

Special Management Conference – August 14, 2002 - Continued

Joe Remondini reported that Tulsa County is taking responsibility at the local level by using “4-to-Fix the County” funds for the current flood mitigation study. He suggested municipalities fund studies for inside incorporated city areas and coordinate efforts with Tulsa County. The County study will look at non-structural and structural solutions to flooding problems and how to mitigate flood hazards. Areas that could be taken out of floodplain would promote opportunities for economic development. Flood mitigation projects could include detention ponds, land acquisition, and other means to flood proof areas. Corps’ goal is to be in tune with the ecosystem and environment while looking at flood mitigation plan. Remondini reported digital mapping had been completed on all of the northern part of Tulsa County. Hydrology study is under way and digital photographs remain to be completed for southern and western portions of the County. Corps expects to have all the mapping done by October 15, 2002.

Jim Leach recommended the purchase of Geographical Information System (GIS) to process various information in the floodplain including buildings, land use transportation routes, and population. If communities have GIS they can load the County’s information into their system. He suggested communities share information, perhaps developing a common computer sharing system through INCOG. GIS will allow engineers to better evaluate the effect a detention system would have on a floodplain. He advised GIS performs functions faster, provides more data and performs functions more accurately than previous systems. In addition to floodplain information, Tulsa County will have a foundation with GIS on which it can start incorporating maintenance on roads/bridges, utility locations, parcels information, and home ownership data. The ESRI Product -- Arc GIS 8.2 software – is what the Corps is using for the study and is the format to be delivered to Tulsa County. With this software, US geological survey maps, US Census Bureau information, 1979-80 Flood Insurance Study (watershed boundaries) for Tulsa, contour maps, and other information from sources already available on the internet or on the server can be overlaid onto data in study. Basins/sub-basin areas and the slope or general hydrology information (rainfall and runoff) can be quickly prepared. Leach said that after flood profiles are completed, the floodplain could be automatically generated in 10-15 minutes using the GIS 8.2 software. He demonstrated how watershed information, pavement boundaries, and property information could be laid over Tulsa County boundaries. With GIS, available information can be used to populate data base, then information associated with each building such as address, owner, parcel number, lot number, etc. can be added to that data base. This is not part of the core project the Corps of Engineers is providing; the Corps is providing a base GIS project with floodplain information. The County will then have a GIS foundation to build upon for floodplain management and other applications. Leach mentioned the Hydraulic Modeling System is free and will interface with GIS so floodplain analysis can be run quickly. He added the Corps uses the Watershed Management System but there is a cost associated with this product. He demonstrated how photos, building drawings, report documents, digital images/documents regarding structure can be added to structure information if data is in digital GIS format. A population density map from an Internet site can be overlaid on County’s map, then the operator can zoom in to see more details about the area. Photography can be draped over topography creating a 3D image. The GIS data can work with emergency management operations including police and fire, as well as homeland security. GIS will allow Tulsa County to take data and use it to produce the required FEMA Digital Flood Insurance Rate Maps. Leach recommended Tulsa County purchase a server strictly for GIS once the product is finished and delivered to the County. County will need to decide how to distribute the data and the amount to charge for it.

Remondini said most hydraulics for the study should be completed in about a year. Corps will add FEMA information to GIS data before delivering to Tulsa County. The problem areas mentioned in public meetings will be pinpointed and also added to the data so individual concerns can be addressed. He reported that the entire flood mitigation study is a three-year project. The County can