



Buffalo Bayou
& Lower White Oak Bayou
Federal Flood Damage
Reduction and Ecosystem
Restoration Study

STUDY STAKEHOLDER GROUP (SSG) MEETING NOTES

Tuesday, October 27, 2009 at 3:30 p.m.

AECOM, 5757 Woodway

Introductions and Welcome

Jennifer Dyke welcomed the group and thanked them for attending. She introduced the new AECOM project manager, Matt Zeve, and then proceeded to ask all attendees to introduce themselves. Dyke then reviewed the agenda to be discussed including the Study Status, Study Process, Flood Damage Reduction and Ecosystem Restoration Component Identification, Component Ideas from Stakeholders, Screening, Ecosystem Restoration sponsor opportunities, and Next Steps.

Study Status

Since meeting in 2008, there has been quite a bit of progress on the study. HCFCD and AECOM are revising the Without Project Conditions (WOP) condition vehicle damage information based on new Army Corps of Engineers (Corps) guidance. The Hydraulic model for the downtown tunnel system is also under review to determine if it needs to be refined to better capture potential flooding in the tunnel system. These two tasks should not delay the start of Component Evaluation.

The WOP report was provided by HCFCD to the Corps at the start October for technical review. After that review, the Feasibility Scoping Meeting is the next milestone and will take place next summer.

HCFCD and AECOM also began the Component Identification and Evaluation phase of the study in early September.

As part of the public outreach, a study newsletter is in development and will highlight the study status and the key components of the WOP report. The timeline for distribution is this winter and the study stakeholders will receive an advance copy.

Study Process

HCFCD has updated the study process graphic to provide a greater understanding of the work the team is conducting. The old circular graphic was not as detailed as this version but the major efforts such as the Without Project Conditions and Plan Formulation are the same. This study is currently in the Plan Formulation phase. In Plan Formulation, HCFCD is looking at all component possibilities as a result of what was collected in the WOP and using this information to identify components. In a few years, alternatives will be developed from which a plan will be developed and presented to the Corps.

Component Identification

In the last two months, the study team has been working to identify types of components and their locations.

After component identification, the next step is to screen the identified components. Screening components includes comparing them with the goals and objectives established for the study.

Worth noticing about the study objectives: HCFCD recently updated the study objectives based on the Corps input on the White Oak Bayou Federal Study. As several of the objectives developed at the beginning of the study are inherent to the Corps process, HCFCD narrowed the federal objectives to four. For example, one objective inherent to the study process was to identify a plan that reasonably maximizes net economic benefits for a flood damage reduction project. It remains an objective of the study but is categorized as a local objective. While all the objectives are noted on the hand out, asterisks indicate the four objectives considered both federal and local.

After screening, the remaining components will be evaluated in detail to determine the benefits and costs of each component. This process could take 1 to 1½ years depending on the number of components.

Matt Zeve reviewed with the SSG details about component identification.

A definition of components was offered as was a generic example of a flood damage reduction component (FDR) and an ecosystem restoration (ER) component. Examples of an FDR component include a detention basin, channel widening, or bypass channel while an example of an ER component include the establishment of a riparian corridor or restoration of a wetland.

Some FDR and ER components might occur separately and others might occur together. Several were identified by the study team as combined FDR and ER components.

HCFCD and its consultants conducted a workshop to identify FDR and ER components. Several reference materials were utilized including the WOP report (including high damage areas, existing habitat, and vacant land), study objectives, Nov. 2008 scoping meeting comments, and other reports available including the Buffalo Bayou Master Plan and the White Oak Bayou Federal Study.

The result was 88 components identified – 54 FDR and 34 ER.

A broad list of potential components was identified. Even if HCFCD or the public may not find a component acceptable, it is the Corps process to identify all possible types of components.

FLOOD DAMAGE REDUCTION (FDR) COMPONENTS

There are two types of FDR components that are considered: structural and nonstructural.

Structural components might include:

- Channel modifications
- Detention basins
- Bridge Modifications



- Bypass Channels
- Levees

Non-structural components might include:

- Floodplain evaluation (buyouts, structural relocation)
- Flood warning systems
- Floodplain development regulation
- Flood proofing

The evaluation of FDR components is based on the monetary benefits of flood damage reduction versus the cost of the component. Additionally, the environmental and social impacts of FDR components are also considered in evaluation.

ECOSYSTEM RESTORATION (ER) COMPONENTS

In April 2007, the HCFCD study team with the stakeholder group and the resource agencies developed a list of potential significant resources for restoration in the study area. About 32 different resources were identified. The resources were ranked by scarcity and uniqueness to determine the resources with the most potential to be restored.

The three most significant resources identified within the study area were wetlands, migratory birds and riparian corridor habitat. Many of the resources on the initial list will thrive in these habitats.

To date, the following types of ER components have been identified:

- Riparian tree planting
- Marsh creation
- Wetland restoration
- Wetland creation in stormwater detention basins
- Oxbow reconnection
- Reservoir release rate adjustments

Question: Has the Corps been cooperative in discussing release rates for the reservoirs?

Answer: HCFCD has not approached the Corps about release rates as a component for the federal study because we are still in the identification and evaluation process; however HCFCD (and Buffalo Bayou partnership) have discussed this option with the Corps in conjunction with other projects.

Evaluating ER components is different from FDR. While FDR components are evaluated in dollars, evaluating ER components focuses on the quality and quantity of habitat improvement, which are expressed in non-monetary units.

Before moving into the feedback section from stakeholders, Dyke suggested a break of 10-15 minutes for stakeholders to review the maps on the walls identifying the 88 FDR and ER components as well as the hand out of identified components.

It was stressed that the components identified to date are all “ideas” at this time based on approximate areas. They do not constitute a plan of any sort. The list of components that will



be shown in the future will be different as some components may be screened out or may fall out due to the results of component evaluation.

Component Ideas from Stakeholders

After reviewing the previously identified components and maps, the stakeholders were asked for their input regarding the identification of new components. The following components were identified during the session by the stakeholder group:

1. Detention Basin
 - a. Location - Buffalo Bayou, Shepherd to Sabine Street (Lower Allen Parkway and Memorial)
 - b. Additional Comments – Potential for a lot of storage and increased detention
2. Detention Basin
 - a. Location – Buffalo Bayou – south bank from Wilcrest to SH 6
 - b. Additional Comments – Comment was made that there was a specific plan by HCFCD to implement detention on the north bank and the south bank but that the southern detention was never constructed. Dyke said she would check into the plan.
3. Detention Basin (for catastrophic event)
 - a. Location – IH-10 between IH-610 and IH-45
 - b. Additional Comments – Stakeholders noted during the meeting that after Hurricane Ike, the I-10 ROW held a lot of water. If this water had not been held, the White Oak Bayou watershed may have otherwise flooded. The I-10 ROW is good for temporary storage during a catastrophic event, such as a hurricane. The I-10 ROW was filled from feeder road high bank to feeder road high bank between IH-610 and IH-45.
4. Detention Basin
 - a. Location - Buffalo Bayou and Barker Reservoir Boundary
 - b. Additional Comments – A flood that occurred 4/28/2009 caused rainwater to go around the reservoir into another stream between Buffalo Bayou and reservoir. This would be a good place for detention.
5. Detention Basin
 - a. Location – Major Tributaries such as Little White Oak Bayou, Turkey Creek, and Turkey Gully (*Turkey Creek & Turkey Gully are in reference to E106-00-00, Little Turkey Gully*)
 - b. Additional Comments – Look at placing detention on major tributaries that have enough flow to influence peaks on Buffalo Bayou and White Oak Bayou.
6. Low Impact Development Techniques
 - a. Location – Entire Study Area
 - b. Additional Comments – This component has been previously identified (F46). A question was posed: Can the Corps influence public policy in the watershed? It was discussed that the Corps could ask but in the past has not been successful at these types of efforts.
7. Detention Basin
 - a. Location – Upstream of unnamed ravine that runs through Memorial Park and The Houston Arboretum
 - b. Additional Comments – Park is now experiencing flooding events.



8. TxDOT Mitigation
 - a. Location – Entire Study Area
 - b. Additional Comments –TxDOT should mitigate full impacts from their projects.
9. Detention Basin
 - a. Location – Buffalo Bayou, River Oaks Country Club and Houston Country Club
 - b. Additional Comments – Create detention storage in golf courses. Works well at Rayburn Country Club.
10. Detention Basin
 - a. Location – White Oak Bayou – Across the channel from F35 at Studemont and IH-10
11. Detention Basin
 - a. Location – Across the channel from F54 at Houston and Taylor.
 - b. Additional Comments – There is a wedge of land between White Oak and IH-10 that would be good for detention storage.
12. Detention Basin
 - a. Location - White Oak Bayou – 18th Street and E. T.C. Jester
 - b. Additional Comments – 12 acre parcel. Former Kmart property- old parking lot. *After the meeting, a map and parcel information for this property/potential detention basin was emailed to HCFCD. The total land area of the proposed parcels is approximately 17.5 acres.*

Component Screening

HCFCD conducts screening to narrow the list of components. They must meet certain criteria such as:

- Does it reduce flood damages
- Does it restore significant resources
- Is it applicable to the study area
- Can it be implemented by HCFCD, the Corps, or another group under existing laws and ordinances
- Is it cost effective
- Is it publicly acceptable
- Does the FDR component have the potential to improve the environment
- Does it have negative impacts on the environment
- Is there an opportunity for recreation or aesthetics

HCFCD will review and consider the study objectives in the screening process.

As mentioned early on in the study, HCFCD will want to identify a partner in order to pursue an ecosystem restoration project. (HCFCD is the local sponsor for FDR).

If a local sponsor is not identified, there may be an opportunity for HCFCD to incorporate ER components in a federal plan if the ER components are connected to flood damage reduction. For example, a high-flow bypass channel plus restoring the environment.

Question: Must the local sponsor be a government agency?

Answer: Not always, but operation and maintenance is very important and that usually involves a government agency.



Matt Zeve presented some examples of ER projects with local sponsors working with the Corps.

- Murrieta Creek – Riverside County Flood Control and Water Conservancy District, CA
 - Combined FDR and ER project – widening/deepening of Murrieta Creek
 - \$90 million
 - Restore wetlands and marsh
- Peoria Riverfront – Illinois Department of Natural Resources
 - Only ER
 - \$16 million
 - Creation of wetlands along the creek
- Trinity River Central City – Tarrant Regional Water District
 - Combined ER and ER project
 - \$435 million
 - Restore aquatic habitat and oxbows, create emergent wetlands, and improve riparian habitat

Jennifer Dyke noted that some ideas might be screened out of a federal plan, but they might be considered in the future as part of a local study.

If HCFCD does not identify a local sponsor for an ER project or if a federal ER project is not identified, HCFCD is committed to pursuing a federal FDR project that considers the environment and is acceptable to the community. Any organizations interested in sponsoring a particular component were encouraged to contact Jennifer.

Steve Fitzgerald also introduced the U.S. Army Corps project manager, Shakhur Misir, to the group.

Next Steps

The next steps for HCFCD is to document the input of the SSG, screen the components and then evaluate the remaining or highest scoring components.

Next Meeting

The group agreed to meet again in first quarter 2010 after component screening and also to receive an update on some of the initial evaluation findings.

Handouts Provided at the Meeting

- Agenda
- SSG Contact List, dated 10/26/2009
- Draft Study Process Graphic
- Goals, Objectives, and Constraints, dated 10/2009
- List of FDR and ER Components identified to date
- Copy of powerpoint slides

