



GEOTECHNICAL & FOUNDATION CONTRACTORS



TREVIKOS

compromised commitment to safety

Because we are a service company, our success is based on our ability to **exceed our clients' expectations**. To that end, we demand professionalism and a shared vision from our team, while providing them with the means to put their skills into practice.

We can only be as effective, authoritative and resourceful as our team; our aim is to create a work environment which all individuals can grow to their maximum potential. Working as a team and adopting a collaborative approach to efforts and problem-solving is one of our trademarks. This, combined with the knowledge, expertise and the means to offer the best services in underground construction, poises us to become an industry leader in the North American market.

*Service-oriented effectiveness achieved through Team spirit and motivated individuals.
We implement daring technologies, advanced solutions and match them with strict safety
procedures.*



Safety

Safety is an integral part of our activity, a key factor in achieving quality and control over the processes. Safety is achieved through strict training that often exceeds standard requirements. All this has resulted in a safety record that has made us a protagonist in the industry.

Commitment

We define commitment in finding a solution to the most complex ground engineering tasks, through the application of technology and the dedication to our projects. Whether clients come from the public or private sector, our commitment is dedicated to achieve the best available response to the technical, logistical and organizational challenges imposed by the task.



1964

ICOS founded
Specials works for
World Trade Center, NY



1997

TREVIICOS
founded



1997

The BIG DIG
of Central Artery, Boston



2001

Foundation of
Harvard University in Boston

TREVIICOS was founded in 1997 when TREVI acquired ICOS to combine the world-class experience of TREVI and ICOS and the profound knowledge of the North American market. ICOS Boston descended from ICOS, who invented and perfected the slurry wall process, a technological advance in ground engineering. Active in North America since 1964, among other accomplishments, ICOS made possible the construction of hundreds of infrastructure projects and noted buildings, including **the World Trade Center in New York City**.

TREVIICOS was formed in March 1997 just in time to be awarded a major contract for the complex foundation system of the new

Southeast Expressway, better known as the Big Dig.

From New England to the U.S.

As work on the Big Dig projects ended, private development in the Boston area flourished, offering opportunities for TREVIICOS to be involved in the construction of new hotels, condominiums, office buildings and medical and educational facilities.

We completed nine major projects for Harvard University, two for the Massachusetts Institute of Technology, five condominium projects and five hospital and medical facility projects. We also have worked on convention centers, hotels, light rail systems, bridges and highway projects throughout the New England area.

A tradition of solid work in the United States, an unmatched record of achievements in ground engineering that lead to a significant contribution to the nation's infrastructure.



2001

Special works
in California



2002

Walter F. George Dam



2005

Tuttle Creek Dam
and other dams and levees



2011

Continuing geotechnical
& foundation works

We also began to look for other regions in the U.S. where we could use our expertise to make inroads into the market of foundation construction. This new “nation-oriented” approach led to New York City public works projects and later for construction of deep foundations for several large condominium projects. By the beginning of 2001 TREVIICOS was actively present in California where we performed important projects such as Webster Posey Tube for CALTRANS and in Florida through its subsidiary TREVIICOS South. TREVIICOS South's early involvement in Florida was soon followed by the award and successful completion of the rehabilitation of Walter F. George Dam in Alabama. Subsequently our technology, expertise and resources were recognized by the market, with the

Tuttle Creek project added to our list of contracts in late 2005. Over the next three years, the involvement in major Dam and Levee projects resulted in the award of the Herbert Hoover Dike project, which surrounds Lake Okeechobee in Florida; the highly complex project to consolidate Wolf Creek Dam in Kentucky for the U.S. Army Corps of Engineers; and work for the Levee improvement to the New Orleans East Back Levee Reach LPV 111 in Louisiana.

Today TREVIICOS continues to be present in the metropolitan areas mainly east of the U.S. while extending its reach throughout the North American market in the most challenging and demanding projects.



*LPV 111 New Orleans, LA
The 1,700,000 cy of DMM, was the biggest soil mixing project ever done
in the U.S. & possibly the world; it was completed ahead of schedule in March 2011.*



SLURRY WALLS

A Slurry Wall is a system which can provide lateral retention, load bearing capacity and waterproofing to a foundation while becoming part of the permanent structure. It can be built with zero clearance to existing structures, act as underpinning of superficial foundations and, in conjunction with pre-founded columns, constitute the perimeter wall in top-down construction schemes. Slurry Walls are very versatile: they can assume any shape in plan, with thickness varying from two to five feet and to depths in excess of 400 feet through every imaginable soil condition. Circular slurry walls permit unbraced excavation while post-tensioned Slurry Walls allow for greater unsupported spans.

Dana Farber Hospital - Boston, MA



SOIL MIX WALLS

When soil conditions permit, Soil Mix technology is a very quick way to provide temporary lateral support to excavations by creating mixed-in-place columns reinforced by H beams, inserted into the freshly mixed soil cement.

60 Oxford St. Garage - Cambridge, MA



SECANT PILE WALLS

The use of Secant Pile Walls as a retention system has been widely applied where conditions make it a competitive alternate to other retention systems. By drilling in between the previously concreted piles cutting a portion of them in the process, a structural wall can be constructed by overlapping circular sections. Diameter of the piles, amount of overlap, depth and reinforcement can vary to suit design requirements.

Newark Elizabeth Rail Link - New Jersey





Marriott Marquis Washington, D.C.

PLASTIC CONCRETE WALLS

When the only requirement is to construct a continuous, watertight barrier, capable of accommodating some movements and deformations, the use of slurry walls filled with Plastic Concrete is the preferred method. It has been applied extensively for dam cut-offs both under the proposed structure and as a mean to repair existing ones.



Walter F. George Dam - Alabama

CAISSON

Caissons are among the most versatile foundation elements, ranging in diameter from 18 inches to over 10 feet, capable of being built in any ground condition, reinforced with spiral cages or H beams, installed from land or over water, vertically or on a batter. The variety of equipment utilized in their construction reflects the need to optimize production in any given situation.



Jacked Tunnels - Boston, MA

SOIL MIX PILES

Soil Mix technology allows for very rapid, noiseless and vibration free creation of a soil-cement mixed pile in which an H beam or pipe can be vibrated to depths in excess of one hundred feet.



Tuttle Creek Dam - Kansas



Herbert Hoover Dike, FL

MICROPILES

Micropiles generally range in size from 6" to 12" in diameter and are installed with small drill rigs in a variety of applications. They are used for foundation support, to stitch together crumbling foundations, as underpinning systems, to stop slide movements and for a variety of other uses. Micropiles are a versatile tool in the hand of the designer who can solve many problems intractable by other means.

San Marco, Venice - Italy



CFA

The technique of constructing piles using Continuous Flight Auger drilling, pumping concrete through the auger stem and vibrating either a reinforcement cage or an H beam into the fresh concrete allows, in the right soil conditions, for quick and inexpensive construction of foundation elements.

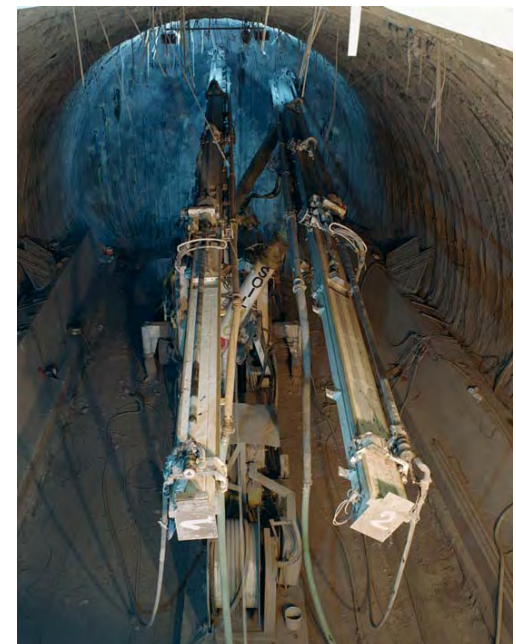
High Speed Raylway MI-TO - Italy



BARREL VAULT METHOD

When a tunnel has to be done in soft ground the support of the advancing excavation is of paramount importance. The use of special jumbo rigs designed to drill and grout in place an "umbrella" of reinforcing elements creating a shield for the advancing excavation allows for safe and speedy construction even under the most difficult soil conditions.

Raticosa Tunnel - Italy





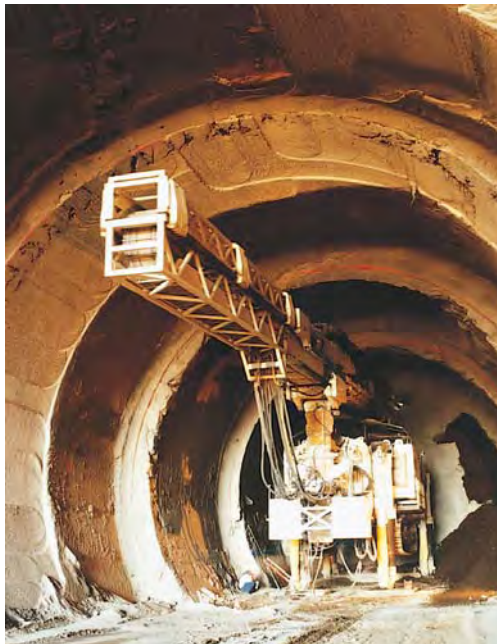
The Big Dig Boston, MA

PRETUNNEL

The Pretunnel technique involves the construction of a concrete shell ahead of the tunnel face and around the ground, which will subsequently be evacuated.

While this is the final load-bearing structural lining of the tunnel, it also provides stable and safe support during tunnel excavation by minimizing ground loss and settlement particularly in difficult soil conditions. In addition, the Pretunnel technique can be used to minimize traffic disruption when widening existing tunnels. Traffic can continue to flow beneath a steel shell while the Pretunnel machinery inserts the new concrete lining and excavates the widened tunnel vault.

Castello Tunnel - Italy



JET GROUTING

Jet Grouting is a technique which employs one, two or three fluids to mix in situ or replace soil underground with cement based grout mix. The common denominator of those methods is the use of very high pressure in the injected fluid, which mixes or displaces the soil, rather than permeating it as in conventional grouting techniques. The possibility of creating treated horizons or columns of improved soil results in a variety of applications ranging from vertical cut-offs to bottom plugs, from underpinning to underground strutting elements.

Diavik mine - Canada



SOIL MIXING

Various types of equipment can be used to perform deep mixing, but the technique essentially relies on mechanical means to create an in situ mixture of soil and grout. Soil Mixing can create continuous vertical barriers, reinforced if needed by installing H Beams at preset intervals. It can be used to form cells of treated soil to avoid liquefaction, to create gravity structures or to improve overall characteristics of a soil mass.

LPV 111 - New Orleans





Wolf Creek Dam Jamestown, KY







At TREVICOS we consider people our most important resource; a well balanced mix of training and experience allow us to take on any task, knowing that our teams can rise to the most difficult of challenges. We place emphasis on training and teamwork so that a shared project becomes the undivided goal. Our people have made TREVICOS what it is today, a leader in the industry and a pioneering force in ground engineering.



"Our people are our foremost resource. It's not just a matter of skill, know-how or level of expertise. It's a question of commitment and ultimately a sense of mission. That's what sets us apart."

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TREVIGroup main brands

