

# **APPENDIX A22**

---

## **VISUAL RESOURCES TECHNICAL MEMORANDUM**

**FOR THE**

### **State Highway 9 Iron Springs Alignment Environmental Assessment**

**Prepared for**

**COLORADO DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION**

**Prepared by**

**BELINDA ARBOGAST**

**COLORADO DEPARTMENT OF TRANSPORTATION  
REGION 1**

**April 2014**

CONTENTS

**Purpose of Report.....1**

**Applicable Statutes and Regulations.....3**

**Alternatives .....4**

    Proposed Action..... 4

    No Action Alternative ..... 6

**Materials and Methodology.....8**

**Agency Coordination .....8**

**Landscape Character Description .....8**

    Landform and Water..... 9

    Vegetation..... 9

    Manmade Elements..... 11

    Level of Remoteness/Solitude ..... 11

    Inventoried Visual/Scenery Resources ..... 11

    Scenic Attractiveness ..... 11

    Scenic Integrity Objectives..... 13

    Landscape Visibility..... 15

    Distance Zones and Relative Sensitivity ..... 15

    Viewer Concern Levels..... 15

**Key Observation Points.....16**

    Key Observation Point 1— State Highway 9 Roadway Prism..... 18

        Description..... 18

        No Action Alternative ..... 18

        Proposed Action..... 18

        Design Strategies ..... 19

    Drainage Structures ..... 20

        No Action Alternative ..... 20

        Proposed Action..... 21

    Construction Impacts..... 21

        No Action Alternative ..... 21

        Proposed Action..... 21

    Lighting..... 21

    Secondary Effects..... 21

    Key Observation Point 2— West Structure ..... 22

        Description..... 22

        No Action Alternative ..... 22

        Proposed Action..... 22

Key Observation Point 3—East Structure .....	23
Description .....	23
No Action Alternative .....	23
Proposed Action.....	23
Key Observation Point 4—SH 9 Bird’s Eye View .....	24
Description .....	24
No Action Alternative .....	25
Proposed Action.....	25
Key Observation Point 5—Peak One Hospital .....	25
Description.....	25
Key Observation Point 6—Frisco Nordic Center .....	26
Description.....	26
No Action Alternative .....	27
Proposed Action.....	27
Key Observation Point 7—Buzz Saw Nordic Trail .....	29
Description.....	29
No Action Alternative .....	29
Proposed Action.....	29
Key Observation Point 8—Existing Dickey Day Use Area .....	31
Description.....	31
No Action Alternative .....	31
Proposed Action.....	31
Key Observation Point 9—Blue River Bikeway and Leslie’s Curve, from the Blue River Arm of Dillon Reservoir.....	32
Description.....	32
No Action Alternative .....	32
Proposed Action.....	34
Key Observation Point 10—Blue River Inlet .....	34
Description.....	34
No Action Alternative .....	34
Proposed Action.....	36
Key Observation Point 11—Goodale Road Parking Lot.....	36
Description.....	36
No Action Alternative .....	36
Proposed Action.....	36
Key Observation Point 12—Sapphire Point (including Swan Mountain Road and Swan Mountain Recreation Path) .....	37
Description.....	37
No Action Alternative .....	37
Proposed Action.....	37
Key Observation Point 13—Dillon Placer Mine .....	39
Description.....	39
No Action Alternative .....	39
Proposed Action.....	39
Key Observation Point 14—Summit High School .....	40
Description.....	40

No Action Alternative .....	41
Proposed Action.....	41
Key Observation Point 15—Antler House.....	41
Description.....	41
Key Observation Point 16—Special Places-Wetlands.....	42
Description.....	42
Cumulative Impacts .....	43
<b>Visual Impacts and Impact Management .....</b>	<b>44</b>
Degree of Contrast and Potential Visual Impacts.....	44
Visual Elements and Mitigation Measures .....	46
<b>References.....</b>	<b>47</b>
<b>Glossary.....</b>	<b>49</b>
<b>Acknowledgements .....</b>	<b>53</b>
<b>Appendix—Documentation Representing Scenic Quality of Sites .....</b>	<b>54</b>

## TABLES

Table 1	Potential Areas of Visual/Scenic Importance, Usage, User Concern Levels, and Duration of View for SH 9 Realignment at Iron Springs.....	16
Table 2	Comparison of Major Construction Elements with Visual Effects for the No Action Alternative and Proposed Action.....	19
Table 3	Comparison of Forest Service Scenic Integrity Objectives and Degree of Contrast at Key Observation Points.....	45
Table 4	Visual Elements Impacted and Mitigation Measures for the Proposed Action.....	46

## FIGURES

Figure 1	Map of SH 9 Corridor Context.....	2
Figure 2	Proposed Action.....	5
Figure 3	No Action Alternative (Previously Approved).....	7
Figure 4	Vegetation Communities and White River National Forest Timber Harvest Units in the Project Area .....	10
Figure 5	Scenic Attractiveness Map—SH 9 Realignment at Iron Springs, White River National Forest .....	12
Figure 6	Scenic Integrity Objectives Map—SH 9 Realignment at Iron Springs, White River National Forest .....	14
Figure 7	Map showing Key Observation Points (KOPs) and Landscape Components for SH 9 Realignment at Iron Springs.....	17
Figure 8	KOP 2 Looking West toward Frisco .....	22
Figure 9	KOP 3 Looking South toward Breckenridge .....	23
Figure 10	KOP 4 Bird’s Eye View Simulations from the South.....	24
Figure 11	KOP 5 Photomontage View Looking Northeast from the Peak One Hospital Parking Lot .....	25



Figure 12 Views from Recreation Way and Peninsula Road..... 26  
Figure 13 Viewshed from Proposed Parking Lot..... 28  
Figure 14 View East toward Buzz Saw Nordic Trail from Recreation Way ..... 29  
Figure 15 Viewshed from Buzz Saw Nordic Trail ..... 30  
Figure 16 KOP 8 Photomontage View Looking Southeast from Dickey Day Use Parking Lot.... 31  
Figure 17 KOP 9 Views Looking Northwest, just South of Leslie’s Curve ..... 33  
Figure 18 KOP 11 Photomontage View Looking East from Goodale Road ..... 34  
Figure 19 Viewshed from Blue River Inlet ..... 35  
Figure 20 KOP 11 Photomontage View Looking West from Goodale Road ..... 36  
Figure 21 KOP 12 Views Southwest from Sapphire Point, across Dillon Reservoir ..... 38  
Figure 22 KOP 13 View East toward Dillon Placer Mine Gravel Piles ..... 39  
Figure 23 View Looking North from Blue River Bikeway ..... 39  
Figure 24 KOP 14 Views Northwest from the Entrance to Summit High School..... 40  
Figure 25 KOP 15 View of Antler House from SH 9..... 41  
Figure 26 Views of Fen Looking North and West..... 43

**ACRONYMS**

CDLT	Continental Divide Land Trust
CDOT	Colorado Department of Transportation
CEQ	Council on Environmental Quality
CSS	Context Sensitive Solutions
EA	Environmental Assessment
EIS	Environmental Impact Statement
FHWA	Federal Highway Administration
KOP	Key Observation Point
MPB	Mountain Pine Beetle
MSE	Mechanically Stabilized Earth
NEPA	National Environmental Policy Act
SH 9	State Highway 9
SHPO	State Historic Preservation Officer
SIO	Scenic Integrity Objective
USFS	U.S. Forest Service
WRNF	White River National Forest

1 **PURPOSE OF REPORT**

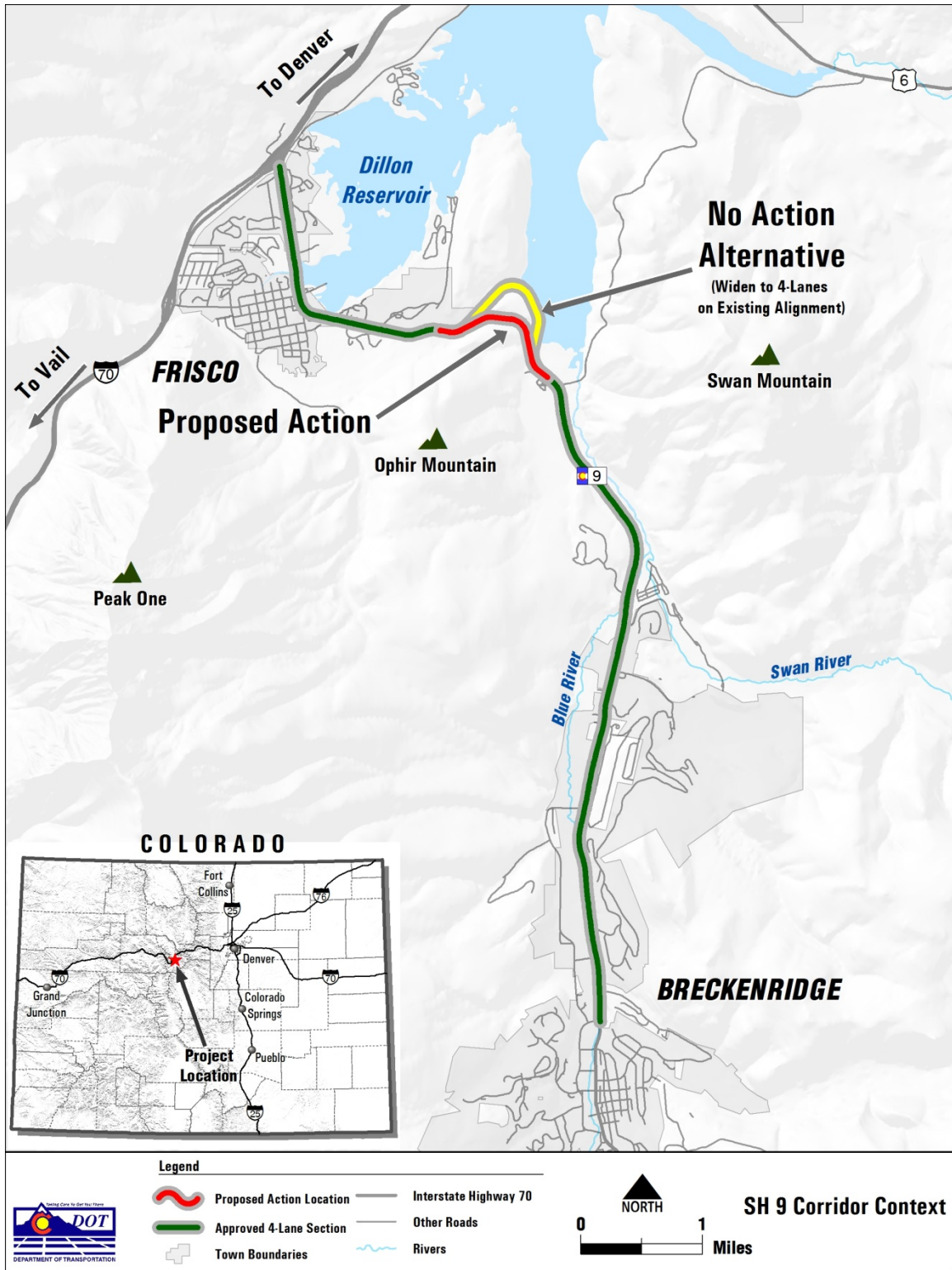
2 This report is an evaluation of the visual resources associated with a Colorado Department of  
3 Transportation (CDOT) four-lane realignment of State Highway 9 (SH 9) between the towns of  
4 Breckenridge and Frisco, in the Rocky Mountains of Colorado. It is approximately 72 miles west  
5 of Denver, in Summit County. The area encompasses mountains, rivers, forests, trails, and roads.  
6 The Proposed Action is located on lands managed for recreation opportunities by the U.S. Forest  
7 Service (USFS), a portion of the Continental Divide Land Trust (CDLT) easement, and the towns  
8 of Frisco and Breckenridge (see **Figure 1**). Ready access to the forest by residents of Denver and  
9 other Front Range communities is by Interstate 70.

10 Visual/scenic quality is impacted by surface disturbance, which creates contrast with the natural  
11 environment. This visual resource analysis incorporates tasks such as:

- 12 • Define the project setting and viewshed
- 13 • Identify key views
- 14 • Analyze existing visual resources and viewer response
- 15 • Depict the visual appearance of project alternatives
- 16 • Propose methods to mitigate adverse visual effects (impacts)

17 A glossary appears at the end of the report and includes acronyms and aesthetic terms. The  
18 appendix includes four color plates, typically larger than 8½ by 11 inch format but reduced in  
19 size for this document, documenting visual/scenery information used for analysis.

1 Figure 1 Map of SH 9 Corridor Context



2  
3

## 1 APPLICABLE STATUTES AND REGULATIONS

2 The National Environmental Policy Act (NEPA) of 1969, 43 U.S. Code 4321 et. seq.;  
3 Section 101(b) declared that agencies assure for all Americans aesthetically pleasing  
4 surroundings for major Federal actions. Section 102 requires agencies to “Utilize a systematic,  
5 interdisciplinary approach which will ensure the integrated use of . . . Environmental Design Arts  
6 in the planning and decision making . . .” The coverage of highway aesthetics in Title 23 of the  
7 U.S. Code, Section 109(h) requires aesthetic values to be considered during project  
8 development. The Council on Environmental Quality (CEQ) regulations for implementing NEPA,  
9 Section 1508.8, Effects, also state that aesthetic effects should be considered. In addition, an  
10 analysis of visual impacts is required by the Federal Highway Administration (FHWA) guidance in  
11 Technical Advisory T6640.8A, Guidance on Preparing and Processing Environmental and  
12 Section 4(f) Documents.

13 The National Forest Management Act of 1976, “Part 219.21(f) requires: The visual resource shall  
14 be inventoried and evaluated as an integrated part of evaluating alternatives in the forest  
15 planning [sic] process, addressing both the landscape’s visual attractiveness and the public’s  
16 visual expectation” (USFS, 1995). As a majority of the Proposed Project would be constructed  
17 within the Dillon Ranger District, the *Land and Resource Management Plan—2002 Revision for  
18 the White River National Forest* (USFS, 2002a, p. b-4) was utilized to determine acceptable limits  
19 of change for scenic resources on USFS lands. There have been no new or changed regulatory  
20 requirements for visual resource analysis since the publication of the SH 9 Environmental Impact  
21 Statement (EIS) and Record of Decision (ROD) (CDOT and FHWA, 2004a; 2004b). However, there  
22 have been updates to policies related to visual resources.

23 Community values are frequently expressed in planning documents. Summit County is divided  
24 into four geographic basins and each basin has a master plan. The *Ten Mile Master Plan* (Summit  
25 County, 2010a), *Upper Blue Master Plan* (Summit County, 2010b), and *Countywide  
26 Comprehensive Plan* (Summit County, 2009) were reviewed for policy guidance related to  
27 scenery management. The *Countywide Comprehensive Plan* identifies the following design and  
28 visual resource goals (which are consistent with USFS design criteria):

- 29 • Preserve visually important lands and maintain rural mountain landscapes.
- 30 • Ensure that new development is designed in a visually sensitive manner, complementing  
31 the surrounding natural environment.
- 32 • Retain the open character of meadows and other open landscapes.
- 33 • Retain the visual dominance of forested areas.
- 34 • Avoid or minimize development impacts on steep hillsides and ridgelines.

35 Plan goals from the master plans include:

- 36 • Maintain the character of the area.
- 37 • Protect and preserve the Basin’s scenic backdrops through identification, protection or  
38 mitigation, and sensitive design of development in visually important lands.

39 The CDLT holds a Deed of Conservation Easement (owned by Summit County Open Space and  
40 Trails) for a 30-acre parcel in Iron Springs (CDLT, 2013). The parcel was purchased in 2003 to  
41 protect scenic views, open space, and recreation experiences.

1 CDOT will follow measures outlined in the SH 9 aesthetics study, *Aesthetics Study and Design*  
2 *Guidelines* (CDOT, 2003), which

3 was undertaken by CDOT, in cooperation with Summit County, the towns of Frisco  
4 and Breckenridge for the purpose of formulating visual appearance themes for  
5 future projects within the SH 9 corridor. The purpose of this study is to provide  
6 aesthetic elements which are consistent with the surrounding terrain and  
7 community context while maintaining a cost-effective and structurally-integrated  
8 roadway design. . . . The study identifies a preferred color palette for structural  
9 features to be constructed along the highway corridor. . . . a series of four terrain-  
10 matching colors ranging from light beige to darker browns.

11 CDOT is also committed to Context Sensitive Solutions (CSS), a process that is used to ensure  
12 collaboration. Aesthetic treatments are incorporated into the plans and specifications for  
13 either project alternative during the project design process; which includes continued  
14 coordination with the CDOT appointed landscape architect, local jurisdictions (including the  
15 Town of Frisco and Summit County), and the USFS. This can include making final decisions on  
16 items such as type, treatment, and color for barrier and walls; or landscape treatment (for  
17 example, planting for screening, vegetation).

## 18 ALTERNATIVES

### 19 *Proposed Action*

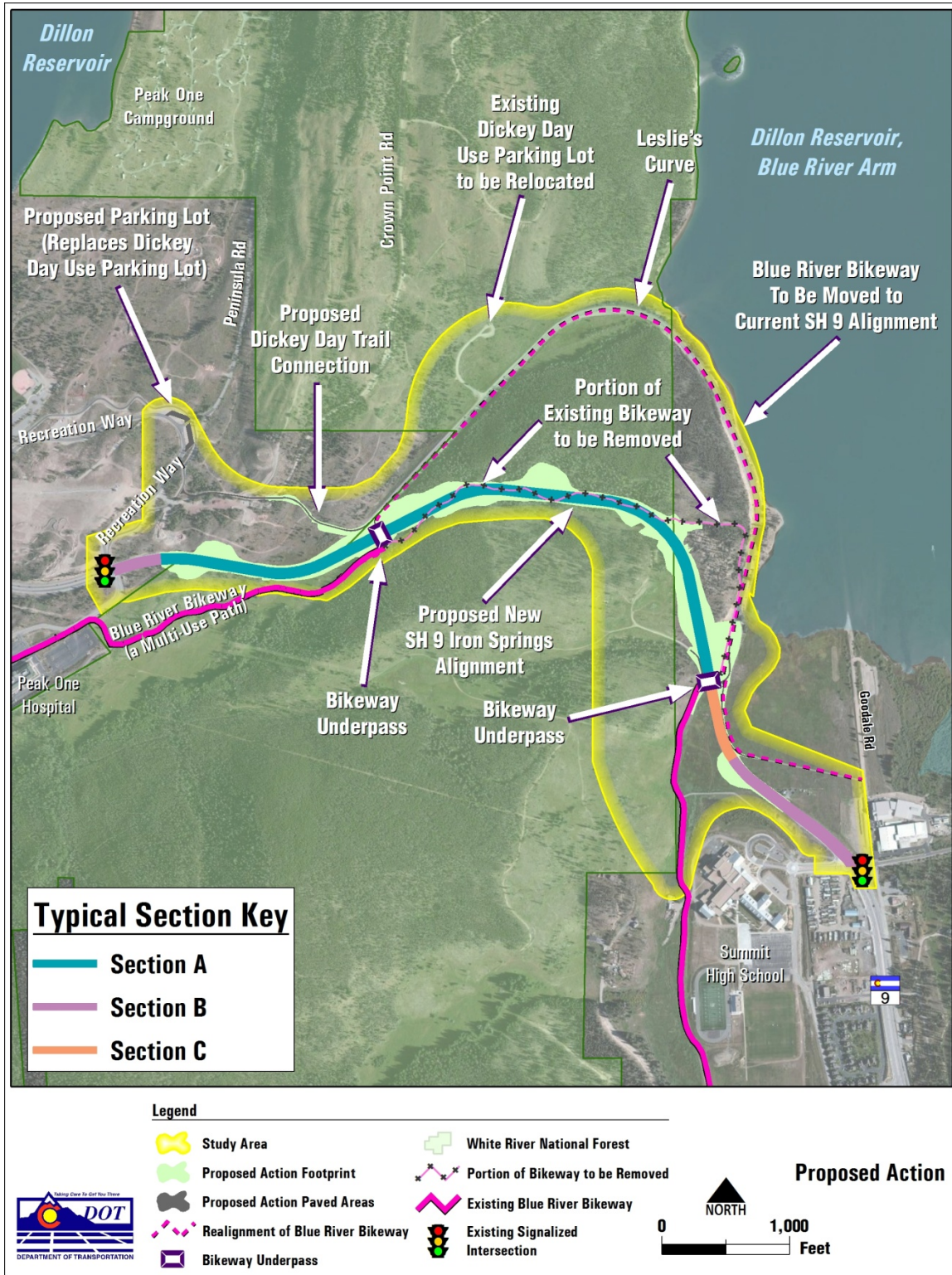
20 As part of implementation of the SH 9 improvements between Frisco and Breckenridge, CDOT  
21 and FHWA are proposing to realign approximately 1.3 miles of existing SH 9 just south of the  
22 Town of Frisco, Colorado (see **Figure 2**). This stretch of SH 9, which falls between mileposts 93  
23 and 95, would be realigned to provide a four-lane reduced section roadway away from Dillon  
24 Reservoir. This Proposed Action, also referred to as the Iron Springs Alignment, would shorten  
25 SH 9 by approximately 0.4 mile. The Proposed Action would provide roadway safety benefits, as  
26 well as water quality and drinking water protection benefits, as a result of straightening the  
27 highway to remove a tight, compound curve (known as Leslie's Curve), which is in close  
28 proximity to Dillon Reservoir. The existing condition on Leslie's Curve is considered substandard  
29 and contributes to accidents in the area.

30 The Proposed Action would include realignment of a portion of the existing Frisco-Farmer's  
31 Korner-Blue River Bikeway (also referred to herein for brevity as the Blue River Bikeway or  
32 bikeway). This portion of the bikeway would be moved to the alignment currently occupied by  
33 SH 9, would be approximately 0.4 mile longer than the existing bikeway, and would be at a  
34 gentler grade than the current alignment. In addition, the Dickey Day Use Parking Lot would be  
35 moved west to a new parking lot to be constructed as part of the project, with access provided  
36 via Recreation Way using the existing signalized intersection at SH 9 and Recreation Way. A new  
37 trail connection would be provided to link the proposed parking lot with the realigned bikeway  
38 and existing trail, which currently begins at the old Dickey Day Use Parking Lot.

39 Additional detail regarding the Proposed Action, including typical sections, is provided in the EA  
40 main text and the project drawings provided in Appendix A1 of the EA.



1 **Figure 2 Proposed Action**



2  
3

1 *No Action Alternative*

2 If the Proposed Action is not selected for implementation, SH 9 would be widened to provide a  
3 four-lane reduced section roadway along the existing alignment as previously approved in the  
4 SH 9 Frisco to Breckenridge EIS ROD (CDOT and FHWA, 2004a; 2004b) (**Figure 3**). The 2004  
5 Preferred Alternative is considered the “No Action Alternative” for this EA and is used as a  
6 baseline for comparison with the Proposed Action. These improvements would be implemented  
7 if the Proposed Action is not selected.

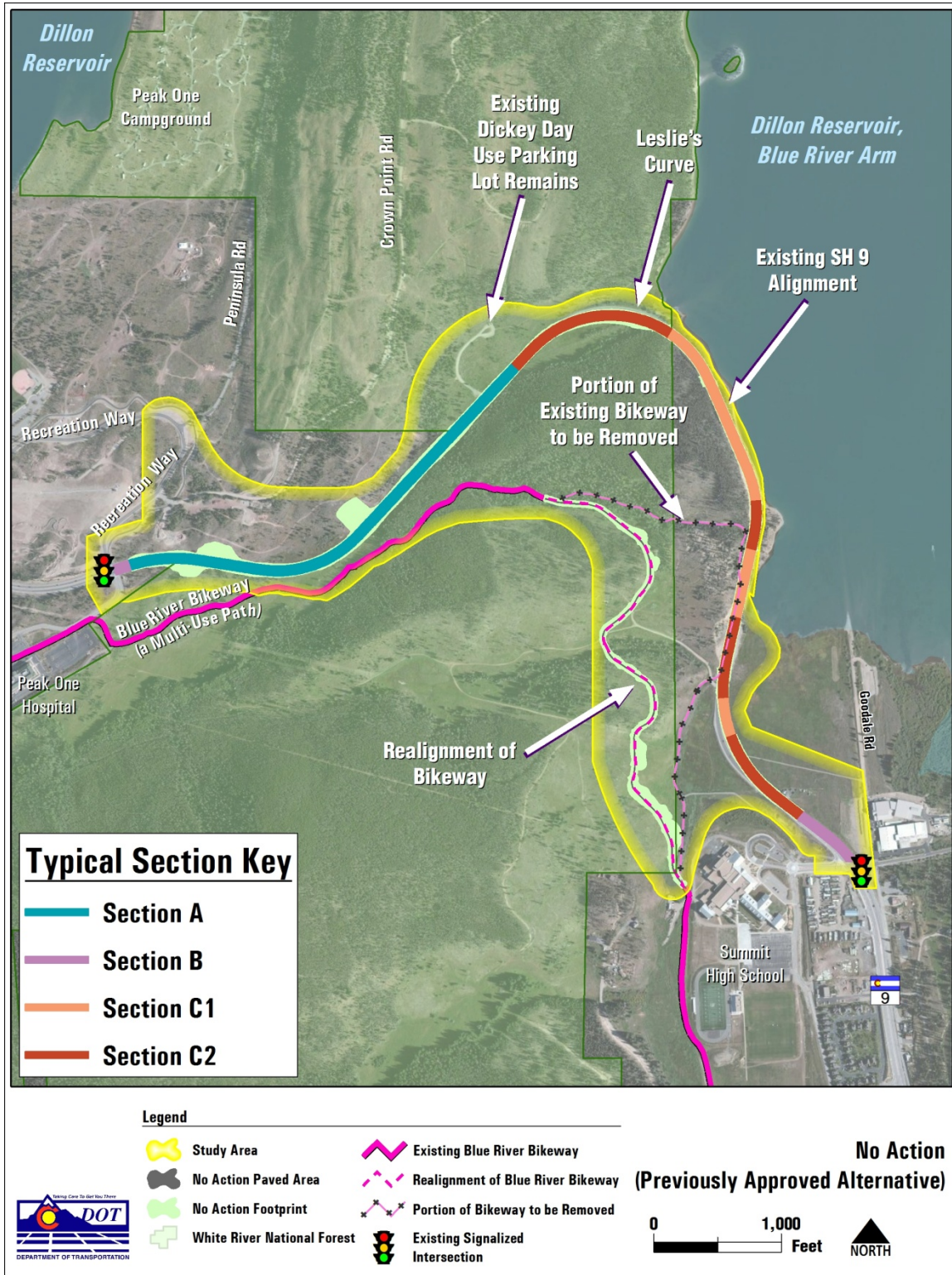
8 Widening along the existing alignment would require large rock cuts and retaining walls  
9 (problematic to design and construct), and the highway would remain in close proximity to  
10 Dillon Reservoir. The length of SH 9 would remain the same as that of the existing highway. The  
11 tight Leslie’s Curve would not be eliminated; however, safety features such as a barrier between  
12 opposing lanes would be installed to improve safety.

13 With this alternative, approximately 0.8 mile of the existing Blue River Bikeway would be  
14 realigned to allow space for the highway widening. The length of bikeway would not change  
15 appreciably and the current relatively steep grades on the path would remain.

16 Additional detail regarding the No Action Alternative, including typical sections, is provided in  
17 the EA main text and the project drawings provided in Appendix A1 of the EA.



1 Figure 3 No Action Alternative (Previously Approved)



2



## 1 MATERIALS AND METHODOLOGY

2 Reference material to conduct visual quality studies included FHWA's *Visual Impact Assessment*  
3 *for Highway Projects* (1989) and the USFS *Landscape Aesthetics—A Handbook for Scenery*  
4 *Management* (1995). The USFS requires the application of scenery management to all USFS  
5 lands and activities, including roadway construction. Both FHWA and USFS guidebooks are based  
6 upon similar principles of enhancing and protecting landscapes, viewsheds, and visual integrity.  
7 The landscape character, the visual resources and viewers affected, the significance of the main  
8 visual issues, the visual effects of the project alternatives, and any mitigation measures  
9 prescribed to minimize impacts to visual resources would be similar under either the FHWA or  
10 USFS guidance. The use of the word "visual" (preferred by CDOT) is used for this report but is  
11 interchangeable with the words "scenery" or "scenic" (preferred by the USFS).

12 A 1-mile area of potential visual influence was identified to evaluate the visibility of the  
13 Proposed Project on visual resources within the county and the White River National Forest  
14 (WRNF). The Proposed Action may be visible from a distance greater than 1 mile; however, it is  
15 not expected to attract attention from greater distances due to visual absorption in the  
16 landscape setting. An analysis of the visual absorption capability of the landscape setting and  
17 the visual contrast of the Proposed Action provide systematic criteria for evaluating impacts on  
18 visual quality and viewsheds.

19 For this assessment, the scenic quality inventory focuses on potential visual impacts of highway  
20 and trail development. Geographic information system mapping, photographs, and visual  
21 landscape simulations (sketch or computer) were utilized depending upon the scenic sensitivity  
22 and importance of the affected area.

## 23 AGENCY COORDINATION

24 In addition to local and resource agency meetings, three field reconnaissance trips for aesthetic  
25 resources were conducted. A field trip with staff from CDOT Region 1 was conducted on a sunny  
26 fall day, September 24, 2012, to become familiar with the project area and existing visual  
27 resources. The second trip occurred February 19, 2013, with snow on the ground. The time of  
28 year and weather conditions may have limited the extent of vegetation (in relation to seasonal  
29 changes in forbs and grasses) but did not prevent an analysis of the dominant and important  
30 landscape elements. The February trip included representatives from CDOT headquarters, the  
31 USFS, Summit County, and the towns of Breckenridge and Frisco. The February meeting was for  
32 the purpose of stakeholder involvement; to verify aesthetic resources, identify visually  
33 important areas from which photo simulations of the project are prepared and evaluated, and  
34 possible mitigation measures. A field trip with CDOT staff on March 6, 2013, assessed selected  
35 key observation points (KOPs) and field tested geographic information system visibility maps  
36 created for the study. Follow-up discussion with stakeholders (including the CDLT) was held  
37 March 13 and 28, 2013, concerning KOPs, viewer sensitivity, and design strategy/impact  
38 mitigation.

## 39 LANDSCAPE CHARACTER DESCRIPTION

40 To differentiate the visual environment of the project, landscape components (such as  
41 landform, water, vegetation, and manmade development) are used to describe the character of  
42 the regional landscape and the immediate project area. Landscape character is the physical  
43 appearance of a landscape that makes an area special, to the locals and to visitors.

1 *Landform and Water*

2 The regional area lies within the Gore/Mosquito Ranges (ecological subsection M331lg of the  
3 WRNF) (USFS, 2002b). The USFS describes the subsection as being composed of jagged peaks  
4 and alpine summits in contrast to rounded hills with broad valleys. The topographic relief is  
5 oriented generally north-south. The most dominant elements of the visual resources are the  
6 peaks of the Ten Mile Range (running in a southerly direction), the Gore Range (a distant  
7 background to the west), and the Blue River, which courses parallel to the Ten Mile Range. The  
8 waters of Dillon Reservoir are a relatively new man-made feature. Water is scarce in Colorado  
9 and valued by most people as a visual and recreation resource. It adds movement or serenity to  
10 a scene.

11 The 257,304 acre-feet capacity Dillon Reservoir serves the city of Denver, and was constructed  
12 in 1961, enlarging a small natural finger lake and inundating the old town of Dillon (Denver  
13 Water, 2013). Snowfall averages 250 to 300 inches annually. During the winter, attractions  
14 include ice fishing and snowmobiling. Sail boating and fishing are popular in warmer months.  
15 Camping and picnicking are offered on the peninsula. Dry winter seasons have led to drastic  
16 lowering of the lake's water level in some years (and subsequent non-usability of marina boat  
17 ramps in the town of Frisco).

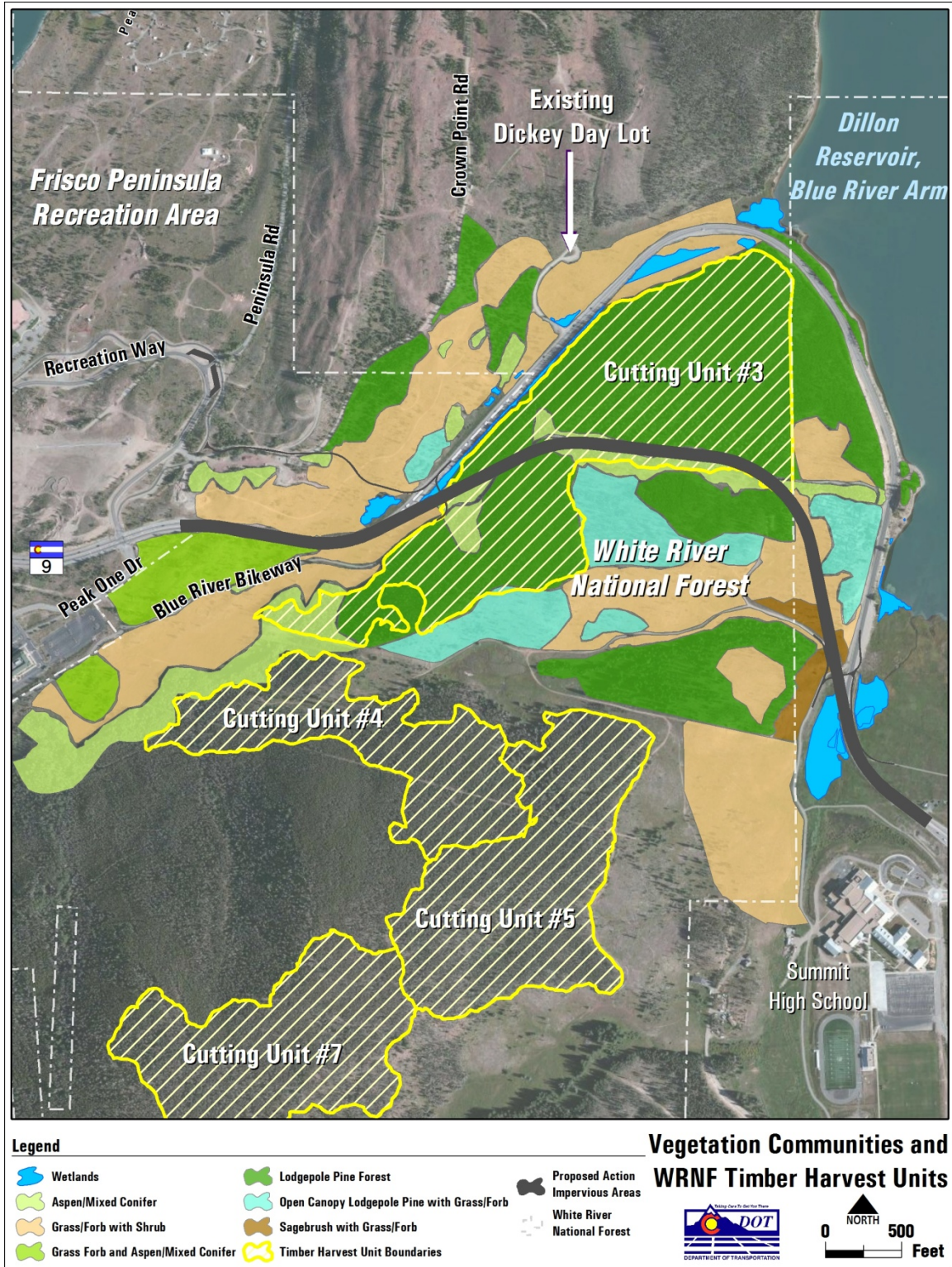
18 The Proposed Project occurs within the Ophir Mountain footprint (with a summit of 10,199 feet  
19 above sea level to the south, the base is about 9,200 feet). Swan Mountain is to the northeast,  
20 with an elevation of 10,768 feet. The project area is bounded by the Peninsula Recreation Area  
21 to the northwest, Blue River Arm of Dillon Reservoir to the east (including the Blue River Inlet),  
22 and Iron Springs Hill on the south.

23 *Vegetation*

24 The dominant plant cover types in the greater area include lodgepole pine (*Pinus contorta*),  
25 Engelmann spruce (*Picea engelmannii*)/subalpine fir (*Abies lasiocarpa*), quaking aspen (*Populus*  
26 *tremuloides*) and some willow (*Salix* sp.). The landscape features common to the valley bottoms  
27 and lower mountainside slopes are aspen, grass forbs, and shrub lands. Seasonal changes occur  
28 in the appearance of vegetation ranging from the gold/orange color of aspen trees in the fall to  
29 the deep green of coniferous woods covered in snow during winter. **Figure 4** illustrates the  
30 terrain and vegetation patterns of the study area.

31 The majority of the lodgepole pine forests are even-aged climax forests between 80 and  
32 140 years in age (USFS, 2004). Large numbers of lodgepole pine trees have died from Mountain  
33 Pine Beetle (MPB), changing the landscape character of the regional area. The forests in the  
34 vicinity of Ophir Mountain are undergoing USFS clearing of trees to reduce fuel for potential  
35 forest fires and hazards from falling trees (USFS, 2011). One purpose of the USFS action is to  
36 "create conditions that would increase lodgepole pine and aspen regeneration" following the  
37 MPB epidemic (USFS, 2011, p.2). Such direct human activity may alter scenic integrity. In the  
38 near term, the public may perceive forest clearing as resulting in lower scenic beauty  
39 (USFS, 2011). While the action is altering the landscape character in the short term, biological  
40 diversity and health of the forest will improve. In addition, fire suppression across the forest has  
41 altered the natural process of vegetative succession (USFS, 2002b). Lodgepole pine forests, like  
42 aspen trees, respond favorably to disturbance such as fire or logging (USFS, 2011).

1 **Figure 4** Vegetation Communities and White River National Forest Timber  
 2 Harvest Units in the Project Area



3  
4



1 *Manmade Elements*

2 Manmade development includes SH 9, a primary road of regional importance connecting Frisco  
3 with the town of Breckenridge (7 miles to the southeast) and with Interstate 70, north of Frisco.  
4 Year-round recreation and tourism is highly developed near the resorts. In 2002, communities  
5 grew rapidly, increasing the urban interface with the forest (USFS, 2002b).

6 Most of the project is within unincorporated Summit County and is rural in character. Secondary  
7 roads are locally important, such as Swan Mountain Road, and provide additional critical links  
8 for tourism and recreation. However, Swan Mountain Road does not attract many bicyclists due  
9 to heavy traffic volume, numerous curves, lack of shoulders, and steep grades (Summit  
10 County, 2009). There are a number of dirt roads used for timber management; a main haul  
11 route used by the Forest Service is Iron Springs Road. Such roads are also used for hiking, biking,  
12 snowshoeing, and cross country skiing. The area has a paved bikeway (the Frisco to  
13 Breckenridge Multi-Use Path) that connects the towns of Frisco and Breckenridge. The area is  
14 also used for unmanaged recreational activities that take place off Forest Service maintained  
15 trails (USFS, 2011).

16 There are existing high power transmission lines cutting east to west through the southern end  
17 of the area, within the WRNF. The utility company clears an approximately 75-foot wide corridor  
18 from just north of Peak One Hospital (St. Anthony Summit Medical Center) to Summit High  
19 School.

20 *Level of Remoteness/Solitude*

21 “The developed recreation sites around Dillon Reservoir offer areas of moderate-to-low  
22 solitude. The rest of the general forest area has a moderate level of solitude” (USFS, 2002b,  
23 p. P-8). Developed areas around the hospital, high school, and Goodale Road parking lot have a  
24 low level of solitude.

25 *Inventoried Visual/Scenery Resources*

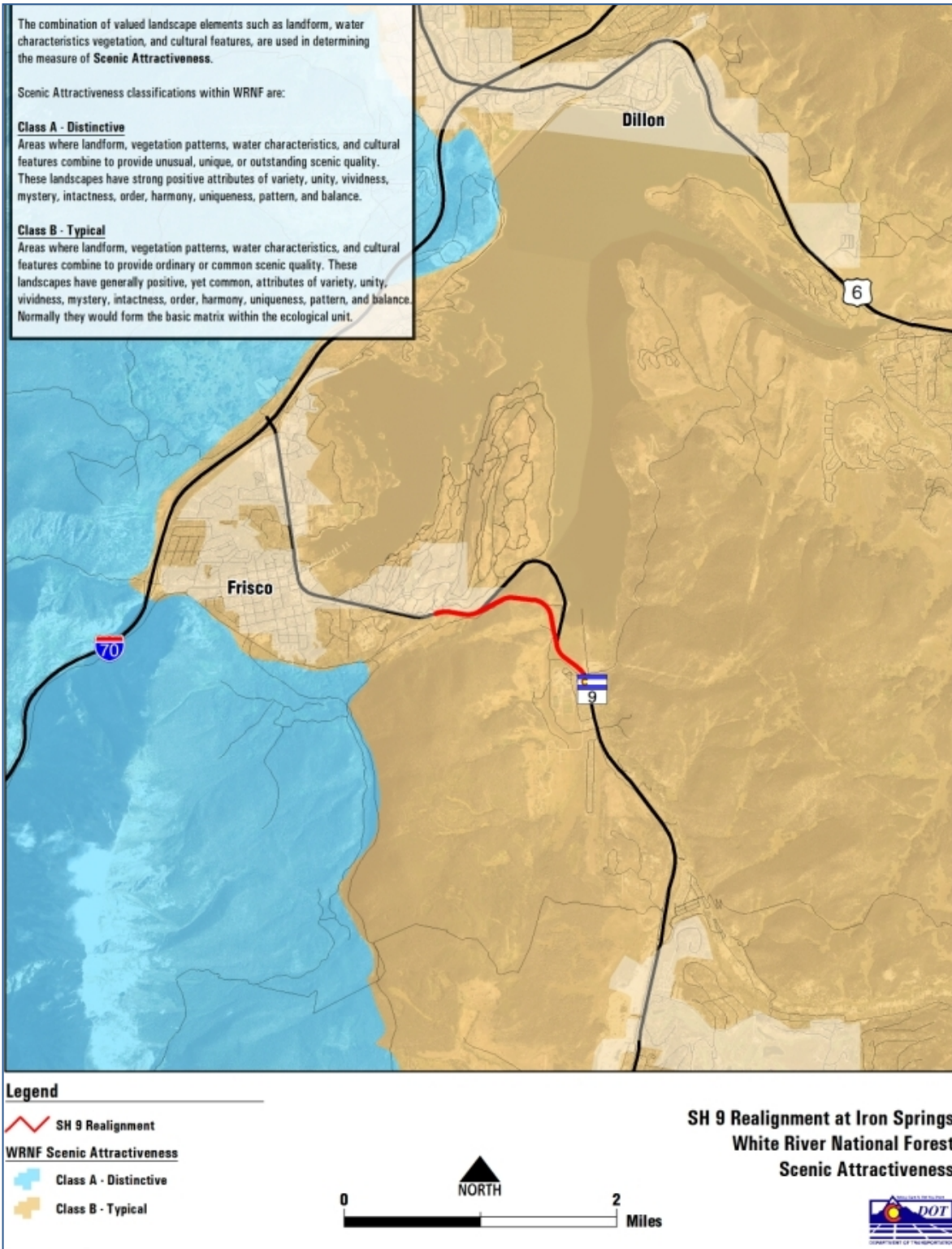
26 The USFS has inventoried the project area to determine the relative value and importance of  
27 scenery on National Forest System lands. The inventory was completed prior to the current MPB  
28 epidemic and does not take into account the current conditions of the forest (USFS, 2011). The  
29 viewshed maps generated by CDOT for this report reflect the WRNF timber harvests. The USFS  
30 landscape character description provides a frame of reference for defining scenic attractiveness.

31 *Scenic Attractiveness*

32 Scenic Attractiveness measures the scenic importance of a landscape based on human  
33 perceptions of the intrinsic beauty of landscape attributes, including landforms, water features,  
34 vegetation, and cultural features (USFS, 1995). The Forest Service map breaks scenic  
35 attractiveness into three classes: A—Distinctive, B—Typical or Common, and C—Indistinctive.

36 The project area is characterized as **Class B**, or “**Typical Scenic Attractiveness**,” which indicates  
37 that the lands have some distinctive features but overall provide ordinary or common scenic  
38 quality (**Figure 5**). The landscape can absorb low to moderate levels of change assuming the  
39 changes respect the existing character of the landscape in the basic visual pattern elements of  
40 form, line, color, and texture.

1 **Figure 5 Scenic Attractiveness Map—SH 9 Realignment at Iron Springs, White**  
 2 **River National Forest**



3 (Based on USFS, 2002a)

1 *Scenic Integrity Objectives*

2 Scenic Integrity indicates the degree of intactness and wholeness of the landscape character.  
3 The scenic integrity objectives (SIOs) establish limits of acceptable human alterations as the  
4 landscape moves toward a landscape character goal (USFS, 1995). Once an area has been  
5 assigned an SIO, the level can be used to analyze and determine the scenic impacts of proposed  
6 activities on the land, and to gauge the amount of disturbance an area can tolerate before it  
7 exceeds the scenic objective. Scenic Integrity levels are mapped in terms of Very High, High,  
8 Moderate, Low, Very Low, and Unacceptably Low.

9 The eastern side of the project area is managed for **Moderate** SIO (**Figure 6**). This means that  
10 noticeable deviations must remain visually subordinate to the characteristic landscape.

11 A majority of the Proposed Project alignments lie within areas managed for **Low** SIO; the north  
12 and west sides of the project area. Deviations begin to visually dominate the original  
13 characteristic landscape, but must be compatible or complimentary to the character within.

14 Scenery management guidelines to achieve the scenery integrity objectives are in the *Land and*  
15 *Resource Management Plan—2002 Revision for the White River National Forest* (USFS, 2002a,  
16 p. 2-37) and include:

- 17 • Management activities should be designed and implemented to achieve, at minimum,  
18 the level of scenic integrity shown on the scenic integrity objective map.
- 19 • Plan, design, and locate vegetation manipulation on a scale that retains the color and  
20 texture of the landscape character, borrowing directional emphasis of form and line  
21 from natural features.
- 22 • Choose facility and structure design, scale, color of materials, location, and orientation  
23 to meet the scenery integrity objective on the Scenic Inventory Map.
- 24 • Facilities, structures, and towers with exteriors consisting of galvanized metal or other  
25 reflective surfaces will be treated or painted dark non-reflective colors that blend with  
26 the forest background to meet an average neutral value of 4.5 or less as measured on  
27 the Munsell neutral scale.

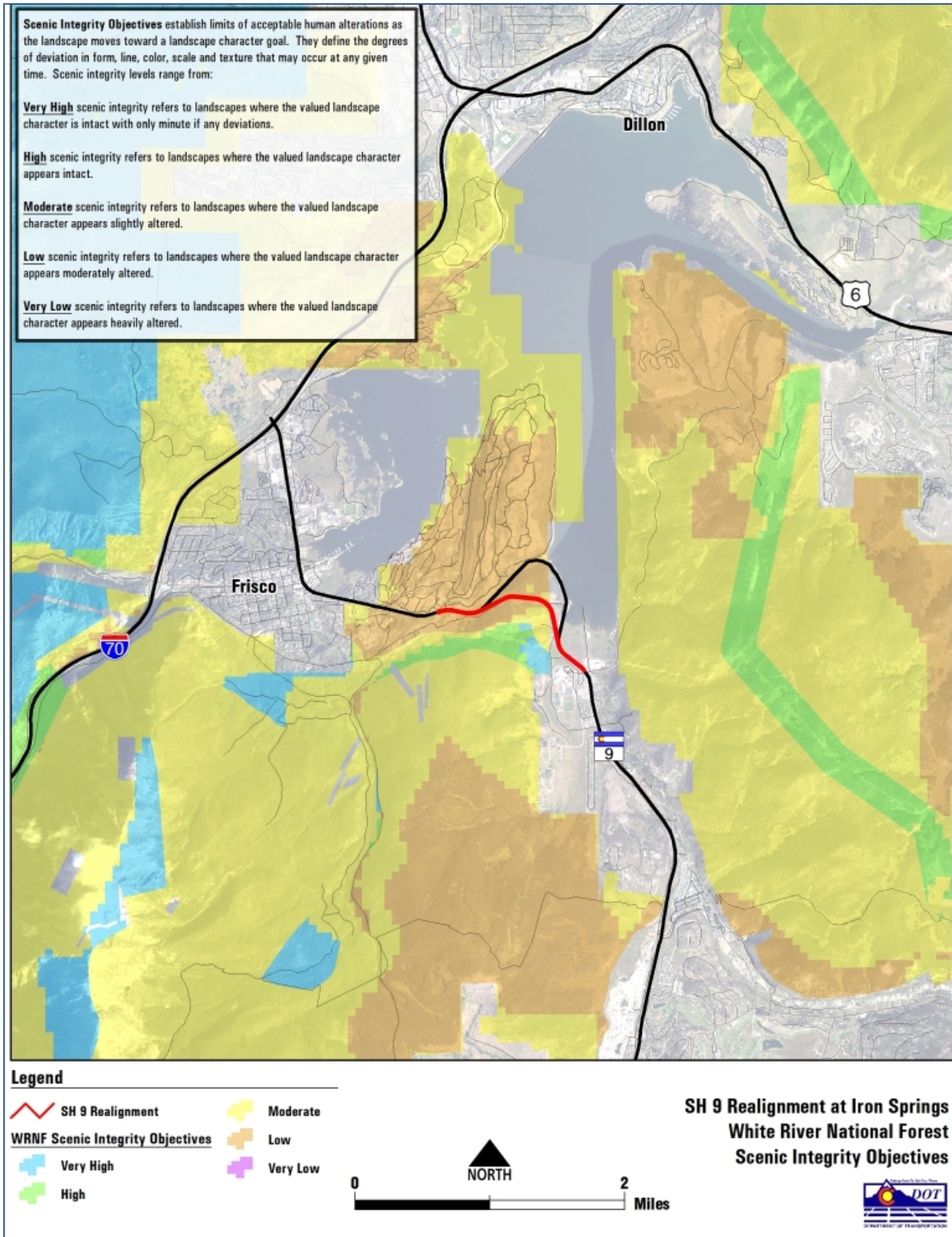
28 The Forest Service theme is developed recreation complexes in a forested environment, for  
29 Management Area 8.21 (USFS, 2011, p. 3-78). Sights and sounds of human development are  
30 evident, recreation opportunities are intensively managed to provide experiences in a primarily  
31 natural setting, and vegetation communities are maintained or improved to provide an eye-  
32 pleasing appearance for visitors. The Category 8.2 guidelines applicable for the Proposed Project  
33 include: (1) Infrastructure—design facilities and access to provide site protection, efficient  
34 maintenance, and user convenience; and (2) Scenery Management—facilities may dominate,  
35 but must harmonize and blend with the adjacent landscape.

36 The second theme noted within the eastern and western limits of the project is that of a local  
37 community edge. The towns of Frisco and Breckenridge have independently developed their  
38 own “signature” treatments to emphasize the particular historic and mountain character of their  
39 communities (CDOT, 2003).

40 Lastly, there is a theme associated with the CDLT. Thirty acres, termed “Iron Springs” north of  
41 Summit High School along SH 9, was purchased in 2003 with conservation values to create a  
42 buffer between communities, protect scenic views and public recreation (CDLT, 2013). CDOT will  
43 deed approximately 12 acres of current right-of-way to Summit County to be included in the  
44 amended Deed of Conservation Easement. The Proposed Action will take approximately 9 acres,  
45 resulting in a net increase of conserved acreage (CDLT, 2013).



1 **Figure 6 Scenic Integrity Objectives Map—SH 9 Realignment at Iron Springs,**  
 2 **White River National Forest**



3 (Based on USFS, 2002a)

1 *Landscape Visibility*

2 Understanding where the project is likely to be seen from and how the landscape is valued by  
3 the public are important components of landscape visibility. Visibility is in relation to  
4 interconnected elements such as context of viewers, duration of view, degree of discernible  
5 detail, seasonal variation, and number of viewers (USFS, 1995). Views from specific locations  
6 within the area may range from open to screened, depending on the influence of vegetation and  
7 development.

8 The first determination is known as seen area mapping—which areas are seen from travelways  
9 and use areas. Travelways represent linear concentrations of public-viewing. USFS guidelines  
10 note that lands with high scenic sensitivity (Concern Level 1) are those within primary travel  
11 routes and recreation use areas, where large numbers of visitors are anticipated to have a high  
12 concern for scenic quality.

13 *Distance Zones and Relative Sensitivity*

14 Distance zones help determine how the Proposed Action would be perceived from a  
15 constituent’s point of view. People have greater scrutiny of landscape character and scenic  
16 integrity when they view landscapes close-up and for longer periods of time, or when they look  
17 at landscape surfaces from aerial views (USFS, 1995). For example, hikers on trails would  
18 experience the forest in the immediate foreground (0 feet to 300 feet) and the foreground  
19 (300 feet to 0.5 mile), viewing details such as individual leaves and tree trunks, while sightseers  
20 visiting Sapphire Point would see the project in middle ground (0.5 mile to 4 miles) and would  
21 notice variation in canopy color, texture, and line (USFS, 2011). For evaluation purposes, 1-mile  
22 was identified as a distance threshold. The viewshed analysis and viewpoint maps are available  
23 in the project file. Field observations of existing roads indicate that the scale of the Proposed  
24 Action may still be visually detectable beyond 1-mile, but the project would not typically attract  
25 the attention of viewers.

26 *Viewer Concern Levels*

27 Concern levels are a measure of the degree of public importance placed on landscapes viewed  
28 from travelways and use areas (USFS, 1995). Tourists, which comprise a large number of viewers  
29 on SH 9, generally have a high awareness of the visual/scenery resources around them, yet are  
30 anticipated to be less sensitive to specific changes in the environment. Local residents and  
31 business owners are the most sensitive to aesthetic issues due to their familiarity of the area.  
32 Significant summer and winter routes identified by the community include the Blue River  
33 Bikeway, Peninsula Trail System, and Swan Mountain Recreation Path (Summit County, 2010a;  
34 2010b).

35 The Summit County master plan states to “keep lands of highest visual importance (as identified  
36 in basin master plans) as free as possible from visual impacts” of roadways (2009, p. 100). Maps  
37 from the other master plans (Summit County, 2010a; 2010b) were reviewed for “visually  
38 important lands” as seen from public areas (specifically from major roads and key public  
39 gathering spaces). The Ten Mile Basin and Upper Blue Basin Visually Important Maps are located  
40 in the Appendix, **Plates 1** and **2**. The western half of the Peninsula Recreation Area and Sapphire  
41 Point were noted as more important view areas.

42 Concern levels were divided into levels 1, 2, and 3; with 1 being the highest. Usage, that is the  
43 level of use of an area by the public, is determined as low, moderate, and high. Duration is the  
44 relative length of time the area is viewed: short, medium, and long. **Table 1** lists potential  
45 visual/scenery resource areas and level of user concern identified within the Project area. Each  
46 area is discussed for degree of public visibility and degree of visual contrast in the next section,



1 **Key Observation Points.** Priority viewpoints (high public usage and high user concern levels)  
 2 appear to be SH 9, Frisco Nordic Center, and Sapphire Point.

3 **Table 1 Potential Areas of Visual/Scenic Importance, Usage, User Concern**  
 4 **Levels, and Duration of View for SH 9 Realignment at Iron Springs**

Property Description or Use Area	Type of Property	Usage	User Concern Level	Duration of View
State Highway 9	Primary Travelway	High	1 <sup>1</sup>	Medium
Swan Mountain Road	Secondary Travelway	Moderate	1 <sup>1</sup>	Short
Iron Springs Road	Secondary Travelway	Low	2	Short
Blue River Bikeway	Recreation	Moderate	1 <sup>2</sup>	Medium
Swan Mountain Rec Path	Recreation	Low	1 <sup>2</sup>	Short
Goodale Road Parking Lot	Recreation	Low	2	Short
Dillon Reservoir	Recreation and Water Storage	Moderate	1	Long
Peninsula Recreation Area	Recreation	Moderate	1 <sup>2</sup>	Long
Frisco Nordic Center	Recreation	High	1 <sup>2</sup>	Medium
Dickey Day Use Area	Recreation	Moderate <sup>1</sup>	1 <sup>1</sup>	Short
Blue River Inlet	Recreation	Low	1	Short
Sapphire Point	Scenic	High <sup>1</sup>	1 <sup>2</sup>	Short
Peak One Hospital	Level III Trauma Center	High	3	Short
Dillon Placer Mine	Historical	Low	1	Short
Summit High School	Public Education	High	2	Short
Antler House	Private Property	Low	2	Short
Special Places-Wetlands	Protected	Low	1	Medium

<sup>1</sup>USFS, 2013.

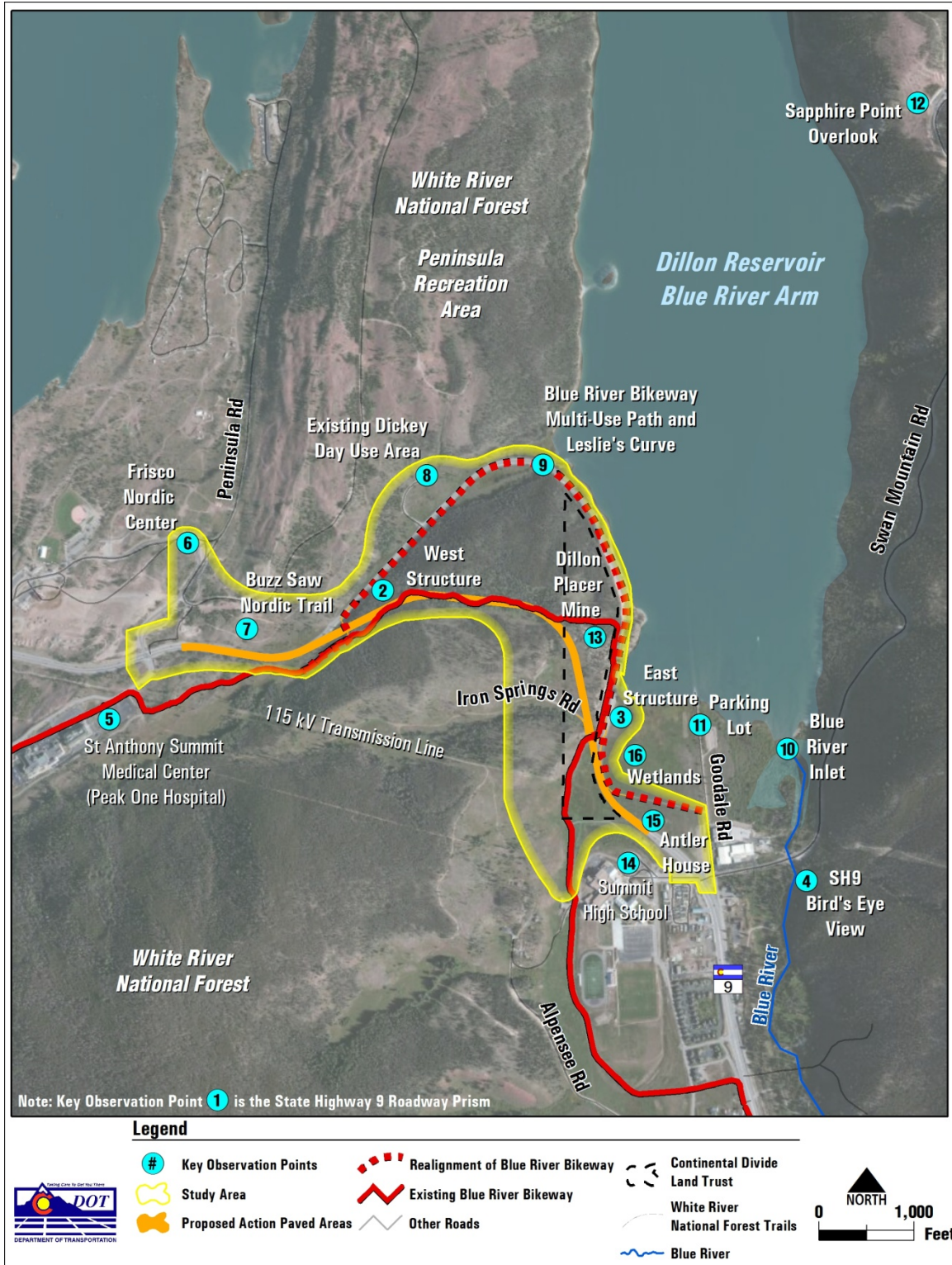
<sup>2</sup>Identified as “significant” by Summit County, 2010a; 2010b.

5 **KEY OBSERVATION POINTS**

6 The visual impact analysis is based on significant views from 16 KOPs. A KOP can be a single  
 7 point of view that an evaluator uses to rate an area or a panorama, or a KOP can be a linear view  
 8 along a roadway, trail, or river corridor. The visually/scenic important areas in **Table 1** were used  
 9 to select KOPs and included factors such as visibility of the project, angle of observation, and  
 10 season of view. **Figure 7** locates the key views used to determine the level of disturbance  
 11 associated with the Proposed Project. Assessing scenic values and determining visual impacts  
 12 can be a subjective process. Objectivity and consistency can be increased by using the basic  
 13 design elements of form, line, color, and texture. The visual compatibility of the project will be  
 14 high if visual character is similar (that is, weak degree of contrast) to the project setting  
 15 (No Action Alternative). Degree of contrast is None, Weak, Moderate, Strong, and Very Strong.  
 16 Very Strong is if all of the dominance elements of the visual landscape (form, line, color, and  
 17 texture) are affected.

18 A KOP along the Peninsula Recreation Area (views from the camping and picnic grounds on the  
 19 northern slope) was not chosen because the No Action Alternative and the Proposed Action  
 20 cannot be seen from there. A KOP for Iron Springs Road was not analyzed due to the shortened  
 21 views in the foreground, steep slope, and depth of winter snow at the time of field visit. The  
 22 views of or from the East Structure (KOP 3), SH 9 Bird’s Eye View (KOP 4), and Summit High  
 23 School (KOP 14) help in understanding the potential scenic impacts to Iron Springs Road.

1 **Figure 7** Map showing Key Observation Points (KOPs) and Landscape  
 2 **Components for SH 9 Realignment at Iron Springs**



3  
4

1 *Key Observation Point 1— State Highway 9 Roadway Prism*

2 **Description**

3 Views of and from the corridor were identified to address individual significant visual  
4 construction elements: earthwork (cut and fill), rock faces, retaining walls, vegetation removal,  
5 and restoration of disturbed areas. Additional elements include drainage structures, wildlife  
6 crossing, and construction staging. Views from the road are generally of short duration and  
7 within steeper areas; foreground and middle ground views are dominant.

8 The rocky hillsides and mountainous terrain tend to break up continuous or extended views in  
9 the project area. Spatially, the coniferous vegetation stands create a strong visual pattern with  
10 areas of open canopy.

11 **Plates 3 and 4** in the Appendix illustrate the locations of cut and fill and wall locations for the  
12 No Action Alternative and Proposed Action.

13 **No Action Alternative**

14 The new visual elements of extremely steep cuts and long walls are the strongest visual impact,  
15 with differences in form, color, line, and texture. The cut and fill would create a Very Strong  
16 degree of contrast (negative in context with the landscape character) and would likely be  
17 permanent. Steeper slopes tend to be drier due to an increase in runoff and make revegetation  
18 more difficult. Views along SH 9 and from Sapphire Point (KOP 12) would be negatively  
19 impacted. The extensive walls and cuts are also negative (Strong in contrast) in context to  
20 boaters and fishing enthusiasts along Dillon Reservoir.

21 **Proposed Action**

22 SH 9 would follow a natural landform depression surrounding the main roadway curve,  
23 providing a screen from north and south views, and occupy a shorter linear length than the  
24 No Action Alternative. The Proposed Action has a temporary negative visual element due to a  
25 larger area of disturbance (Strong contrast in cut and fill) and removal of vegetation (Moderate  
26 contrast) associated with the new alignment. In terms of revegetation, this is a temporary,  
27 short-term effect. Since recovery time of the slope is considerably shorter, visual scars heal  
28 faster (Colorado Department of Highways and USFS, 1978), and new tree growth would begin to  
29 hide the roads in 10 to 20 years.

30 Mitigation will include:

- 31 • Use site grading to blend disturbance into the existing topography to achieve a natural  
32 appearance, as much as practicable, and minimize cut and fill.
- 33 • Design new rock cuts slopes to blend with existing rock formations. Coloring, such as  
34 rock staining, may be needed to reduce the contrast between new cuts and existing rock  
35 faces.
- 36 • Use a variety of native plant material in revegetation efforts to ensure long-term  
37 establishment and success.

38 **Table 2** summarizes the major construction elements of the No Action Alternative compared to  
39 the Proposed Action.

1 **Table 2 Comparison of Major Construction Elements with Visual Effects for the**  
 2 **No Action Alternative and Proposed Action**

<b>Construction Element</b>	<b>No Action Alternative</b>	<b>Proposed Action</b>
Earthwork/Grading	Impact width of 125 feet with isolated areas up to 250 feet from toe of slope to top of slope	Impact width of 125 to 275 feet from toe of slope to top of slope, many of which are sliver cuts
Rock Cuts	Steep cuts with 8 to 1 slopes Rocky slopes difficult to vegetate 49 feet maximum height	3 to 1 slopes Easier to revegetate Less than 30 feet in height
Roadway Walls	2,200 feet in length 11 feet maximum height	1,500 feet in length (cantilever walls) 25 feet maximum height
Bikeway/Trail Walls	1,700 feet in length Steep slopes difficult to avoid with realigned bikeway  8 feet maximum height	300 feet in length Gentle slopes for bikeway around reservoir and trail connection  8 feet maximum height
Impervious Impacted Area	2.03 acres	6.5 acres
Unpaved Area Available for Revegetation	9.4 acres	16 acres

<sup>1</sup>Numbers are approximate and based on 30 percent design.

3 **Design Strategies**

4 Design strategies are suggested in order to maintain visual quality elements and to reduce  
 5 contrast between construction elements and the surrounding landscape character. Design  
 6 strategies are examined during CSS. Strategies would mimic the existing landform patterns,  
 7 lessen slope scarring, and restore disturbed areas for both the No Action Alternative and the  
 8 Proposed Action.

9 Earthwork/Grading strategies may include:

- 10 • On large slopes where it is impossible to modify slope characteristics by just laying back  
 11 draws and accenting ridges, create diversity by modifying slope ratios. Keep disturbed  
 12 areas to the minimum size necessary in existing vegetated areas as much as possible  
 13 during construction and operation. Leave cut/fills in a roughened condition to facilitate  
 14 revegetation.
- 15 • Consider slope rounding at the top and bottom of slopes to transition the embankment  
 16 back into natural grade. Cut and fill slopes should be flat enough to get full revegetation  
 17 of slopes: 2 to 1 is minimum slope for good revegetation, 3 to 1 slope is preferred and  
 18 recommended.

19 Wall materials may include mechanically stabilized earth (MSE) or reinforced earth with  
 20 approved facing materials. CDOT will coordinate with local jurisdictions on treatment options  
 21 within reasonable and feasibility guidelines. Access and sufficient widths must be met to  
 22 accommodate maintenance activities.

23 Retaining wall strategies may include:

- 24 • Provide space, if possible, for landscape treatments in front of all retaining walls that are  
 25 visible from the roadway.
- 26 • Utilize landscape platforms and turn the ends of walls to meet with the grades of hills  
 27 and slopes to ensure that retaining walls are integrated with adjoining slopes.



1 Removal of vegetation due to road construction would expose bare soil lighter in color and  
2 smoother in texture than the surrounding vegetation. The alignment, vegetative cover, and  
3 slope aspect have an effect on the visible construction of SH 9. In a forested environment,  
4 widening the road changes the foreground views, with the change in linear cut of the road bed  
5 and exposed soil (texture) most apparent (USFS, 2011). Viewed from the middle ground,  
6 textural change from the cleared areas to the uncut tree stands are noticeable, but temporary.  
7 The degree of contrast is moderate for the Proposed Action and meets the SIO.

8 Vegetation removal strategies may include:

- 9 • Remove minimum number of trees necessary for road, bikeway, and trail. Stumps  
10 immediately adjacent to the highway should be flush cut or cut as low as possible to the  
11 ground to reduce scenery impact. Avoid straight edges when removing trees and abrupt  
12 transitions between the project and natural landscape. The edges, where the vegetation  
13 is removed, should be designed using a variable density cutting (feathering) technique  
14 to create a more natural edge that blends into the existing vegetation. Soften hard  
15 edges by selective removal of trees of different ages and heights to produce irregular  
16 corridor edges where possible.

17 Revegetation in this environment is challenging due to high elevation, short growing season, and  
18 harsh conditions. Although the predominant color is green during the summer and some grey in  
19 sagebrush, fall and winter bring browns and creams in grasses. Mitigation for revegetation of  
20 disturbed areas is covered in the *Vegetation and Noxious Weeds Technical Memorandum*, A9,  
21 and will include coordination with a CDOT landscape architect during the CSS process.

22 A strategy for revegetation may include:

- 23 • Salvage, store, and redistribute topsoil in all disturbed areas to ensure successful  
24 revegetation.

25 Two new structures (roadways above a pedestrian underpass) would have the most potential  
26 differences in form, line, and color, and texture, with moderate to strong contrast. The  
27 individual structures are discussed in more detail under the West Structure (KOP 2), East  
28 Structure (KOP 3), and SH 9 Bird's Eye View (KOP 4).

### 29 *Drainage Structures*

30 "Future construction of bridges and culverts should be designed (for example, width and height)  
31 with consideration for limiting floodplain impacts and allowing for wildlife movement" (Summit  
32 County, 2009). Both the No Action Alternative and the Proposed Action have drainage  
33 improvements (that are considered within the *Water Quality Technical Memorandum*, A6). The  
34 structures include permanent water quality ponds (extended dry sand filter basins) with  
35 concrete drop structures for ease of maintenance and riprap approaches; culverts, and an  
36 underpass for wildlife (the latter most likely north of the Dillon Placer Mine). Final placement  
37 will be determined during design. Visual resource evaluation of drainage improvements by a  
38 CDOT landscape architect will occur during the design process as part of CSS.

### 39 **No Action Alternative**

40 The existing minor cross culverts will be increased in size to meet current design standards. A  
41 12-foot high arched wildlife underpass was investigated in the area of Gold Hill at SH 9  
42 milepost 91.5 as a wildlife enhancement. An extensive fencing plan was designed to funnel large  
43 animals to the underpass approaches (CDOT, 2004b), which increases visual contrast.

1 **Proposed Action**

2 A wildlife undercrossing is proposed as part of a 10-foot high (16-foot wide) arched culvert with  
3 a natural bottom tying into existing drainage north of the Dillon Placer Mine. No fencing is  
4 anticipated; the visual contrast in line (wood vertical posts) is reduced from that of the No  
5 Action Alternative.

6 *Construction Impacts*

7 Temporary effects to visual quality would result from construction-related activities with both  
8 the No Action Alternative and Proposed Action. The visual effects include an increase in  
9 roadway congestion in and around the area; the visibility of large construction equipment,  
10 material stockpiles, dust and debris, signs, fencing, and staging areas for the SH 9 corridor.  
11 Construction-related activities would affect the visual experience of motorists on SH 9 to a lesser  
12 degree than recreationists. Motorists travel the corridor more quickly (even at construction  
13 zone reduced speeds) than users of the recreation trails and bikeways. Construction mitigation  
14 measures include Best Management Practices and are detailed in the *Water Quality Technical*  
15 *Memorandum, A6*; the *Air Quality Technical Memorandum, A2*; and the *Vegetation and Noxious*  
16 *Weeds Technical Memorandum, A9*.

17 **No Action Alternative**

18 It is assumed an off-site location would be needed for staging due to the footprint that the new  
19 4-lane highway requires next to Dillon Reservoir and the necessity to keep two lanes open  
20 during construction. There is also the need for a wider construction buffer when scaling back the  
21 steep cliffs along Leslie's Curve and south.

22 **Proposed Action**

23 Construction staging is anticipated to occur within the existing Dickey Day Use Parking Lot for  
24 the Proposed Action. The construction staging area would have limited visibility from SH 9 and  
25 only for a short period of time by motorists. Recreationists using Buzz Saw Nordic Trail would  
26 notice the construction longer. The parking lot is discussed in more detail under KOPs 7 and 8.

27 *Lighting*

28 No lighting is anticipated for the No Action Alternative or Proposed Action. If lighting is required,  
29 the design details will reduce the impacts of light pollution and protect the night sky. The  
30 aesthetics study (CDOT, 2003) notes all fencing and lighting fixtures, poles, etc. will be flat black  
31 in color. This is true in the towns. However, the preferred color is Federal Standard 595 B  
32 (Color 20059) for all vertical metal features within USFS lands.

33 *Secondary Effects*

34 Local communities (Breckenridge and Frisco) and ski resorts within Summit County are expected  
35 to grow/expand, increasing the urban interface with the forest. Residential expansion within  
36 these areas would likely result in an increase in traffic along SH 9.

37 The No Action Alternative and Proposed Action will not significantly affect population growth or  
38 other demographic characteristics or trends in Summit County or within the project area. No  
39 visual resource mitigation is required since there are no anticipated land use (beyond the  
40 relocation of the Dickey Day Use Parking Lot and the CDLT property already discussed) and  
41 zoning impacts. Any new, unanticipated development that would possibly be spurred by any  
42 improvements would have to meet any guidelines or restrictions set forth in the appropriate  
43 master or comprehensive plan for the local agency (CDOT, 2004b).

1 *Key Observation Point 2— West Structure*

2 **Description**

3 The landscape includes a  
4 focal point, Peak 9, where the  
5 horizontal curve of the  
6 highway and right hillside  
7 lead the eye to a snow  
8 capped mountain. Colors  
9 include lighter brown and  
10 grey foreground with a finer  
11 texture, to the dark massing  
12 of the middle ground. There  
13 is little forested area in the  
14 immediate area of potential  
15 impact, rather it appears  
16 disturbed with a single line of  
17 trees adjacent to the  
18 roadway (appearing  
19 unnatural and reinforcing the  
20 highway edge). The single  
21 lines of trees should be  
22 considered for removal due  
23 to their poor health. **Figure 8**  
24 presents the existing  
25 conditions and simulations.

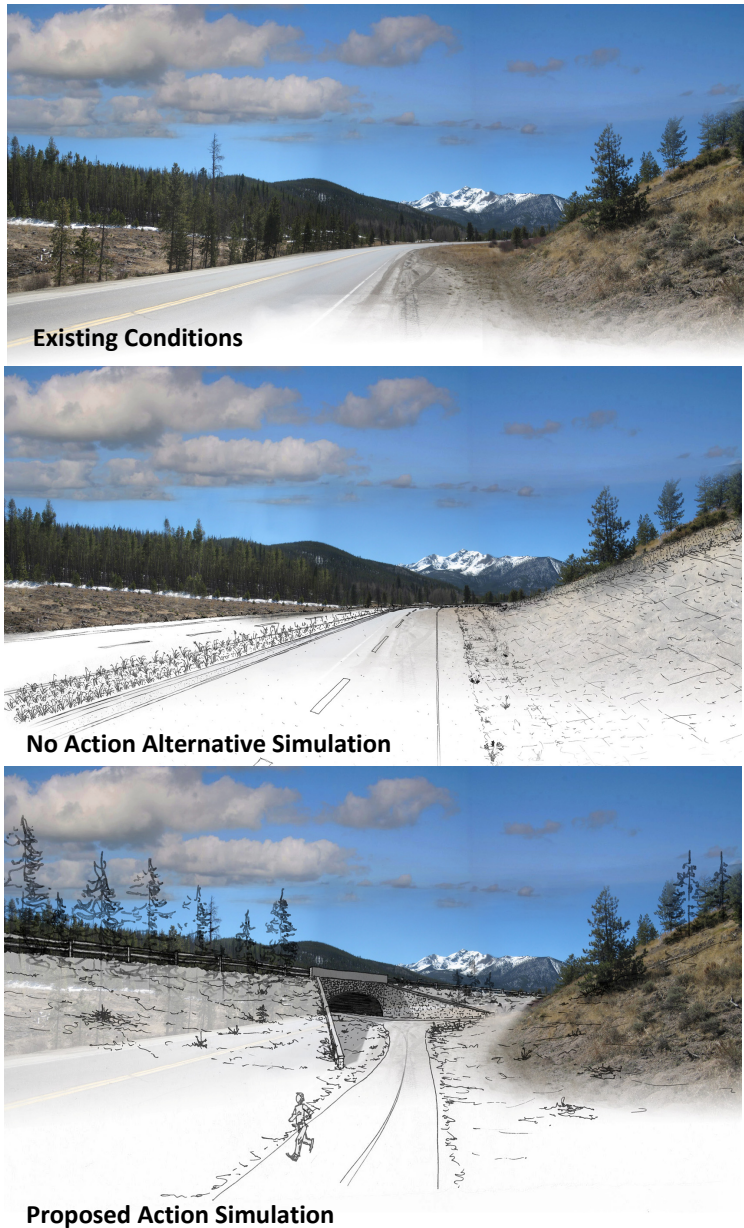
26 **No Action Alternative**

27 The highway is wider in the  
28 foreground while the middle  
29 and background views remain  
30 fundamentally the same. The  
31 new visual element  
32 dominates the foreground  
33 and is Moderate in contrast.  
34 Much of the view is within  
35 the WRNF, which has a SIO of  
36 Low. The degree of alteration  
37 would be acceptable.

38 **Proposed Action**

39 The axis (center line) of the landscape is maintained with the Blue River Bikeway and the scale of  
40 the horizontal line of the highway structure fills in for the mountain form. The sloping terrain  
41 now leads the eye to the underpass opening. The shade offered by an underpass can be a  
42 source of refuge for pedestrians, even if momentary, in a semi-arid, high elevation landscape.  
43 The height of the structure is appropriate in scale to repeat the size of adjacent landform  
44 (Moderate contrast). The path is visually neutral. Overall, the manmade elements relate to the

**Figure 8 KOP 2 Looking West toward Frisco**





1 landform and reinforce each other. The structure is evident but does not detract from the scene  
2 and meets a Low SIO.

3 *Key Observation Point 3—*  
4 *East Structure*

5 **Description**

6 The view south toward  
7 Breckenridge and Summit High  
8 School is enclosed by a rocky  
9 hillside, with a ridge of dead  
10 evergreens against the skyline.  
11 Texture is patchy and sparse. A  
12 dark line of low mountains  
13 reinforces the highway curve to  
14 the left (where there is a utility  
15 pole and rectangular structures).  
16 **Figure 9** presents the existing  
17 conditions and build alternative  
18 simulations.

19 **No Action Alternative**

20 The middle and background  
21 views remain the same, but  
22 include an urban edge. The  
23 foreground is Weak in terms of  
24 contrast due to color and the  
25 new element fits within the  
26 existing SIO of Moderate (visually  
27 subordinate to the characteristic  
28 landscape).

29 **Proposed Action**

30 The foreground view is  
31 dominated by the earthwork and  
32 amount of highway structure  
33 rising to the right, keeping the  
34 same outline as the original  
35 landscape, but blocking  
36 background views. Roadside plantings and careful selection of color and texture are needed to  
37 reduce the visual scale and strong contrast of the new element form. The sloping terrain would  
38 make the opening of the underpass obvious to users of the Blue River Bikeway. The uphill also  
39 becomes more prominent to travelers on SH 9. The structure (through careful selection of color  
40 and texture) would be less evident and meet SIO in middle and background views (where it is  
41 primarily viewed). The new highway structure may dominate but must harmonize and blend  
42 with the adjacent land. Slope molding would also lessen visual effects in a SIO area rated  
43 Moderate.

**Figure 9 KOP 3 Looking South toward Breckenridge**





1 Mitigation will include:

- 2       • Use roadside plantings, slope molding, and careful selection of color and texture to  
3       reduce contrast.  
4       • Plant groupings are to be located in areas most visible to the motorist to make best use  
5       of limited plant material quantities. Design all groupings so they visually extend the  
6       existing landscape.

7 *Key Observation Point 4—SH 9 Bird’s Eye View*

8 **Description**

9 The view from the south is an oblique perspective; bisected by a relatively flat and smooth  
10 foreground, a hilly and clumpy forested middle ground, with Dillon Reservoir to the right  
11 (**Figure 10**). SH 9 forms an inverted S shape, and secondary roads are visible, forming a dendritic  
12 network connection in the top left, reducing intactness of the view. Transmission lines are  
13 noticeable in the left bottom corner, crossing the highway at a right angle. Two other lines  
14 appear parallel to the transmission lines; a drainage form appears perpendicular from the  
15 highway and connects to the reservoir.

16 **Figure 10**       **KOP 4 Bird’s Eye View Simulations from the South**



1 **No Action Alternative**

2 The alignment widens to four lanes with steep cuts and walls at the top right (Moderate  
3 contrast). The new retaining walls would not be as noticeable from this viewpoint, if color and  
4 texture are used to match the surrounding landscape. The CDLT lands are impacted with cuts  
5 along the property’s eastern edge, increasing talus slopes. The current line and form are  
6 reinforced and the existing character of the landscape is consistent with a SIO of Moderate for  
7 the USFS.

8 **Proposed Action**

9 The highway goes up a 4 percent slope to nestle on the north side of Iron Springs Hill. The  
10 elevated eastern structure is evident with Strong contrast in form and line (introducing a new  
11 element). Color and texture selection will help lessen the contrast. The typical low vegetation is  
12 not sufficient to screen the road and structure. Additional plantings may help. From this  
13 viewpoint, the structure is marginally acceptable with a SIO of Moderate.

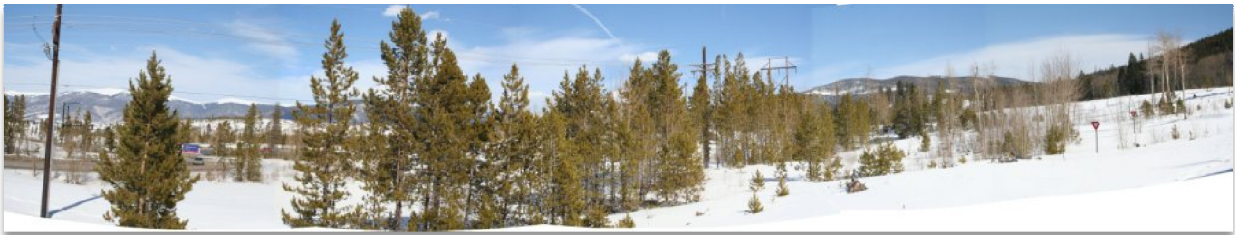
14 The eastern structure has an underpass allowing for the Blue River Bikeway realignment (on the  
15 old SH 9). The bikeway will result in safer (gentler) slopes, keep users away from SH 9 traffic, and  
16 afford a more aesthetic experience with wide panoramic views of Dillon Reservoir. Although the  
17 highway realignment does not completely remove the old highway prism, the Proposed Action  
18 would be a net benefit in visual resources.

19 *Key Observation Point 5—Peak One Hospital*

20 **Description**

21 A portion of USFS land was converted to house the new St. Anthony’s Summit Medical Center  
22 and Peak One Hospital southwest of the new alignment termini. Standing in the northwest  
23 parking lot and looking east toward the project impact area, the foreground view is a gently  
24 rising forested wall forming a 45 degree angle sense of enclosure; with a distant form/line of  
25 mountains on the outside edges (**Figure 11**). Cultural modifications (visible transmission poles  
26 and lines) detract. Barely visible to the viewer is a portion of the SH 9 traffic signal intersection  
27 at Peninsula Drive/Peak One Drive (horizontal line in the middle ground), screened partially by  
28 evergreens.

29 **Figure 11 KOP 5 Photomontage View Looking Northeast from the Peak One**  
30 **Hospital Parking Lot**



31  
32 The No Action and Proposed Action are essentially the same for this section of SH 9. Activities  
33 may be barely visible but should not attract attention and will retain the existing character,  
34 which is a low relative change. Therefore, this view meets the Moderate SIO. No further visual  
35 analysis or mitigation was deemed necessary.

1 *Key Observation Point 6—Frisco Nordic Center*

2 **Description**

3 Deforestation, due to the MPB epidemic, has changed the focus of the Frisco Nordic Center  
4 (now the Frisco Adventure Park) and Peninsula Recreation Area to a more built outdoor  
5 recreation environment. The view is to the southeast at Recreation Way and Peninsula Road,  
6 within a portion of the Frisco Peninsula Recreation Area, and has scattered groups of trees  
7 (**Figure 12** upper photograph). A low hill in the middle ground screens SH 9; two light poles are  
8 noticeable. Iron Springs Hill forms a sense of enclosure, occupying much of the scene. The view  
9 west (**Figure 12** middle photograph) is a flat foreground with a linear line of trees bisecting the  
10 horizontal plane and mountains forming a feature landscape on the right. The view north  
11 (**Figure 12** bottom photograph) is screened by a hill with heavier vegetation, including aspen, at  
12 its base.

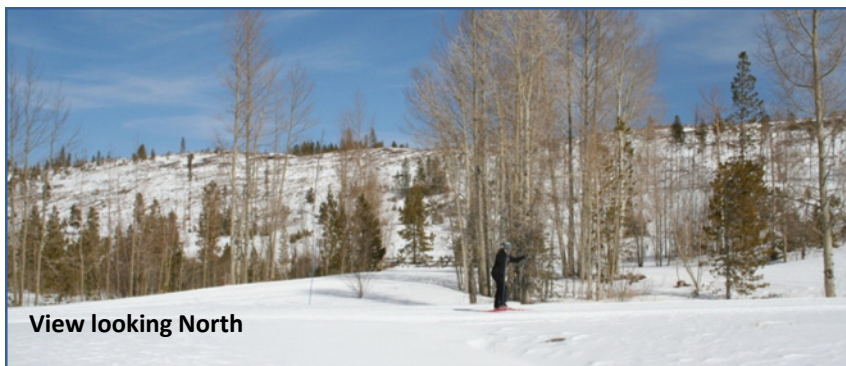
13 **Figure 12 Views from Recreation Way and Peninsula Road**



Photomontage view looking Southeast



View looking West



View looking North

1 **No Action Alternative**

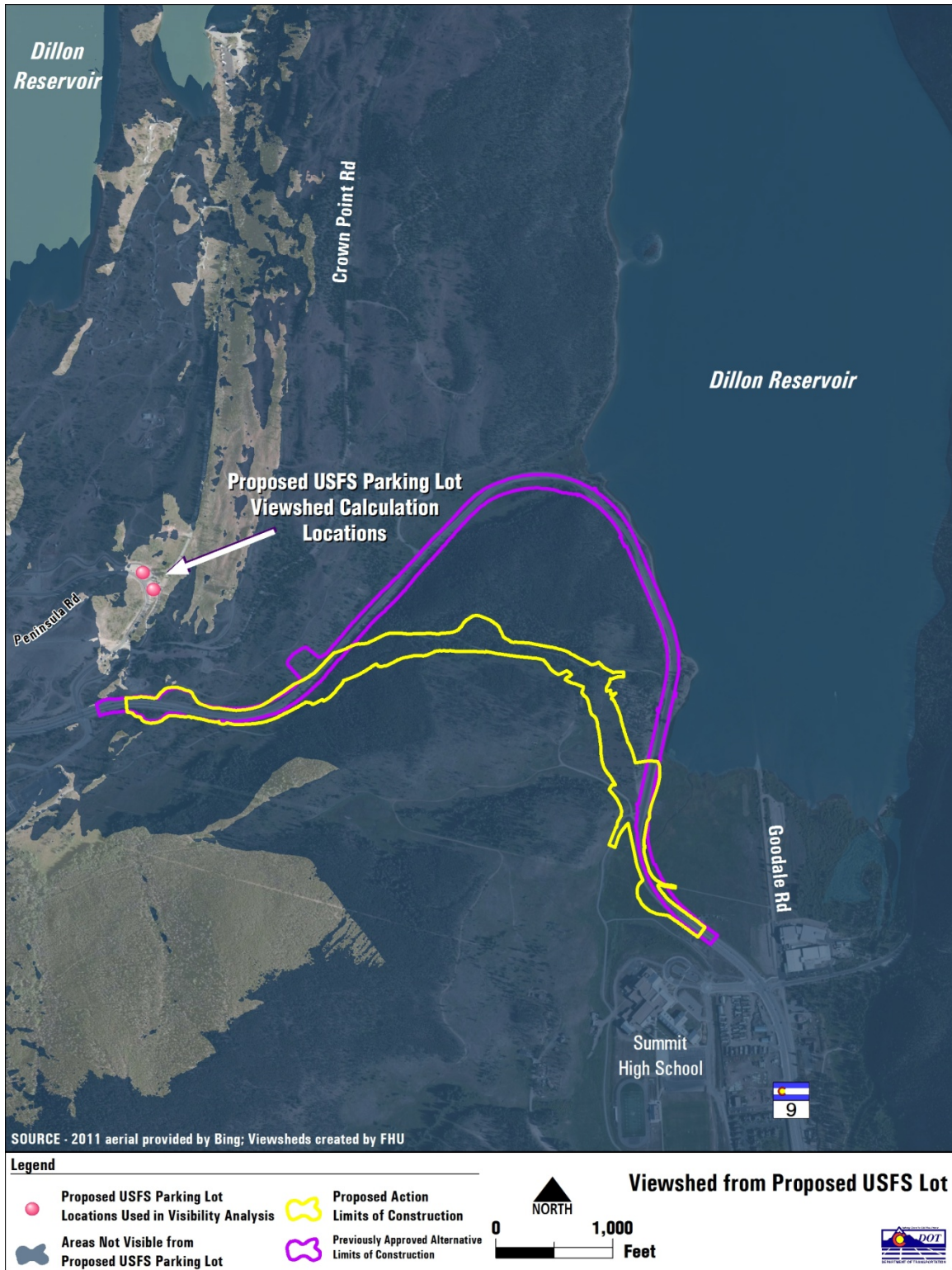
2 There would be modification of the existing access to the Frisco Nordic Center only, at SH 9,  
3 which is not visible from this KOP. No further visual analysis or mitigation was deemed  
4 necessary.

5 **Proposed Action**

6 The viewshed map from a Proposed Parking Lot (**Figure 13**) illustrates that the Proposed Action  
7 is not visible (confirming field observations). The Proposed Parking Lot would be constructed  
8 along Recreation Way to replace the existing Dickey Day Use Parking Lot. There would also be a  
9 Proposed Dickey Day Trail Connection—a 12-foot wide recreation path connecting the Boneyard  
10 going southeast toward SH 9 and heading northeast along the old SH 9 alignment. This would  
11 include a 300-foot long wall (with maximum 8-foot wall height). Given the strong curvilinear  
12 form and lines of existing trails and roadway, adequate parking to accommodate trailhead needs  
13 is compatible with surrounding land uses. The proposed location of the parking lot and trailhead  
14 is an opportunity to combine functions into multi-use facilities; and meets the SIO of Low.



1 **Figure 13 Viewshed from Proposed Parking Lot**



2  
3

1 *Key Observation Point 7—Buzz Saw Nordic Trail*

2 **Description**

3 The Frisco Nordic Center provides a cross-country ski trail system; Buzz Saw Nordic Trail is  
4 parallel to SH 9 (**Figure 14**). Single trees appear evenly spaced and dispersed over gentle slopes  
5 in the foreground. The  
6 landscaped buffer  
7 between the roadway  
8 and adjacent trail  
9 appears only for a couple  
10 of seconds to SH 9 users  
11 (heading north) and  
12 drivers must be looking  
13 for the trail to notice it.  
14 Recreationists  
15 (snowshoers and cross  
16 country skiers) would  
17 view the highway longer.  
18 The roadway is hidden  
19 again behind hills as the  
20 trail user travels  
21 northeast, until the  
22 Dickey Day Use Area.

**Figure 14 View East toward Buzz Saw Nordic Trail from Recreation Way**



23 **No Action Alternative**

24 The current alignment is not visible from KOP 7 (**Figure 15**) except for a segment of highway  
25 along the southern and northwestern edge of the SH 9 curve. The southern surface disturbance  
26 of the highway would be noticeable for a short duration to both No Action Alternative and  
27 Proposed Action viewers (Weak contrast). One proposed SH 9 widening cut could open up  
28 additional highway views to trail users. That cut is an existing positive visual element that would  
29 be lost. The northwestern SH 9 edge is such that long distance views would only slightly  
30 decrease vividness. The SIO is Low and the new element would be acceptable.

31 **Proposed Action**

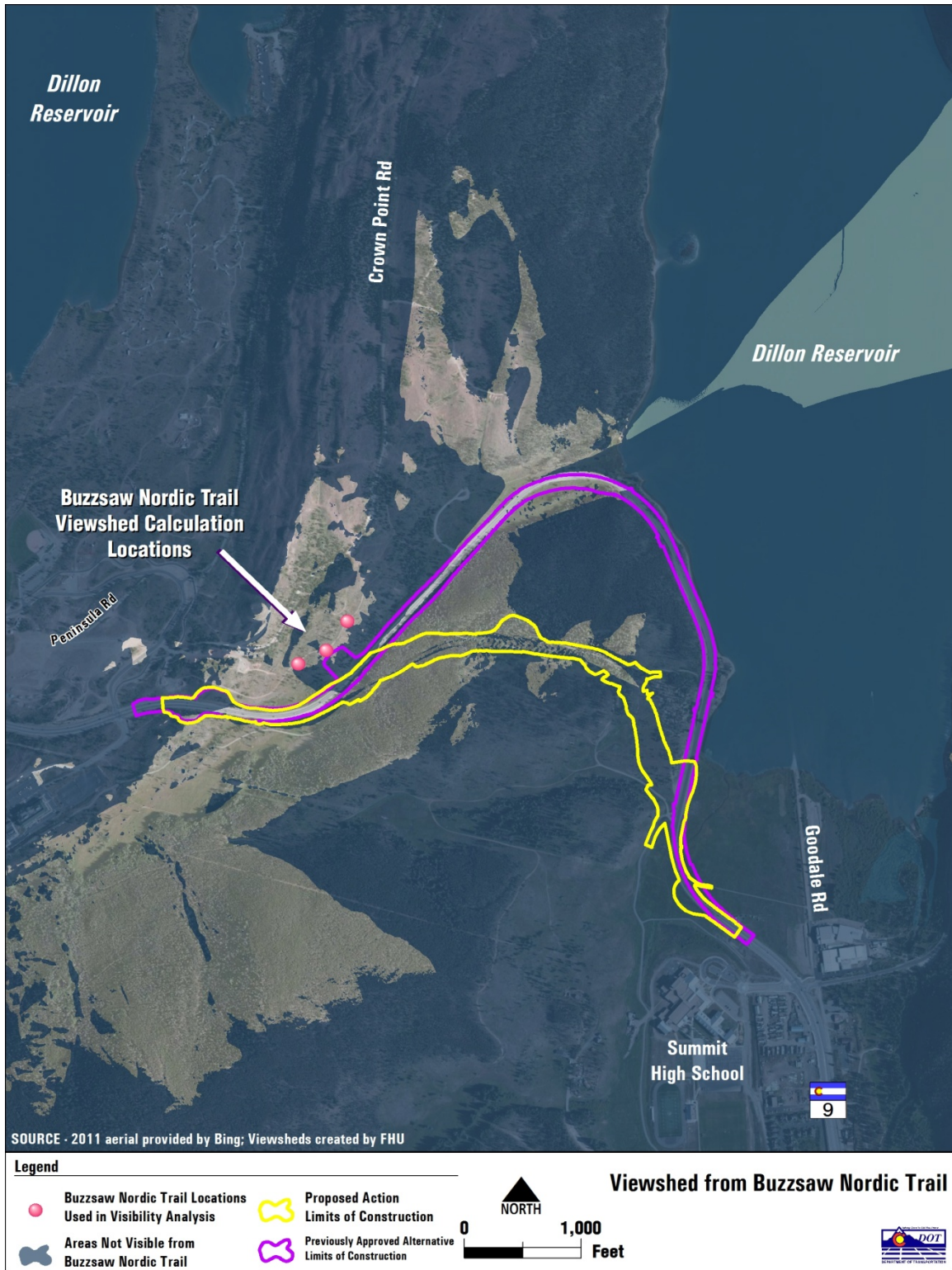
32 The viewshed map reveals the segment of the SH 9 realignment visible to users of the Buzz Saw  
33 Nordic Trail. The western curve of the corridor along Iron Springs Hill would be in the middle to  
34 background view and would lower intactness and vividness. The foreground view of the fill slope  
35 and structure is of more concern. An observer stopping on the trail, directly opposite the  
36 structure, will see SH 9 on an elevated fill landform (potentially generating Moderate contrast).  
37 The new landform is noticeable and begins to dominate the landscape, but is in scale and  
38 compatible with its surroundings. An important advantage is that as the recreation user moves  
39 north on the trail, away from the western structure, they leave the sound and view of traffic  
40 behind (existing negative visual elements) and will enjoy greater solitude and higher visual  
41 quality views (positive visual elements in context with the character zone). The scene exceeds  
42 the SIO of Low.

43 Mitigation will include:

- 44 • Excess SH 9 pavement from the abandoned roadbed will be removed, as much as  
45 practicable, and the disturbed area restored with native seeding.



1 Figure 15 Viewshed from Buzz Saw Nordic Trail



2  
3

1 *Key Observation Point 8—Existing Dickey Day Use Area*

2 **Description**

3 The Dickey Day Use Area is under management of the WRNF. The area consists primarily of  
4 public parking and access to a network of trails on the peninsula and Dillon Reservoir. The area  
5 is also utilized for fishing, bicycling, and hiking, with incredible views along the trail. The road  
6 access is closed in winter season. The KOP view southeast has the horizontal line of SH 9  
7 partially screened by vegetation, and the eye detects the water of Dillon Reservoir in the  
8 summer (in the left side of the image and covered by snow in March) (**Figure 16**). Enclosed  
9 landscape type is formed by Iron Springs Hill and mountains in the background. This view  
10 illustrates the extensive stands of dead lodgepole pine that will be removed by the USFS.

11 **Figure 16 KOP 8 Photomontage View Looking Southeast from Dickey Day Use**  
12 **Parking Lot**



13  
14 **No Action Alternative**

15 The entrance to the Dickey Day Use Parking Lot (far right, just outside of frame) would require  
16 modification of undeveloped portions of the area where toe slope construction and  
17 maintenance clear zone are needed. The lands directly impacted are peripheral and views  
18 minimal. The highway widening would decrease vividness and intactness (Moderate contrast)  
19 but would meet the SIO of Low.

20 **Proposed Action**

21 The existing USFS Dickey Day Use Parking Lot would be used as a construction staging area,  
22 resulting in temporary visual impacts (Weak contrast), and then closed after construction for  
23 revegetation; meeting the Low SIO. Phasing would include construction of a Proposed Parking  
24 Lot at the Frisco Nordic Center; adding one half mile of trail (termed the Dickey Day Trail  
25 Connection) to the recreation experience. This alternative results in increased vividness,  
26 intactness, and unity for the site.

27 Mitigation will include:

- 28 • Excess SH 9 pavement from the abandoned roadbed will be removed, as much as  
29 practicable, and the disturbed area restored with native seeding.



1 *Key Observation Point 9—Blue River Bikeway and Leslie’s Curve, from the Blue*  
2 *River Arm of Dillon Reservoir*

3 **Description**

4 The approximately 10-mile Blue River Bikeway is an asphalt paved recreation and commuter  
5 trail. The bikeway is part of the Rails-to-Trails Conservancy/Summit County Recreational  
6 Pathway System with views of the Tenmile Mountain Range. It takes an hour-and-half for a  
7 round trip cruise between Frisco and Breckenridge and is heavily used in the summer. Within  
8 the project area, the existing path extends northwest from the back of the hospital; climbs a hill,  
9 traversing an old railroad grade and Dillon Placer Mine; intersects SH 9 near milepost 93.54; and  
10 turns south, paralleling the highway, and continuing past the high school. If one is traveling on  
11 the bikeway, one has a varied experience including pine forest, aspen canopy, open sky, and an  
12 elevated view of Dillon Reservoir when the path drops alongside SH 9.

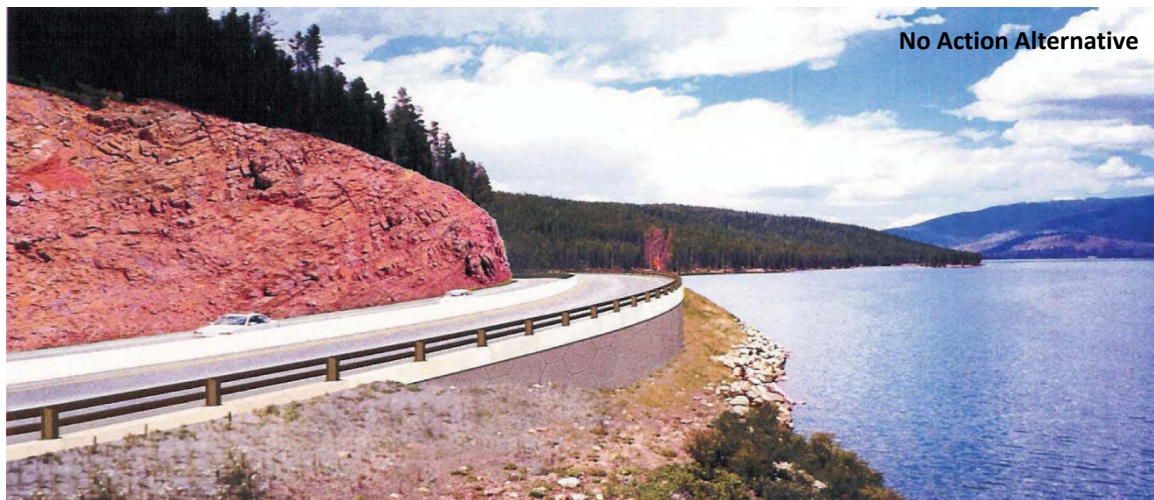
13 The area selected for KOP 9 is along SH 9, just south of Leslie’s Curve, along the Blue River Arm  
14 (**Figure 17**). Water and shorelines are highly valued focal points, lines, and color that give this  
15 landscape visual variety and moderate vividness. The reservoir is surrounded by stands of trees  
16 and steep, rocky orange/grey earth forms provide a sense of enclosure. Although the area is not  
17 within USFS lands, a Moderate SIO is assumed due to the Moderate SIO established for a large  
18 area of the Blue River Arm shoreline.

19 **No Action Alternative**

20 Rock cuts and construction of walls along the southeastern edge would require a 30-foot  
21 construction disturbance line due to the steep cliffs and SH 9 widening. Down slope walls are  
22 required at Leslie’s Curve due to the steep rugged topography along Dillon Reservoir. Strong  
23 contrast and changes to visual quality would result from lowered unity and intactness. The new  
24 elements begin to dominate the original characteristic landscape and are not visually  
25 subordinate to the SIO of Moderate.

26 The bikeway is not visible in the No Action Alternative KOP. The bikeway continues in its current  
27 alignment until it approaches Dillon Placer Mine. The new path drops south with steep grades of  
28 8 to 10 percent making it difficult to meet Americans with Disability Act requirements and  
29 Forest Service Trail Accessibility Guidelines (USFS, 2006). Views are generally limited due to the  
30 forested edge along the western and northern portion, and then open along the bikeway’s  
31 southern route.

Figure 17 KOP 9 Views Looking Northwest, just South of Leslie's Curve





1 **Proposed Action**

2 SH 9 will be relocated away from Dillon Reservoir and will not be visible in this view. To avoid  
3 bikeway user conflicts with vehicles, the Blue River Bikeway will be relocated on the old SH 9  
4 prism around Lake Dillon, resulting in greater visual vividness and unity. Users would have a  
5 gentler grade and improved recreation experience. The relocation would maintain the bikeway's  
6 original function, enhance overall aesthetic character and view shed by reducing the area of  
7 asphalt, and increase the area of potential vegetation. The closer the observer gets to the water,  
8 the greater the feature dominates the scene. The SIO is Moderate and the new elements reduce  
9 the degree of contrast, increasing visual resources.

10 Mitigation will include:

- 11 • Excess SH 9 pavement from the abandoned roadbed will be removed, as much as  
12 practicable, and the disturbed area restored with native seeding.

13 Design strategies may include:

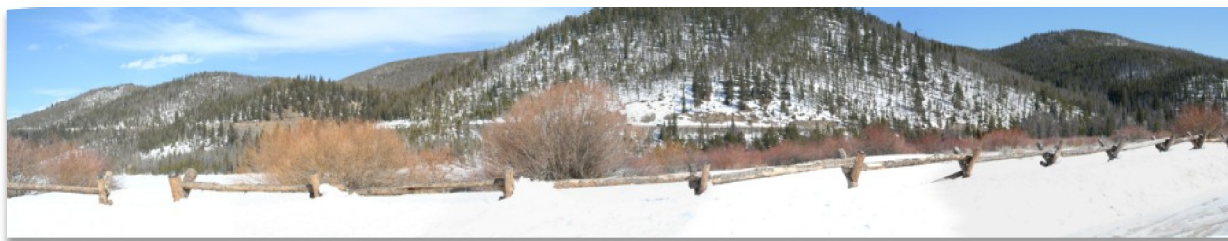
- 14 • The abandoned bikeway asphalt will be removed and seeded with native mix.  
15 • Provide an adequate setback from the reservoir and recontour (horizontal alignment)  
16 the bikeway within the existing roadway prism to reduce its engineered appearance,  
17 where feasible.  
18 • A variety of experience would be sought for bikeway users. This may entail creating  
19 opportunities for shade and rest, as well as plantings of trees and berms.

20 *Key Observation Point 10—Blue River Inlet*

21 **Description**

22 The Blue River is the primary inlet for the high mountain, fresh-water of Dillon Reservoir. Fishing  
23 is an important activity and there are some river restrictions in place allowing fly/lure only  
24 (Colorado Parks and Wildlife, 2013). A field observation from this KOP was not conducted due to  
25 snow cover. The view from KOP 11 (**Figure 18** - taken from the Goodale Road parking lot) and  
26 aerial photography suggests the observer position would be inferior and surface disturbance  
27 would not be visible. The site is part of the Dillon Reservoir Recreation Area.

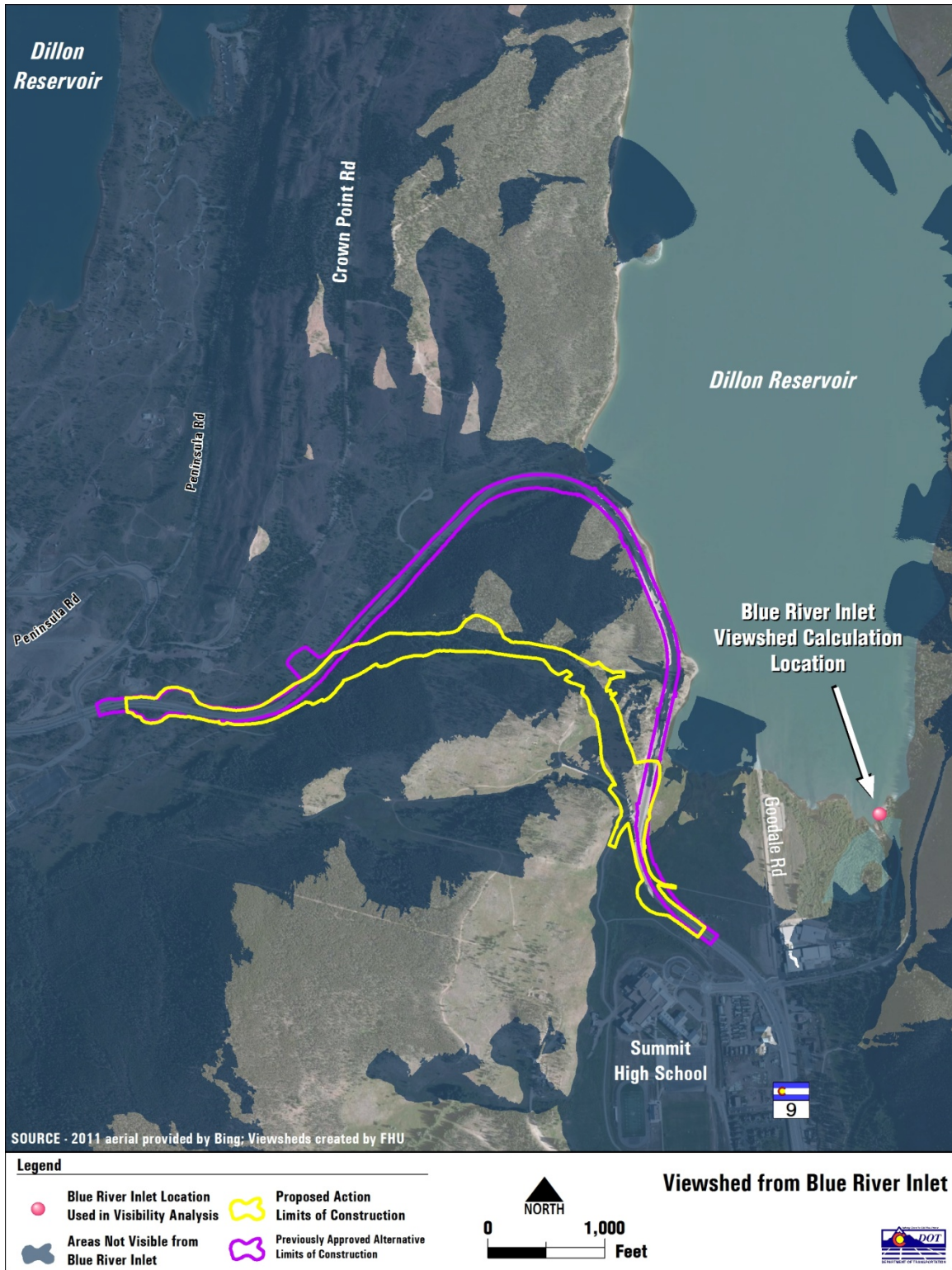
28 **Figure 18 KOP 11 Photomontage View Looking East from Goodale Road**



29  
30 **No Action Alternative**

31 The viewshed map (**Figure 19**) indicates the area surrounding the eastern structure and the  
32 eastern curve of SH 9 would be visible. However, discernment of the highway widening would  
33 be difficult due to the difference in view plane, vegetation, and distance. The greater distance  
34 means that walls would be less noticeable and smaller in scale than views from the parking lot.  
35 Appropriate color and texture would reduce any potential contrast.

1 Figure 19 Viewshed from Blue River Inlet



2  
3



1 **Proposed Action**

2 The eastern structure is unlikely to be detected in middle ground distances and would meet  
3 landscape retention from this view. Appropriate color and texture would reduce any potential  
4 contrast with the natural landscape. No further visual analysis or mitigation was deemed  
5 necessary.

6 *Key Observation Point 11—Goodale Road Parking Lot*

7 **Description**

8 Goodale Road (County Road 985) places the observer west and 50 percent (about 1,000 feet)  
9 closer to the project than from the Blue River Inlet. County Road 985 is the original road leading  
10 to the old town of Dillon (now underneath the reservoir). The parking lot is for hand carry water  
11 craft and access to the Dillon Reservoir Recreation Area; the KOP view is to the west (**Figure 20**).  
12 The open country is a broad horizontal composition with views of Dillon Reservoir opening to  
13 the right (under snow) and mountains in the distance. The scene appears evenly divided among  
14 foreground, middle ground, and background; and has greater existing visual contrast. The  
15 foreground is relatively open and has some deciduous shrubs. The middle ground has the  
16 greatest visual mass given the relatively even horizontal bar formed by the hills and vegetated  
17 draws. A viewshed map was prepared for this KOP and is in the project file. It is similar to  
18 **Figure 19** with the exception of a small segment of SH 9 just north of Summit High School being  
19 visible. Although the KOP is not within USFS lands, a Moderate SIO was assumed for analysis  
20 purposes.

21 **Figure 20 KOP 11 Photomontage View Looking West from Goodale Road**



22  
23 **No Action Alternative**

24 The highway widening would be slightly noticeable, and walls more noticeable due to color and  
25 form contrast (Weak). The new elements should remain subordinate to the characteristic  
26 landscape and the scene would meet Moderate SIO.

27 **Proposed Action**

28 The highway and fill landform, especially as it rises in elevation, would create lines and form that  
29 would be in Weak contrast to the natural lines in the landscape. However, roads are less visible  
30 when the observer looks across them and more highly visible as the observer looks along them.  
31 Exposed bare soil (smoother in texture than vegetation) would superimpose visible lines in  
32 vegetation that otherwise covers the landscape. The visual changes should not attract attention  
33 from casual viewers. The view, at this distance, meets Moderate SIO.

1 *Key Observation Point 12—Sapphire Point (including Swan Mountain Road and*  
2 *Swan Mountain Recreation Path)*

3 **Description**

4 KOP 12 is at the Sapphire Point parking lot looking west; the overlook is at an elevation of  
5 9,606 feet (USFS, 2013). A loop trail to the overlook is only 0.74 mile; elevation gain is about  
6 100 feet and an easy hike. The landscape is a spectacular vista with a sense of boundary from  
7 Gore range and Tenmile. Ophir Mountain and Dillon Reservoir are in the middle ground (the  
8 latter covered in snow) and SH 9 circles Iron Springs Hill (**Figure 21**). The view is subject to more  
9 visual scrutiny since the vantage point is superior to the project area and there is high vividness  
10 due to the strongly defined skyline of the mountain landscape. Sapphire Point has been used for  
11 weddings and attracts a high number of viewers with high concern for scenery. Unfortunately,  
12 dead trees are noticeable in all views, but the landscape remains highly regarded because of its  
13 water landform, variety, and grand scale.

14 Vehicular traffic along Swan Mountain Road requires the driver to pay attention to the road and  
15 to bicyclists. Vegetative screening along the lower slope intermittently blocks the view.  
16 According to Summit Biking (2012), Swan Mountain Road does not attract many bicyclists. If  
17 bicyclists descend in the downhill traffic lane, it would be at high speed. Given the speed of  
18 travel, viewers would have a short time of exposure. Users of the Swan Mountain Recreation  
19 Path, parallel to the roadway and located between the road and reservoir, would experience  
20 similar views to the KOP. The view would be from a lower vantage point and of short to medium  
21 exposure time (depending upon the users' mode of travel).

22 **No Action Alternative**

23 The SH 9 curve around Dillon Reservoir is in the center focus from Sapphire Point. The line  
24 follows the reservoir shoreline but would include Strong contrast in color and texture. There is  
25 little opportunity to reduce contrast beyond color and vegetation opportunities are limited. The  
26 view marginally meets Moderate SIO.

27 **Proposed Action**

28 The Proposed Action simulation illustrates that a large segment of SH 9 is less visible, screened  
29 by the steep topography of Iron Springs Hill, particularly in the central focal point adjacent to  
30 Dillon Reservoir. There is more opportunity for future screening with vegetation along the  
31 eastern and western edges (Weak contrast). The old SH 9 alignment would be less noticeable  
32 with the removal of asphalt for the narrower bikeway path and revegetation. The view meets  
33 Moderate SIO.

1 **Figure 21 KOP 12 Views Southwest from Sapphire Point, across Dillon Reservoir**



2

3



1 *Key Observation*  
2 *Point 13—Dillon*  
3 *Placer Mine*

**Figure 22** KOP 13 View East toward Dillon Placer Mine Gravel Piles

4 **Description**

5 The Dillon Placer Mine  
6 contains large, tall  
7 (15-foot) gravel piles of  
8 rounded river rock  
9 (**Figure 22**), ditches,  
10 sluicing features; and  
11 remnants of turn-of-  
12 the-century placer  
13 mining. The large rock  
14 piles are unstable and



15 not vegetated. Depending on the viewer's perspective, the landscape has been ravaged by gold  
16 dredging or is a quaint historic vignette. Cultural properties are considered a part of the  
17 landscape but historic aspects can, if applicable, override natural scenery. The area is sited  
18 mainly on CDLT property; with a small sliver of the western boundary on USFS lands. The area is  
19 not mapped for SIO but is assumed Moderate for analysis purposes. The site has previously  
20 been disturbed by past construction of the Blue River Bikeway (along the north edge of the  
21 Dillon Placer site) and logging. **Figure 23** illustrates the steep drop in rugged topography  
22 southeast of the placer mine dredge piles.

23 **No Action Alternative**

24 Rock cuts and walls needed for the highway alignment would disturb the existing terrace and  
25 steep slopes to the east of the gravel piles; requiring realignment of the bike path away from  
26 SH 9. Machinery and site disturbance would include bench work and require a 30-foot buffer  
27 (impact area) for rock  
28 cut areas and a 15-foot  
29 buffer for the eastern  
30 edge of roadway. The  
31 increased distance  
32 between the roadside  
33 and edge of forest  
34 would result in a  
35 Moderate contrast,  
36 moderately high  
37 encroachment, and low  
38 intactness. The scene  
39 would meet Moderate  
40 SIO.

**Figure 23** View Looking North from Blue River Bikeway



41 **Proposed Action**

42 The SH 9 realignment would cross the western third of the property disturbing a large number  
43 of flumes. A 15-foot buffer (impact limit) is expected to be adequate for construction. The  
44 highway would bring a very high encroachment of manmade development and would lower  
45 intactness and unity. The view is of short duration; has a Very Strong contrast in form, line,  
46 color, and texture; and would not meet Moderate SIO. The Historical Resources team and State



1 Historic Preservation Officer (SHPO) have determined the cultural significance of the Dillon  
2 Placer Mine and identified required mitigation to consist of archival documentation and  
3 interpretive signage in accordance with a Memorandum of Agreement, executed in  
4 January 2014.

5 For the purpose of visual resources, design strategies include:

- 6 • Minimize disturbance to the placer mine as much as possible.
- 7 • Interpretive signage may be part of historical mitigation and would be evaluated by a  
8 CDOT landscape architect during project design. This includes potential utilization of the  
9 former bikeway overlook.
- 10 • Consider not paving any spur trail for an overlook or interpretive signage and locate  
11 away from the proposed underpass/drainage.

12 *Key Observation Point 14—Summit High School*

13 **Description**

14 KOP 14 is just north of the intersection for SH 9 and Swan Mountain Road, next to the Summit  
15 High School entrance sign. The north end of the mobile home park, east of the high school,  
16 would have similar views. The view northeast has sloped and vegetated middle ground with  
17 little background, just visible to the right (**Figure 24**). Tree line silhouette is noticeable against  
18 the sky line; draws approach 45 degrees left to right. This area has already undergone timber  
19 harvest and has fine texture in the foreground (with again a linear horizontal line of low shrubs  
20 across the landscape). The open foreground scene is highly disturbed with the compressed  
21 curve appearance of SH 9, edge of CR 980 (in immediate foreground), and Iron Springs Road  
22 (approximate center of view and ascending left behind a hillside). Electrical and telephone  
23 transmission poles/wires reinforce unnatural vertical/horizontal lines. This area is not within  
24 USFS lands, but for consistency, a Moderate SIO is assumed for analysis purposes.

25 **Figure 24 KOP 14 Views Northwest from the Entrance to Summit High School**



26

**No Action Alternative**

The No-Action Alternative includes highway widening and retaining walls along stretches of SH 9. The walls are noticeable to the right of the center power line and at the far right (Weak contrast in form, color, and texture). The view meets Moderate SIO.

**Proposed Action**

The proposed eastern structure traverses the Iron Springs Road area, up a portion of the eastern hill side. The new element appears Moderate in contrast due to its change in elevation, view along the new roadway, high walls, and convergence generated by the underpass and wing wall (requiring color and texture selection to blend with the landscape). The fill landform to the right of the wing wall is also noticeable and would need slope molding to reduce contrast in form. Vegetation along the fill slope and in front of the structure would help minimize the height and scale of the element. The view meets the low end of Moderate SIO.

Mitigation will include:

- Plant groupings are to be located in areas most visible to the motorist to make best use of limited plant material quantities. Design all groupings so that they visually extend the existing landscape.

***Key Observation Point 15—Antler House***

**Description**

The private residence was built in 1959 and sits very close to SH 9 (Figure 25). The building is labeled by locals as characteristic of old Colorado; wood siding, metal roof, and antlers hanging across the front entrance. The KOP view is from the west side of SH 9, looking east. The area is not within USFS lands, but for consistency, a Moderate SIO is used for analysis.

**Figure 25 KOP 15 View of Antler House from SH 9**



The building is dwarfed by the steep forested backdrop of Swan Mountain (with dead pines) and out of context in relation to the long horizontal structure of Denver Water facilities. A few trees surround the building. The roadway is in such close proximity to the home that the linear form of the highway dominates. Because the alignments are the same through this segment of the project under both the No Action Alternative and the Proposed Action, the foreground visual impacts (Moderate contrast) would be the same under either build scenario (right in and right out access only; widened SH 9) and would meet Moderate SIO. The access point at Antler House north of milepost 93 (east side of SH 9) has been tentatively identified to be closed and the structure removed due to the difficulty in tying the driveway in with SH 9 grade. The action will be reconsidered during project design.

1 *Key Observation Point 16—Special Places-Wetlands*

2 **Description**

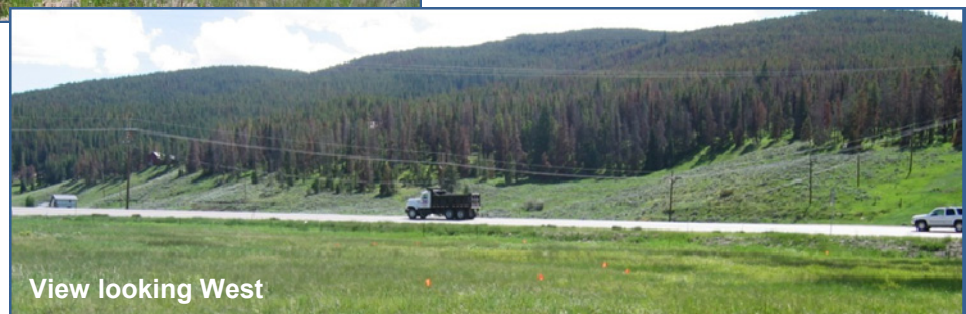
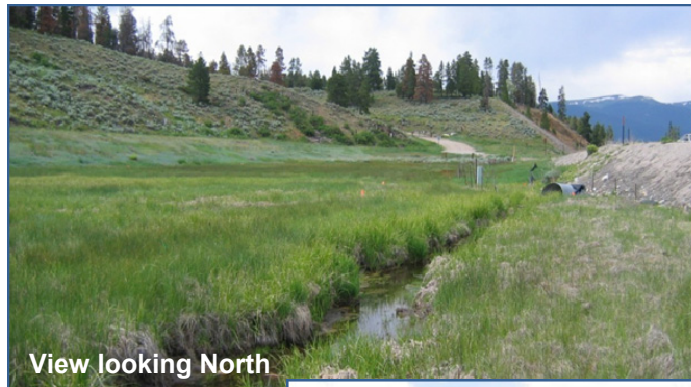
3 Special areas often have name places indicating local or regional significance. They may also be  
4 small areas, such as a grove of unique trees or a bog. The project area has wetlands primarily  
5 found adjacent to the existing SH 9 alignment in depressions or along small intermittent  
6 drainages. See the vegetation and wetlands map **Figure 4** under **Landscape Character**  
7 **Description** for locations. Slope drainages, ponds, and wetlands are sensitive landscapes that  
8 hold high scenic value. Unfortunately, “Buffers along the Blue River, Dillon Reservoir, and other  
9 wetland locations have already been compromised by the existing highway alignment and  
10 previous disturbances” (CDOT, 2004b, p. 2-25). These areas are discussed in detail in A8,  
11 *Wetlands Technical Memorandum for the State Highway 9 Iron Springs Alignment*  
12 *Environmental Assessment* (CDOT, 2014).

13           The largest wetland complex is found at the southern end of the study area where a  
14 large fen/wet meadow complex is located near Dillon Reservoir. This community is  
15 dominated by herbaceous vegetation such as water sedge (*Carex aquatilis*), Baltic  
16 rush (*Juncus balticus*), and tufted hairgrass (*Deschampsia caespitosa*). This large  
17 wetland complex is supported by ground water discharge and a small unnamed  
18 creek/ditch flowing through the site that drains to the reservoir (Tordonato, 2013,  
19 written commun.).

20 Wetland views (**Figure 26**) constitute subtle changes in texture (fine), color (various shades and  
21 remaining green longer than the hillsides), and movement. They fill the foreground with a  
22 softness and diverse habitat.

23 Both the No Action Alternative and Proposed Action entail lateral highway encroachment on  
24 existing water bodies (including wetlands), and may reduce the distance between the roadway  
25 and nearby waters (CDOT, 2004b) resulting in Moderate contrast. At the southern end of Dillon  
26 Reservoir, the highway widening would expand slightly into wetlands around the reservoir and  
27 cross a wetland complex. The team biologists are responsible for ensuring wetland preservation  
28 and suitable buffers. Both the No Action Alternative and Proposed Action use retaining walls  
29 wherever practicable to avoid and minimize wetland impacts. Drivers would travel through the  
30 area quickly and most likely not recognize the value of the landscape.

1 **Figure 26 Views of Fen Looking North and West**



2 *Cumulative Impacts*

3 The study area is located around a linear feature, SH 9, where recreation is a primary activity  
4 and the urban/forest interface is facing pressure from development. “These are areas,  
5 therefore, where recreation predominates and historical conditions are altered, and may remain  
6 in such a condition” (USFS, 2011, p. 3-39).

7 At the present time it is difficult to look across the landscape and see no man-made features.  
8 The old SH 9 road platform, when closed for a bikeway only, would be apparent to users of the  
9 area for many years. Other management activities within the study area include evidence of  
10 previous hiking trails, haul roads, utility corridor (electrical), and historic mining. The linear  
11 features of these man-made disturbances contrast with the “natural” landscape. It is not  
12 possible to mitigate all the visual impacts from road development in the area but the impacts  
13 can be minimized.

14 The removal of trees by the USFS would create additional openings within the lodgepole forest,  
15 improve the health of the stands, and enhance scenic quality over the long term (USFS, 2011).  
16 The length of time required for revegetation is fairly long. Grasses can be re-established in a  
17 season or two, but it takes several years to re-establish bushes such as sagebrush. Visual quality  
18 and KOP views will also improve over time due to revegetation.

19 No other past or present actions are known that would combine with this action to result in an  
20 increased or a cumulative action.



1 VISUAL IMPACTS AND IMPACT MANAGEMENT

2 *Degree of Contrast and Potential Visual Impacts*

3 The primary agent of change, construction of permanent facilities (such as developed recreation  
4 sites, paved roads and trails, and transmission lines), has already taken place in the project area  
5 (USFS, 2011, p. 3-77). Short-term visual impacts would occur due to construction, and long-term  
6 impacts would occur in the existing landscape with the introduction of contrasting elements in  
7 the form, line, color, and texture. Each alternative, if implemented, has the potential to  
8 maintain, alter, or enhance the landscape scenic character to varying degrees (**Table 3**).

9 The No Action Alternative, which would widen the current two-lane alignment, adjacent to  
10 Dillon Reservoir, creates a high physical disturbance within the corridor and low physical  
11 disturbance outside the corridor. The greatest potential visual resource impacts are steep cuts,  
12 higher and longer walls, and 8:1 slopes that are extremely difficult to vegetate. The high cuts  
13 and long walls decrease scenic quality to Dillon Reservoir and Sapphire Point areas.  
14 Implementation of rock cut strategies will be especially important in areas of rocky terrain.

15 For the Proposed Action, physical disturbance is high outside the existing corridor and low  
16 within the corridor. The Proposed Action uses natural topography to screen more of the road  
17 alignment and creates predominantly 3:1 slopes that are easier to vegetate. The ground plane  
18 boundaries of the cut and fill sites may be larger but can be minimized by blending into the  
19 surrounding landform and implementing grading strategies. Vegetative restoration methods  
20 would focus on restoring the natural vegetation from prior disturbance and screening the two  
21 new underpass structures (which potentially have moderate to strong visual contrast). The  
22 removal of a portion of the old SH 9 in the Proposed Action would have beneficial effects in  
23 overall long-term scenic views to Sapphire Point, Dillon Reservoir, the realignment of the Blue  
24 River Bikeway, the absence of highway traffic along the Buzz Saw Nordic Trail, and the closure of  
25 the Dickey Day Use Parking Lot (with relocation to the Frisco Nordic Center).

26 The Proposed Action (except for the Dillon Placer Mine) conforms to the SIOs (**Table 3**), Summit  
27 County master plan visual resource goals, and CDLT community benefits/conservation values for  
28 their respective areas of jurisdiction. Based on the analysis presented in the EIS and in this  
29 technical memorandum, the Proposed Action, an alternative realignment traversing Iron Springs  
30 Hill, is the least aesthetically damaging alternative that meets the Purpose and Need.

1 **Table 3 Comparison of Forest Service Scenic Integrity Objectives and Degree of**  
 2 **Contrast at Key Observation Points**

KOP	Description	Scenic Integrity Objectives	No Action Alternative Degree of Contrast	No Action Alternative Does Not Meet, Meets, or Exceeds SIO	Proposed Action Degree of Contrast	Proposed Action Does Not Meet, Meets, or Exceeds SIO
1	State Highway 9					
	Cut and Fill	MODERATE	Very Strong	Does Not Meet	Strong	Meets
	Walls	MODERATE	Strong	Does Not Meet	Moderate	Meets
	Vegetation Removal	MODERATE	Weak	Meets	Moderate	Meets
2	West Structure	LOW	Moderate	Meets	Moderate	Meets
3	East Structure	MODERATE	Weak	Meets	Strong	Meets
4	SH 9 Bird's Eye View	MODERATE	Moderate	Meets	Strong	Meets
5	Peak One Hospital	MODERATE	Weak	Meets	Weak	Meets
6	Frisco Nordic Center	LOW	None	Meets	None	Meets
7	Buzz Saw Nordic Trail	LOW	Weak	Meets	Moderate	Exceeds
8	Existing Dickey Day Use Area	LOW	Moderate	Meets	Weak	Exceeds
9	Blue River Bikeway and Leslie's Curve, from the Blue River Arm of Dillon Reservoir	Assumed MODERATE	Strong	Does Not Meet	None	Exceeds
10	Blue River Inlet	Assumed MODERATE	None	Meets	None	Meets
11	Goodale Road Parking Lot	Assumed MODERATE	Weak	Meets	Weak	Meets
12	Sapphire Point Overlook (including Swan Mt Road and Swan Mt Recreation Path)	MODERATE	Strong	Marginally Meets	Weak	Meets
13	Dillon Placer Mine	Assumed MODERATE	Moderate	Meets	Very Strong	Does Not Meet
14	Summit High School	Assumed MODERATE	Weak	Meets	Moderate	Meets
15	Antler House, private property	Assumed MODERATE	Moderate	Meets	Moderate	Meets
16	Special Places- Wetlands	Assumed MODERATE	Moderate	Meets	Moderate	Meets

Note: Priority viewpoints/elements are shaded. The USFS theme of developed recreation complexes in a forested environment states facilities may dominate but must harmonize and blend with the adjacent environment. Lands not rated by the USFS were assumed to have Moderate SIO.

1 *Visual Elements and Mitigation Measures*

2 **Table 4** identifies visual impacts and corresponding mitigation measures.

3 **Table 4 Visual Elements Impacted and Mitigation Measures for the Proposed**  
 4 **Action**

VISUAL ELEMENT IMPACT	MITIGATION MEASURES
New highway elements and change to visual character— Visual contrast between construction elements and the landscape	CDOT is committed to CSS, a process that is used to ensure collaboration. CDOT will follow measures outlined in the Aesthetic Study and Design Guidelines (CDOT, 2003) prepared for the EIS (CDOT, 2004a) and will continue coordination with the CDOT appointed landscape architect, local jurisdictions (including the Town of Frisco and Summit County) and USFS. Mitigation measures to maintain a natural-looking appearance and enhance the visual character of SH 9 include: <ul style="list-style-type: none"> <li>• Improvements and new highway elements introduced in Developed Recreation Complexes (Management Prescription area 8.21) within the USFS shall harmonize with the natural setting and be consistent with the <i>White River National Forest Plan</i> (USFS, 2002a) to the extent possible.</li> <li>• During final design, care will be taken to address the visual compatibility of the project with surrounding landscapes, including the consideration of design strategies.</li> </ul>
Public view of and from SH 9—Strong contrast created by cut and fill in the landscape	<ul style="list-style-type: none"> <li>• Use site grading to blend disturbance into the existing topography to achieve a natural appearance, as much as practicable and minimize cuts and fill.</li> <li>• Design new rock cut slopes to blend with existing rock formations. Coloring, such as rock staining, may be needed to reduce the contrast between new cuts and existing rock faces.</li> <li>• Use a variety of native plant material in revegetation efforts to ensure long-term establishment and success.</li> </ul>
Views of East and West underpass structures from the bikeway—Moderate to Strong visual scale and contrast between the new element forms and the landscape	<ul style="list-style-type: none"> <li>• Use roadside plantings, slope molding, and careful selection of color and texture to reduce contrast.</li> <li>• Plant groupings are to be located in areas most visible to the motorist to make best use of limited plant material quantities. Design all groupings so that they visually extend the existing landscape.</li> </ul>
Views from Buzz Saw Nordic Trail, Dickey Day Parking Lot, bikeway along Dillon Reservoir, Blue River Arm, and Sapphire Point of old SH 9—Reduction in contrast with landscape due to relocation of SH 9; greater solitude and enhanced visual character	Excess SH 9 pavement from the abandoned roadbed will be removed, as much as practicable, and the disturbed area restored with native seeding.
View of Dillon Placer Mine from the proposed SH 9—Very Strong contrast in form, line, color, and texture between the new highway and the landscape	FHWA, CDOT, and SHPO have agreed that archival documentation and interpretive signage are appropriate mitigation under Section 106, in accordance with a Memorandum of Agreement, executed in January 2014.

5



1 REFERENCES

2 Colorado Department of Highways (CDH) and U.S. Forest Service (USFS). 1978. *I-70 in a*  
3 *Mountain Environment—Vail Pass Colorado*. FHWA-TS-78-208.

4 Colorado Department of Transportation (CDOT), Region 1. 2003. *Aesthetics Study and Design*  
5 *Guidelines—SH 9-Frisco to Breckenridge Corridor*. Summit County, Colorado.

6 Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA).  
7 2004a. *State Highway 9 Frisco to Breckenridge Final Environmental Impact Statement and 4(f)*  
8 *Evaluation*. February. [Note: This document and the draft EIS constitute the complete final EIS.]

9 Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA).  
10 2004b. *State Highway 9 Frisco to Breckenridge Record of Decision*. May.

11 Colorado Parks and Wildlife. 2013. Blue River Basin. Accessed March 2013.  
12 [https://wildlife.state.co.us/SiteCollectionDocuments/DOW/Maps/Fishing/blue\\_color.pdf](https://wildlife.state.co.us/SiteCollectionDocuments/DOW/Maps/Fishing/blue_color.pdf)

13 Continental Divide Land Trust (CDLT). 2013. Iron Springs Open Space Proposed Amendment and  
14 Restatement of the Deed of Conservation Easement White Paper. March.

15 Denver Water. 2013. Dillon Reservoir. Accessed March 2013.  
16 <http://www.denverwater.org/recreation/dillon.html>

17 Federal Highway Administration (FHWA). 1989 reprint. *Visual Impact Assessment for Highway*  
18 *Projects*. Publication no. FHWA-HI-88-054.

19 Summit Biking. 2012. Around Lake Dillon Route. Accessed March 2013.  
20 [http://www.summitbiking.org/area\\_rides/around\\_lake\\_dillon.html](http://www.summitbiking.org/area_rides/around_lake_dillon.html)

21 Summit County. 2009. Countywide Comprehensive Plan. Accessed January 2013.  
22 <http://www.co.summit.co.us/index.aspx?NID=495>

23 Summit County. 2010a. Ten Mile Master Plan. Prepared by the Ten Mile Planning Commission  
24 and Summit County Planning Dept. Accessed January 2013.  
25 <http://www.co.summit.co.us/index.aspx?NID=498>

26 Summit County. 2010b. Upper Blue Basin Master Plan. Prepared by the Upper Blue Planning  
27 Commission and the Summit County Planning Dept. Accessed January 2013.  
28 <http://www.co.summit.co.us/DocumentCenter/Home/View/177>

29 Tordonato, Francesca (CDOT). 2013. Written Communication March 14, 2013 to Belinda  
30 Arbogast (CDOT).

31 U.S. Forest Service (USFS). 1995. *Landscape Aesthetics—A Handbook for Scenery Management*.  
32 Handbook No. 701. Accessed March 2013.  
33 [http://www.fs.fed.us/cdt/carrying\\_capacity/landscape\\_aesthetics\\_handbook\\_701\\_no\\_append.](http://www.fs.fed.us/cdt/carrying_capacity/landscape_aesthetics_handbook_701_no_append.pdf)  
34 [pdf](http://www.fs.fed.us/cdt/carrying_capacity/landscape_aesthetics_handbook_701_no_append.pdf)

35 U.S. Forest Service (USFS). 2002a. *Land and Resource Management Plan—2002 Revision for the*  
36 *White River National Forest*. Accessed 2013.  
37 [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/fsbdev3\\_000999.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/fsbdev3_000999.pdf)

38 U.S. Forest Service (USFS). 2002b. *Landscape Character Descriptions of the White River National*  
39 *Forest, Final Environmental Impact Statement*, Volume 3, Appendix P. Accessed February 2013.  
40 [http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5286449.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5286449.pdf)

## Visual Resources for the State Highway 9 Iron Springs Alignment EA

---

- 1 U.S. Forest Service (USFS). 2004. *Final Environmental Impact Statement: Upper Blue Stewardship*
- 2 *Project*. Dillon Ranger District, White River National Forest, Summit County, Colo.
- 3 U.S. Forest Service (USFS). 2006. Forest Service Trail Accessibility Guidelines. Accessed April
- 4 2013. <http://www.fs.fed.us/recreation/programs/accessibility/>
- 5 U.S. Forest Service (USFS). 2011. *Environmental Assessment—Ophir Mountain Forest Health and*
- 6 *Fuels Project*, Dillon Ranger District, White River National Forest, Summit County, Colorado.
- 7 Accessed February 2013.
- 8 [http://a123.g.akamai.net/7/123/11558/abc123/forestservice.download.akamai.com/11558/www/nepa/66444\\_FSPLT2\\_055858.pdf](http://a123.g.akamai.net/7/123/11558/abc123/forestservice.download.akamai.com/11558/www/nepa/66444_FSPLT2_055858.pdf)
- 9
- 10 U.S. Forest Service (USFS). 2013. White River National Forest-Day Hiking Access-Dillon Ranger
- 11 District. Accessed February 2013.
- 12 <http://www.fs.usda.gov/activity/whiteriver/recreation/hiking/?recid=40405&actid=50>

## GLOSSARY

1  
2 *aesthetic*—Generally, the study, science, or philosophy dealing with beauty and with judgments  
3 concerning beauty. In scenery management, it describes landscapes that give visual and sensory  
4 pleasure.

5 *background*—The distant part of a landscape; located from 4 miles to infinity from the viewer.

6 *CDLT*—Continental Divide Land Trust

7 *CDOT*—Colorado Department of Transportation

8 *CEQ*—Council on Environmental Quality

9 *canopied*—A landscape type where features create a ceiling or canopy effect.

10 *co-dominance*—Two major landscape form features that are nearly identical.

11 *color*—The property of reflecting light of a particular wavelength that enables the eye to  
12 differentiate objects even though they have identical form, line, and texture.

13 *contrast*—Diversity or distinction of adjacent parts. Effect of striking differences in form, line,  
14 color, or texture of a landscape.

15 *convergence*—A landscape factor that tends to focus attention on one point or small area.

16 *cultural modification*—Any human-caused change in the land form, water form, vegetation, or  
17 the addition of a structure which creates a visual contrast in the basic elements of the  
18 naturalistic character of a landscape.

19 *cumulative effect*—The effect on the environment that results from the incremental impact of a  
20 proposed action when added to other past, present, and reasonably foreseeable future actions.

21 *deviation*—Departure from existing landscape character or from landscape character goals.  
22 Deviation from existing landscape character can be positive, negative, or have no effect.

23 *distance zones*—Landscape areas denoted by specific distances from the observer. Used as a  
24 frame of reference in which to discuss landscape attributes or the scenic effect of human  
25 activities in the landscape.

26 *disturbance*—A discrete event, either natural or human-induced, that causes a change in the  
27 existing condition of an ecological system.

28 *dominance*—Dominance of components or specific features in a scene may be dominant  
29 because of prominent positioning, contrast, extent, or importance of pattern elements.

30 *dominance elements*—In scenery management, the dominance elements (also called visual  
31 pattern elements) are form, line, color, and texture. They are the attributes that make up the  
32 landscape character.

33 *ecoregion*—A continuous geographic area over which the macro-climate is sufficiently uniform  
34 to permit development of similar ecosystems on sites with similar properties. Ecoregions  
35 contain multiple landscapes with different spatial patterns of ecosystems.

36 *edge*—The line where an object or area begins or ends. Edge serves to define borders, limits, or  
37 boundaries.

38 *enclosed*—A landscape type with elements that form walls and floor.



- 1 *enframement*—A landscape factor created when features in the landscape direct the viewer’s  
2 attention inwards like the frame of a picture.
- 3 *Environmental Assessment (EA)*—A document that identifies the potential effects on the human  
4 environment of a Proposed Action to determine whether those effects may be significant.
- 5 *Environmental Impact Statement (EIS)*—A document required by the National Environmental  
6 Policy Act for certain actions "significantly affecting the quality of the human environment."
- 7 *FHWA*—Federal Highway Administration
- 8 *Fen*—A wetland type that is supported by groundwater and contains histosols (organic solids) or  
9 a histic epipedon (an 8 to 16 inch layer of organic soil in the upper horizon).
- 10 *feature*—A landscape type dominated by a feature or a group of feature objects in the distance  
11 to which the eye is drawn.
- 12 *focal*—A landscape type where the eye is led to a focal point in the landscape.
- 13 *foreground*—Detailed landscape generally found from the observer to ½ mile away.
- 14 *form*—Structure, mass, or shape of a landscape or of an object.
- 15 *harmony*—Combination of parts of a landscape into a pleasing or orderly whole.
- 16 *high scenic integrity level*—A scenic integrity level meaning human activities are not visually  
17 evident.
- 18 *intactness*—Untouched or unaltered, especially by anything that harms or diminishes its  
19 character; the extent to which the landscape is free from visual encroachment.
- 20 *key observation point (KOP)*—One or a series of points on a travel route or at a use area or  
21 potential use area, where the view of an activity would be most revealing.
- 22 *landform*—One of the attributes or features that make up the Earth’s surface, such as plain,  
23 mountain, or valley.
- 24 *landscape character*—The overall impression created by a landscape’s unique combination of  
25 visual features.
- 26 *landscape character goal*—A management prescription designed to maintain or modify the  
27 existing landscape character to a desired future state.
- 28 *line*—An intersection of two planes; a point that has been extended; a silhouette of form. In  
29 landscape—ridges, skylines, structures, changes in vegetation—may be perceived as line.
- 30 *low*—A scenic integrity level meaning human activities must remain visually subordinate to the  
31 attributes of the existing landscape character.
- 32 *middle ground*—The zone between the foreground and the background in a landscape. The area  
33 located from ½ mile to 4 miles from the observer.
- 34 *mitigate*—To alleviate, moderate negative impact, upgrade to an acceptable standard.
- 35 *moderate*—A scenic integrity level where the valued landscape character “appears slightly  
36 altered.” Noticeable deviations must remain visually subordinate to the landscape character  
37 being viewed.
- 38 *NEPA*—The National Environmental Policy Act of 1969. NEPA established legal requirements for  
39 management of aesthetic resources.

1 *panorama*—A type of landscape in which breadth is the dominant characteristic and there are  
2 no apparent limits to the view.

3 *SH*—State Highway

4 *scale*—The proportionate size relationship between an object and the surroundings in which the  
5 object is placed.

6 *scenery management*—The art and science of arranging, planning, and designing landscape  
7 attributes relative to the appearance of places and expanses in outdoor settings.

8 *scenic attractiveness*—The scenic importance of a landscape based on human perceptions of the  
9 intrinsic beauty of landform, water characteristics, vegetation pattern, and cultural features.

10 Reflects varying visual perception attributes of variety, unity, vividness, intactness, coherence,  
11 mystery, uniqueness, harmony, balance, and pattern. It is classified as:

12       A—Distinctive: Areas where there is unusual, unique, or outstanding scenic quality.  
13       These landscapes have strong positive attributes.

14       B—Typical or Common: Areas where there is ordinary or common scenic quality. These  
15       landscapes have generally positive, yet common attributes.

16       C—Undistinguished: Areas where there is low scenic quality. Often these landscapes  
17       have weak or are missing attributes.

18 *scenic integrity*—State of naturalness or, conversely, the state of disturbance created by human  
19 activities or alteration. It is evaluated by measuring the degree of alteration in line, form, color,  
20 and texture from the natural or established landscape character accepted over time by the  
21 general public (USFS, 1995). Landscape character with a high degree of integrity has a sense of  
22 wholeness, intactness, or being complete. The six scenic integrity levels include:

- 23       • Very High (Unaltered)
- 24       • High (Appears Unaltered)
- 25       • Moderate (Slightly Altered)
- 26       • Low (Moderately Altered)
- 27       • Very Low (Heavily Altered)
- 28       • Unacceptably Low (Extremely Altered)—this level is not used as a management  
29       objective.

30 *scenic integrity objective (SIO)*—Scenic integrity levels are goals for Forest Plan management  
31 areas.

32 *scenic resources*—Attributes, characteristics, and features of landscapes that provide varying  
33 responses from, and varying degrees of benefits to, humans.

34 *seen area*—The total landscape area observed based upon landform screening. Seen-areas may  
35 be divided into zones of foreground, middle ground, and background. Some landscapes are  
36 seldom seen by the public.

37 *special places*—Those specific locations and expanses in outdoor settings that have attractions  
38 and features that are identified as unique, different, distinctive, and extraordinary to people.

39 *texture*—Visual interplay of light and shadow created by variations in the surface of an object.  
40 Visual texture can range from smooth to coarse.

41 *theme*—The general focus or subject of variations on landscape character settings. Themes  
42 range from a natural landscape to an urban landscape.

- 1 *topography*—The general configuration of varying heights that give shape to Earth’s surface.
- 2 *USFS*—United States Forest Service
- 3 *unity*—The degree to which the visual resources of the landscape join together to form a
- 4 coherent, harmonious visual pattern.
- 5 *Very High Scenic Integrity Level*—A scenic integrity level that generally provides for ecological
- 6 changes only.
- 7 *Very Low Scenic Integrity Level*—A scenic integrity level meaning human activities of vegetative
- 8 and landform alterations may dominate the original, natural landscape character but should
- 9 appear as natural occurrences when viewed at background distances.
- 10 *view*—Something that is looked toward or kept in sight, especially a broad landscape or
- 11 panorama.
- 12 *viewshed*—Total visible area from a single observer position, or the total visible area from
- 13 multiple observer positions. Viewshed are accumulated seen-areas from highways, trails,
- 14 campgrounds, towns, or other viewer locations.
- 15 *vista*—A confined view, especially one seen through a long passage. A vista often focuses upon a
- 16 specific feature in the landscape.
- 17 *visual resources*—The visible physical features on a landscape (for example, land, water,
- 18 vegetation, animals, structures, and other features) that influence the visual appeal that the
- 19 land unit may have for viewers.
- 20 *vividness*—The memorability of the visual impression received from contrasting landscape
- 21 elements as they combine to form a striking and distinctive visual pattern.
- 22 *WRNF*—White River National Forest

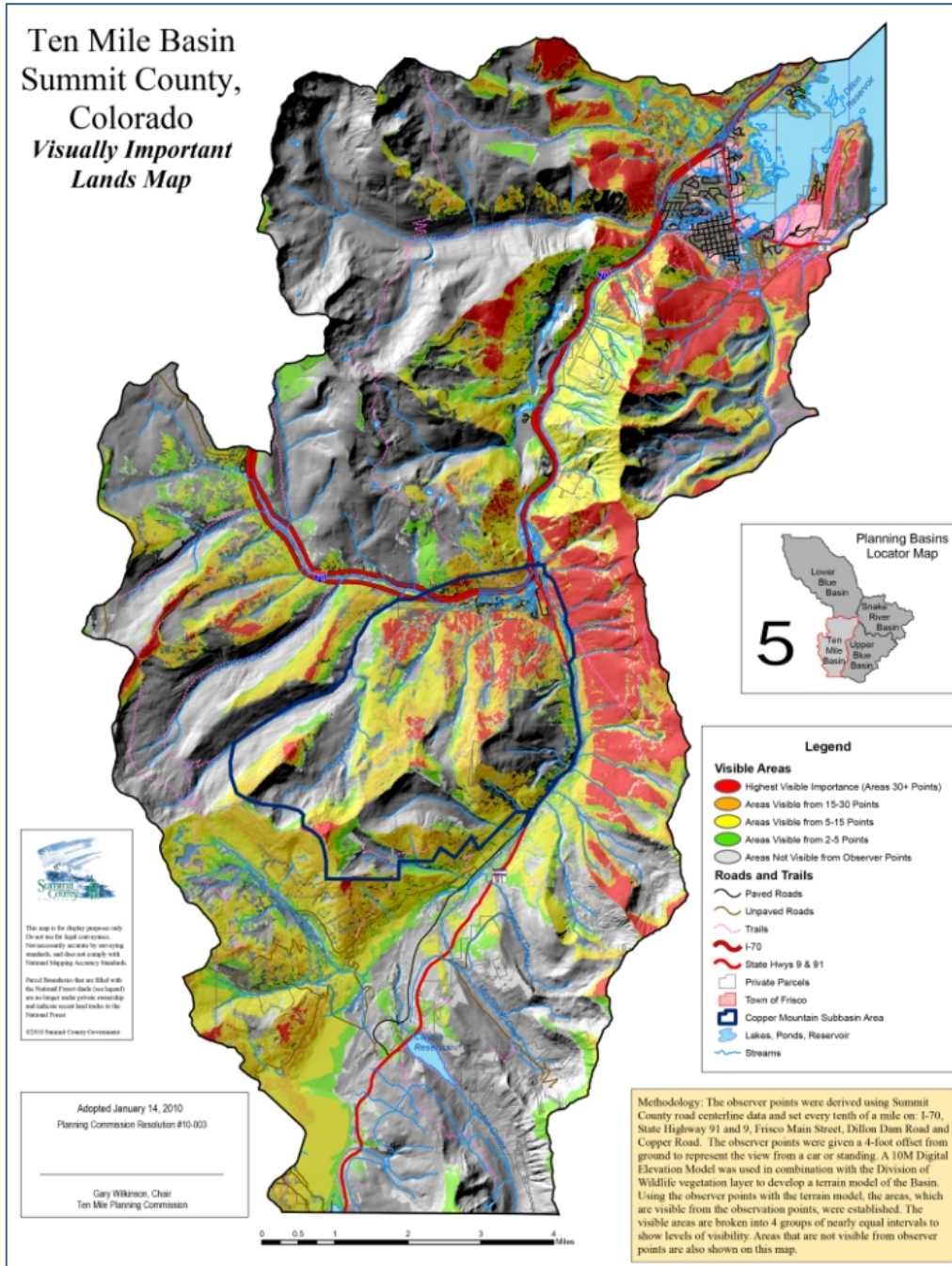


1   **ACKNOWLEDGEMENTS**

2   The Colorado Department of Transportation thanks the stakeholders and collaborators for their  
3   critical input to the project research. A special thanks is extended to Donna Graham (U.S. Forest  
4   Service) and Felsburg Holt & Ullevig (FHU) staff for their expertise, work, and enthusiasm. CDOT  
5   would like to further recognize Evan Kirby (FHU) for his geographic information system and  
6   visual resource knowledge (generating the maps and viewsheds); and Jake Lloyd (FHU) for his  
7   sketches and simulations. Their illustrations are indispensable in helping the reader understand  
8   the potential visual impacts of a proposed project.

1 APPENDIX—DOCUMENTATION REPRESENTING SCENIC QUALITY  
2 OF SITES

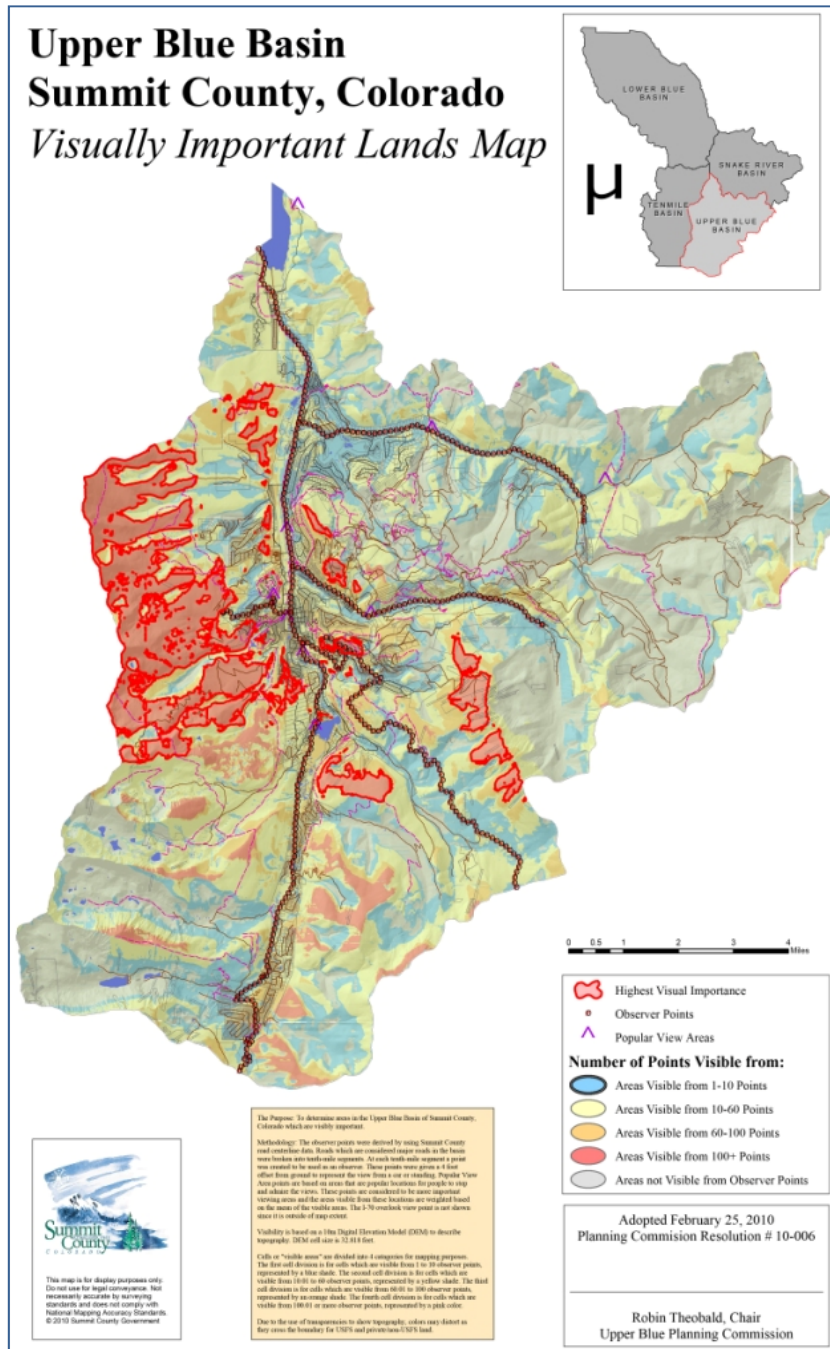
3 **Plate Number 1.** Visually Important Lands Map, Ten Mile Basin. (Summit County, 2010a).



4 The Ten Mile Basin map was created using a 10m Digital Elevation Model (DEM) based on  
5 observer points set every tenth of a mile from major roads, including SH 9. The observer points  
6 were given a 4-foot offset from ground to represent the view from a car or standing. The visible  
7 areas are broken into four groups of nearly equal intervals to show levels of visibility.

8 From the Upper Blue & Joint Upper Blue River Master Plans, June 2011, found at:  
9 <http://www.co.summit.co.us/index.aspx?NID=500>

- 1 **Plate Number 2.** Visually Important Lands Map, Upper Blue Basin. (Summit County, 2010b).  
 2



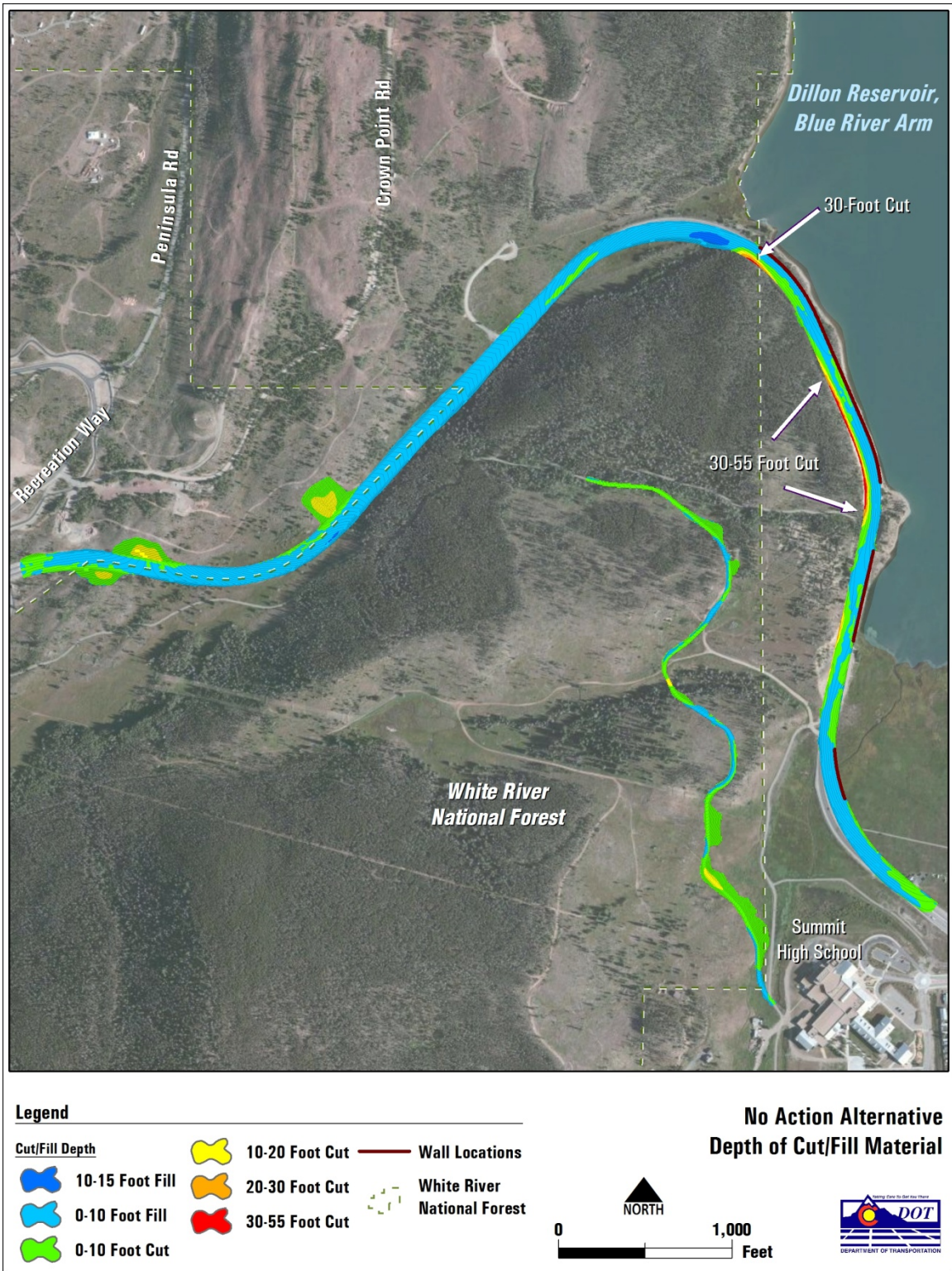
- 3 The Upper Blue River Visibility Map was created using Summit County road centerline data,  
 4 tenth-mile segments on SH 9, 4-foot offset, and four groups to indicate visibility. The Proposed  
 5 Project is located in the Upper Blue where visibility would be in the range of 10-60 points.

- 6 From the Upper Blue & Joint Upper Blue River Master Plans, June 2011, found at:  
 7 <http://www.co.summit.co.us/index.aspx?NID=500>



**Visual Resources for the State Highway 9 Iron Springs Alignment EA**

- 1 **Plate Number 3.** No Action Alternative (Previously Approved) Depth of Cut/Fill Material and
- 2 Wall Locations.

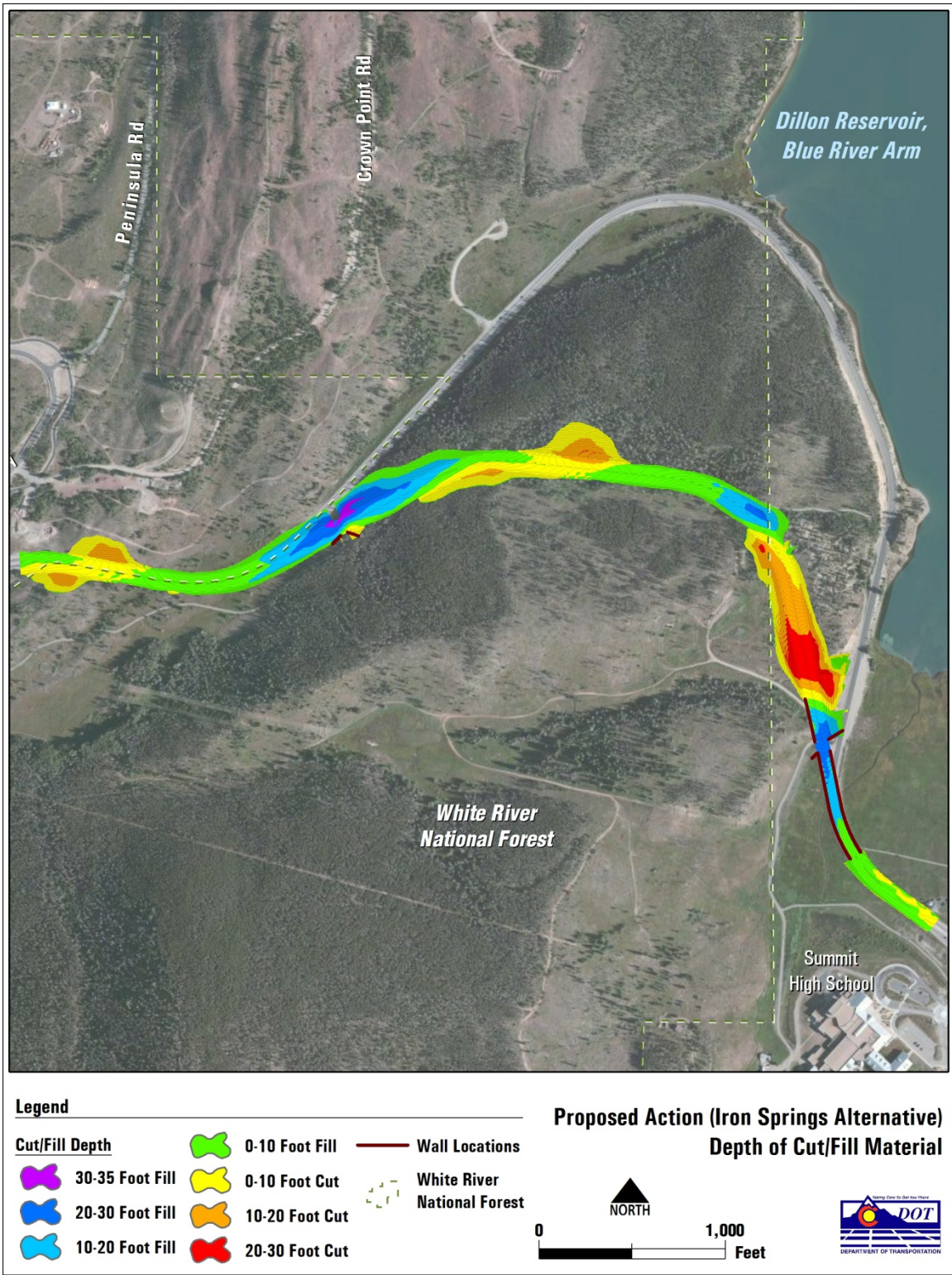


3  
4



**Visual Resources for the State Highway 9 Iron Springs Alignment EA**

- 1 **Plate Number 4.** Proposed Action (Iron Springs Alternative) Depth of Cut/Fill Material and Wall Locations
- 2 Locations.



3