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Colorado Department of Transportation **October 2017 eNewsletter**

In This Issue

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Current Design Work

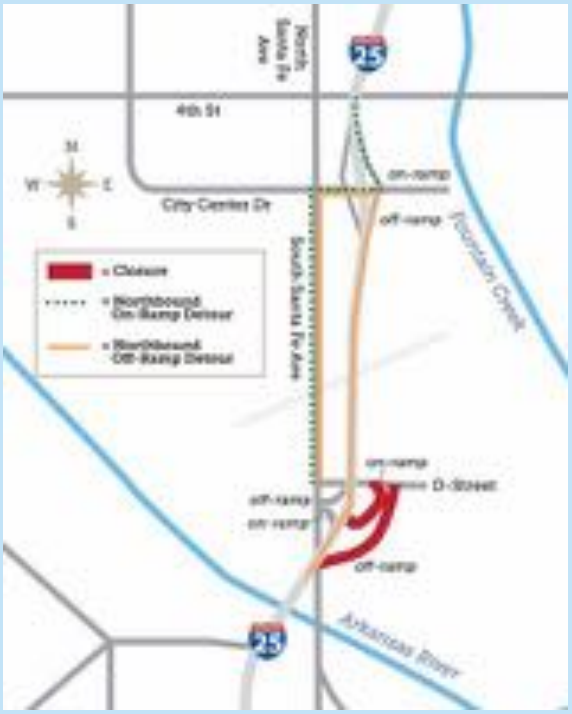
- Landscaping & irrigation plans nearing completion

Current Construction

- All roadway and structural work is complete on the I-25 over Indiana segment. Concrete stain on the substructure will begin this fall for 100% completion

Long-term Ramp Closures Necessary to Keep Work on Schedule

As most people know by now, the Interstate-25/Ilex Design-Build project encountered a schedule delay with the addition of a fourth bridge over the Union Pacific Railroad at Thomas Phelps Creek. To expedite the schedule and minimize inconvenience to the travelling public, it is necessary to enact long-term ramp closures at Ilex Street/Exit 98A, Santa Fe Avenue, and City Center Drive which will eliminate the need for several smaller ramp closures.



The first ramp closures begin 5 p.m. Sunday, October 29 for the I-25 northbound on- and off-ramps at Ilex Street/Exit 98A. The off-ramp will reopen January 2018. The on-ramp will remain closed until a traffic shift on I-25 in March 2018 to accommodate extensive grade changes needing to be made before the shift. After the northbound off-ramp is re-opened at Ilex Street/Exit 98A in January 2018, the northbound off-ramp at City Center Drive will be closed.

"We experienced a significant delay when the need for a fourth bridge was added into the plans after construction

- Work is complete on the Mesa bridge structure, signing & roadway. Concrete stain on the substructure will begin this fall for 100% completion
- Piers & pier caps for the CML bridge over the railroad, abutment construction, & girder set complete
- Embankment operations between the I-25 bridges over Gruma & UPPR (railroad) underway
- US 50C Truss Bridge over Arkansas River structural rehab complete, painting & deck pour this fall
- Northern Ave bridge is in Phase 3 construction on north side of bridge removing sidewalk & repairing deck with completion in fall
- Clark and D Street cul-de-sac drainage & roadway construction complete w/remaining sidewalk, grading & landscaping completing this fall
- Mechanically Stabilized Earth (MSE) walls from Gruma to City Center Drive nearing completion
- MSE walls from CML to Gruma nearing completion
- Storm drainage installation on the north and south approaches of the project
- Bridge Deck construction on I-25 over Gruma
- Bridge deck construction on I-25 over CML
- Center piers & crash wall construction on Bridge over Phelps

had already begun," said Jennifer Billings, CDOT Project Manager. "Our team is committed to remaining on schedule, and sometimes that means making adjustments that weren't in the original plans, such as these longer-term ramp closures."

Flatiron Constructors, Inc., the contractor for the Ilex project, has been hard at work building walls and bridges in preparation for the first major traffic shift on I-25, occurring in March 2018. The long-term ramp closures will enable the project to remain on target with the revised schedule of substantial completion by December 2018.

Girders Set on I-25 Over Union Pacific Railroad

The I-25/Ilex Design-Build team set girders for the new two-span bridge on I-25 over the Union Pacific Railroad (UPRR) tracks near Fay's Crossing last month. Click **here** to watch the time-lapse video!

A Look Back at Ilex Project Accomplishments

The I-25/Ilex Design-Build Project is still full steam ahead on construction in several locations, so sometimes it's hard to remember all of the accomplishments to date!

- Project Accomplishments/Status:
  - Mesa Bridge rehabilitation **COMPLETE**
  - Northern Bridge superstructure (top portion) complete in November 2017, substructure (lower portion) by spring 2018
  - Truss Bridge completion by end of 2017
  - Indiana Bridge completion in October 2017
  - Clark Street/D Street intersection **COMPLETE**
  - Bennett Street cul-de-sac complete
  - MSE Walls at D Street intersection with baseball player/wave retaining wall design **COMPLETE**
  - MSE Walls at Gruma with Ashlar / Wave Design retaining wall **COMPLETE**
  - Iron Phoenix Structure is underway with Pier Cap/Crash Wall **COMPLETE**
  - Preparations underway for deck panels and a deck pour early November
  - I-25 over Gruma bridge deck **COMPLETE**; approaches & guardrail underway

The I-25/Ilex Design-Build Project has a substantial completion date of December 2018.

Special Cargo Travels Through Ilex Project

It's one thing to keep regular traffic moving smoothly through a major highway construction project like the I-

Creek Trails & UPRR Easement complete
- Northbound I-25 bridge over Santa Fe deck repairs

Upcoming Construction

- Northbound I-25 bridge over Santa Fe deck repairs
- Bridge over Phelps Creek Trail & UPRR easement
- D Street on/off ramp MSE walls & roadway construction
- Final Grading and Seeding from Gruma to City Center Drive

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

Final Configuration: December 2018

Project Completion: April 2019

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Quick Links

Project Website
CDOT Website

25/Ilex Design-Build Project, but how about 200-foot-long wind turbines?

This was the situation facing the Ilex project team which worked diligently with Vestas wind turbine company, the Colorado Department of Transportation (CDOT) Permits Office, and Lonestar Transportation trucking company, to ensure the trucks carrying wind turbine components could travel safely through the project.


Wind turbine component on a truck

Starting mid-month, Vestas began transporting wind turbine tower sections measuring 200 feet long, thirteen feet wide, and fifteen feet tall through the Ilex project on six trucks per night (increasing to nine trucks in a few weeks) five nights a week. The turbine cells originate from Brighton, and the blades from Windsor, Colorado. The route is Interstate-25 to CO-47 to CO US 50, through the airport.

"The Ilex Project Team knows the importance of the Interstate System in the transportation of goods, and the importance of the wind turbine project to the City and County," said CDOT Project Manager Jennifer Billings. "We worked with all necessary organizations to ensure a smooth transport through the project, and without a disruption in traffic."

Wind turbines are designed to exploit wind energy that exists at a specific location, converting it to electricity for distribution.Wind turbines are generally inexpensive. The main cost of wind turbines is the installation process, with an average cost of between $48,000 and $65,000 to install. However, the energy harvested from the turbine will offset the installation cost, as well as provide virtually free energy for years after, generating between 17 and 39 times as much power as they consume. In the United States alone, wind turbines have produced about 16 billion kilowatt-hours of energy per year. These wind turbine components are traveling to Matheson, Colorado - located just south of Limon - for a wind turbine power plant with 300 turbines.

There are requirements, however, for the turbine-bearing trucks to travel through the Ilex project to prevent traffic issues. "The big towers leaving their location in Windsor at 3 a.m. are required to be east of the chemical plant on US Hwy 50 before 5 a.m. to minimize impact," explained Billings.

Every truckload must have a permit, so each week permits are acquired from the CDOT permits office for the following week, totaling approximately 30-45 permits per week.

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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 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.

Trucking of the turbine components ends in April 2018, and the Matheson wind turbine plant is scheduled for completion in August 2018.

Ilex Spotlight: Mountain Barricade

The I-25/Ilex Design-Build Project benefits the Pueblo community in many ways, one of which is employing local contractors, adding revenue to the local economy.

This month we're spotlighting one of those local contractors, Mountain Barricade, a full-service traffic control company. Traffic control involves directing vehicular and pedestrian traffic around a construction zone, accident or other road disruption, thus ensuring the safety of emergency response teams, construction workers and the general public.

Fleet of Mountain Barricade trucks

Mountain Barricade was founded in 1995, and has as many as thirty local employees, depending on the time of year and work needed.The company started work on the Ilex project in February 2015. Traffic control is always one of the first team members to start on a project, and the last to leave. They provide traffic control elements such as flaggers, traffic control supervisors, traffic cones, barricades, message boards, channeling devices and more.

"We have worked on Colorado Department of Transportation projects throughout the state for more than 22 years," said Karen Johnson, owner of Mountain Barricade. "We are proud to be part of the Ilex project and part of the team improving our hometown."

Mountain Barricade staff includes Traffic Control Supervisors, certified through the American Traffic Safety Services Association and the Colorado Contractors Association.

Bridges - More Than Just Concrete

Why does it take so long to pave a bridge? Because there are so many steps before concrete is poured that most people never know about!

Crews begin by installing overhang brackets on the girders to prep the bridge deck - the part that will eventually be paved for vehicle traffic. Overhang brackets are triangular shaped and are attached to the girder, ready to support the

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

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

Project Partners

- Colorado 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 Ilex Design-Build project.

Funding sources for the project:

Bridge Enterprise

RAMP (Responsible Acceleration of Maintenance and Partnerships)

"overhang" of concrete that goes past the edge of the girder.

Next, a series of reinforcing bars are installed on the bridge deck which will hold the concrete in place, aiding in transferring the load on the concrete to prevent cracking, and making the concrete stronger. On the sides of the deck, the team installs edge forms which contain the concrete when it is poured.

Ilex team working on bridge deck at Gruma

On top of the edge forms, something called screed rail is then installed which allows the Bidwell paving machine to "ride" on them as concrete is being poured. The day before pouring concrete, the team executes a "dry run" running the paving machine across the entire deck to make sure it is operating correctly.

When the time comes to finally pour the concrete, a truck pours it in front of the paving machine which has a component moving back and forth while riding along the rails, as crew members use concrete vibrators to evenly place the concrete and avoid air pockets. Something called screed drums attached to the paving machine spin as they move across the deck to smooth the concrete to an even elevation. Finish pans follow behind putting the final texture on the concrete.

This leads to another piece of equipment called the finish bridge. Two crew members ride this finish bridge across the entire surface of the deck spraying concrete cure, which helps seal the new concrete, increasing the durability and overall lifetime. Sealant prevents water from penetrating concrete which, when frozen, can expand and cause cracks.

After the entire deck has been poured and cured, crews wait for the concrete to set, at least to the point wher it can be walked on. The concrete is covered with blankets to start the cure period of approximately 28 days before traffic is allowed on the surface.

The most recent bridge deck pour took place on I-25 over Gruma where 212 cubic yards of concrete was poured; approximately 21 concrete mixer trucks worth!

Ilex Project Adheres to Environmental Requirements

The I-25/Ilex Design-Build team follows environmental requirements for all aspects of the project. One of those mitigations involves a regulation called Section 4(f). Section 4(f) is a regulation created when the United States Department of Transportation (US DOT) was formed in 1966. Section 4(f) states, it is the policy of the United States Government that special effort should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and waterfowl refuges, and historic sites. The Thomas Phelps Creek Trail is considered a non-historic Section 4(f) resource, used for public recreation. Protection of this resource is important to the team and the following requirements will be followed:

Newly paved realignment of Thomas Phelps Creek Trail

1. No trail closures are allowed from 5 a.m. to 8 p.m.
2. Temporary trail detours will be allowed under the following conditions:a. Public notifications will be provided.b. CDOT Construction Detour Standards for Multi-Use Trails will be followed.

A trail detour is currently in effect in preparation for final trail alignment under the new railroad bridge. The detour is marked by signs and flags and is only a slight shift from the current trail, with no major impact to cyclists or pedestrians.

Additional Project Information

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

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