

**The Woodlands Township  
Drainage Task Force Meeting  
Meeting Summary  
June 25, 2019**

**Purpose of this Document:** This document is designed to capture the essence of the discussion, and will serve to summarize the results, actions, and follow-up items agreed to during this meeting.

**Call meeting to order / Introductions / Chairman's Report – The Woodlands Township**

Task Force members and visitors were welcomed by Task Force Chairman Bruce Rieser – Director, The Woodlands Township. Members in attendance included: Jim Stinson, The Woodlands Joint Powers Agency (WJPA); Laura Norton, Helen Bostock, and Bob Leilich, Montgomery County MUDs; Jackie Chance, Sr., WCID#1; Emil Jacobs, Harris Montgomery Counties MUD 386; Chuck Gilman and Matt Barrett, San Jacinto River Authority; Diane Cooper, Montgomery County Engineering Dept.; Dan Kolkhorst and Kelly Dietrich, The Howard Hughes Company; Nancy Becker, Creekside Park Village Association; Representative Steve Toth, State of Texas House of Representatives District 15; and, Burton Johnson and Don Norrell, The Woodlands Township.

Copies of meeting sign-in sheets for members, visitors and public comments are included in **Attachment 1**.

Chairman Rieser reported having met on June 24<sup>th</sup> with Senator Creighton, Representative Toth, Judge Keough, task force members Jim Stinson, Alan Black and Emil Jacobs, and a representative from Congressman Brady's office. It was determined that misinformation had been previously relayed, specifically that the funding source had been already allocated.

As a clarification, the funding itself was pulled from the (State legislature's) appropriations bill by the Harris County delegation, with a guarantee from the lead of the delegation that they would support the task force's study along Spring Creek; They are pleased that the Harris County Flood Control District has agreed to be the lead on getting the study started, which will simplify the process and give Harris County the transparency they desire, to ensure their interests are represented in the project as well.

Additionally, Senator Creighton was subsequently contacted by Commissioner Cagle, who is interested in meeting on this subject, and expressed his full support of what is being pursued by this group.

It was agreed that the most appropriate and expeditious way to go forward is to start with the \$100K site feasibility study already identified; the scope of the study has been distributed to this group today, and has been shared with the Harris County Flood Control District, with Judge Keough, Senator Creighton, with Representative Toth, and with the Harris County delegation lead (reference above.)

In tandem with this study, a grant request will be submitted to the Texas Water Development Board for \$500K in funding, should this feasibility study determine the project to be feasible, to reduce the potential time gap between completing the study and the ability to move forward.

A draft copy of the Scope document is included in **Attachment 2**.

An Interlocal Agreement between Harris County Flood Control District and the Woodlands Joint Powers Agency will be needed; Jim Stinson plans to present the ILA to WJPA Board at the July meeting,. Design standards along Spring Creek were also discussed in the meeting. The recent flood event affecting Lake Houston, the both forks of the San Jacinto River have less material impact on Spring Creek than the impact from Cypress Creek and Willow Creek. A suggestion was made that Montgomery County consider matching its north side of the creek design standards to those on the (Harris County) south side of the creek.

### **Receive a report from Harris County Flood Control District on the Harris County Bond Projects for Flood Control**

Chairman Rieser advised on behalf of Mr. Black that the subject is on today's agenda for Harris County Commissioners Court; it is anticipated that the approach will essentially be starting all the remaining projects simultaneously – approximately 160+ projects (not yet started.) These projects are separate from the 146 projects already approved and underway. Other matters are being considered as well, including executing and completing the bond-funded projects in a shorter time frame.

### **Harris County Flood Control District Draft Equity Guidelines**

See notes, above.

### **Review the status of the proposed regional flood mitigation study for the San Jacinto basin which includes Spring Creek**

Ms. Cooper provided an update, including the following: project scope consists of major river systems, lake creeks included in the 18-month study, and reminder that Bear Branch and Panther Creek are outside the scope of this study; data collection continues as well as the modeling analysis and calibration component; some feedback expected in July timeframe. Project group will meet again for purpose of reviewing projects previously proposed, to consider their feasibility, or eliminate from further consideration. Atlas 14 data is the source data – the study is not expected to result in new FEMA flood plain maps for Montgomery County.

### **Discuss drainage issues from the Alight site into Founder's Reserve subdivision**

Public comments were received from Randall Cade, resident of Founder's Reserve community. Near flood events have occurred twice recently, following the Alight site development in March, 2019. Formal response received after two months from the development company advising the issue is under study; and, a berm has been placed which is appreciated and seems to be helping. Concern that excess run-off from new development is creating problems, during construction phase, and potentially afterward.

Dan Kolkhorst, Howard Hughes Corporation, invited a subsequent meeting with Mr. Cade, to review engineering reports to assure that post-construction run-off does not exceed pre-construction run-off, in compliance with regulations.

Additional insight from Diane Cooper was offered, from the standpoint of meteorologist, that the intensity of the rainfall (duration and saturation level at the time of the event) will impact run-off volume and create a flooding situation. For example, 1 inch rain over 24-hour period vs. 2-3 inch rain in a twenty-minute period.

Suggestion/recommendation made by several task force members that all property owners obtain

flood insurance, whether required or optional.

#### **Receive reports from Task Force agencies**

**Woodlands Joint Powers Agency (WJPA) – Montgomery County MUD's** – Mr. Stinson provided an update on the Bear Branch/Panther Branch improvement, near The Woodlands High School, Capstone neighborhood and keeping Research Forest Dr. passable for emergency traffic and public traffic during a 100-year event: consultant is meeting with the USACE, seeking approval for the modified improvement plan.

Other item is Research Forest Dr. being inundated near the Sundance Park area: consultant has received and is analyzing several drainage plans approved for that area from the Montgomery County Engineer's office; update, including recommendation, to be shared at the next meeting, if available.

**Harris - Montgomery Counties MUD 386** – none.

**San Jacinto River Authority (SJRA)** – Mr. Gilman reported on another project in addition to the regional project: a decision support forecasting tool, for which grant money was awarded – have received recommendation from consultant on selection of software. Project is scheduled to be complete around October, 2020.

Lift station sites along Spring Creek were offered by Jackie Chance, Sr. for potential location of monitor stations – between Gosling and I-45, equipped with power and SCADA controls to transmit information.

**Harris County Flood Control District (HCFCD)** – none.

#### **Updates from Task Force Members**

Nancy Becker announced a meeting of the North Harris County Citizen's Coalition, to take place June 26<sup>th</sup> at the Rob Fleming Recreation Center – original meeting site, Shirley Acres in Harris County was not large enough for the expected attendance.

#### **Public comment**

See notes above.

#### **Confirm date and time for the next meeting**

The next meeting will be held on the 4th Tuesday, 3:30 p.m. – July 23, 2019.

#### **Adjourn meeting**

The meeting was adjourned.

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# Attachment 1

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# Storm Drainage Task Force Meeting

25-Jun-19

## TASK FORCE MEMBERS

<u>Name</u>	<u>Title</u>	<u>Organization</u>	<u>Please sign in</u>
Bruce Rieser, Chairman	Director	The Woodlands Township Board of Directors	
Jim Stinson	General Manager	The Woodlands Water Agency (WIPA)	
Helen Bostock	MUD Board Director	Montgomery County MUDs	
Albert Tomchesson	Alternate for Helen Bostock	Montgomery County MUDs	
Laura Norton	MUD Board Director	Montgomery County MUDs	
Roland Johnson	Alternate for Laura Norton	Montgomery County MUDs	
VACANT	MUD Board Director	Montgomery County MUDs	
Rhenelea Beck	Alternate for Vacant MUD Representative	Montgomery County MUDs	
Bob Leilich	Alternate at Large	Montgomery County MUDs	
Mark Vonderau	Alternate at Large	Montgomery County MUDs	
Bruce Cunningham	Alternate at Large	Montgomery County MUDs	
Jackie Chance, Sr.	General Manager	WCID #1	
Emil Jacobs	MUD Board Director	Harris-Montgomery Counties MUD 386	
Chuck Gilman	Director of Flood Management	San Jacinto River Authority	
Heather Ramsey Cook	Director of Communications & Public Affairs	San Jacinto River Authority	
Bret Raley	Lake Conroe Division Manager - Alternate	San Jacinto River Authority	
Matt Barrett	Division Engineer - Alternate	San Jacinto River Authority	
Shane Porter	Division Engineer - Alternate	San Jacinto River Authority	
Briana Gallagher	Flood Management Technical Admin Specialist - Alternate	San Jacinto River Authority	

# Storm Drainage Task Force Meeting

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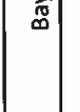
## TASK FORCE MEMBERS

<u>Name</u>	<u>Title</u>	<u>Organization</u>	<u>Please sign in</u>
Diane Cooper	Floodplain Administrator	Montgomery County Engineering Dept.	<i>Diane Cooper</i>
<i>Jeff Johnson</i> Mark Mooney	County Engineer MC Engineering Alternate	Montgomery County Engineering Dept.	
Charlie Riley	Montgomery County Commissioner Pct. 2	Montgomery County Precinct 2	
James Noack	Montgomery County Commissioner Pct. 3	Montgomery County Precinct 3	
	Andy DuBois MC PCT 3 Alternate	Montgomery County Precinct 3	
R. Jack Cagle	Harris County Commissioner Pct. 4	Harris County Precinct 4	
	Assistant Director Community Outreach Landon Reed HC Pct 4 Alternate	Harris County Precinct 4	
Alan Black	HCFCDD Director Engineering Division	Harris County Flood Control District	
	Russ Poppe HCFCDD Executive Director HCFCDD Alternate	Harris County Flood Control District	
John Blount	Harris County Engineer	Harris County Engineering Dept.	
	Chief Administrative Office Harris County Joshua Stuckey Alternate	Harris County Engineering Dept.	
Yancy Scott	County Engineer	Waller County	
	Chief Hydrologist, Gulf Coast Program Office David Brown Chief	USGS - Gulf Coast Program Office	
Edmund Russo	Deputy District Engineer for Programs and Project Management	US Army Corp of Engineers	
Mayor Ritch Wheeler	Mayor	City of Shenandoah	
	Kathie Reyer City Administrator - Alternate for Mayor	City of Shenandoah	
Alex Sutton	Co-President	Howard Hughes Corporation	
	Antonio Paz Sr. Project Manager - HHC Alternate	Howard Hughes Corporation	

# Storm Drainage Task Force Meeting

25-Jun-19

## TASK FORCE MEMBERS

<u>Name</u>	<u>Title</u>	<u>Organization</u>	<u>Please sign in</u>
Dan Kolkhorst	VP Land Development -- HHC Alternate	Howard Hughes Corporation	
Kelly Dietrich	Sr. Parks & Recreation Projects Manager - HHC Alternate	Howard Hughes Corporation	
Greg Sherlock	Representative	Alden Bridge Village Association	
Steve Perry	Interim President	Cochran's Crossing Village Association	
Nancy Becker	President	Creekside Park Village Association	
Marie Brannen	President	Grogan's Mill Village Association	
Everett Isson	President	Panther Creek Village Association	
Kyle Brown	Representative	The Woodlands Country Club	
Jill Bouillion	Executive Director	Bayou Land Conservancy	
Don Norrell	President/General Manager	The Woodlands Township	
Burton Johnson	Consulting Engineer	Moffatt & Nichol/The Woodlands Township	
Heather Washburn	District Director	Congressman Kevin Brady's Office	
Representative Steve Toth	State Representative	State of Texas House of Representatives District 15	
Representative Valoree Swanson	State Representative	State of Texas House of Representatives District 150	
Daniel Akeroyd	Legislative Aide - Representative Swanson Alternate	Representative Swanson's Office	



**Public Comment Roster**  
**Drainage Task Force**  
**The Woodlands Township**  
**June 25, 2019**

	NAME	ADDRESS	PHONE / EMAIL	REPRESENTING	HAND OUT YES NO
<b>1</b>	<i>Ronald H. Cade</i>	[REDACTED]		<i>Folkners Reserve</i>	
<b>2</b>					
<b>3</b>					
<b>4</b>					
<b>5</b>					

**Guidelines for Participating:**

- Each person wishing to address the committee must first sign the Public Comment Roster.
- Individuals will have an opportunity to address the committee under the “public comment” agenda item.
- Speakers will be taken in the order in which they sign up.
- Individuals will be limited to three (3) minutes; total time for public comment will be limited to 30 minutes.

# Attachment 2

## **Spring Creek Watershed Flood Control Reservoir and Detention Feasibility Study**

The purpose of the Spring Creek Reservoir Feasibility Study (Spring Creek Study) is to evaluate and develop alternative reservoir and/or detention sites within the Spring Creek watershed to reduce flooding in the Woodlands area as well as downstream to the confluence with the San Jacinto River. Project Sponsors for this study include the SJRA and several Municipal Utility Districts (MUD's) within The Woodlands including MUD1, MUD7, MUD46, MUD60, and MUD386. This study will utilize existing information and studies performed by these MUD's as well as in coordination and parallel with the proposed Upper San Jacinto River Regional Watershed Study (HCFCD Regional Study) being performed by the Harris County Flood Control District (HCFCD) and in partnership with the San Jacinto River Authority (SJRA), Montgomery County, and the City of Houston. Results from the Spring Creek Study will also be used as inputs to the HCFCD Regional Study for further study and evaluation. The goals/tasks of the Spring Creek Study are as follows:

1. Identify potential locations in the Spring Creek watershed for development of a flood control reservoir.
2. Estimate the volume potential for each potential reservoir site.
3. Using existing hydrologic and hydraulic models available at the time of the study, develop estimates of flood reduction as a result of identified project sites.
4. Conduct desktop environmental review to identify potential fatal flaws
5. Coordinate with Technical Advisory Committee (TAC) comprised of representatives from each Project Sponsor including the SJRA, MUD1, MUD7, MUD46, MUD60, and MUD386 throughout this study. The TAC will be responsible for providing input and receiving information from Consultants throughout the study duration on behalf of the Project Sponsors.
6. Provide input to the HCFCD Regional Study for guidance and inclusion of potential reservoir sites identified as part of the Spring Creek Study for further study, evaluation, and benefit cost determinations.

## **Project Scope – Spring Creek Watershed Flood Control Reservoir and Detention Feasibility Study**

### **All Project Phases**

#### **Project Management**

1. **Project Management:** Provide for the management of the resources of the Consultant to meet the technical, financial, and schedule requirements of the Project Sponsors (SJRA, MUD1, MUD7, MUD46, MUD60, and MUD386). This will include the overall management of the project and the various specialized discipline teams responsible for the development of the project. Develop, manage, monitor, update, and coordinate (in coordination with Project Sponsors) the baseline schedule throughout the life of the project based on charges or necessary updates. Provide written project status reports to the TAC once per month throughout the duration of the project.
2. **Kick-off Meeting:** Consultant will participate in one kick-off meeting with Project Sponsors to discuss Project expectations, schedule, and deliverables and confirm Project goals. Consultant will conduct one internal kick-off meeting with Project Team to discuss Project scope, schedule, budget, and deliverables.

3. **Project Update Meetings:** Consultant will utilize monthly project coordination meetings (to be in conjunction with scheduled workshops) with Project Sponsors and Project Stakeholders, to present detailed status updates of the project's progress and budget and discuss any major issues identified.
4. **Quality Control and Quality Assurance (QA/QC):** Consultant will develop a Quality Control and Quality Assurance Plan and perform QA/QC activities according to the Plan as part of its work. Documentation of these activities will be provided with each design deliverable.
5. **Document Control:** Consultant shall provide a Document Control Specialist to assist in the planning, execution, filing, and retrieval of all Project documentation during the Project including applicable Project Management Information Systems (PMIS), i.e. SharePoint. Project Sponsors will setup a SharePoint site to be used for this Project. Consultant shall utilize this system as a management tool and repository of all data, reports, photographs, letters, memorandums, models, invoices, and other information as directed by Project Sponsors.

### **Phase 1 Study Tasks**

#### **Task 1 – Data Collection and Project Definition**

1. Obtain all relative existing data and information available for the Spring Creek watershed, including high water marks, flood loss history, previous flood claims, and repetitive loss structure information.
2. Coordinate with HCFCO Regional Study Consultant Team.
3. Using parcel data obtained from the appraisal district, utilize latest LIDAR topography to develop GIS-based point dataset and assign approximate ground elevations to parcels and structures. Visual inspection using aerial imagery will be performed for larger parcels to refine ground elevations at structures. Finished flood elevations at structures will be estimated using typical slab elevation adjustments.
4. Conduct workshop with TAC to discuss and identify flood prone areas within the Spring Creek Watershed to establish priority areas for study focus and to preliminarily identify potential reservoir and/or detention site locations.

#### **Task 2 – Reservoir and/or Detention Siting and Alternatives Development**

1. In cooperation with the TAC, develop up to six (6) alternative reservoir and/or detention site locations using data obtained and results developed in tasks above.
2. Quantify the storage volume potential for the six (6) alternative reservoir and/or detention site locations based on the boundary defined for each alternative site location and the extent of excavation storage and/or elevated storage potential for the given site location and hydraulic limitations.
3. Develop alternative reservoir siting maps based on the information developed in above tasks.
4. Using existing hydrologic models available during the study, update rainfall using Atlas 14 data and quantify the potential reduction in peak flows obtained for each alternative reservoir and/or detention site location for events up to and including the 500-year (0.2% annual exceedance probability) storm event.
5. Utilize existing hydraulic models as available to determine possible reductions in flooding extent and depths associated with the identified reservoir and/or detention sites. Existing hydraulic

profiles will be used to approximate water surface elevation reductions based on reduced peak flows obtained from the updated hydrologic models.

6. Based on the above analysis, conduct workshop with the TAC to review results of analysis, assess the potential efficacy of each alternative reservoir and/or detention site location, make determinations on the desired level of service (storm event) for which the siting and sizing of flood control reservoir(s) and/or detention sites will be performed, and eliminate identified sites which do not meet desired performance requirements .

## **Phase 2 Study Tasks**

### **Task 1 - Environmental Due Diligence and Constraints Identification**

1. Conduct desktop investigation of up to six (6) alternative reservoir and/or detention sites to assess potential environmental issues that may be present on the sites, such as wetlands, waterbodies, habitat, threatened and endangered species, hazardous materials, or other readily observable environmental issues that have the potential of impacting the development of the reservoir and/or detention site.
2. Review environmental issues and identify constraints noted from the review of readily available public aerial photography and database review. Evaluate design options to minimize or avoid impacts to sensitive or regulated environmental resources present in or adjacent to the footprint of each alternative reservoir and/or detention site.

### **Task 2 – Conceptual Engineering Design of Alternative Reservoir and/or Detention Sites**

1. Develop conceptual-level layout for each alternative reservoir and/or detention site location.
2. Develop conceptual-level sizing for structures (weirs, outfalls, spillways, etc.) associated with each alternative reservoir and/or detention site location.
3. Using available historical unit cost information and data from Harris County Flood Control District and other sources, develop planning level construction and maintenance costs associated with each alternative reservoir and/or detention site location.

### **Task 3 – Estimate Flood Damage Reduction for Alternative Reservoir and/or Detention Sites**

1. Using existing hydrologic and hydraulic models available during the study and updated using Atlas 14 rainfall data, evaluate flood reduction potential for alternative reservoir and/or detention sites and configurations to maximize downstream flood reduction for events up to and including the 500-year (0.2% annual exceedance probability) storm event.
2. Evaluate and quantify downstream flood reduction and damage potential for:
  - a. Each alternative reservoir and/or detention site as a stand-alone project
  - b. All alternative reservoir and/or detention sites as a combined project (up to six)
  - c. Combinations of up to six (6) alternative reservoir and/or detention sites
3. Using available damage curves (flooding depth versus damage percentage), and the results obtained as part of Task 3.1, estimate single-event reduction in damages for events up to and including the 500-year (0.2% annual exceedance probability) storm event.
4. Using construction and annual costs developed above and the downstream flood reduction benefits for each alternative calculated in Task 3.3, determine annualized costs and benefits to estimate benefit cost ratio(s) for each alternative reservoir and/or detention site location.

#### **Task 4 – Study Reporting**

- 1. Develop and submit a Draft Final Technical Report to the SJRA and the TAC. Draft Final Technical Report to include a description of the tasks completed; the methodology and materials used; any diagrams or graphics used to explain the procedures related to the study; any data collected; an electronic copy of any computer programs, maps, or models, and any sample data set(s) developed.**
- 2. Develop and submit Final Technical Report to the SJRA and the TAC. Comments from the SJRA and TAC on the Draft Final Technical Report will be considered for inclusion into the Final Technical Report. The Final Technical Report will include a copy of the SJRA and the TAC.**

**D R A F T**