



THE LIGHTNING ROD

Summer 2016 The Official Newsletter of the Texas Floodplain Management Association

Volume 21, Issue 2

From the Desk of the Executive Director

Back in May 2016, FEMA Region 6 hosted their spring CAP Meeting for five state floodplain management associations in the region. These states were Texas, Louisiana, Oklahoma, New Mexico, and Arkansas. FEMA asked each state to prepare a presentation focusing on our successes and the challenges we face in the future. Completing this exercise really opened my eyes to what TFMA is all about, where we have come from and where we are going. TFMA has grown and evolved over the years since 1988. With success also comes failure but I choose not to focus on failures but rather consider them as challenges, things we must do and overcome to make TFMA even bigger and better and to serve our membership. To accomplish our mission and to save life and property from floods.



Let me share some of my thoughts as to TFMA's successes and challenges. First let's focus on our membership. At the end of 2014, TFMA had 2,101 members. So far in 2016 we have 2,200 members with continual growth as the year progresses. These numbers make TFMA the largest state floodplain management association in the country. This is an outstanding success! The challenge is we need to work harder to retain our current members and to recruit new members, especially floodplain managers from cities and counties. We need to continue to be searching for and implementing new ideas and activities that will enhance your membership and meet the growing needs of both new and experienced floodplain managers.

Now let's focus on TFMA's Certified Floodplain Manager (CFM®) program. As you are aware, TFMA is one of only six states sanctioned by ASFPM to run our own nationally accredited CFM® program. TFMA, under its CFM® charter with ASFPM conducts the program as a mirror image of ASFPM. We utilize the ASFPM national exam as our own and proctor it under the same rules. And folks, our CFM® program is the engine that runs and fuels the growth of TFMA. Let's look at some numbers. At the end of 2014, we had a total of 1,812 CFM@s but we also decertified 75. At the end of 2015, we had 1,920 CFM@s and decertified 98. In 2016, we have so far added 139 new CFM@s and our current number of CFM@s stands at 1980. If our projections hold, we will break 2,000 CFM@s for the first time. What an accomplishment! But again, there are challenges to this success. First, we must strive to continue to meet the needs of our CFM@s. We need to offer more diverse training opportunities to help meet the Continuing Education requirements for CFM@s. We need to offer more CFM® exam opportuni-

ties and encourage self-study prior to taking the exam. Of course, we need to work at retaining our CFM@s, reducing the number of "decerts" and continue to grow our numbers.

One of the most successful actions of TFMA in my opinion is our partnerships with numerous federal, state, and local agencies. Working together with FEMA, National Weather Service, US Geological Service, US Army Corps of Engineers, Texas Water Development Board (TWDB), Texas Department of Emergency Management (TxDEM), Texas Department of Transportation (TxDO), Harris County Flood Control District, San Antonio River Authority, Guadalupe/Blanco River Authority (GBRA), and the list goes on. We are also working with other associations and organizations to serve our members. TFMA recently became a member of Texas Municipal League (TML) and we have been actively involved with Building Officials of Texas (BOAT), Federal Alliance for Safe Homes (FLASH) and Texas Association of Counties (TAC) over the years. All of these active partnerships facilitate our involvement in ongoing floodplain management and mitigation actions across the state. We can become more active in post-disaster situations as communities struggle to rebuild and become more resilient.

Legislative outreach is an area of concern and definitely TFMA needs to take a more active role. Recent success at TWDB utilizing these funds has led to development of much needed flood/river gages across the state and the development of the new Texas Mesonet. TFMA recently created Texas FloodED, a grass roots effort to reach out to our elected officials and address issues that are important to you. Again, working with our partners and with assistance from our membership, we will address these issues.

Other areas of both successes and challenges involve Outreach during disasters and Flood Safety and public awareness and education. The main thing to take away from this article is this – **TFMA is successful** and will continue to be a leader both in Texas and the Nation. By Working Together, we will make a Difference! If you are not a member of TFMA, come join us as we make Texas safer from floods.

Roy D. Sedwick, CFM
TFMA Executive Director

The Lightning Rod



Questions, items for publication and other editorial matters should be directed to:

TFMA Office
P.O. Box 1237
Cedar Park, TX 78630
(512) 260-1366
tfma@tfma.org

Deadline for
The Lightning Rod
Fall Issue is
September 30.



Your President's Message

I hope everyone is having a great summer and staying cool in these HOT temps! Activity at TFMA is HOT as well! Here are just a few updates on current activities.

I'm excited to announce that the initial **Texas FloodED** activities have been a great success! Over 75 TFMA members volunteered to help us with this grassroots education effort to meet with our State Representatives, Senators, and their staff members. To date 25 meetings have been held. This effort is our first step in introducing TFMA to our elected officials so we can serve as a resource as flood issues are discussed at the state level. Stay tuned for our 2nd phase of our FloodED activities this fall. You can still volunteer if you want to be part of this effort. Just email the TFMA office (tfma@tfma.org) that you are interested in being a FloodED volunteer.



Our TFMA Board attended our **Annual Board Retreat** in Cedar Park on Saturday, July 30. We had a packed agenda to discuss the strategic plan for continued growth of our association. We also tackled a number of issues brought forward by TFMA members to discuss how TFMA can best influence sound floodplain management in Texas. If you ever have any suggestions for the Board's consideration, please let me know (President@TFMA.org).

The **TFMA Fall Technical Summit** is right around the corner on September 7 – 9, 2016, at the Hyatt Lost Pines in Bastrop. I hope you have already registered (457 of you have already!), if not it's not too late. Pre-Registration ends August 24. After that you will need to register on-site at the conference. We are also thrilled to launch our new **#TFMAcares** program. At each of our conferences, we plan to organize a charitable donation drive to support the local area. Please consider bringing non-perishable items that we will donate to the Central Texas Food Bank. A list of items that we are collecting can be found [here](#). For those traveling, you can also donate cash or checks! Each person who donates more than 20 items or \$20 will be entered into a drawing for gift cards.

Please continue to check our **TFMA Training Calendar** ([Click Here](#)). In addition to the Fall Technical Summit, a number of new courses have been added. Also, did you know TFMA is now offering the CFM exam every quarter in each TFMA Region around the state? New exam offerings are posted for September and November 2016. If you know anyone interested in taking the CFM exam, please have them register online for an exam date. By the time we reach our Fall Summit, TFMA will likely have over 2,000 CFMs! We are excited about this milestone and look forward to celebrating!

Finally, it was a very sad month for TFMA in learning that our longtime friend and partner, Gilbert Ward, passed away. Gilbert was a lifelong advocate for floodplain management in Texas and will be dearly missed. With his family's permission, TFMA established the Gilbert Ward Memorial Fund that will be used to create the Gilbert Ward Endowed Scholarship at Tarleton State University. Tarleton State is one of the few Texas universities with a degree in Hydrology. If you would like to contribute to the fund, you can donate online [here](#).

Sincerely,

Jessica D. Baker, PE, CFM, PMP
TFMA 2015 - 2017 President

ASFPM National Conference Update - Texas Wins BIG

Congratulations TFMA for being awarded the 2016 ASFPM Chapter of the Year at the 40th Annual Association of State Flood Plain Managers (ASFPM) conference. The conference was held on June 19-24, 2016 in Grand Rapids, Michigan. [Click here](#) to experience a video of the announcement.



L to R: Romin Khavari, John Ivey, Katina Bohrer, Kevin Shunk, Joe Fernandez, Jessica Baker, and Cindy Engelhardt.



L to R: Joe Fernandez, Jessica Baker and Selina Mirza

Congratulations TFMA!



Bee Cave Parkway and Freitag Creek Crossing



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HELP YOUR COMMUNITY BE FLOODSMART AND PROTECT WHAT MATTERS

Reach out to your residents in Texas to ensure that they are financially protected for hurricane season with a flood insurance policy. After all, it's more than their house, it's their home.

This year El Niño and La Niña could make the hurricane season's forecast even more volatile than usual. It is important to ensure that your community is prepared for every possibility. Even though the National Oceanic and Atmospheric Administration's [2016 Atlantic Hurricane Season Outlook](#) indicates that a near-normal hurricane season is most likely, it only takes one storm to cause a disaster. Now is the time to take action and talk to your residents in Texas about becoming financially protected before the next flooding event.

Hurricanes have caused eight of the 10 costliest natural disasters in U.S. history. Although hurricane-force winds cause damage, so do storm surge, heavy rains, and flash floods even in areas far from the coast. With the increased unpredictability of this hurricane season, it is urgent that you remind your community that it typically takes 30 days for a flood insurance policy to take effect. Don't wait until a storm is on the way it will be too late to secure the proper financial protection for your community.

FloodSmart Tools and Resources to Help Your Residents Protect What Matters

- Share the [before](#), [during](#), and [after](#) a storm infographics, in addition to the [hurricane season infographic](#), to help your community prepare for and recover from flooding.
- Share [consumer](#) and [business](#) checklists with property owners in your community so they are prepared before the next storm hits.
- [Spread the word](#) by sharing flood risk and flood insurance content on your social media platforms.
- Show how a few inches of water can cause thousands of dollars in damage by embedding FloodSmart's [Cost of Flooding Tool](#) on your website.
- Use [talking points](#) to educate your community on the importance of flood insurance.

Key Facts about Hurricane Season

- [Heavy Rains](#). Storms can bring several inches of precipitation in just hours or can stall out over an area for days. These heavy rains can lead to severe flooding by oversaturating the ground, overflowing storm drains, or causing rivers or lakes to spill over their banks or levees.
- [Flash Flooding](#). A flash flood is the rapid flooding of low-lying areas caused by intense rain or several storms. Flash floods can have devastating effects, leaving downed trees and destroying buildings and bridges.
- [Tropical Storms and Hurricanes](#). Flooding associated with tropical storms and hurricanes isn't limited to just storm surge on the coast. Heavy rains and flash floods can affect communities hundreds of miles inland.

Visit FloodSmart's [Community Resources page](#) for more resources that can help you explain flood risk and emphasize the importance of flood insurance to your community. Additionally, use the Flood Outreach Toolkit to help your community understand the importance of flood preparedness and protection.

See our [online PDF toolkit](#) for all the resources.

Utilization of Arc-Hydro for Off-System Bridges

Authored by: “Hank” George H. Amen, Jr., PE, CFM and Annie Bryant, EIT
Hayden Consultants, Inc. & TFMA Members



Executive Summary

This nonfigurative article will walk through the hydrologic and hydraulic approach that was taken on a series of 11 off-system bridge replacements on rural county roads and identify the advantages of using ArcGIS software to expedite hydrology and hydraulic modeling for incorporation into a hydraulic model for bridge design which meet or exceed the existing conditions.

Introduction

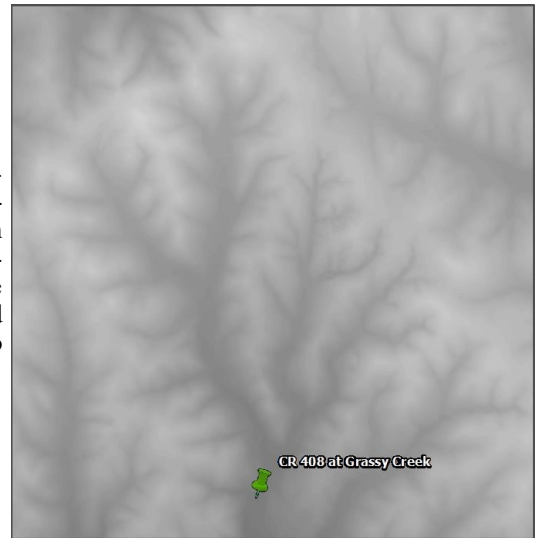
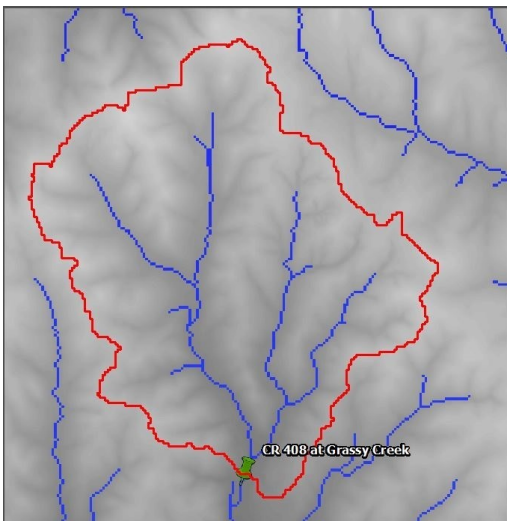
What is an Off-System Bridge? The definition of off-system bridge is, “Bridges and culverts that belong to a county or municipality are not on the State ROW and are therefore within a community’s floodplain.” Hydraulic Criteria per FHWA is “same or slightly better” than existing; Regression equations are recommended as the primary hydrologic method for off-system projects;

for on-system projects, they are recommended as a check on other methods. Omega EM regression equations are reliable in drainage areas beyond 10 square miles. A comparison method should be used for drainage areas below 10 square miles and must be used for drainage areas below about 5 sq. mi. This method should not be used for drainage areas less than 1 square mile.

Hydrology

ArcGIS Setup

Every bridge project is set up in ArcGIS by first setting the coordinate system to the appropriate State Plane for the region in which the bridge is located. Then, the Environments are set up for layer output. A Google Earth KML file is imported to show the exact location of the bridge. Digital Elevation Map raster information (DEM) is required for the region that the bridge watershed occupies. From TNRS₁, the DEM dataset is downloaded and imported into the ArcGIS map. The USGS quadrangle sheets are added to the map as a base map, for comparison of watershed valleys and ridges.



Delineation

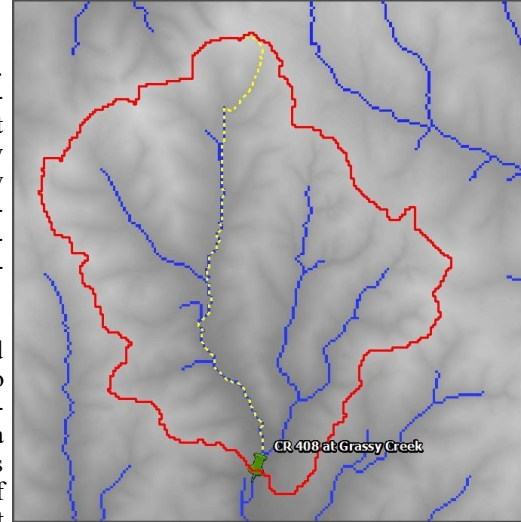
Traditional methods of hand delineation a watershed take hours to complete and are subject to the engineers’ judgement. The Arc-GIS application Arc-Hydro along with 3D analyst delineates watersheds in just minutes — saving hours of time. When Arc-Hydro is delineating, it computes all possible paths based on elevations, creating an accurate delineation of a bridge’s watershed. Arc-Hydro is a toolset for Arc-GIS that supports geospatial and temporal data analyses to delineate and characterize watersheds, and to define and analyze hydro geometric networks.

Continued on next page

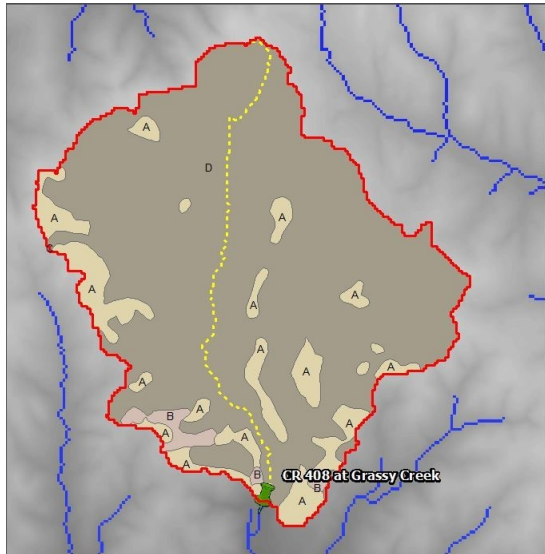
Longest Flow Path

The longest flow path is needed for the time of concentration calculation. The longest flow path is the longest distance it takes a drop of water to travel to the bridge. It is divided into three segments. The first segment is sheet flow. It occurs in the headwater of the stream and usually becomes shallow concentrated flow after 100 to 300 feet. The second segment is shallow concentrated flow which is in between sheet flow and channel flow. Channel flow is the final segment that begins where the channel is visible on aerial photographs or where the blue stream lines appear on the USGS quadrangle sheets.

Arc-Hydro creates a line following the longest flow path in a watershed based on steepest descent calculated using the DEM. Using Arc-Hydro to map the longest flow path takes minutes. The longest flow path is customarily drawn by hand using the USGS quadrangle sheet and contours as a guide, which can take hours depending on the precision the engineer judges to be sufficient for calculations. Arc-Hydro removes the trial and error of determining the longest



length from tracing the longest flow path.



Soil Characteristics and Land Use

The delineated area is imported into The USDA Web Soil Survey as the Area of Interest. From Web Soil Survey the soil types and location are exported as a shapefile. The soil shapefile is then imported into ArcMap and combined with land use. The combined soil and land use creates a table that organizes the soil type by land use. The table is exported to Excel for weighted Curve Number (CN) calculations.

Survey

On any off-system bridge projects a detailed survey is performed at the bridge, then upstream and downstream of the bridge, including center line of river points, bank points, and cross section points. In order to save time and money on the survey effort the utilization of Arc-GIS 3D analyst can merge survey together with the DEM information to supplement any outer bank floodplain elevations to contain the floodplain. The Land XML of the survey is imported into ArcMap as a TIN. The DEM is converted into a TIN using the ArcGIS tools. This detailed survey is integrated with

DEM TIN by converting both TIN files into TIN nodes. Then, the TIN nodes are used to create a TIN that represents the combination of the survey data and the DEM data.

HEC-GeoRAS

The US Army Corps of Engineers developed Geo-RAS as a set of tools that processes geospatial data in ArcGIS, allowing the preparation of data for import into HEC-RAS. The example in Chapter 8 of the USACE HEC-Geo-RAS User's Manual describes the steps to create the Geo-RAS layers, and exporting and importing of the information follows. The Geo-RAS layer of river center, left bank, right bank, flow lines and cross sections were created. The river center layer follows the river centerline points from the detailed survey downstream. Left bank and right bank layers connect the bank points from the detailed survey. Cross sections are cut from the far left bank floodplain limit through the detailed survey cross section points to the far right bank floodplain limit.

For off-system bridges, at least eight cross sections are used: three upstream, three downstream of the bridge, and one at each face of the bridge. For on-system bridges, the number of cross sections depends on the amount of data available and the FEMA flood zone.



Utilization of Arc-Hydro for Off-System Bridges - *Continued*

Time of Concentration

The Natural Resources Conservation Service (NRCS) Method is used to calculate Time of Concentration (T_c). It is a summation of sheet flow travel time, shallow concentrated flow travel time and channel flow travel time. The channel flow travel time calculation requires the channel hydraulic radius. Using the geometry from the cross sections cut by Geo-RAS, the geometry is input into Flow-Master. An estimated flow (Q) is used to get a hydraulic radius for the initial T_c calculation. Obtaining the final T_c value depends on a series of iterations between the Q and T_c . Lag time is calculated as 60% of the T_c .

Omega EM Regression Method

The use of the regression equation for off-system projects when the watershed is greater than 10 square miles is recommended. For watersheds between 10 and 5 square miles a comparison method should be used. For watersheds between 5 and 1 square miles, a comparison method must be used. The Omega EM Regression Method cannot be used for areas less than 1 square mile.

SCS Method

HEC-HMS is used to calculate the SCS method flows for watershed areas greater than 10 square miles and in areas less than 5 square miles. HEC-HMS requires Lag Time and the weighted CN. The precipitation depths for the region are also required and can be found in the Atlas Maps.

Hydraulic

HEC-RAS₃

A georeferenced skeleton of the existing channel can be imported into HEC-RAS from GeoRAS. The information is imported into HEC-RAS, which has the correct reach lengths, XS length, and elevation data. Next, the ineffective flow areas and bridge geometry are added, completing the HEC-RAS geometry in two steps, ineffective areas will expand at a 1 to 1 ratio upstream and a 1 to 2 horizontal to vertical ratio downstream. Finally, the flow data is entered and the model is run; from here you have created an existing base model, that can be used to size a proposed bridge structure, and evaluate if there is a backwater rise, often backwater can be reduced if a proposed

Scour is evaluated for foundation design using HEC-RAS and D_{50} and D_{95} from Geotechnical reports.

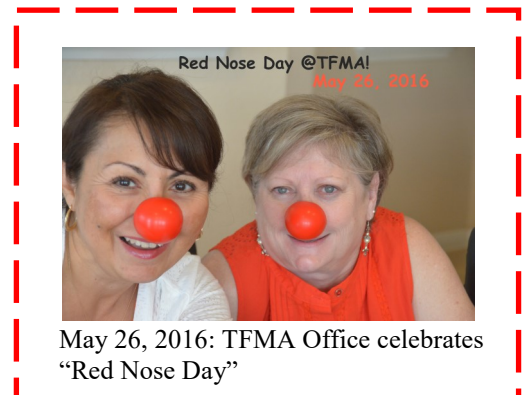
Lessons Learned

Having a detailed survey is one of the essential lessons learned.

- The survey crew must take points along the base of the bridge abutments and, in case of detours, must take frequent point shots along the sides of the bridge.
- Creating the left bank and right bank lines are not necessary RAS layers, but drawing them in saves time.
- A scaling factor must be applied to any exports from Arc-GIS into a Microstation or Cadd platform, to account for the adjustments between Grid to State Plane coordinate system.

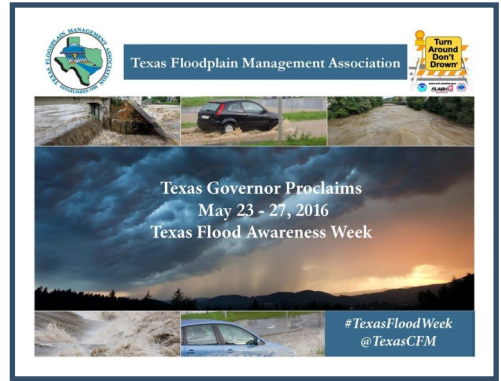
References

1. <https://TNRIS.org/>
2. Arc-GIS – Arc-Map 10.2.2
 - A. Arc-Hydro
 - B. Arc-GeoRAS
3. HEC-RAS 4.1.0



TFMA and Flood Awareness Week

Governor Gregg Abbott declared the week of May 23-27, 2016 as *Flood Awareness Week* and TFMA played a key role in getting the Governor to issue the Proclamation. In an effort to promote the week, TFMA encouraged everyone to wear blue to show their support. Kudos to all the cities, counties and newscasters who showed their support.



Texas and TFMA wear blue to show their support of *Flood Awareness Week*.

TFMA Fall Technical Summit

The 2016 Fall Technical Summit is coming up September 7—9 at Hyatt Lost Pines Resort in Austin/Bastrop. Have you registered yet? Pre-Registration continues through August 24 OR you can also register on-site. What do we have planned? **Well, take a peek:**

Wednesday, September 7

Early Bird Workshops OPTIONAL

8:00 am - 5:00 pm (7 CEC hours)

Workshop #1: Floodplain Management 101
(open to NON-CFMs ONLY)

Workshop #2: NFIP 201

8:00 am - Noon (approx. 3.5 CEC hours)

Workshop #3: Reviewing HEC-RAS 2-D
Model: Pretty Animations=Correct Results?

Workshop #7: Substantial Damage Estimator

9:00 am - 11:00 am (approx. 2 CEC hours)

Workshop #4: Be Flood SAF(ER) -
Situational Awareness for Emergency Response

Noon - 1:00 pm

Lunch on your own

PM Early Bird Workshops

1:00 pm - 5:00 pm (approx. 3.5 CEC hours)

Workshop #5: Floodplain Management for Counties

Workshop #6: Urban Stream Syndrome:
Balancing Natural Stream Functions and Flood Control

Thursday, September 8

8:00 am - Noon Opening Plenary Session (3.5 CEC hours)

Lectures include:

- *To the Risk Assessment House We Go*
- *Executive Order 13690 (Climate Change) - An Opportunity To Discuss Risk*
- *Base Level Engineering*
- *TFMA Higher Standards Survey And New Higher Standards Guide*
- *A Quick Look at The 2015 Texas Quick Guide*

Noon - 1:30 pm

Membership Luncheon



1:30 - 5:30 pm

Concurrent Sessions

(3.5 CEC hours)

Conference attendees will be able to choose from up to four sessions including Hydrology & Hydraulics, Floodplain Management Strategies, Floodplain Manager's Tools, and others. Watch the website for updates as tracks are finalized. Some of the hottest topics are being presented within these tracks.

5:30 pm - 7:00 pm

Networking Social

Come mingle with the crowd before dinner at this popular social. After a long day of sessions, this is your opportunity to network with your colleagues, friends and a "special guest or two."

Friday, September 9

8:00 am - Noon Closing Plenary Session

(3.5 CEC hours) Lectures include:

- *Managing The Recovery: The Floodplain Administrator's Role*
- *City Of Houston Floodplain Management In The Aftermath Of Memorial Day 2015 And Tax Day 2016 Floods*
- *Preparing For The Worst: Post Flood Impacts Of The GBRA Basin Study*
- *Iowa Toolkits For Flood Prone Communities*
- *Flood Impacts and Recovery In Passenger Rail Operations*
- *May/June 2015 Flooding Continuing Authorities Program*
- *Onion Creek*

**Noon
Adjourn**



So, what are you waiting for?

REGISTER TODAY and get ALL your CECs at this conference.

Go to www.tfma.org or [click here](#) to register BEFORE August 24 to get the pre-registration pricing.

2016 TFMA\ASFPM Flood Risk Symposium

The Texas Floodplain Management Association (TFMA), in coordination with the Association of State Floodplain Managers (ASFPM) Foundation, hosted a one-day symposium to discuss the many concerns about flooding in Texas. Invitees included community staff responsible for managing floodplains within their communities, emergency managers, scientists, members of the engineering, business and environmental communities, and local elected officials who comprehended the flooding issues in their communities. Also invited were representatives from state and federal agencies, including FEMA, which administers the National Flood Insurance Program. This event was held on May 10, 2016 at the Westin Riverwalk Hotel in San Antonio and over 75 actively participated.

The purpose of the symposium was not only to generate ideas and solutions from within our group of professionals and jurisdiction representatives but also to understand and include the many challenges and multifaceted interests of all other potential stakeholders as well. Only by working in serious partnerships with all stakeholders do we stand a chance of being successful in managing our floodplains effectively.

TFMA had a series of compelling plenary speakers, touching on critical needs for partnerships on issues very pertinent to Texas throughout their presentations. Don Ferguson, City of Wimberley, presented “Setting the Stage - A Review of the 2015 Texas Floods.” Paul Yura, National Weather Service presented “National Weather Service – During the Storms” which provided a comprehensive report on the recent flooding in Texas. And Texas Water Development Board Chair, Bech Bruun presented “Disaster Funding from Governor Abbott for TWDB Enhanced Flood Programs in 2016.” Mr. Bruun spoke on the need for stream gages and preparedness in flood prone areas.

Following the plenary presentations, the Symposia attendees were broken up into three groups that were then led by facilitators from ASFPM Foundation and group reporters and scribes from the Chapter, who helped lead discussions on the questions posed above. These breakout groups were then given the opportunity to convene as a large group in the afternoon to provide group report-outs to all attendees.

This was beneficial in allowing visibility to and input from all groups on all topics. The outcomes of these discussions will be captured in a final Flood Risk Symposia Report along with actionable goals to achieve in continuing the dialogues and outcomes. Watch for it in the upcoming newsletter.

In summary, it is clear that as the professionals who are considered “experts” in this field, we need to continue to reach outside of our comfort zone and have sustainable floodplain management conversations with a very diverse group of stakeholders to achieve the goal of protecting our communities from flood related risk. As you are going about your work day, take a moment to think about collaboration, partnering and sharing resources. Who can you work with? How can you make sure that all stakeholders are being supported? In addition to your projects and programs being successful, how can you develop a program to enhance and showcase other community interests as well?

Thank you to all who participated!



In Memorium: Time Passes – Another has passed into Memory

By: Roy Sedwick, CFM, TFMA Executive Director

You have heard many of the catch phrases – “Time passes quickly”, “Time flies”, “Time waits for no man”, “Time can mean so much”, etc. No matter which phrase sticks in your mind, we are all looking at the clock so to speak. TFMA was started in 1988 and in 2018, we will celebrate 30 years of service to the Texas floodplain management community. My how time flies! Membership in TFMA has swelled! But along the way, the faces of our members have changed. Many of the original/long time members are still with us, but time has changed us too! Much older and wiser I hope, and with a burning passion to do all we can to help save precious life and property. This passion, this dedication to a greater good remains with us. However, time takes its toll and the light within us fades into darkness.

Such is the case for another valued, respected and loved TFMA member. On June 15th, we received word that long time member Gilbert Ward had passed. Sadness and a sense of loss soon spread through TFMA. Many of you personally knew Gilbert and so many communities benefited from the numerous floodplain management grants he administered through the years during his career with the Texas Water Development Board. Some may not have known Gilbert so before I tell you more about this remarkable person who I called “Friend”, let me share his obituary in full detail so you will understand how much he is loved and missed by family, friends and co-workers



“Obituary – Gilbert Robert Ward

Gilbert R. Ward passed away suddenly in Austin on June 14, 2016. He was born in 1953 in Plainview, Texas, the son of Haskell and Eloise Ward. He moved to Austin in 1971 to attend the University of Texas, graduating in 1975 with the B.S. in Geology. He and Ruth Hughes were married in 1973 and divorced in 1989.

A licensed Professional Geoscientist, Gilbert studied the geology and hydrology of Texas for his entire professional life, working for Espey, Huston & Associates, Inc., International Technology Corporation and, since 1995, the Texas Water Development Board. For the Board, in recent years, he was responsible for managing state and federal grants for projects in flood mitigation throughout the state. Gilbert loved music, and his tastes were eclectic. He enjoyed the natural areas of Texas and frequently took his family camping. He was an avid sportsman throughout his life, playing baseball, softball, golf, racquetball and handball, and had an encyclopedic knowledge of collegiate and professional sports, especially his beloved Longhorns.

Gilbert is preceded in death by his parents and an infant sister. He is survived by a brother George Ward and wife Judy Walther, son Allen Ward and wife Julie, daughter Crystal George and husband Shawn, daughter Robin Cunningham and husband Gabriel, son Nathan Ward and wife Chelsea, and eleven grandchildren.

A public memorial celebration of his life will be announced in the near future.”

I hope this brief summary of the life and death of Gilbert Ward will help you understand what he meant to so many and how he expressed his passion and desire to make a difference in the lives of others. This is why the TFMA Executive Board decided to take the next step in Gilbert’s memory. After some discussion with Gilbert’s brother George, the family has given permission to TFMA to establish an endowed scholarship in Gilbert’s name as a way to continually recognize and remember this remarkable man. With consultation with family, it was decided that the scholarship would be established at Tarleton State University in Stephenville, Texas. Tarleton State is one of only a few smaller universities in Texas that offer a degree in hydrology, which was Gilbert’s passion.

On July 14th, the family hosted a memorial celebration of Gilbert’s life. Together with family, friends and coworkers, many came together to pay their respects and to remember and honor the life of Gilbert. TFMA made the “Official” announcement of the Endowed scholarship fund and the family has encouraged those who would like to remember Gilbert to donate to this fund. To make a donation to the Gilbert Ward Endowed Scholarship fund, please [click here](#).

This is not the first time that TFMA has created an endowed scholarship fund for a loved and respected TFMA member. Back in 2011, TFMA lost another long time TFMA member. James Michael “Mike” Howard passed away on 22 April 2011. Mike was the State of Texas NFIP State Coordinator and was a coworker of Gilbert at Texas Water Development Board. To honor Mike’s memory, TFMA established its first endowed scholarship at Sul Ross University in Alpine, Texas.

God Bless Gilbert and his family. God Bless TFMA and Texas! God Bless America! And God Bless us all! *God speed Gilbert, we will always remember!*



Gilbert Robert Ward
1953-2016
“We Remember”

Congratulations to our Newest CFMs - January through April

The CFM program is strong, proud and growing leaders. Each new CFM is taking on the challenge to promote flood safety, educate the public about flood awareness and support the floodplain community with new thoughts and ideas. Congratulations to our newly certified members.

Milad Ajir - Texas Department of Transportation
Harini Arjun - HDR, Inc.
Steven Baker - Pacheco Koch Consulting Engineers
Robert Bardin - LJA Engineering, Inc.
Angela Batiz - LJA Engineering, Inc.
Juliana Bihlet - Blackline Engineering
Jeffrey Brindle - Jones & Carter, Inc.
Chelsea Burkett - AECOM Technical Services, Inc.
Christopher Cervenka
Oscar Cetina - Pacheco Koch Consulting Engineers
Sarah Cochran - LJA Engineering, Inc.
Bruce Cordova - Smart Vent Products, Inc.
Aaron Croley - HDR, Inc.
Dasa Crowell - LJA Engineering, Inc.
Kara Lee Denney - TX Water Development Board
Bharath Devineni - GC Engineering, Inc.
Hung Doan - City of League City
Kevin Dodge - City of Mesquite
James Enoch - Harris County Engineering Department
Robert Escobar, Jr. - City of Donna
Warren Escovy - City of Sealy
Clay Forister - Brazoria County
Lauren Fulton - FEMA
Charles Galyean - City of Seabrook
Brian Goad - Huitt-Zollars, Inc.
Armando Gutierrez, Jr. - City of South Padre Island
Eric Heppen - Harris County PID
Race Hodges - Texas A&M University
Md Hossain - City of Bee Cave
Kevin Jaeger
B. Elizabeth Jones - City of Tomball
Travis Kaatz - K Friese & Associates, Inc.
Craig Kerkhoff - Birkhoff, Hendricks & Carter, L.L.P.
Cindy Kuykendall - City of Katy
Kon Kwan - Williamson County
Frank LeBlanc - City of League City
Bianca Locke - City of Pasadena
Shannon Mack
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Sonia Martinez - LJA Engineering
Rick Masters - LJA Engineering
John Miles - FEMA
Dustin Moore - San Antonio River Authority
Michelle Moreno
Joshua Oyer - Texas Water Development Board
Barbara Cecilia Palomo - City of Schertz
Katrina Purcell - City of Beaumont
Judy Rachal - Montgomery County Permit Department
Jorge Reyna - City of League City
Carlos Sanchez - Cameron County
Andrew Schimenti - Half Associates
Marc Soriano - HDR, Inc.

Desi Steffen - RODS SUE
Jonathan Steiber - Harris County Engineering Department
Dehui Su
Getsy Suthan - Half Associates
Donald Thompson - Harris County Engineering Department
Josh Wright - Dunaway Associates, L.P.
Fares Ziari - Harris County Engineering Department



**29th Annual TFMA
Spring Conference
April 26-29, 2017
Renaissance Dallas/
Richardson**

Mark you Calendars!!

TFMA Training & Fall Technical Summit

August 22 - 25 - Four Day Floodplain Management G273 Course with Exam, Laredo

September 7-9, 2016 - **TFMA Fall Technical Summit, Austin\Bastrop**

November 16 - One Day Floodplain Management Seminar, Denton

December TBA - Four Day Floodplain Management G273 Course with Exam ,Arlington

Exams opportunities have been posted on the TFMA website for each Region September 21 and November 16. Register online for a date closest to you. Your regional director will be happy to proctor the exam for you!

Outreach in Action



Flood Awareness Week in Texas, May 23-27, 2016.

TFMA participated in the Wimberley Strong event . The Mayor of Wimberley, Mac McCullough was present to address the proclamation.



Lynn Lovell Presents to Christian Life Preparatory School

On April 25, 2016, T. Lynn Lovell (Halff Associates, Fort Worth) presented a slide show entitled “Extreme Weather Events – Floods and Tsunamis” to the 8th Grade Science class at Christian Life Preparatory School (CLIPS). CLIPS is a small private school in southwest Fort Worth.

The science class included 20 students who were studying weather and extreme events. The slide show included portions of previous TFMA presentations: “A History of Floods in Texas” and “The Thailand Tsunami: An Engineer’s Perspective,” plus a few slides on “Turn Around, Don’t Drown.”

Lovell was in Thailand with his family for Christmas 2004 when the earthquake and subsequent tsunami occurred, killing over 300,000 and affecting beaches 2,800 miles away. The knowledge of the students on current flooding was demonstrated when they recognized and commented on slides of May 2015 and other recent flooding in Texas.

GREAT JOB Lynn!

Texas Floodplain Management Association

P.O. Box 1237

Cedar Park, Texas 78630

Ph: 512-260-1366/Fax: 512-260-1409

Email: TFMA@tfma.org



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TFMA 2015-2017 Leadership Team

Executive Board Members

President

Jessica Baker, PE, CFM, PMP

Half Associates, Inc.

Phone: 214-217-6692

E-mail: JBaker@half.com

Vice-President

Joe Fernandez, CFM

San Antonio River Authority

Phone: 210-302-3675

E-mail: josef@sara-tx.org

Secretary

Paloma Garcia, CFM

Denton, TX

Phone: 940-783-5098

E-mail: Paloma.a.garcia@gmail.com

Treasurer

Thomas Mountz, PE, CFM

Phone: 512-786-9564

E-mail: tmountz@gmail.com

Past President

John Grounds, PE, CFM

LJA Engineering

Phone: 713-953-5221

E-mail: jgrounds@ljaengineering.com

Executive Director

Roy D. Sedwick, CFM

Email: rdsedwick@austin.rr.com

Ph: 512-260-1366 or 512-496-0692

Regional Directors

Region 1

Steven Nelson, PE, CFM

City of Lubbock

E-mail: steven.knelson@gmail.com

Region 2

Jodie Kelly, CFM

City of Brownwood

E-mail: jkelly@ci.brownwood.tx.us

Region 3

Sandra Hernandez, PE, CFM

Parkhill, Smith & Cooper, Inc., El Paso

E-mail: smhernandez@team-psc.com

Region 4

Audra Valamides, PE, CFM

City of Arlington

E-mail: audra.valamides@arlingtontx.gov

Region 5

Kevin Shunk, PE, CFM

City of Austin

E-mail: kevin.shunk@austintexas.gov

Region 6

Robert Nolen, PE, CFM

San Antonio River Authority

E-mail: rnolen@sara-tx.org

Region 7

Kyle Kingma, CFM

City of Tyler

Email: kingma.2@osu.edu

Region 8

John A. Johnston, PE, CFM

City of Victoria

E-mail: jjohnston@victoriatx.org

Region 9

Marlen Gonzalez, CFM

City of McAllen

E-mail: marlen.gonzalez@mcallen.net

Region 10

Tam Vu, CFM

City of Dallas

E-mail: tam.vu@dallascityhall.com

TFMA Committee Chairs

Amy Ronnfeldt, PE, CFM (Certification)

Amy.Ronnfeldt@sanantonio.gov

John Espinoza, PE, CFM (Conference, Co-Chair)

espinozaja79@gmail.com

Tim Raines, PE, CFM (Conference, Co-Chair)

thraines@usgs.gov

Robert Barker, PE, CFM (Member Services)

slrigdad@yahoo.com

Cathy Meek, CFM (Outreach)

cathylmeek1808@gmail.com

John Ivey, PE, CFM (Mentor Program)

jpwivey@sbcglobal.net

Ray Windsor, CFM (Training, Co-Chair)

raydwindsor@gmail.com

J. Leon Curtis, PE, CFM (Training, Co-Chair)

curtis1@tx.rr.com

Steve Eubanks, PE, CFM (Stormwater, Co-Chair)

steven.eubanks@fortworthtexas.gov

Jill Trevino, PE, CFM (Stormwater, Co-Chair)

jill.trevino@cardinal-strategies.com

Janine Ellington, CFM (CRS, Co-Chair)

cldimples41@yahoo.com

Debbie Vascik, CFM (CRS, Co-Chair)

debbie.vascik@yahoo.com

Wes Birdwell, PE, (Governmental Relations)

wbirdwell@half.com