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Sharing of environmental expertise encouraged

By **RICHARD GOLDSMITH**
Environmental Affairs Division

One of the recommendations produced by the Report on District Operation Review completed in January 1995 was that districts should share environmental personnel.

While recognizing that such sharing is already going on, the Environmental Affairs Division (ENV) wants to encourage more use of personnel across district lines.

The District Operations Review Task Force, chaired by Pharr District Engineer

Amadeo Saenz, spent about five months examining ways to streamline the department. Expected benefits from sharing environmental personnel across district lines and statewide were that it would:

- Make better use of personnel.
- Promote exchange of ideas.
- Produce a cost benefit.
- Provide uniformity statewide.
- Expand TxDOT capabilities.

The report recommended that the practice begin immediately. Concerns that the

task force foresaw were that it could increase travel, would require planning and scheduling and that such scheduling might cause delays.

ENV Division Director Dianna Noble says the task force recommendations complement the Continuous Improvement (CI) process designed to move some environmental coordination from the division to the districts. Under the CI effort, agreements between each

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TxDOT aids with *La Belle* funding

By **JIM DOBBINS**

Environmental Affairs Division

17th century Texas history has been uncovered from the seabed with the help of TxDOT.

The Statewide Transportation Enhancement Programs provided the Texas Historical Commission (THC) with a total of \$580,016 for its successful search and recovery of *La Belle*, one of French explorer Rene Robert Cavelier, Sieur de la Salle's ships. The ship sank during a January 1686 storm

in Matagorda

Bay while crew members were busy enjoying the ship's selection of wines.

La Salle is probably best known for exploring from 1671 to 1681 the Great Lakes and Midwest regions of what became the United States.

La Salle departed France on August 1, 1684, with 300 soldiers and

settlers aboard the ships *L'Aimable*, *Le Joly*, *Saint-Francois* and *La Belle*.

Spanish pirates captured *Saint-Francois* around September 24, 1684, near present day Dominican Republic. The three remaining vessels made landfall on the Texas coast on January 1, 1685.

L'Aimable ran aground and was lost on February 20, 1685,

somewhere on the Texas coast. *Le Joly* returned to France on March 12, 1685. This left *La Belle* as La Salle's last link with France, which was severed when the vessel sank the following January. The colony of Fort St. Louis on Garcitas Creek at the head of Lavaca Bay was established in

April 1685.

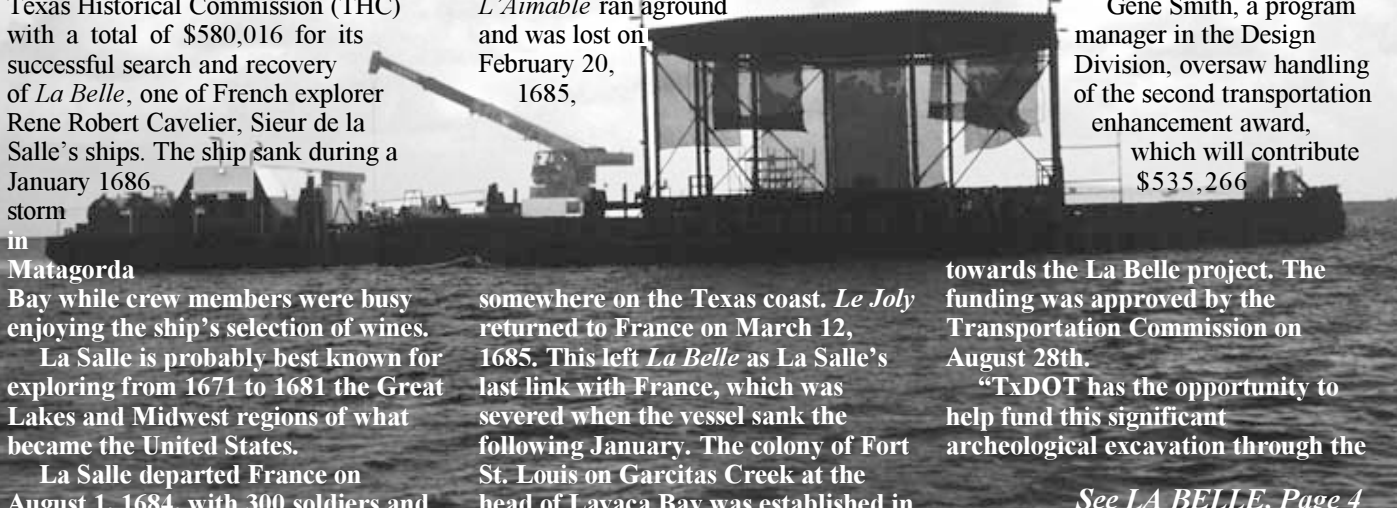
The wreck of the wooden 50-60 ton sailing vessel, a gift to La Salle by King Louis XIV, was located by THC in July 1995 with the help of \$44,750 from the first round of TxDOT's Statewide Transportation Enhancement Program.

Gene Smith, a program manager in the Design Division, oversaw handling of the second transportation enhancement award, which will contribute \$535,266

towards the *La Belle* project. The funding was approved by the Transportation Commission on August 28th.

"TxDOT has the opportunity to help fund this significant archeological excavation through the

See LA BELLE, Page 4



Wetlands keep Tyler's Tullos hopping

By RICHARD GOLDSMITH
Environmental Affairs Division

Jay Tullos is a forester who is now knee-deep in other natural resource issues as well.

Tullos for three years has been the environmental coordinator for the Tyler District. The job includes a little of everything that can become an environmental issue for a transportation project. But Tullos says that wetlands are usually the most complex environmental issue for project clearance in his geographic area.

"We have a lot of wetlands in this area. A lot of areas are defined as wetlands that don't look it," he said.

Tyler's environmental office also includes environmental specialists Lance Marshall and Robert Hall.

"Each one of us have different backgrounds in the natural sciences that complement one another and we work well together to solve most any problem that may arise in the environmental arena. I simply could not effectively do my job without these guys," says Tullos.

Tullos earned a degree in forestry from Stephen F. Austin University in 1990. "Originally I wanted to work for industry but that fell through. Jobs with industry are hard to come by."

For the first year out of college he worked for several private forestry consultants who assist landowners on how to manage their timber. Then Tullos landed a job with the Texas Forest Service. For about a year he was part of the Forest Service's Best Management Practices Program in Southeast Texas. That involved monitoring the impact on water quality from logging and other silvicultural (the care and cultivation of forests) practices across all land ownership classes, large to small amounts of acreage. The program examined issues of non-point source pollution related to normal forestry practices.

"We were gathering information for the EPA. They were looking at whether we need to regulate this the way that wetlands are regulated," he said.

During his second year with the Forest Service, Tullos was based in Jasper, where he is from, as a district forester. That meant assisting private landowners on timber management practices, forest pest management and reforestation, and also involved fighting forest fires within his district.



Photo by Lance Marshall/Tyler

Jim Tullos maps out a wetland in the field for a wetland delineation.

"I was looking at other opportunities within my field and I saw the job description for an environmental specialist for TxDOT in Tyler and it looked very interesting," he says. And it didn't hurt his wife's feelings because she is from Tyler. Lora Beth loved the idea of being able to move back home. Now he draws on all the other disciplines that were part of his college studies – silviculture, dendrology, watershed management, wildlife management, entomology, soil science, surveying – and then some.

"That's what I like about this job. You're dealing with all these different things. We have a diverse pool of issues in all our work," he said.

Those issues include wetlands, upland habitat, cultural resources, noise, environmental justice, air quality, hazardous materials, endangered species. But, Tullos says, it is wetlands issues that keeps the Tyler District's environmental staff busy. "From the most complex to the simplest project, that probably takes the most time," he said. "We try to get in early on a project to avoid problems."

Tullos says most of the engineers and designers in the Tyler district are positive about TxDOT's environmental obligations. "Everybody is pretty much on board," he said.

For instance, the alignment of State Highway 57 was moved to avoid a wetland. And Tyler was part of the four-district team and ENV that put together the huge Anderson Tract Mitigation Project, a 2,243-acre wetland along the

Sabine River that serves as a mitigation project for transportation projects in the four participating districts.

Problems most often crop up on projects to improve an existing roadway. In those cases the design may be years old, dating from the original project when the right of way for widening may also have been purchased. "We run into problems there because the way it (a project) was designed 10 years ago, it may go through some

sensitive areas that were not at issue at the time," he said.

Increasingly, the district also mitigates for impacts to wetlands and upland habitat. It recently planted seven acres of bottomland hardwoods at the Richland Creek Wildlife Management Area as mitigation for two projects, and has carried out on-site tree plantings at several bridge sites.

The district has designated "non-mow" areas on some portions of the Interstate 20 right of way. "We propose to use those areas as upland (forested areas that are not wetlands) mitigation. We've got trees coming back there on their own that, if left alone, will evolve through time into forest ecosystems similar to what we are impacting."

This will serve as mitigation, conserve maintenance dollars, and tree-planting dollars as well, he said.

As you might guess, Tullos likes the outdoors and his hobbies include hunting and fishing.

"I don't get a chance to do much of that anymore since I had kids and I moved up here. In fact I called a buddy of mine back home to set up a hunting trip and I told him in passing that I was going to try golf. He said, 'What have those people in Tyler done to you, are you going crazy?'" Other than that, he says, "I just like to spend time with my family."

He has two daughters, Kelsey, 4 and Rachel, 3.

Remains of Refugio mission left undisturbed by U.S. 77 widening

By **JIM DOBBINS**

Environmental Affairs Division

Thanks to the redesign of a highway improvement project, an important archeological site in Refugio will be left undisturbed.

A plan to improve U.S. 77 by adding a turn lane and storm sewers could have meant a costly archeological excavation at the site of Nuestra Senora del Refugio mission, the last Spanish mission built in Texas. The mission, built in 1795 to minister to local Indians and promote Spanish influence in the area, is eligible for the National Register of Historic Places. The site was the scene of the 1836 Texas Revolution Battle of Refugio, a defeat of the Texian forces by Yucatecan soldiers under the command of General Jose Urrea.

U.S. 77 bisects the mission site because the highway follows the path of the historic Spanish road, which was straddled by the mission compound. The compound contained the church, Franciscan monastery, grain warehouse, shops, kiln and other buildings needed for the self-sufficiency of the community. A cemetery containing the graves of approximately 25

Karankawa Catholic converts who lived around the settlement and about 14 Mexican soldiers killed in the local battle would have been threatened by the project. Had storm sewers been laid and the road widened as originally designed, many of these graves would have been moved.



Photo by John Clark/ENV

Excavation of the Nuestra Senora del Refugio Mission reveals brick floors and foundations of walls, sometimes with red-painted plaster along their base. U.S. 77 is in the background.

The Franciscan monks abandoned the mission in the late 1820s. Irish settlers moved into the area in the 1830s and demolished the original church to make way for one of their own.

John Clark, the ENV historical archeologist who worked on the project, explained how the cemetery was discovered.

"Father William Oberste, the Catholic priest at a nearby church in the 1930s, did some research on the old mission in 1935-1936, and discovered the cemetery, which was then unmarked. Once the mission site was noted during our project archeological survey, the work of Father Oberste quickly came to light. This was noted early enough that a change to the project plans did not present a major problem. The cooperation we received from district staff made our job at ENV much easier," Clark said.

Corpus Christi District Assistant Area Engineer Bill Reitman said design changes are under way. "We don't want to disturb the site, so the storm sewers will be routed down a nearby side street. Because we don't want to do any excavating (to protect the site), the road bed will be built up, not down, as in many projects, so no digging will be required."

A March 1998 letting date for the project is predicted.

Local historical societies are currently excavating portions of the mission site.

ENV's Jesus Gonzalez now a real lifesaver

By **EDITH JAURRIETA**

Environmental Affairs Division

Jesus Gonzalez, better known as Chuy, is the indispensable staffer that every office seems to have. Around ENV, he's the guy who knows how to navigate the bureaucracy to get a purchase order, who runs the library and lab for the archeologists, and who can requisition a new piece of office furniture and then move it for you. He has always seemed like a true lifesaver and now he really is.

On Sunday, Aug. 4th, Chuy went to Lake Travis looking for some friends. While walking along the lakeshore in the Mansfield Dam Recreation Area, he heard someone yelling for help. Chuy noticed arms frantically waving above the water so he took his shoes off, jumped into the lake and swam toward the individual. A young male, in his mid-20s, was drowning. Chuy dragged him safely to shore. Another bystander also jumped in to help Chuy pull the victim out.

While setting foot on shore, though, Chuy stepped on a broken bottle and cut his foot. He walked around ENV with a small limp for about a week until his cut healed.

So, when it comes to counting on someone who will fix broken equipment, help excavate archeological test sites or keep a stranger from drowning, Chuy is definitely a lifesaver! (He's also modest and tried to talk us out of running this story.)

La Belle: TxDOT funds for conservation of artifacts

Continued from Page 1

use of Federal Highway Administration funds – a truly once in a lifetime opportunity,” Smith said.

The recovery of *La Belle* will cost an estimated \$4 million. This sum has been contributed by a variety of public and private entities.

“The latest funding from TxDOT will be used for the conservation of artifacts from *La Belle*,” said J. “Coz” Cozzi, THC assistant project director.

The conservation of artifacts from the shipwreck is expected to take between two and five years to complete. These artifacts will eventually comprise a major traveling museum exhibition.

Contemporary Spanish accounts described the wreck of *La Belle* as four leagues (10.4 miles) from the mouth of San Bernardo (now Matagorda) Bay, aground “a musket shot’s distance off the coast” (Matagorda Peninsula), with the distinctive French fleur de lis visible on the vessel’s stern. Spain held particular interest in La Salle’s activities in Texas as Spain claimed the area as part of its North American territory.

Finds during the summer of 1995, including an 800-pound bronze cannon decorated with leaping dolphins and the crest of the Count of Vermandois, musket balls, pottery and bronze hawk bells led THC to undertake a more ambitious excavation of the shipwreck. In August, THC finished construction of a cofferdam, a watertight structure used to hold water out of the wreck area, which has been pumped dry, and began to exhume remains of *La Belle*. The cofferdam was employed to allow archeologists to use dry land excavation techniques, and to overcome the poor underwater visibility encountered in Matagorda Bay. The cofferdam is the first one used in this hemisphere to excavate a shipwreck.

The cofferdam consists of two concentric, rectangular walls surrounding the shipwreck. The outer wall dimensions are 148 by 118 feet; the inner wall is 82 by 52 feet, and is covered with a roof to protect *La Belle* from the weather. The walls consist of 3/8-inch thick steel plates, 3-foot wide and 60-foot long, assembled in an interlocking pattern. Three pumps keep the water in check that seeps into the enclosure. Each of the metal sheets was driven 41 feet into the bed of Matagorda Bay. The area between the outer and inner walls was filled in and a roadway built to



Photo by Jim Dobbins/ENV

Texas Historical Commission workers excavate *La Belle* within a circular coffer dam built around the site, which otherwise would be 12 feet under the waters of Matagorda Bay. The coffer dam (shown on page 1) allows the use of dry land archeological techniques .

allow a mobile crane to operate. A barge moored to the cofferdam contains an office and outdoor tables for sifting sand through a series of four increasingly smaller mesh screens to locate small artifacts, and to sort and tag items found. The public can view the excavation from the southeast portion of the cofferdam.

The remains of *La Belle* are believed to cover an area approximately 15 by 50 feet. Much of the ship's hull is gone – a victim of bacteria, marine worms and storms. What remains of the ship appears to be the bottom or side of the vessel’s hull that was buried in the sand and mud of Matagorda Bay.

Since the cofferdam’s completion, finds at the *La Belle* site have included a sword handle; blue, amber and black beads intended for trade with the Indians; barrel remnants that held all the expedition’s supplies; lead musket balls; a pewter candlestick holder; ballast; a piece of leather, possibly from clothing or a wineskin; an encrusted iron object that may contain either a buckle or chain links; and timbers from the ship’s hull.

However, not all the finds at the excavation site are so intriguing.

“While sifting through some sediment a few days into the project, I found a 1992

quarter,” said THC archeologist Amy Mitchell.

“The estimated conclusion date of the excavation is expected to be sometime in November, as weather conditions normally deteriorate about then. The cofferdam itself is scheduled to be dismantled by January 1997,” said THC project director J. Barto Arnold III.

What became of La Salle and Fort St. Louis? When La Salle left for Illinois by land on January 12, 1687, to seek assistance for his settlement, he took 17 men with him, leaving only 20 people at the fort – disease and hostile natives having claimed the rest of the settlers. La Salle died at the hands of his own men on March 20, 1687, while still in present-day Texas. An attack by Indians in January 1688 wiped out the settlement. A few children were taken captive and later rescued by the Spanish. A handful of survivors – including Henri Joutel, who chronicled the expedition – made it on foot to Canada.

Information gleaned from the wreck will greatly enhance knowledge of French activities in Texas, and provide a window to the past.

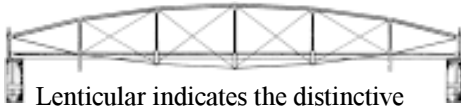
Texas graced by rare lenticular bridges

By HENRY GREGORY QUINN
Environmental Affairs Division

They are everywhere, so we take them for granted, passing over or under without a thought. Texas, with its large number of major rivers and a vast number of creeks, streams and washes that feed those rivers, has always needed bridges. Concrete, stone, wood, steel or iron, new and old – Texas has more bridges than any other state.

Every year thousands of tourists in San Antonio unknowingly pass by four of the rarest structures in the state. Texas is home to the only existing lenticular truss bridges west of the Mississippi River, and there are only eight of these bridges left in Texas.

The most accessible are in San Antonio, three on the River Walk and one in Brackenridge Park. Two are south of Austin in Caldwell County: one on Soda Springs Road outside of Luling and the other at Kelley's Crossing, County Road 186, near Lockhart. The Yancy Road Bridge is in Frio County southwest of San Antonio. And one has been removed from Coryell County, west of Gatesville, to be placed in the Salado Historic District in the near future.



Lenticular indicates the distinctive shape of the bridge as seen from the side. The curved upper and lower chords form the shape of a convex lens. The top chord supports the weight of the bridge and anything crossing it. This weight puts the top chord under a compression load. Like a cable, the bottom chord is under tension to counteract the compression load on the arched top chord. The balance between compression and tension stabilizes the structural integrity of the bridge, creating strength.

The lenticular design originated in France in the mid-19th century. William O. Douglas patented an American version in 1878. Using his patented design, the Berlin Iron Bridge Company of East Berlin, Connecticut, built all the lenticular bridges in the United States except for one: the Smithfield Street Bridge in Pittsburgh, Pennsylvania, designed by the German engineer Gustav Lindenthal.

Nationwide several of these bridges, including the four in San Antonio, still carry traffic after more than 100 years of service. Bridge historian Victor Darnell



Photo by Henry Gregory Quinn/ENV

A boatload of tourists passes beneath the Presa Street Bridge on San Antonio's River Walk.

wrote in *The Journal of the Society for Industrial Archeology*, 1979, "Several factors contribute to this long life. They start with a realistic live load and the proper design to support it. Most were built of wrought iron, a material that is quite corrosion resistant."

The unassembled bridge kit was freighted to the train depot nearest the building site, then transported by wagon. Often the company representative supervised construction by a locally hired crew. The bridges are held together by pins that allowed easy construction in the field. During construction the bridge was held in place by temporary wooden bracing built at the site. The crew must have raced the weather since the bridge was not self-supporting until the last pin was secured. Flooding from a storm could drop the whole job into the water.

In 1889 the company issued an illustrated catalog that listed William Payson from Edna, Texas, as the southwestern agent for the company. The next year Payson moved to San Antonio and placed a full-page advertisement in a statewide directory. Few details are known about Payson, including whether he was from Texas or the company sent him here as an agent.

One sure thing about him was his remarkable ability to sell. He sold numerous bridges in South Central Texas. Despite the selling point that the lenticular design used less materials and, therefore, kept shipping costs low, it is a sign of exceptional selling to convince customers to purchase bridges from as far away as

Connecticut.

San Antonio's River Walk, a worldwide popular tourist attraction, passes under three lenticular bridges, those at Augusta, South Presa and Crockett streets. The Augusta and South Presa bridges were built in 1890, with the Crockett Street bridge built the following year.

A lenticular was also built in 1890 at Saint Mary's Street on what is now the River Walk, but later replaced by a concrete structure. The original Saint Mary's lenticular bridge was moved to Brackenridge Park, near the River Walk.

Since most metal bridges are on seldom-used county roads, it is fortunate that these rare bridges are in such a high visibility area. The city of San Antonio does an excellent job maintaining these historic treasures for everyone to enjoy.

Preserving the past while insuring public safety is a concern at state and national levels. The Federal Transportation Act of 1987 directed states to take additional steps to inventory and preserve historic bridges. Both the Federal Highway Administration and TxDOT work with local governments to rehabilitate old bridges for continued vehicular use. Some historic bridges are left in place as pedestrian walkways next to new bridges. In other cases, historic bridges have been relocated to parks, golf courses and other locations used for pedestrian and bicycle traffic. Such federal and state programs show there can be a balance between progress and preservation that leaves a richer heritage for ourselves and future generations.

Project management not always an ENVi-able job

By **JIM DOBBINS**
Environmental Affairs Division

Project management is an integral part of all TxDOT construction projects. Coordinating environmental, historic and archeological site assessments, as well as public involvement, is the job of ENV's Project Management Section. This section works with district and ENV personnel to insure that each project complies with applicable federal and state guidelines. Dealing with obstacles on each project is inevitable. A project in Bryan District is proving to be a case study in troubleshooting for ENV and district staff.

Improvements to a 2.2-mile stretch of U.S. 287 in northern Freestone County has been creating difficulties since July 1995. This project, estimated to cost \$8.2 million, will raise the road bed above the 100-year flood level and replace a bridge over Yonker Pin Slough. This section of roadway has been closed due to flooding many times over the past several years. 22.24 acres of additional right of way will be needed to accommodate the wider slopes from the raised highway.

Julie Lane, a project manager with ENV said "What is so unusual about this project is the multiple environmental concerns associated with it."

Hurdles to be cleared before this project can be let, estimated to be June 1997, include:

- Wetland Mitigation. "All right of way is considered wetlands, and the area is a bird refuge," said Bryan District Environmental Coordinator Mike Carpenter. This land must be compensated with a similar area in TxDOT's mitigation bank.
- Right of Way controlled by a government agencies. Two segments of right of way are under the stewardship of the Tarrant County Water Control District and the Richland Creek Wildlife Management Area. Dealings with the water district can have political implications. The wildlife management area must be compensated for and can be very difficult to acquire right of way from.
- Abandoned underground petroleum storage tanks that must be avoided.
- Archeological sites. "There are many recorded prehistoric archeological sites in this area," said ENV archeologist Daymond Crawford. "These sites must be avoided or excavated."

One major hurdle that has been cleared is the historic structure survey, which found that no eligible buildings or bridges would be impacted.

Another unusual aspect of the project is that funding will come not only from the Bryan District budget, but also from the budgets of the Dallas and Tyler districts, as the road is an important route into each area.

ENV will continue to coordinate with the district and state and federal resource agencies to resolve the remaining issues. Once completed, a Finding of No Significant Impact (FONSI) report will be issued, giving the project the environmental go ahead.

While project management is an integral part of all TxDOT construction projects, it is not a job to be ENVi-ied!

Study aimed at border air quality

By **BILL KNOWLES**
Environmental Affairs Division

ENV in September awarded a research project to evaluate the impact of Mexican vehicular traffic on air quality in Texas border towns. The project is called "Highway and Vehicle Pollutant Levels Along Texas Border Towns."

The Texas Transportation Institute represented by Dr. George Dresser will conduct the research. TxDOT's Laredo District and the Texas Natural Resource Conservation Commission (TNRCC) will supply resources and expertise. Project advisors are the Laredo District's Melissa Montemayor, Wayne Young of the TNRCC and Mike Shearer of the ENV Pollution Prevention and Abatement Section's Air and Noise Branch. Project Director is Bill Knowles, ENV's air quality specialist, also of that branch.

The \$100,000 project is scheduled to last one year, corresponding to fiscal '97. The research is meant to enhance understanding of the impacts of the North American Free Trade Agreement (NAFTA) on border communities with extensive growth in traffic and related effects on air quality.

The research has four primary objectives:

- To assess the impact of vehicular traffic on on-road mobile source emissions for El Paso, Webb, Hidalgo and Cameron counties.
- To assess the contribution of Mexican vehicular traffic as part of the total of such emissions within the four counties.
- To identify and evaluate potential transportation-related mitigation measures to reduce the impact of emissions associated with Mexican vehicles.
- To assess the relationship between on-road mobile source emissions and possible violations of the National Ambient Air Quality Standards.

This project will help quantify on-road mobile source emissions within the four most populated border counties and evaluate the contribution of Mexican vehicles to overall vehicle emission levels. Improved information will be provided on the impacts of delay and idling at international bridges. Finally, information will be provided to help develop strategies to reduce or limit growth of on-road mobile source emissions through transportation projects and programs. Data collection will be conducted on the international bridges and roadways within the four selected counties.

Research questions include:

- What is the overall level of on-road mobile source emissions in the most active border counties?
- What do Mexican vehicles contribute to these levels?
- What is known about the emission characteristics of Mexican vehicles relative to vehicles manufactured to U.S. EPA emission control standards?
- What are the general emission levels associated with delay and idling that occur at the most active international bridges?
- What is the general relationship between vehicle emissions inventories and the possibility of violations of the National Ambient Air Quality Standards (NAAQS)?
- And finally, what types of transportation projects or programs may be appropriate to assist in the mitigation of vehicle-related emissions in the border counties?

ENV loses Weaver, gains three new staffers

The Environmental Affairs Division lost one veteran archeologist in August and has gained three new staff members in three different sections.

Bill Weaver, an archeologist responsible for surveys and testing in the Abilene, Amarillo and San Angelo districts, left in mid-August to have the time to build himself a house, among

other projects. Weaver was with TxDOT for four-and-a-half years.

Jenise Walton joined the **Project Management Section** Aug. 16. She is responsible for coordinating projects in the Amarillo, Bryan, Childress and Paris districts.

Before joining TxDOT, Walton was with the city of San Marcos for three-and-

a-half years as a planner enforcing subdivision and zoning regulations, among other duties. She was also a representative to the San Marcos Historic Preservation Commission. She graduated from Southwest Texas State University in 1991 with a bachelor's degree in geography with a specialization in urban planning. After a one-year stint working at Sam Houston State University in Huntsville, she and her husband returned to San Marcos where she took the city planning job. She enjoys hiking and camping. Walton can be reached at 512-416-2763.

Susie Watson joined the **Cultural Resources Management Section** Aug. 12 as its new administrative support person.

Watson is a 17-year veteran of state service. She came to TxDOT after two years at the Department of Protective and Regulatory Services in its Office of General Counsel for Child Protective Services. Before that she was with the State Comptrollers Office for nine years, and prior to that for six years with the Bureau of Labor Statistics, now absorbed into other agencies. Watson attends Austin Community College and plans to transfer later to the University of Texas. She enjoys swimming and talking about her grandson, Blake. Watson's phone number is 512-416-2617.

Kristie Denton joined the **Natural Resources Management Section's Water Quality Resources Branch** July 29. She is responsible for following up on environmental commitments made as part of a project to make sure those commitments are not overlooked in design and construction.

Denton graduated from Texas Tech University in 1994 with a degree in engineering physics with a specialty in environmental engineering. She joined the Lubbock District for just more than a year, working on environmental assessments and hydraulic designs. Before rejoining TxDOT in July, Denton spent about six months with an Austin consulting firm, Consort, Inc., where she designed water and wastewater lines and ponds for detention and filtration. Denton's hobby is drag racing. She is partners with her husband and father in a short-wheelbase replica of a 1927 Model T Roadster in the "Super Gas" Class of drag racing. The car is capable of a 9-second quarter mile. The family mostly races at the Amarillo Dragway and they take turns at the wheel. Denton can be reached at 512-416-2607.



BrainBender

by CRM's Steve Sadowsky



Historic Architecture

Find the architectural terms listed in the column at right in the puzzle below. Terms may be horizontal, vertical, diagonal, and in reverse order. Letters may be used more than once. Time: about 10 minutes. Good Luck! (Answers on Page 8.)

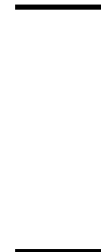
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BASE
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CABIN
CAPITAL
COLUMN
CORINTHIAN
COTTAGE
CRAFTSMAN
CUPOLA
DOGTROT
DORIC
DORMER
EASTLAKE
EGG (&) DART
EGYPTIAN
GOTHIC
GREEK
IONIC
MISSION
NEOCLASSICAL
PLINTH
PORCH
PORTICO
QUEEN ANNE
QUOIN
STYLE
TUSCAN
VERANDAH
VERNACULAR
VOLUTE



Environmental Affairs Division
125 East 11th Street
Austin, Texas 78701-2483

Address correction requested



Resources: Some districts already share

Continued from Page 1

district and ENV will spell out by task who is responsible for each part of the environmental review process and the qualifications required for each task. The goal is to have an agreement in place between ENV and each district by the end of fiscal '97.

"Sharing personnel will give districts a wider pool of expertise to draw from," Noble said.

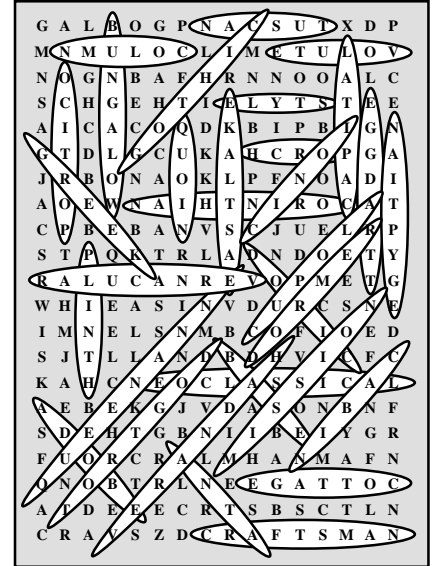
Some districts have already shared personnel in this area.

The Austin District has loaned the services of biologist Cal Newnam to both the Waco and Laredo districts. Newnam

aided Waco with an endangered species issue and is helping Laredo with the U.S. 277 project.

Tyler's Jay Tullos helped the Atlanta District two years ago with an Uplands habitat assessment.

ENV will collect the data to produce a list of all environmental personnel in the districts for distribution soon. It is hoped that such a list will encourage even more voluntary resource sharing. No district will be required to share a staff member. Such arrangements are meant to be between districts as personnel are available, and without the direct involvement of ENV.



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We welcome ideas for stories and standing features. Submit those to the above address, attention Richard Goldsmith, phone 512-416-2743 or

via GroupWise to RGOLDSMI. Deadline: Nov. 20 for the next issue.

Is ENVision going to the right person in your organization? Please contact us to correct an address or to suggest additions to the mailing list.

Division Director
Dianna F. Noble, P.E.

Deputy Division Director
Ken Bohuslav, P.E.

Communications Director
Jean Beeman

Editor Richard Goldsmith



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