

The Engineered

Summer/2005

ADVANTAGE

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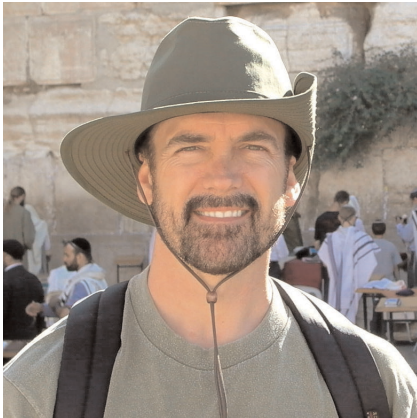
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Dear Friends:

With the publication, of the second edition and summer issue of **The Atlas Advantage**, come thoughts of warmer weather, beach vacations, family road trips and other enjoyable escapes. American Independence Day on July 4th reinforced appreciation of our American service men and women, those we keep close in our prayers. If any of you have business associates, friends or family overseas, please convey our deepest gratitude and respect.

I too will be traveling overseas this summer, to Israel, as part of a personal quest and passion. My adventure finds me involved in an archeological dig to locate ancient artifacts in Jerusalem. After three such excursions, I feel privileged to lead a group sanctioned and permitted by the Israeli Antiquities Authorities. On previous digs, expertise as a *foundation specialist*, proved to be in demand. I was able to help our group in reinforcing existing walls to ensure their structural integrity while we excavated nearby. It is extremely intense when you are digging near revered, historical landmarks, and you are the person responsible to see that no harm is done.

Although there is much political unrest in this part of the world, I do not fear for my safety while in Israel. I believe my work there is a calling and a mission as we hope to find artifacts, not only of historical but religious significance. Mostly, I pray to be worthy of the authority given to me.

Teamed up with geotechnical experts, we will be conducting soil resistivity scans at select sites in Jerusalem on this trip. Plans are to excavate after July 31. I can't wait to share news of our finds with you in the fall issue of **The Atlas Advantage**. In the meantime, please send me news and photos of your summer adventures via e-mail to wayne@AtlasPiers.com. It will be great fun to find out what special, exciting interests you have!

Warmly,
(No kidding. It's usually 100+ degrees in Israel in the summer!)

Wayne Farris

Wayne Farris, President
Atlas Piers of Atlanta, Inc.



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Temple Mount, Jerusalem



"The Leaning Tower of Pisa is a landmark known throughout the world. As it calls attention to foundation support challenges, Atlas Piers features the image in its advertisements with the slogan, "We Can Change History!"

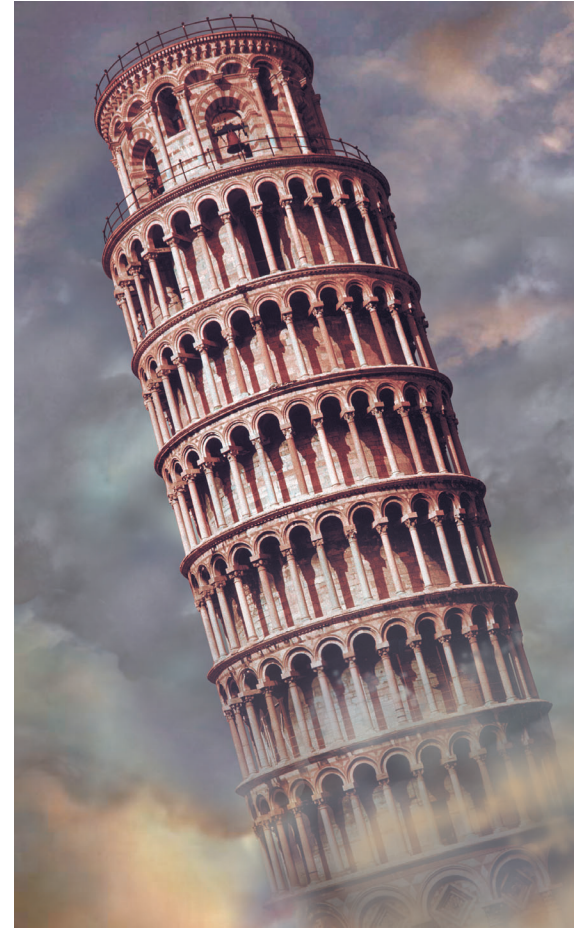
There are other inclined towers in the world, but none as famous as the 12th century bell tower which awkwardly resides at the side of the Cathedral in the Piazza dei Miracoli in Pisa, Italy. Although it was once debated whether the unknown architect intended for the tower to lean or whether it was due to construction errors, it is now widely believed the phenomena is caused by unstable sub-soils of sand, shells and marine clay and seasonal water table changes under the building foundation.

On a wall near the entry door to the stone tower is inscribed A.D. MLLXXIV CAMPANILE HOC FUIT FUNDATUM MENSE AUGUST A.D. 1174, which translates: In the month of August, A.D. 1174, this bell tower was founded. Actual construction of the tower from foundation to belfry spanned two centuries due to lapses in construction. In 1178, after the third loggia or arcade was built, work stopped due to politics and lack of funding, but by this time the incline was already evident. Ironically, the construction lapses may actually have helped compaction and prevented the tower from falling. In 1372, the last floor was built and the bell installed at the top of the tower which today measures approximately 60 meters in height and weighs 14,500 tons. From 1550 to 1817, the tower moved an estimated 5 centimeters in 267 years, but from 1817 to 1838 the movement accelerated with readings showing 20 centimeters. The tower eventually slowed its leaning progression to about 1.2 millimeters annually. Despite the incline, the historical landmark continued to stand and fortunately was not bombed during World War II when many such tall structures were destroyed due to threat of snipers.

The cylindrical tower, which leaned at 5.5 degrees, was closed for tours in 1988 due to serious threat of it toppling over or collapsing because of the incline and fragile masonry. The Pisa Commission, in charge of saving the tilting tower, has been able to reduce the incline by .5 degrees.

ATLAS PIERS OF ATLANTA NAMED NUMBER ONE IN THE NATION

Out of more than 100 Atlas Systems' distributors and installers in the United States, Atlas Piers of Atlanta, Inc. was once again ranked number one in combined helical and resistance pier sales. The Atlanta-based company has enjoyed number one status for the past two years. Wayne Farris, owner and founder of Atlas Piers of Atlanta, and his entire staff gratefully acknowledge our customers for their patronage which made this achievement a reality.



Legend says that Galileo himself conducted a physics experiment from the top of the Leaning Tower of Pisa, tossing two cannon balls of different weights to the ground to prove that descending speed is independent of mass.

In November, 2001, while its bells rang out to mark the event, the Leaning Tower of Pisa reopened. Today, groups may ascend to the top by climbing 297 stairs on the spiral staircase in the hollow of the tower. The journey is further enhanced, not only by the exquisite architectural details, but by the decorative art and finally the magnificent view. Unfortunately, tours are limited to no more than 30 persons at a time in the romantic, fragile structure.

UGA Dawgs Steaming Hot

As many of our readers are engineers and architects, we have a high percentage of Georgia Tech alumni in our circulation base. And if you are a Georgia Tech graduate, you probably could not wait to find out nasty news about your school's arch rival, The University of Georgia (UGA). Sorry. It is a literal headline.

This summer, Atlas Piers of Atlanta, had the privilege to work for AMEC-Kamtech, Inc.,

the general contractor on a construction project for the University of Georgia at its central steam plant in Athens, Georgia. For nearly a century, UGA's central steam plant has generated the steam used for heat, hot water and other various needs for the school's main campus in Athens, Georgia.

As the University has grown, so have demands on the central steam plant's ability to produce. Today, UGA boasts a

current enrollment of more than 30,000 students on a main campus that consists of 313 buildings on 604 acres. That's a lot of heat and hot water!

Because of ongoing improvements and expansion of the UGA steam plant superstructure and progressive research on alternative fuels, ever-increasing numbers of Bulldogs should be assured of plenty of steam for heat and hot water in the future.



"We were happy with them. They met our time requirements and did the job within budget. We would use them again, absolutely, and would refer them without hesitation."

UGA Steam Plant Site Poses Challenges for New Construction

As part of planned improvements to UGA's central steam plant facility, a major part of the superstructure was being replaced and updated this summer.

According to Monte Brown, site manager for the general contractor, AMEC-Kamtech, Inc., the job site presented challenges for new construction.

"Ingenious measures had to be taken to be able to accomplish this job. Not only was the terrain difficult, but the number of foundation support piers specified by Project Management Resources, Inc., UGA's contracted engineering firm, were within a mostly enclosed area with limited access," explained Brown.

"Five of the columns requiring foundation support were in the bank of a hill. These are now supported by Atlas helical piers," added Brown.

Atlas Piers Offers Time and Money-Saving Support of Dawg's Endeavors

Brown contacted Atlas Piers of Atlanta for assistance with the job because, as he stated, "Atlas Piers had the ability to meet the specifications recommended by Project Management Resources."

Wayne Farris, founder and owner of Atlas Piers of Atlanta, Inc., looked at the UGA job as an opportunity to show AMEC-Kamtech, the unique benefits of working with Atlas Piers.

"We can install foundation support products in areas of limited accessibility with hand-held equipment. Whereas alternative methods often require a staging area and maneuvering room for heavy construction equipment, we can operate in tight spots. That includes working in spaces with height restrictions, another challenge of the UGA job," stated Farris.

"Not only are Atlas Systems products and installation methods tested to be efficient and reliable, but once installed, they are ready for immediate loading. There's no cure time as required when building a continuous footer. Using our piers has the added benefit of accelerating the job timetable, saving the contractor money," added Farris.

With a projected completion date for the fall of this year, meeting the critical time schedule was an important part of the UGA steam plant construction job.

Atlas Piers On-Time and Within-Budget

When asked about the performance of Atlas Piers, Brown said, "We were happy with them. They met our time requirements and did the job within budget. We would use them again, absolutely, and would refer them without hesitation."

UGA has conducted exciting experiments in alternate fuel sources at its steam plant facility. Ongoing improvements at the facility, which produces steam for the University's main campus in Athens, required Atlas Piers foundation support.



"As an engineering consultant to the University of Georgia, I am pleased to report that Atlas Piers did an exceptional job installing the helical piers my firm specified for the construction of the new steam header at UGA's Central Steam Plant. Atlas Piers completed the job on time and very professionally, despite the difficult site conditions and weather."

Bob Synek, P.E., President, Project Management Resources, Inc.

Sleek, Custom Engineered Performance Product Designed For Atlanta's Chrysler/Jeep/Dodge



No, it's not a "hemi" or a "jeep thing". And we can't steal Chrysler's famous advertising line, "inspiration comes standard," but certainly engineering innovation is an integral part of Atlas Piers of Atlanta's custom design/build products.

One major facet of "the Atlas Advantage" is Atlas Piers ability to design customized, engineered solutions for unique physical requirements — not only natural challenges but man-made confinements. An excellent example is Atlas Piers recent work performed for Pro Building Systems, contractor for an addition to Atlanta's Chrysler/Jeep/Dodge dealership.

A Myriad of Obstacles Opposed Construction from the Start

Pre-construction studies determined it would be too difficult to remove fill material and replace it to provide proper support for the new construction. Subsurface exploration and geotechnical evaluations from Ahlberg Engineering, Inc., revealed weathered rock in the strata beginning at approximately eight feet underground and continuing to 20 feet. All foundation support work

had to be accomplished without disturbing the existing car lot, showroom and service department. There would be no allowances for structural, vibration and noise disturbance. The construction area was extremely confined with no room for drilling rigs, ready-mix concrete trucks, cranes and other "super-sized" equipment. Additionally, the contractor requested installation be accomplished within a maximum of three days in order to meet critical path requirements.

Fortunately, another "built-in" Atlas Advantage is complimentary consulting by Dr. Kraft, Atlas Systems Senior Engineer and one of the nation's leading foundation support experts. After carefully reviewing the engineering specifications and the geotechnical surveys, Dr. Kraft recommended Atlas develop a custom helical/pile design specifically for the job. The adapted product featured a 3.5" round shaft with two helix flights: one at 8" and the other at 10". The flight at 8" featured a 90 degree shell cut to embed in the weathered rock with a minimum torque of 7,600 ft/lb.

Acknowledgements:

Job: Addition to Atlanta Chrysler/Jeep/Dodge Dealership
Architect: Zenner Group
Structural Engineer: Estes Shields Engineering
Geotechnical Surveys: Ahlberg Engineering
General Contractor: Pro Building Systems

A small, back hoe with a 12,000 ft./lb. Gear Motor was used to expertly twist the product into the ground. All 38 custom designed piers were installed in 2.5 days, capped and ready for immediate loading. All the while, the automobile dealership was able to continue doing business without major interruption due to noise and vibration.

Beat the Summer Heat with Free Lunch Indoors

Courtesy of Atlas Piers of Atlanta



Since publication of the first issue of The Atlas Advantage, we've received many phone calls to schedule "lunch and learn" programs.

You are sure to be cool when you contact Atlas Piers of Atlanta to arrange a complimentary "lunch & learn" presentation in your office this summer. Not only can you learn the latest information from our foundation specialists and strategies from challenging case studies, but you and your associates will avoid the afternoon slump from going out to lunch in the heat and humidity. It is interesting, convenient and besides, who can resist a FREE lunch? For architects and engineers, we offer an additional incentive to participate as you are eligible to earn continuing education credit from Atlas presentations. As a host company, you also receive a technical reference manual as a valuable resource for your firm's reference library.

To schedule your event, call Kelly with Atlas Piers of Atlanta at 770.740.0400 today or e-mail your request to: Kelly@AtlasPiers.com

Special thanks to the following companies who have hosted an Atlas Piers "lunch & learn." (New host companies since the first issue of The Atlas Advantage are listed in red.)

AMEC-Kamtech, Inc.
ASD, Inc.
ATC Associates
ATS
Alex Roush Architects, Inc.
Alhberg Engineering, Inc.
B & E Jackson & Associates
Barry Levin & Associates
Bellamy Brothers, Inc.
Bennett & Pless, Inc.
Brittingham & Associates
Brock Green Architects
Brockway & Assoc.
Browder & Leguizamon & Associates
CGLS Architects
Clark Patterson Associates
Corcoran Nelson Nardone & Associates
Cross Engineering, Inc.
Cuh2A
DMD Engineering & Testing
Dean Oliver International
Dougherty Schroeder & Assoc.
Eagle Engineering
Foley Design Assoc. Architects
Foreman Seeley Fountain, Inc.
GEC
Gallet & Associates of GA
Gardner Spencer & Smith

Goode Van Slyke Architects, LLC
Greenberg Farrow Architects
Harris Fritz & Associates
Harrison Design Associates Ltd.
Howell Rusk Dodson Architects
J. W. Robinson & Associates
John Portman & Associates
KSI Structural Engineers
Kaiser Earth Tech, Inc.
LAI Engineering
Lockwood Greene Technologies
Lyman Davidson Dooley
Moma Architecture, Inc.
Merrick
Nannis & Associates
Niles Bolton Assoc.
Norton, Schmidt & Warden Engineers
Nova Engineering
PSI
Perkins & Will Southeast, Inc.
Phillips Partnership PC
Pond & Company
R.J. Griffin & Company
Rabun Hogan Ota & Rasch
Randall – Paulson Architects
Rosser International
SP Design Group
Scott Johnson
Sedki & Russ Engineers, Inc.
Sizemore Group
Skanska USA
Southern A & E, LLC
Stan Lindsey & Associates
Starzer Brady Fagan & Assoc.
Stevens & Wilkinson
TVS & Associates
Terracon
Tomberlin Assoc.
Uzan & Case Engineers
Wakefield Beasley Assoc. Architects
Watts & Browning Eng.
Willett Engineering Company

Atlas Accolades - Uplifting News

The dictionary defines an accolade as an expression of praise. Because we at Atlas Piers of Atlanta believe there is a great deal of overlooked good news in the world, we are dedicating this page to share it with you.

This Issue's ATLAS ACCOLADE AWARD goes to Ryan Bellflower of Clovis, CA...One Shot Wonder, A Tribute To Determination

A bold reminder of enduring human determination is a heart-warming story recently reported by the Associated Press and other news sources. It's about an 18-year-old special education student, Ryan Bellflower, at Clovis East High School in Clovis, California. Although, the developmentally challenged student couldn't grasp the mental foundations and rules, he loved memorizing sports statistics and played the basketball game, H-O-R-S-E, with his brother Justin at home.

After dedicating years of selflessly helping set up practices, running the time clock, bringing water and cleaning up after the girls' and boys' basketball teams at his high school, Ryan is finally allowed to dress-out in uniform for the last varsity game.

With the Clovis East team comfortably ahead and only minutes to go in the fourth quarter, fellow team and school mates, as well as parents in the gymnasium, begin to stomp, clap and chant, "We want 'Ryno'," urging Coach Tim Amundsen to put Ryan in the game. In a fairy-tale ending, as his brother watches in tears, Ryan sinks the last shot of the game from a spot behind the 3-point line with a magnificent swish. Although according to

those closest to Ryan, he does not really understand all the "hoopla" about what he has accomplished, his example becomes an inspiration for all those witnessing the incredible event.

For other great news and sports, check out MSN.com or FOXSPORTS.com

ONLY IN FUN

You might be an engineer if...

- You look forward to Christmas only to put together the kids' toys
- You have used coat hangers and duct tape for something other than hanging coats and taping ducts
- You have a slide rule and know how to use it
- You know what http:// stands for
- Your lap top computer costs more than your car
- You have ever fixed a \$5 radio

TOP 10 ARCHITECTURAL INNOVATIONS OF THE NEXT 50 YEARS:

10. Wireless plumbing
9. Good looking concrete
8. Plexisteel
7. Temporary buildings that are actually temporary
6. Miniaturization
5. Building DNA
4. "Smart" floor tiles
3. Sport utility houses
2. Self-cleaning dormitories
1. Virtual reality bathrooms

Special Thanks to Alfred Twu, University of California, Berkeley. Be sure to check out his website at: www.ocf.berkeley.edu/~atwul/firstcultural/fci_main.html

QUIPS & QUOTES

"If you tell the truth, you don't have to remember anything."

Mark Twain