



THE CENTRAL TEXAS ENGINEER

A Newsletter for the Central Texas Chapter of the Texas Society of Professional Engineers

Volume 15, Issue 2

October 2009

Inside this issue:

<i>President's Message</i>	1
<i>MATHCOUNTS Problems</i>	2
<i>MATHCOUNTS Solutions</i>	2
<i>Monthly Meeting Map</i>	3
<i>Finance Report</i>	3
<i>Did you know?</i>	3
<i>Current Meeting Reminder</i>	4
<i>2007-2008 Officers and Directors</i>	4

President's Message

Greetings Engineers!

It was great to be back in the swing at our September meeting, and a Central-Texas-big "thanks" is in order to all who attended as well as Ms. Dale Farrow, P.E. for her BS+30 presentation. Bring a fellow engineer with you to our upcoming meeting next Thursday, October 15 at Raymond's in Lorena.

I'll waste no time in offering you a challenge to make a financial donation to PACE. The Political Action Committee for Engineers (PACE) distributes funds collected from members of the Texas Society of Professional Engineers. These funds are contributed to candidates for legislative and statewide offices whose ideology and/or voting records are consistent with the goals and objectives of engineers. I'll back up my challenge by donating to this worthy cause, please donate what you can, and please donate before December 1. Until December 1, there is a statewide TSPE chapter contest based on donations received from the statewide TSPE chapters. Prizes and recognition will be awarded to chapters who meet their goals, but most importantly Central Texas TSPE will prove their support of the vital function of preserving the value of our stamp via the state government office holders.

On October 22, the TSPE State Agency Dinner will be at the prestigious Headliner's Club in downtown Austin. This annual event serves as a forum in which to further develop relationships with key members of various Texas state agencies that employ or work with engineers. This dinner provides an excellent opportunity to visit with agencies on current issues that are affecting the engineering community as well as allow them to inform us of any changes that are being implemented within their agency. Please contact claire@tspe.org or call (512) 472-9286 to reserve a seat for you and your spouse.

Another colossal "thank you" is due to Cassie Kohel for taking on so many vital functions to our Central Texas chapter this year. Cassie is coordinating Mathcounts, E-week, our Spring Picnic and Ethics Seminar. Please take time to thank her for taking on so much work.

Finally, please thank Major John Baker, P.E. of the 36th Engineer Brigade for taking time out of his busy schedule to come and present Rebuilding Infrastructure in Southwest Asia this coming Thursday. See you then.

Derek Johnson, E.I.T.

TSPE Central Texas Chapter President

MATHCOUNTS

The Problems

Title: Back Home At Last

Date: September 28, 2009

Loggerhead Sea Turtle General info:

Size: Typically 2.5 to 3.5 feet in carapace length (73-107 cm).

Weight: Adult weigh up to 350 pounds (159 kg).

Diet: Primarily carnivorous and feed mostly on shellfish that live on the bottom of the ocean. They eat horseshoe crabs, clams, mussels, and other invertebrates. Their powerful jaw muscles help them to easily crush the shellfish.

Habitat: Prefer to feed in coastal bays and estuaries, as well as in the shallow water along the continental shelves of the Atlantic, Pacific and Indian Oceans.

Nesting: Nest at intervals of 2, 3, or more years. They lay 4 to 7 nests per season, approximately 12 to 14 days apart. Lays average of between 100 to 126 eggs in each nest. Eggs incubate for about 60 days.

Status: U.S. - Listed as Threatened (likely to become endangered, in danger of extinction, within the foreseeable future) under the U.S. Federal Endangered Species Act.

Last weekend (September 19) the National Aquarium in Baltimore released a Loggerhead Sea Turtle that had been in their care for over a year. The turtle was back home at last! When the turtle was rescued it couldn't swim or dive properly (both skills are needed for catching food). Part of the reason for his impairment was the 10 pounds of hitchhiking barnacles, mollusks, and sea grass that had attached themselves to the turtles shell. Once the 10 pounds of "hitchhikers" were removed they found the turtle was severely underweight! Weighing only 64 pounds with a clean shell, what percent of his weight at capture was due to the "hitchhikers"? Express your answer to the nearest tenth.

Once the turtle's shell was cleaned off he was able to swim and dive properly which allowed him to catch food and enabled him to reach a healthy weight. Upon release, the turtle weighed 90 pounds, which is an ideal weight for the turtle!! By what percent did the turtle's weight (without the hitchhikers) increase while in rehabilitation? Express your answer to the nearest thousandth.

To track where the turtle goes and how he is doing after his release, researchers attached a tracking device to his shell that will naturally fall off after a while. From the morning of September 19, 2009 to the morning of September 24, 2009, the turtle had swum 76.4 miles. If the turtle slept 10 hours each day, what was his average swimming speed in miles per hour during the times in which he was awake? Express your answer as a decimal to the nearest hundredth.

The Solutions

September 24 - September 19 = 5 days (24 - 19) = 5 days
 hours $76.4/70 = 1.09$ miles per hour

$((90 - 64)/64)(100) = 40.625\%$

$(10/(10 + 64))(100) = 13.5\%$, to the nearest tenth

Date: September 28, 2009

Title: Back Home At Last

MATHCOUNTS®

Call for Speakers!

If you or someone you know would like to be a speaker at a future TSPE meeting, please contact Cassi Kohel, E.I.T. at 254-714-1402.

NEWSLETTER SUGGESTIONS

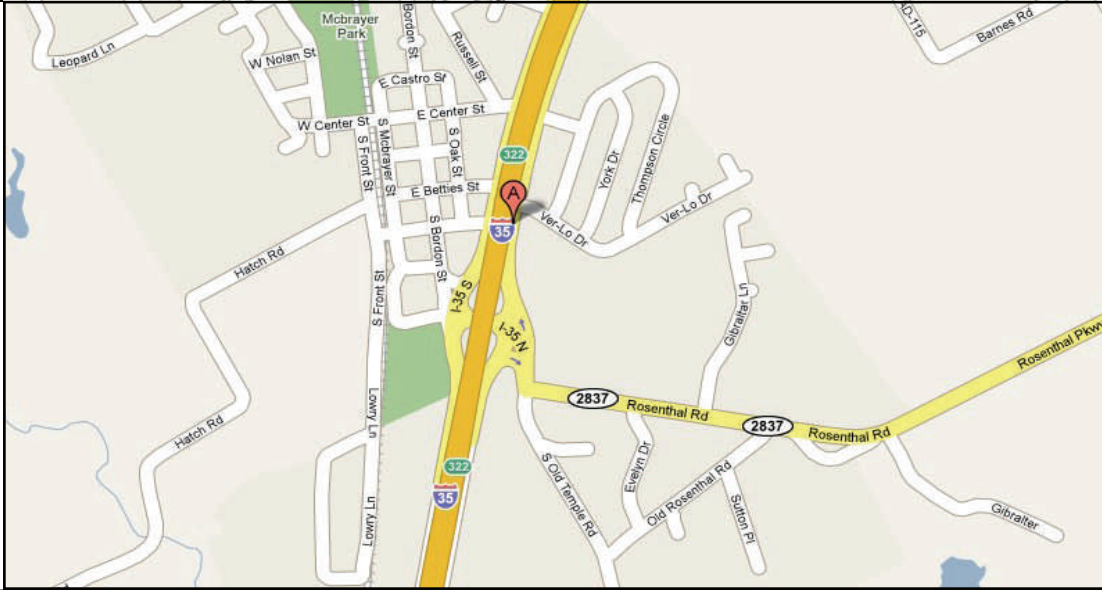
If you have any comments or suggestions for the upcoming newsletters, please contact David Neumann at the following:

phone: (254) 714-1402

e-mail: dneumann@walkerpartners.com

Please note that hard copies of the newsletter are no longer being mailed to those on our email list. If you are not receiving the newsletter electronically please update your email address at the next meeting or by contacting David Neumann.

OCTOBER MEETING LOCATION



This Meet-

ing's Speaker:

Major John Baker, P.E. of
the 36th Engineer Brigade at Ft. Hood, TX

Presentation Topic: Rebuilding Infrastructure in Southwest
Asia (Iraq/Afghanistan)

Thursday, October 15 @ 12:00 Noon

Raymond's Southern Kitchen, Lorena, Texas.

\$12.00

Finance Report

As of October, 2009

By Ray Hoare

Checking Account	\$1,637.32
Time Deposit (1 CD)	\$2,202.10
Scholarship Account	<u>\$70.00</u>

Total **\$3,909.42**

Did you know...from <http://live.asce.org/hh/index.mxml>

Henri Philibert Gaspard Darcy (1803 - 1858):

If ever there was a civil engineer who embodied the concept of public service, it was Henri Darcy. The favorite son of Dijon, France developed a clean water system for the city 20 years before Paris had a similar service. He also engineered a solution to overcome geographical obstacles that permitted the Paris-Lyon railway to pass via Dijon. He remained a civil servant throughout the French political upheavals of 1831 and 1848 and dutifully worked for the betterment of France regardless of the government in place.

Henri Darcy was born 10 June 1803 in Dijon, France. Upon graduating in 1826 with a degree in civil engineering, Darcy was assigned by the Corps to a position in Dijon where he studied the feasibility of a public water supply to the city. In 1834 the young engineer published a detailed plan for a 13-kilometer underground aqueduct, which provided water to the city's hospitals, main buildings, and 128 fountains, each spaced 100 meters apart. The project was completed in September 1840 and substantially raised the living standard of Dijon's citizens. Darcy was showered with recognition, including the Legion of Merit.

That same year Darcy was appointed Chief Engineer for the Department of Cote d'Or. His engineering acumen was called upon again when Dijon was bypassed in the proposed railway line between Paris and Lyon because of the geographical obstacles presented by the mountains separating the Seine and Rhone valleys. After months of surveying, Darcy proposed that the mountains be penetrated with an unprecedented 4-kilometer tunnel. Darcy had worked with a geologist to determine the feasibility of the tunnel, and construction began in 1845.

In 1855, he began his celebrated sand column experiments. The results were included in Appendix D in his 1856 publication *Les Fontaines Publiques de la Ville de Dijon* which described Darcy's Law. The law defines the generalized relationship for flow in a porous media. His 1857 publication *Recherches Expérimentales Relatives au Mouvement de l'eau Dans les Tuyaux* explored the movement of water in pipes and was the first work to discuss the existence of boundary layers in fluid flow, captured in the Darcy-Weinbach equation.



**Central Texas Chapter of the Texas Society of
Professional Engineers**

c/o Walker Partners, LLC
Attn: David Neumann, P.E.
600 Austin Ave., Suite 20
Waco, TX 76701

ADDRESS CORRECTION REQUESTED

SCHEDULE OF MEETINGS

- **October 15, 2009**
Major John Baker, P.E.
36th Engineer Brigade at Ft. Hood, TX
Rebuilding Infrastructure in Southwest Asia (Iraq/
Afghanistan)
- **November 19, 2009**
Mr. Sean Van Delist
USGBC Central Texas-Balcones Chapter Board Member
LEED Program
- **December 17, 2009**
Christmas Party w/ ASCE
- **January 21, 2010**
Jennifer McEwan
TSPE Legislative & Government Affairs Director
Grassroots Legislation
- **February 18, 2010**
E-week Banquet
- **March 18, 2010**
Pat McLaughlin
McLaughlin Brunson Insurance Agency
Risk Management
- **April 15, 2010**
Ethics Seminar Panel Discussion
- **May 20, 2010**
Spring Picnic

2009-2010 Officers and Directors:

President: Derek Johnson, E.I.T.
djohnson@kleinfelder.com

President-Elect: Cassi Kohel, E.I.T.
ckohel@walkerpartners.com

Vice-President: David Neumann, P.E.
dneumann@walkerpartners.com

Secretary/Treasurer: Ray Hoare, P.E.
rhoare@kleinfelder.com

Director Place 1: Scott Langerman, P.E.

Director Place 2: John Simcik, P.E..

Director Place 3: Tommy Valle, P.E.

Director Place 4: Ryan Virden, P.E.

State Director: Jim Winton, P.E.

Past President: Ginger Tolbert, P.E.

Math Counts: Trae Sutton, P.E.