

Shady future no longer

A&M protecting trees

While "only God can make a tree," grounds-keepers at Texas A&M University have a hand in preserving His work.

At Aggieland, that's no small chore. There are 7,859 trees, one-half of them oaks, throughout the 890-acre core of the campus.

The trees blend into the academic environment to provide boulevards, canopies over walks, building screens and shade for outdoor study or leisure.

Aesthetically priceless, the trees have a computable value making them a multimillion dollar asset. For example, one 24-inch diameter live oak, in prime condition, has a value of \$4,523.90, according to Eugene Ray, director of grounds maintenance.

Construction projects, however, have been the main cause of tree damage or loss, specifically street and sidewalk construction.

The value of a prime 24-inch diameter live oak can be determined by the "shade tree formula," the square of the diameter times .7854, times \$10 (24 x 24 x .7854 x \$10 \$4,523.90).

"This University has always taken great pride in its trees," Ray said.

"The majority of the mature trees were planted 30 to 60 years ago, primarily live oaks in a street tree fashion."

A recent inventory by the Grounds Maintenance Department showed 7,859 trees - 4,297 mature and 3,562 planted since 1971. An additional 370 trees will be planted on the western portion of the campus in the near future, Ray said.

The 890 acres surveyed are comprised of the central campus area, the 150-acre golf course that serves as the front lawn for the southeast side of the campus and the developing portion of the campus across Wellborn Road. It does not include any of the 4,000 acres of research farms or Hensel Park, a large, un-molested wooded recreation area north of the University's main student apartment complex.

Nature, machines and man have affected some of the trees during the past five years.

"We have lost some 60 mature trees since 1973 and have approximately 130 mature trees in some state of weak growth," Ray said.

Tree diseases, primarily oak decline, have caused some damage in the park area around the president's home, Ray said. The persimmon wilt fungus affects sycamore, hackberry, persimmon and the various oak trees. It generally requires a laboratory culture from the suspected tree to confirm the disease, he said.

Thirteen post oaks have been lost near the president's and vice-president's homes, Ray said.

Six sycamore trees in various locations have also been lost. Ray has recommended that new sycamore plantings be restricted to areas for academic research only, since they appear to succumb quickly to the fungus.

Ray said a few of the pine trees north of Zachry Engineering Center were probably killed by traffic exhaust pollution from University Drive and South College Avenue, one of the heavily used intersections around the campus.

Aesthetically priceless, the trees on the Texas A&M University campus have a computable value making them a multimillion dollar asset.

Construction projects, however, have been the main cause of tree damage or loss, Ray said, specifically street and sidewalk construction.

"We have had one mile of new street construction, 2.3 miles of street removed and 3.72 miles of new and rebuilt sidewalks," he said.

About 130 trees, including 26 along Old Main Drive, have been weakened by road and sidewalk work, yet Ray said proper feeding and pruning will stimulate active growth.

A history that holds water

Mural sketched on dam wall

We'll name it the Sistine Dam. How about that, Mikey?



United Press International
BELTON — The history of Bell County is being painted in Texas-size proportions on the face of an 800-foot long dam by volunteer artists, including Girl Scouts and farmers.

A year of planning and preparation went into the mural project before volunteers this month began painting the surface of Lake Belton's overflow dam.

The idea originated with the U.S. Army Corps of Engineers to cover an accumulation of graffiti on the dam wall and is being supervised by Maurine Burks, art professor at Mary Hardin-Baylor College. She expects the finished painted history to attract visitors, especially history buffs, from throughout the state.

"I was volunteered (by the college), that's how I became involved," she said. "We've worked on it for nearly a year, just doing the research. We're doing impressions of Bell County history — my impressions. If I'm doing the work, they're going to be mine."

The mural is hardly freelance since several college art majors and high school students first put their sketches on paper and then transferred them to the dam be-

ginning in July. The corps had sandblasted the dam surface beforehand and primed it with a sealant.

"We did research into the different historical things in Bell County," Burks said, "then did a master plan. That's what we have followed. We stated off with Peter Bell, the third governor of Texas in the center.

"We are doing the historical buildings of Mary Hardin-Baylor. This college is 130 years old. There are houses from Belton, Temple, Killeen, Salado, Moffitt, Rogers and all the little villages around in Bell County. They all have something represented on the dam.

"We also are showing the recreation that's here, the lakes,

plus Fort Hood and we also have the ranchers and farmers represented on the dam."

Some of the sketches are small they require very close inspection. Other scenes are recognized easily from the highway.

"We invited everyone in Bell County to come out and help," Burks said. "They're part of the project and I figure this will keep the graffiti off of it."

Don't look in Texas record books for the summer of 1978. It was ... (ho hum) ... only average.

Despite a popular notion that June, July and August were among the hottest ever - they weren't, according to State Climatologist John Griffiths of Texas A&M University.

Temperatures were even below normal in some areas and the hottest sections of the state - the Northeast and Trans-Pecos - only pushed the mercury a little past 1 degree above average.

Widespread news accounts of record number of days in the 100s may have contributed to the belief that 1978 would earn a hot spot in history, Griffiths says.

However, the three-month period differed very little from the preceding year, the Texas A&M meteorologist says.

The 1978 figures were higher than 1975 and 1976, but temperatures those years were as much as 3 degrees below normal.

Rainfall, too, was about average in Texas, even in areas not hit by killer floods in August that followed drought-like conditions.

In fact, eight of the 15 weather reporting regions received above normal totals and the rest recorded 60 percent to 90 percent of the average for that period, Griffiths says.

Long strings of 100-plus days and rampaging floods make headlines, he explains, but they occur at only a few of the hundreds of weather reporting stations across Texas that turn in readings 365 days a year.

When abnormal conditions are thrown in the hopper with the average is often affected very little, Griffiths says.

Weather in Texas - average

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TTI engineers trying to solve highway maintenance problems

A "maintenance crisis" on the nation's highways has engineers at the middle of a candle burning on both ends.

On one end, the flame is fed by increasing traffic and heavier loads combined with pavement deterioration. Last winter's severe weather boosted the deterioration rate.

Opposite that burns the eco-

nomics of highway maintenance, which traditionally takes about 50 cents of each dollar earmarked for highways. Inflation fans the flame.

"It costs more to maintain highways now than it did to build them 15 years ago," remarked Dr. Donald Saylak of the Texas Transportation Institute at Texas A&M University.

Complex problems are ahead, but Saylak and other highway engineers

say they feel there are economically feasible solutions that can meet increasing demands placed on public roads.

If the problems can be corralled and successfully attacked in Texas, the candle flames may be slowed and stopped, perhaps snuffed.

Texas has 73,000 miles of state-maintained highways, Saylak said. Solutions are possible in several areas. They range from repaving with material taken from roadways and new, lower-cost binders and aggregates, to new pavement evaluation methods.

"At times it comes to a tradeoff between resurfacing or other maintenance, or completely rebuilding after a section shows excessive distress," Saylak said.

Another factor is the effect of the new policy on use of Federal Highway Administration funds. It places highway engineers in transition, from "research on how to build new pavement to how to take care of what we've got," said Joe Mahoney, a civil engineering graduate student from Mathis.

One concept being pursued in Minnesota takes up old pavement, rejuvenates it and reapplies the mixture. Saylak noted that softeners and additional binder are required in the process, still in development.

"Oxygen attacks asphalt surfaces and makes them brittle," he said. "The nice thing about this type of maintenance is that it doesn't just lay something on top of old pavement." He explained that this process allows retaining the original grade line which is important on city streets between curbs.

"There's one hangup," he commented. "When asphalt is exposed to open flame, a lot of smoke is generated."

A partial substitute for the expensive petroleum-based highway construction material is being developed through TTI research of Professor Bob Gallaway and Dr.

Jon Epps. Sulphur-extended asphalt sections are being tested in three locations in Texas and one in North Carolina. Others will soon be constructed in Mississippi and Florida.

Another TTI project is investigating use of fly ash as a replacement for portland cement. Fly ash, solid waste from lignite coal combustion. Even more basic TTI is going into building better coats.

Maintenance on freeways, major Texas cities struggles against adds to congestion. Dr. William Ledbetter at TTI is looking for ways to schedule work in off-peak hours and get crews on and off the quicker.

A new pavement evaluation technique is among "a lot of things happening now," Mahoney said. The technique is to be implemented soon by the Texas Department of Highways and Public Transportation, with which TTI research is closely associated, and is expected to better utilize maintenance by getting work crews on the job at the optimum time, before a section degrades to a more expensive maintenance point.

"The technique considers a lot of things," Mahoney said. "Cracking, rutting and potholing are combined with ride smoothness, skid resistance and aggregate polish, and other things, to make the determination."

Saylak said a highway may be work from a safety standpoint though no obvious signs of deterioration are evident.

"Aggregate polish and rutting reduces traction between a car's tires and the surface. Untrained observers cannot detect this problem," he said.

"Other concerns, such as patching potholes, exist," Saylak added. "A sulphur-extended pavement mixture is in development, being tested, but data is insufficient as yet."

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Discussion will include business and ACTIVITIES.

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