## Colorado Department of Transportation

March 2017 eNewsletter

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Please forward/share this email with others who may have an interest in the llex Design-Build project.

For a PDF version, click here.

## **Current Design Work**

- Storm drainage nearing completion
- Final lighting, signing & striping plans being finalized
- Landscaping & irrigation plans nearing completion

### **Current Construction**

- Deck replacement on the northbound I-25 bridge over Indiana Ave. has started
- Work is nearing completion on the rehabilitation of Mesa Ave. over I-25
- Piers & pier caps for

# Phelps Creek and the Flood of 1921

The I-25/Ilex Design-Build Project includes a new bridge over the Thomas Phelps Creek Trail. Did you know that one of the most well-known natural disasters in Colorado occurred in Pueblo involving the creeks and rivers that run through the city? It was the devastating flood of 1921.

Between June 2 and 5, 1921, heavy rain fell in the Arkansas Valley and in and around the City of Pueblo. It is estimated 6 inches or more fell during this time, but without an official Weather Bureau in existence in 1921, the rainfall was only measured by people in tubs and buckets, so totals are not consistent.

A large cloudburst occurred approximately 10 miles west of the city on June 3, causing devastating consequences in the downtown area at the point where the Arkansas River and Fountain Creek meet.

The rivers and creeks, including Phelps Creek, overran their banks as rain continued to pound the city, the water reaching as high as the second story of buildings before waters began to recede a week later. In only two hours, the entire business district was under water, and a local lumberyard caught fire that sent burning lumber down flooded city streets.



The aftermath - looking south along Union Avenue (THG file photo).

Tragically, around 300 lives were lost, but original estimates were nearer 1,500. The flood of 1921 covered 300 square miles, more than

- the CML bridge over the railroad underway
- Embankment operations between the I-25 bridges over Gruma & UPPR (railroad) underway
- US 50C Truss Bridge over Arkansas River rehabilitation
- Northern Ave bridge rehabilitation
- Clark and D Street cul-de-sac drainage & roadway construction
- Mechanically
   Stabilized Earth
   (MSE) walls from
   Gruma to City Center
   Drive
- MSE walls from CML to Gruma
- Storm drainage installation on the north portion of the project

## **Upcoming Construction**

- Construction of the bridges over Gruma & the UPRR will resume
- Bridge over Phelps Creek Trail and UPRR easement
- Work on new D Street on/off ramps & traffic shift onto new D Street
- MSE walls adjacent to I-25 from Phelps Creek Trail north to UPRR

# **Project Schedule**

Northbound I-25: Spring 2015 to Fall 2017

Southbound I-25: Fall 2017 to Fall 2018

**Bridge Rehabilitations:**Summer 2015 to Summer 2017

Anticipated Completion: Fall 2018

600 homes were destroyed, downtown buildings and businesses were washed away, even whole passenger trains were carried away - eventually totaling close to \$25 million in damages.

One of the most amazing things about the 1921 flood was not the amount of damage and loss, but the extreme bravery and kindness of the people caught in the wake of this disaster.

Phone operators stayed at their posts despite rising waters, saving hundreds of lives by continuing to call with warnings. The Elks Club acted as a relief center where 3,000 refugees were assisted until additional aid arrived from the Red Cross, Salvation Army, Knights of Columbus, and the military. Rescue workers arrived from throughout the country, and worked sometimes 48-hour shifts until they dropped from exhaustion, when new workers would pick up their tools and continue.

With all the heroes that emerged, and relief organizations that came to aid Pueblo's citizens, the City of Pueblo was up and running again in record time.

In the wake of the flood of 1921, the City of Pueblo also established a committee to oversee the development and implementation of a flood control plan to help prevent a reoccurrence of this disaster in the future.

# MSE Walls - More Than Meets the Eye

The I-25/Ilex Design-Build Project includes installing Mechanically Stabilized Earth (MSE) Walls, which are soil-constructed retaining walls with artificial reinforcing.

While you've surely driven past MSE walls, you have probably never thought of the extensive process that goes into their design and construction. The walls currently being constructed on Gruma Drive with the wave pattern, and the D Street panel walls with the baseball image actually went through quite a long process!

First, initial design was produced by the Colora do Department of Transportation (CDOT) with the project architect, THK & Associates. Once the project was underway, the project team held several meetings about how to apply the designs to an MSE wall. After



MSE Walls with wave pattern at Gruma Drive.

coming to an agreement on how to best represent the images on concrete wall panels, digital designs were finalized and passed on to the MSE Wall Manufacturer, Reinforced Earth Company (RECo) - recognized as the inventor and market leader of the MSE retaining wall industry.

RECo then needed form liners to cast the walls with the designs. Form liners are made from urethane rubber or occasionally fiberglass, and create the design element of the wall expressing the history and culture of the community. Through a community involvement process, the design of a baseball player was selected to represent Pueblo's baseball

# **Stay Connected**

Website:

Colora do Info Project

Email:

i25ilex@PublicInfoTeam.com

Hotline: (719) 470-2270

## **Quick Links**

Project Website
CDOT Website

# Sign Up to Receive Enewsletters

To receive future Ilex Design-Build project eNewsletters and construction notices, send an email to <a href="mailto:i25ilex@PublicInfoTeam.com">i25ilex@PublicInfoTeam.com</a>

# What the Project Involves

The Ilex interchange is the first segment to be constructed as part of the New Pueblo Freeway.

The project consists of replacing bridges on I-25 between Ilex Street and City Center Drive in Pueblo. Work includes rehabilitation of bridges on northbound I-25 over Santa Fe Avenue (US 50C), I-25 over Indiana Avenue, on the Santa Fe Avenue (US 50C) bridge over the Arkansas River, and on Northern Avenue and Mesa Avenue over I-25.

Structurally deficient bridges on I-25 over Gruma Drive, the Union Pacific Railroad, and Ilex Street will also be removed and replaced.

Interchange ramps will be lengthened to provide safer transitions onto and off of

history, and a wave design seen throughout other projects in the city representing the Riverwalk.



The baseball player-themed wall at D Street erected last year.

Scott System in Denver was contracted to make the form liners for this project. They took the digital files and made dimension adjustments to get an exact fit for the specific panel shapes.

"Once the final designs were approved, the in-house sculptor at Scott System used clay, wood, urethane and

other mediums to produce a full-size master mold," said Jay Hippel, RECo project manager. "Urethane was then poured over the master to create the form liners."

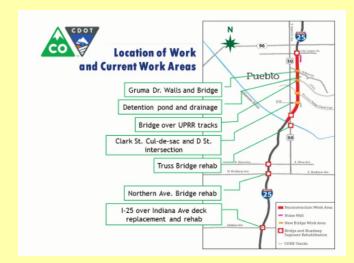
After the form liners were touched up, they were sent to a precaster for panel fabrication. In the case of the baseball images, a special  $10^{\circ} \times 10^{\circ}$  form was fabricated for casting these large panels. The precaster installed the liner into the form and poured the concrete panels, stripped them from the forms, and stored them for curing. When they reached a minimum concrete strength, the panels were shipped to Pueblo for installation.

A shop drawing was then created, where the panels were numbered so they could be pieced together in the correct order upon installation - similar to a jigsaw puzzle.

On the job site, MSE panels are hoisted using lifting devices and set in place, braced by wood. The MSE wall construction process involved setting panels, placing and compacting lifts of select backfill, attaching steel strips to the backs of panels, and continuing to place backfill on top of the steel. The process is repeated until the wall is complete.

The baseball-themed panels on D Street/I-25 were installed last spring, while the walls at Gruma Drive are being installed now. So, when all is said and done, something that appears so simple actually is a complicated process. The combination of technical experts, quality designers and community participation all contributed to an aesthetically-pleasing final product for the project.

# Working at Every Location of the Ilex Project



the Interstate, especially the 1st Street ramp to southbound I-25. Roadway curves will be softened to improve visibility and provide a smoother ride for motorists.

Local roadway improvements are included at D Street, Ilex Street, Bennett Street cul-de-sac, Clark Street cul-de-sac, and along Santa Fe Avenue.

Bridges will be widened at City Center Drive and I-25 over Santa Fe Avenue (widened to the median).

Noise a batement will also occur along some segments of I-25.

## **Project Partners**

- Colora do Department of Transportation
- Federal Highway Administration
- City of Pueblo
- Pueblo County
- The Community

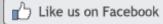
## **Funding**

State of Colorado revenues from a safety fee placed on vehicle registrations have helped fund the llex Design-Build project.

Funding sources for the project:

Bridge Enterprise

RAMP (Responsible Acceleration of Maintenance and Partnerships)



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It's an exciting time, as work is currently happening at every location of the I-25/Ilex Design-Build Project.

## Work Zone Safety is in Your Hands

National Work Zone Awareness Week is April 3-7, and this year's theme is "Work Zone Safety is in Your Hands." Work Zone Awareness Week began in 1999 when the American Association of State Highway and Transportation Officials, the Federal Highway Administration, and the American Traffic Safety Services Association joined forces to increase public awareness at the start of the highway construction season.

To put work zone safety in perspective:

- 85 percent of work zone fatalities are motorists and occupants
- In Colorado in 2011, preliminary statistics indicate there were 830 work zone crashes, resulting in 96 injuries and 10 fatalities, many of which could have been prevented.
- About 600 people die and more than 37,000 people are injured in work zone crashes nationwide.
- In a typical five-day work week, an average of seven motorists and one highway worker are killed nationwide.

The goal of the National Work Zone Awareness campaign is to reinforce the message that motorists need to constantly be alert in and around work zones, and to slow down where required.

Work zones are dynamic environments with many moving parts including trucks, flaggers, changing traffic patterns, and reduced speed limits which all create the need for motorists to be aware of their surroundings to prevent accidents.

"Work Zone Awareness Week is an opportune time for Colorado Department of Transportation to remind motorists to slow down in work zones. You aren't just slowing for cones, you are slowing to protect the lives of those working to improve and maintain the roads you use everyday," said Michelle Peulen, CDOT Region 2 communications manager. "You are slowing to be safe around construction sites for the sake of yourself and your passengers, as well as for the safety of the project workers so everyone returns home to their families," said Peulen.

# Ilex Team Presents Project Update to Press Club



Last Tuesday, March 14, CDOT Project Manager Jennifer Billings gave an update to the Southern Colorado Press Club about the I-25/Ilex Design-Build project.

## "Refuse to Lose" February Award Winner

February's Refuse to Lose Award winner is Isaiah Sanchez, an inspector for Atkins, the CDOT Design/Engineering Project Management consulting firm.

After work had been completed for the day February 24, 2017 at the Northern Avenue bridge over I-25, an elderly woman driving eastbound over the bridge struck the curb and punctured the tire of her car. She was able to get off the bridge and pull into the passing lane before stopping. Though she was off the bridge, she was still very



Isaiah Sanchez (left) congratulated by Flatiron project manager, Mike Blasi.

close to adjacent traffic and in an active lane.

Sanchez, traveling home after work hours, noticed that the woman and those helping her were precariously close to traffic. With his safety lights on, he pulled behind the disabled vehicle and another truck, helping provide a barrier to oncoming traffic. Sanchez then realized those helping the elderly woman were having issues with her vehicle jack. Retrieving his own jack, he took charge of the situation, changed the tire, and was able to get the woman on her way to a family gathering. Congratulations Isaiah!

### Additional Project Information

For more information about the I-25 Ilex Design-Build project, visit the <u>CDOT website project page</u>. To receive future Ilex Design-Build project e-newsletters and construction notices, send an email to <u>i25ilex@PublicInfoTeam.com</u> requesting to be added to the email list.

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