WASTEWATER/SEPTIC SYSTEMS
WORKGROUP MEETING

Tuesday, June 3, 2014
5:30 - 7:30 P.M.

Chambers Recovery Team
509 Washington Avenue
Anahuac, TX 77514

MEETING NOTES

Attendees: Guy Jackson, Kim Laird (TCEQ), Jerry Shadden (TBCD), Rex Tunze (CCEH), and Pudge Wilcox (CLCND)

Team Members: Abby Ficklin (Shead), Stephanie Glenn (HARC), Brian Koch (TSSWCB), Linda Shead (Shead)

1.   Sign-In, Welcome, Agenda Review, and Introductions – Linda Shead

Linda Shead welcomed everyone, and then proceeded with self-introductions. Stephanie Glenn passed out copies of a map of land cover and of maps that pinpointed the septic tanks and the wastewater outfall within the watershed. Linda reviewed the agenda and described the tasks for the meeting. She reminded everyone that, several meetings ago, the group had identified anaerobic septic, aerobic septic, wastewater treatment plants, collection systems, straight pipe discharge, and possibly urban run-off, as potential sources of bacteria. Stephanie will be talking about population, bacteria load, and the flow. The goal is to figure out the numbers of sources and identify where in the watershed these numbers of bacteria sources should be applied. This will be followed in a later step by deciding which management measures will work best where, in order to get the number of bacteria reduced in the bayou.

2.   Review and Discussion of Watershed Boundary Maps – Stephanie Glenn

Stephanie noted that the new land cover data are from the NOAA C-CAP 2010 layer, which reflects current land use more accurately than the 2006 data. Some suggested changes had been made (marked in cross-hatching), by Pudge Willcox and Bobby Hall, primarily in terms of switching some tracts from crop to pasture-hay or vice versa. She asked if other changes were needed, and attendees discussed whether any other changes were substantial, but agreed that was not the case – that the current snapshot is at least 90% accurate. That is, the workgroup agreed

on the suggested changes in land cover – the red crosshatch changing from current mapped land use to crop, and yellow crosshatch from current mapped land use to grass/pasture. For the SELECT model, the workgroup agreed that, since crops may rotate every 3 or 5 years, the model should be run with minimum and maximum to see what would happen at both time frames, and see what would work better at each.

3. Presentation of Available Source Data and Discussion of Bacteria Distribution for Wastewater Treatment Plant Systems – Stephanie Glenn

Stephanie explained that the model default for effluent from the wastewater treatment plant is 126 CFU (colony forming units) of bacteria per milliliter (mL), as that is the permitted level. Based on effluent sampling that's been done, the group can decide whether to go with higher or lower levels of bacteria. In discussion, Stephanie noted that the sampling has been done at the plant discharge (with City permission); that values have been collected from low flow, normal flow and high flow conditions; and that the sampling results are more current than what is in the reports sent in by the City to TCEQ (due to lag time in that process). She suggested a recommendation to run the model once for normal conditions, and then again for rainy conditions, because rainy conditions would reflect, by far, the highest bacteria load. The group concurred with that recommendation, following discussion of bypass incidents, the holding reservoir built to handle the massive infiltration and inflow issue in the City's collection system, and the report of observations by the sampling team that overages have occurred in bigger rain events.

4. Presentation of Available Source Data and Discussion of Bacteria Distribution for Onsite Septic Facilities (OSSFs) – Stephanie Glenn

Stephanie described the two sets of maps provided (large ones posted on the wall), based on the two data layers they have for OSSFs: (a) the green dots represent existing houses that are either known to have septic systems or are known not to be on a public sewer system (mapped by a workgroup member); and (b) the yellow dots are from H-GAC data. HARC has merged the two to eliminate duplicates, as shown on one of the maps. The green dots do not distinguish between conventional (anaerobic) and aerobic systems, and the total is about 315. The yellow dots are for permitted systems reported from 2002 to 2012 (the most recent year for which data is publicly available), and thus are predominately aerobic systems, and total 91. The group concurred with the approach for eliminating duplicates. Chambers County has data for systems more recent than 2012, and Rex will email this information to Stephanie.

The SELECT model also considers soil types for absorption rates. For this area, the soils are 97.5% the same, and not the best for septic. The group concurred with this.

The next decision was to consider the age ranges of the septic systems, as that impacts their effectiveness in removing bacteria. The SELECT model divides the ages into three categories: <15 years old, 15-30 years old, and more than 30 years old. Everyone agreed that the identified yellow dots – which are the 91 from H-GAC, reported from 2002-2012 – would be in the <15 yrs category. The group proceeded to discuss the age ranges of the rest of the septic systems, by considering the approximate house ages in the various clusters of systems marked on the map, based on the group's local knowledge of the area

(which was extensive and often precise). For those homes/septic systems not part of an identified cluster, a generalization will be applied: 80% at >30 yrs and 20% at 15-30 yrs.

A related discussion considered how to address the maintenance issue of aerobic septic systems. It was noted that, while aerobic systems can be much better than conventional anaerobic systems, especially given the poor soils of the watershed (for septic), the key is whether the aerobic systems are maintained correctly. Many people are unaware of what kind of system they have, or how to take proper care of the system. Newer state law does not require professional inspection after the first two years of installation, although a county may vote to require inspection/maintenance after that time (if the population is greater than 40,000, which Chambers County is not yet). Brian noted that in one recent watershed project, a 12% failure rate was used for everything installed since 1989, and a 50% failure rate on everything before 1989. The group agreed that it would be good to run the SELECT model using a couple of different scenarios, with one based on inputting an older age for aerobic systems to see the magnitude of the difference.

5.   Wrap-Up and Next Steps – Linda Shead

The next general meeting will be on Tuesday, June 17, when a compilation of the information from all the workgroup meetings will be presented. Once the stakeholders agree with a set of numbers, HARC will move forward with running the SELECT model, to see where it predicts would be the greatest potential bacteria contributions from different sources. Also at that meeting, there will be a presentation from TCEQ about the technical assistance available for small business owners and local governments.

On Friday, June 27, the project will be hosting a Feral Hog Workshop (fee of $10 to cover lunch).

Also the Double Bayou WPP project newsletter will be coming out within a couple of weeks.

6.   Adjourn

The meeting adjourned at approximately 6:50 p.m.