



**A newsletter for our employees and friends  
Spring 2004**

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## R&L PROJECT PROTECTS COMMUNITY

**S**AN JOSE'S TREASURED GUADALUPE RIVER WINDS ITS WAY THROUGH THE HEART OF DOWNTOWN, brushing past 100-

year old wood frame homes and the ultra-modern steel and glass offices of Silicon Valley's high-tech giants.

Generally, flows are minimal and the river and its riparian life exist as a welcome contrast to the surrounding high-rises and parking lots.

But during periods of

intense rain, floodwaters spill over Guadalupe's banks, turning streets into rivers and damaging nearby property. In March 1995, the river flooded 300 homes and businesses causing \$10 million in damages.

To preserve the river and its wildlife, and protect neighboring real estate, the Santa Clara Valley Water District initiated an extensive Guadalupe River Project flood control plan.

One segment of that plan, Contract 3A, calls for construction of a 2000-foot double-box culvert and two

inlets. The design intent is to prevent flood water from spilling over the banks by diverting it into the bypass culvert, where it will travel freely before returning to the river channel downstream.

In September 2002, R&L Brosamer was awarded the \$31,230,687 contract, which included a double box culvert, two inlet structures, two CIDH retaining walls, two twin sewer siphons, landscaping, decorative concrete and paving, and a viewing platform. Work began in October 2002, with completion

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# GUADALUPE RIVER PROJECT



**GUADALUPE CREW: (L-R) Phil Cheung, Operator Foreman; Dave Castillo, Carpenter Foreman; Shawn Otheim, Project Superintendent; Rene Serrano, Safety Engineer; Cuco Gonzales, Cement Mason Foreman; Mark Petty, Project Engineer; and Eddie Lopez, Laborer Foreman.**



**One tie wall forming system.**

## CONTINUED FROM FRONT PAGE

expected in September 2004.

Joining Project Manager Roger Giles on the Guadalupe River Project are Project Superintendent Shawn Otheim; Structure Superintendent Rocky Romero; Project Engineer Mark Petty; Excavation Foreman Charlie Douglas; Labor Foreman Eddie Lopez; Cement Mason Foreman Richard Doud; and Carpenter foremen Dave Castillo, Jeff Balderee, and Tom Pham. Project subs included Schnabel Foundations

(shoring), Harris-Salinas (rebar) and D. W. Young (underground).

Built parallel to the river, about 50 feet to the east, the 2000-foot double box culvert is actually two single box culverts that join at the second inlet and share a center wall. At the south end of the job is the Santa Clara inlet (a narrow passage built between the river and the culvert) that feeds floodwater from the river to the Santa Clara culvert (36 feet wide, 17 feet deep inside the box). Seven hundred feet downstream the Santa Clara culvert meets up

with the St. John inlet and the St. John culvert (24 feet wide, 17 feet deep inside the box).

Each inlet structure has a 16-foot weir - a low concrete dam where the inlet meets the river. "During normal levels, the water is in the river channel," says Project Manager Roger Giles. "But, as the water rises, it will now top over these new weirs and flow into the box culverts instead of over the river banks."

This is a cut and cover box culvert, requiring no tunneling. The concrete invert (floor of the culvert) is 3 feet thick; the deck (roof) is 2 feet thick; and the overall depth of the inside of the culvert is 17 feet, so the cut varies between 20 and 25 feet. The completed decks are covered with an additional 3 feet of dirt for paths and landscaping.

## DEWATERING, EXCAVATION, AND SHORING

"The most important part of the job was dewatering because we were building along the river and we had to drop the water table over 15 feet," says Roger. "We installed a series of 50 wells on either side of the culvert, 50 feet deep, and about 100 feet apart. This system was constantly pumping the water

out to our treatment facility, and eventually back into the river downstream, so we could keep digging below the table."

Wall excavation and shoring were performed simultaneously. The shoring system consisted of steel piles driven 8 feet apart, with shotcrete lagging and a single tieback about 8-10 feet below grade anchoring each pile.

At sub-grade, before the three-foot concrete invert was poured, crews spread six inches of sand, then 12 inches of gravel; on top of that, they placed a black drainage fabric, known as geo drain, that allows water to flow.

The geo drain was used on all culvert inverts and walls. On half the job, crews laid an additional clay liner - a thin blanket made up of absorptive bentonite clay that expands when exposed to water becoming impervious to additional water. The geo drain and clay liner were covered with an additional two inches of sand-cement slurry to protect them while workers laid the invert rebar and poured the three-foot invert slab.

## CUSTOMIZED WALL FORM AND TRAVELING DECK SYSTEM

Next came the 2-foot con-  
**CONTINUED ON PAGE 3**



**Project Manager Roger Giles (left) and Senior Project Manager John Pologar.**

# GUADALUPE RIVER PROJECT



**Concrete cellular mats at Santa Clara inlet.**



**SHAWN OTHEIM**



**Roll ahead deck shoring system.**

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crete culvert walls. "One of the really successful parts of this job was the design of our one-sided wall forms," says Roger.

Typically, a one-sided wall form requires a heavy, knee-brace system to anchor the form during the pour. "We designed a wall form that took advantage of the soldier piles that were already in the shotcrete shoring; our design anchored the forms at the bottom into the invert and at the top at the soldier piles," Roger says. "It was easy and simple to set up and move, and, without the large cumbersome bracing system, we had clear access for people and equipment within the culvert during construction."

Another example of team ingenuity was the customized traveling deck system. In most box culvert construction, walls and decks are poured simultaneously with one traveling deck form. Because of the size of these two culverts, each culvert had its own 100-foot traveling deck form.

"We chose to pour the walls and decks separately because we had to leave the traveling deck systems in place to allow the concrete time to cure while we continued work forming walls in other locations," says Roger. "Furthermore, we never took the traveling deck systems

**Transition  
to  
"Double  
Box"**



apart; we simply moved them forward to the next pour. We did that by attaching Hilman rollers to the bottom of the form traveler and laying used railroad track in the culvert. When we were ready to move the deck forms, we simply lowered the traveler onto the railroad tracks and pulled it forward for the next pour. With the forms on rollers and the rollers on rails, this system was easy and efficient."

### **INLET STRUCTURES**

A key part of the job was constructing the inlet structures at the Santa Clara and St John Inlets. Due to environmental concerns, work in the river channel was limited to May 15 to October 15. In order to complete the job on schedule, both inlets had to be completed in one season.

The Santa Clara inlet was the most difficult. The entire river channel was modified from bank to bank.

On the west bank, a CIDH pile retaining wall with a shotcrete face was constructed.

Access from the west side of the river was limited. After diverting the existing channel into pipe, the entire channel was filled in with dirt to create access to build the wall.

On the east side of the river, the inlet structure was built. Construction of the inlet structure was delayed in the first months of the season by a pair of nesting green herons. The construction sequence was modified, and crews worked around the birds until they grew up and "left the nest."

After the CIDH retaining wall and inlet structure were complete, the channel between them was lined with cellular concrete mats to prevent any erosion of the channel bottom.

At the St John Inlet, a new sewer siphon was constructed underneath the river channel and inlet structure. Crews worked through several very difficult circumstances, including large amounts of groundwater, an existing

sewer siphon plugged with sewage that had to be removed, and difficult access for equipment and material staging.

"I am extremely proud of the job we did at these inlets," Roger says. "Everyone on the project, including our subs, put out their best effort to work through all of the problems and challenges involved. I can't say enough good things about the results. Finishing this work in one construction season was a fantastic accomplishment" says Roger.

### **JOB STATS**

The job required 147,700 cubic yards of excavation; 80,000 square feet of shoring; 7.6 million pounds of culvert rebar; 800,000 pounds of inlet structures rebar; 34,000 cubic yards of culvert concrete; 4,200 cubic yards of inlet structures concrete; 166,000 square feet of geo drain fabric; and 103,000 square feet of bentonite clay liner

"This is one of the best projects I have been involved in," says Roger. "The key to our success is the dedication and ability of all the people on the job and the way we all pulled together as a team. "I am very proud of the job we did and grateful to everyone who was involved in the project."

# MESSAGE FROM BOB BROSAMER



**T**HE CURRENT FEATURED PROJECT "GUADALUPE RIVER BYPASS" DREW HEAVILY ON THE COMPANY'S ENGINEERING SKILLS.

The United States Army Corps of Engineers provided no excavation support scheme and very little hydrology information. The project team did its own pump test and then installed a system of its own design.

The project worked with our foundation subcontractor, Schnabel Foundations, to develop a design that would allow a 25-foot vertical excavation that could also be utilized as the outside wall of the box culvert.

The shoring design facilitated the use of the no internal tie wall forming system shown elsewhere in this newsletter.

The moveable deck traveler will be moved from Guadalupe to our Roseville project to aid in the roof construction on the connector ramp tunnel.

The entire project team is to be congratulated not only on its ability to "think outside the box," but for the high quality of the finished product.

We've added three jobs to our backlog since last quarter. We are doing a park site development for Seeno Homes in Pittsburg. We are expecting a notice to proceed in May for a small apron job at The Oakland International Airport. In addition, we bid the Gold Run-to-Baxter P.C.C. overlay of Interstate 80 in joint venture with Granite Construction. Our bid of \$33.1 million was 2.5% above the second bidder, Diablo Constructors.

The bidding horizon is improving slightly. Caltrans continues to sit on the sidelines, but the Port of Oakland is continuing with its expansion plans, with three more apron jobs scheduled. The Coachella Irrigation District will have its plans out in early June, and the Contra Costa Transportation Authority is continuing to push its Highway 4 program in East Contra Costa County.

The first seven months of our 2003-2004 work year reflect our efforts to make our worksites the safest places in the industry. Our incidence rate is at an all-time low. Let's continue the downward trend.

Hope to see everyone in September at our 10-year anniversary celebration. We have reserved a date at Great America for a day of fun and friendship.

## THE SAFETY ZONE

**S**OME RED FLAGS CAN HELP DETECT WORKERS' COMPENSATION CLAIMS THAT MIGHT BE FRAUDULENT.

They include:

- Delays in reporting the claim.
- Ambiguities involving time, place or circumstances of the injury.
- Injuries involving equipment or materials an employee does not usually use.
- Injuries with no witnesses.

The best way to combat Worker's Compensation fraud is to report claims immediately.

### **SAFETY IS NOT AN ABSOLUTE.**

No event or condition is completely free of risk. Managing the risk exposure is

the key to avoiding accidents. Do not expose yourself to risk if it is not necessary.

No matter the task at hand, examine the safety factors.

The more we know, the less we tend to listen, that is the reason safety needs to be a part of every plan, even if you think you know it all!

### **BASIC NEEDS CAN BE HAZARDOUS TO YOUR HEALTH!**

Many accidents in construction sites are caused by discomfort and/or exhaustion. A worker using a concrete chipping gun on very hot day, may discard his eye protection. At that very moment, his/her immediate need is to satisfy his/her discomfort, being hot. Long-term need of eyesight becomes secondary to the present need to cool down.

Remember an uncomfortable and/or tired worker is an unsafe worker.

As co-workers and managers, we have the responsibility to prevent short-term needs and wants to expose our co-workers to long-term risks. If exhausted or uncomfortable, replace the worker with a fresh worker or offer a break for a cool down period.

### **LEARNED LESSONS**

Ensure that the fiber blade being used with that saw or grinder has been rated for the speed (RPM's) that will be operating at. For example, blades used with chop saws (constant speed) are designed to operate at much lower RPM's than those with cut-off saws (variable speed). A fiber blade used at the wrong speed is likely to fail, throwing off shrapnel at extremely high speeds.

Check the compatibility of the blade and the tool, make sure the guard is in place, and always use a face shield.

### **SAFETY MEETING**

R&L Brosamer held a Foreman's Safety Meeting in January at the Radisson Hotel in Dublin.

Topics discussed included:

- Kick off of the Foreman's Safety Incentive Program.

- Defensive driving.
- Building crews.
- Crisis management and pre-planning safety.

Many participants went bowling after the meeting. Turns out that we had some hidden talent that was uncovered when the scores were revealed. Congratulations to Deane Allin and Joan Fuss for their high scores of the day 188 and 182.

# MEET CHARLIE DOUGLAS

**D**URING THE WEEK, YOU'LL FIND CHARLIE DOUGLAS, R&L Brosamer equipment operation foreman, hard at work on the job site, directing the flow of equipment and making sure that everybody gets what they need "so they're all headed in the right direction."

But on weekends, you'll have to look to the skies to find Charlie, who spends his free time flying his beloved 4-seater Cessna 172, purchased three years ago after earning his pilot's license.

Born and raised in Florence, Arizona, Charlie grew up working in his dad's construction company and flying in his dad's Cessna.

"I've always had the interest to own my own plane. I figured a few years ago, now



**CHARLIE DOUGLAS**

that the kids are grown and out of the house, it was time to go fly."

In the air, you never know where Charlie is headed.

"I might just get in the airplane, and the next thing I know, I'm in Laughlin, gam-

bling; or I'm in Arizona, visiting a friend; or I might just fly to Oceano (San Luis Obispo County) for lunch or Catalina Island just to land on the runway and pay \$25. I like the freedom I feel when I'm flying."

But the plane is also a mode of transportation for Charlie, who shares a home in Bakersfield with Lori, his wife of 25 years.

"I keep the plane at the Bakersfield Muni Airport when I'm there, but I have it here in Roseville now — I use it to shuttle back and forth between work and home, about a two hour flight."

That's a great way to commute, considering the amount of time away from home a life in construction demands.

After graduating from high school, Charlie took up construction full time — working

a variety of jobs before joining the Brosamer team on the Central Arizona Project 17 years ago.

"I hooked up with Brosamer then, and I've been with them ever since," with only a few brief interruptions.

There was a short period where Charlie found himself in Hollywood's film industry as a crane operator.

"I worked on movies like *Dante's Peak* and *The Truman Show*. That was fun — it was different, and I enjoyed it. But, when I got the call from Bob to come back, I left Hollywood and joined R&L. I was always looking forward to coming back; that was seven years ago and I still love my job."

And at the end of the week, when everybody's dashing off and Charlie says, "I've gotta fly," he does just that.

# DAVE CASTILLO

**I** VALUE MY TIME WITH MY FAMILY," SAYS DAVE CASTILLO, R&L Brosamer carpenter foreman and loving father of two very active boys.

"I've been fortunate, since I got married and started a family, to be able to stay in the area. Being with Brosamer allows me to enjoy my work, and still have a life with my wife and kids."

Dave's raising his family in San Jose, the city of his own birth and childhood. Weeknights and weekends center around his sons, ages 7 and 9, whose activities include Little League and karate. Both Dave and his wife Kelli perform volunteer work for the school and church.

"That's our leisure time — shuttling kids to and from activities," says Dave. "When



**DAVE CASTILLO**

we do get some free time, we all head up north and go skiing."

Dave joined R&L Brosamer as a carpenter foreman in 1998.

"I like the work we do here because we're versatile," Dave says. "We're not just doing one type of work; we're

always doing something different. That intrigues me. I don't know what I'm going to be doing next, so there's a lot of variety."

He also enjoys showing off his work to family and friends, taking great pride in his craftsmanship.

"I like that I can drive over my bridges and show my kids and my family things that I've worked on over the years — structures that will be here long after I'm gone," says Dave. "And my kids can say, 'hey, my dad helped build that.'"

Dave got into construction while in college.

"I got my first job in construction; it paid well and I liked being outdoors, and that was the end of my college career," says Dave. "I liked the actual hands-on

building, rather than the inside work, and that's where I've been for 25 years."

He attended apprenticeship schools and joined the Carpenter's Union.

"My first job was putting in fire hydrants — I learned about machinery, then concrete work. I got into housing construction and then heavy industrial — and I've been in that line of work ever since."

During his early years, Dave moved around, living for a while in Dallas and San Diego, before eventually making his way back to San Jose, where his parents and siblings still live. He says he's not leaving again.

"I get to live in the area, work in the area, and, most importantly, be with my family — for me, it couldn't be better."

## Employee profiles