

April 27-28, 2009 Event Summary

- Heaviest rainfall in upper Buffalo Bayou Watershed since Harris County Flood Control (HCFCD) started detailed rainfall analysis in 1980
- 4th largest number of flooded homes in Harris County

ESTIMATED TOTAL NUMBER OF HOMES FLOODED IN HARRIS COUNTY	
Storm Event	Estimated Number of Homes
TS Allison (June 2001)	73,000
June 1, 2006	3,370
October 1, 1994	3,248
April 27,28 2009	2,168
October 1, 2002	1,999

Note: From May 14th Immediate Report #3 by HCFCD



Agency Efforts Related to April 28th Event

- Ground wet from previous rain events
 - A total of approximately 7 inches of rainfall occurred over the area within 2 weeks prior to event
- High intensity rainfall: 3.5 to 4.8 inches in 1 hour (25-100 year)
- Within 12 hours rainfall total: 7.6 to 8.9 inches (25-50 year)

Agency Efforts Related to April 28th Event

- City of Houston – Flooding and Drainage Committee Meeting – May 18, 2009
 - PWE Presentation: Drainage Status since Tropical Storm Allison
 - TIRZ 17 offered and is providing support to City Staff to assist with reviewing the April 28th event

Agency Efforts Related to April 28th Event

- HCFCD Memorandum – Immediate Report #3 dated May 14, 2009
 - Covers Harris County
 - Rainfall and Flooding Statistics
 - Home flooding reports based on Key Map zones
 - Drainage channel performance
 - HCFCD Project performance

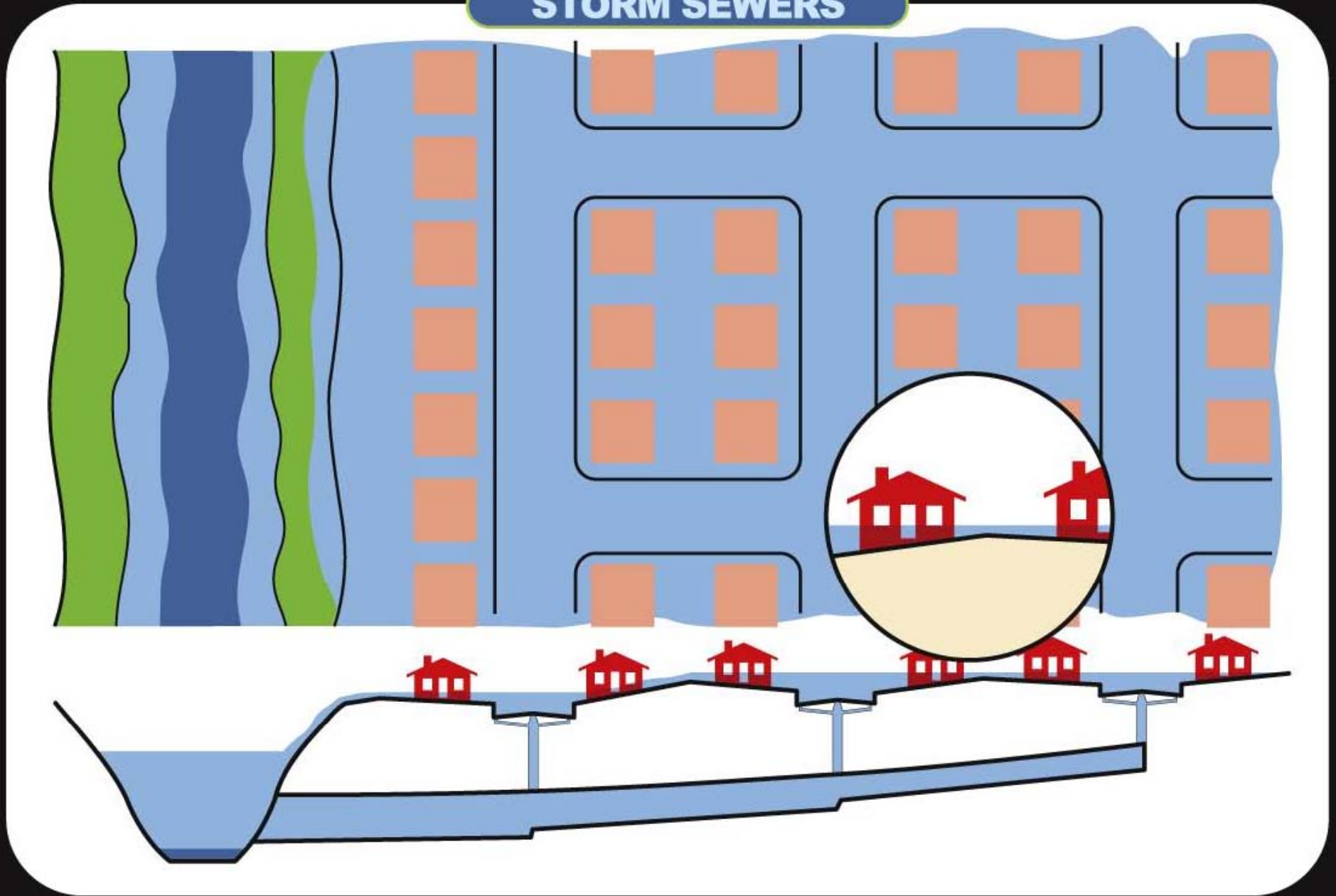
(See Rainfall Total Exhibits)

City of Houston Drainage Criteria

- Storm sewer design (City of Houston – 2005 Revisions)
 - Storm sewer pipes designed to carry 2-year storm (approximately 1-2 inches of rainfall per hour) (Chapter 9 – Section 9.05.C.1)
 - Street Right-of-Way to hold and convey 100-year storm to pre-development sheet flow outlet (100-year – 4-5 inches per hour) (Chapter 9 – Section 9.05.D)

Ponding & Sheet Flow Flooding

STORM SEWERS



FLOODING FROM INTENSE LOCAL RAINFALL
(Longer Duration)

Agencies Responsible for Drainage

- **City of Houston**
 - Establish and enforce drainage criteria
 - Maintains storm sewer system within City ROW
 - Detention basins for City projects
- **Harris County Flood Control (HCFCD)**
 - Maintains drainage channels
 - Regional Detention facilities
 - Detention facilities designed to HCFCD criteria
 - Regulate discharges to channels
- **TxDOT**
 - Maintains storm sewer and detention facilities benefiting TxDOT road improvements

(See Infrastructure Ownership Exhibit – with aerial)

TIRZ 17 Drainage Projects

(See Drainage CIP Exhibit)

2010 - 2014 CAPITAL IMPROVEMENT PLAN		
TIRZ No. 17 - Memorial City Redevelopment Authority		
CIP Drainage Costs by Project		
Project		Project Cost
Major Stream Studies - Complete		
Rummel Creek Floodplain Reduction Study (LOMR)		\$ 68,429
Briar Branch Floodplain Study		\$ 105,462
	Subtotal	\$ 173,891
Complete Projects		
Queensbury Drainage Improvements		\$ 545,086
Gessner Widening		\$ 2,301,615
	Subtotal	\$ 2,846,701
Ongoing Projects		
N. Gessner Area Thoroughfare Improvement Project		\$ 2,922,800
Kimberly near Beltway 8 Drainage Improvements		\$ 1,785,706
	Subtotal	\$ 4,708,506
Future Projects		
* Bunker Hill S. Drainage and Mobility Improvements		\$ 2,471,301
* Frostwood Drive Drainage Improvements		\$ 2,324,000
* Barryknoll East Drainage Improvements		\$ 3,537,000
Town and Country West Drainage and Mobility Improvements		\$ 1,988,500
West Bough Roadway Improvements		\$ 1,041,500
	Subtotal	\$ 11,362,301
	Total	\$ 19,091,399

* Related to ongoing HCFCD W151 Study



W151 HCFCD Studies

- **Original Study**
 - July 24, 2001: Interlocal Agreement – City of Houston, HCFCD and TxDOT
 - October 2004: Conceptual Study Completed
 - Conceptual drainage improvement alternatives
 - Includes drainage channel, detention and storm sewer improvements
- **Current Study**
 - In progress – determine feasibility of conceptual alternatives
 - Late Summer 2009 – expected completion date