

Twin Tunnels Design/Construction Technical Team Meeting #7

**August 9, 2012
9:00AM – 12:00PM
Elks Lodge
1600 Colorado Blvd
Idaho Springs**



Agenda

1. **Introductions**
2. **Other Corridor Project Updates**
 - » EA Comment Summary
3. **General Project Updates**
 - » Website Update
 - » Detailed Construction Package Review
 - » Enhancement Review Process Reminder
 - » Design Variance Process Overview
4. **Median Shift Proposal**
 - » Median Shift Matrix and Variance Documentation
5. **Follow-up**
 - » Bridge Aesthetics and Signing
6. **Presentation of Concepts**
 - » Adaptive Mitigation
 - » Public Information
 - » Lighting
 - » Incident Management Plan
7. **Aesthetics Review : Creek walls, railing, landscape**



Step 1
Define Desired Outcomes
and Actions

Step 2
Endorse the Process

Step 3
Establish Criteria

Step 4
Develop Alternatives and Options

Step 5
Evaluate, Select, and Refine
Alternatives and Options

Step 6
Finalize Documentation and
Evaluation Process

Other Corridor Project Updates

- Frontage Road
- Twin Tunnels EA Comments
- Westbound Tunnel Repairs
- I-70 Expansion Joint Projects
- CDOT Rockfall Program
- Master I-70 Schedule
- AGS Study
- Trailhead Partnership
- Co-Development RFP



Photos courtesy of ACC



Core Values

- **Safety**
- **Mobility**
- **Gateway**
- **Wildlife**
- **The Creek**
- **Destination**
- **History**
- **Constructability**
- **Inclusivity**
- **Schedule**



Twin Tunnels Project Updates

- Website
<http://www.coloradodot.info/projects/i70twintunnels/cm/gc/meetings-and-documents.html>
- Tech Team Meeting Topic Schedule
- Detailed Construction Package Review (handout)
- Enhancement Review Process Reminder (handout)
- Design Variance Process Overview

The screenshot shows the Colorado Department of Transportation (DOT) website. The header includes the DOT logo and the slogan "Taking care to get you there". The navigation menu contains links for HOME, TRAVEL CENTER, NEWS, BUSINESS CENTER, PROGRAMS, PROJECTS, ABOUT CDOT, and LIBRARY. The current page is titled "Meetings and Documents" and features a table with the following data:

| Project Milestone | Meeting Materials | Date |
|--------------------------------|------------------------------|---------------|
| Technical Team (TT) Meeting #1 | Presentation | May 10, 2012 |
| TT Meeting #2 | Presentation | May 24, 2012 |
| TT Meeting #3 | Presentation | June 14, 2012 |
| TT Meeting #4 | Presentation | June 28, 2012 |
| TT Meeting #5 | Presentation | July 12, 2012 |
| TT Meeting #6 | Presentation | July 26, 2012 |





TWIN TUNNELS WIDENING
ISSUES FOR TECHNICAL TEAM PRELIMINARY SCHEDULE

| August 9, 2012 | 2012 | | | | | | | | | | | | | | 2013 | | | | | | | | | | | |
|--|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | MAY | | JUNE | | JULY | | AUG | | SEPT | | OCT | | NOV | | DEC | | JAN | | FEB | | MAR | | APRIL | | MAY | |
| ISSUES | 2ND WEEK | 4TH WEEK |
| NOISE/ VIBRATION | ■ | * | | | | | | | | | | | | | | | | | | | | | | | | |
| TUNNEL LINING | ■ | | | | | * | ● | | | | | | | | | | | | | | | | | | | |
| RETAINING WALL RAILING | ■ | * | | | | | | | | | | | | | | | | | | | | | | | | |
| IMPACTS TO TRAFFIC | ■ | * | ● | | ● | | ● | | ● | | | | | | | | | | | | | | | | | |
| I-70 RETAINING WALL AESTHETICS | | ■ | * | ● | ● | ● | | | | | | | | | | | | | | | | | | | | |
| BRIDGE AESTHETICS | | ■ | | * | | ● | ● | | | | | | | | | | | | | | | | | | | |
| NEPA ANALYSIS OF CONSTRUCTION METHODS | ■ | * | ● | | | | | | | | | | | | | | | | | | | | | | | |
| ROCKFALL STRUCTURES | | ■ | * | ● | | ● | | | | | | | | | | | | | | | | | | | | |
| SIGNING | | | ■ | | | * | | | ● | | | | | | | | | | | | | | | | | |
| ADAPTIVE MITIGATION | | | | | | | * | | ● | | | | ● | | | | | | | | | | | ● | | |
| PUBLIC INFORMATION | | | | ■ | | | * | ● | ● | | | ● | | | | | | | | | ● | | | | | |
| IMPACTS TO RECREATION USERS | | | ■ | * | ● | | | | | | | | | | | | | | | | ● | | | | | |
| INFRASTRUCTURE IN MEDIAN | | | ■ | | | * | ● | ● | ● | | | | | | | | | | | | | | | | | |
| COATINGS (COLOR) | | | ■ | | | | | * | ● | | | | | | | | | | | | | | | | | |
| LIGHTING | | | ■ | | | | * | ● | | | | | | | | | | | | | | | | | | |
| LANDSCAPING | | | | ■ | | | * | | * | | * | | * | | | | | | | | | | | ● | | |
| TUNNEL PORTAL AESTHETICS | | | | ■ | | | | * | ● | ● | ● | | | | | | | | | | | | | | | |
| INCIDENT MANAGEMENT PLAN | | | | ■ | | | * | ● | | | | | | | | | | | | | | | | | | |
| C.R. 314 FRONTAGE ROAD RETAINING WALL FASCIA | | | | | ■ | | | | * | ● | ● | ● | | | | | | | | | | | | | | |
| SOUTH SIDE OF W.B. BRIDGE OVER CLEAR CREEK | | | | | | | ■ | | | | | | | | | | | | | | | | | | | |
| TRAILHEAD IMPROVEMENTS | | | | | | | | * | ● | | | | ● | | | | | | | | | | | ● | | |
| ENHANCEMENT OPPORTUNITIES | | | ■ | | | | | * | * | ● | | * | | | | | | | | | | | ● | | ● | |

PACKAGE 1A

PACKAGE 1B

PACKAGE 2

PACKAGE 3

AESTHETICS REVIEW
Creek Walls, Railing, Landscape

AESTHETICS REVIEW
Bridge Area, Landscape

AESTHETICS REVIEW
Portal Area, Landscape

AESTHETICS REVIEW
Noise Walls, Game Check, Landscape

| | | |
|-----------------------------|---|--------------------------|
| LEGEND: | | |
| ■ Shaded Items are Complete | * | Presentation of Concepts |
| ■ Discuss Criteria | ● | Follow-up (As Needed) |

NOTE: FINAL DESIGN AND CONSTRUCTION WILL CONTINUE THROUGH MARCH 2014. AFTER FEBRUARY 2013. TECHNICAL TEAM MEETINGS

Tentative Construction Packages

Rockfall/Liner Void Repairs

- Fill voids in westbound (WB) tunnel bore
- Fill voids in eastbound (EB) tunnel bore up to removal line
- Rockfall mitigation over EB and WB lanes (Statewide program only)

Package 1A (Early Paving Work)

- All detour paving
- Retaining Wall A



Tentative Construction Packages

Package 1B (Tunnel prep work and other early construction elements)

- Pillar stabilization
- Portal heading establishment
- Doghouse Rail Bridge rehabilitation
- CR 314 detour construction (barrier, signing, striping)
- Retaining walls F, a portion of J, and K
- New bridge over Clear Creek at Hidden Valley (HV)
- Portal-to-portal access road
- Creek crossing



Tentative Construction Packages

Package 2 (Tunnel construction) Package 3 (CR 314 wall fascia)

- Tunnel construction
- Portal construction
- Retaining walls B, C, D, G, and L
- Chain station reconstruction
- Managed lane
- Remainder of Wall J
- CR 314 retaining wall fascia
- Final work on CR 314 to re-open to traffic
- Riparian area reconstruction



Tentative Construction Packages

Package 4 (Game check reclamation/trailhead, enhancements)

- Old US 40/game check area reclamation and trailhead improvements
- Any enhancements selected



Design Variance Process

- **CSS Process Documentation**
- **Design Exception Request Template**
 - » **Clarify Purpose and Recommendation**
 - » **Describe and document review process**
 - Compare proposal options using project specific criteria
 - Evaluate relevant design criteria and remarks against exception justifications and other related criteria
 - Record presentation, discussion, and agreement by PLT in the CSS documentation



Median Shift Proposal

1. Median Shift Proposal

- » Review and Clarify Proposal
- » Options Matrix (handout)
- » Design Variance Documentation (handout)
- » Technical Team Endorsement

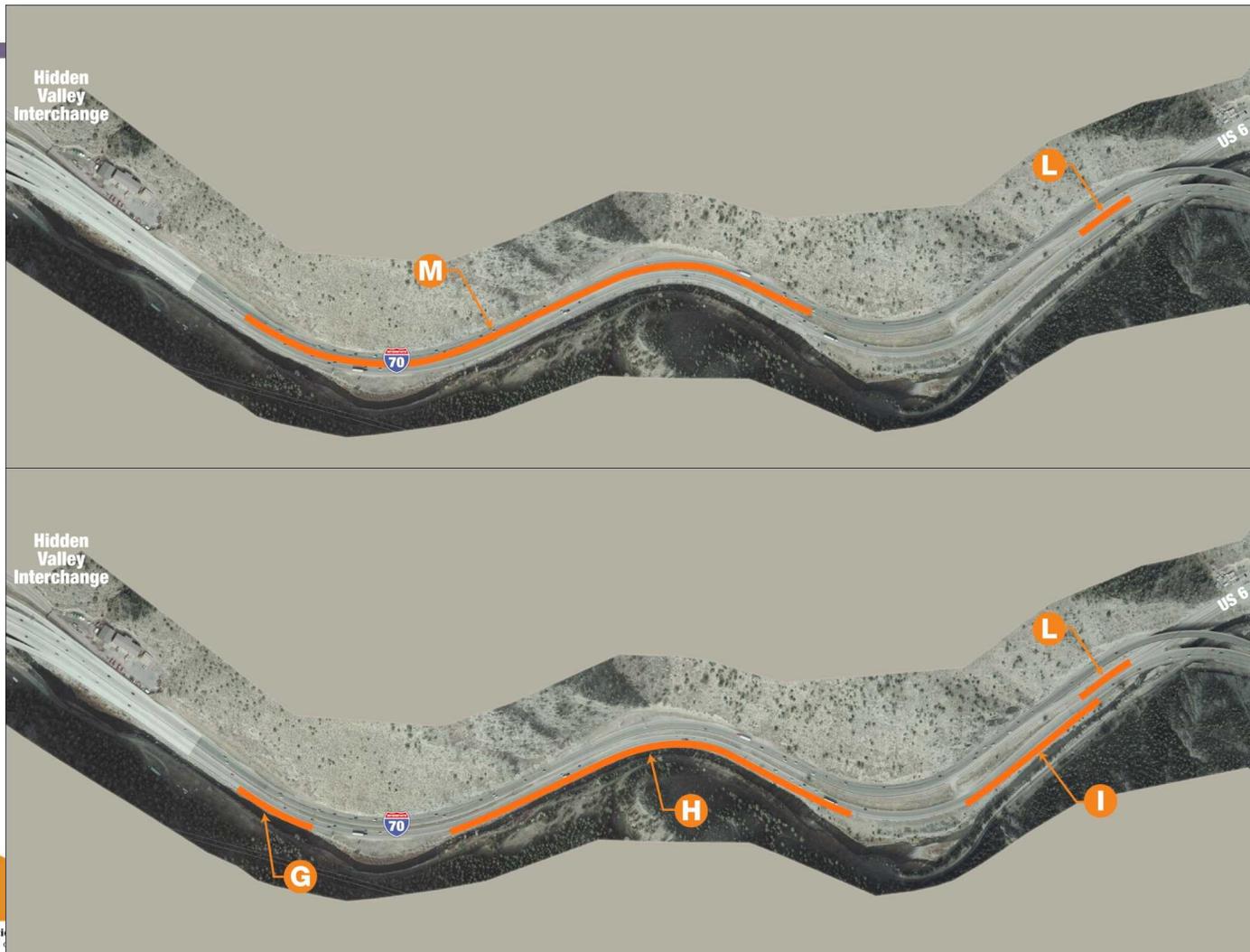


Follow Up: Median Barrier Aesthetics

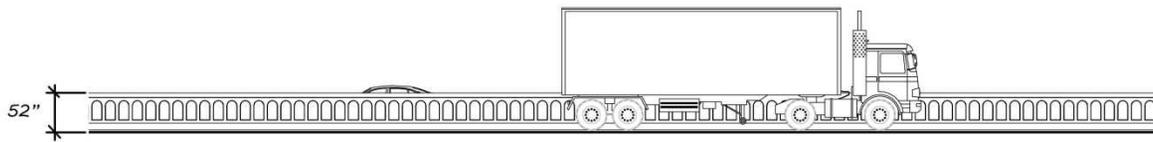
- Tunnel to Hidden Valley: Not changing the alignment
- Hidden Valley to US 6:
 - » Option 1: Current design preserves existing median width, expands toward creek
 - » Option 2: Eliminate walls H and I by encroaching on median but preserves some grassy median in all but 800 linear feet
 - » Option 3: Proposal for some median infrastructure and some creek wall



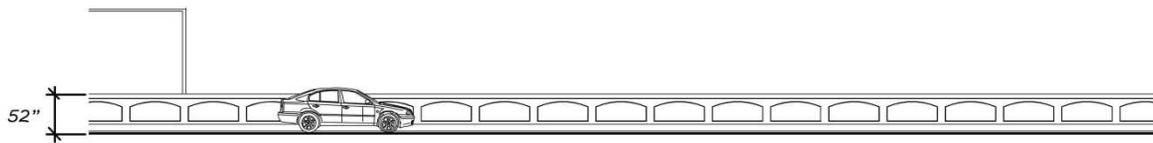
Twin Tunnels – Median Shift Analysis East Wall Locations



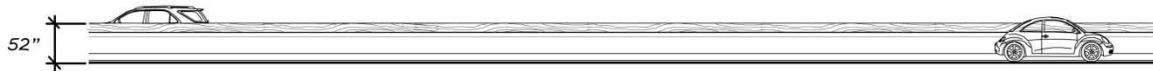
Barrier Wall Concepts



BLOW UP - CONCEPT ONE



BLOW UP - CONCEPT TWO



BLOW UP - CONCEPT THREE

Follow Up

- Bridge Aesthetics
- Signing Plan



Proposed Concept: Adaptive Mitigation Process

- Approach provides flexibility
- Provides incentives to avoid or minimize impacts
- Ties mitigation to specific activities and location
- Mitigation spreadsheet and CSS narrative will track commitments through final design and construction



Proposed Concept: Public Information

Twin Tunnels Communications Focus:

- Construction – Detour coping information and construction impacts
- Economic – Mountain communities and recreational amenities are open for business
- Vision – I-70 Mountain Corridor overall plans and future



Proposed Concept: Public Information

Goals

- Proactively provide timely, frequent, consistent, and accurate information
- Identify and prioritize community needs and concerns early, so that the impact of those needs and concerns can be addressed promptly
- Create and maintain an effective two-way communications channel that supports the design/construction process by sharing feedback and concerns



Proposed Concept: Public Information

Key Messages

Why

- To relieve roadway congestion, improve travel times and safety
- To launch improvements to the I-70 Mountain Corridor
- To preserve what makes Colorado's mountains unique

During Construction

- You can get to your destination
- Always two lanes open in each direction during peak hours
- Plan to stop for blasting



Proposed Concept: Public Information

Communications Earned Campaign

- Enable consistent messaging
- Ease project's complexity for end-user
- Serve as "hook" for messages



Proposed Concept: Lighting

- Detour lighting plans prepared and under review
- Roadway lighting safety assessment underway
- Tunnel lighting design underway
- Will report on progress at upcoming TT meetings



Proposed Concept: Incident Management Plan

- Prepared initial IMP issues and strategies
- IMP participants identified and invited to workshops
- Three workshops scheduled in August and September
- Will report on progress at upcoming TT meetings
- Will prepare project-specific IMP before work starts in mid September



Aesthetics Review: Creek Walls, Railings, Landscape

Landscaping

Revegetation (top soil and seeding)

- medians
- shoulders
- chain station area

Restoration Areas

- portal to portal access road
- mountain slopes at the tunnel portals
- old game check station

Additional Landscaping

- edge of Clear Creek adjacent to retaining walls



Aesthetics Review: Creek Walls, Railings, Landscape



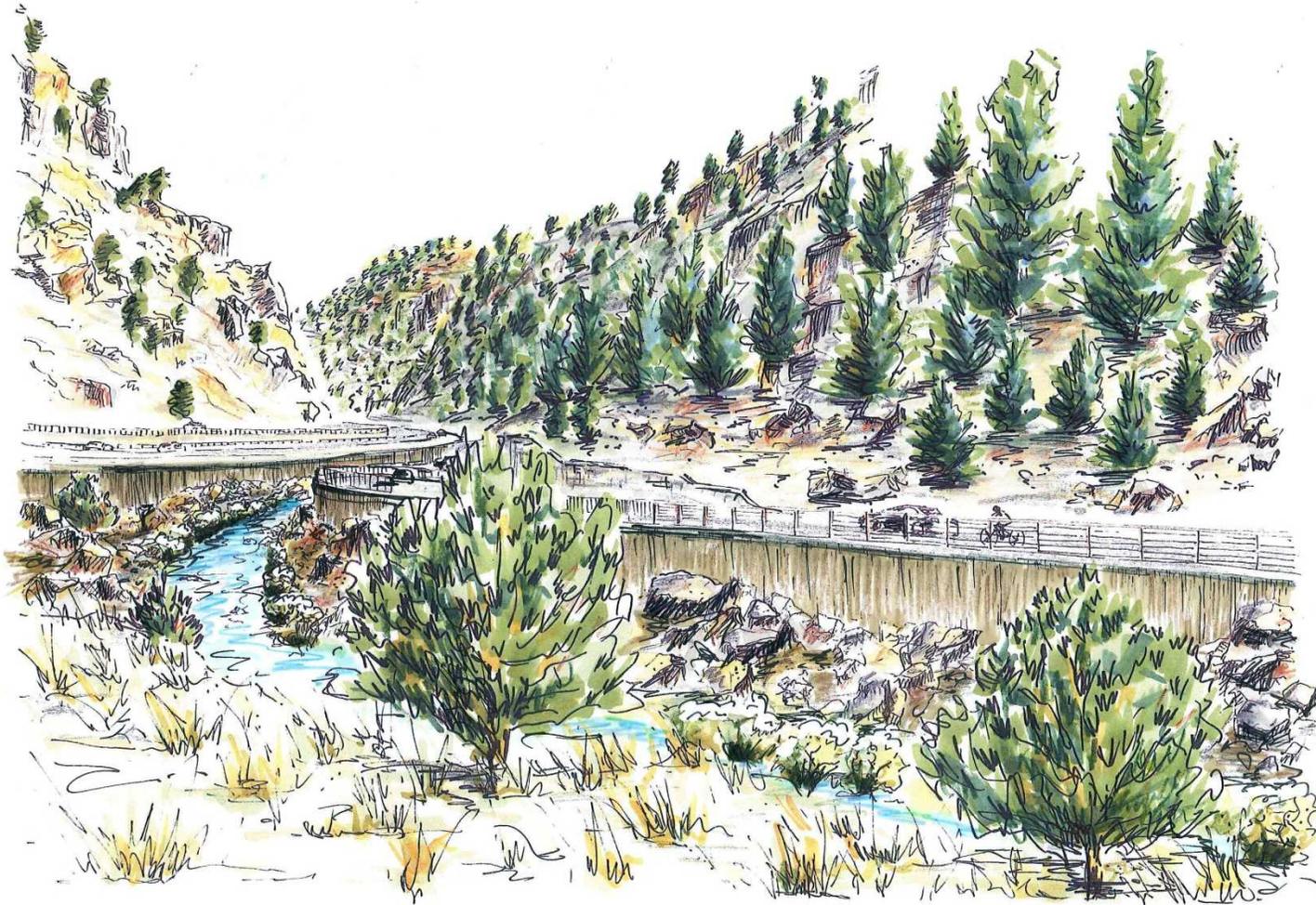
Aesthetics Review: Creek Walls, Railings, Landscape



Aesthetics Review: Creek Walls, Railings, Landscape



Aesthetics Review: Creek Walls, Railings, Landscape



Next Steps

Agenda for August 23rd Technical Team Meeting in Idaho Springs

- Review Criteria
 - » Tunnel Portal Aesthetics

- Proposed Solution
 - » Trailhead Improvements
 - » Coatings (Color)
 - » Enhancement Opportunities for package 1A
 - » Infrastructure in Median

- Follow-up
 - » Public Information
 - » Lighting
 - » Incident Management Plan



END OF PRESENTATION

