ENVISION

A newsletter from TxDOT's Environmental Affairs Division

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TxDOT explores 'Context Sensitive Design'

By JIM DOBBINS
Environmental Affairs Division

A new way of designing highways is drawing rave reviews from the public and enabling TxDOT engineers and landscape architects to see their designs in a new light.

The process is called Context Sensitive Design (CSD). CSD addresses the impact of highways on the environment and communities during the planning and design phase. Promoted by the Federal Highway Administration (FHWA) and the American Association of State Highway and Transportation Officials (AASHTO), the new method of designing transportation projects is catching on across the country.

"The old method of highway designing was referred to as 'design, announce and defend,' a process where a project was designed, then presented to the public," said Mark Mathews, director of the Landscape Design Section of TxDOT's Design Division. "Instead of going through the lengthy and expensive redesigns that were necessary when the public found shortcomings in the proposed designs, CSD brings community input into the planning and design phases,ensuring that the finished product more closely fulfills the needs and desires of the community. CSD projects respond to and reflect the cultural and environmental conditions in which they occur."

Major characteristics of CSD include:

- Early and continuous public involvement.
- Designs that blend with the natural environment.
- Designs that blend with the cultural environment.
- Designs that satisfying safety, mobility and accessibility needs.

Individually, these issues are not new to TxDOT. The public involvement process traces its roots to the design and construction of the interstate system beginning in the 1950s. Depression-era roadside parks used local natural materials to blend the design with the natural environment. An early example of a project that blends with the cultural environment is Fort Worth's Lancaster Avenue bridge. Constructed in 1938-9, the bridge includes ornamental relief depictions of longhorn steer heads, reflecting the city's ties with the cattle industry. Safety, mobility and accessibility needs have continually been addressed and evolved since the department's founding in 1917.

CSD was developed and used extensively by the National Park Service from 1916 to 1942. The idea later was adapted to transportation projects in the early 1990s.

Combining the four elements provides a high probability of success – the public has input on the project and TxDOT saves money and resources by focusing on designs that are well received.

"I characterize the process for achieving CSD as having early and continuous public involvement, a multi-disciplinary team to develop the project and to identify the issues involved and to make sure those issues are understood by the team before design work begins," said Dianna Noble, director of ENV. Issues that need to be examined include transportation, community concerns, budget and environmental concerns, she said.

The Wichita Falls Overhead Project (IH 44/ US 287) illustrates the benefits of CSD.

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Engineers must lead in environmental arena

By DIANNA F. Noble, P.E.
Division Director
Environmental Affairs Division

Each February we celebrate the accomplishments of engineers and their engineering feats (National Engineers Week was Feb. 18-24). As we approach Earth Day (April 22), I find myself thinking about the responsibility of the professional engineer to the environment. Professional engineers hold paramount the safety, health and welfare of the public. It is therefore obvious that environmental considerations are fundamental to all aspects of professional engineering.

With concern about the environment and strain on environmental resources both increasing, it is essential that all engineering work be environmentally responsible. As such, the professional engineer has an obligation to equip themselves to practice in an environmentally responsible manner.

Engineers are well aware of competence requirements and the obligation to practice within that competence. Frequently, the engineer must seek expert advice, including within the area of environmental assessment and protection. The policies and procedures

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In this issue

Floods and snakes part of coordination work for San Angelo District's Fisher

By JIM DOBBINS
Environmental Affairs Division

Overseeing environmental work in a 15-county district might seem like a tall order, but it is all in a day's work for San Angelo District Environmental Coordinator Nancy Fisher.

Fisher joined TxDOT in October 1996, bringing a number of years of experience in environmental work. Prior to embarking on her TxDOT career, Fisher was an environmental specialist employed by Raytheon Support Services at the now closed Eldorado Air Base in Eldorado, and was earlier the director of the San Angelo Nature Center. Fisher earned bachelor of science and master's degrees from Angelo State University in biology, with minors in chemistry.

One of Fisher's biggest challenges has been the environmental review work on the three Phase I Trunk System projects in her district.

"The Phase I Trunk System project upgrades existing two-lane highways to four-lane divided freeways that are similar in quality to interstates," Fisher said. "We have three such projects in this district, which all include the acquisition and environmental clearance of quite a lot of new right of way."

The weather can also impact Fisher's workload.

"Edwards and Real counties have several RMs, each with several low water crossings. When there are floods, many of these crossings are damaged. Since I've been here, we have had as many as 20 bridges on a single RM under repair contracts – that requires a lot of environmental coordination!" Fisher said.

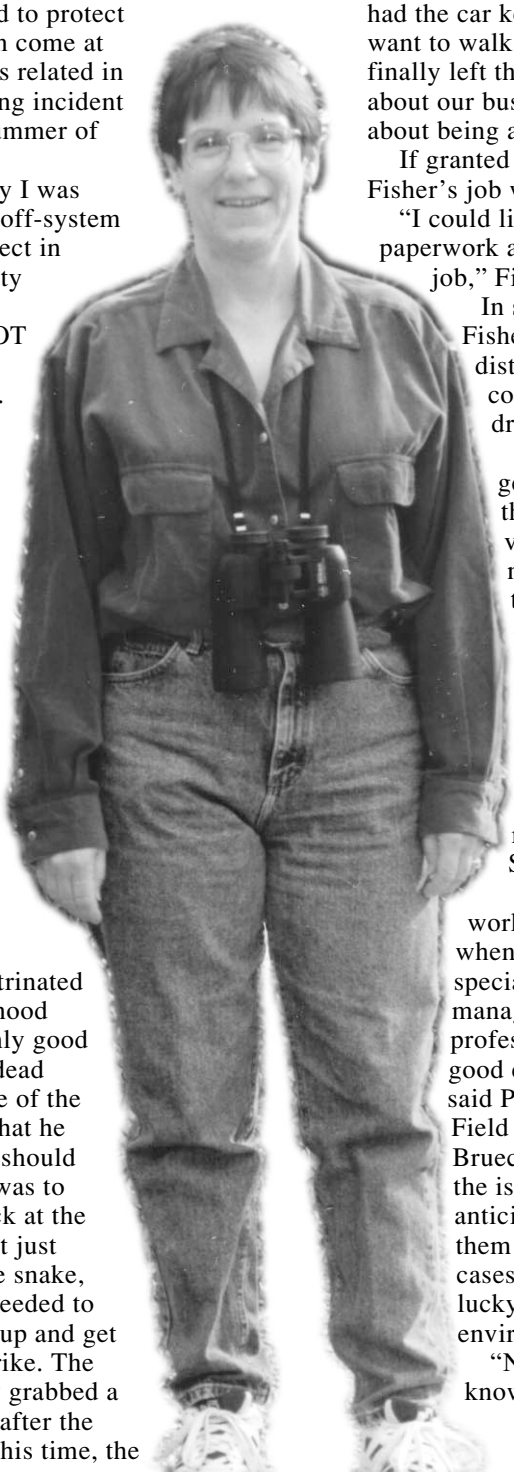
Another project that is taking up a lot of Fisher's time is the US 83 project in Real County.

"The US 83 project will widen travel lanes and add shoulders. What complicates this project is that most all of the right of way is potential habitat for two endangered birds, the Black-capped vireo and the Golden-cheeked warbler, and the endangered Tobusch fishhook cactus," Fisher said. "This project will need extensive coordination with Texas Parks and Wildlife Department and U.S. Fish and Wildlife - a lengthy process."

Fisher must also deal with two other prominent protected species found in her district, the Concho water snake and Texas poppy mallow.

The need to protect wildlife can come at any time, as related in the following incident from the summer of 1998.

"One day I was visiting an off-system bridge project in Coke County with four other TxDOT staffers," Fisher said. "We were walking down the dry bed of Paint Creek, when suddenly we came across a four-foot long rattlesnake, that was quietly sunning itself. Two of these people had been indoctrinated from childhood that 'the only good snake is a dead snake.' One of the guys did what he thought he should do, which was to throw a rock at the rattler. That just irritated the snake, which proceeded to rattle, coil-up and get ready to strike. The second guy grabbed a stick to go after the snake. By this time, the remaining two were rapidly retreating back up the creek bed, leaving me with the two would-be snake slayers. I insisted that they stop, leave the rattler alone, because snakes have a role to play in the balance of nature. Since I had the car keys and these two did not want to walk back to San Angelo, they finally left the snake alone. We went about our business and the rattler went about being a snake."



If granted one wish, what part of Fisher's job would she change?

"I could live without all the paperwork and clerical aspects of the job," Fisher said.

In spite of the detailed work, Fisher finds that life as a district environmental coordinator is not all drudgery.

"I enjoy the field work – getting outside and doing the biological surveys. I like visiting the area offices and maintenance sections to get to know the staff and help educate them about the biological issues in their area, such as endangered species habitat," Fisher said.

Since joining TxDOT, Fisher has earned a solid reputation among ENV and San Angelo District staff.

"I've had the pleasure of working with Nancy Fisher when I was a water resource specialist and now as a project manager. She is conscientious, professional and writes very good environmental documents," said Project Management Section Field Area I supervisor Tom Bruechert. "Nancy knows where the issues are in her district and anticipates problems, resolving them before they arise in most cases. San Angelo District is lucky to have Nancy as their environmental coordinator."

"Nancy is extremely knowledgeable, thorough and

See FISHER, Page 7

Yoakum meeting provides blueprint for improved local communications

By JIM DOBBINS
Environmental Affairs Division

A biennial meeting held by the Yoakum District may serve as the blueprint for improved communications and relations with elected officials throughout Texas.

Appropriately called an "Information Sharing Meeting," the first such meeting was the brain child of then District Engineer Mike Behrens and was held in 1997.

The concept behind the meeting is a simple one – establish and maintain good relations with area newly elected officials by introducing them to a variety of TxDOT programs that might interest them and benefit their constituents.

Yoakum District Public Information Officer Pearlie Bushong explains:

"Most of our newly elected public officials are somewhat familiar with the various programs that TxDOT has," Bushong said. "These Information Sharing Meetings give us the opportunity to provide additional information and answer questions. By holding the event every two years, we are able to catch most of the newly elected officials shortly after they take office."

The last meeting was held on Jan. 25 at the district headquarters and was attended by approximately 150 area mayors, county commissioners, city council members, airport managers, aids to state representatives, emergency management supervisors, and officials of the Department of Public Safety.

Topics presented included the project selection process, transportation enhancement program, on- and off-system bridge programs, public transportation, municipal maintenance agreements, speed zoning, right of way issues, traffic safety grants, traffic signals within city limits, and guidelines for banners, parades and Christmas lighting.

In addition to all the presentations by TxDOT personnel, Bob Burch from the Texas Engineering Extension Service (TEEX) at Texas A&M University provided information on free training available to city and county governments through TxDOT traffic safety funds.

Date set for award nominations

Calls for nominations for the 2001 Environmental Achievement Awards recently were sent to all TxDOT district engineers, environmental coordinators, directors of transportation planning and development, and public information officers.

The Environmental Achievement Award recognizes the best examples of projects and processes that fulfill transportation objectives while protecting and enhancing the natural and human environment. Nominations must be based on activities accomplished through proactive means, not the result of lawsuits or violations. The award is presented annually by the Environmental Affairs Division to the district whose efforts demonstrate outstanding results.

The 2000 Environmental Achievement Award was presented to the Laredo District for its bat dome culvert. Past winners include the Odessa, Waco, El Paso, Austin, Pharr, Paris and Corpus Christi Districts.

Entries must be received at the Environmental Affairs Division by 5 p.m. on Friday, May 4, 2001.

For inquiries or to receive a nomination packet, please contact Jim Dobbins at 512/416-3006, or via GroupWise.

Laredo District Engineer Luis Ramirez (back left), ENV Director Dianna Noble (back center) and Laredo District Environmental Coordinator Melisa Montemayor (back right) look on as Bat Conservation International's Brian Keeley (front left) and Mark Bloschock of the Bridge Division (front right) do the honors at the Environmental Achievement Award tree planting ceremony Dec. 5 at the Laredo District headquarters. Laredo won the 2000 Environmental Achievement Award for its Bat Dome Culvert project.

Photo by Jim Dobbins/ENV

Fort Worth rewards trip reduction efforts

By SUSAN WILLIAMS
Fort Worth District

The Fort Worth District wants its employees to help improve air quality by participating in the Trip Reduction Program. Under the program, employees are encouraged to reduce trips to their work sites and to opt for alternative compressed work schedules.

The Trip Reduction Program is part of the Travel Demand Management Program, supported by the Fort Worth Transportation Authority, Dallas Area Rapid Transit, and the North Texas Central Council of Government.

"This past summer the Fort Worth District had a record 9,513 employee trip reductions that allowed the district to be eligible for awards offered by the Fort Worth Transportation Authority. The increase in trip reductions this past year is credited to the support of our district engineer and the decision to allow compressed work schedules and to offer employee incentives," Fort Worth District Employee Transportation Coordinator Mary Hobson said.

The Transportation Authority, at its annual awards ceremony, recently honored Hobson with its Employee Transportation Coordinator of the Year 2000 award.

"Mary Hobson has been an active voice for the Transportation Demand Management Program and has made significant contributions by leading by example in efforts to reduce air pollution within the Fort Worth District," said Monique Pegues, employee trip reduction representative with the Transportation Authority.

The top 10 participants in the Fort Worth District's Trip Reduction Program were honored with prizes and a luncheon.

Garland Parchman (left) was the top individual in the Employee Trip Reduction Program. He is pictured with Fort Worth District Engineer Steve Simmons.

Photos by Susan Williams

To celebrate the award, employees who participated in the Employee Trip Reduction Program throughout the district were invited to a luncheon Nov. 15. The Transportation Authority bused employees to and from the event.

Fort Worth District Engineer Steve Simmons addressed the crowd of 135. "Celebrating your contribution as employees who have participated in the Trip Reduction Program benefits everybody's health in our region. Clean air is our future and it is the right thing to do."

Employees were recognized for reducing trips in a single occupancy vehicle, either by bus, van pool, car pool, walking or by bike this past year.

The top 10 individuals who participated this past year were: the top placing individual Garland Parchman (District Warehouse), Robbie Goolsby (District Maintenance), Gabriela Rodriquez (Signs and Pavements), Rosie Rodriquez (District Lab), Mike Riley (Central Design), Edrean Cheng (Wise County Area Office), Lance Jobe (Wise County Area Office), Paula Gwaltney (Human Resources), Chuck Humphries (District Maintenance) and Tammy Townsend-Haehn (District Traffic).

Remaley becomes new permit officer

Tom Remaley is ENV's new Permit Assistance Officer, a newly created position, as of Dec. 8. Remaley served as manager since May 1998 of the **Water Resources Management Branch (WRM)** within the **Natural Resource Management Section (NRM)**. He also has experience with the Texas Natural Resources Conservation Commission and the Lower Colorado River Authority. In his new position, Remaley will assist TxDOT districts with Section 404 permits and NPDES with an initial focus on resolving wetland permitting issues with the Corps of Engineers. He has extensive knowledge of both programs and excellent communication and negotiation skills.

Norm King was promoted Jan. 18 to manage **NRM's WRM**. King started with **WRM** in November 1999.

Dennis Nielsen, with **NRM's WRM** since June 1998, will take a position with Advanced Project Development at the Austin District on April 2.

Craig Dunning is the new project manager for **Project Management's (PM)** Field Area III as of Feb. 7. Dunning comes to ENV from the Austin District where he worked as a right of way agent. Prior to the Austin District, Dunning was with the Transportation Planning and Programming Division for five years. He will be working with the Lufkin, Tyler and Odessa Districts. Dunning has a master's degree in planning from the University of Texas at Austin and a bachelor's degree in landscape architecture from Texas Tech University.

Sean Ayala is ENV's new GIS coordinator as of Feb. 12. Ayala has an extensive background in PC hardware and software support, Windows NT administration, database administration, data networking, auto CAD, and GIS/GPS technology. Ayala gained his experience as a U.S. Marine and then with Verizon Communications. He is married and has three children.

Ronnie Ray, who joined **PM** Oct. 23 and then switched Dec. 1 to **NRM**, left Jan. 31 to take a position with the Texas Parks and Wildlife Department.

Kirsten Kahl, an archeologist who joined the **Cultural Resources Management Section (CRM)** Oct. 23, also left Jan. 31 for a job in the private sector.

Archeologist **Steve Ahr**, with **CRM** since September 1998, left March 14. He will work for Geo-Marine in Tyler.

Transportation Conformity 101

Ozone nonattainment carries extra burdens

By WAYNE YOUNG
Environmental Affairs Division

Texas has 16 counties listed as nonattainment for the one-hour ozone standard. These counties are: Harris, Brazoria, Galveston, Fort Bend, Waller, Liberty, Chambers, Montgomery, Dallas, Tarrant, Denton, Collin, El Paso, Jefferson, Orange and Hardin.

Nonattainment status carries many requirements, not the least of which is that transportation conformity determinations be made at regular intervals to demonstrate that on-road vehicle emissions will not exceed emission budgets established in state implementation plans (SIPs).

Conformity determinations are required at least once every three years, **or** within 18 months of a SIP submittal to the Environmental Protection Agency, **or** whenever projects are added or moved between fiscal years in a transportation improvement program (TIP) or metropolitan transportation plan (MTP).

Conformity determinations involve the analysis of transportation networks (not individual projects) for multiple analysis years (2000, 2007, 2015, and 2025 are the most common years used this year). Analysis years must include the current year, attainment date, final year of MTP, and intermediate years to ensure that analysis years are no more than 10 years apart.

Conformity must be below budget for all analysis years. In some areas, such as in Houston, multiple budgets may apply. Houston has a 1999 budget that they use for years between 1999 and 2007. They also have a 2007 budget that covers 2007 and all later analysis years.

A conformity lapse becomes effective when an area fails to demonstrate conformity by required dates. A lapse applies **only** to the nonattainment areas within a TxDOT district. As an example, a lapse in the Fort Worth District applies only to Tarrant County. The remaining eight counties are not affected.

The Beaumont District represents the opposite extreme. This district has Liberty and Chambers listed in the Houston nonattainment area; Jefferson, Orange, and Hardin counties listed in the Beaumont-Port Arthur nonattainment area; and Tyler, Jasper, and Newton counties listed as attainment. If the Houston nonattainment area is in a lapse, Liberty and Chambers are affected while the others are not. During a lapse in the Beaumont-Port Arthur nonattainment area, Jefferson, Orange, and Hardin are affected while the others are not.

A conformity lapse impacts TxDOT in several ways:

(1) Added capacity projects cannot proceed unless they are already under construction when the lapse occurs or FHWA has issued a Federal Project Agreement and Authorization.

(2) Federal funding cannot be used for right of way purchases on added capacity projects in affected counties unless an initial offer has been made.

(3) Federal funding cannot be used for design work on most projects in affected counties.

(4) FHWA environmental approvals cannot be issued for projects in affected counties. Environmental studies and documents can be prepared and submitted, but a final approval cannot be issued during a lapse.

During a lapse, most projects that do not add new travel lanes or are not a new location can proceed. Safety and maintenance projects can also go to construction. Projects that have received the Federal Project Agreement and Authorization from the Federal Highway Administration can also proceed to construction. Projects under construction when a lapse begins may continue but the additional stages cannot begin unless they have the Federal Project Agreement and Authorization.

A transportation conformity lapse continues until the nonattainment area can demonstrate that emissions from all analysis years are below the SIP budgets. Several strategies are available for demonstrating conformity:

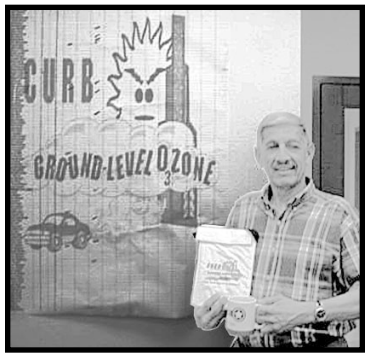
(1) Emission benefits from projects that improve air quality can be quantified and used to demonstrate conformity. For example, air quality benefits from signal retiming projects can be calculated and used to reduce emission totals.

(2) Projects can be moved between analysis years – delaying a project from 2007 to 2015 may allow the area to pass conformity.

(3) Project scopes can be changed – only the frontage roads of a proposed freeway may be planned for an analysis year. This keeps speeds and emissions lower.

(4) Some projects may be dropped altogether.

Editor's note: Young is air quality specialist for the Environmental Affairs Division.



Ricardo Sanchez of the El Paso District's Programming and Scheduling Office, poses with El Paso's Ozone Action Day Participant Poster. On Ozone Action Days in El Paso County, district public information staffers Blanca DelValle and Frank DeSantos put out an ozone quiz, or asked employees to curb ozone by bringing a sack lunch, car pooling, etc. If an employee took the quiz or participated in an activity, they were given a check mark on the poster and were given a prize. More than 166 employees took part. Sanchez was the top participant at the end of the ozone season and, along with other top participants, received an Ozone Action Day lunch sack produced by ENV.

CSD: Includes public in designing projects

(Continued from Page 1)

TxDOT engineers and landscape architects met with citizen groups, business leaders, City of Wichita Falls staff and elected officials to discuss the proposed roadway and to develop a shared vision of the design and function of the project. TxDOT bridge engineers designed an elevated roadway that complemented key architectural landmarks in the corridor. The section was elevated more than originally proposed in order to let more sunlight penetrate to the multi-use areas below. Colored textured concrete walkways were extended throughout the project for pedestrians and to lend color and texture to the business corridor. Landscaping was included to lend scale and to buffer existing land use activities under the overhead section. The project is scheduled for completion in summer 2001.

Davis Powell, now Wichita Falls District Traffic Engineer, was a design engineer on the project.

"This project had been in the mill for a long time – it has been on the books since the '60s, and some of the right of way had been purchased in the '70s. The project never really got going because the funding kept going to other projects," Powell said. "When the funding finally came, we wanted the project done right. During the plan development of the project, there was a drive to revitalize the downtown business district located a few blocks to the east of our project. We were sensitive to that aspect of the community and wanted to ensure that the project was aesthetically pleasing so that it would not be detrimental to businesses within the project limits, the historical aspects of the area, or to the nearby downtown business district. We developed some artistic impressions of what the finished project would look like to show the public and find out which one was preferred. There are railroad tracks nearby, so we were sensitive to the need to avoid or minimize making the project into another barrier. This was addressed by raising the highway and adding extra illumination to avoid the 'boxed in' feeling."

The Houston District's Green Ribbon Project, which includes elements of CSD, is winner of the 2001 Lady Bird Johnson Award from the National Arbor Day Foundation to be awarded April 28. The Green Ribbon Project sets standards for incorporating plants, lighting, architectural improvements and art into freeway designs (See Winter 1999 ENVision).

Another example of CSD at its best can be found in the Pharr District.

The Brooks County rest area on U.S. 281 south of Falfurrias was modernized and upgraded in 1997. The project provided new restrooms, picnic shelters and perimeter walls that reflect the historic architecture style of the region. Mexican brick, clay tile and large timbers were used to reflect the building materials of the border region. All pre-existing trees and most of the native vegetation was left in place. Two birding trails were added to the north and south ends of the rest area. Galvanized steel mesh tabletops and benches were specially designed for the project through an agreement with the Texas Department of Criminal Justice. These materials require no painting, are easily cleaned and minimize the effects of graffiti.

Pharr District landscape architect Stephen Walker worked on the project.

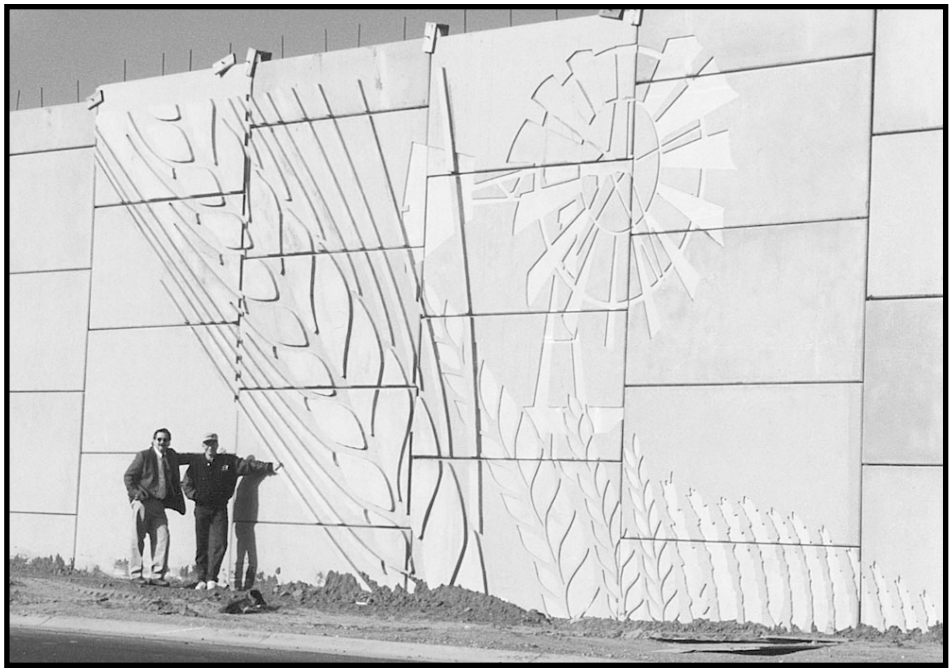
"The inspiration for the design came from the binational culture of south Texas," Walker said. "The border area is much older than neighboring areas, and the design was intended to reflect this."

The Brooks County rest area was recognized with a runner-up award in the 1997 TxDOT Environmental Achievement Award competition.

"We have three other projects in the mill that are good examples of CSD. The Veteran's Memorial Bridge in Brownsville uses a technique that makes concrete look like cut rock, a feature in architecture of the area. The overpass at FM 1015/FM 1016 in Hidalgo features what I call 'border earth tone structure.' The interchange of US 77/US 83 borrows icons from the city of Harlingen, encouraging the community to take ownership of the project," Walker said.

"The challenge of CSD for design engineers is to create a unique structure within the context of standardized building practices, one that makes people say 'Wow!,'" said Mark Bloschock, a supervising bridge design engineer in the Bridge Division. "CSD from a designer's perspective can be as simple as altering the geometry of a project, or adding molded accents or designs in concrete, such as stars, the 'windy man' used in a Lubbock project, or the wheat and windmill images used recently in a Childress project. The design for bridges can be challenging, as the structure might be there for 75-100 years, so classical, as opposed to trendy features are more appropriate. CSD is not without its risks, but the process is set up so that one learns from the less successful projects. CSD can add an average of 10 to 25 percent to the cost of a project, but that cost is offset by the pride generated in the community by a well-done project, not to mention the goodwill that TxDOT receives from the public."

AASHTO-sponsored CSD pilot programs are in process in Connecticut, Kentucky, Maryland, Minnesota and Utah. TxDOT has incorporated CSD into a recent update of the Landscape and Aesthetics Design Manual. Additional information on CSD can be located on the web at www.fhwa.dot.gov/csd/index.htm.



The Bridge Division's Mark Bloschock and Mike Ford pose in front of the U.S. 287 interchange near the new Childress District Headquarters. The interchange, which sports a "Wheat and Windmill" design by Ford, was dedicated as the Lewis H. White Interchange in honor of the former district engineer.

Photo taken by Elizabeth Ford

Fisher: Collects antique buttons

(Continued from Page 2)

dedicated to doing the best job possible. She is a delight to work with and always goes the extra mile to get things done right," said Melissa Gabriel, a water quality specialist in the Natural Resources Management Section.

"We have a large number of environmental issues to deal with in this district, because of the diversity of our geography. Nancy has a background in biology, but has labored very hard to become very versed in all of the non-biological issues," said Fisher's supervisor, San Angelo District Advanced Highway Design Engineer George Herrmann. "The level of competence that she exhibits in all of the subjects that she deals with is far greater than I would expect one person to possess in such diverse and varied fields. Nancy provides the expertise and advice that allows us to meet our obligation to provide service to the public without compromising the environment. In addition to her professional competence, Nancy is a very fun, positive, pleasant person to be around. She exhibits a level of care for those around her that we normally associate with family or close friends, thus upholding the ethic of the 'TxDOT Family' by her own example. I believe that I speak for all of her co-workers when I say that she is a pleasure to work with."

Away from the job, Fisher has a family and hobbies to keep her busy. Her husband, Lyndal, is a biologist in the environmental section at Goodfellow Air Force Base. Daughter Erin is a sophomore at Angelo State University, majoring (for the moment) in kinesiology. Travis, her son, is a junior at San Angelo's Central High School, where he is a member of the varsity swim team. In her spare time, Fisher collects antique buttons, which she describes as "little works of art – I collect the ones with bugs and birds on them." She is active in a variety of stitching crafts, including quilting, sewing and knitting. Fisher also enjoys hiking and bird watching.

Landscape programs offer partnering opportunities

By BARRIE COGBURN
Design Division

TxDOT's long history of highway beautification began with planting bluebonnets along Texas highways more than 70 years ago. As in the past, the current TxDOT administration fully supports appropriate landscape development and aesthetic enhancement of the transportation system. However, in the past few years TxDOT has shifted more maintenance responsibilities onto other entities, better known as our partners. It has been demonstrated that successful landscape development often occurs when TxDOT works with local partners to develop cooperative landscape maintenance solutions that support both local and TxDOT goals. Currently, TxDOT offers two opportunities for local partners:

The **Governor's Community Achievement Awards (GCAA) Program** was initiated in 1986 by the Texas Transportation Commission as a statewide annual awards program in cooperation with Keep Texas Beautiful. Keep Texas Beautiful sponsors a competition each year among its member cities throughout Texas. The competition recognizes communities for local environmental improvement through litter prevention, solid waste management and recycling, beautification, public education and litter law enforcement.

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Engineers: Environmental concerns go with job

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that define TxDOT's environmental management principles call for an interdisciplinary approach to evaluate environmental impacts.

TxDOT engineers strive to develop engineering solutions in harmony with the communities that transportation systems serve and that preserve environmental, historic and scenic values. Evaluation of the environmental impact a transportation system will have is an essential component in:

- Planning – to avoid and minimize impact to environmental resources;
- Design – to provide engineered structures to mitigate impacts and to use materials that are environmentally sound and/or promote sustainability;
- Construction – to implement best management practices in construction for pollution prevention and to ensure compliance with all environmental permit requirements;
- Maintenence – to use environmentally sound vegetation management practices and other best management practices in maintenance for pollution prevention.

Once a project is built, it must be maintained and operated effectively to maximize the usefulness and life of the project.

TxDOT engineers should take advantage of training offered within and outside of the department to maintain and update knowledge about environmental regulations and requirements and learn about the most current practices to avoid environmental impact. Environmental staffs at the district or ENV also are a valuable resource to the TxDOT engineer for solving environmental problems. These environmental specialists are knowledgeable and experienced in general environmental studies and normally have a specialty in one area such as water quality, air quality, noise, biology, historic structures, archeology or hazardous materials/waste. Several of these environmental specialists also have extensive experience in developing transportation improvements and related environmental practices. Some of the environmental specialists also happen to be professional engineers.

Professional engineers play a prominent role in promoting compliance with environmental laws, rules and regulations through responsible judgement and by integrating environmental considerations into their day-to-day practice. Professional engineers must take a leadership role in promoting environmentally sound solutions and interpreting for the public the environmental impact of engineering works. The engineer must take responsible measures to ensure that his or her professional obligations to the safety, health and welfare of the public and the environment are held paramount.

Texas Department of Transportation

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

Address correction requested

Landscape: TxDOT partners with cities

(Continued from Page 7)

One winning city is chosen in each of nine population categories.

TxDOT participates in the program by designing and installing a landscape development project along highway right of way in each winning city. Projects range from $60,000 for populations of 1,000 or less, to $265,000 for populations greater than 250,001 with annual funding of a combined $1 million for the program.

Construction is accomplished through TxDOT's statewide bid letting process and includes 90 days of project establishment. After this time, TxDOT and the winning city share project maintenance responsibility. When a design requires a level of maintenance that is outside the department's normal maintenance activities, the city assumes full responsibility for the project maintenance for the life of the project.

The **Landscape Cost Sharing Program** was created in 1989 to allow private businesses, civic organizations and local governments an opportunity to support the landscape and aesthetic improvement of the state highway system by sharing the project development, establishment, and maintenance cost of landscaping the state highway system.

Landscape Cost Sharing Projects are initiated by city or county governments. The local government submits an application to the appropriate TxDOT district office. The application documents the local government's donations toward the project. The local government acts as a pass through in cases where private businesses or civic associations wish to participate in the program. Donations toward a project can be in the form of cash or non-cash services. Examples of non-cash services include development of a design plan, labor, materials and landscape maintenance activities. TxDOT evaluates applications and an agreed value is placed on the non-cash contributions toward the project.

The local government must agree to perform landscape maintenance during the lifetime of the project. A project agreement is executed by both parties prior to the initiation of any project activities.

To find out more information about these and other beautification programs offered by TxDOT, call your local TxDOT district office or visit our web site (www.dot.state.tx.us/insdtdot/orgchart/des/landscape/default.htm).

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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; via GroupWise to "rgoldsmi" within TxDOT; "rgoldsmi@dot.state.tx.us" for e-mail from outside TxDOT.

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Division Director
Dianna F. Noble, P.E.

Deputy Division Director
Ken Bohuslav, P.E.

Communications Director
Jean Beeman

Editor Richard Goldsmith