that are either adjacent to already protected lands or which can be acquired at a scale sufficient to provide appreciable flood mitigation benefits. Target areas include projects proposed by nonprofit organizations as part of the working group as well as the overall goal advocated by Houston Wilderness to conserve 24% of the region's land mass by 2024.
2. **Restoration** - Especially woods or prairies which can generally absorb floodwaters better than other types of vegetation.

- 04 | 3. **Preservation** - Riparian corridor preservation in areas that are currently undeveloped or sparsely developed so that entire floodway and floodplain areas can be protected. These areas can contribute to flood management through conservation, restoration, or creation of detention.
- 05 | 4. **Buyouts** - In conjunction with federal and county buyouts expand the footprint of protected lands and avoid a checkerboard approach to buyouts to increase flood mitigation benefits.
- 06 | 5. **Erosion control** – Implement the use of native vegetation along local bayous, creeks, and rivers to reduce erosion and sedimentation. Utilize Best Management Practices (BMPs) for riparian erosion control. Monitor and analyze the results to improve upon BMPs.
- 07 | 6. **Research** – Undertake research projects to make the case for nature-based infrastructure (NBI) as a viable stormwater management alternative. Conduct research needed to optimize NBI solutions.

Specific areas of study for the Buffalo Bayou and Tributaries are as follows:

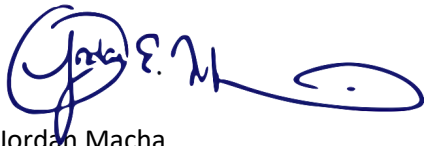
- 08 | 1. Preserving existing open space in the floodplain along Bear Creek, Langham Creek, South Mayde Creek, Horsepen Creek, Mason Creek, and Buffalo Bayou.
- 09 | 2. Acquiring large tracts of natural areas within the watersheds of the waterways listed above. Especially where adjacent to other large expanses of protected land such as the Katy Prairie.
- 10 | 3. Restoring prairie and forested areas both within the reservoirs and in the affected watersheds to remove invasive plants and improve soil quality to increase water retention.
- 11 | 4. Expanding the capacity of Addicks and Barker Reservoirs through excavation and other appropriate means.
- 12 | 5. Ensuring development detention requirements that meet pre-development run-off rates, or restrict development within the floodplain.
- 13 | 6. Exploring micro-detention strategies such as rainwater collection tanks and gardens with native prairie plants.
- 14 | 7. Consider nature based infrastructure first, whether alone or in conjunction with more traditional man-made efforts.

-15 | Using riparian corridor protection and NBI techniques wherever possible will be more cost effective in the long run. Such projects are generally less expensive to implement and maintain. Even where natural design techniques alone are not sufficient, they are a valuable and cost-saving supplement to more traditional engineering design solutions. Therefore, we urge you to consider the suggestions put forward by the CFMG for inclusion in a comprehensive flood mitigation strategy.

Furthermore, we are happy to work with you to identify further opportunities for conservation and nature-based flood mitigation projects.

Tackling flood mitigation in the Houston region is a monumental task. We look forward to being an integral part of the efforts to make the region more resilient for generations to come.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jordan Macha".

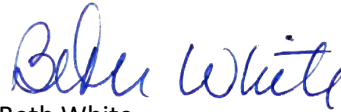
Jordan Macha
Executive Director
Bayou City Waterkeeper

A handwritten signature in blue ink, appearing to read "Bob Stokes".

Bob Stokes
President
Galveston Bay Foundation

A handwritten signature in blue ink, appearing to read "Jill Boullion".

Jill Boullion
Executive Director
Bayou Land Conservancy

A handwritten signature in blue ink, appearing to read "Beth White".

Beth White
President & CEO
Houston Parks Board

A handwritten signature in blue ink, appearing to read "Sarah P. Bernhardt".

Sarah P. Bernhardt, Ph.D.
President & Chief Executive Officer
Bayou Preservation Association

A handwritten signature in blue ink, appearing to read "Deborah January-Bevers".

Deborah January-Bevers
President & CEO
Houston Wilderness

A handwritten signature in blue ink, appearing to read "Anne Olson".

Anne Olson
President
Buffalo Bayou Partnership

A handwritten signature in blue ink, appearing to read "Mary Anne Piacentini".

Mary Anne Piacentini
President & CEO
Katy Prairie Conservancy

A handwritten signature in blue ink, appearing to read "Helen E. Drummond".

Helen E. Drummond
Executive Director
Houston Audubon

From: [Sarah Bernhardt](#)
To: [CESWT-BBTRS](#)
Cc: [razburn@gmail.com](#); [Robert Rayburn \(rrayburn@energycorridor.org\)](#); [Susan Hill](#); [Chris Browne](#); [Linda Shead](#)
Subject: [Non-DoD Source] USACE - Buffalo Bayou and Tributaries Resiliency Study - Bayou Preservation Association comments
Date: Friday, May 31, 2019 12:27:13 PM
Attachments: [image001.png](#)
[2019_May_BayouPreservation_USACE_BuffaloBayouStudy_Lt.pdf](#)

Good afternoon BBTRS Coordinator,

Please find attached comments on the USACE - Buffalo Bayou and Tributaries Resiliency Study.

Thank you for the opportunity to provide comment.

Regards,

Sarah

--

Sarah P. Bernhardt, Ph.D.
President & CEO



Bayou Preservation Association

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BAYOU PRESERVATION ASSOCIATION

celebrate. protect. restore.

May 31, 2019

Board of Directors

USACE Galveston District

Attn: BBTRS

Executive Committee

Robert Rayburn, Chair

Linda Shead, Vice Chair

Christopher Browne, Secretary

Susan Hill, Treasurer

P.P. Box 1229

Galveston, TX 77533-1299

RE: USACE Buffalo Bayou and Tributaries Resiliency Study Public comment

At-Large Members

Dick Cate

Amy Dinn

Elaine Finger

Mike Garver

Lisa A. Gonzalez

J. Tynan Kelly

Robert S. Lee

Paul Nelson

Cristina Petersen

Jim Robertson

Jack Sakolosky

Mahmoud Salehi

Merrie Talley

Joyce Wiley

Dear BBTRS Coordinator,

The Bayou Preservation Association was established in 1966 and has the mission of celebrating, protecting, and restoring the natural richness of all the Houston area's bayous and creeks, which are a unique characteristic of the region.

As the region considers resiliency and flood damage reduction efforts after Hurricane Harvey, we call on all Houston-area stakeholders, including the United States Army Corps of Engineers to consider the following six principles adopted by the Bayou Preservation Association Board of Directors in April 2018 when evaluating and selecting proposed projects:

President & CEO

Sarah P. Bernhardt

Principle 1. Avoidance of Adverse Impacts on the Functions and Values of Riparian

Corridors. Projects should recognize the value of functional riparian corridors and seek to protect existing riparian areas and not create adverse impacts to existing riparian corridors. Projects should not preclude future establishment of riparian corridors in areas where they have been reduced or removed due to new development. Where possible, projects should look for opportunities to establish or enhance riparian corridors.

-01

Principle 2. Avoidance of Adverse Impacts on Water Quality. New projects should not diminish the water quality of our bayous, streams, lakes, bays and watersheds. Projects should assess impacts both at the site of implementation, as well as potential for impact to downstream areas. Where possible, projects should look for opportunities to improve water quality which is in line with the goal of achieving fishable and swimmable waterbodies throughout our region.

-02

Principle 3. Utilization of Best Practices for Improving Stormwater Management. New projects should look to develop and improve stormwater management facilities which complement the natural environment using current research and science. This could include implementation of Natural Stable Channel Design practices and sustainable vegetation management using native species. New projects should be identified as a part of holistic planning efforts and integrated into the existing built and natural environment such that they add benefit to multiple services.

-03

Principle 4. Accommodation for Both Current and Future Needs. Studies should seek not only to evaluate current needs, but also to accommodate future needs associated with our rapidly growing urban area. Projects should identify and secure real estate necessary for sustainable, resilient projects which derive benefits from multiple services.

-04

-05

Our Mission is to celebrate, protect and restore the natural richness of all our bayous and streams.

Our Vision is a network of healthy bayous, streams and watersheds.

Principle 5. Evaluation of ALL Associated Benefits and Impacts. The holistic health and functionality of our watersheds is complex, and is dependent on numerous natural and built components interacting as one comprehensive system. This may include riparian corridors, stormwater conveyance facilities, recreational amenities, aesthetic features, ecosystem services, and natural or built measures which include water quality. New projects should assess benefits and impacts to all the components of a watershed when determining the feasibility of projects and ensuring no adverse impacts to any aspects of a healthy watershed system.

Though the USACE Buffalo Bayou and Tributaries Resiliency Study presentation materials acknowledge an “opportunity” to “engineer with nature and implement nature-based features,” the absence of these strategies from potential measures, alternatives development, and maps of strategies, is troubling. Since these more detailed descriptions of the study also fail to include nature-based solutions, we are concerned that nature-based solutions will not adequately be considered as real alternatives. We hope that their cursory inclusion does not mean that nature-based solutions are only receiving lip service while privileging traditional engineered solutions. While the Buffalo Bayou watershed continues to become more highly urbanized, opportunities remain today to protect those portions of the watershed which have not already been converted to residential and commercial development and to take action to restore developed portions of the floodplain back to pre-development conditions.

We urge the USACE to take additional action to protect the region’s floodways and floodplains. No structures should be allowed within floodways or deep within the floodplain – existing structures should be removed and no new structures should be constructed within these areas. This is important because the floodplain worked prior to development. Placing structures in the floodway impedes the ability of the floodplain to operate and perform as effectively and economically efficient as nature designed.

We request every project alternative include nature-based approaches. No potential alternative should be composed of traditional engineering solutions alone, but should also incorporate the enhancement and creation of wetland, woodland, and floodplain areas to maximize benefit and resiliency. For example, in developing detention, it is preferable to use natural wetlands instead of engineered wetlands; in enhancing bayous, the use of native plant material for restoration and the long term maintenance of existing lands by removing nonnative invasive plant species should be followed as a “best practice.” In all cases, projects must be analyzed not only for the cost-effectiveness of the initial capital costs but also for the long-term operating, maintenance, and replacement costs in addition to the human costs. Nature-based solutions (preferably large-scale land acquisition and maintaining natural landscapes without development) can result in longer project life (often perpetual) with a lower risk of failure during a severe storm event. In addition, nature-based projects provide social, economic, and environmental benefits to the community, including improved water quality, carbon capture, and availability of areas for recreation, wildlife, local agriculture, and improved quality of life.

Stormwater management projects, using particularly nature-based solutions and should be designed to restore riparian corridors to their pre-development floodplain size and function. Restoration and protection of the floodplains will result in far superior product and result in less taxpayer money spent in the long term. These visionary type of actions will save taxpayer money and in turn support multi-use activities and provide additional community benefits, such as removing people from harm’s way by removing their homes from the floodplain, creation of recreational and natural open space and improved water quality. We strongly support the application of these landscape level transformations of our floodplains as a 100-year vision for our region’s long term resiliency. It is wiser fiscally to pursue full restoration of the natural floodplain than to keep applying small solutions. We strongly support environmentally focused solutions, but even more importantly support full restoration of the floodplain to its full extent, removing structures from the floodplain.

Sincerely,



Sarah P. Bernhardt
President & Chief Executive Officer
sbernhardt@bayoupreservation.org
Cc: Bayou Preservation Association Board of Directors

From: [Ryan Bernard](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public Feedback on BBTRS
Date: Friday, May 31, 2019 12:45:34 PM

My feedback on improvements to Buffalo Bayou watershed:

- I am in favor of buying out floodprone property, buying undeveloped land for preservation, more trees and greenspace, more detention, including basins and rain gardens

-- I am opposed to tunnels, dams, or "improving" the bayous (deepening, widening, straightening, bypasses, etc.)

In short, I am in favor of working with nature rather against it. I am for solutions that are friendlier to ordinary humans, plants, and animals, and less friendly to developers and powerful interests. Yes we need flood control but let's shy away from "slash and destroy" and lean over backwards to avoid marring the few patches of natural beauty we have left in this otherwise barren landscape.

There is a balance here, but let's err on the side of conservation and conservatism.

Ryan Bernard
2226 Welch Street
Houston, TX 77019

Report referenced was accessed through the website provided and attached to the comment.

Comment #: ES226

-- M. Fisher. 03 June 19

From: [Robert Hoff](#)
To: [CESWT-BBTRS](#)
Cc: bbaugh@radoil.com; bbaugh@baughengrs.com
Subject: [Non-DoD Source] Buffalo Bayou flow volume improvement
Date: Friday, May 31, 2019 1:20:50 PM

TO USACE:

I read an engineered report from Dr. Benton Baugh with a simple, cost effective means of enhancing Buffalo Bayou to improve the drainage and flow volume.

A brief on this system:

[Blockedhttp://baughconsultingengineers.com/wp-content/uploads/2017/08/TFC-MAIN-2.pdf](http://baughconsultingengineers.com/wp-content/uploads/2017/08/TFC-MAIN-2.pdf)

This system simply allows Buffalo Bayou to move more water by increasing the flow rate all the way to the sea.

He also has a design for a thruster system that can telescope into and retract from the bayou.

Furthermore, his engineered approach has designed spillways, large retention areas on public land, some straightening of the bayou, and other improvements.

It is a lower cost solution that can be implemented quickly, and will provide an easily managed and effective flood control system.

Please review this and consider it.

I lost over \$250,000 from the flooding, and I worry as there is not much movement to improve the SE Texas flood drainage system to date.

Thanks.

Regards,
Robert Hoff

HOUSTON THRUSTER FLOOD CONTROL PROJECT



HOUSTON THRUSTER FLOOD CONTROL PROJECT

**DOWNTOWN HOUSTON - ALLISON
JUNE 9, 2001
NOTE THAT THE FLOOD WATER IS
MOVING SO SLOWLY THAT IT
APPEARS TO BE STATIONARY.**

**DOWNTOWN HOUSTON - HARVEY
AUGUST 27, 2017 - STILL NO BETTER**



HOUSTON THRUSTER FLOOD CONTROL PROJECT

AN ECONOMICAL WAY TO SOLVE HOUSTON'S
FLOODING PROBLEMS

THE CONCEPT IS THAT IF WE MAKE THE WATER
FLOW TWICE AS FAST IN THE BAYOUS, WATER
WILL BE GONE AND FLOODING WILL NOT OCCUR!

THIS PRESENTATION WAS PREPARED IN 2001
AFTER ALLISON, BUT THE SITUATION IS STILL
THE SAME!

HOUSTON THRUSTER FLOOD CONTROL PROJECT

WHEN BUFFALO BAYOU EAST BACKS UP, IT
SENDS BUFFALO BAYOU WEST AND WHITE OAK
BAYOU WATERS INTO DOWNTOWN.

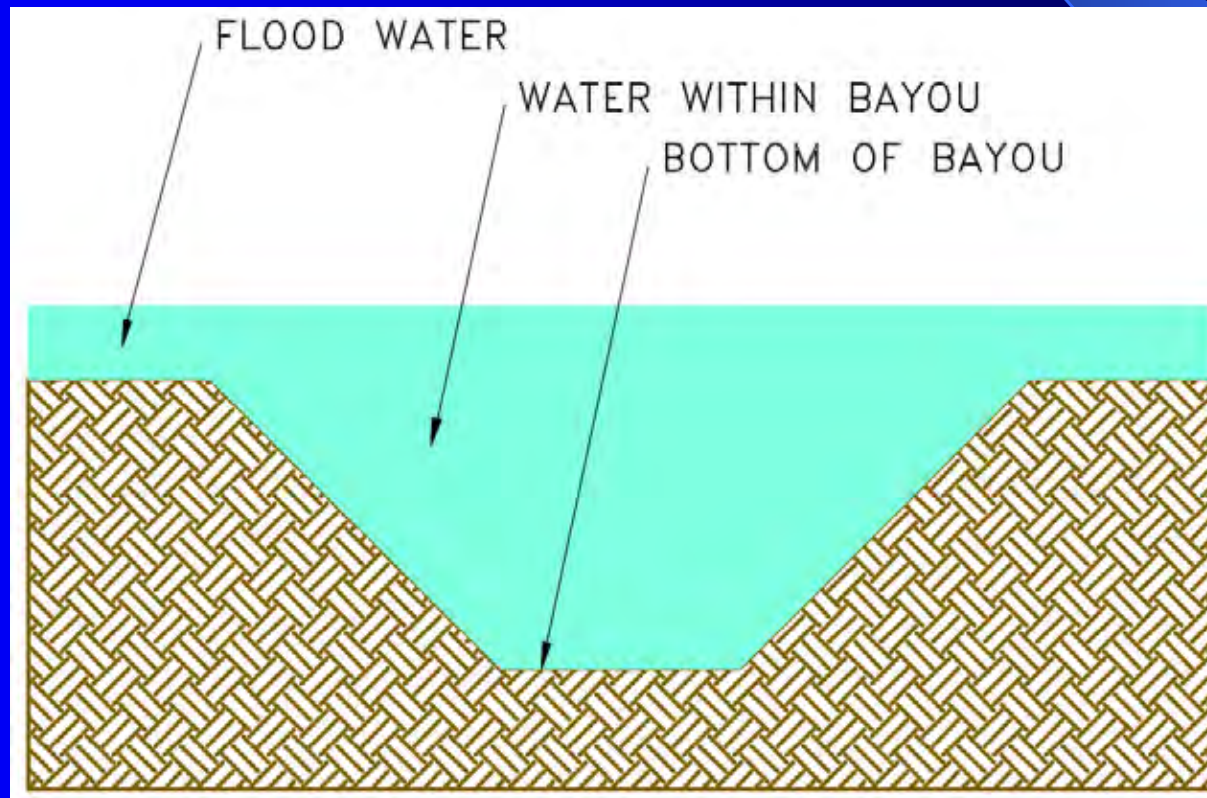
WHEN BRAYS BAYOU FLOODED, HARRIS GULLEY
BACKED UP THRU THE MEDICAL CENTER,
SENDING WATER UP INTO THE HOSPITALS

HOUSTON THRUSTER FLOOD CONTROL PROJECT

BAYOU WATER NORMALLY FLOWS DOWNSTREAM ASSISTED BY GRAVITY AND RESTRICTED BY BAYOU SIZE AND WALL FRICTION.

DOWNTOWN HOUSTON IS 20 MILES FROM THE BAY SYSTEM, AND THE ELEVATION IS 20' ABOVE SEA LEVEL. THIS MEANS WE HAVE AN AVERAGE SLOPE OF ONE FOOT PER MILE – ALMOST FLAT.

THIS IS WHY DURING A LARGE STORM SUCH AS ALLISON OR HARVEY WATER SIMPLY FLOWS OUT OF THE BANKS - A FLOOD.



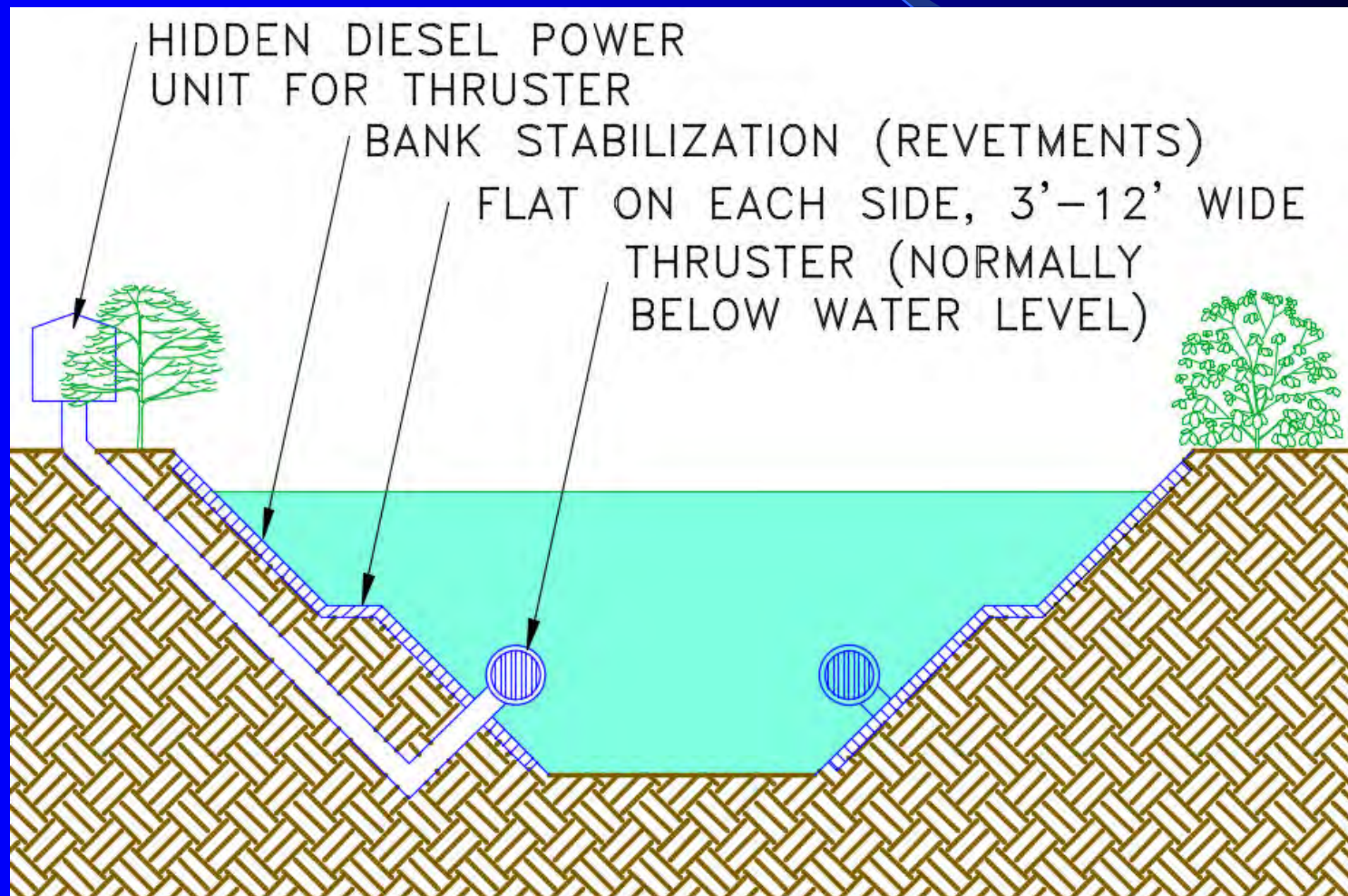
HOUSTON THRUSTER FLOOD CONTROL PROJECT

THIS IS COMPLICATED DOWNTOWN BECAUSE WHITE OAK BAYOU INTERSECTS BUFFALO BAYOU AT 90°, SO HAS NO DOWNSTREAM VELOCITY. THIS PROMOTES GOING INTO DOWNTOWN.



HOUSTON THRUSTER FLOOD CONTROL PROJECT

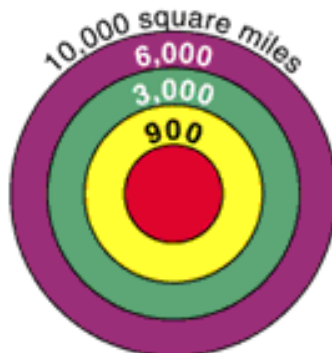
THIS IS BUFFALO BAYOU WITH THE BANKS STABILIZED AND THE SAME AMOUNT OF WATER MOVING FASTER BECAUSE WE ADDED EXTRA ENERGY TO THE WATER WITH OFFSHORE THRUSTERS TO MAKE IT MOVE FASTER. THE FLOODING DOES NOT OCCUR.



Allison: A historical perspective

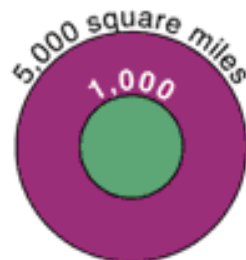
A study of 300 storms in the 13-county Texas upper Gulf Coast found six that had the broadest, deepest rainfall. These rainfall schematics represent the area, in square miles, that was affected by each storm:

Inches of rainfall 15+ 20+ 25+ 30+



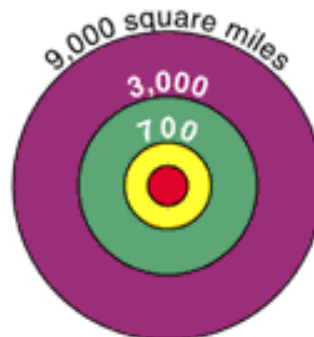
1899

June 27-July 1: Heaviest rainfall in Brenham, but heavy through Fort Bend County.



1943

July 27-29: Hurricane up Galveston Bay pounds Liberty County hardest.



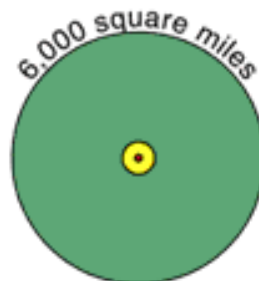
1960

June 24-26: Tropical storm leaves largest rainfall accumulation at Port Lavaca.



1979

July 24-28: Rainfall from Tropical Storm Claudette in Alvin is greatest 24-hour total ever in the United States.



1994

Oct. 15-19: Liberty, Polk and southwest Montgomery counties get the heaviest rainfall.



2001

June 5-10: Tropical Storm Allison hits hardest in east Harris County and the Jefferson-Liberty county line.

HOUSTON THRUSTER FLOOD CONTROL PROJECT

EACH OF THE 5 STORMS
ILLUSTRATED WERE WORSE
THAN ALLISON. IF CLAUDETTE
HAD HIT 25 MILES DUE NORTH,
IT WOULD HAVE BEEN SEVERAL
TIMES WORSE THAN ALLISON!

IT CAN AND WILL HAPPEN AGAIN!
(IT DID, AND HARVEY WAS
WORSE!)

OTHER MAJOR FACTORS ARE
URBANIZATION AND
SUBSIDIENCE – IT WILL ONLY
GET WORSE IN THE FUTURE!

HOUSTON THRUSTER FLOOD CONTROL PROJECT

TECHNOLOGY IS READILY AVAILABLE FOR THIS METHOD

**REMOTELY OPERATED VEHICLE
(ROV) WITH SEVERAL THRUSTERS**

**2000 HP OFFSHORE
VESSEL THRUSTER**



HOUSTON THRUSTER FLOOD CONTROL PROJECT

PHASE 1



IN THE FALL OF 2001, A TEAM OF UNIVERSITY OF HOUSTON SENIOR ENGINEERS WORKED ON A PROJECT TO DO PRELIMINARY STUDIES ON THE FEASIBILITY OF THIS PROJECT. A FIRST PROTOTYPE OF THE THRUSTER SYSTEM WAS BUILT TO DEMONSTRATE THE POWER OF THRUSTERS. UH PROFESSOR DR. CHARLES DALTON IS SEEN ABOVE WORKING WITH A THRUSTER UNIT IN THE RECIRCULATING CHANNEL MODEL.

HOUSTON THRUSTER FLOOD CONTROL PROJECT



SEE KHOU
MOVIE FOR
MORE DETAILS

OPERATIONAL MODEL SHOWING FROM DOWNTOWN TO TURNING THE SHIP CHANNEL.
ALLOWED DOWNTOWN TO BE FLOODED AND THEN UNFLOODED WITH THRUSTERS.

HOUSTON THRUSTER FLOOD CONTROL PROJECT

**IN THIS PROJECT WE MEASURE THE POPULAR SOLUTION,
DETENTION PONDS, IN THE SECONDS OF FLOW DOWN
BUFFALO BAYOU IT WOULD TAKE TO FILL THEM.**

**AFTER A FEW SECONDS WHEN THEY ARE FILLED, THEY
ARE OF NO MORE HELP. MANY DETENTION PONDS ARE
LOST BELOW THE FLOOD WATERS.**

**THRUSTERS WILL KEEP ON DOUBLING THE AMOUNT OF
WATER OUR BAYOUS WILL REMOVE FOR AS LONG AS THE
WEATHER EVENT CONTINUES!**

**IF BAYOUS ARE NOT KEPT LOW, EVERYTHING FLOODS!
THE FIRST STEP IN ANY NEIGHBORHOOD PLAN HAS TO
BE TO KNOW WHERE THE WATER WILL BE ABLE TO GO.**

HOUSTON THRUSTER FLOOD CONTROL PROJECT WILL STOP HOUSTON'S FLOODING

THE THRUSTER SYSTEM DOES NOT REQUIRE LAND ACQUISITION.

THE THRUSTER SYSTEM DOES NOT INCREASE CHANNEL SIZE.

THE THRUSTER SYSTEM CAN BE IMPLEMENTED QUICKLY.

THE THRUSTER SYSTEM WILL WORK IN CEMENTED BAYOUS.

AND...

**THE THRUSTER SYSTEM CAN BE FULLY INSTALLED FASTER THAN
ANY OTHER KNOWN SOLUTION!**

**THE THRUSTER SYSTEM COSTS A FRACTION OF WHAT OTHER
KNOWN OPTIONS WILL COST!**

**THE THRUSTER SYSTEM WILL COST A FRACTION OF THE DAMAGE
COST OF A SINGLE EVENT LIKE ALLISON OR HARVEY!**

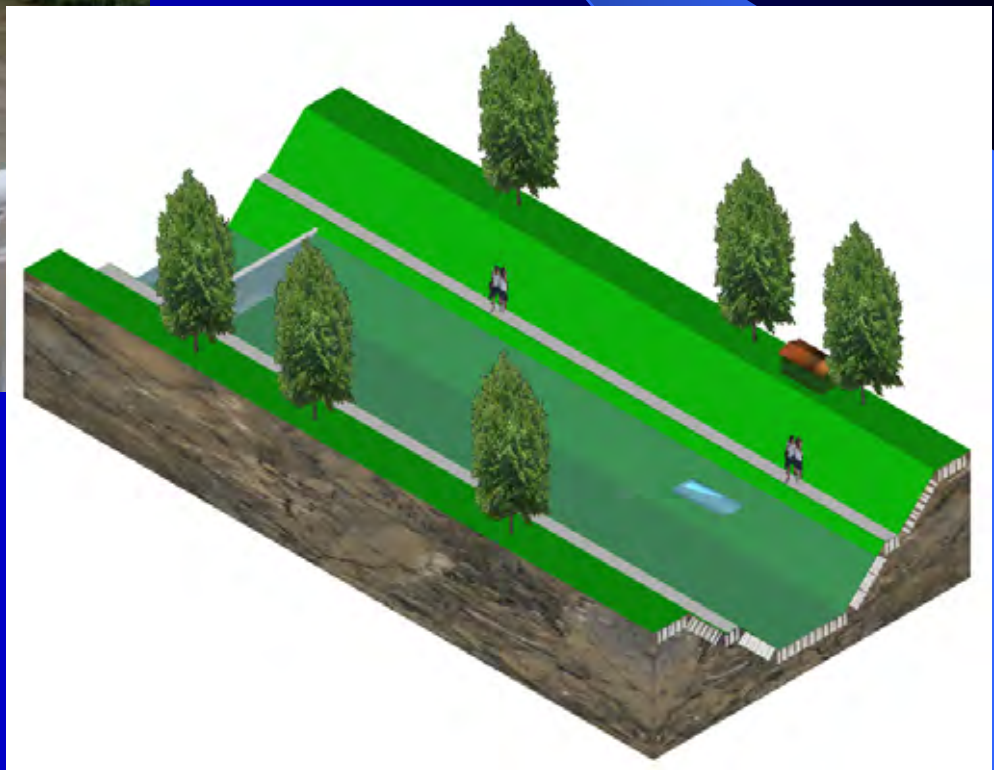
**THE THRUSTER SYSTEM WILL REJUVENATE THE DOWNTOWN
BAYOU SYSTEM!**

HOUSTON THRUSTER FLOOD CONTROL PROJECT



TRANSFORM THIS
(MCKEE STREET DOWNSTREAM)

TO THIS



HOUSTON THRUSTER FLOOD CONTROL PROJECT

**THIS PROJECT WILL PREVENT OR MINIMIZE
FLOODING, SAVE LIVES, SAVE BILLIONS IN
DOLLARS OF DAMAGE, PROTECT THE UPSTREAM
BAYOUS, REDUCE THE UPSTREAM FLOOD PLAIN
LEVEL, INCREASE PROPERTY VALUES, AND
REJUVENATE PARTS OF HOUSTON**

**IT IS AN APPROPRIATE INVESTMENT IN THE
FUTURE OF HOUSTON**

**CONTACT US AT bfbaugh@uh.edu for more
information**

HOUSTON THRUSTER FLOOD CONTROL PROJECT



From: [Crystal D](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public comment
Date: Friday, May 31, 2019 1:45:33 PM
Attachments: [BBTRS Comment Form_1.pdf](#)

Hi!

I have attached my public comment for the BBTRS.

Thanks,
Crystal



**US Army Corps
of Engineers®**

Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

Comment Period: April 29, 2019 through May 31, 2019

The U.S. Army Corps of Engineers is in the process of developing the Buffalo Bayou and Tributaries Resiliency Study which includes both Flood Risk Management and a Dam Safety Modification Study (DSMS). The flood risk management will identify and evaluate alternatives to reduce flooding upstream of the Addicks and Barker Dams as well as below in the Buffalo Bayou watershed. The DSMS will identify and evaluate alternatives to address Phase II measures of the Dam Safety Modifications on Addicks and Barker. Public input is especially needed regarding alternatives to consider.

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**

Place
Stamp
Here

**USACE Galveston District
ATTN: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229**



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

- 01 Thank you for accepting public comments! I think the overall plan and strategy is great. However, I would like the Corps to consider buyouts in flood-prone areas both upstream and downstream of the dams. Some homeowners have flooded multiple times and HCFCD doesn't generally buy out homes in this part of the county as it is not in one of their designated areas. I would like to see levies around neighborhoods be considered as well. Regardless of whether tunnels or diversion channels are used, it seems obvious that the dams need a higher discharge capacity than 16,000 cfs given testimony in upstream trial that many upstream properties would still have flooded even with gates open the entire time. I hope that the Corps does NOT excavate the entire reservoir. There are a lot of community resources- dog parks, playing fields, war memorials, and trails- that would be disrupted at a minimum. I think selective excavation or an additional upstream reservoir(s) would be a better idea. I also think that extending the dams would be extremely disruptive as well and should only be considered as a last resort.
- 02
- 03
- 04

Name
Nombre Crystal Dunbar

Affiliation
Afiliación _____

Address

Dirección de Envío _____

City
Ciudad Houston

State
Estado TX

Zip Code
Código Postal 77084

E-mail
Correo Electrónico CrissyRose21@yahoo.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Beet Field](#)
To: [CESWT-BBTRS](#)
Cc: [Beet Field](#)
Subject: [Non-DoD Source] Suggestions for evaluation
Date: Friday, May 31, 2019 1:53:04 PM

- 01 | 1. Change Barker and Addicks reservoirs from “retention” to “flood” management”. No consideration should be given to Buffalo Bayou paths, benches, etc. The bayou should NOT be protected recreational areas. It is to move water. Period. The rate of water from the reservoirs should always be at maximum rates, with downstream flooding of current (no future) houses and businesses the only constraint. Change current operating manuals written years ago to better protect actual houses instead of bayou recreational features. Outflows should always be at maximum rates just short of flooding any houses.
- 02 | 2. Instead of pumping water to the ocean, send it to areas of drought (hill country, west Texas). Do in concert with hill country reservoirs management. State wide grid of large diversion channels/pipes/pumps. Think 100-200 years water management plan. Don’t waste non-salt water.
- 03 | 3. Dredge reservoirs to double their capacity, even if you have to eventually pump it out to get it to the bayou.
- 04 | 4. Moratorium on any new single home construction in Harris County. Counties beyond?
- 05 | 5. More culverts under Clay road. Used to have more. Don’t just count on bridge widening.
- 06 | 6. Massive program to increase water retention throughout the county. Recreation use; irrigation use; financial incentives (grants); partnership with USACE to get use of heavy equipment on private property to create retention ponds.
- 07 | 7. If you pipe water to the shore, have several destination options in case of offshore storm “pushback”.
- 08 | 8. Routine dredging of all creeks and bayous. All to be dredged every 20(?) years. Make channels wider if possible.
- 09 | 9. New reservoirs upstream.
- 09 | 10. Review of historical rain forecasts versus actual as it pertains to making decisions about reservoir release rates. My belief is that forecasts have OVERSTATED rain thus overly constrained reservoir outflow targets. Insert this bias so reservoir rate targets can be increased.

Glad to discuss in person if desired.
281-630-0653

Thanks to David Mackintosh for alerting me to this forum for comments (today, May 30). It’s sad that this forum and its deadline wasn’t better advertised.

Regards,

Howard Sears
4759 Hidden Springs Drive
Houston, Texas

Sent from my iPhones

From: elizabeth@jdmembers.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 2:02:26 PM

Property Acquisition- is the property you wish to acquire The Villages of Bear Creek? If not when FEMA is done revising the flood maps will that area be listed that it is in the flood pool? If so when homeowners purchase Flood insurance will the Floods be considered an "Act of God" or "Man Made Flood"? If it is considered a man made flood will the insurance pay the claims? or will there be special "Flood Pool Insurance"?

Increase Reservoir Storage - How do you plan to do this? Property Acquisition? Stop allowing structures to be built in the Reservoir? Dredge out the Reservoir? if that is the plan what level is the water table and then will it become a Lake?

New Reservoir Dam - Where would this be located and how would it impact the community Upstream and Down Stream?

Tunnels - interesting... will these tunnels have pumps to keep the water from backing up? will they be in addition to Buffalo Bayou? as in not a part of?

Modify Existing Discharge Capacity - Since during Harvey the people who flooded would probably say lessen the discharge, While the Martyrs in the Flood Pool would say increase the Discharge. You can not win that coin toss. Who is more important? The Haves or the Have Nots?

Signage - Yes PLEASE MORE SIGNS that accurately show the location of the Reservoir. Show SIGNS that say Addicks Dam Barker Dam PLEASE USE COMMONSENSE.

Believe be I have more comments I was just made aware of this while Congressman Dan Crenshaw spoke today and Mr. Long said the dead line was today.

Thank you,
Elizabeth Burnham

From: [Lee Gunner](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou & Tributaries Resiliency Study
Date: Friday, May 31, 2019 2:03:07 PM

-01

The proposed option to divert Buffalo Bayou waters to Brays Bayou is ill conceived. Brays Bayou has many instances of its own flooding problems which have damaged many homes. Moving Buffalo Bayou flooding to Brays Bayou is ridiculous.

Lee Gunner

From: [Nat Uresti](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source]
Date: Friday, May 31, 2019 2:09:32 PM

Dear Army Corps of Engineers:

I live in Westbury Subdivision

The Westbury neighborhood is part of the Brays Bayou Watershed that lies just upstream of the Texas Medical Center. We experienced significant flooding during Harvey. In addition, significant flooding of Westbury also occurred during Memorial Day weekend 2015 and again on Tax Day 2016. If water from Buffalo Bayou were to be released into Brays Bayou during the next Harvey event our exposure to flooding here in Westbury would be even worse than Harvey. There is no reason to solve Buffalo Bayou's problem by making it Brays Bayou's problem.

As such, I do not think that the proposed diversion of water from Buffalo Bayou would be a good solution for Westbury and the Brays Bayour Watershed.

Nat Uresti
5807 Ludington Dr
Houston, TX 77035

-01

From: [Martha Johnson](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment on Buffalo Bayou and Trib. Study by USACE
Date: Friday, May 31, 2019 2:22:48 PM
Attachments: [USACE-Buffero-Study-comment-20190531.pdf](#)

Hello USACE--

Attached please find my comments on the recent study of Buffalo Bayou and Tributaries for Houston/Harris County flood management.

Many thanks,

Martha Johnson



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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First, thank you for your work on this preliminary study of flood water management in the Harris County Flood Control District and beyond. It's a shame that all the land west of Houston--formerly farms and wetlands--were allowed to be sold and paved over with new development without any thought to future management of storm water and the consequences of flooding a high-density urban area.

My comments about the USACE study are:

(1) The emphasis on Buffalo Bayou minimizes the historical flooding in the Brays Bayou watershed dating back to Tropical Storm Allison in 2001. While Project Brays is underway and certainly welcome, I am not confident it will be enough. I wish the study had looked at both Bayous as part of an integrated flood management study.

(2) In particular, the slide (18) depicting possible projects was alarming due to the little arrow pointing down to Brays Bayou. Any effort to offload Buffalo Bayou by re-directing to Brays Bayou is not good. According to the Harris County Flood Control District, Buffalo Bayou Watershed has a population of 444,602 while Brays Bayou Watershed has pop. 717,198. Any extra pressure on Brays Bayou endangers that many more people.

(3) Yes to new reservoirs!

Name Martha Johnson Affiliation Homeowner
Nombre Martha Johnson Afiliación Homeowner

Address 4600 Holt St.
Dirección de Envío 4600 Holt St.

City Bellaire State TX Zip Code 77401
Ciudad Bellaire Estado TX Código Postal 77401

E-mail martha7796@gmail.com
Correo Electrónico martha7796@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Stephen Polnaszek](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Flood Mitigation in the Brays Bayou Watershed
Date: Friday, May 31, 2019 2:32:37 PM

Dear Sirs:

I was very appreciative of the enlightening USACE presentation on the resiliency study made to the Brays Bayou Association on May 20, 2019.

Briefly, the two actions going forward that I believe would most benefit the area by reducing the number of homes and businesses affected by flooding from extraordinary rain/storm events would be:

- 01 | 1. Short term: Redevelop the Ruffino Hills Landfill site into a storm water detention basin/park with trails. It is the largest tract of land that could be repurposed for storm water detention in the whole Brays Bayou watershed.
- 02 | 2. Long term: A tunnel running from near the intersection of South Post Oak Road and Brays Bayou. Despite the huge cost, this makes sense since its construction would take place over, perhaps, decades where the unit cost per year would be a bit easier to fund in the overall fiscal scheme.

If you wish to have more extensive follow-up conversations on these topics, please get back to me with how you may wish to proceed with the extended dialog.

Stephen C. Polnaszek
President, Willow Meadows Civic Club (WMCC)
Vice-President, Neighborhoods to Trails Southwest (NTTSW)
Delegate from the WMCC to Super Neighborhood Council #38, Near Southwest
Stakeholder from NTTSW in Super Neighborhood Council #36, Brays Oaks
Stakeholder from NTTSW in Super Neighborhood Council #37, Westbury
Harris County Election Judge, Precinct 255

From: [John Davis](#)
To: [CESWT-BBTRS](#)
Cc: [Josh Kahn](#); [Maria Parker \(mparker@sklaw.us\)](#); [Jerry Strickland](#); [James Williams](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 3:21:56 PM

JOHN K. DAVIS
LANGFORD ENGINEERING
1080 WEST SAM HOUSTON PARKWAY NORTH, #200
HOUSTON, TEXAS 77043

May 31, 2019

To whom it may concern,

As a Harris County resident dating back to pre-Hurricane Carla and a practicing registered civil engineer in the Texas Gulf Coast area since 1974, much of my work since 1979 has been in the Cypress Creek and Buffalo Bayou watersheds. I am writing for two express purposes:

- 1).** To express my gratitude to the USACOE and Harris County Flood Control for undertaking the ***Buffalo Bayou and Cypress Creek Resiliency Study***. This study is very significant and will dramatically affect today's generation and many generations to come.
- 2).** To ask you to consider increasing the scope of said study to factor in this perspective and supporting subsidence data:

The US Geological studies indicate changes in the Chico and Evangeline aquifers. This has caused ever-increasing land subsidence in Harris County. The conversion to surface water, begun in 1985, has greatly decreased or stopped the subsidence in south and east Harris County. My concern, however, is the 4-to-5 feet of subsidence that has continued in the west and north areas of Harris County which: a). activates geological faults; and b). reduces the hydraulic grade for Buffalo Bayou and Cypress Creek in their lower reaches.

- In the case of Cypress Creek, the subsidence was approximately 2.1 feet between 1978 and 2001 according to Harris County Flood Watch

System data for their I-45 and Cypress Creek Flood gauge. The subsidence farther upstream on Cypress Creek at Katy Hockley is 0.4 feet. This has resulted in a general overall increase in the hydraulic grade from Waller to I-45, thus increasing the carrying capacity of the channel.

- Downstream of I-45 on Cypress Creek at Cypresswood Drive, the subsidence in the same period of time has been 0.5 feet resulting in a decrease of historical hydraulic capacity between I-45 and Cypresswood. The increased capacity upstream and decreased capacity downstream result in a significant relative water surface elevation increase at I-45 and Cypress Creek.
- This same scenario has occurred in the Buffalo Bayou watershed with the watershed hydraulic grade upstream of the South Piney Point bridge gauging station increasing between the 1980's and 2001. Buffalo Bayou downstream of the South Piney Point Bridge has seen a decrease in the hydraulic grade over the same period of time.

-02

In my opinion the **Buffalo Bayou Resiliency Study** will have maximum accuracy, efficacy and impact if it includes consideration of subsidence on Cypress Creek downstream of I-45. It is necessary to determine the Cypress Creek conveyance capacity based on a reduced flowline slope, and, thus, a reduced hydraulic grade line. This would include the consideration of having TXDOT raise the I-45 paving at Cypress Creek. I-45 is too critical of an evacuation route to have it impassable during a major disaster. This also would reduce the hydraulic restriction the bridge structure experienced during previous high precipitation events.

-03
-04

As currently proposed, the **Buffalo Bayou Resiliency Study** includes a berm or levee on the south side of upper Cypress Creek to reduce watershed spill-over into Addicks Reservoir. This will have a significant consequence not only on upper Cypress Creek but also lower Cypress Creek all the way to Lake Houston. The study scope should be expanded to include lower Cypress Creek.

Sincerely,

John K. Davis, P.E.

John.d@langfordeng.com

713-906-8238 c

Sent from [Mail](#) for Windows 10

From: [Sesha Duvvuri](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Bray's bayou
Date: Friday, May 31, 2019 3:35:11 PM

-01

No more water into Bray's bayou please! Diverting water into Bray's bayou to prevent flooding elsewhere is a poor solution to the problem. We live near the bayou and have flooded three times in the last three years. This does nothing to alleviate our fears.
Sesha Duvvuri

From: [Neelima Godugu](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Commenting on proposal to route more water thru BB
Date: Friday, May 31, 2019 3:36:48 PM

-01

As a 3 time floodee that lives along the BB on S Braeswood and chimney rock, I am highly concerned about the plan that routes more of the water through BB. The current widening of the bayou won't definitely be able to handle an event like Harvey let alone additional water.

You will be essentially flooding more of our neighborhood to save properties west of us.

We will fight this proposal tooth and nail as it sounds ridiculous to flood our homes and businesses even more than what is happening currently.

Sincerely
Neelima Godugu
8324574562

From: [Bill C](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributary Resiliency Study
Date: Friday, May 31, 2019 3:39:08 PM

> U.S. Army Corps of Engineers Galveston District
 > Attn: BBTRS
 > P.O. Box 1229
 > Galveston, TX 77553-1229
 >

> Dear United States Army Corps of Engineers Representative:

> Thank you for the opportunity to provide community input based upon the Buffalo Bayou and Tributaries Resiliency Study. As Richard Long pointed out this morning during a community meeting alongside the sandbar in Horsepen Creek, today is the deadline for residents to submit comments and feedback.

I concur with many of the recommendations being made by the Barker Reservoir Flood Prevention Advocacy Group. I would like to add my support to the following:

- > 1. Limit both the Barker and Addicks Reservoir flood pool to the current government owned land.
- > 2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
- > 3. Improve and restore channel conveyance and capacity upstream and downstream of Barker and Addicks Reservoir and within the reservoir, including dredging, desilting and de-snagging.
- > 4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
- > 5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
- > 6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
- > 7. Do not increase the Barker or Addicks Reservoir flood pool by extending spillways.
- > 8. Carefully consider the destruction to existing neighborhoods, schools and businesses via large scale buyouts.
- >

As the United States Government awaits the ruling on the upstream Addicks and Barker reservoir litigation, I believe it is critical than ahead of any type of final determination from the judicial branch that the ACOE accept a reality that the current "protect downstream" at all costs is a financial folly for the entire United States Government.

I may be one of the few outside the ACOE and current litigation process who has read that legislation, and subsequent appropriate requests. There are no limits I could find in that legislation which are imposed upon what the ACOE could be doing upstream while still maintaining the safety of downstream.

While FEMA and other agencies are separate branches of the government from the ACOE, as a taxpayer, I assure you that the distinction between agencies is not made each year when I file my tax return. It is all one big United States Treasury Department that is collecting taxes on behalf of the entire United States Government through the IRS.

The costs to FEMA for flood insurance payouts, disaster grants, administrative management and wasted of taxpayer dollars when a flawed system of contract disaster specialists is repeatedly activated over and over again makes no sense when real cooperation between county and federal agencies, along with selected infrastructure improvements could prevent many homes from flooding.

Frankly, this blame shifting back and forth between the ACOE and Harris County Flood Control District about who has the responsibility for clearing out the waterways fools no one who lives in an area repeatedly threatened by

Form
Letter
#1

major weather events. Social media is way ahead of any carefully prepared responses to questions regarding the waterway maintenance.

-01

I encourage the ACOE to "walk the talk" and grant Harris County sufficient access to environmentally restricted areas in order to clear those waterways within the reservoirs. From what I am told on the other side of this issue, HCFCD does not apply for a permit knowing it will not be approved.

ACOE telling residents, as occurred again this morning during a one-on-one between ACOE personnel and concerned homeowners, that HCFCD has not applied for an access permit is a reality, but not a problem solver.

This morning I listened as one of the retired engineers from the Addicks Reservoir area explained to me in a one-on-one that the upstream detention ponds were not an answer.

While he recited reservoir capacity numbers in connection with the limited storage available in detention ponds, I could not help but wonder why he thought smaller immediate steps for helping resolve a larger problem would not be viable.

I finally asked him if more than ten, twenty or thirty detention ponds were created upstream of Addicks and Barker, and they saved even 20% of the homes from flooding during a Harvey type event, could he support that decision? His answer was that we need the ACOE and HCFCD to address the entire problem so homes do not flood.

I then asked him what if the weather event turned out to be comparable to the Memorial Day Flood of 2015, and upwards to 50% of the homes flooded four years ago were dry as a result of numerous detention ponds, would that be worth it???

He was quite correct in his response as he walked off. He is an engineer and I am not.

Regardless, I will continue to support the drainage tunnels and creation of additional detention ponds on both private and public land.

For what it is worth in your considerations, we have lived in this house one month shy of 40 years. Our address is 4735 Blueberry Hill Drive, in the Bear Creek subdivision. We are not a part of any litigation.

According to media accounts of the recent upstream hearing, the ACOE is already well aware that our home elevation is at 108.3. The flood waters from Harvey were the first to reach our sidewalk, driveway or into our home in almost four decades.

We have looked over the various scenarios from Harvey regarding why our home flooded.

Had we known on September 1, 2017 what we know today about house flooding, various land elevation statistics, and most importantly the time involved with resolving issues that could save our home from flooding again, we would have been among the many selling out an empty shell to an investor.

Our home has been renovated. We have paid out a considerable amount from savings in order that our home once again has the same level of livability that it had before Harvey. However, money does not purchase confidence in the safety of our home. There is no Amazon department that will deliver that product to us in 48 hours or less.

Every home that flooded during Harvey, the Tax Day Flood or Memorial Flood a year before that has a story. Few of those chapters have a real life positive outcome.

The ancient definition defines government as an entity with a purpose to protect and keep order. We live upstream and nevertheless are looking for the Army Corps of Engineers to make sound decisions which will reasonably protect all of us in both the short term and longer term. Thank you for your time.

Respectfully,

William P. and Karen J. Cook

From: [Lisa Graiff](#)
To: [CESWT-BBTRS](#)
Cc: [Beth White](#); [Place, Charles](#)
Subject: [Non-DoD Source] HPB Comments - Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 3:57:37 PM
Attachments: [190531-HPB-USACE-BBTRS Comments-Final.pdf](#)

Dear BBTRS Coordinator,

Please find attached the Houston Parks Board's comments on the Buffalo Bayou and Tributaries Resiliency Study (BBTRS).

We are commenting as an organization that has worked on parks throughout the Houston Region since 1976. Our Beyond the Bayous 2020 project to create a 150-mile network of connected parks and trails along Houston's major waterways has been ongoing since 2012. Through this project we have accumulated in-depth knowledge about working along and with our bayous.

We would like to offer our expertise to help with your ongoing studies in the area, including the BBTRS and your broader watershed study, and would like to be included in the stakeholder committees for both. Please let us know the process for joining those committees.

If you have any questions or would like any additional information please let us know.

Best Regards,

Lisa Graiff

Beyond the Bayous Project Manager

Houston Parks Board

On behalf of

Beth White

President & CEO

Houston Parks Board

lisag@houstonparksboard.org <<mailto:lisag@houstonparksboard.org>>

300 North Post Oak Lane

Houston, TX 77024

O: 713-942-8500 x44

M: 832-335-0078

Blockedwww.houstonparksboard.org <Blocked<http://www.houstonparksboard.org/>>

The Houston Parks Board is a 501 (c) (3) non-profit organization dedicated to creating, improving, protecting and advocating for parks for everyone.



HOUSTON PARKS BOARD

PARKS BY YOU

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May 31, 2019

Thomas G. Bacon
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USACE Galveston District
Attn: BBTRS
P.P. Box 1229
Galveston, TX 77533-1299

RE: Buffalo Bayou and Tributaries Resiliency Study (BBTRS) Public Comments

Dear BBTRS Coordinator:

The Houston Parks Board is a nonprofit 501(c)(3) dedicated to providing access to quality parks and greenspace for all people. Houston Parks Board creates, improves, protects and advocates for parks for everyone. We offer the following comments regarding the Buffalo Bayou and Tributaries Resilience Study (BBTRS) after attending public meetings on the subject. Thank you for the opportunity to comment.

We are encouraged that USACE intends to explore nature-based solutions to flood control, including land conservation and restoration measures, in the BBTRS. Nature-based solutions are typically less expensive to implement and maintain. The National Wildlife Federation noted in its "Harnessing in Nature" report © 2016 National Wildlife Habitat, every \$1 spent in preventive measures saves \$4 in disaster recovery costs. That same report notes that protecting open space and existing natural habitats are among the most cost-effective ways of reducing risks to communities, by noting the following:

"Deploying natural defenses is good not only for the environment but also for the economy. Natural or nature-based approaches can be as, or more, cost effective as traditional man-made structures and by avoiding or reducing community risks, can decrease taxpayer liabilities for disaster response and recovery and result in lower insurance costs to property owners."

We have the following questions and comments resulting from your presentations and our past discussions:

1. Previously USACE reached out to the Houston Parks Board as a potential partner in integrating recreation and ecological restoration as a component to the future plans for the Reservoirs. We believe we are in the position to help on these fronts and would like to take part in the BBTRS stakeholder committee.
2. Please provide clarity on what "tributaries" means in the BBTRS? White Oak and Brays Bayous were mentioned in the presentation, but it wasn't clear as to whether these tributaries will be included in the study.
3. We are also interested in learning more about the watershed analysis/assessment study that was mentioned at your meetings, and how we might participate in that process.
4. Although non-structural methods of flood control are mentioned, restoration is not listed as a non-structural option. Enhancement and restoration of prairies and wetlands can increase soil storage capacity and should be considered.
5. We request that the non-structural option mention incorporate nature-based solutions, including the following:
 - Protection of existing and potential conservation lands
 - Restoration of prairies and woodlands to increase storage capacity
 - Protection and enhancement of wetlands
 - Acquisition, protection, and restoration of additional prairies, forests, wetlands, and floodplain/floodway lands for conservation purposes, especially within the Cypress Creek, Addicks, and Barker watersheds
 - Preservation of lands along the various tributaries to Addicks and Barker Reservoirs

Stephen Wright
*Director, Houston Parks and
Recreation Department*
Ex-Officio

Beth White
President & CEO

-01

-02

-03

-03

- Acquisition of properties where appropriate to increase the width of the protective riparian corridor which would keep people from harm's way, decrease flood losses, and increase access to open space and recreational facilities

-04

6. Future development along riparian corridors have the potential to exacerbate/compound problems downstream. Solutions should include measures that would ensure pre-development rates of run-off and no significant change in water flow patterns for future developments.

-05

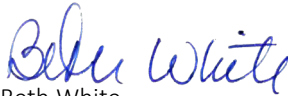
7. Every project alternative include nature-based approaches. No potential alternative should be composed of traditional engineering solutions alone, but should also incorporate the enhancement and creation of wetland, woodland, and floodplain areas to maximize benefit and resiliency.

-06

8. The prioritized solutions should include social, economic, and environmental benefits to the community, including improved water quality, carbon capture, and availability of areas for recreation, wildlife, local agriculture, and improved quality of life as well as flood reduction benefits. How will the cost-benefit analysis include these additional benefits to provide a more complete picture of the efficacy of the alternates analyzed and chosen?

Thanks for your consideration and we look forward to working with USACE towards a more resilient Greater Houston region.

Sincerely,



Beth White
President and CEO
Houston Parks Board

Houston Parks Board is a nonprofit 501(c)(3) dedicated to providing access to quality parks and greenspace for all people. Houston Parks Board creates, improves, protects and advocates for parkland in the Greater Houston region. Since 1976, the organization has utilized public-private partnerships and its extensive philanthropic, government and community relationships to improve parks large and small.

Houston Parks Board is currently leading the transformational Bayou Greenways 2020 project to create a 150-mile network of connected parks and trails along Houston's major waterways.

From: [Sherry Hibbert](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Brays Bayou
Date: Friday, May 31, 2019 4:06:07 PM

-01 |

I have lived in homes within 1/2 - 1 mile of Brays Bayou in the Meyerland area for more than 60 years so I know it never flooded until 2001. Fortunately, the flood caused by Hurricane Harvey was the first to impact me. I hope it will also be the last. I've reviewed the USACE presentation. Please focus on efforts to alleviate Brays' flooding and do not for any reason undertake any action whatsoever that could potentially divert more water into it.

Thank you.
Sherry Hibbert

From: [Luis A. Gonzalez](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments on the Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 4:08:56 PM
Attachments: [image002.png](#)
[image003.png](#)
[ASCE Houston Branch-Coms-BBTRS-R1.pdf](#)

To Whom It May Concern:

The Houston Branch of the Texas Section of the American Society of Civil Engineers appreciates the opportunity to comment on the above referenced resiliency study. Our comments are provided in the attached letter.

Sincerely,



Luis A. González, PE
President
ASCE Houston Branch
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president@ascehouston.org
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LUIS A. GONZALEZ PE
Senior Associate

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May 31, 2019

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United States Army Corps of Engineers
P.O. Box 1229
Galveston, TX 77553-1229
Via Email: bbtrs@usace.army.mil

RE: Comments on the Buffalo Bayou and Tributaries Resiliency Study

To Whom It May Concern:

The Houston Branch of the Texas Section of the American Society of Civil Engineers appreciates the opportunity to comment on the above referenced resiliency study. Our comments are provided below.

1. **Sustainable Infrastructure:** Alternatives should be evaluated using the Institute for Sustainable Infrastructure's ENVISION rating system. Alternatives with the highest score in the rating system should be considered further for implementation. See sustainableinfrastructure.org for additional information about the rating system. -01
2. **Non-Stationary Climate:** Alternatives should be developed to handle rainfall amounts that have a 1% annual chance (or greater) occurring in the year 2100. Rainfall depths appear to be trending upwards and the 1% annual chance event will likely be larger at that time. -02
3. **Nature-Based Alternatives:** Alternatives should be developed and evaluated that include nature-based approaches, such as land acquisition and preservation, wetland creation, natural stable channel design approaches, and similar concepts. -03
4. **Two-Dimensional Modeling of Non-Riverine Areas:** Alternatives should be evaluated using 2-D modeling approaches, especially in areas not adjacent or near bayous or channels. -04
5. **Triple-Bottom-Line Net Cost/Benefit Estimations:** Alternatives should be evaluated using a more comprehensive assessment of net benefits and costs. Net costs should be estimated for traditional engineering economics inputs, such as construction costs, operations costs, maintenance costs, land acquisition costs, and labor cost. But environmental costs should be estimated as well. These should include the value of any diminished ecosystem services, lost habitat, lost carbon sequestration, lost oxygen production, lost heat island mitigation, lost recreational opportunities, and similar well studied metrics. Social costs should also be estimated for each alternative. These should include displaced cultural or historical features, lost recreational opportunities, lost or diminished quality of life, diminished views and character, light pollution impacts, mobility, and similar aspects. Net -05

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economic, social, and environmental benefits should also be estimated for each alternative. These would include the value of avoided property damage (times the likelihood of loss), the number of people benefiting from a reduced risk of inundation, the value of any increase in social values or benefits (recreation, views, safety, mobility, etc.), the value of any increase in environmental values or benefits (habitat, ecosystem services, etc.). The net present value of all economic, social, and environmental BENEFITS minus the net present value of all economic, social, and environmental COSTS should be calculated for all alternatives and the alternative with the highest net present value of total triple bottom line NET BENEFITS should be recommended for implementation.

Again, we appreciate the opportunity to comment on the scope of the study. If there are any questions about our comments, please don't hesitate to contact us.

Very truly yours,

AMERICAN SOCIETY OF CIVIL ENGINEERS – HOUSTON BRANCH



Luis A. Gonzalez, P.E.
2018-2019 President

From: [Auggie Campbell](#)
To: [CESWT-BBTRS](#)
Cc: [Weber, Andrew R CIV USARMY CESWG \(USA\)](#); [Russo, Edmond J Jr CIV USARMY CESWG \(USA\)](#)
Subject: [Non-DoD Source] West Houston Association Comments
Date: Friday, May 31, 2019 4:10:27 PM
Attachments: [USACE Letter 5.31.19.pdf](#)

Good afternoon,

Please see the attached letter from the West Houston Association. Thanks you for your work—we appreciate the constructive approach that your office has developed and look forward to working with you in the future.

Have a great weekend!

Auggie
281-222-4484

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President & CEO

May 30, 2019

USACE Galveston District

ATTN: BBTRS

P.O. Box 1229

Galveston, Texas 77553-1229

COL Zetterstrom and Mr. Weber,

The West Houston Association and its members appreciate your efforts and the efforts of your colleagues in support of the Buffalo Bayou and Tributaries (BBT) Resiliency Study. This study is critically important to our region, and it is critical for our region that resources and efforts arrive as soon as possible.

We respectfully request that your office submit documentation supporting an interim chief's report as soon as possible. As recently as September 6, 2018, LTG Semonite submitted an interim [Chief's Report](#) to Congress for the Brownsville Resacas Study. We believe a similar action is warranted to expedite the restoration and modernization of the BBT project, especially within the Addicks and Barker Reservoirs.

Potential non-federal sponsors include the Harris County Flood Control District, Willowfork Drainage District, the City of Houston, and several other entities affected by flooding during Hurricane Harvey. The West Houston Association is committed to helping find solutions to reduce flooding and increase resilience across the region.

Please let us know if we can be of assistance in this matter and aid your office with its mission and our shared goals.

Respectfully,



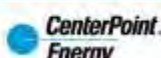
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Augustus "Auggie" Campbell
West Houston Association
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-01

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From: [Scott Jones](#)
To: [CESWT-BBTRS](#)
Cc: [Stokes, Bob](#)
Subject: [Non-DoD Source] GBF Comments on BBTRS
Date: Friday, May 31, 2019 4:57:55 PM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[Galveston Bay Foundation_BBTRS_scoping_comments.pdf](#)

Dear BBTRS Coordinator-

Please find attached the scoping comments of the Galveston Bay Foundation on the Buffalo Bayou and Tributaries Resiliency Study.

Thank you for the opportunity to comment.

Sincerely-
Scott

Scott A. Jones
Director of Advocacy

sjones@galvbay.org

Phone: 281-332-3381 x 209 | Fax: 832-284-4982

[Blockedwww.galvbay.org](#)

1100 Hercules Avenue, Suite 200, Houston, TX, 77058



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GALVESTON BAY FOUNDATION

May 31, 2019

USACE Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77533-1299

Re: USACE Buffalo Bayou and Tributaries Resiliency Study Scoping Public Comments

Dear BBTRS Coordinator,

-01 The Galveston Bay Foundation (GBF), a 501(c)(3) non-profit organization established in 1987, provides the following comments on the scoping of the BBTRS. These comments supplement those submitted today, May 31, 2019, on our behalf as a member of the Conservation Flood Mitigation Group (CFMG). We helped develop the CFMG letter and signed on to it because it reflects our desire to see nature-based solutions for flooding used to the maximum extent possible before turning to traditional engineering designs. Those nature-based solutions can avoid the unintended environmental consequences of more traditional methods.

-02 As related to the physical, chemical and biological health of Galveston Bay, we have concerns about the unintended impacts of some of the conveyance measures being considered in BBTRS. Most concerning to us are the tunnels being proposed to drain water from the west side of the Houston Metroplex to the Houston Ship Channel and Galveston Bay.

-03 As the CFMG letter states, there should be no flooding impacts transferred to communities downstream of implemented BBTRS measures. Likewise, negative impacts to the water quality and flow regimes of the downstream tributaries of Galveston Bay by floodwaters being unnaturally
-04 accelerated through these tunnels should be minimized. Therefore, impacts to water quality and water quantity on the ecology of these estuarine nursery tributaries and Galveston Bay must be properly studied and addressed in the environmental impact statement.

Similarly, other conveyance measures being considered which will speed up flows of pollutant-laden flood waters, such as channel improvements and bypasses, must be properly studied for their impacts to downstream portions of the tributaries and Galveston Bay.

-05 We note that our Bay is one of the most productive estuaries in the country, providing for a robust economy and thousands of jobs dependent upon its ecological health. The Bay is also the place where various forms of contact recreation takes place, therefore the health of the recreating public enjoying wade fishing, kayaking, windsurfing, and swimming is critical. Rapidly accelerated flows may contain higher concentrations of bacteria, viruses and other human pathogens that may

- 05 | otherwise be reduced if they were able to be retained upstream for longer periods of time. We urge the USACE to exhaust the use of nature-based solutions that retain water on the land and can mimic more natural flow regimes, thus better protecting Galveston Bay, before resorting to measures which speed flows downstream.

We appreciate your efforts on this study and look forward to working with you to find solutions to our flooding issues that best protect people and the environment. Thank you for the opportunity to comment.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott A. Jones". The signature is stylized with a large, looped "S" and a cursive "A".

Scott A. Jones
Director of Advocacy
The Galveston Bay Foundation

From: [MaryAnne Piacentini](#)
To: [CESWT-BBTRS](#)
Cc: [Russo, Edmond J Jr CIV USARMY CESWG \(USA\)](#); [Weber, Andrew R CIV USARMY CESWG \(USA\)](#); [Mark Klein](#); [Michael Huffmaster](#); [Elisa Donovan](#); [Wesley Newman](#)
Subject: [Non-DoD Source] Re: Buffalo Bayou and Tributaries Resiliency Study - Public Comments
Date: Friday, May 31, 2019 4:58:25 PM
Attachments: [BBTRS KPC Comments 05.31.2019 Final V2.pdf](#)

Please use this version instead. I apologize but there was a typo in the address.

Mary Anne

Mary Anne Piacentini
President & Chief Executive Officer
Katy Prairie Conservancy
5615 Kirby Drive, Suite 867
Houston, Texas 77005-2458
Phone: 713.523.6135, ext. 4003
Fax: 713.583-0683
Cell: 281.851.8762
maryanne@katyprairie.org
katyprairie.org



[Give today and help save the flat out wonderful Katy Prairie!](#)

The Katy Prairie Conservancy is a nonprofit land trust dedicated to preserving an ecologically vital tallgrass prairie and associated wetlands on Houston's far west side for the enjoyment and benefit of all.

On Fri, May 31, 2019 at 4:18 PM MaryAnne Piacentini <maryanne@katyprairie.org> wrote:
Dear BBTRS Coordinator,

Attached please find comments on the Buffalo Bayou and Tributaries Resiliency Study from the Katy Prairie Conservancy.

Thank you for the opportunity to comment.

Mary Anne

Mary Anne Piacentini
President & Chief Executive Officer
Katy Prairie Conservancy
5615 Kirby Drive, Suite 867
Houston, Texas 77005-2458

Phone: 713.523.6135, ext. 4003

Fax: 713.583-0683

Cell: 281.851.8762

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[Give today and help save the flat out wonderful Katy Prairie!](#)

The Katy Prairie Conservancy is a nonprofit land trust dedicated to preserving an ecologically vital tallgrass prairie and associated wetlands on Houston's far west side for the enjoyment and benefit of all.

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May 31, 2019

USACE Galveston District
Attn: BBTRS
P.P. Box 1229
Galveston, TX 77553-1229

Dear BBTRS Coordinator:

The Katy Prairie Conservancy, a nonprofit land trust working to protect land on the Katy Prairie, has attended a number of public meetings regarding the Buffalo Bayou and Tributaries Resiliency Study and serves on the stakeholder committee of the study. We offer the following comments on the materials presented at the public meetings held on April 30, May 2, May 7, May 8, and May 9, 2019. Thank you for the opportunity to comment.

Edmond Russo, Jr., Deputy District Engineer for Programs and Project Management, U. S. Army Corps of Engineers, Galveston District, made the following comments to the Medill on the Hill news service and which was published March 24, 2019:

[Engineers] would try to control nature, but we know we can't. . . . In the case we only had engineered solutions, the system is more brittle and prone to failure. There's always a bigger disaster than what you design for.

We couldn't agree more with Dr. Russo's comments. For that reason, we were surprised and disappointed to find such a thoughtful incorporation of natural solutions missing from the framing and potential solutions of the Buffalo Bayou and Tributaries Resiliency Study.

Though the USACE presentation materials acknowledge an "opportunity" to "engineer with nature and implement nature-based features," the absence of these strategies from potential measures, alternatives development, and maps of strategies, is troubling. Since these more detailed descriptions of the study also fail to include nature-based solutions, we are concerned that nature-based solutions will not adequately be considered as real alternatives. We hope that real nature-based solutions will be given serious consideration and their cursory inclusion does not mean that nature-based solutions are only receiving lip service while privileging traditional engineered solutions.

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-02 Among USACE projects there are good examples of successful contributions of less costly nature-based solutions with additional offering of ecological co-benefits. When the USACE engaged in a project to improve the function of Southern California's Prado Dam – another high-hazard structure impounding a flood control reservoir upstream of a heavily urbanized watershed similar to the area in which the Addicks and Barker Dams are located – the Corps took a thoughtful, multi-pronged approach. Key among these strategies was the widespread and intensive establishment of wetlands to provide flood control services. In conjunction with these efforts, the State of California established the Santa Ana River Conservancy to coordinate projects across many stakeholders to enhance the watershed, provide numerous co-benefits, and ensure resiliency.

-03 Similarly, the preservation of wetlands in the watershed of the Charles River in Massachusetts successfully reduced flooding in Boston and Cambridge at a significantly lower price compared to traditional engineered solutions – about 1/10th the cost of a engineered dam solution and a solution that did not require operational or replacement costs.

The National Wildlife Federation noted in its 2016 *Harnessing in Nature* report, that *every \$1 spent in preventive measures saves \$4 in disaster recovery costs*. That same report stated that protecting open space and existing natural habitats are among the most cost-effective ways of reducing risks to communities,

Deploying natural defenses is good not only for the environment but also for the economy. Natural or nature-based approaches can be as, or more, cost effective as traditional man-made structures and by avoiding or reducing community risks, can decrease taxpayer liabilities for disaster response and recovery and result in lower insurance costs to property townners.

We must not let the West Coast or the East Coast be the only areas with creative approaches to watershed success. Indeed, the Buffalo Bayou watershed has two key advantages over those areas: 1) significant portions of the watershed remain available for long-term preservation, and 2) a long-established conservancy partner already exists in this area.

-04 While the Buffalo Bayou watershed continues to become more highly urbanized, opportunities remain today to protect those portions of the watershed which have not already been converted to residential and commercial development. Additionally, the Katy Prairie Conservancy has the capacity and experience developed in the course of nearly three decades of conserving coastal prairie to provide flood mitigation, ensure healthy communities, and deliver multiple ecological co-benefits. The existence of available land and a leading land conservation partner are two key local assets that can be leveraged to improve the region's resiliency.

-05 Some of the alternatives suggested by USACE would lead to the outright removal of natural flood mitigation solutions from the toolbox of options to improve resiliency. Currently, the study recommends determining if a third reservoir northwest of Addicks Reservoir should be constructed, that, in itself, presupposes the primacy of engineering approaches and the

-05 consolidation of risk which has characterized the strategy that led to the development of the first two reservoirs as a means, among other things, of enabling further development in inherently flood-prone areas. It is imperative that should a third reservoir be constructed at all, it not be
-06 built on or negatively impact lands protected by the Katy Prairie Conservancy, as these lands already provide benefits to the region which would be lost if subsumed in a reservoir. Any new projects should provide cumulative benefits rather than replace benefits already in place.

-07 There is also no clear reason why only a potential reservoir is identified for the tributaries of Addicks Reservoir while potential solutions for Barker Reservoir also include detention basins. Expanded protection of Katy Prairie lands, including restoration to improve the infiltration and natural detention of such lands, is much preferable to a new reservoir. Both Addicks and Barker
-08 watersheds would benefit from more aggressive and focused conservation and restoration of lands upstream.

As the USACE public materials and USGS data so clearly demonstrate, the five highest water levels in each Buffalo Bayou, Addicks Reservoir, and Barker Reservoir have all occurred since 1992. In many cases these events have all come about in just the last decade. Very clearly, conditions and processes have changed in these watersheds.

During that same time the capacity of Addicks and Barker Reservoirs has diminished. Years of sedimentation and growth of invasive species have decreased the holding capacity of these reservoirs. We applaud the USACE's efforts to improve Addicks and Barker Reservoirs to recover this eroded capacity. The removal of such materials, combined with a return of the landscape to
-09 a wet prairie or tallgrass prairie, will increase the volume of water that can be held during a heavy rainfall event through both infiltration and storage. In addition, it would be advantageous to consider the advisability of further excavating the reservoirs to increase storage capacity.

Another major issue is the change in upstream land use. As the USACE itself acknowledges in its Overview – Flood Risk Management storyboard, “historic urban expansion has modified the way water moves throughout the watersheds. Less surface runoff can be absorbed than historic conditions resulting in more water entering the bayous and reservoirs.” With this truth in mind,
-09 the protection of existing conservation lands absolutely must constitute a key alternative in this analysis. Yet much more than that, the acquisition of additional lands for conservation is vital.

We have been given a tremendous opportunity in the Buffalo Bayou watershed. Let's take advantage and not make a mistake that will last generations.

-10 In addition to the huge local opportunity for conservation of available lands, the *Engineering With Nature Atlas* itself provides several strategies for thoughtfully addressing riparian systems and flooding. Many components of different projects, both in terms of projects and processes, are entirely applicable to Buffalo Bayou and should be thoroughly analyzed here. Overall, the current approach as described entirely misses out on two of the central tenets of Engineering with Nature: 1) using natural processes and 2) broadening benefits.

Therefore, we request a thorough and thoughtful incorporation of nature-based solutions to the study framework, including an entire project alternative built around and including the following:

- Protection of existing (as well as potential) conservation lands, especially on the Katy Prairie
- Use of the natural capacity of the Katy Prairie as well as native vegetation to hold water
- Restoration of prairies to increase storage capacity
- Acquisition, protection, and restoration of additional prairies, forests, wetlands, and floodplain/floodway lands for conservation purposes, especially within the Cypress Creek, Addicks, and Barker watersheds
- Preservation of lands along the various tributaries to Addicks and Barker Reservoirs
- Acquisition of properties where appropriate to increase the width of the protective riparian corridor which would keep people from harm's way, decrease flood losses, and increase access to open space and recreational facilities
- Protection and enhancement of wetlands
- Landscape-scale restoration of wet prairie
- Landscape-scale restoration of tallgrass prairie
- Promotion of land uses such as rice fields to improve storage during flood events
- Contracting with local farmers for maintenance of nature-based infrastructure
- Establishment of riparian woodlands to slow flood flows
- Detention in the upper reaches of tributaries, along natural water courses, should be identified.

- 12 | We urge the USACE to take additional action to protect the region's floodways and floodplains.
- 13 | No structures should be allowed within floodways or deep within the floodplain. Existing structures should be removed and no new structures should be constructed within these areas.
- 14 | The USACE may also consider requiring properties within the floodplain to be floodproofed, but only if this does not negatively impact neighboring properties. Levees that constrict floodways
- 15 | must be prohibited, as this results in more water and increased flooding downstream.

- 16 | Weirs and mini-reservoirs along waterways, especially in the upper reaches of the watershed, should be considered to slow and hold back water in a more natural manner. In the Addicks watershed, this would involve the acquisition of land along Bear Creek, Langham Creek, and South Mayde Creek. Without action, development along these corridors will exacerbate/compound problems downstream. Priority should also be given to saving existing wetlands and creating or enhancing historic wetlands, and preserving or re-establishing riparian habitats, all of which provide wildlife habitat, improve water quality by filtering pollutants, desynchronize floodwaters, and facilitate groundwater recharge.
- 17 |

- 18 | We request every project alternative include nature-based approaches. No potential alternative should be composed of traditional engineering solutions alone but should also incorporate the enhancement and creation of wetland, woodland, and floodplain areas to maximize benefit and resiliency. For example, in developing detention, it is preferable to use natural wetlands instead

- 18 | of engineered wetlands; in enhancing bayous, the use of native plant material should be followed as a “best practice,” etc. In all cases, projects must be analyzed not only for the cost-effectiveness of the initial capital costs but also for the long-term operating, maintenance, and replacement costs in addition to the human costs. Nature-based solutions can result in longer project life (often perpetual) with a lower risk of failure during a severe storm event. In addition, nature-based projects provide social, economic, and environmental benefits to the community, including improved water quality, carbon capture, and availability of areas for recreation, wildlife, local agriculture, and improved quality of life.

-20 | As it stands, there seems to be little tangible planning underway to legitimately incorporate and analyze nature-based solutions. In identifying the array of alternatives, the USACE notes that nonstructural elements should be considered. However, the National Fish and Wildlife Foundation in its 2016 *Natural Defenses in Action Report*, notes that the USACE defines “nonstructural means” to include such things as “modifications in public policy, management practices, regulatory policy, and pricing policy.” We request that this section be renamed as Natural Infrastructure, Nature-Based Solutions, and Non-structural Measures and expanded substantively to encompass the full range of nonstructural approaches.

Let’s give these natural approaches a fair shake as alternatives of the first resort.

James Dalton, Director of Civil Works, USACE, says it best: “When we leverage natural systems and processes through integrated water resources management, we can develop more sustainable solutions and systems. By broadening our view of potential outcomes, we can find ways to deliver a broader array of services, benefits, and value from investment made in infrastructure systems.”

Let’s take Director Dalton at his word. We must aim for a resilient, effective approach to watershed management. One key USACE Engineering with Nature partner, Cees Brandsen, Managing Director of Rijkswaterstaat in the Netherlands, put it this way: “Engineering with Nature approaches are essential to improve our flood safety in an adaptive manner, while also achieving other societal goals such [as] ecosystem services...or recreation.”

That’s a vision and future we can all work for and achieve, but only if we lean heavily on nature-based solutions.

Sincerely,


Mary Anne Piacentini
President and CEO

cc: KPC Board of Directors
KPC Advisory Board of Directors

From: [Cynthia Neely](#)
To: [CESWT-BBTRS](#)
Cc: [cynthia.neely7@gmail.com](#); [zach.despart@chron.com](#); [Lisa Gray](#)
Subject: [Non-DoD Source] Comments on USACE's Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 5:01:40 PM

To the U.S. Army Corps of Engineers:

I'm the wife of an Army veteran and attended one of your Public Information Meetings in behalf of our family of four people and four pets - all who had to be rescued when our home was flooded from the reservoir release after Hurricane Harvey. Our home is not in a flood plain or flood way. It would not have flooded in Harvey had the reservoir water not been released. If the City of Houston and Harris County officials had done their jobs to protect citizens (adding more detention, updating aging infrastructure, creating more stringent building rules for developers, etc.) then perhaps the dams would not have been placed in such jeopardy as to require such a release.

Storm water runoff must be stopped and slowed BEFORE it floods our streams and bayous and over-taxes our dams. PREVENTION must become common practice. Storms can't be stopped, so how they are managed is critically important or else one day Houston will be hit so hard it could easily be wiped off the map. USACE knows this well.

-01 | It will take more than just improving the dams themselves to protect us. It will take detention/drainage projects and improvements throughout the region, addressing storm water before it ever reaches the dams.

-02 | USACE must stop looking the other way when they see City/County permitting developments in harm's way. At your Public Meeting, an engineer said it wasn't the job of USACE to police where the City/County permits construction. My veteran husband, however says it IS the Army's job to protect us. The USACE should have blown the whistle years and years ago on the City and County's horrible practice of allowing construction in dangerous areas near these dams.

The U.S. government should not stand by and watch the City of Houston/Harris County continue to put citizens in jeopardy and then inevitably go back to Uncle Sam with a hand out for rescue and recovery. The Army and yes, the President should hold these administrations accountable and make them do their job to keep us safe. We know prevention is far less expensive than recovery yet the City of Houston and Harris County are being allowed to continually pick the pockets of Americans everywhere by not being PROACTIVE.

Thank you for rescinding the permit for a new development in a floodplain near Katy - this is the kind of guts we need in order for Houston to survive.

-03 | It will take a multitude of approaches and an official partnership of USACE, state, city, and county governments to manage storms in Houston. It will take a regional approach and regional cooperation. USACE should consult with flood prevention groups like Residents Against Flooding and those in Kingwood, Meyerland, and Cypress Creek. These folks know first hand what has been happening for years in their neighborhoods. Tap into their combined knowledge. Groups like Saving Buffalo Bayou, Rice University's SSPEED Center, the Houston Flood Mitigation Consortium, and others should be brought into your office to brainstorm TOGETHER and find projects/comprises that will work. Some flood "prevention" projects are actually making flooding worse! Potential projects should be vetted by a variety of stakeholders. THIS IS NOT HAPPENING. We have professional engineers, hydrologists, flood experts in our civilian ranks, too.

Someone has to take control of this mess which has now been allowed to reach critical mass. The City of Houston and Harris County governments have failed and will continue to fail until a higher authority steps in. Just this week, Houston City Council approved a new development in a 100-year flood plain. This is a cycle that simply must be stopped! Obviously the City and County Flood Control are not up to the task. In

fact, they are the problem.

Engineers have confided that they sometimes must provide misleading flood map modeling in order to get a developer's business. I've seen evidence first hand of such manipulation that is currently allowing 900 homes to be built on the old Pinecrest Golf Club property. Water simply cannot do what the maps "prove" it can. But so it goes.

Now is the time for a sit-down with stakeholders, environmentalists, flood survivors and experts like Jim Blackburn and Sam Brody, and not just City and County officials.

Until prevention is paramount, all the dam improvements and giant tunnels in the world won't save us. The Army should take emergency, preventative action.

Thank you,
Cynthia Hand Neely
Advisory Board, Residents Against Flooding
Community Leader, Higher Ground (largest flood survivor non-profit in the U.S.)
Memorial Super Neighborhood 16 Delegate
403 Hollow Drive
Houston, TX 77024
713-562-1483

From: jhrver@aol.com
To: [CESWT-BBTRS](#)
Cc: jhrver@aol.com
Subject: [Non-DoD Source] Comments on the Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 5:01:57 PM

Dear Sir or Madam,

Having attended USACE organized meetings and presentations about this study I offer the following comments.

-01 1) I have a concern that by not including the impact on the Cypress Creek watershed in the study the study is not taking a "system approach" which is the desired approach. In July, 2017 I participated in a meeting with Col. Zetterstrom in which he said that flooding effects to downstream residents of Cypress Creek would be included in the proposed 216 study. Recently I have heard that Mr. Weber of the USACE has suggested that a separate 216 study should be initiated to address downstream flooding issues in the Cypress Creek watershed. The approach proposed by Col. Zetterstrom was welcomed as a system approach to issues which not only impact the Addicks and Barker watersheds but also affect downstream along Cypress Creek. Now two years later a suggestion is made that an additional study be initiated for Cypress Creek. This will not only result in a significant delay to addressing the long recognized flooding issues in Cypress Creek but will negate the benefit of a system wide approach to addressing the flooding issues related to the upper Cypress Creek watershed, the overflow into Addicks, and the downstream portions of Cypress Creek. I believe this approach is contrary to the approach which was shared by those of us who voiced wide support for the 216 study with our Federal legislators, and whose understanding was that the 216 study would incorporate Cypress Creek.

-02 2) I have a serious concern that while a study is underway to look for solutions provided by a "third
-03 reservoir" (perhaps better phrased as a "Cypress Creek solution") the land needed to implement a solution will no longer be available. For example, within the last year, a 521 acre development was announced north of US 290 between Waller and Prairie View. The acreage straddles an upper portion of the Mound Creek tributary to Cypress Creek. The purchase was closed on 6/30/18. Improvements on US 290 and the presence of the 99 tollway are only accelerating development. We will be facing a situation similar to Brays Bayou or lower Cypress Creek where land needed for detention is no longer available. There must be urgency in identifying the acreage needed to implement any possible solution or we will be looking at a solution that is too late to implement. Innovative approaches to land acquisition such as up front purchase of at least the 100 and 500 year floodplains or options on acreage should be considered. If some of the the land is not needed in the future for implementation, it could be sold.

-04 3) I have a concern about the development regulations in place not being adequate. If our regulations stating that development will have no adverse impact were in fact adequate, we would have no concerns about future development. The fact that we are concerned about the impact of future development on flooding tells us that we do not believe the current regulations are achieving their desired goal. This must be taken into account in any study the USACE undertakes.

Thank you for the opportunity to provide comments. I would welcome the opportunity to discuss these issues further.

Jim Robertson
12422 Normont Drive
Houston, TX 77070
281-370-8243

From: [Naomi McElroy](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment on the Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 5:06:30 PM
Attachments: [Cypress Creek Flooding Comments.pdf](#)

Please see my comments attached.

Sincerely,
Naomi E. McElroy



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Comment Form Instructions

Buffalo Bayou and Tributaries Resiliency Study Public Information Meeting

Comment Period: April 29, 2019 through May 31, 2019

The U.S. Army Corps of Engineers is in the process of developing the Buffalo Bayou and Tributaries Resiliency Study which includes both Flood Risk Management and a Dam Safety Modification Study (DSMS). The flood risk management will identify and evaluate alternatives to reduce flooding upstream of the Addicks and Barker Dams as well as below in the Buffalo Bayou watershed. The DSMS will identify and evaluate alternatives to address Phase II measures of the Dam Safety Modifications on Addicks and Barker. Public input is especially needed regarding alternatives to consider.

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Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

Thank you for providing the opportunity to provide comments on the Buffalo Bayou and Tributaries Resiliency Study. I reside in the Cypress Creek Watershed and am keenly aware of the need to address the current flooding risk along Buffalo Bayou and the surrounding areas. In the presentation provided online (<https://www.swg.usace.army.mil/Portals/26/5-Weber%20190327%20SPF%20BBTRS%20UPDATE%20-%20v2.pdf>), the entire Cypress Creek water shed is highlighted on the "Project Location" slide. However, the storyboards presented during the public scoping meetings (https://www.swg.usace.army.mil/Portals/26/BBT_FINAL%20Scoping%20Mtg%20Storyboards_2x3.pdf) seem to indicate only Upper Cypress Creek is included. Also, the Potential Storm Water Conveyance Measures appear to indicate levees/floodwalls between Upper Cypress Creek and the Addicks Reservoir Watershed. While I can appreciate the desire to minimize eventual flow to Buffalo Bayou, I am concerned that any activity taken to reduce discharge options for the Cypress Creek Watershed without concurrent relief measures will only serve to move the flooding risks, not remove them. The entire Cypress Creek watershed has experienced several significant flooding events in the past 5 years, including during Hurricane Harvey (2017) and the Tax Day (2016) and Memorial Day (2016) Floods. While we were fortunate enough to have escaped any structural flooding during any of the events, our yard flooded during Harvey (within 3 feet elevation of our house) and we know several friends and neighbors who flooded during one, two, or even all three of these events, despite their houses sitting outside the 100-year flood plain. Were the Cypress Creek Watershed prevented from draining towards the Addicks Reservoir Watershed, I fear our house and many others would also be at risk. What steps are the Army Core of Engineers taking to ensure that the mediation plans for Buffalo Bayou do not result in worse flooding for people elsewhere?

-01

Name **Affiliation**
Nombre Naomi McElroy **Afiliación** _____

Address
Dirección de Envío 2710 Barclay Lake Lane

City **State** **Zip Code**
Ciudad Spring **Estado** TX **Código Postal** 77388

E-mail
Correo Electrónico jobswingaldy@gamil.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [CMC](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments
Date: Friday, May 31, 2019 5:23:53 PM

-01 | I do not want to see a levee above Addicks Reservoir that would restrict run off from Cypress Creek as Cypress Creek is already heavily burdened & flooding in several places.

As well, it would seem that Cypress Creek should be considered/studied in the overall view of flooding in Harris County.

Kind regards,
Claudette McCamley

From: [J S Gee](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public comment submitted: The Future of Brays Bayou Flooding
Date: Friday, May 31, 2019 5:33:39 PM
Attachments: [Buffalocomment JSG 5-31-19.pdf](#)

Please accept by comments as a resident of Houston, Texas whose family has two homes near Brays Bayou and flooded for the Very First Time during Hurricane Harvey.

Thank you,
J S Gee



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Per page 18 of the USACE presentation,

Tunnels sound great, what is the cost and time frame?

Two Diversion Points >> places storm water into Brays Bayou that had previously flowed into Buffalo Bayou.

Who makes the Decision of When and Quantity of water release into Brays ?

How can Brays support additional water flow?

My family has two homes in the Brays Bayou area. Moved to Meyerland in 1967 and NEVER had any floods.

Thank you for accepting the public comments.

JSCEE1@gmail.com 5/31/2019

Name

Nombre

Affiliation

Afiliación

Address

Dirección de Envío

City

Ciudad

State

Estado

Zip Code

Código Postal

E-mail

Correo Electrónico

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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From: [Rick Turrentine](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments Form - Buffalo Bayou Study - Public Information Meeting
Date: Friday, May 31, 2019 5:46:19 PM
Attachments: [2019-05-31 Addicks-Barker Comments form \(filled-out\).pdf](#)

Dear Army Corps of Engineers:

Please find attached my Comments Form for the captioned from the earlier Public Information Meetings.

Please contact me if I may provide additional information.

Regards,

Rick Turrentine

mobile 713-854-3881

14902 Carolcrest Dr.

Houston, Texas 77079

email: rickturrentine@comcast.net



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

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**Addicks Reservoir AND Barker Reservoir BOTH
need the following work:**

**1) REMOVE all trees and undergrowth vegetation
within the confines of the reservoir**

**2) DREDGE each reservoir to remove 70+ years
of silt and sediment and lower the ground
elevation of each reservoir to where they
were in 1942.**

**Resistance to the above work on the grounds that
the reservoir areas are "wetlands" is unacceptable
because both Addicks Reservoir and Barker Reservoir
are dedicated flood control facilities and were
designated for flood control long before any
"wetlands" legislation was enacted.**

Name
Nombre **Rick Turrentine**

Affiliation
Afilación **area homeowner**

Address
Dirección de Envío **14902 Carolcrest Dr.**

City
Ciudad **Houston**

State
Estado **TX**

Zip Code
Código Postal **77079**

E-mail
Correo Electrónico **rickturrentine@comcast.net**

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

No Substantive Comments Identified

Comment #: ES250

From: [Beverly](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Brays Bayou
Date: Friday, May 31, 2019 6:19:41 PM

Hello,

As a Harvey victim in Meyerland, I am not in favor of any reservoir release that will affect Brays Bayou.

Thank you for taking the time to read this email.

Beverly Schorre

Sent from my iPhone

From: [John Polisini](#)
To: [CESWT-BBTRS](#); Goforth@vonniecobbrealtors.com
Subject: [Non-DoD Source] USACE - Brays Bayou Flooding Issues
Date: Friday, May 31, 2019 6:19:43 PM

I am writing to comment on the proposed expenditures, and proposed projects, on various flood control options regarding the greater Harris County area and specifically Brays Bayou.

I suffered a \$250,000 loss due to Hurricane Harvey Flooding and the inability of the current flood control programs to handle, or evacuate, flood waters that came over the Brays Bayou as currently constructed, and also as it is being currently modified by the USACE and the HCFCD, among other local entities.

I am in favor of any project that efficiently and quickly drains Brays Bayou. I am adamantly opposed, and will be actively involved against, any project or proposal that redirects water from any other drainage basin from another source or drainage into Brays Bayou.

Each drainage basin should be treated independently and it's flooding issues addressed individually. It is not rational to redirect water from other drainage basins into independent drainage basins. This makes a complex problem even harder to address, plan for, and solve. One drainage basin should not be the solution for another.

Stated otherwise, I oppose any project, plan, proposal, whether short term or long term, that redirects water from any other drainage basin into the Brays Bayou drainage basin. We already can't handle the water that is naturally deposited into our basin. To redirect water from another basin is not the solution to flooding in the Greater Houston area.

Thank you for the opportunity to comment.

Best,

John Polisini
5446 Valkeith Drive
Houston, TX 77096

No Substantive Comments Identified

Comment #: ES252

From: [Howard Sacks](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source]
Date: Friday, May 31, 2019 6:32:38 PM
Attachments: [BuffaloComment.pdf](#)



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Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

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I oppose any plan that would place or
has the potential to place stormwater
into Brays Bayou that previously flowed
into Buffalo Bayou.

The two proposed diversion points at
the west end of the watershed
would do just that.

Name Howard Sackr Affiliation _____
Nombre Howard Sackr Afiliación _____

Address 9407 Brown Leaf Circle
Dirección de Envío 9407 Brown Leaf Circle

City Houston State TX, Zip Code 77096
Ciudad Houston Estado TX, Código Postal 77096

E-mail Sackshow@aol.com
Correo Electrónico Sackshow@aol.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Jordan Macha](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] USACE - Buffalo Bayou and Tributaries Resiliency Study - BCWK Comments
Date: Friday, May 31, 2019 6:36:02 PM
Attachments: [Bayou City Waterkeeper BBTRS Comments 05.30.2019.pdf](#)

Dear BBTRS Coordinator,

Attached are Bayou City Waterkeeper's comments on the Buffalo Bayou and Tributaries Resiliency Study. Please let us know if you have any comments or would like any additional information. Thank you for your work on this study.

Best Regards,

Jordan Macha

--

Jordan Macha
Waterkeeper & Executive Director
Bayou City Waterkeeper
jordan@bayoucitywaterkeeper.org
713.299.4300



31 May 2019

USACE Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229
BBTRS@usace.army.mil

RE: USACE Buffalo Bayou and Tributaries Resiliency Study

Dear BBTRS Coordinator:

Bayou City Waterkeeper,¹ a nonprofit advocacy organization working to protect and restore the Lower Galveston Bay Watershed, appreciates the opportunity to comment on Buffalo Bayou and Tributaries Resilience Study. We are encouraged to see that the U.S. Army Corps of Engineers is undertaking a study of Buffalo Bayou and tributaries with the intention of increasing resilience. Houston will greatly benefit from a flood mitigation plan that is objective, regional, science-based, and forward-thinking – rooted in conservation and nature-based flood mitigation solutions.

As noted by Edmond Russo, Jr., Deputy District Engineer for Programs and Project Management, U. S. Army Corps of Engineers, Galveston District, on March 24, 2019:

[Engineers] would try to control nature, but we know we can't. . . . In the case we only had engineered solutions, the system is more brittle and prone to failure. There's always a bigger disaster than what you design for.²

-01 Nature-based solutions are the cornerstone of resilience in a region such as a Houston. The incorporation of nature-based infrastructure and blue-green measures into planning processes is vital to creating an effective and durable system for the protection and resilience of the Greater Houston Region, while also maintaining the quality of life and desirability of our area.

Multiple Approaches for Resiliency

-02 While the USACE acknowledges an “opportunity” to “engineer with nature and implement nature-based features,” the absence of these strategies from potential measures, alternatives development, and maps of strategies is notable. Given the lack of discussion, we are concerned that nature-based solutions will not be considered in the USACE review of alternatives. While this may be early in the planning process, it's critical that the USACE seriously consider nature-based solutions at the forefront. As NEPA requires, an EIS must provide a “full and fair discussion of significant environmental impacts and . . . inform decision-makers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.”

¹ Bayou City Waterkeeper, 2010 N. Loop West, Ste 103, Houston, TX 77005, whose mission is to protect and restore the bayous, rivers and streams that flow throughout the Galveston Bay Watershed. www.bayoucitywaterkeeper.org

² Medill News Service, Northwestern University. “Nature-based infrastructure could be an effective way to manage flooding.” 24 March 2019. <https://www.planetforward.org/idea/nature-based-infrastructure-could-be-an-effective-way-to-manage-flooding>

Additionally, America's Water Infrastructure Act of 2018 requires precisely such an analysis:

“(c) NATURAL INFRASTRUCTURE.—In carrying out a feasibility report developed under section 905 of the Water Resources Development Act of 1986 (33 U.S.C. 2282) for a project for flood risk management or hurricane and storm damage risk reduction, the Secretary shall consider the use of both traditional and natural infrastructure alternatives, alone or in conjunction with each other, if those alternatives are practicable.”

The Greater-Houston region must invest in long-term, resilient systems to offset the impacts of subsidence and the threats of major storm events. A nature-based system could provide a mechanism for planning and adaptation that minimizes risk to communities, its economies, and the environment by managing how they are exposed to these risks. A multi-tiered strategy that incorporates nature-based solutions provides the foundational support that unifies the vision of a healthy and protected ecosystem, while also providing critical protection to people, place and property.

-03 The USACE has many examples across the United States of taking a thoughtful, and multi-pronged approach to studying resiliency and protection. For example, the USACE Southern California project, the Prado Dam, strategies included the widespread and intensive establishment of wetlands to provide flood control services. In conjunction with these efforts, the State of California established the Santa Ana River Conservancy to coordinate projects across many stakeholders to enhance the watershed, provide numerous co-benefits, and ensure resiliency.

The National Wildlife Federation noted in its *Natural Defenses in Action* Report (2016),³ every \$1 spent in preventive measures saves \$4 in disaster recovery costs. That same report notes that protecting open space and existing natural habitats are among the most cost-effective ways of reducing risks to communities, by noting the following:

Deploying natural defenses is good not only for the environment but also for the economy. Natural or nature-based approaches can be as, or more, cost effective as traditional man-made structures and by avoiding or reducing community risks, can decrease taxpayer liabilities for disaster response and recovery and result in lower insurance costs to property owners.

The Gulf Coast has great potential to employ creative approaches to watershed management. Notably, the Buffalo Bayou watershed has two key advantages over those areas: 1) significant portions of the watershed remain available for long-term preservation; and, 2) long-established conservation partners are stakeholder ready.

Improving Natural Infrastructure

-04 While the Buffalo Bayou watershed continues densify within the urban environment, opportunities exist to protect those portions of the watershed which have not already been converted to residential and commercial development. Through conserving existing coastal prairie to provide flood mitigation, ensure healthy communities, and deliver multiple ecological co-benefits, these local assets can be leveraged to improve Houston's resiliency.

-05 We are concerned that alternatives suggested by USACE would remove natural flood mitigation solutions from the alternatives available to improve resiliency. Currently, the study recommends a study of the potential construction of a third reservoir northwest of Addicks Reservoir, which provides a false sense of engineered security and encourages new development in inherently floodprone areas. It is imperative that any new projects should provide cumulative benefits rather than replace benefits already in place, such as the prairie lands conserved within the Katy Prairie. Expanded protection for these coastal prairie wetlands, including restoration to improve the infiltration and natural detention of such lands, provides long-term and adaptive protection that a new reservoir cannot provide. Both the Addicks and Barker watersheds would benefit from more aggressive and focused conservation and restoration of lands upstream.

We recognize that the capacity of Addicks and Barker Reservoirs has diminished over the last several decades. Years of sedimentation and growth of invasive species have decreased the holding capacity of these reservoirs. We appreciate the

³ Small-Lorenz, Stacy, et. al. National Wildlife Federation. "Natural Defenses in Action". 2016. p 1.
https://www.nwf.org/~media/PDFs/Global-Warming/Reports/NWF_Natural-Defenses-in-Action_Report.pdf

-08 USACE's efforts to improve Addicks and Barker Reservoirs to recover this eroded capacity. The removal of such materials, combined with a return of the landscape to a wet prairie or tall grass prairie, will increase the volume of water that can be held during a heavy rainfall event. We recommend that the USACE study and consider the further excavation of the reservoirs to increase storage capacity.

Upstream Land Use

-09 As USACE outlines in its "Overview – Flood Risk Management" storyboard, the "[h]istoric urban expansion has modified the way water moves throughout the watersheds. Less surface runoff can be absorbed than historic conditions resulting in more water entering the bayous and reservoirs."⁴ The protection of existing conservation lands must constitute a key alternative in the USACE analysis, in addition to the acquisition of open lands for conservation is critical. The USACE's
-10 *Engineering With Nature: An Atlas*⁵ provides several strategies for thoughtfully addressing riparian systems and flooding. Many components of different projects, specifically natural processes, nature-based projects, and the tenant of broadening benefits, are entirely applicable and should be examined within the Buffalo Bayou Study.

We request a thorough and thoughtful incorporation of nature-based solutions to the study framework, including an entire project alternative built around and including the following:

- Protection of existing (as well as potential) conservation lands;
- Use of the natural capacity of wetlands and coastal prairies, such as the Katy Prairie, to hold water;
- Restoration of prairies to increase storage capacity;
- Acquisition, protection, and restoration of additional prairies, forests, wetlands, and floodplain/floodway lands for conservation purposes;
- 11 • Preservation of lands along the various tributaries to Addicks and Barker Reservoirs;
- Acquisition of properties where appropriate to increase the width of the protective riparian corridor which would keep people from harm's way, decrease flood losses, and increase access to open space and recreational facilities;
- Protection and enhancement of wetlands;
- Landscape-scale restoration of wet prairie;
- Landscape-scale restoration of tallgrass prairie;
- Promotion of land uses, such as rice fields, to improve storage during flood events;
- Contracting with local farmers for maintenance of nature-based infrastructure; and,
- Establishment of riparian woodlands to slow flood flows.

Protecting People and Place

-12 We urge the USACE to take additional action to protect the region's floodways and floodplains throughout the watershed.
-13 No structures should be allowed within floodways or deep within the floodplain; existing structures should be studied to
-14 determine their removal, and no new structures should be constructed within these zones. The USACE should also consider requiring existing properties within the floodplain to be flood-proofed, with the clear objective that such flood-proofing will occur comprehensively so as to reduce negative impacts on neighboring properties.

-15 Levees that constrict floodways must be prohibited, as this results in more water and increased flooding downstream. In
-16 channel detention projects, weirs and mini-reservoirs should be considered to slow and hold back water in a more natural
-17 manner. Without preemptive action and regulatory guidance, development along these corridors will exacerbate and compound problems downstream. Priority should be given to preserving, protecting and restoring existing wetlands, as well as creating or enhancing historic wetlands - both of which provide wildlife habitat, improve water quality by filtering pollutants, desynchronize floodwaters, and facilitate groundwater recharge.

⁴ [Buffalo Bayou and Tributaries Resiliency Study Public Scoping Meeting Storyboards](#) - storyboards presented at the public scoping meetings April 30, May 2, May 7, May 8, and May 9, 2019

⁵ Bridges, T. S., E. M. Bourne, J. K. King, H. K. Kuzmitski, E. B. Moynihan, and B. C. Suedel *Engineering With Nature: An Atlas*. 2018. ERDC/EL SR-18-8. Vicksburg, MS: U.S. Army Engineer Research and Development Center. <http://dx.doi.org/10.21079/11681/27929>

Integrating Nature-Based Solutions

-18 Every project alternative should include nature-based tactics. No potential alternative should be composed of traditional engineering solutions alone, but should also incorporate the enhancement and creation of wetland, woodland, and floodplain areas to maximize benefit and resiliency. For example, in developing detention, it is preferable to use natural wetlands instead of engineered wetlands; in enhancing bayous, the use of native plant material should be followed as a “best practice,” etc.. In all cases, projects must be analyzed not only for the cost-effectiveness of the initial capital costs, but also for the long-term operating, maintenance, and replacement costs, as well as the human costs. Nature-based solutions can result in longer project life, including projects that self-adapt to new stressors, with a lower risk of failure during severe weather events (i.e. flood or drought). In addition, nature-based projects provide social, economic, and environmental benefits to the community, including improved water quality, carbon capture, and availability of areas for recreation, wildlife, local agriculture, and improved quality of life.

-20 In its current iteration, the USACE Buffalo Bayou Study does not adequately incorporate and analyze nature-based solutions, despite noting that “nonstructural elements” should be considered. The USACE defines “nonstructural” to include strategies such as, “modifications in public policy, management practices, regulatory policy, and pricing policy.” We request the non-structural analysis encompass the full range of nonstructural approaches and integrate these mechanisms into project alternatives.

In Conclusion

James Dalton, Director of Civil Works, USACE, notes: *When we leverage natural systems and processes through integrated water resources management, we can develop more sustainable solutions and systems. By broadening our view of potential outcomes, we can find ways to deliver a broader array of services, benefits, and value from investment made in infrastructure systems.*⁶

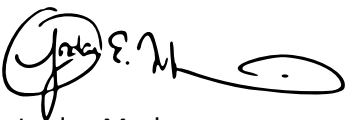
We must aim for a resilient, effective approach to watershed management. A resilient, nature-based approach provides a mechanism for planning and adaptation that minimizes risk to communities, its economies, and the environment by managing how they are exposed to related risks. The ability to co-evolve and accommodate trends over the long-term allows communities to limit their impacts and adjust as needed – all while maintaining their integrity.

-21 The nature-based approach is self-adaptive, and produces significant co-benefits. By moving away from the mono-functionality of hard, “grey” infrastructure and combining structural and non-structural—including blue-green measures—design, allows cities like Houston to increase their capacity address needs before, during, and after major weather events. Not only does it increase natural protections and provide flexibility to address both flooding and heat-related vulnerabilities, blue-green measures can increase quality of life by reconnecting and providing new outlets to nature.

Without the ability and willingness to adapt and implement change, solutions to address flooding, drought, and significant weather will go unanswered. Our vision for a more resilient region must be centered on working and living-with nature. By committing to an adaptable and sustainable framework, we can enhance our quality of life all while protecting the environment.

Thank you for the opportunity. We appreciate your consideration.

Sincerely,



Jordan Macha
Executive Director

⁶ Bridges. Engineering With Nature: An Atlas. p v.

From: [Gianni Matteucci](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments about the Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 8:19:21 PM

Hello,

My wife, my family, and I are residents in a subdivision affected by the Harvey flooding in 2017. We have lived there for over 25 years. We attended one of your public presentation, met some of your staff, and investigated your website.

While we appreciate the efforts at communicating the goals of the study, process, timing, costs, and the alternatives proposed, the level was quite generic. We wish your could have been more specific about the most practical and feasible solutions.

In terms of the alternatives considered, to us it seems they should meet the following criteria

- increase storage upstream of the Barker and Cypress Reservoirs
- increase linear storage along the bayou
- improve the bayou channel by removing debris, REGULARLY, grading and widening where possible
- ensure that the extra storage gained is significantly more (say 50 to 100% more) of what was available in the reservoirs at the time of Harvey's occurrence
- but truly there should be some serious consideration at the city, county, and regional level of minimizing the increase of paved/impermeable surfaces. No new subdivision should be allowed to be built unless they meet the criteria of being above the 500 yr flood level, they should have enough local storage to minimize runoff downstream, and alternative creative solutions should be encouraged to maximize water retention. This could be a recommended guideline of your study.

- Please use our tax dollars wisely!

--

Best regards,

Gianni Matteucci

14722 Broadgreen Drive, Houston, Texas, 77079-6427, USA

Mobile: +1-832-614-3818 ☐ Reply to gwrmatteucci@gmail.com

From: [Save Buffalo Bayou](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comment on Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 9:05:57 PM

May 31, 2019

Buffalo Bayou and Tributaries Resiliency Study
 Galveston District, US Army Corps of Engineers

Comments of Susan Chadwick, President and Executive Director, [Save Buffalo Bayou](#), a nonprofit organization in Houston, Texas.

-01 | Save Buffalo Bayou urges the Corps of Engineers to focus on green, nature-based approaches to flood risk in the Buffalo Bayou watershed and elsewhere. Modern flood management emphasizes stopping stormwater before it floods our streams. That means slowing down, spreading out, and soaking in rain runoff. It also means moving and keeping people out of harm's way. It means preserving greenspace, stands of trees, native vegetation, prairies and wetlands, and the natural landscape, including meandering streams. It means accepting some woody debris in the stream for slowing the flow, protecting and rebuilding the banks, as nature does.

-02 | Practices that focus on collecting more and more stormwater runoff faster only leads to more flooding. Costly, high-maintenance dams, levees, and flood tunnels with a limited life-span and tendency to fail only lead to a false sense of security and increased development in areas that will eventually become flood-prone again, placing people in harm's way. (See federal dams on Buffalo Bayou. ^[i] See also this [cautionary tale of the flood tunnel](#) in Chicago. ^[ii])

-03 | The Corps should use, recommend, and require the most effective and practical, the least expensive and least environmentally damaging solutions for reducing flood risk.

The best use of public funds would be land acquisition in the form of buyouts of structures in flood-prone areas, purchase and preservation of undeveloped land for greenspace and widening the floodplain along Buffalo Bayou and its tributaries.

-04 | "Channel improvements" mean deepening, widening, and straightening, which have been ^[iii] ^[iv]

- 04 | proven to be ineffective, damaging, and costly. The river seeks its own equilibrium. Deepening and widening, breaking up the banks, only leads to bank collapse, increased sedimentation, and constant maintenance.
- 05 | We are opposed to costly bypasses of the meanders on Buffalo Bayou. Among other significant problems, this would only shorten the channel, reducing its capacity, and speed up the flow, causing more erosion and flooding downstream. ^[v]
- 06 | There are numerous areas within the landscaped parks inside the federal reservoirs where detention basins could be added, increasing the storage capacity of the reservoirs.

Most definitely the Corps, in tandem with surrounding counties and municipalities, should develop better warning systems and emergency action plans.

[i] [“The Problem with Dams,”](#) Save Buffalo Bayou, Nov. 9, 2017. [Blockedhttp://www.savebuffalobayou.org/?page_id=4347](#)

[ii] [Blockedhttps://slate.com/business/2019/01/chicagos-deep-tunnel-is-it-the-solution-to-urban-flooding-or-a-cautionary-tale.html?fbclid=IwAR0p0QffnDiMybK-Vz5K4wmiW_yVC8asiFNR5JPoXwdaYLqCflnQ1dFTVLo](#)

[iii] [Blockedhttps://charlesrangeleywilson.com/2015/12/19/why-dredging-makes-flooding-worse/](#)

[iv] [Blockedhttps://www.scientificamerican.com/article/taming-the-mighty-mississippi-may-have-caused-bigger-floods/?redirect=1](#)

[v] [“Did Straightening Upper Buffalo Bayou Make Future Residents More Vulnerable to Flooding?”](#) by Susan Chadwick, Save Buffalo Bayou, Oct. 29, 2018. [Blockedhttp://www.savebuffalobayou.org/?page_id=6105](#)

From: [Eric Munscher](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public Comment - Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 9:16:43 PM
Attachments: [image001.png](#)
[Public Comment - Buffalo Bayou and Tributaries Resiliency Study.pdf](#)

Mr., Andrew Weber:

Please find attached the Turtle Survival Alliance's comments regarding the Buffalo Bayou and Tributaries Resiliency Study. Please let me know if you have any questions.

Thank you,
Eric M.

Eric C. Munscher, M.S., ESIX (Regional Scientist)
Herpetologist / Ecologist
Certified Gopher Tortoise Agent
Director of TSA-NAFTRG
Section Editor - Herpetology Notes



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Andrew Weber, P.E, Study Manager
USACE Galveston District
P.O. Box 1229
Galveston, TX 77553-1229
ATTN: BBTRS

Dear Mr. Weber,

Thank you for providing the opportunity to comment on the Buffalo Bayou and Tributaries Resiliency Study (BBTRS). As Director of the Turtle Survival Alliance's North American Freshwater Turtle Research Group (TSA-NAFTRG), and Regional Scientist with SWCA Environmental Consultants, I have a strong interest in preserving the natural Buffalo Bayou channel, while achieving site stability, water quality improvements, and stabilizing or increasing refugia for its fauna.

TSA-NAFTRG is the North American field research component of the Turtle Survival Alliance, a global 501(c)3 conservation nonprofit headquartered in Charleston, South Carolina. TSA-NAFTRG was formed in 1999 as a long-term monitoring effort for important protected habitats and the freshwater turtle species that inhabit them. Our field program has 14 research sites across 5 states, including 3 in Texas. One of these long-term population monitoring sites is Buffalo Bayou, Harris County, Texas. Our primary research here focuses on the State Threatened western alligator snapping turtle (*Macrochelys temminckii*). This research is permitted through the Texas Parks and Wildlife Department (TPWD) and funded in part by the TPWD Conservation License Plate program.

Western alligator snapping turtles are obligate freshwater turtles that routinely occur in major river drainages but have been observed in a wide variety of permanent aquatic habitats including lakes, reservoirs, swamps, flood plain marshes, and bayous. Little is known of the geographic range, habits, life history, habitat utilization, or population of *M. temminckii* in Texas. A 2002 report of a state-wide species assessment in their known historic range only demonstrated the capture of 48 specimens across 17 sites and 23 sampling locations. However, these specimen occurrences have not elucidated functioning populations in the localities of their reporting.

Committed to Zero Turtle Extinctions

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www.turtlesurvival.org

-01

Over the past several years, several documentations of *M. temminckii* have occurred in Harris County, Texas, the southwestern most known county of their distribution in the state. Of these reports, Buffalo Bayou, a naturally occurring, yet highly impacted waterway, has demonstrated a relatively significant amount of observations. In October 2016, TSA-NAFTRG and SWCA Environmental Consultants sampled Buffalo Bayou to assess turtle diversity and abundance as part of a herpetological species diversity assessment funded by the Memorial Park Conservancy (MPC). During this initial two-day survey, six *M. temminckii* specimens, representing various sex, size, and age-classes were captured, demonstrating a hypothetically functioning population in the segment of Buffalo Bayou running through Memorial Park. Beginning in January 2017, TSA-NAFTRG initiated a long-term population assessment and monitoring study to: 1) quantify the extent of *M. temminckii* distribution in Buffalo Bayou; 2) determine its reproductive functionality; 3) reveal hotspots of habitat preference; and 4) quantify specimen movement and bayou utilization.

The area of study encompasses ca. 14.4 km of riverine habitat from I-610 and Woodway Drive to Sabine Street and Allen Parkway. This segment of Buffalo Bayou features an assortment of adjacent habitat types including urban parkland featuring forested riparian buffers; private golf courses; open, managed parkland with little to no riparian buffer; bicycle and walking paths; and private and commercial real estate. Sections of this segment of the bayou are characterized by moderate water flow, high turbidity, and with an abundance of snags, sandy beaches, and in-water column deadfall. Other sections are characterized by anthropomorphic alterations and low frequency of natural bends, snags, and deadfall. Water levels in these areas fluctuate with any significant amount of rainfall or releases from the upstream dam(s).

-02

Our results thus far depict a reproductively viable and highly functioning population in Buffalo Bayou. To date, specimen captures in the 14.4 km segment of the 85 km bayou exceed those of the statewide sampling effort conducted by Rudolf et al. 2001. Of the 68 specimens captured, a 28 male to 24 female to 14 juvenile sex ratio is observed. Although no hatchlings have been captured, yearlings and other young juveniles have been recorded in our study. Furthermore, personal communication with county park staff and residents, of nesting activity by *M. temminckii* within the bayou's riparian zone lends further evidence to a breeding population. The sample size observed to-date demonstrates both the largest and densest known population of *M. temminckii* in the state. Studies by Dr. Day Ligon, Missouri State University, give credence to the hypothesis that this may in fact be the densest known population of *M. temminckii* under study in the United States. These findings rebuke the previous notion of a purported extirpation of functioning populations of this species in Harris County. Additionally, results from our radio-telemetry work show that individual specimens utilize finite home ranges, typically centered around adequate riparian habitat, submerged deadfall, and/or overhanging embankments, with a preference for these structures at or near bends along the bayou's sinuous meander. These findings are congruent with habitat preference and home range findings for the species in other areas of its range.

-03

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www.turtlesurvival.org

As the principal waterway of Harris County and the City of Houston, numerous alterations have been made to the bayou's structure and riparian zone in an effort to drain water from the Greater Houston metropolitan area with greater efficiency during period of large precipitation. These alterations turn segments of a formerly low-energy, meandering, aquatic system into segments with a higher energy system. Such areas are thought to be less favorable habitat for *M. temminckii* due to altering an aquatic system with high habitat diversity into one with low habitat diversity. Along with overharvesting and incidental drowning from refuse fishing equipment, habitat alteration and pollution are considered to primary causes for the decline of this species. The results from our research lend to the hypothesis that *M. temminckii* has thus far been able to adapt to localized habitat alterations and widespread pollution of the Buffalo Bayou habitat.

-04

The surprise discovery of a robust, reproductively functioning population of *M. temminckii* in the Buffalo Bayou is encouraging for the population's longevity in the Buffalo Bayou habitat. Results from our research thus far lend credence to the hypothesis that the natural segments of the bayou offer an oasis in one of the nation's largest cities and has acted as a refugia for this species in Harris County. In a July 2018 meeting to discuss the status of this species in Texas, the paucity of information across its range led to its state ranking as an S2 (Critically Imperiled) taxa. Based on this and the findings of our research to-date, the Texas Parks and Wildlife Department has encouraged more sampling and population monitoring efforts to be carried out in this high-priority waterway and its accompanying watershed in Harris County.

-05

It is our stance that riverine and land-management practices should continue be scrutinized, and any planned alterations to the bayou take this important population of western alligator snapping turtle into account. Additional alterations to channelize water flow could lead to further degradation of the natural habitats that do still exist, turning more low-energy, meandering, aquatic systems with high biodiversity, into ones with high-energy and low biodiversity. This could potentially lead to the decline of this State Threatened and other species of wildlife in and along the bayou.

If you would like to learn more about the population of western alligator snapping turtle in Buffalo Bayou, I would be happy to meet with USACE staff to discuss this unique population. If you have any questions, or would like to discuss further, please contact me at: emunscher@turtlesurvival.org or 717-676-8497.

Sincerely,

Eric Munscher
Director
North American Freshwater Turtle Research Group
Turtle Survival Alliance
1030 Jenkins Rd. Ste. D
Charleston, SC 29407

From: [Richard Hyde](#)
 To: [CESWT-BBTRS](#)
 Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study (BBTRS)
 Date: Friday, May 31, 2019 9:16:53 PM

A) Flooding upstream of the reservoirs

- 1) Addicks Reservoir no longer functions as a single reservoir.
- 2) Addicks Reservoir has been subdivided into 5 sub-reservoirs with internal boundaries created by the Clay Road Dam, the North Eldridge Parkway Dam and the State Highway 6 "High" Dam.
- 3) Storm water draining N.W. Harris County can not flow across the Clay Road Dam until high water tops the roadway which is holding back about 1/2 the input into Addicks Reservoir within only 1/9 the area 1100 acres/12500 acres.
- 4) Storm water then backs up north of Clay Road Dam, thus impeding drainage.
- 5) Current development and HCFCD drainage projects in Northwest Harris County are designed get water into Addicks Reservoir without a way to get it out safely.
- 6) This may result in an even worse flooding issue should we get another Harvey-like storm. Our reservoirs can no longer adequate.

B) Solutions to the upstream Clay Road dam could be:

- 1) many very large culverts under Clay Road (the road will still flood)
- 2) raising clay road as a causeway (long bridge) to allow unimpeded flow throughout the reservoir and allow traffic to pass during frequent high water events.

C) Solutions to Addicks and Barker Reservoirs catastrophic flooding issues:

- 1) Build one or two 40+ foot wide tunnels under I-10 in order to drain the reservoirs as they fill, to avoid emergency releases resulting in catastrophic flooding of Houston (Harvey, lesser extent Tax Day flood) to keep the dams from failing.
- 2) Also build a Third Reservoir or several smaller reservoirs NW of Addicks Reservoir to help handle the rapid additional development happening since Harvey.
- 3) Requiring excavation of deep depressions and then going deeper for building foundations to create buildings in (over) retention ponds. This is needed for new development along freeways to mitigate runoff. The city likes these areas for tax revenue. The scenic beauty and desirability would pay for itself. Housing developers that had to build lakes fought it, until they discovered that people would pay more for these properties.

From: [Darlene Marmottin](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Public Information Meeting Comment Form
Date: Friday, May 31, 2019 10:19:58 PM

As a resident of Twin Lakes Subdivision, the community just north of Addicks Reservoir, we experienced approximately an 80% flood rate within our subdivision during Hurricane Harvey. My husband and I attended one of your Public Information Meetings to see what was on the agenda.

-01 | After considering the possible options, we definitely need a third reservoir in the Hwy 290/Hwy 99 area. It will not only help the upstream communities, but also the downstream as well.

-02 | There was mention of raising the edge of the reservoir wall down Tanner Road from the current 108 foot level. If this occurs it would place multiple existing communities in peril from future flooding.

Buffalo Bayou also needs to be dredged and have its flow volume increased throughout its entire length, independent of the objections of the upscale sections of neighborhoods along the area.

We were also at the Dan Crenshaw event today concerning the sandbar removal on Langham Creek. Concerns were expressed about dredging the area south of this current project extending to Clay Road where the bridge is an obstruction then throughout the reservoir itself.

Understanding that this will be a multi-faceted long-term endeavor, as a community we hope that you will keep the needs of Twin Lakes and the surrounding communities in the forefront of your decision making.

Darlene Marmottin
Harris County MUD No. 255

Phone: 713-849-1925

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From: [Jeff Peters](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou and Tributaries Resiliency Study
Date: Friday, May 31, 2019 10:55:31 PM
Attachments: [USCE Buffalo Bayou response - Peters, 053119.pdf](#)

To whom it may concern,

Please find attached my comments regarding the US Army Corps of Engineers Buffalo Bayou and Tributaries Resiliency Study.

Jeffrey H. Peters, P.E.
President, Near Southwest - Super Neighborhood Council #38
Treasurer, Brays Bayou Association
Vice President, Willow Meadows Civic Club
713-553-0476



US Army Corps of Engineers:

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

<p>As a Professional Engineer, as a forensic engineering expert who has previously testified on Brays Bayou flooding disputes, as a Brays Bayou Association Board member, as a life-long resident of the Brays watershed who flooded during Harvey and who has spent over 30 years studying the Brays watershed, I would respectfully like to offer the following observations:</p>	<ol style="list-style-type: none"> 1. Before any water is diverted from Buffalo Bayou into Brays Bayou additional flood mitigation work within Brays must be done first. 2. The Brays watershed is still desperately in need of additional flood mitigation efforts on its own and should not be considered for diverting any excess water from any other watershed without appropriate offsetting mitigation of the Brays watershed first. 3. The construction of a network of tunnels to provide for offsetting mitigation is the best cost-effective and least disruptive solution, all above ground efforts are much less viable. 4. A more effective funding method must be considered to pay for the flood mitigation efforts including perhaps a "Brays Flood Mitigation - Tax Incentive Revitalization Zone". 5. Tunnels for the Brays Bayou should be built first that are sufficiently large enough to handle Brays flooding and any additional watershed's water before any other watershed's water be allowed to be diverted into Brays Bayou. 	<p>-01</p> <p>-02</p>
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Address 4419 Osby Drive Direction de Envío

E-mail: JeffPeters81@gmail.com

Correo Electronico.

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Michael E Hill](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments on BBTRS
Date: Friday, May 31, 2019 10:57:40 PM
Attachments: [2019-05-31_BBTRS_JJH Comment.pdf](#)



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

Buffalo Bayou and Tributaries Resiliency Study

BBTRS@usace.army.mil sent 5/31/2019

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

Brays Bayou area has flooded in 2001 Allison, 2015, 2016 + the big one Harvey 2017.

The Meyerland area flooding was supposed to be fixed by 2009 BUT was delayed for other projects.

1- Tunnel - With the cost projection of \$100-120 million and 30 years - Really?

- we always hear fixed by - - - but the project always gets diverted & money spent for pet projects - like Medical Center.

2- Diversion Points

- Places storm water into Brays that used to flow into Buffalo. So who chooses Buffalo Flooding or Brays Flooding - who chooses according to losses (financial or political) if pushed Buffalo wins & Brays loses.

- Brays can't support more water coming in because ~~we~~ ~~city~~ we can't increase the flow into Brays from our own streets. How can we take more flow from Buffalo?

-01

Name
Nombre

Janet Hill

Affiliation
Afilación

Homeowner flooded out before

Address
Dirección de Envío

4314 Winton Dr (after Harvy) 5350 Greenslock Dr

City
Ciudad

Houston

State
Estado

TX

Zip Code
Código Postal

77096

E-mail

Correo Electrónico

janet.jhill@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

No Substantive Comments Identified.

Comment #: ES261

From: billware@energybusiness.com
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Comments BBTRS, May 7 Meeting, Houston
Date: Friday, May 31, 2019 11:39:34 PM
Attachments: [bill-ware-comments-bbtrs.pdf](#)

Attached are my comments for BBTRS May 7 Houston Meeting

Bill Ware
713-680-2500

Comments from Bill Ware, Houston citizen

685 North Post Oak Lane, Houston TX 77024, 713-680-2500

(email: bill.ware@energybusiness.com, age 60+, self employed, energy business and pricing training)

I appreciated The US Army Corps Of Engineers holding the open meeting presentation on May 7, 2019.

After a little background - regarding my evolution in the Houston flooding issue - I will mention two newspaper articles below, one Houston and one Dallas, that were particularly eye-opening for me regarding the messy issues regarding land development and regulatory and protection functions at the city, county, state, and federal level.

I am familiar with Gulf Coast weather and terrain. I grew up in Baytown TX, went to school in Austin, spent some 4 years out of state, returned to Houston, went back to school in Austin, and returned to Houston in 1974. I have lived within about 3 miles of my current address since 1974. Consequently I have some awareness of Buffalo Bayou, Houston traffic, and TxDOT highway projects, including commenting and keenly criticizing major highway project plans – particularly with respect to highway noise (above levels requiring mitigation) that permanently and unnecessarily damage adjoining neighborhoods and parklands.

This experience has caused me to be greatly more questioning of city, county, state, and federal agencies.

I have never personally experienced any serious flooding within any of my homes in Houston or elsewhere.

During Harvey, I was keenly watching the late night TV presentation being made every night around 10 to 11 pm updating everyone regarding the water levels and the events at the Addicks and Barker Reservoirs.

It all seemed normal except for the last night before the deluge, when I recall there was an admission that all their depth gauges had gone out. I could not believe it. The rest is history.

In trying to educate myself more about flooding, water retention, damn systems, and urban flooding, I found the following **2 articles (both attached)** that are must reads to start to begin to understand the issues.

(1) I searched on the web and found the attached Dallas Morning News Article dated September 5, 2017, describing some background issues surrounding the Buffalo Bayou water retention/damn system. I had never heard of any of this in my Houston existence.

(2) then, on January 21, 2018, the Houston Chronicle published the article “Engineer’s 1992 Flood Pool Warning Ignored.”

Both of these articles will allow any interested citizen to better understand and possibly contribute to a path to better flooding solutions for Houston.

I trust this is where the US Corp of Engineers will take us.

Personally, I think the problem lies with the trickery of some of the land developers who depend upon inside help that is elected or appointed. Uncovering this would be difficult.

Bill Ware

Attachments: 2 newspaper article regarding Houston flooding and Addicks and Barker Cypress dams



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HARVEY SEP 2017

As Houston grew, officials ignored 'once-in-a-lifetime' chance to spare thousands from flooding



Steve Thompson, Staff Writer



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Two decades ago, Harris County planners predicted with chilling accuracy just how devastating a storm like Hurricane Harvey would be to the Houston area. Far lesser storms, they determined, could wreck a large swath of the city and its western suburbs.

In a report dated May 1996, engineers for the Harris County Flood Control District concluded the area's reservoir system was severely insufficient and imperiled thousands of properties. The report's authors proposed a \$400 million fix: constructing a massive underground conduit that would carry water out of the reservoirs and into the Houston Ship Channel more quickly.

Had the report's recommendations been heeded, the catastrophic flooding that struck Houston a week ago might have been greatly diminished, sparing thousands of homes from floodwaters.

Instead, the report got filed away and was all but forgotten. Government leaders ignored its advice.



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HARVEY

As floodwaters recede, Houston homeowners find more than nature to blame

"The primary flood threat facing the citizens of west Harris County and west Houston comes from the inability to drain the Addicks and Barker reservoirs in an efficient manner," the report said.

When built in the 1940s, the area's reservoir system was adequate, the report said. But because of changes made to the system, and given the pace of urban development 50 years later, "the project's original design parameters and assumptions are severely outdated and

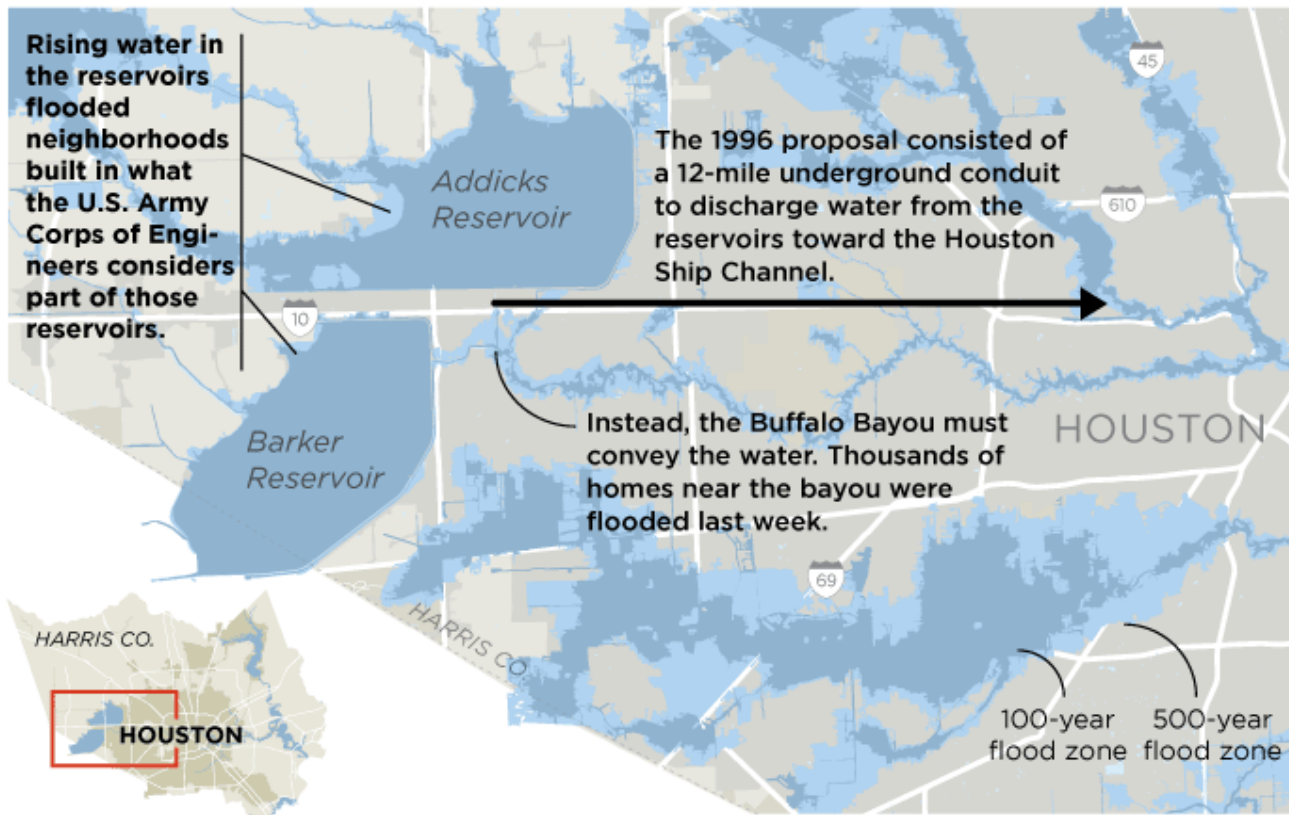
invalid."

In addition to the report's main proposal of a conduit, its authors raised other alternatives, such as digging the reservoirs deeper, buying out properties at risk and creating new regulations on development.

And then there was a final, stark alternative: "Do nothing and accept risk of flooding."

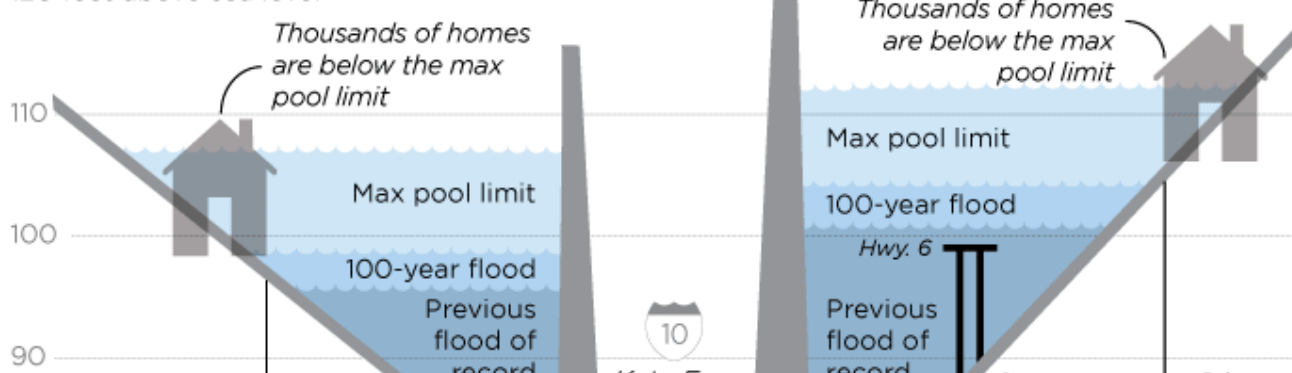
A proposal to fix the reservoir system

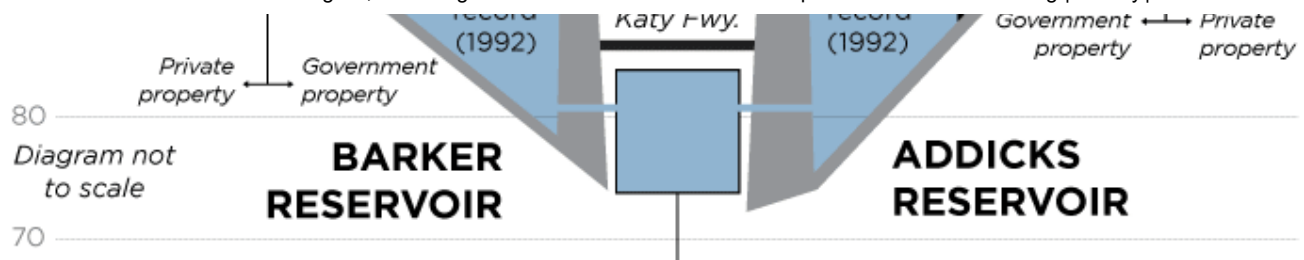
In May of 1996, knowing that water from the reservoirs could flood thousands of homes, engineers proposed a conduit to move it downstream more efficiently. The conduit was not built.



Critical reservoir levels

120 feet above sea level





The idea was to build a conduit consisting of perhaps eight channels, each 12 feet by 12 feet in size, much of which would've been underground along I-10.

SOURCES: Harris County Flood Control Planning Department; FEMA; *The New York Times*; Houston-Galveston Area Council

Michael Hogue/Staff Artist

Asked Monday about the report, Harris County flood control officials said they could not immediately locate a copy and were unfamiliar with the details.

"What I recall is, and I haven't read the report since back then, was that it was going to be very difficult to do physically," said Steve Fitzgerald, the flood control district's longtime chief engineer.

But Harris County's flood control director at the time the report was created, Arthur Storey, said Monday that he remembered the proposal well.

"This, what we have before us, is a massive engineering and governmental failure. I'm both angry about it and embarrassed about it," said Storey, who after his time as flood control director went on to lead the county's public infrastructure department. He retired in 2015 at 78 years old.

"My embarrassment is that I knew enough that this was going to happen," he said, referring to the destruction Harvey inflicted on west Harris County. "And I was not smart enough, bold enough to fight the system, the politics, and stop it."

Rising threat

After deadly floods in 1929 and 1935, the U.S. Army Corps of Engineers built two large reservoirs in what was then ranchland west of Houston. The idea was to store up water from heavy rains, rather than let it gush straight into the Buffalo Bayou, which runs through the city and carries stormwater to the Houston Ship Channel.

Most of the time, the Barker and Addicks reservoirs would be dry, and the land could be

used for soccer fields, golf courses and dog parks. Only in heavy rains would they hold water.

After a rain subsides, water within the reservoirs can be released into the bayou slowly. Originally, the earthen dams that hold water in the reservoirs were designed without floodgates. Once the water reached a certain level, it could spill out at up to 15,700 cubic feet per second.

But the threat of flooding in areas below the dams rose during the 1940s and 1950s, as urban development crowded the Buffalo Bayou upstream of Houston. To avoid such flooding, the corps installed floodgates that could release the water more slowly, at no more than 4,000 cubic feet per second. Any faster than that, the corps knew, and homes near the bayou would flood.

During hard rains in March 1992, the reservoirs reached record levels. State Highway 6, which runs through Addicks Reservoir, had to be shut down for 10 days while officials waited for the water to drain.



HARVEY

After Harvey's destruction, will a new and different Houston emerge?

The event worried Harris County flood control planners. Letting the water out too fast endangered development downstream from the reservoirs, because the bayou running toward Houston would overflow.

But letting the water out too slowly created another risk, because development was encroaching on the upstream fringes of the reservoirs. Entire neighborhoods were being built inside the reservoir bowls - in places that the Corps of Engineers and Harris County planners knew would flood if the reservoir levels got high enough.

The corps purchased all the land inside the reservoirs that would be covered by water in a 100-year rain event (one with a 1-in-100 chance of happening any given year). But on land at the western fringes of the reservoirs, which would be covered in water during a greater

than 100-year rain, developers were replacing pastures with neat rows of brick homes.

Action urged

In 1996, the planning department of the Harris County Flood Control District created its report urging action.

"Of primary concern is the fact that the reservoirs do not function as originally intended which translates into increased risk of flooding upstream of the reservoirs and less protection downstream," the report said. "As development continues behind the reservoirs, there is the potential to expose as many as 25,000 homes and businesses in the reservoir fringe areas to flooding."

The conceptual plan proposed a single underground conduit consisting of perhaps eight channels, each 12 feet by 12 feet in size, to carry water out of the reservoirs and safely past developed areas downstream.

The timing, the report said, was right. The Texas Department of Transportation was embarking on a reconstruction of the Katy Freeway, the stretch of Interstate 10 west of downtown Houston. It would be a good route for the drainage channel.



HARVEY

As storm's death toll rises to 60, Hurricane Harvey's displaced stream home to clean up

"The potential flood control problems are severe enough to consider this magnitude of project, and the major transportation construction in the Katy Freeway corridor presents a unique, once-in-a-lifetime opportunity to consider this type of flood control option," the report said. "To determine if a conduit system under the freeway is justified, it needs to be evaluated against other options."

Without such a conduit, the reservoirs posed an increasing risk, the report said. Because they had to be drained so slowly, there might not be time to empty the water between storms. That meant a series of smaller storms could raise the water level just as could one

big storm, a danger the report called "ratcheting."

"It is conceivable and not hard to imagine that a single storm event could have a catastrophic impact to several thousand people in the reservoirs and the fringe areas," the report said. "But, it's just as important to realize that a rainy season consisting of several 'normal' rain storms ... could be just as catastrophic because of the ratcheting effect."

Photo Gallery

1/6



(Tom Fox/The Dallas Morning News)

Slow drainage from the reservoirs also exacerbated the duration of flooding that would be experienced in the fringes of the reservoirs.

"Flood levels would not recede over the course of several hours like typically experienced with flooding from channels," the report said. Rather, houses being flooded by slow-draining reservoir waters "could be inundated for an extended period."

Tragic reality

Last week, the report's predictions became a tragic reality. The reservoirs became vast lakes, working as designed to spare Houston from a flood. But by Aug. 28, the reservoirs were nearly full.

The water had spread to the edge of the government-owned land and was overtaking the neighborhoods beyond.

Rather than let the water keep rising, the corps opened the floodgates to let a controlled amount escape. And instead of the normal 4,000 cubic feet per second, corps officials opened the gates wide to let water spill out at more than 13,000 cubic feet per second. They had to begin to get rid of it. They did so knowing it would flood neighborhoods downstream.

And just as the 1996 report described, water in many of the flooded homes would not drain for days or even weeks.

Storey, the former county flood control director, took a break from recovering belongings from his own flooded home Monday when reached by phone.

Long ago, Storey said, one of his best engineers came to him and an elected official about the reservoir problems. "He said, 'Let me draw you a picture.'"

"We both said, 'Oh s---, no kidding, really?' " Storey recalled.

"We really knew that at that time it would be a wise thing to stop development of any land upstream of the reservoir, have the feds buy it out, and make it part of the federally owned system," he said.

Storey said he laments that he and others did not do more.

"I wish I had gone to the commanding general of the Southwestern Division of the Corps of Engineers, and sat in his office, and said, 'Sir, I'm not going to leave your office until we come up with a better solution, because it damn well is gonna rain, and it's darn well gonna hurt people,'" Storey said. "I didn't do that."

He added: "Would I have been fired before I got halfway out of town? Maybe, but I didn't do it. And the irony is my house flooded. And all of my neighbors' did. And it was by intentional discharge by the people in command and in charge of the infrastructure."

Storey said the conduit proposal didn't go anywhere because it had no funding and required the cooperation of many agencies, and because the highway reconstruction was too far along to be slowed by another study.

"Anytime anybody comes up with a good idea, there are lots of studies and information about why it won't work, it can't be afforded, or it's not practical or politically expedient, and there was all of that," he said.

"They built the highway, and there's no storm sewer under it, and don't we wish it were today."

No funding

Richard Long has worked for the Army Corps of Engineers for more than three decades, much of it overseeing operations of the Addicks and Barker reservoirs.

"Sure, it would have been nice if we'd have had all the land necessary to hold the water on, and sure, it'd have been nicer if we had a conveyance system that would carry all these large releases that we have," Long said when asked about the 1996 report.

"Without federal funding we can't do anything like that," he said. But the county is "welcome to do that if they can work with whatever partners they need to do that, and we would encourage it to happen."

Steve Radack is Harris County commissioner of the precinct that contains the reservoirs, and has been since 1989. He said he and many others have long understood the reservoirs' problems. Radack said blame for the lack of a fix falls on the U.S. Congress, which never

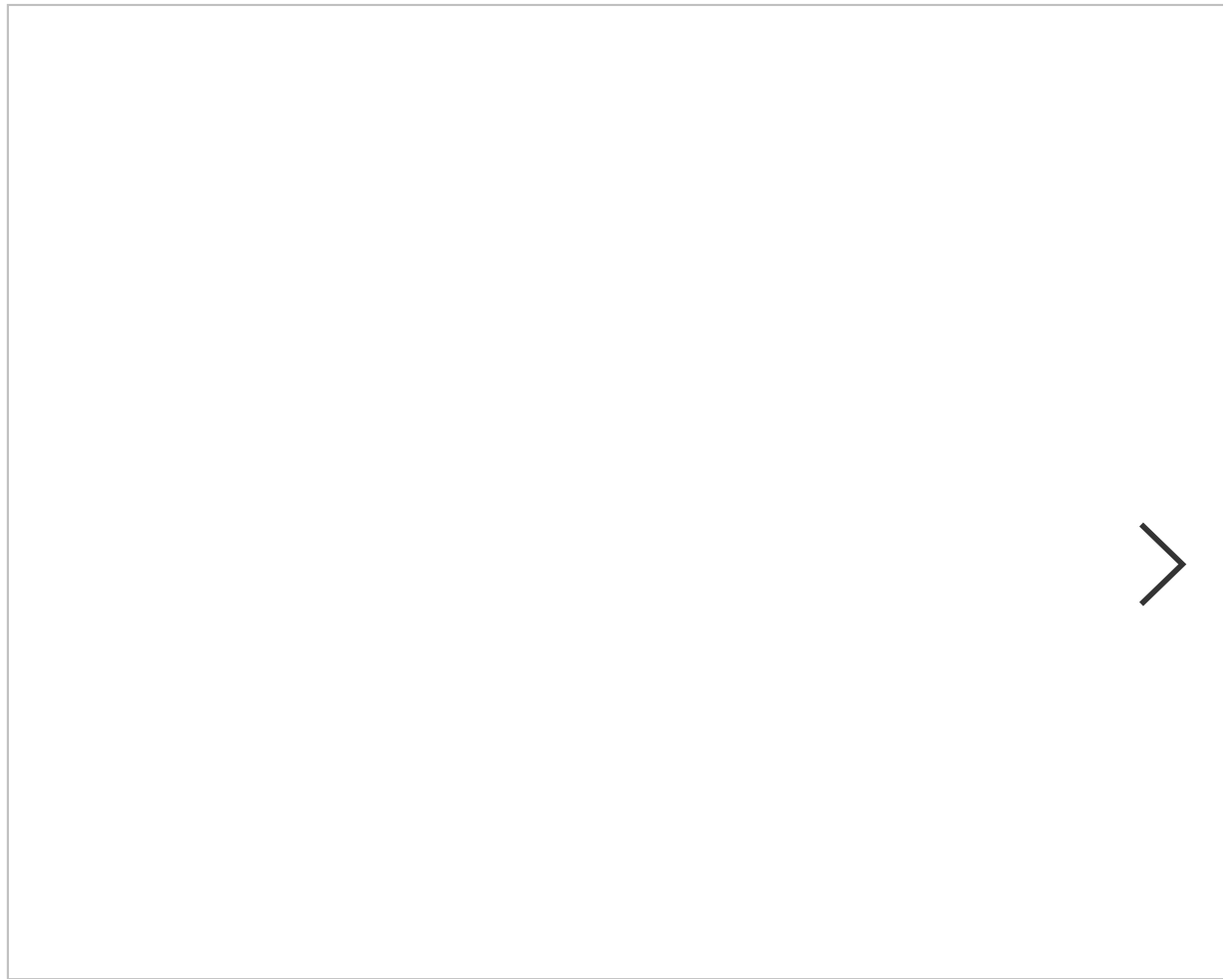
allocated the money.

"The corps has done an outstanding job of managing this reservoir, outstanding," Radack said. "But the problem is if you don't give them the money to do what they need to do, they can't do it.

"They knew, they asked, they didn't receive," he said.

Photo Gallery

1/11



(Smiley N. Pool/The Dallas Morning News)

Many of the thousands of homeowners who live near the reservoirs, however, didn't understand the risks those reservoirs posed. Aaron Voges lives with his wife and two kids,

7 and 12, in a flooded neighborhood called South Park, one of those located inside the reservoir.

"For some stupid reason I thought that levee that I see on my way home, I thought that protected me," he said. "I had no idea that there were plans in place to flood me to protect other people, which blows my mind."

Voges says even if he can restore his home, it now won't be worth near what he owes on his mortgage.

"Why did they build the neighborhood? Why did they let people buy out there?" he said. "It lowers what little faith I have in my government."

Correction, 11:50 a.m., Sept. 5, 2017: An earlier version of this story incorrectly described the size of the proposed underground conduit. The proposal suggested a conduit of perhaps eight channels, each 12 feet by 12 feet in size.

[Katy Freeway Corridor Flood Control Study](#) by [cityhallblog](#) on Scribd

KATY FREEWAY CORRIDOR FLOOD CONTROL STUDY



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HURRICANE HARVEY'S IMPACT ON TEXAS

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James Drew

Jan. 20, 2018 | Updated: Jan. 22, 2018 7:24 a.m.



Former Assistant Fort Bend County Engineer Glen Crocker stands at the Barker Reservoir spillway Tuesday, Jan. 9, 2018 in Houston. Twenty-five years ago he discovered that new Cinco Ranch subdivisions could flood because the Barker reservoir footprint was bigger than the government-owned land. He reported his findings but was ultimately ...

Photo: Michael Ciaglo, Houston Chronicle

Twenty-five years ago, Fort Bend County's assistant engineer emerged from a meeting with the U.S. Army Corps of Engineers. He had new information, and he was worried.

Charles Glen Crocker, then 38, had learned that the footprint for Barker Reservoir was bigger than the land owned by the government, placing future homeowners in the Cinco Ranch and Kelliwood subdivisions within what engineers called "flood pools." The reservoir, dry much of the time, could fill during a major rainstorm and spread into the homes of unsuspecting residents.

His resulting letter, written on July 6, 1992, was a warning to county officials: "...recent rainfall events and weather conditions have shown that many areas considered relatively safe from rising waters have been flooded."

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The land in the reservoir was sinking, "subsidence" in engineering terms. Houses were being built at a level lower than the water level the dams were designed to hold. A long period of rain could mean trouble in the two massive planned communities.



Former Assistant Fort Bend County Engineer Glen Crocker stands at the Barker Reservoir spillway Tuesday, Jan. 9, 2018 in Houston. Twenty-five years ago he discovered that new Cinco Ranch subdivisions could

flood because the Barker reservoir footprint was bigger than the government-owned land. He reported his findings but was ultimately ignored.

Photo: Michael Ciaglo, Houston Chronicle

Crocker alerted everyone he could think of: the county judge, county commissioners, the Fort Bend County Drainage District and the county's emergency management coordinator.

He wanted the county to look at the matter more closely. Instead, a special purpose district formed to benefit developers by paying for drainage improvements attacked Crocker. Its letter criticized him for writing the memo, questioned his credentials and said Crocker's assertion could hold back development in the county.

LAWSUIT: Army Corps knew for decades about Katy flooding risks

Crocker describes the period as a "firestorm." He said the furor was a big factor in his decision to leave his county government post two years later.

The county ignored Crocker's warning. By 2017, development in the flood pools in Fort Bend and Harris counties would swell to 30,000 homes and businesses.

Last August, as huge pools from Hurricane Harvey flooded more than 9,000 structures upstream of the Addicks and Barker dams, Crocker strode into the second-floor office of his Sugar Land home.

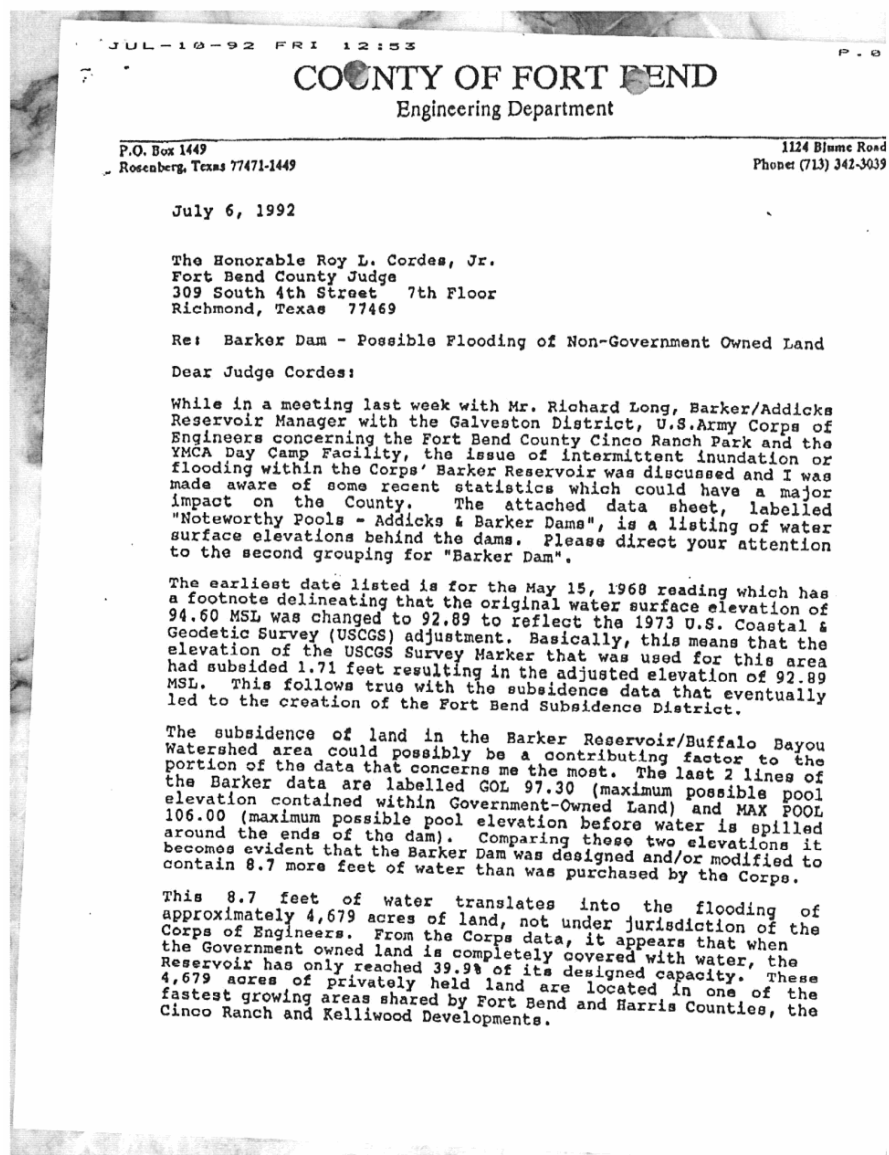
There, in a manila folder, he found the two-page letter he had written so many years ago. He looked at the subject line: "Barker Dam – Possible Flooding of Non-Government Owned Land."

The Houston Chronicle found the document through a public records request filed late last year with the Willow Fork Drainage District and contacted Crocker to discuss it.

Crocker's letter was addressed to Roy Cordes, then the Fort Bend County judge, now its county attorney.

Page 1 of Charles Glen Crocker is silenced by county officials and by an engineering firm that was working on developments within the reservoir flood pool

DocumentCloud



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"I think the letter was very informative and raised issues about the possibilities with the [reservoir] elevations," Cordes said in an interview Friday. "He was well-entitled to raise the issue."

Cordes said he didn't recall what happened, if anything, after he received the letter. "I can't cite any specific action based on the letter," he added.

Jim Blackburn, an environmental lawyer and planner who has studied the Houston area's vulnerability to flooding for years, said Crocker's letter sheds light on what he calls the "flood disease" that has gripped the Houston area for several decades. It's a development attitude that resulted in magnifying the impact of the rainstorm of the century, he said.

"The flood disease keeps information from being brought forward," Blackburn said. "It's about the failure to allow for exchange of ideas, a failure to hear, and a decision to attack those who don't agree. It's been going on for a long time. The reaction to Crocker's letter is a perfect example of the pervasiveness and the insidiousness of the flood disease."

'Noteworthy' flood pools

It would take a while for Crocker to grasp those attitudes. A graduate of Sharpstown High School, Crocker earned a bachelor of science degree in construction management in 1983 from the University of Houston.

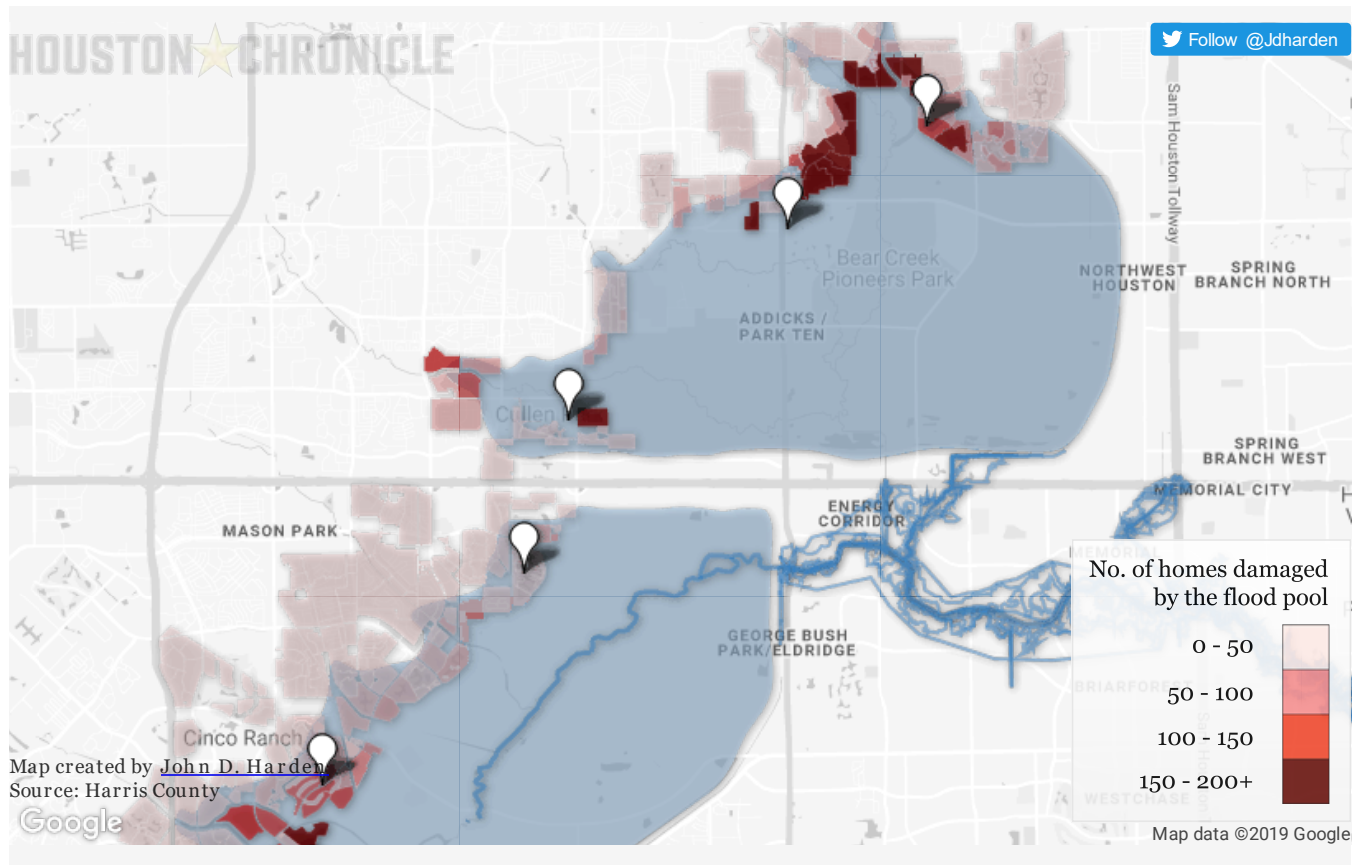
Two years later, Fort Bend County officials recruited him away from a construction company to help open the new engineering department. He was hired as the assistant engineer and worked in a two-room hut that was part of the former World War II prisoner of war camp in Rosenberg.

The tasks of the employees, who wore jeans and drove pick-up trucks, captured the county's dramatic transition from rural to suburban, from pulling dead livestock out of ditches so roads didn't flood to reviewing subdivision maps. All around Crocker, streets were being built and holes dug to put in water and sewer pipes as plans for subdivisions sprouted.

In 1992, Crocker attended a meeting at the Corps of Engineers' office at the base of Barker Reservoir. The agenda: a discussion about Fort Bend County's plans to build a park, with the YMCA, with soccer fields on the land within the reservoir.

Homes damaged by the Addicks, Barker flood pool

Thousands of homes behind the Addicks and Barker reservoirs sit in what engineers call the “flood pool” — a muddy lake that would form behind the dam if the floodgates were closed long enough and it rained hard enough. During Hurricane Harvey, huge pools formed that forced the evacuation of 30,000 properties with 150,000 people in neighborhoods upstream of Houston's two dams. The map shows the subdivisions that were threatened by the storm. Not all neighborhoods shown were impacted, but those closest to the dams suffered the most damage. An estimated 9,000 homes were damaged.



Crocker said during the meeting, Richard Long, then the Corps' manager for the Barker and Addicks reservoirs, showed him a piece of paper listing "noteworthy" flood pools. Crocker said he asked Long what it meant. Long replied that when the reservoirs fill, the water exceeds the land that the federal government had bought.

(Citing pending litigation filed against the Corps in response to Harvey flooding, an agency spokesman referred the Chronicle's request to interview Long to the U.S. Department of Justice, which did not immediately respond.)

DEVELOPING STORM: For buyers within 'flood pools,' no warnings from developers, public officials

It was Crocker's job to work with the developers of the Cinco Ranch and Kelliwood subdivisions, and the engineering firms they hired. Following the meeting with Long, Crocker said he consulted Fort Bend County Commissioner Alton Pressley, whose precinct included the two subdivisions.

Pressley said Crocker needed to write a letter to the entire county commissioners' court, then led by Cordes.

Crocker's letter, dated July 6, 1992, said the Barker Dam was "designed/and or modified" to contain 8.7 more feet of water than the land the federal government had purchased. That meant that the land where the subdivisions were being built would be part of the reservoir during times of heavy rain.

"This 8.7 feet of water translates into the flooding of approximately 4,679 acres of land, not under jurisdiction of the Corps of Engineers," Crocker wrote.

Crocker added that the "unofficial report" from the Corps found that if four more inches of rain had fallen in the storms of March 1992, "there would have been floodwaters inside of residences located in developments adjacent to the Reservoir."

He concluded that Fort Bend County officials and developers should work with the Corps on the issue. "Certainly additional data and studies will be required to determine the actual existence of/or extent of any problem with encroachment on privately held land," Crocker wrote.

But Ron Drachenberg, who was Crocker's boss as Fort Bend county engineer and now is retired, said last week that the county didn't have any options.

"We didn't have a way of stopping development because it wasn't our property," he said. "It wasn't governmental land. It was private land."

The Chronicle sent copies of Crocker's letter and the responses to Fort Bend County Judge Robert Hebert; to the sole current commissioner who was on the panel at that time, Grady Prestage; and to the commissioner whose precinct includes Cinco Ranch and Kelliwood, Andy Meyers.

Hebert said in a written statement: "The letters reflect the pressure applied to the County in 1992 to keep quiet about their concerns about the reservoir. While we received more than the 4" the letters discuss from Harvey in 2017, it is now obvious to all that the Corps will allow the reservoir to overflow onto homes behind it to protect downstream property. I will not comment further as I was a private citizen at the time and was completely unaware of this issue."

Prestage declined comment. Meyers didn't return messages seeking comment.

Bad for business

In 1985, the state created a special purpose district called the Willow Fork Drainage District. The focus was development, specifically to sell bonds to reimburse developers for drainage improvements and then levy property taxes to repay the money borrowed – with interest.

Crocker's letter soon came to the attention of the district's engineering firm, Turner Collie & Braden.

Michael B. Hunn, director of the engineering firm's land development division, responded to Crocker's correspondence in a four-page letter in November 1992.

He began by noting that concern had been expressed that Crocker's letter "could unnecessarily adversely impact sales of land in the high quality residential neighborhoods currently being developed in Fort Bend County."

He said Turner Collie & Braden had interpreted Crocker's letter as inferring that the "properties immediately upstream of Barker Reservoir are in imminent danger of being flooded and that the level of protection from flooding is not as secure as anticipated."

Hunn wrote that the "properties within the Willow Fork Drainage District are well protected from individual storm events and/or ponding levels in Barker Reservoir that have a 1 percent or greater chance of occurring." This meant that the subdivisions were safe from 100-year floods, he wrote.

Hunn could not be reached for comment. A Turner Collie & Braden engineer who was copied on Hunn's letter didn't return messages seeking comment.

George Nilsson, president of the Willow Fork Drainage District board of directors, also took aim at Crocker's letter in a response sent to Cordes, the county's top official.

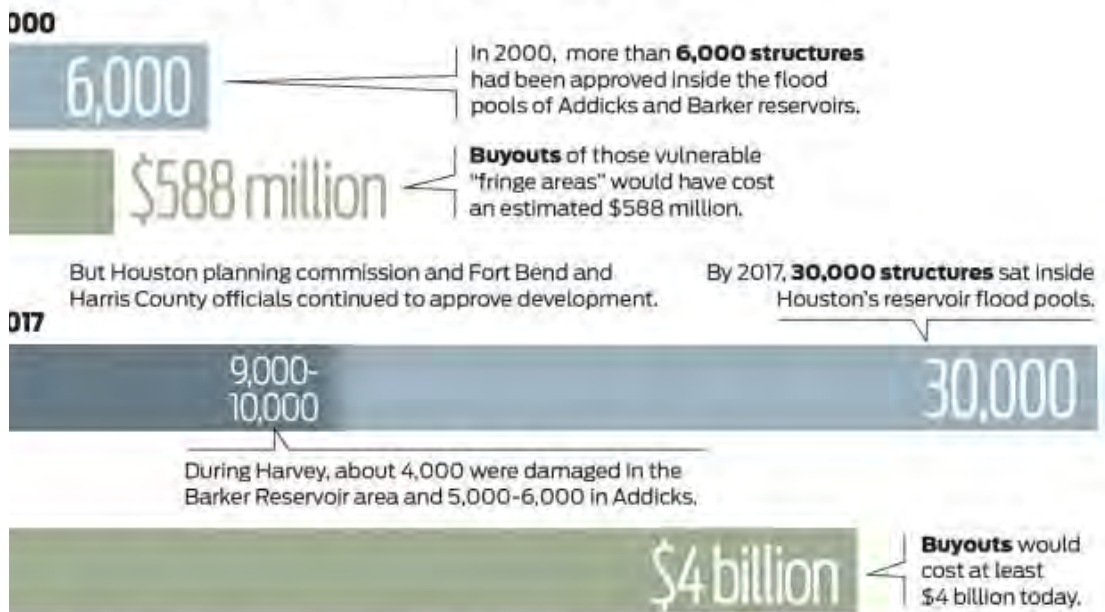
"Mr. Crocker's conclusions were made without the benefit of adequate research, independent verification or proper scientific methodology," he wrote.

The drainage district, according to Nilsson, was surprised that Fort Bend County would allow someone "who is not a registered professional engineer" to use county letterhead to "make such baseless, unfounded and potentially damaging assertions." The Chronicle gave Nilsson copies of Crocker's letter, his rebuttal, and Turner Collie & Braden's response. He said he was too ill to discuss them.

In a recent interview, Crocker said he intentionally did not pursue a professional engineering license from the state.

Having known engineers who worked for counties and cities before who were asked to put their seal on things that weren't quite copacetic, I just dropped my pursuit of getting a PE," he said.

The rising costs of reservoir development



ources: 2000: Report from Costello Inc. 2017: Harris County, Fort Bend County and U.S. Rep. Ted Poe

Houston Chronicle

Sad to be vindicated

Crocker said the responses to his letter were among the reasons why he left his job in 1994. He said the

commissioners' court had meetings about what he wrote, but he was not allowed to attend.

In retrospect, Crocker said he was "young and naïve" and thought he was raising a technical issue that Fort Bend County needed to examine. He said he was not thinking that Turner Collie & Braden worked for the drainage district, some municipal utility districts in Cinco Ranch, and as a result, "there might be some political fallout."

After leaving his county job in 1994, Crocker worked for four utility billing, development, and engineering firms and later moved to the Middle East to work on development projects. He returned to Houston in 2015 and now is a land development construction manager for Cobb, Fendley & Associates, a Houston engineering firm.

When Harvey struck, Crocker said news accounts of floodwaters backing up behind the Barker Dam reminded him that he had written the letter in 1992. He said he hoped that what he had written about subdivisions being threatened by the flood pool would not come true.

"But then it did," he said. "I feel vindicated – but in a bad way. For me to be vindicated, millions of dollars in damage was done to people's houses."

HOUSTON★**CHRONICLE**



[TOP](#) ^

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From: [Vanessa Sommer](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] BBTRS Comments
Date: Friday, May 31, 2019 11:59:39 PM

-01

My name is Vanessa Sommer and I live at 2430 Randa Point Court, Spring, TX 77388. We live off the Cypress Creek watershed in the neighborhood of Lakes at Cypress Forest in water District WCID110. Please consider Cypress Creek in your study especially near I 45 in Cypress Creek. Do you to text a flood, memorial day flag and hurricane Harvey, the Cypress Creek channel has continually reduced in size. During hurricane Harvey, the creek backed up like a damn at Interstate 45. This needs to be looked at. Also, Please consider widening the channel and dredging the creek.

Thank you!
Vanessa Sommer
Sent from my iPhone

May 31, 2019

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Comments on the scope of the Buffalo Bayou and Tributary Resiliency Study:

Here are some possible remedies for your consideration that I feel that could have a positive impact on reducing the flooding impact on improved property during a major storm of the magnitude of Hurricane Harvey as well as addressing other environmental considerations:


- **Upstream of Barker and Addicks reservoirs.** Clean out and possibly widen existing draining paths to reduce resistance to runoff to the reservoirs. Smaller upstream dams/containment basins may be possible. Small reservoirs might be considered to collect water for use by MUDs as an alternative to using well water – collected water would be treated and used to maintain low levels that could be utilized for containing rain off from heavy rains.
- **Barker and Addicks reservoir flood pools.** When the reservoirs were constructed, the spillway level was above the elevation of land purchased by the Corps. The land between that purchased and the spillway elevation was in many cases used for commercial and residential construction. Why this land was allowed to be used for construction is questionable, but it is reality. Unfortunately, few people who purchased homes below the spillway were aware of the situation. I live behind Barker reservoir where the spillway elevation is 104' and elevation of the extent of the Corps land is 97'. The slab for my home in Windsor Parks Lakes is at 102' and Harvey waters got within about 6 inches.

The strategy for managing the water level behind these reservoir needs to be given high priority in order to reduce the risk of flooding improved properties located behind the dams and below the spillway elevation. Considerations include:

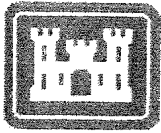
- Discharging water during heavy rains to the extent possible without endangering downstream properties. Particularly if the main storm is upstream of the reservoirs.
- Increasing reservoir capacity by excavating deeper in areas where park and recreational areas are not impacted. As mentioned earlier, these deeper portions of the reservoir could be used to accumulate water for use by area MUDs in place of well water. The strategy would be to keep the water level in these deeper areas well below that the recreational areas so if needed for flood capacity it would be there. It should be noted that due to ground water consumption, land subsidence in the Katy area is occurring at the rate of about 1"/year. While this may not seem significant some areas over time could become more flood prone. Also, this water use might be an alternative to ongoing drilling of wells due to a declining aquifer.
- Would like to see the elevation of the spillways lowered, but while that might not be feasible, it should be considered.
- Buyout of homes below the spillway levels might be considered as well. Especially for those closest to the Corps property line.

- **Buffalo Bayou.** The main problem seems to be bottlenecks in the drainage from the dams to Galveston Bay. Here are several considerations:
 - Between the dams and Beltway 8, the Bayou area is reasonably wide and straight. However, there are a consider number of trees along the banks that do provide significant flow resistance when the water gets high. Also at street crossings the flow area is reduced and probably contributes significantly to restricting flow. Suggest that bottlenecks be identified, prioritized and modified by removing vegetation and widening. Looks like the south side of the Bayou might be addressed first to minimize impact on the recreational amenities in place on the north side. I think with modest effort the flow rate thru this section can be significantly improved. But improvements will have to be made down stream as well to see the full benefits of work on this section.
 - Between Beltway 8 and Interstate 610. Cleanout of trees and some straightening would help, but this is a very tortuous section of the Bayou and would impact many property owners if significant widening is to be achieved. It seems that this might be a section where an underground by-pass tunnel might be considered. This is about a 6 mile straight path vs 20+ being considered to the North. This additional capacity would reduce the environmental and cost impact of extensive widening in this section.
 - Interstate 610 to the Ship Channel and Galveston Bay. It seems like the main issue here would be the confluence of Buffalo Bayou and White Oaks Bayou and the bottle neck of the combined streams flowing past downtown Houston. Possibly a short tunnel by-pass here could reduce the impact as opposed to widening an area that is loaded with infrastructure.

If you have any questions or want more information, I would be glad to help. The above are just a rough outline of my thoughts and I could provide more detail.



Thor Hanson
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Houston, TX 77094
281-717-4338
thorhanson@comcast.net



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Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)
Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

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-01 STUDY THE OVERFLOW OF CYPRESS CREEK
INTO BUFFALO BAYOU/CANE ISLAND CREEK. FOR BOTH
THE TAYDAY FLOOD AND THE HARVEY FLOOD I
OBSERVED OVERLAND SHEETFLOW OVER FM 529 INTO
THE BARKER RESEVOIR FROM CYPRESS CREEK.

-02 STUDY THE CREATION OF A RESEVOIR SIMILAR TO
BARKER WEST OF HWY 99 ON CYPRESS CREEK.
THIS ALLOWS FOR CONTAINING THE DRAINAGE
OF CYPRESS CREEK. STUDY A DIVERSION
LEVEE SOUTH AND WEST OF CYPRESS CREEK
TO PREVENT CYPRESS CREEK FROM DRAINING
INTO ADDICKS AND BARKER RESEVOIR.

-03 THE CURRENT PLANNED LEVEE SOUTH OF
CYPRESS WILL DIVERT MORE WATER INTO BARKER
RESEVOIR. THIS LEVEE SHOULD BE EXTENDED
FARTHER WEST. PLEASE STUDY THE OPTION OF
INCREASING THE CAPACITY OF BARKER AND
ADDICKS RESEVOIR BY LOWERING THE
ELEVATION INSIDE THE RESEVOIR.

-04

Name CLET LANDRY Affiliation HOME FLOODED TWICE
Nombre CLET LANDRY Afiliación HOME FLOODED TWICE

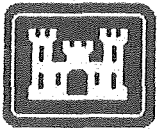
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Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffero-Bayou-and-Tributaries-Resiliency-Study/>

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This is way too costly and results not certain

Rita Marsales

Name

Nombre Rita Marsales

Affiliation

Afilación Neighbor

Address

Dirección de Envío 4729 Spellman Rd

City

Ciudad Houston

State

Estado Texas

Zip Code

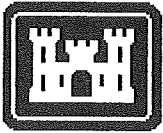
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Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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35 years and not one drop of water in our house. Then Harvey and we got flooded. It is my strong belief based on facts, that had not the "upgrade" occurred at Main & Brays Bayou, we would not have gotten flooded. The few other neighbors probably would not have either.

I am asking that you consider another plan for Brays Bayou other than the one you have on the books. Our neighborhood, one of the best in the city, doesn't need any flooding. Neither does the Texas Medical Center down the street.

Please do not go through with your present plans & come talk to our neighborhood. We have an active POA.

Sally E Miller PhD

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Nombre

Sally E Miller

Affiliation
Afilación

Old Braeswood
Resident

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Dirección de Envío

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City

Ciudad

Houston

State

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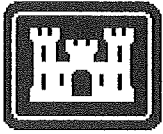
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<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>



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-01 We are still recovering from flooding
 -02 (our house was flooded for the first time
 in Hurricane Harvey in 2017) that coincided with
 construction on Bayou as part of the
 effort to widen. While mitigation efforts are
 good, overflow from Buffalo Bayou could have
 a devastating effect again. If new construction
 does not stop on the floodplain in west & northwest
 Houston, everything south/southeast is threatened.
 Additionally levee walls should be raised at
 the Barker and Addicks Reservoirs.

Please help protect the more than 800,000
 residents of the Bayou watershed!

Name Breisen Miller Affiliation Old Braeswood
 Nombre Breisen Miller Afiliación Old Braeswood

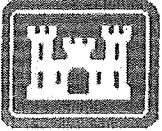
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-01

The 40-50 miles of tunnels is impractical because it costs too much and takes too long. By the time it is completed we will all be dead.

Please do not create any possibility of dumping water from Buffalo Bayou into Brays Bayou.

Pouring Brays Bayou water into Sims would help us but hurt the folks along Sims. Please see attached sheets for details.

Name
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Ann Vise Nunes

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annvnunes@gmail.com

Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

Comments on proposals to limit flooding of homes and businesses.

I live near Brays Bayou and here are my thoughts on the suggestions on page 18:

1) 40-45 miles of tunnels. The estimates being bounced around for the tunnels from those in the private industry and government are between \$100-120 million a mile = \$4-5 billion total. *The soils, water table and other issues that might hinder or make impossible, subterranean construction of this magnitude are currently being looked into and I am sure will be studied in great detail before going much further down the road (tunnel, pun intended).

This would be great IF it could be done. But it would take too many years and would cost too many millions of dollars and, worst of all, it would probably not be completed. Someone would drop the ball before it was completed.

2) Two Diversion Points bringing stormwater into the far west reaches of the watershed. Guesstimate...\$175 million for dam modifications, release structure and channel improvements to Upper Brays that will be needed to handle flow, plus possible land acquisitions.

This is a terrible possibility. It would cause more flooding for us near Brays Bayou, not less. PLEASE DO NOT DO THIS!!!.

-02 ***This places stormwater into Brays that had previously flowed into Buffalo.*** What if we find ourselves in another Harvey type pattern and the decision comes down to the USACE performing another huge release into Buffalo and "accepting" \$2-10 billion plus in losses or do they dump the release into Brays where they'll "only have to accept" \$1-4 billion in losses??? I would not feel safe with that release device in place. I don't have much confidence in Brays winning out over Buffalo in this scenario. *Please do not do this!!!*

-03 The Clodine Area Ditch currently serves a sizable area south and east of the Westpark Tollway and the Grand Parkway (99) interchange and runs along the outside of the south and east edges of the Barker Reservoir Dam until it enter Buffalo. Project Brays can only provide relief for what is currently flowing in, thus the reason the outflows from our streets and neighborhoods are not allowed to be increased unless there is some mitigation offset. We are struggling to find any detention sites much less any of decent size in the Brays Watershed. The Brays Watershed cannot support this additional unrestricted flow. *Please do not do this!!!*

3) One Diversion Point taking storm water out of the Brays and into Sims. Cost...???

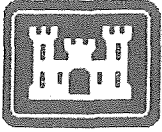
-04 Anything that removes stormwater from the Brays Watershed is good for its occupants, structures, livelihood, etc. Could reverse flow on existing features such as the Fondren Diversion Channel to at least get the flow half way to Sims where some land is still available to further conveyance to Sims.

But the folks along Sims would object, just as we on Brays object to getting Buffalo Bayou's water dumped into our homes.

I see they are digging to make Brays Bayou a tiny bit wider. Make it a LOT wider, & deeper, too.

Also please disallow towns upstream from building ANYTHING within the Brays Bayou flood plain as they have been doing for the past several years.

I have linked the presentation and attached the COMMENT FORM with instructions on how to submit. Being the military and a stickler for protocol, they have asked that comments be submitted via email or mail using the supplied form. If you don't have a scanner, you can fill out the comment form and take a picture with your phone, then email it directly. I am not sure if they will accept comments just emailed in "free form"...but, if that is all you can do it's definitely better than not commenting at all.

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Do not Make any plans which will
add more water under any circumstances
to the Brays Bayou Watershed.

Name
Nombre

Rhonda Sampier

Affiliation
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resident

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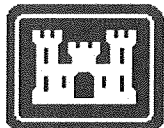
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EXPEDITED REVIEW

FLOOD PROOFING SANITARY PLANTS & PUMPING STATIONS BUFFALO BAYOU

-01 I attended various public meetings/presentations related to the study by USACE of the resiliency of Buffalo Bayou during flooding. Speaking w/ EDMOND J. RUSSO, Deputy Dist. Engineer, I conveyed the necessity of EXPEDITED REVIEW for immediate ACTION regarding the prevention of the failure of sanitary sewer processing during flooding of this bayou. Mr. RUSSO directed me to submit my comments in this missive. As president of Briar Bend HOA, having Buffalo Bayou on our north boundary, I was on the front line to handle a solution to stop the discharge of RAW SEWAGE from the manholes on Woodway and Stoney Brook. In conjunction w/ District "G" the City provided a pump truck & EPA container vehicles to collect the sewage and deliver it to a working plant. RAW SEWAGE had been discharging into the flood waters for 1 1/2 weeks before help was provided. This solution took three days/ 24 hrs/day until the discharge stopped. Failure of Turkey Creek Plant west of Briar Bend was major. An estimated 100 million gallons of RAW SEWAGE was discharged into the bayou. All processing of sewage along Buffalo Bayou was under water.

-02

Name
Nombre

WILLIAM L. STANTON

Affiliation
Afilación

PRESIDENT BRIARBEND
HOA

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<https://www.swg.usace.army.mil/Missions/Projects/Bufferlo-Bayou-and-Tributaries-Resiliency-Study/>

Mary A. Van Kerrebrook

777 Preston, Apt. 40F
Houston, Texas 77002

May 31, 2019

United States Army Corps of Engineers
Attention: BBTRS
P.O. Box 1229
Galveston, Texas 77553-1229

Dear Sir or Ma'am:

I am writing in reference to the Corps' Buffalo Bayou study. I am a native Houstonian, and have lived here most of my life. I now live in downtown Houston and walk along Buffalo Bayou every day.

-01 My over-arching concern is that the Corps and the Harris County Flood Control District ("HCFCD") remain mired in the past and that their proposals call primarily for gray infrastructure with static capacity and propensities to fail and underperform. This is especially troubling as climate change is worsening at a rapid pace and massive storms are now a regular occurrence in Harris County. Purported "solutions" with fixed capacities—such as the idea to build a massive underground pipeline to convey water—are doomed to rapid obsolescence and failure. Conversely, green infrastructure, such as protection of remaining undeveloped land on the Katy Prairie, widening of unpaved streambanks and the like, demonstratively work better.

Last month I attended a program at which Alan Black (HCFCD's Director of Operations) spoke. Mr. Black admitted that the Sims Bayou project—the only truly significant green infrastructure project undertaken to date by the Corps and HCFCD is—in Mr. Black's words—the "Gold Standard" of Corps/HCFCD flood mitigation projects. The project area of Sims Bayou was the only local bayou that did not flood during Hurricane Harvey, as Mr. Black acknowledged.

However, Mr. Black explained, HCFCD is not inclined to undertake similar projects along Buffalo Bayou because—in Mr. Black's words—"can you imagine how many rich people in River Oaks would get mad!" That perspective ignores the science and suggests that HCFCD is still uninterested in mitigating flooding in a meaningful way. I also am fairly confident that most people—whatever their means—would prefer flood control solutions that work.

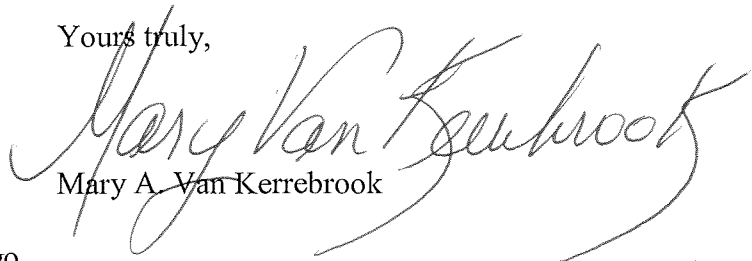
-02 Many American cities are traversed by waterways. Those that are equipped for the future practice thoughtful, green and truly resilient treatment of those waterways. For example, in the wake of massive floods that killed 21 people, the City of Denver created along the Platte River and its tributaries more than twenty parks, including ten built on former landfill sites; and spent of \$130 million in cleanup and land protection (starting well upstream of Denver) to absorb water and mitigate major rains. Notably, economic studies now show that the \$130 million cost to the City of Denver is largely responsible for the subsequent over \$13 billion of economic development that later occurred near the riverside in the City of Denver.

Smart, effective floodplain management is not mysterious. It means preserving wetlands and restoring upstream grasslands; oxbows, streamside corridors planted with native grasses and other plants with robust root systems, increased setbacks for impervious cover, greenspace, neighborhood detention, and generally working with nature instead of against it.

Outdated and ineffective “solutions” include dredging, deepening and widening the bayou, sinking massive pipelines underground, or building a third reservoir—this last having been shown by the Greater Houston Flood Mitigation Consortium to be another bad idea.

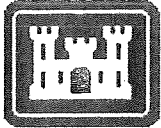
I appreciate your interest in my comments.

Yours truly,

A handwritten signature in cursive script, reading "Mary A. Van Kerrebroek". The signature is fluid and elegant, with a large, sweeping "M" and a long, trailing flourish at the end.

Mary A. Van Kerrebroek

cc: Harris County Judge Lina Hidalgo
Harris County Commissioner Jack Cagle
Harris County Commissioner Adrian Garcia
Harris County Commissioner Rodney Ellis
Harris County Commissioner Steve Radack
File



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Buffalo Bayou and Tributaries Resiliency Study

Comment Period: April 29, 2019 through May 31, 2019

We need your thoughts and comments on the effort to develop the Buffalo Bayou and Tributaries Resiliency Study. Your participation is a key element in producing a meaningful and useful feasibility report. The information presented at the public information meetings can be viewed at the website listed below. Please write your questions, comments, or suggestions in the space provided below. Feel free to use additional pages if needed. Forms may be submitted at the public information meeting, mailing to the address on the back of this form, or emailed to BBTRS@usace.army.mil. Comments should be postmarked by May 31, 2019. Thank you for your participation!

- 01 | 1) Cypress Creek overflow into Barker Reservoir and proposed Addicks Reservoir should be prevented
- 01 | 2) Cypress Creek requires maintenance. It currently has flow restrictions and should have drainage improved from Sharp Road to 99.
- 02 | 3) Extend Cypress Creek Diversion further west into Waller County not the proposed Cane Island Creek.
- 02 | 4) Create a Reservoir west of 99 on Cypress Creek
- 03 | 5) Dig out the Addicks and Barker Reservoir to lower inside level and increase capacity.

Name
Nombre Louis Lester

Affiliation
Afilación _____

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Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Susan Thacker](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Bellaire flooding feedback
Date: Saturday, June 1, 2019 9:01:42 AM

-01

I am requesting that a manual valve be installed in the ditch in Southdale (the ditch that feeds into Braes Bayou). In the event of a flood, the valve can be shut to prevent water from the Bayou coming up into the ditch backwards and flooding our little section which has happened three times in this fashion.

There had been talk of adding a flap valve but that was tabled because some supposed expert said that it would be a source of constant maintenance and problems. However Bellaire needs a protocol in which certain steps are taken to secure the city when a big storm is coming. Part of that protocol could be manually shutting this valve and securing city vehicles to higher grounds along with many other needed tasks. So I don't see why this could not be part of the protocol.

If we had had this manual valve, our section would not have been flooded. There Had been no standing water in the street at 2 AM prior to the massive amount of water that came flowing from the ditch at 5 AM was up to my door and 8 AM had 2 feet in my house.

Sincerely,
Susan Thacker

From: [ericpgrossman](#)
To: [CESWT-BBTRS](#)
Cc: [Mr. Eric P Grossman, - Shell**](#)
Subject: [Non-DoD Source] barker reservoir
Date: Saturday, June 1, 2019 10:42:56 AM

May 16, 2019
U.S. Army Corps of Engineers Galveston District
Attn: BBTRS
P.O. Box 1229
Galveston, TX 77553-1229

Dear Sir/Madam:

Thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. I hope it will yield valuable feedback.

As requested, i provide the following recommendations:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways or 8m the alternative compensate private landowners on whose property you claim the right to impound water without any current rights.

I would welcome the opportunity to discuss these further with you.

Yours sincerely,
eric and lana grossman

eric grossman
cell 713 851 2228
ericpgrossman@comcast.net
19914 westside forest drive
houston, texas 77094

From: [Beta Fox](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Tributary Resiliency Study
Date: Saturday, June 1, 2019 1:14:51 PM

U.S. Army Corps of Engineers Galveston District
Attn: BBTRS

Dear Sir/Madam:

On behalf of the Barker Flood Prevention advocacy group, thank you for the opportunity to provide community input for the Buffalo Bayou and Tributaries Resiliency Study meeting held on April 30. We were pleased with the turnout and hope it will yield valuable feedback.

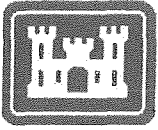
Our steering committee members also attended, and after careful consideration, have adopted the following recommendations:

1. Limit the Barker Reservoir flood pool to the current government owned land.
2. Increase conveyance out of the Barker and Addicks Reservoirs. Solutions we support include flood tunnel(s), diversion channels, channel improvements and/or bypass.
3. Improve and restore channel conveyance and capacity upstream and downstream of Barker Reservoir and within the reservoir, including dredging, desilting and de-snagging.
4. Add capacity within Barker and Addicks Reservoirs through select excavation in the reservoirs. (Ex. 737-acre project that has been presented to the Corps located due east of Canyon Gate in the Cinco Ranch Area.)
5. Add intermediate detention/retention capacity upstream and downstream of Barker and Addicks Reservoirs.
6. Build infrastructure through a combination of viable solutions to manage Cypress Creek overflow to prevent Cypress Creek runoff from adversely impacting the Barker and Addicks watersheds.
7. Do not increase the Barker Reservoir flood pool by extending spillways.
8. Do not destroy existing neighborhoods, schools and businesses via large scale buyouts.

Barker Flood Prevention has a membership and support base of more than 600 people. We expect that the Corps can rely on this substantial support base in addition to our steering committee and leadership when considering and valuing these recommendations.

We would welcome the opportunity to discuss these further with you.

Sincerely, (Ms.) Beta Fox



**US Army Corps
of Engineers®**

Public Information Meeting

Comment Form (Formulario de Comentarios Escritos)

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-01

*Tunnels don't seem feasible. To expensive,
to limited, cost too much. Maintenance
a problem.*

Name
Nombre

Jane Bock

Affiliation
Afilación

BRACS Bayou Assoc.

Address

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Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [john](#)
To: [CESWT-BBTRS](#); bobx@hal-pc.org; [COH - Mayor](#)
Subject: [Non-DoD Source] Brays Bayou
Date: Sunday, June 2, 2019 2:29:09 PM

To: BBTRS@usace.army.mil
mayor@houston.tx.gov
bobx@hal-pc.org

From: mccrevey@yahoo.com

Braes Bayou

-01 | Tunnels, bypasses, diversions, and levees are too expensive and only shift the problem from one place to another.

-02 | Buyouts and acquisitions in areas convertible to detention ponds along with channel improvements are more economical and address problems where they exist.

Acquiring land for additional sewage plants along Brays Bayou should also be a part of the planning.

We live eight tenths of a mile north of Brays Bayou and during Harvey for the first time since 1970 we had flooding in our neighborhood.

From: [Neil McHugh](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Buffalo Bayou Project Feedback
Date: Sunday, June 2, 2019 3:10:32 PM
Attachments: [Scan_0031.pdf](#)



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Buffalo Bayou and Tributaries Resiliency Study

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I READ THROUGH ALL THREE options
and option 1 is preferred from
a solutions point of view. However
the time period is too lengthy.

If there is a way to speed up
the engineering otherwise a project
this large could fail due to budget
or politics.

Name
Nombre

NEIL McHUGH

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Additional information can be found at:

<https://www.swg.usace.army.mil/Missions/Projects/Buffalo-Bayou-and-Tributaries-Resiliency-Study/>

From: [Ed Browne](#)
To: [CESWT-BBTRS](#)
Subject: [Non-DoD Source] Our comments
Date: Sunday, June 2, 2019 9:31:47 PM
Attachments: [RAF BB recommendations.pdf](#)

Attached are some limited comments about Buffalo Bayou. Please feel free to contact us with any questions.

Kind Regards,
Ed Browne, Chair, Residents Against Flooding

Residents Against Flooding

a 501c(3) nonprofit

May 31, 2019

U.S. Army Corps of Engineers Galveston

District Attn: BBTRS

P.O. Box 1229

Galveston, TX

77553-1229

Dear Sir/Madam:

Formed in 2009, Residents Against Flooding (RAF) has been pushing for common sense solutions to Houston's flooding crisis. Now that we are a member of a national group seeking remedy for many communities across the nation, we recognize that Houston's flooding issues are by no means unique.

Although by no means the only reason for flooding, we have focused on our development practices because that is something that we should surely be able to control. Sadly, the development community whines that they will not be able to make a profit with stricter regulations. We feel certain that this is not true.

Below are a few general recommendations that universally apply. In addition, before hurricane Harvey devastated the region, RAF and another flood group wrote a petition recommending specific actions be taken. Over a 1000 homeowners signed it. It can be found [here](#).

- 01 1. The Buffalo Bayou (BB) watershed is affected by water from several other watersheds, such as Cypress Creek, Brays, White Oak, etc., that accept water from several different counties. FEMA, the City of Houston and the various area counties all have regulations that should be strengthened and enforced. More importantly, these should be uniformly applied across the entire watershed, where the strictest rules should apply.
- 02 2. RAF calls for the immediate adoption of new NOAA FIRMs in BB and all watersheds, then base local detention on these new rain rates;
- 03 3. Large regional detention ponds are good and necessary for Houston to solve our flooding problems; however, they will not solve local flooding simply because our stormwater drainage systems are woefully inadequate, particularly for newer NOAA rain rates. Therefore, it is imperative that local building codes be rewritten to include onsite detention and mitigation for fill for all commercial and residential structures;
4. Harris County Flood Control District (HCFCD) has a propensity to grant Letters of Map Revision (LOMR's) to almost any developer who wants to build in the floodplain. It's insane to buy out houses that have flooded in the floodplain while granting others

the ability to build there.

- 04 5. The City of Houston (CoH) has modified its City Code to allow the use of fill dirt both in the floodplain and in the floodway. No building should be allowed in any floodway in BB or any other watershed, and any building in the floodplain should only be using pier and beam construction a minimum of 2 feet above the BFE. NFIP rates should still reflect that the home is located in the floodplain;
- 05 6. Where safe to do so, USACE should dredge existing reservoirs and lakes to provide more capacity;
- 06 7. The USACE should establish accurate (up to date) LIDAR elevations for the entire area and identify topology that would be flood prone, i.e., establish a local BFE, then require building 2 feet above that BFE. Commercial businesses are using high altitude Geiger LIDAR to rapidly map large areas and geophysicists have demonstrated the ability to rapidly determine water flow and pooling patterns that can show the public and FEMA where flooding will occur. Use them.;
- 07 8. Immediately stop allowing fill dirt and levees to be built in any floodplain. These structures displace water to cause flooding elsewhere;
- 08 9. Specifically for BB, be particularly careful about channelizing the bayou to protect homes built in the floodplains both behind the dams and near the outflow. There may be unintended consequences. The serpentine path of BB slows water flow and, yes, backs it up in areas west of Beltway 8 where it has already been straightened. But these restrictions may also have saved downtown from higher water levels.;
- 09 10. In an area as flat as ours, acknowledging only riverine floodplains is a mistake. 66% of the homes that flood in major events are not in any mapped floodplain (see 7). All Houston must be treated as if it is in a floodplain and floodplain development rules applied. Otherwise, we simply move flooding from one neighborhood to another.

We welcome the opportunity to discuss these and other recommendations further with you.

cc: U.S. Congresswoman Lizzie Fletcher, Texas Congressional
District 7 Texas Lt. Governor Dan Patrick

Texas State Senator Joan Huffman, District 17

Texas State Representative Jim Murphy,

District 133 Mayor Sylvester Turner, City of

Houston

Councilmember Greg Travis, City of Houston

District G Harris County Judge Lina Hidalgo

Harris County Precinct 3 Commissioner Steve Radack

Russ Poppe, Executive Director, Harris County Flood Control District