New water system being designed

Agricultural engineering students work to free up water for farmers

By Carolyn Duvall

Imagine having to take showers under very specific conditions: You have to call the water company a day in advance, tell them exactly when you want to shower, how much the faucet will be open, how long a shower you want and when you want the water turned off. Sound like a real pain? Farmers must go through this process every time they need to water their crops.

Unlike a normal house faucet, farmers have no direct control over their water. But, a new water delivery automation facility being developed and built by the agricultural engineering department could change these water problems in the next few years, said Charles Burt, director of the project and agriculture engineering professor.

The facility will be used as a training and research center for studying water delivery to farms.

If the final canal project is established, it will allow farmers to turn water off and on without going through their water district.

The canal will also be used to demonstrate new and existing computerized control techniques. Each gate in the canal will have a separate microprocessor, and a central computer will monitor and display data. Currently, a mainframe computer is used to develop the proper settings for the gate control mechanisms for the irrigation systems.

Although it will take about two years to build, the new canal project will benefit farmers, power companies and water districts. The facility is being built east of the new parking lots below the horse and ornamental horticulture units.

All the planning, development and construction is being done by Cal Poly students. Most of the workers are paid, but some of the initial work such as grading the site level was done by tractor classes.

"The students are real proud of their work," said Burt, adding that they're proud of their work shows through the professionalism of their welding and in the rest of their work.

At present, no other training or research facilities for irrigation control systems exist in the United States, according to Burt's project summary sheet.

A main experimental canal is being built first with two other experimental canals.

Trial lawyer to be grad speaker

By Joan M. Halpin

An accomplished trial lawyer who has defended major sports figures and environmental issues will be the commencement speaker at Cal Poly's fall graduation ceremonies.

Joseph W. Costello, a Cal Poly alumnus, recently won a $10 million malfeasance provocation judgment against Los Angeles Raiders owner Al Davis when representing former San Diego Charger owner Glenn Klein.

The Burlingame-based lawyer will deliver a speech on "settling a future course...and experience at Cal Poly," to approximately 550 Cal Poly students in the Main Gym on Saturday, Dec. 12 at 10 a.m.

Among a history of achievements, Costello has a bachelor's degree in environmental engineering from Cal Poly, and has also earned a J.D. degree from the University of California's Hastings College of Law.

Although Costello carries a reputation for juggling simultaneous court cases, clients don't seem to mind because of his high success rate.

Costello is a member and former president of the Trial Lawyers for Public Justice, an organization that Ralph Nader helped found, which has sued the Reagan administration many times on environmental issues.

This organization for public justice has also sued the FBI on behalf of the children of Viola Liezzi, a civil rights worker killed by an informant who
Editorial

Spinning our wheels

The Cal Poly Whelen don't get no respect. After winning two straight western regional cycling championships against the likes of deep-pocketed U.C.L.A. and Stanford, they have been rejected by their own university.

This year when they submitted a bid to host the first ever national collegiate championships at Cal Poly, with national television coverage, the school turned them down. They needed food, housing and transportation for all the competitors, but their requests were met with unreasonably cost estimates all over campus.

Yet the Wheelmen are a tremendously close representative of the university. As the miles flash under them on roads all over the Central Coast, their jerseys broadcast "Cal Poly." To the world. But they might be better off with "Carlos' Butcher Shop" on their jerseys instead. "Cal Poly" to the world. But they might be better off with "Carlos' Butcher Shop" on their jerseys instead.

My best friend and I were out setting fires one day when we found an old fertilizer bag in a field near my house. Tired of burning the same old twigs and leaves, we decided to see if the bag would work. Two seconds after we lit the match, flames were shooting six feet in the air... and we were standing in the middle of a 200-acre field of dry grass. Picture a pair of 8-year-olds frantically doing a rain dance around a pile of flaming cow chips.

They have no control over what the two superpowers will do. What is happening in Nicaragua is not so different from what happened in Vietnam. If you listen to the Nicaraguan people, you will hear that our efforts are being wasted. If a country is to become democratic or capitalistic it must take over the world? Really now, I think if we were to act as powerful as to litter, and it's just as thoughtless as to litter. Verbal gymnastics such as "our Sierras and discover cans, bottles and cigarette butts as they walk away?"

All the writers

Letter to the editor

Paranoid efforts slender peace

Editor:

I would like to comment on Vic Yanni's letter which appeared on Nov. 10. I wonder what he meant by accusing others of being paranoid-minded when his own letter was so slanted. Does he consider himself out of line with the best. I don't know... I think every American, whether he is liberal or conservative, would agree that many cruelties have been committed by the Soviet government and by Marxist governments. We all know the cruelties that can and have been done. That's why we can all be proud to be in America. But that's not the point, as in the case of Nicaragua, you can't fight fire with fire, because it will only fuel it. You need to fight it with something that will put it out. You have to go to the roots of problems, and solve them from there. That is why communication is so necessary.

Furthermore, I see reference to Ethiopia as being a poor example of Marxist governments attempting to control the world. Since when does Ethiopia's poverty and cruel government suggest that they will take over the world? Really now, I think if you try to understand, rather than be paranoid of a country's ideals, then you will see we are not too different, the difference being analogous to men and women. Neither being better than the other, only possessing qualities that are different.

As for Grenada, many people across the world held their breath. You see, the majority of the world believes Reagan, more than Russia, to be capable of a nuclear war. "None of your guns and bullets and bombs won't do the job." My parents say. So you burn her and that if she does, you kidnap her Barbie doll and pretend it's Joan of Arc.

Iverybodyl yourotherfollows you and threatens to tell. So

W h e n I was a kid I could set fire to anything -

sticks, trash, report cards, my sister ... Heck, I almost burned down the house once with a desk lamp.

I suspect all kids go through a stage when they're fascinated with fire. You could always tell which kid on the block had hit that stage because there were always little columns of smoke rising out of his backyard when his mother wasn't home. If this happened to more than one kid at once, the neighborhood looked like the back of Pat-

st allow the reader to examine, rather than become

S i c k e n e d a t the sight of the nameless little huts with red roofs, I went to the root of the problem and put it out. This is hard to do because invariably your little sister follows you and threatens to tell your parents. So you burn her and that if she does, you kidnap her Barbie doll and pretend it's Joan of Arc.

I think every American, whether he is liberal or conservative, would agree that many cruelties have been committed by the Soviet government and by Marxist governments. We all know the cruelties that can and have been done. That's why we can all be proud to be in America. But that's not the point, as in the case of Nicaragua, you can't fight fire with fire, because it will only fuel it. You need to fight it with something that will put it out. You have to go to the roots of problems, and solve them from there. That is why communication is so necessary.

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— Helen Sjogren

Fire and a curious kid spark up the good times

B O O L M O N T H

by Berke Breathed

"Let's go to the roots of this problem and put it out. This is hard to do because invariably your little sister follows you and threatens to tell your parents. So you burn her and that if she does, you kidnap her Barbie doll and pretend it's Joan of Arc."

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**State**

**Woman in serious condition after rescue attempt in fire**

SAN JOSE (AP) — A San Jose woman was listed in serious condition with second-degree burns Sunday after being carried from a burning rooming house while trying to rescue her uncle from the fire that killed him and one other person, authorities said.

Virginia Gray, 62, was hospitalized in the burn unit at Valley Medical Center for burns on her back, arms and face, said nursing supervisor Ann Cagle.

Gray’s uncle, 84-year-old Rudolph Weihe and Cecilia Kirk, whose age had not been determined early Sunday, died in the fire that roared Saturday through the downtown home owned by Weihe and Gray, fire and Santa Clara County coroner’s officials said.

David Tabisch, 37, a resident of the boarding house, said he helped one of the elderly residents out and returned to the house to find Gray trying to drag Weihe to safety.

“Virginia was screaming,” he said. “She was trying to drag Rudy out. She had him on the floor and had started trying to pull him out. But by that time the flames were shooting out the bedroom. She was trying to get back in. The whole area was engulfed.”

Tabisch and next-door neighbor Ken Hart, 36, pulled Gray to the back door and outside. Hart’s wife, Terri, said Gray was a strong, independ­ent woman who worked hard to make the residents of her remodeled Victorian home comfortable.

“She really dressed up for those old people,” she said, recalling that last week Gray prided gave her a tour of the backyard gazebo where she had spent $70 on flowers.

**Nation**

**Supreme Court nomination splits anti-abortion groups**

WASHINGTON (AP) — Anthony M. Kennedy’s Supreme Court nomination has split the anti-abortion community, even though he has never ruled on an abortion case during 12 years on the bench.

One anti-abortion organization offered positive, but guarded praise for the nomination, while another strongly criticized it and two others took no position.

The abortion question is crucial to these groups and to pro-choice organizations because the court is considered split 4-4 on the issue. The next nominee could tip the balance for years to come.

Pro-choice groups and other women’s organizations have taken no position yet on Kennedy.

The Sacramento, Calif., jurist, who is on the 9th U.S. Circuit Court of Appeals, has not spoken out on any issue since his nomination was announced Wednesday by President Reagan. None of the organizations research­ing his abortion record has found any previous comment on the subject.

The anti-abortion National Right To Life Committee reacted positively toward Kennedy because he favors judicial restraint — interpreting the law, not making it. The organization said only a judicial activist would favor a decision such as Roe vs. Wade, the 1973 Supreme Court ruling that legalized abortion.

But another anti-abortion group, the American Life League, said it mistrusts anyone the Reagan White House would nominate for the court, and opposes Ken­nedy because he didn't criticize the Roe decision the one chance he had to do so.

**World**

Gorbachev, lieutenant break casts doubt on reform drive

MOSCOW (AP) — Soviet leader Mikhail S. Gor­bachev’s dramatic break with one of his top lieutenants toughens his image in the weeks before a superpower summit, but casts doubt on how far his drive for reform can and will go.

The firing of Boris N. Yeltsin, the outspoken Moscow party boss, seems certain to temper the approach to “perestroika,” Gorbachev’s campaign for social and economic change that Yeltsin had vocally advocated.

By presiding over Yeltsin’s downfall Wednesday, Gorbachev put his stamp on the ouster of his former protégé. It remains a question whether he did so to remove a volatile renegade or under pressure from the more conservative officials, reportedly led by Politburo member Yegor K. Ligachev.

Whatever Gorbachev’s motives, the removal of the outspoken Yeltsin from the Moscow leadership post and two city government positions will bolster the course of “revolutionary restraint” espoused by Gorbachev in a Kremlin speech this month.

Yeltsin had developed as an image, deserved or not, as a radical advocate of change within limits set by the Soviet party system.

His removal may inject a wariness among Soviet of­ficials and citizens, who have been encouraged under the reforms to speak out and seek novel ways to solve their country’s problems.

“Are the policies intact? Are people going to believe it when one of the most prominent proponents falls by the wayside?” a Western diplomat asked Friday. “We’ll have to wait and see...”
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Please send resume to: Attn. Personnel Manager Ralston Purina Company P.O. Box 216 Sparks, Nevada 89432

CALIFORNIA COURTS

Cotchett grew up an Alabama Klu Klux Klan member, allegedly set up by FBI. According to the San Francisco Chronicle, Cotchett called this case, "the most satisfying and significant," he had ever tried.

He's a mental gymnast. He's blustery... he's a pussycat. All rolled into one," said Bob Batinovich, former state Public Utilities Commission president, to the San Francisco Chronicle.

Cotchett is, "a workaholic with a buffalo's constitution and a berfer, insatiable ego. Joe's a steam engine in pants, he mows everything down," said State Courts of Appeal Justice William Newsome in the Chronicle.

With a trial set in March, Cotchett is the main plaintiff lawyer in the Technical Equities fraud case in San Jose. This case, noted for being one of the biggest fraud scandals in securities and real estate, defrauded investors of $150 million.

Cotchett, 48, has represented Democratic political figures in his personal life, some which include Los Angeles Mayor Tom Bradley, U.S. Senator Alan Cranston and former Gov. Jerry Brown.

Today, Cotchett serves on the California Commission on Judicial Performance, a constitutional body of judges and lawyers that oversees discipline and disability for all California judges.

Cotchett is also on the board of directors at Hastings College of Law, University of California, and was named a Fellow in the International Academy of Trial Lawyers.

In 1976-1978 Cotchett served on the California Judicial Council, a constitutional body of judge and lawyer members who provide rules and procedures for the California courts.

Special attention should be given to Cotchett's other contributions. He is associated with the Peninsula Association of Retarded Children and Adults and is a member of the Board of Directors of the San Mateo Boys and Girls Club.

Cotchett's skill for fund raising also helped the San Mateo County Heart Association, where he was a member for five years. He is also a colonel in the U.S. Army Reserve and commands the 5th Military Law Center at the Presidio.

Cotchett grew up an Alabama Klu Klux Klan member, allegedly set up by the FBI. Cotchett specializes in writing about the judicial process and has written three books titled: "California Products Liability Action," "California Courtroom Evidence," and "Federal Courtroom Evidence."

Today, Cotchett practices with the law firm of Cotchett and Illician in Burlingame and in Beverly Hills.

RELATIONS WITH SCHOOLS will hold County College Night from 5 to 10 p.m. Monday in Chumash Auditorium.

In 1963, Cotchett's mother was a Broadway actress and Ziegfeld showgirl.

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Poly loses to Seattle in NCAA playoffs

SEATTLE — It was close, very close.

But unfortunately, the Cal Poly soccer squad fell a goal shy of advancing in the NCAA playoffs. It lost, 2-1, Saturday to Seattle Pacific in the first round.

Head coach Wolfgang Gartner felt his team played well, and that the game could have gone either way. The only disappointment was the score.

The Mustangs lost footing in the first 35 minutes of play when Seattle tallied a 2-0 lead. In the second half, the Mustangs went to a press and held the Falcons for the rest of the game. Poly's only goal came midway through the half, when Poe Allan streaked from the far side to bump in a pass from Fabian Van De Graaf.

There were two other edge-of-the-seat scoring opportunities by Dan Tobias, but Poly's Owen Carlin (top) defeated John Petty, 15-6.

The Mustangs' third straight loss completed 11 passes in 20 tries, but was interrupted three times.

The Thunderbirds jumped to an early lead as quarterback Chad Richard delivered a 60-yard touchdown bomb on the game's opening series. Richard completed six of 11 passes for 142 yards.

The Mustangs were silent until the fourth quarter, when defensive back Derrick Sesson blocked a Thunderbird punt. Cal Poly recovered on the 16-yard line. The Mustangs' six-play drive ended on a one-yard touchdown spurt by backup quarterback Shannon Mochtnieweg. Pierce's kick tied the score at 7-7.

The offensive prowess displayed by the Mustangs in the early season was absent in the nasty weather. Intermittents snow and the 36-degree temperature shook the Cal Poly offense, which was held to 199 yards by a defense that has given up an average of 379 yards per game.

"The snow was definitely a factor," said kicker Sean Pierce. "We had some critical fumbles inside of the 30 due to the weather. We couldn't feel our feet. Our defensive backs were affected. We got burned for about three or four good passes. The receiver knows when he's going to cut and can plant better. The DBs must react."

The Mustangs were unable to cash in on Thunderbird miscues. Although Southern Utah State<br>San Luis Obispo<br>Palmer Graduate 1150 Grove Street San Luis Obispo<br>For An Appointment Call 541-2727<br>Johnston Chiropractic Clinic<br>OFFICE HOURS: Mon.-Fri. 10 am-5 pm Saturday 9 am-11 am
Consequently, the Lady Mustangs will practice hard all week, doing what Wilton calls "heart drills." Cal Poly started the match by racing to a 9-4 lead in game one; it dissolved moments later. After taking game two, the Lady Mustangs blew third-game leads of 9-1, 12-3 and 16-10. The teams switched roles in game four, as San Diego jumped to a 9-1 advantage. Cal Poly managed to whittle the deficit to one point, 10-9, before fading.'
UTAH'S Herkey Marxen put a disappeared when Southern lose to teams like Sacramento uprights. "It hurts to credit," Pierce said. "It's a win for the kids," Gov. Timothy G. Thompson said in a recent interview.

"It gives them an opportunity they wouldn't have by dropping out of school," said Thompson, who came up with the idea during his campaign for governor last year. "It's got to work." "I see ADFC (Aid to Families with Dependent Children) as a giant transposition. We give them money but we dare not ask them to help themselves," said Timothy Cullen, tapped by Thompson to head the Department of Health and Social Services.

Wisconsin is the only state to have received a waiver of federal welfare rules to try learnfare. Under a compromise reached between Democratic legislators and the Republican administration last week, the families of about 12,000 teenagers ages 13 and 14 will come under the learnfare program Jan. 1. The families of about 18,000 or so who are 15 or older will be subject to its provisions. There are about 300,000 people in the state on AFDC. Teenagers 15 and older will be subject to the plan. Jan. 1 if they are parents themselves. A family could only lose the share of its welfare grant that is for the children. Wisconsin provides day care to allow teen-age mothers to attend school.

Learnfare caught a lot of flak in ways on its way to becoming law. "This is an experiment with human beings who are poor," said Assembly Speaker Thomas Loftus, a Democrat with gubernatorial aspirations. "The only reason we are able to experiment with them is that they are poor." Democratic Rep. Marcia Coggs, one of four blacks in the 112-member Legislature, worries that uncontrollable teen-agers will make the experiment fail and they will pay the price.

"The governor has to learn the one of Ozzie and Harriet is over," she said. "They're going to make money off of learnfare," complained Democratic Rep. Rebecca Young, who introduced the idea. Children and Human Services Committee. "What they're asking is people to do is give up their food."
WATER

From page 1 models built later. The later canals will be based on existing technology already in use. These will provide models for students to work on and experiment with. The experimental model is being built on stilts so the angle of the vertical scale. A model made to the actual scale would be too shallow for accurate results, according to Burt's information sheet. The system will work with a large reservoir system to recycle the water it uses, Burt said.

Most of the money and equipment for the project is donated. Some of the parts are made by students. More than $120,000 in equipment has been donated, and more than $336,000 in funding has been received. The project has also received interest from the Agency for International Development (AID) and the World Bank for use in other countries, but California is the principle research source. Computerized pump and canal systems could never exist on every farm because it's too expensive, but the project can be used to show designers how to upgrade other systems, said Burt.

Students work with deadlines for completing parts of the canal because equipment and money donors like to see progress being made. "The whole thing is trial and error — there's still a whole lot of things that we don't know," said Mike Kelley, a junior agriculture engineering major. "Everyone gets to put in ideas to see it work," he said. "It's not like working for someone else using only their ideas."

In a canal system, farmers have access to the water along points on the canal. As the system works now, if one person opens his valve for water, pressure and availability is reduced for other users along the canal. The new canal will have microcomputers to compensate for water flow changes, and to stabilize the water flow so that neighboring farms would probably not even notice the pressure change.

Farms will also be able to turn off their pumps without ill effects to other users. If everyone turns off their pumps, perhaps to save energy and water during the day, water still continues to flow down the channel and floods the last person in line. The new system's computerized pumps will allow the water to stand in the canal until someone is ready to use it.

The experimental canal, just like a real agricultural canal, will have a large water flow averaging 7,000 gallons of water a minute. "You can't just stand there with a bucket at the end and try to measure it," said Burt.

The experimental canal is shaped like a large, narrow "V." But, it was built very tall and thin for a specific reason; it is built in a 1:40 scale and for the proper hydraulic conditions and water deep enough to measure, it must be built with a distorted vertical scale. A model made to the actual scale would be too shallow for accurate results, according to Burt's information sheet. The system will work with a large reservoir system to recycle the water it uses, Burt said.

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