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Principals

Narender Kumar, P.E.
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Current Projects

**Broadway & C-470
Underpass Soil Nail Wall**
Client: PBS& J

**Colorado School of
Mines Student
Recreation Center**
Client: Colorado School of
Mines

**Pueblo Chemical Agent-
Destruction Pilot Plant
Project**
Client: Stillwater Engineering

**New Falcon High School
& Falcon High School #3
Colorado Springs**
Client: Falcon School District

**Fort Carson, Evan Army
Hospital MRI Addition**
Client: Emerald CM, Inc.

News @ K + A

April 2006

Colorado Rapids Soccer Stadium and Sports Park At Prairie Gateway

In September 2005, Kroenke Sports Enterprises (KSE) broke ground on the new Colorado Rapids Major League Soccer Stadium and Prairie Gateway development. The 1,000-acre development is located just north of I-70 at 56th Avenue and Quebec Street in Commerce City. The stadium and Sports Park will occupy 360 acres of the Prairie Gateway development, which will also include 600,000 square feet of retail space, a new civic center, and a visitor's center and educational facility for the U.S. Fish and Wildlife Service. The site also contains one of the largest urban nature preserves in the country, as well as one of the few remaining short-grass prairies in existence. Once completed, it will be the world's largest soccer complex with 24 playing fields.

HOK Sports designed the stadium with a unique look to reflect the shape of the Rocky Mountains. This will be accomplished with the use of a number of massive, angled steel panels that will be arranged to form a pitched mountain over the seating areas on both sides of the field. The stadium will hold 18,000 soccer fans in a combination of 11,000 fixed seats and 7,000 bleacher seats. Bleacher and lawn seating for 2,000 additional fans will be located on the berm area at the north end of the stadium. A total of 22 luxury suites will line both sides of the field. The stadium can be configured to hold up to 26,000 for concerts.

Kumar and Associates, Inc. has been retained by KSE, through the Romani Group/ICON Venue Group, to perform the construction observation and materials testing services for the project. Our services will include the observation and testing of earthwork for the excavation and backfill of the stadium bowl and walls, structural concrete testing for the foundations, walls, bleachers and concourses, reinforcing steel observation, structural masonry observation and testing as well as the inspection of the structural steel erection. In addition to field observations of structural steel erection, we are providing fabrication shop inspection in various structural steel fabrication facilities located in Colorado, Arkansas and Nebraska.

Submitted by Scott Keim, P.E.

K+A has signed on as the Title Sponsor for the Society of Marketing Professionals Services' (SMPS) annual golf tournament to be held in August. The tournament benefits Habitat for Humanity that K+A is honored to support.



The Children's Hospital Fitzsimmons Campus, Aurora, Colorado

The Children's Hospital is currently under construction on the Fitzsimmons Campus in Aurora, Colorado, and will be open for business in 2007. Kumar & Associates (K+A) provided geotechnical engineering services for the proposed development, and has been providing construction observation and materials testing for the project since the start of construction in 2003.

The new hospital complex will include a 10-story hospital building with a basement level and a 4-story office building with a basement level and adjoining 3 to 4-story buildings used to house offices and specialized medical practices. Additionally the project will include a 2-level parking structure located south of hospital complex and a 3-level above grade parking structure located east of the complex and extending about one city block in length. Large, at-grade parking lots and access roads will surround these facilities, including extending Wheeling Street from Colfax Avenue to 17th Place, and Victor Street from 17th Place to Montview Boulevard.

K+A has several years of experience on the Fitzsimmons Campus working for the University of Colorado Hospital and the University of Colorado Health Sciences Center on projects including the Anschutz In-Patient Pavilion, the CeDar Center and the Education II facility. That experience was necessary in optimizing foundation recommendations for the support of Children's Hospital structures.

Submitted by Greg Monley, P.E.



New Technologies at K+A

With today's construction schedules becoming more compressed, anything that can help accelerate construction process can be big advantage. K+A is committed to implementing new technologies to aid contractors in improving speed and efficiency during construction.

One service we now offer is concrete maturity evaluation. Concrete maturity technology (ASTM C 1074) has been around for decades. Maturity is measured by taking the differential between time and temperature. This technology is simply based on the fact that the chemical reaction in concrete accelerates under warm conditions, and slows down under cold conditions. A logger is embedded in the wet concrete. When activated, the loggers continuously record temperatures and calculate a time-temperature factor. The in-place strength of the concrete can then be estimated at any time by attaching a handheld computer to the loggers.

Regardless of the shape of the concrete placement (e.g. drill shafts, columns, beams, caps, pavement, elevated decks, post-tensioned concrete), documenting the in-place strength is the key to enhancing the project's QC, QA, and critical path. It is not uncommon for concrete operations to be safely completed days ahead of schedule compared to what would be accomplished using the traditional comprehensive strength cylinder method. Please contact us if you would like more information.

Submitted by Scott Hougard

For more information about K+A please see our website
www.kumarusa.com or contact Jeff Johnson at
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