



Historic Resource Survey

*For the C-470 Corridor
Revised Environmental Assessment*

June 2013

Submitted To:
CDOT Region 1
2000 S. Holly Street
Denver, CO 80222



Submitted By:
Bunyak Resource Associates
10628 W. Roxbury Avenue
Littleton, CO 80127

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Introduction

The Colorado Department of Transportation (CDOT) and Federal Highway Administration (FHWA) have identified a need for improvements to the C-470 Corridor from Kipling Parkway to Interstate 25 (I-25). The C-470 corridor is found in Douglas, Arapahoe, and Jefferson counties in the south Denver Metropolitan area as shown in Figure 1. Map of the Study Area. The purpose of this project is to address congestion from Kipling Parkway to I-25, reduce traveler delay, and improve reliability for corridor users.

This Historic Resource Survey (HRS) is part of the 2013 Revised Environmental Assessment (EA) that updates the information provided in the original C-470 Corridor EA that was approved by CDOT and FHWA in 2006. The HRS has been prepared to meet the requirements for CDOT and the FHWA's compliance with the State Register Act (CRS 24-80.1), Section 106 of the National Historic Preservation Act (as amended), with the Advisory Council on Historic Preservation's regulations, and the National Environmental Policy Act of 1969.

In 2004 and 2005, the State Historic Preservation Office (SHPO) concurred with the findings in the Historic Resource Survey (completed in 2004) and Historic Resource Effects and Mitigation document (2005). Today these technical documents are being revised to reflect the current findings based upon 2013 data. This report meets the requirements for survey reports specified in the Colorado Cultural Resource Survey Manual, History Colorado, and the Office of Archeology and Historic Preservation.

This document contains two major sections: 1) history and national and/or state eligibility sections and 2) evaluation of effects and recommended mitigation of adverse effects.

Purpose

The purpose of the historic resources survey component of the C-470 project is to assist CDOT and FHWA in determining if there are significant historic resources within the study area and if these resources are impacted by the proposed alternatives for transportation improvements to C-470. It will also present the results of the historic resource survey for the C-470 corridor between Kipling Parkway on the west and the I-25 interchange on the east. The study area is approximately thirteen miles long. The existing right-of-ways vary from 300 to 500 feet and are outlined in *Establishing the Area of Potential Effects* section. The objective of the historic resources survey is to identify significant cultural resources and historic districts in the project area along the C-470 corridor that are over 45 years of age that may be eligible for listing or are listed in the National Register of Historic Places (NRHP) and/or the State Register of Historic Places (SRHP). The relative merits and impacts of the alternatives will be documented in the section on effects and mitigation.

Project Study Area

The C-470 corridor is a vital link between I-25 and I-70 between the mountains, southern suburbs, and the Southern Front Range, which serves essential commercial, commuter, and residential traffic.

The project study area is defined as that area from the Kipling Parkway interchange on C-470 in Jefferson County east along the C-470 corridor to and including the interchange at C-470 and I-25 in Douglas County. The general location of the survey area is shown in Figure 1.

The project area can be found on the following USGS Quadrangle maps:

Littleton Quadrangle 1965/1994

- Jefferson County, Township 6 South, Range 69 West, Sections 1-4, 10-11
- Jefferson County, Township 6 South, Range 68 West, Sections 4-6
- Jefferson County, Township 5 South, Range 68 West, Sections 31-32
- Jefferson County, Township 5 South, Range 69 West, Sections 36

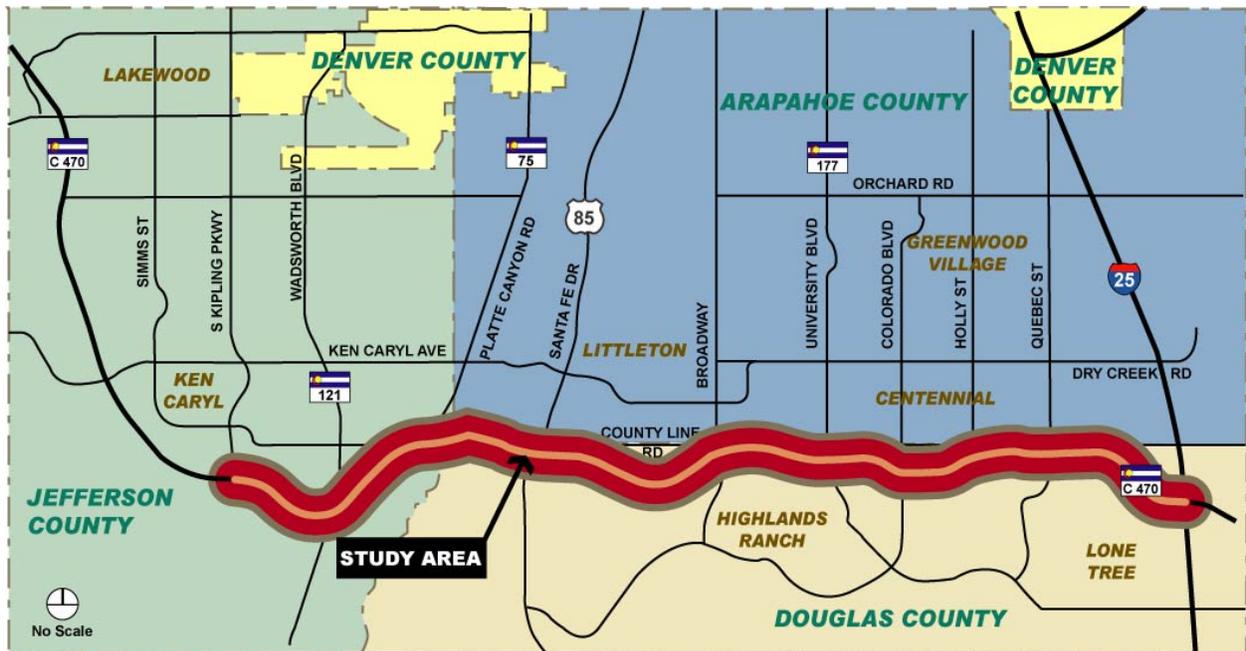
Highlands Ranch Quadrangle 1965/1994

- Jefferson County, Township 5 South, Range 68 West, Sections 34-36
- Jefferson County, Township 6 South, Range 68 West, Sections 1-3
- Jefferson County, Township 6 South, Range 67 West, Sections 3-6
- Jefferson County, Township 5 South, Range 67 West, Sections 31-34

Parker Quadrangle 1965/1994

- Jefferson County, Township 6 South, Range 67 West, Sections 2-3, 10-11

Figure 1. Map of Study Area



Establishing the Area of Potential Effects (APE)

The Area of Potential Effects that SHPO concurred with in May 2004 was used for the 2013 historic resource field survey because all improvements will be within CDOT Right-of-Way (ROW). The intersection of S. Santa Fe Drive (S.H. 85) and C-470 has been pared down from the 2006 EA to reflect the current proposed plan. Since 2006, improvements at the Santa Fe intersection, including a flyover onto C-470, have been completed. During this project, there will be no changes at Santa Fe except for lanes on C-470. The APE has been revised and amended to show parcels associated with two historic resources recently identified that are over 45 years of age.

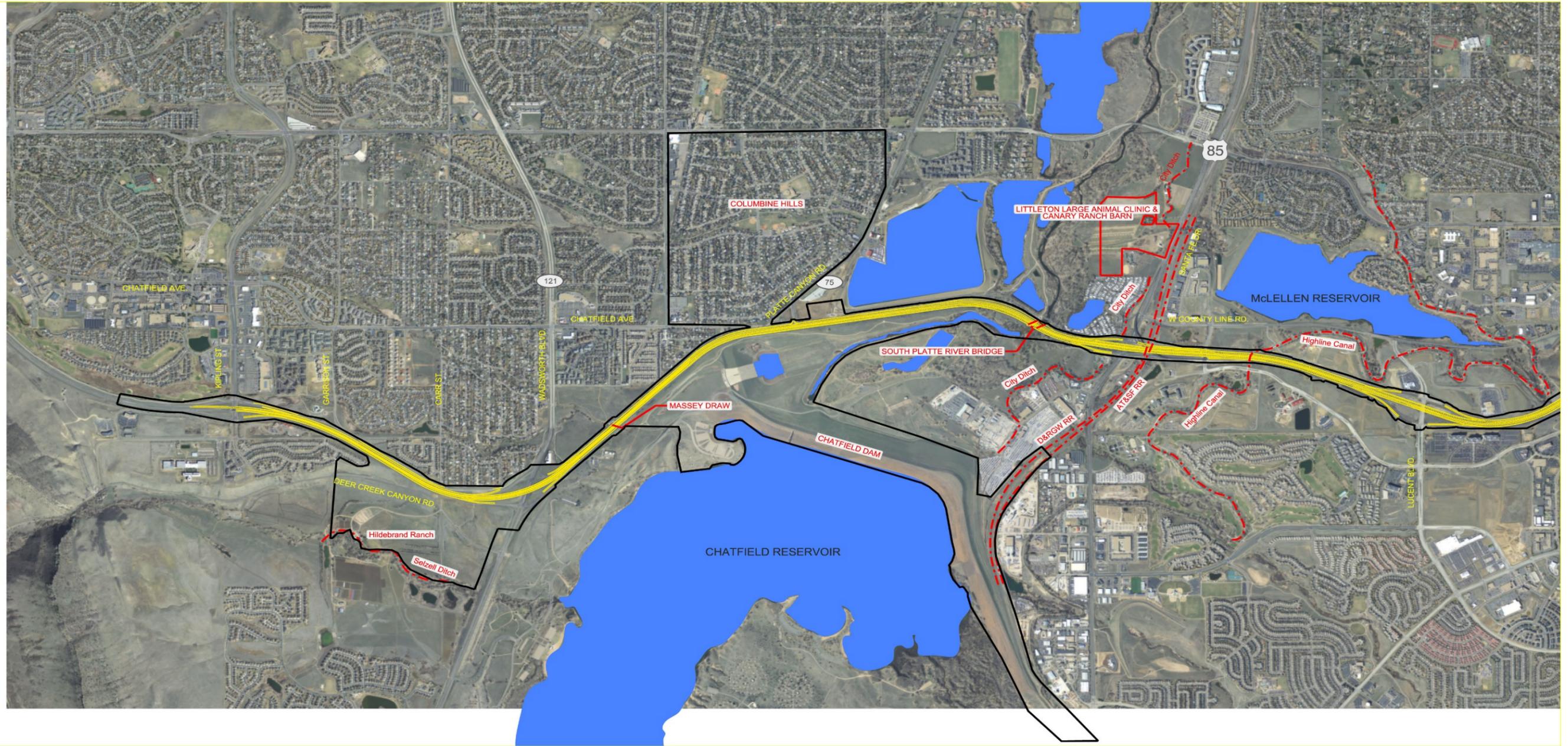
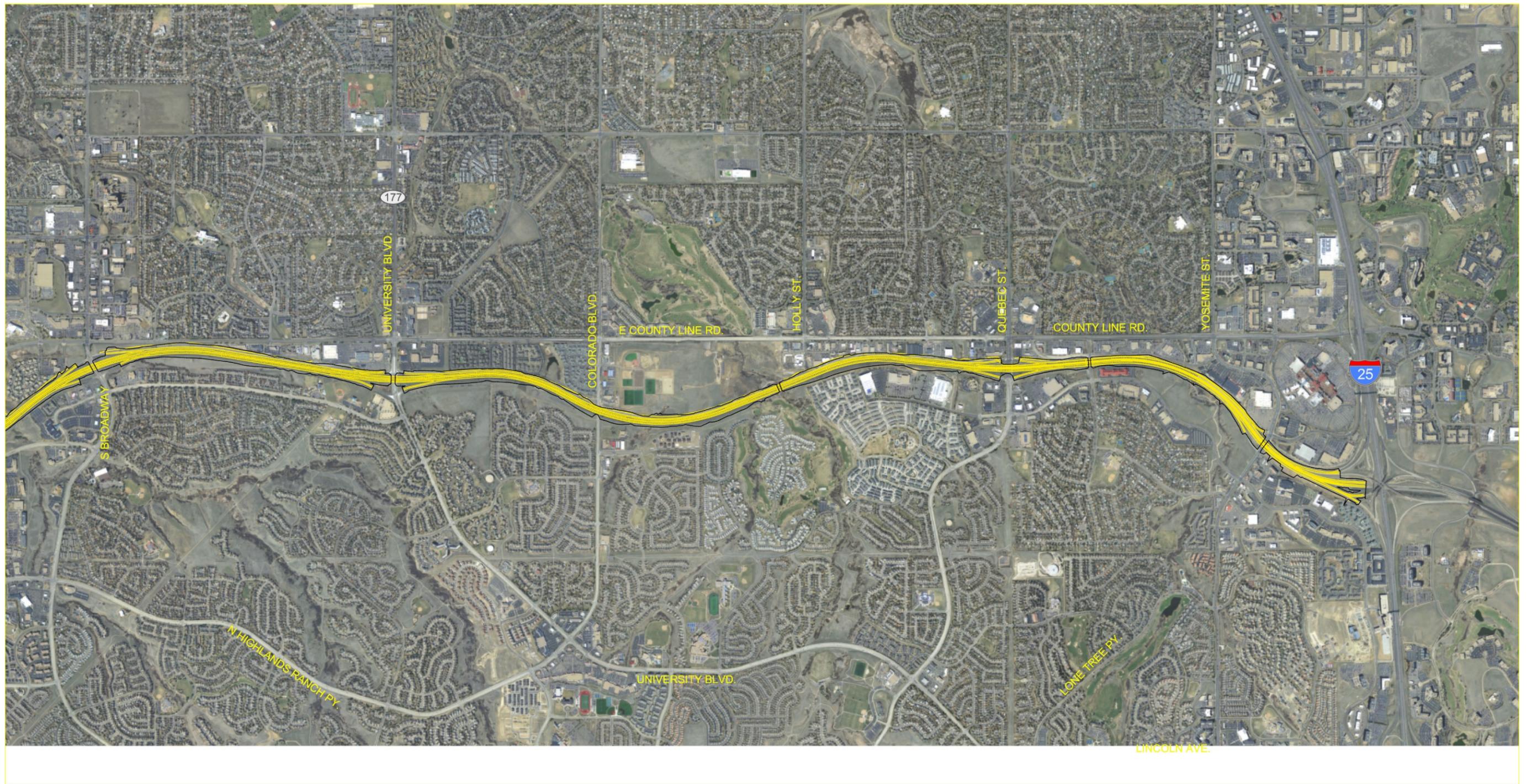


Figure 2. Map of Area of Potential Effects & Historic Resources West End from Kipling Parkway



Map of Area of Potential Effects & Historic Resources East End to I-25

Research Design

The objective of this historic resource survey for C-470 Corridor was to identify historic and potentially eligible historic resources over 45 years of age and Section 4(f) properties in the area of potential effect as defined in consultation with the State Historic Preservation Officer, and to prepare documentation to complete the Section 106 procedures and Section 4(f) evaluation (Phase II). The research design provides direction for research, interpretation, and evaluation of the resources identified.

History Colorado Resources Planning Protection Process (RP3) provides a framework to identify and record historic resources of the state and direction to analyze the significance and preservation of resources. The project area falls into the following RP3 historic contexts:

Colorado Urbanization and Planning Context:

Colorado Town Form in the Early Auto Era (1910-1945);
Historic Residential Subdivisions Metropolitan Denver, 1940-1965; and

Colorado Plains Historic Context:

Development and Expansion of the Rail Network;
The Urban Frontier (1860-1900);
Colonies and Towns (1868-1895);
Early High Plains Irrigation and Farming to 1900;
Post-1900 Agriculture—Dryland Farming;
Ranching since 1900;
The Auto Age (1890-1945); and

Railroads in Colorado (1858-1948) Multiple Property Listing; and
Engineering Context:

Water/Irrigation; Water/Dams; and
Transportation/Railroads, Roads, Bridges, and Trails.

Two new historic contexts, Historic Residential Subdivisions of Metropolitan Denver, 1940-1965 (2011) and Water/Dams, were added to the above list. Prior to the field survey, a file search of state inventory documents was undertaken at the Office of Archeology and Historic Preservation (OAHP). Historic research was conducted at History Colorado to determine if there were any properties in the project area with official landmark designation, which are eligible for listing in the NRHP or have been recorded in the state inventory. County offices and historical societies were contacted to determine if there were any Local Historical Landmarks.

A field survey was conducted within the established Area of Potential Effects in the project study area of the C-470 Corridor. All of the cultural resources within the project area were surveyed at the intensive level. In 2003, the survey area was so large it was divided into sections between the major interchanges beginning at Kipling Parkway and ending at the I-25 interchange. Each section was additionally divided into the north and south sides of the highway. A log of all surveyed properties was maintained by interchange segment. The log can be found in the appendix of this report. During the survey, all previously recorded properties identified in the file search were re-evaluated and photographed, as necessary, and new resources that have not been surveyed were also photographed.

Historic research was conducted at the Jefferson, Arapahoe, and Douglas Counties Tax Assessor Offices, Planning, and Clerk and Recorder's offices, county and Local History libraries, the Stephen Hart Library at the History Colorado, and the Western History Collection at the Denver Public Library. Individuals associated with significant properties in the survey area were also interviewed.

Following the examination of records and documentation, properties were evaluated for historic and architectural integrity and/or significance, as well as eligibility, using the National Register Bulletin 15, *How to Apply the National Register Criteria for Evaluation* and the State Register Bulletin 960, *How to Apply the Nomination Criteria for the Colorado State Register of Historic Properties*. Field determinations of eligibility were made and surveyed properties were recorded on Architectural Inventory Forms as required by the OAHP. Forms were submitted in 2004 and concurrence obtained at that time. A survey report was prepared and submitted according to the guidelines as drafted in OAHP's *Colorado Cultural Resources Survey Manual*. In 2013, this revised document will include forms for new historic resources and re-visitation forms for officially eligible historic resources identified in the 2005 "Historic Resource Effects and Mitigation C-470 – Kipling Parkway to I-25" technical document.

Methodology

The APE for the historic resources survey was established as previously discussed in *Establishing the APE*. A file search at History Colorado, OAHP office, was conducted on August 1 and 13, 2003. (See Table 1 for Previously Conducted Surveys.) The intensive level Class III inventory as outlined in the Research Design was conducted between November 2003 and March 2004. Survey logs were organized by section as the survey proceeded. In May and June 2013, Dawn Bunyak conducted a file search and reconnaissance survey to identify any historic resources that may have become older than 45 years of age since the earlier survey. The 2013 survey identified five new historic resources: a subdivision, a dam, two bridges, and one concrete-box culvert.

Historic research on individual resources was ongoing throughout the field survey and afterwards. Historical research provided essential information regarding individual resources and their ability to provide information about the activities and lifestyles of citizens and the influence of economic conditions and local, state, and national events. Resources were considered for their association with representative periods of development in local, state, and national history and the impact of development pressures on the resource. Information was gathered from public agencies and libraries as previously mentioned, as well as residents. General research materials about the survey area, including primary and secondary sources, were reviewed for background information. This research included the use of books, design plans, maps, photographs, newspaper articles, city directories, and other published reports from local research institutions. The records of local counties in the project area were examined to extract information on specific resources. Telephone interviews with residents, businesses, and local public agencies were also conducted to determine information about specific historical resources.

Table 1
Previously Conducted Surveys

Date	Title of Report	Author
2004-2006	Historic Resource Survey: C-470 Kipling Pkwy to I-25 & Historic Resource Effects & Mitigation	Dawn Bunyak for Goodbee & Associates
2002	Class III Cultural Resource Inventory of the Stockwell/Hildebrand Open Space Property Jeffco SWCA No. 01-515	Andrew Sawyer-Jeffco Open Space
2000	Colorado Historic Bridge Survey	Fraser Design
1998	Southeast Corridor EIS RTD Light Rail System (98-CO-28)	Gregory Newberry-RTD
1997	HRS County Line Road Arapahoe & Douglas Counties, CO	Laurie & Tom Simmons-CDOT
1995	Report RR Grade at Santa Fe Drive & County Line Road (re-eval)	Roxanne Eflin-CDOT
1995	HRS, SW Corridor Alternatives Analysis/Draft EIS	Hermesen Associates
1994	CRS of Realignment of County Line Road at S. Santa Fe Drive	Daniel Jepsen-CDOT
1994	High Line Canal: Historic American Engineering Record Doc	Fraser Design for Felsburg, Holt & Ullevig
1990	State Hwy 85: Castle Rock to C-470 (17 miles)	Rebecca Herbst/Vicki Rottman-CDOT
1988	Survey Report Mc[C]Lellan Drive at C-470	Kathy Cushman-CDOT
1987	E-470 Roadway Project I-25 South Interchange	Laurie Simmons/Christine Whitacre-CDOT
1981	Cultural Resource Survey Report for Hildebrand Ranch Area C-470	Mark Sullivan/Sherry Oaks-CDOT
1980	Project M 1030(1) S. Platte R. Crossing, Cult Res Rpt, Arapahoe and Jefferson Counties, CO	Vicki Rottman-CDOT
1979	Littleton Railroad Depression (City Ditch)	Vicki Rottman-CDOT

After completion of the field survey and following the determinations of eligibility, History Colorado Architectural Inventory forms, Re-visitation forms, and/or Management Data and Linear Resource forms were prepared in 2004 for all surveyed resources. Those inventory forms are on file at History Colorado OAHF. In 2013, Bunyak prepared inventory forms for two historic resources and re-visitation forms for officially eligible resources identified in the 2005 Effects and Mitigation technical document. Forms are attached to this document.

Historic Context

The survey area has been historically rural and agricultural in nature and associated with the South Platte River valley. The valley is backed by the peaks of the Front Range, the Dakota Ridge Hogback and the red sandstone of the Morrison formation. To the east, the valley of the S. Platte River opens onto the eastern plains of Colorado. The eastern plains are part of the “Great American Desert” a term coined by explorers Lt. Zebulon Pike and Major Stephen Long for the land west of the Missouri River and east of the Rockies. They described it as an area with no trees, little rainfall, and tough prairie sod.

Colorado and Its Counties

For centuries, Spain, England, France, the United States, Mexico and the Republic of Texas claimed ownership of sections of the Colorado region. In 1861, portions of four territories, Utah, Nebraska, Kansas, and New Mexico, were taken to create the Colorado Territory.

The Kansas Territory, which included present day Douglas, Arapahoe, and Jefferson Counties, stretched across eastern Colorado to the Rockies. The Kansas Territory was formed in 1855. Few efforts were made to provide governmental services in the distant region of eastern Colorado so local residents created their own forms of governments and law enforcement agencies. Within time, Coloradoans lobbied the federal government to create a new territorial government. After a false start in 1859 to create the Jefferson Territory by locals, Congress officially created the Colorado Territory on February 28, 1861.

The 1860 Census recorded 38,500 names of individuals in the Colorado Territory, a region most known for its mining districts and its vast regions occupied by Native American tribes. Newly appointed Gov. William Gilpin and the territorial legislature soon established boundaries for seventeen counties. The original counties were found principally in the Front Range and foothills of the Rockies where the general population of Euro-Americans were located. The Arapahoe and Cheyenne Reservation in southeastern Colorado was left outside the new county boundaries. The size of the new and unfamiliar region posed a problem for early surveyors laying out county boundaries. Original county boundaries changed as subsequent settlement led to the creation of the state of Colorado in 1876. Eventually sixty-three counties were established between 1877 and 1889.

Jefferson County

Jefferson County is situated in central Colorado and takes its name from the Jefferson Territory, the extra-legal provisional government. The area of present-day Jefferson County was one of twelve counties in the provisional territory of Jefferson until February 28, 1861, when President Buchanan signed the act of Congress creating the Territory of Colorado. On

Nov. 1, 1861, legislators organized Jefferson County and set its boundaries which were defined as part of the territory of Colorado. Golden became the Jefferson County seat.¹

The county is principally mountainous with rolling lands along the creeks and rivers. It is drained by the S. Platte River and its tributary system which includes Bear, Turkey, Clear, Deer, Ralston, Coal, North Fork, and Dry Creeks. The altitude varies from about 5,300 feet to nearly 10,000 feet. The irregular shape of the county covers approximately 725 acres.²

Although Jefferson County was initially populated with mining supply centers for districts to the west of it, the importance of agriculture and raising stock soared. Farmers and ranchers settled along the bottomlands near various streams. They created a system of irrigation ditches that crisscrossed the land. By 1861, four of the earliest irrigation ditches included the Wanamaker, Swadley, Wadsworth, and Farmers High Line. The early mining districts that governed mining regions were soon followed by “claim clubs” for towns and farming areas in the new territory. Claim clubs organized and created governing bodies similar to those developed in mining districts.³

Arapahoe County

Situated just east of Jefferson County is Arapahoe County. The two counties are separated by the S. Platte River. One of the original seventeen counties, Arapahoe extended from the S. Platte River to the Kansas border and was approximately thirty miles wide. Georgian William Green Russell found gold-bearing sand and gravel at the point where Dry Creek flows into the Platte River. Later Russell moved down river to where Cherry Creek flowed into the river seeking gold. Russell did find gold and quickly established a camp he called Denver. Denver eventually became the county seat of Arapahoe.

Modern Arapahoe County came about as a result of the formation of the City and County of Denver at the turn of the twentieth century. The 1902 Colorado State Legislature split the original Arapahoe County into five counties and assigned respective county seats. They assigned Littleton as the temporary county seat of South Arapahoe County. The following year the “south” was dropped from the county’s name. In 1904 Littleton officially became the county seat.⁴ The county was named for one of the larger tribes of Plains Indians who occupied it.

The prairies of Arapahoe County were conducive to raising cattle. Farmers and cattle ranchers staked claims all along the streams and rivers of the plains to graze cattle and sheep.

¹ Jefferson County Historical Commission, *From Scratch: A History of Jefferson County, Colorado* (Golden, Colorado: Jefferson County Historical Commission, 1985) 9; Ethel Dark, “A History of Jefferson County, Colorado,” (M.A. Thesis, Colorado State College, 1939) Introduction; and Sara E. Robbins, *Jefferson County, Colorado: The Colorful Past of a Great Community* (Lakewood, Colorado: The Jefferson County Bank, 1962) 11-13.

² Dark, “History of Jefferson County,” i.

³ *From Scratch*, 2-3.

⁴ Ray Willms, “The Birth of a County: Modern Arapahoe County from an Idea to Reality,” TMs, p. 1-16, Special Collections, Littleton Historical Museum Library, Littleton, Colorado; “Richard S. Little,” and Arapahoe Regional Library District, *Arapahoe County Portrait: Past and Present* (Littleton, Colorado: Arapahoe Regional Library District, 1983) 2-3.

As farmers moved away from principally dry land crops, they developed irrigation systems tapping into nearby streams and rivers to water their crops of grains. By the end of the 1860s, more than fifty farms spread along the banks of the S. Platte River. They delivered a steady supply of meat to nearby mining districts.

Richard S. Little came to Arapahoe County in 1861 as engineer for the Capital Hydraulic Company who was constructing a ditch from the Platte River to Denver. The next year Little filed a notice of claim on land along the S. Platte River and later opened the Rough and Ready Mill on a segment of the ditch that was never developed. When the Denver and Rio Grande Railroad (D&RG) passed by Little's land in the early 1870s, he envisioned a city on the plains.

On June 3, 1872, Little laid the foundations for the city of Littleton when he divided a section of his land into lots for employees at his mill. A large hotel in Littleton became a stage coach stop, as well as a popular Sunday outing spot for the residents of Denver. Nevertheless the real growth in Littleton did not appear until after 1877 with the appearance of a second railroad, the Atchison, Topeka and Santa Fe Railroad (ATS&F). In 1888, the ATS&F built a depot in Littleton.⁵ Despite Little's endeavor at city building, the area remained principally rural in nature.

After completion of the High Line Canal in 1882, agricultural activity in Arapahoe County appeared to be divided between dry-land farming in the east section and irrigable land in the west. Agriculture, farming and ranching, was the county's staple industry even extending south into Douglas County.

Douglas County

Douglas County can be found almost at the center of the state. It is a region of topographic diversity with prairies in the east at 5,400 feet to a range of mountains in the west that reach as high as 9,700 feet. The spectacular red rock formations of Roxborough Park are found in northwestern Douglas County. Its three major waterways, the Cherry Creek, Plum Creek and S. Platte River, were natural routes for early travelers through the region, territory, and eventually the state. Miners heading into the Pikes Peak region passed through Douglas County on their way into the important mining centers of the Rockies.

Unlike its neighbors, Jefferson and Arapahoe Counties, who have more urban communities, Douglas County's history has long been tied to farming and ranching. As late as 1968, Lawrence C. Phipps described northern Douglas County in his book, *Forty Years of the Arapahoe Hunt*, as a "country (that) consists of rolling plains interspersed every once in a while with deep or shallow arroyos, gullies, and dry water courses." It was principally cattle country with a few ranch houses and outbuildings until the 1980s.

Douglas County, named after the Illinois Senator Stephen A. Douglas, who was also chairman of the Senate Committee on Territories, was one of the original seventeen counties. After Colorado became a territory, the legislators appointed Franktown as the temporary

⁵ Dave Hicks, *Littleton from the Beginning* (Denver, Colorado: Egan Printing, 1975) 7-9; "The Birth of a County," 7; *Past and Present*, 6; and City of Littleton website, "Littleton History," accessed July 16, 2003.

county seat of the newly formed county. James Frank Gardner, founder of Franktown, moved to California Ranch in 1864 taking the Douglas County records with him. In 1874, Castle Rock became the county seat when the county was subdivided to create Elbert County.⁶ Castle Rock is more centrally located within the re-drawn county boundaries. The arrival of the D&RG Railroad dramatically influenced the growth of Douglas County. With an active railroad and stage coach service, small towns sprang up along the rail lines that connected Denver and Colorado Springs.

Agricultural History

For most of its history, the lands around the C-470 corridor were rural devoted to agricultural pursuits and cattle ranching. The agricultural history of the area south and southwest of Denver has long been tied economically with the development of Denver and Colorado's mining regions. Many men who failed as miners settled on the prairies turning to the land for their livelihood. Farmers south of Denver supplied food and goods to the Denver market and nearby mining districts. The earliest recorded Denver area farmer/supplier was David Wall who farmed near Golden.⁷

The 1860s saw the transition from subsistence farming to a growth in cash crops. Farmers settled near the rivers and utilized irrigation in turning arid plains into verdant pastures and larger-scale agricultural enterprises. By 1870, one traveling correspondent for *The Colorado Tribune* wrote glowingly that the agricultural region of the Platte Valley was in a "state of improvement as will compare favorably with some of the finest grazing and agricultural sections of the east."⁸ These early entrepreneurs soon realized that water was the true gold of the West.

Early High Plains Irrigation and Farming

Water and irrigation are intricately interwoven in the historical success of farming and ranching in the arid lands of Colorado and the West. Initially farmers planted dryland crops of barley and wheat or used their land for grazing. Cash crops, such as alfalfa, potatoes, tomatoes, cucumbers, and sugar beets, demanded water to survive in the arid climate. As early as the 1860s and 1870s, farmers, investors, and developers engaged in a battle to harness Colorado's limited water resources. Prior to 1879, no consistent procedures were followed when initiating the construction of an irrigation system. Settlers simply dug a ditch.

Following the adoption of the Colorado State Constitution, and its provisions regarding the doctrine of prior appropriation of water in the state, drainages were assigned a water district number, which continues to identify the state's streams and rivers. The Colorado General Assembly enacted the Irrigation Act of 1879 dividing the state into water districts and establishing a system to record water right priorities. Improvements to the water bill followed to correct ambiguities and inconsistencies. Between 1880 and 1885, concern over the amount

⁶ Thomas J. Noel, Paul F. Mahoney, and Richard E. Stevens, *Historical Atlas of Colorado* (Norman, Oklahoma: University of Oklahoma Press, 1994) 17, and "General History of Douglas County, Colorado," [<http://history.dpld.org/dchpb/genhist.htm>], 15 December 2003.

⁷ David Skari, *High Line Canal: Meandering Through Time* (Denver, Colorado: C & M Press, 2003) 2.

⁸ Marr, *Douglas County*, 99.

of water taken from tributaries prompted adjudication hearings to establish water rights. At that time, approximately 250 ditches were drawing water from the S. Platte River.⁹

One of the most significant of the early organized irrigation systems in the Denver area was the Capitol Hydraulic Company's City Ditch, a franchised ditch constructed to draw water from the S. Platte River to supply water to the city and farmers along its route. Almost two decades later, in 1877, English investors undertook a heady enterprise that involved construction of three massive irrigation projects that would carry water from the S. Platte River valley to the eastern plains. Out of their vision evolved the High Line Canal.

City Ditch

In 1860, an Act of Congress granted the franchise of the Capitol Hydraulic Company (organized in 1859) to take water from the S. Platte River and Cherry Creek. The president of the company was A.C. Hunt, who later became the Territorial Governor, and its chief engineer, John Clark, who was later replaced by Richard Little, founder of Littleton. Little moved the inlet four miles upstream and recalculated the grade of the ditch. Although ditch construction began between 1861 and 1862, due to the Civil War and an irksome economy, it was not until 1869 that it carried water into Denver. Meanwhile, Little channeled the abandoned earlier segment of the ditch for his own purposes. A second ditch reorganization resulted in a name change, Platte Water Company, to reflect its wider scope and purposes for the ditch. By 1875, Denver concluded it should own the ditch "from Littleton down to Capitol Hill." A bond issue raised \$60,000 to purchase the ditch. The ditch was assigned the number one water priority on the S. Platte River.

Each spring the head gates at a dam southwest of present-day Wolhurst Estates were opened to allow water to flow in a northerly direction on its 37-mile journey to Denver, Washington Park, and City Park. The original diversion point for City Ditch from the S. Platte now lies under Chatfield Dam Reservoir. The US Army Corps of Engineers created a new outlet through the dam to allow water to enter City Ditch. Southwest of Littleton only remnants of the original course of City Ditch are extant due to encroachment by development and highway improvements. The City of Englewood controls the first 15 miles of the ditch proper and has diverted water into both open channel and pipe-lines.¹⁰ In Englewood, it fills McLellan Reservoir and provides a portion of the city's municipal water supply. To the east of City Ditch is a second larger endeavor to bring water to the parched fields in the survey area.

High Line Canal

In 1877, English capitalists led by James Duff organized the Colorado Mortgage and Investment Company, often referred to as the English Company. The company planned three irrigation projects to carry water from the S. Platte River northwest to the eastern plains. In 1880, Edwin Nettleton completed his plans for the High Line Canal. Quickly Benjamin Eaton's construction crews began work on the canal.

⁹ Skari, *High Line Canal*, 37 and 57.

¹⁰ Marr, *Douglas County*, 99; Skari, *High Line Canal*, 64; and Colorado Department of Transportation, "The History of City Ditch" prepared by Rebecca Herbst for the Federal Highway Administration (Denver, 1983) 11.

It would reportedly extend for 70 miles with several laterals. At its head was an intake dam in the S. Platte River Canyon in the foothills. The dam was not to store water, but actually to divert water. The canal measured thirty-six feet wide and seven feet deep in areas as it coursed through northern Douglas County into Arapahoe County via the canal, wooden drops, and its flumes. Eaton's crew completed construction on the canal three years later.¹¹

The name of the canal, High Line, came from its engineering design and principle. Nettleton designed and built the canal with a gradual elevation drop in grade in order to produce a gravity-controlled flow of water. The elevation of the ditch drops approximately 200 feet along its course. In the same period of ditch development, there were two other "high line" ditches: the Farmer's High Line near Golden and the Rocky Ford High Line near Manzanola, Colorado. Consequently, during its early years, locals referred to the High Line Canal as the English Ditch, or English High Line, until eventually even the word English was dropped.¹²

Farmers and ranchers in northern Douglas County benefited from the flow of water from the canal. A series of droughts initiated local water rights battles in 1887 that ended at the Colorado State courts. Eventually, in 1924, the canal became the property of Denver. There was no public access to the canal and its service road until the 1970s when Denver developed a park system along the canal and its road. Today only 67 customers possess water rights from the canal. Until recently the Rocky Mountain Arsenal was the largest consumer of water from the High Line Canal. (It will soon be supplied from an alternate source.)

The water flow through the canal is erratic dependent upon water levels of the S. Platte River and the needs of its owners. Headgate No. 22 is located on the Flyin' B Ranch once owned by Bowen Farms Incorporated, which used the water for irrigating pastureland. Since 2006, the High Line Canal and corresponding bike and hiking trail pass through "Fly'n B Park." Five acres surrounding the farm house are now part of the Highlands Ranch Metro District open space. The canal parkway system is an ecological and wildlife habitat, as well as a significant historic resource connecting Denver's agricultural past to its present urban setting.

In the survey area, there are several smaller irrigation systems associated with the regions' earliest farming and ranching concerns. Of the lesser known early irrigation networks in the area were the Selzell Ditch near the Hildebrand Ranch, Last Chance Ditch near present day S. Platte Canyon Road, and Nevada Ditch parallel to the S. Platte River and Jefferson and Douglas Counties' boundary.

Selzell Ditch

Selzell Ditch is located near the Denver Botanic Gardens at Chatfield, a nature preserve in southern Jefferson County. Ranchers Peter Selzell and Frank Hildebrand constructed the ditch in 1868 by drawing water from nearby Deer Creek to water their farm and grazing lands. During the period of establishing legal water priorities in Colorado, Peter Selzell appeared as a witness at an 1883 adjudication hearing for obtaining water rights on the

¹¹ Skari, *High Line Canal*, 10-13.

¹² Skari, *High Line Canal*, 11, and Marr, *Douglas County*, 99.

Selzell Ditch.¹³ The ditch was awarded priority number 37. Today it is associated with the National Register Hildebrand Ranch Historic District highlighting early attempts at domestic agriculture in the region.

Last Chance Ditch

Another Jefferson County early irrigation system is the Last Chance Ditch located in the S. Platte River Water District No. 8. Both the Last Chance and Platte Canyon Ditches are located in this district. Claimants William Hugins, Isaac W. Chatfield, and Louis Doll built the Last Chance ditch in late February and early March 1868. Platte Canon Ditch Company constructed a ditch in July 1861 and subsequently enlarged it in December 1863 and December 1864. Witnesses N.E. Mills, E.S. Nettleton, William Shellabarger and a Mr. Lehow appeared at the 1883 adjudication hearings for this ditch. In 1924, the company that owned the Last Chance Ditch merged with the Platte Canyon Ditch owners. Even though most of what was the Platte Canyon Ditch has been destroyed by Chatfield Reservoir, the name Platte Canyon/Last Chance Ditch continues to appear on present-day maps referring to the original Last Chance Ditch. Portions of it are still in use today. However, the segment of the ditch in the survey area has been destroyed as a result of development.

Nevada Ditch

Paralleling the boundary between Jefferson and Douglas counties is the Nevada Ditch. Construction on this ditch in the S. Platte River water district began on August 30, 1861. It was enlarged once again in December 1865. Witnesses John Lilley, Joseph Bowles, W.B.O. Skelton appeared at the 1883 adjudication hearings to claim their water rights.¹⁴ It is not clear whether these men constructed the ditch or assumed ownership at a later date. Portions of Nevada Ditch are still in use today, but the segment in the survey area has been largely destroyed as a result of development.

Many of the portions of these earliest ditches are now enclosed in pipes for safety reasons, water loss, and/or convenience. Nevertheless, one can locate the course of many of these abandoned ditches by looking for rows of trees and willows.

Early farmers and ranchers depended on irrigation and agriculture to serve their needs. Generally diversion ditches off local river sources met their needs. In other regions in Colorado, ditches and canals alone did not meet the needs of the community. The 1891 Colorado State Legislator authorized several reservoirs around the state.¹⁵ The National Reclamation Act of 1902 began a new era in irrigation, especially in the West. The Reclamation Service (renamed the Bureau of Reclamation in 1923) built reservoirs and hydroelectric plants many in Colorado.¹⁶ However, at the same time, the U.S. Army Corps of Engineers became the lead federal flood control agency, a provider of hydroelectric energy,

¹³ L. Steele, *The Roots of Prosperity: Littleton in the 1860s* (Littleton Historical Museum, 1982) 100-101, and an article, "Ditches Overview," author unknown, files at Littleton Historical Museum, 2003.

¹⁴ Steele, *The Roots of Prosperity*, 101, and "Ditches Overview."

¹⁵ Michael Holleran, "Historic Context for Irrigation & Water Supply: Ditches and Canals in Colorado" (Denver: History Colorado, 2005) 42.

¹⁶ Holleran, *Ditches and Canals*, 44.

and the country's leading provider of recreation associated with water bodies. Its role in responding to natural disasters also grew dramatically.¹⁷

Chatfield Dam and Reservoir

Chatfield Dam, a rolled earth dam, and Reservoir is located in both South Jefferson and Douglas counties. It is west of the S. Platte River at the confluence of the river and Plum Creek. The U.S. Army Corps of Engineers, Omaha District, constructed the dam over a ten year period beginning in 1967. The dam was built as a result of a disastrous flood in 1965.

A series of unusual storm cells resulted in tornadoes and an unprecedented rainfall beginning June 14. Flooding on the East and West branches of Plum Creek began the next day and on June 16 a wall of water 200 feet wide and 20 feet high hit the City of Littleton at 9:30 PM before moving on through Englewood into Denver. Loss of life and millions of dollars of damages in the S. Platte River Valley prompted cries for new flood control measures.

Congress approved the Flood Act of 1950 which included construction of a dam in the S. Platte River Valley, but no funding appropriations were included in the bill. Without funding, the dam was never built. After Colorado's devastating spring floods in 1965, Congress approved funding not only for the dam, but recreational facilities that are now under the auspices of the State of Colorado as a state park. The City and County of Denver owns the water in the reservoir. The dam itself is under the jurisdiction of the Corps of Engineers.

The 1966 Chatfield Dam and Lake Project became one of three in a comprehensive plan for flood control of the S. Platte River and its tributaries. The other two units are Cherry Creek Dam (built as a dry dam in 1946) and Bear Creek Dam (dam and reservoir, 1974). In May 1977, the Rocky Mountain News reported that recreational facilities at Chatfield Dam and Reservoir, "Denver's newest playground," was opened for day use. The Corps of Engineers finished Bear Creek Dam, the last of the three dams for flood protection, in 1979.

Transportation

Several factors contributed to the transformation of the Colorado Territory. With the end of the Civil War and the removal of the Plains Indians to reservations, migration west increased as settlers followed trails into the region. With the rapid advancement of railroads into the West, larger number of immigrants and freight made their way into the territory. Towns sprang up along the rail lines. The territory's population dramatically increased and the territory became a state in 1876.

Railroads

The railroad may have been the single greatest influence on growth and prosperity in Colorado. By the 1880s, railroads steamed westward into the eastern plains of Colorado and into the State's mining regions. Railroads provided cheap travel and an economical means for shipment of grains and livestock to market.

¹⁷ US Army Corps of Engineers website, "US Army Corps of Engineers: A Brief History," accessed at www.usace.army.mil/About/History/BriefHistoryoftheCorps/Introduction.aspx, 3 July 2013.

Denver and Rio Grande Railroad

“Following the construction of the First Territorial Road between Denver and Colorado City, a similar north-south route along the foothills was surveyed for the site of the first narrow-gauge railroad in the United States.”¹⁸ General William Jackson Palmer and the National Land and Improvement Company provided funds to construct a railroad between Denver and Colorado Springs. The Denver and Rio Grande Railroad was initially constructed as a narrow gauge rail line. A month after construction was started on the line in July of 1871, builder Union Contract Company with its ties, rails, spikes, timber and telegraph poles reached Littleton and Acequia, in Douglas County. A news reporter poetically described his experience on the maiden voyage of the newly christened D&RG and his first view of Arapahoe and Douglas counties,

The train was by this time speeding by the valley of the Platte, its beautiful farm houses and cultivated fields and long line of cottonwoods in the somber glories of autumn, with the grand mountains beyond, forming a charming landscape view.¹⁹

Regular service began on January 1, 1872. A year later the D&RG first built a wood-frame depot in Littleton replacing it with a stone depot two years later.²⁰ New settlements in Douglas County and later into El Paso County sprang up along the route. By 1881, the D&RG added a standard gauge track to its double track narrow gauge line and temporarily agreed to share it with the AT&SF Railroad.

In 1902, the middle rail was removed and the line operated solely as a standard gauge line. Palmer envisioned his railroad opening a route between Denver and El Paso, Texas. Although the line never reached its original goal, the D&RG played a critical role in the development of Colorado at the end of the nineteenth century. In addition, it played a role in the development of Littleton and its surrounding community when the D&RG began regular commuter service between Littleton and Denver in 1889. Over the decades, the railroad has experienced ownership changes and is currently part of the Union Pacific Railroad.²¹

Atchison, Topeka, and Santa Fe Railroad

A second rail line in the survey area was the Atchison, Topeka and Santa Fe Railroad (AT&SF). Due to lack of funding and support, the Atchison and Topeka railroad grew at a slower pace than the D&RG. Although chartered in 1859, it was not until after President Lincoln signed an Act of Congress allowing construction of the railroad across Kansas that the company found economic security to begin building westward. The company reorganized

¹⁸Colorado Department of Transportation, Colorado Historical Society, Historic Inventory Record, “Atchison, Topeka and Santa Fe Railroad (5AH256.3)” prepared by Rebecca Herbst and Vicki Rottman,

¹⁹ Josephine Lowell Marr, *Douglas County: A Historical Journey* (Gunnison, Colorado: B&B Printers, 1983) 96.

²⁰ “Denver & Rio Grande Railroad Depot,” City of Littleton website, accessed at www.littletongov.org on 28 April 2004.

²¹ Colorado, Department of Transportation, Region 2, *Interstate 25 Environmental Assessment*, Proj. No., 151077.13, HRS by Barbara Norgren, Dawn Bunyak, Dianna Litvak (Colorado Springs, 2003): 10-11; and Colorado Department of Transportation, Colorado Historical Society, Historic Inventory Record, “Atchison, Topeka and Santa Fe Railroad (5AH256.3)” prepared by Rebecca Herbst and Vicki Rottman, revision 1995.

in 1863 as the AT&SF, with high hopes of reaching Santa Fe, New Mexico, via Colorado. Westward construction began in 1868. Twenty years later, the AT&SF bought out the Denver and Santa Fe Railway (D&SF), which had laid track between Denver and Pueblo that paralleled the D&RG. The volatility of the national economy and its effects on the railroad industry resulted in mergers and buy-outs among the smaller lines. Eventually, the AT&SF emerged out of the pool of Colorado railroads. In 1900, the AT&SF bought out the D&SF line.

Twentieth-Century Development of the Railways

By WWI, the federal government nationalized the rail industry and the D&RG and AT&SF consolidated to run northbound trains on the old AT&SF lines and the southbound trains on the D&RG lines. In 1944, the AT&SF was one of the four leading railroads operating in Colorado with some 617 miles of main track. The parallel tracks of the D&RG and the AT&SF railroads between Denver and Colorado Springs were badly damaged during the 1965 Plum Creek flood near Littleton. The company repaired sections of the line but abandoned others. In 1968, the company became a subsidiary of the holding company of the incorporated Santa Fe Industries. Six years later the company sold its passenger service to Amtrak. By 1983, this company and the Southern Pacific Transportation Corporation agreed to merge into the Santa Fe Southern Pacific Corporation. However in 1987 the ICC rejected the proposed merger. In 1988 Southern Pacific sold its rail system. The next year, the Santa Fe's parent company changed its name to the Santa Fe Pacific Corporation. The Burlington Northern purchased that corporation in 1995 resulting in a new company name, the Burlington Northern Santa Fe Corporation.²² Its trains currently use the Union Pacific rails south from Denver through Littleton.

Many major changes to the railroads and their alignment have been made due to natural disasters, upgrade in rail equipment and materials, development of the light rail, road widening and reduction of curves, and construction of grade separations. In the late 1980s, CDOT built a railroad bridge across the newly-constructed C-470 highway at Santa Fe Drive and C-470. With the addition of the Light Rail at the same time, track alignment was moved to accommodate the new line running parallel to the railroad tracks.

Territorial and Automobile Roads

Because of its isolation, as early as 1861, the fledgling territory of Colorado realized the importance of road building. The Kansas Legislature, whose jurisdiction the new territory fell under, authorized construction of some toll roads and bridges. By the 1880s, toll roads could be found all over the state. One of the most famous road builders in Colorado's history is Otto Mears.

Earliest Road Systems

Colorado's first north-south roads followed established Native American trails. A series of territorial acts beginning in 1864 established Colorado's earliest roads with one of the first

²² "Atchison, Topeka and Santa Fe Railway," Burlington Northern website, accessed at www.bnsf.com on 16 February 2004; Clay Fraser, *Railroads in Colorado, 1859-1948, National Register Multiple Property Document Form*, 1997; *Colorado Springs Gazette Telegraph*, 2 May 1971;

near present day Littleton and along the S. Platte River as part of the Denver City and Pueblo road.²³

Remnants of this early wagon road, Colorado Springs Wagon Road, parallel portions of present day S.H. 85 in Douglas County south of C-470 and were visible into the 1990s. On a 1901 Proposed Line Change Map for the D&RG Railroad between Wolhurst and Sedalia, the wagon road is located east of the tracks in Section 7 and crossed the tracks to the west side in Section 6.²⁴ The first real effort to develop a system of integrated roads in Colorado came with the establishment of counties.

Like the rest of the United States, Colorado had a period in time called the "good roads" movement. At the beginning of the 20th Century, bicyclists and automobile drivers pushed for state and counties to pave roads for better driving conditions. In a M.E. Salek's history of Colorado roads, he writes:

In 1902, 42 auto owners formed the Colorado Auto Club. The CAC and the Colorado Chapter of the National Good Roads Association (1905) persuaded the legislature to pass a bill in 1909 to establish the Colorado Highway Commission, and it became effective January 1, 1910. The only problem was the funding: the legislature allocated a measly \$65,000. The Colorado highway system was established by having the counties submit maps showing their most traveled roads, and the first state primary system covered 1643.5 miles.

The early road system in Colorado was primitive by today's standards. It was not until the American Automobile Association (established in 1902) lobbied local, state, and federal governments for better roads that many dirt roads were finally paved in the first decades of the 1900s.²⁵ Road crews relocated routes and improved dangerous railroad crossings. In 1907, the State Legislature authorized construction of a road between Wyoming and New Mexico.²⁶ Construction began in May of 1908 and within two years the road between Denver and Colorado Springs opened as State Primary Road No. 3. State Primary Road No. 2 ran between Denver and Fort Collins with No. 4 between Colorado Springs and Pueblo. These roads followed the earliest Native American trails, wagon roads, and stage coach lines.

A 326-mile ribbon of highway connects Wyoming to New Mexico running north-south through Colorado. The State Highway Commission began using the North-South Road as a principal trunk line through the state that connected the state's most important cities.²⁷ Dusty and treacherous, the road was dirt until 1919.

²³ Wallis M. Reef, "The Development of Colorado's State Highway System," in *Look Around* 29, no. 3 (May-June 1964): 26.

²⁴ 1901 Map for the Proposed Line Change for the D&RG Railroad can be found at the Local Archives at the Douglas County Public Library in Castle Rock, Colorado.

²⁵ *The Motorist* March/April 2002.

²⁶ *Denver Post*, 22 September 1969.

²⁷ Clayton Fraser, *Highway Bridges in Colorado, 1880-1958*.

U.S. Highway 85

In 1916, the Federal Highway Act started the Federal Aid Primary system, with 50-50 matching funding. One of the first federally funded primary highways in Colorado was FAP 1, Denver-Littleton. As a result, the present day S. Santa Fe Drive (S.H. 85) was the first paved road in Colorado.²⁸

Figure 3
1929 Conoco Road Map



Source: Denver Public Library, Denver, CO.

Construction on the Denver to Littleton road began in the fall of 1917 and was completed in 1918. Eventually, the road became part of the proposed highway from Denver to Colorado Springs. The FAP-1, two-lane road provided a direct route from Denver to the growing city of Littleton.

In 1928, the State Department of Transportation began construction on a 73-mile stretch of concrete road between Denver and Colorado Springs, Figure 3.²⁹

The last link of newly concrete-paved section on the Denver-Colorado Springs Highway (S.H. 85) was completed in August of 1928 with a procession of 1,200 automobiles celebrating its opening. During the paving, the highway department eliminated thirteen

²⁸ Salek, "Colorado Highways History."

²⁹ *Denver Post*, 10 August 1928.

railroad crossings and numerous dangerous curves. The August 5, 1928, issue of the *Denver Post* speculated that the elimination of the dangerous spots and new road surface was expected to “materially increase the traffic in the future.” And increase it did.

In 1938, the State Highway Commission, after repeated petitions by the city of Littleton, rerouted U.S. 85 west of downtown Littleton along the present S. Santa Fe Drive. Within a decade, the highway was nicknamed “the ribbon of death” because of numerous accidents and fatalities on the stretch between Denver and Colorado Springs.³⁰ Beginning in 1947, plans were made to widen the highway and make improvements along the route. Despite these improvements, the north-south highway would be soon be usurped by the construction of Interstate 25.

Today S.H. 85’s identity has merged with many sections of the modern highways that run north and south through the state. Although the roads follow the same route of the old S.H. 85, the number is not usually noted on highway signs.

Interstate 25

In the 1940s, led by its chief engineer Charles Vail, the Colorado Department of Highways commissioned a study to improve the highway system in Denver. Vail hired the engineering firm of Crocker and Ryan as consultants. Their report suggested that a limited-access route be opened, which would be independent of the cross-flow of city traffic. Vail died that year and the project appeared to flounder until 1946, when Mark Watrous became CDOH’s state highway engineer.³¹ Nevertheless the Valley Highway project did not begin until 1948. As segments were completed, they were opened to drivers. The last segment opened in 1958. It was not officially an interstate at that point in time, but formally identified as U.S. 87.³² The federal interstate system began construction on Interstate 25 in 1956 and finished a continuous ribbon of highway between Wyoming and New Mexico in 1969.³³ Officially in 1970, Interstate 25 opened as a ribbon of concrete, an “interstate standard” highway, between Wyoming and New Mexico. Today I-25 is not only a route through our city, but an integral artery for travel within the city.

Colorado 470 or C-470

Beginning in the 1970s, it was evident that a connection between I-25 and I-70, by-passing the Denver metro area, would alleviate some of the congestion on the city’s highway system. Despite support by Jefferson and Boulder counties, plans in 1973 for this proposed highway, then referred to as I-470, were stymied by then Governor Richard Lamm, who was concerned about land use and air quality.³⁴ Federal funds were redirected to projects on S. Kipling Parkway and S. Santa Fe Drive. Eventually construction began in 1980 as a 26-mile segment of Colorado 470 (C-470). It was built in four stages with openings between December 1985

³⁰ *Denver Rocky Mountain News*, 2 March 1946 and 18 June 1947.

³¹ “The Valley Highway: The Road that Colorado Loves to Hate,” in *Colorado Heritage* (1995): 40; and “Denver’s Valley Highway,” in *The High Road*, 41-45, Highways file at Colorado Springs Pioneer Museum.

³² “The Valley Highway,” 41.

³³ *Denver Post*, 22 September 1969.

³⁴ Susan Carey, “C-470’s Long and Winding History,” in the *Denver Business Journal* 10 August 1998, accessed at www.bizjournals.com/denver/stories on 11 February 2004.

and October 1990. It is a locally-funded, state-maintained highway, and unlikely to become an interstate as first proposed.

A popular bike trail north of C-470 branches off of the High Line Canal Recreational Trail (associated with the Highline Canal, discussed under the Agricultural History section) near McLellan Reservoir and parallels the highway eastward to the vicinity of Park Meadows Mall and Interstate 25. The popularity of Colorado's paths and trails did not originate in the twentieth century, as many believe. At the end of the nineteenth century a new craze was sweeping the country—bicycling.

Bicycling

In the 1890s, at the height of railroad popularity, leisure bicycling swept the country. Denver boasted the highest per capita bicycle ownership in the country claiming 40,000 bicycles for its 100,000 residents.³⁵ As early as 1869, Denver residents' complaints about the number of bicycles on its streets resulted in an ordinance prohibiting their use on sidewalks. Cyclists soon established paths in and around the metro area. One of the most popular bicycle paths was between Denver and Littleton following City Ditch. Bicyclists followed the course of the ditch to Littleton to stop at the Harwood Inn, across from the Rough and Ready Mill, for lunch or to attend horse races held nearby. Another path followed Broadway south to the banks of the High Line Canal. A longer, popular route was to Palmer Lake in Douglas County. Cyclists left Littleton traveling south along S. Santa Fe Drive and the City Ditch to a bridge that carried them east across the railroad tracks to the old abandoned Colorado Springs Wagon Road. From there bicyclists continued south paralleling the D&RG Railroad to Palmer Lake.

The sport became so popular that the League of American Wheelmen held their annual meeting in Denver in 1894. Littleton cyclists organized in 1898 to form the Littleton Cycle Path Association with the purpose of improving bike paths along the banks of the City Ditch into Littleton. In 1899, Colorado cycling clubs lobbied the State Senate for funds to improve the bicycle path to Littleton and received five thousand dollars.³⁶ Today thousands of dollars each year go into the development and maintenance of Colorado's bike trail system. The modern High Line Canal Recreational Trail is a popular route for cyclists and on weekends hordes of cyclists, walkers, and joggers follow the trail along C-470.

Suburban Development

Agriculture remained the staple industry of south Jefferson and Arapahoe Counties until after World War II. Beginning with electronics, munitions, and aerospace, manufacturing became a principle employer and a catalyst for the boom in housing development in the 1950s into the 1970s. It first started with Glenn L. Martin Company (today Lockheed Martin) announcement in 1950 that they planned to build a \$27 million major defense facility in south Jefferson County near Waterton Canyon. It was followed in the 1970s with the construction of the Johns Manville World Headquarters on Deer Creek Canyon Road south of Ken Caryl Ranch. South of C-470, the Chatfield basin area, between the S. Platte River and the Dakota Hogback, remained relatively agricultural and state park lands until the

³⁵ James Whiteside, *Colorado: A Sports History* (Niwot, Colorado: University Press of Colorado, 1999) 61.

³⁶ *Castle Rock Journal*, 7 April 1899.

1990s. Now residential and commercial development covers the valley leaving only historical remnants of its earlier agricultural history.

South Unincorporated Jefferson County

Southern Jefferson County's history and place names have strong associations to its early agricultural history. The area west of Littleton and east of the mountains remained sparsely settled and primarily agricultural until after World War II, when residential subdivisions began developing. Located off of Ken Caryl Avenue is an area that was once part of an enormous cattle ranching operation, the Ken Caryl Ranch. The long narrow valley lies between the Dakota Ridge Hogback and the foothills, sloping gently from Willow Springs on the north to Deer Creek Road on the south.

Ken Caryl Valley

In 1859, Major Robert J. Bradford developed the Denver, Bradford and Blue River Toll Road from Denver southwest to the north end of the Ken Caryl Valley over the foothills into the mining districts. In the valley, Bradford built a ranch with plans to plat a town site. However, the town site failed when a competing freighting firm built a toll road into the lower Turkey Creek Canyon. Bradford's toll road closed in 1867. After Bradford died in 1876, the property passed through several hands before it eventually became part of Ken-Caryl Ranch. In 1914, John C. Shaffer, owner of the Rocky Mountain News, purchased land along the hogback and foothills and named the 10,000-acre cattle ranch, Ken Caryl after his two sons, Kent and Carrol. Shaffer purchased a turkey farm (believed to be the Chatfield Turkey Farm) east of the valley and added it to his holdings from present-day Ken Caryl Avenue south to Kipling Parkway. In the early 1930s, the ranch came up for sale and was owned by a series of hopeful, but greenhorn, cattle ranchers.

In 1971, the Johns Manville Corporation purchased the property to develop a master-planned community and build their world headquarters. The headquarters, now the Lockheed Martin Facility, was built in 1976. The community spreads up the valley and east of the hogback to Kipling Parkway. In 1987, Martin Marietta Astronautics Group bought the headquarters from Johns Manville. A second complex arose east of the original one. Residential construction in the master community finished in 1997. Commercial development now extends along the C-470 corridor from Ken Caryl Avenue to Kipling Parkway.

Plum Creek Valley and Chatfield Reservoir Area

Both Chatfield Reservoir and the Chatfield State Park lie south of the Ken Caryl Valley. In 1973, the U.S. Army Corps of Engineers dammed the S. Platte River after torrential rains caused the east and west branches of the Plum Creek to overflow into the river on June 16, 1965. Rising waters flooded the City of Littleton and communities along its course into Denver. The former Plum Creek Valley area is under the Chatfield Reservoir.

The Chatfield Basin was homesteaded by farmers and ranchers who cultivated the fertile land along the S. Platte River Valley, Deer Creek, and East and West Branches of the Plum Creek. One of the earliest inhabitants was Daniel Witter, a lawyer and surveyor who owned a ranch at the juncture of the S. Platte River and Plum Creek. Between 1870 and 1871, Isaac Chatfield purchased the 720-acre property to raise cattle and cultivate crops. Isaac Van

Wormer acquired land along Plum Creek and was noted for his cattle and horse breeding. He was also one of the first members of the Colorado Stock Grower's Association.³⁷ Other ranches in the area included Riverside Acres, the Chatfield Turkey farm, Hildebrand Ranch, Green Ranch, and the Great Western Sugar Company sugar beet farms (1920s).

Hildebrand Ranch

After the Civil War, an influx of people settled in the Chatfield Basin region. Hildebrand Ranch carved out a section of what is now Jefferson County. Frank and Elizabeth Hildebrand settled at the head of Deer Creek Canyon in 1866 after building a log cabin. Little is known about the family's antecedents. However the ranch is historically significant as one of the earliest agricultural operations in South Jefferson County. The site is currently interpreted under the auspices of the Denver Botanic Garden at Chatfield.³⁸

Twentieth-Century Development in South Jefferson County

In the 1950s and 1960s, manufacturing became the leading employer in the south area prompting a boom in housing development.³⁹ In the late 1950s, the Glen L. Martin Aerospace Plant, now Lockheed Martin, purchased the Atchison and C.K. Verdos ranches to build a twenty-seven million dollar manufacturing plant. Prompted by the introduction of the Martin-Marietta Facility in South Jefferson County, a spurt of subdivisions appeared to offer affordable housing for the facility's employees.⁴⁰

Subdivisions and Additions

Two of the earliest subdivisions in the survey area were the Meadowbrook Heights Subdivision and Herrick-Dale Acres. Meadowbrook Heights Filing No. 1 was platted in May 1955 and extended from Sobey Avenue north to Chatfield Avenue and between Pierce Court on the east and Dudley on the west. The subdivision with its dirt and gravel streets was slow to develop until the 1980s. East of Meadowbrook Heights is the Herrick-Dale Acres subdivision.

In November of 1883, Mattie Fox sold 29 ½ acres of land to Robert D. and Mary Herrick for one hundred dollars. At the time, the property was located in Section 1, Township 6 South, Range 69 West of Douglas County. Later, in 1889, Herrick deeded the property to their son, Robert Herrick. In October 1925, Robert S. Herrick and Helen Herrick Dale platted Herrick-Dale Acres. Three years passed before the first house was built. The builder and owner of the house are unknown. When Jefferson County obtained this section of land from Douglas County, the original deed was refiled with the Jefferson County Clerk and Recorder's office. Construction in this subdivision did not begin until 1956 and then at a slow pace.⁴¹ A second spurt of residential construction in Herrick-Dale Acres took place in the 1970s.

³⁷ Marr, *Douglas County*, 100.

³⁸ In a 2001 Cultural Resource Inventory, SWCA, Inc., surveyed a turn-of-the-century property, Stockwell Ranch, located on the Denver Botanic Garden leased property. The Stockwell Ranch (5JF612) was recommended as eligible to the NRHP.

³⁹ Hicks, *Littleton*, 7-9; "The Birth of a County," 7 and 16; Skari, *High Line Canal*, 57-58; and City of Littleton website, "Littleton History."

⁴⁰ Skari, *High Line Canal*, 57-58.

⁴¹ Jefferson County Tax Assessor, Planning Department and Clerk and Recorder records, Jefferson County Offices, Golden, Colorado.

Between Wadsworth Boulevard and the Jefferson-Douglas county line, two of the largest subdivisions noted are Columbine Hills and Columbine Knolls. In August 1959, Eugene Sanders platted Columbine Hills in Jefferson County bounded by Ken Caryl Avenue, S. Depew Street, Locust Way, and Platte Canyon Road.⁴² Trend Homes of Nebraska, a new builder in the Denver market, constructed many of the earliest homes in Columbine Hills. Subsequent filings in the Hills expanded the subdivision to S. Pierce Street and W. Chatfield Avenue.

Columbine Hills is a multiple filing subdivision based on a Master Plan that includes amenities, such as shopping, schools, churches, and parks. When built, it was one of many subdivisions built to meet a growing demand for postwar subdivision development in the Denver metropolitan region. At the time, there was a growing demand for housing for young professionals moving to Denver to work in the region's expanding industrial and technological markets. A majority of Columbine Hills' early residents worked at the Martin plant southwest of the community.

West of Columbine Hills, Columbine Knolls appeared in March of 1964 with its boundaries defined as Coal Mine Avenue, W. Roxbury Place, Kendall and Depew Streets, and S. Pierce Street.⁴³ It also developed well into the 1970s. These and successive subdivisions stimulated commercial and community development along Wadsworth Boulevard and the C-470 corridor.

Arapahoe County Development

Just over the Arapahoe and Douglas county lines, is the Wolhurst Estate, a retirement community. The modular home park is on the former site of an estate with a colorful past.

U.S. Senator Edward Wolcott purchased property south of Denver and three miles south of Littleton to build a summer home that he called the Wolhurst Estate. Wolcott served the U.S. Senate between 1889 and 1901. He first bought the Legere ranch in Douglas County and eventually, purchased additional land north of it into Arapahoe County.⁴⁴ For years, the Wolcotts held many parties for dignitaries at their country home. After Wolcott's death in 1905, Wolhurst was sold to Thomas F. Walsh, a financier and mining magnate who made his money in silver at the Camp Bird Mine in Ouray, Colorado. Walsh remodeled the house and renamed the estate Clonmel after his Irish ancestral home. When Walsh died in 1910, the estate was sold to Horace W. Bennett, who changed the name back to Wolhurst.⁴⁵

Bennett purchased sufficient acreage to raise cattle, horses, and chickens. No longer was the home a summer house, but a year round residence. Early in 1921, the road from Rapp Avenue to the Littleton City limits was paved with macadam connecting Wolhurst to the community. This was unique in that the earliest roads between cities remained primarily

⁴² Jefferson County Planning Department, Columbine Hills, Filing No. 1, 12 August 1959, Book 20, page 1.

⁴³ Jefferson County Planning Department, Columbine Knolls, Filing No. 1, 10 March 1964, Book 26, pages 3-4.

⁴⁴ Dave Hicks, *Littleton: From the Beginning* (Denver: Egan Printing, 1975) 21.

⁴⁵ Hicks, *Littleton*, 22-23, and "The Story of Littleton: Denver's Best Suburb," *Littleton Independent*, 22 July 1938.

oiled surfaces even into the 1930s. In 1941, Horace Bennett died. When Mrs. Bennett could not keep up with the property, she sold the house with its 750 acres of land in 1944 to Ova E. Stephens.

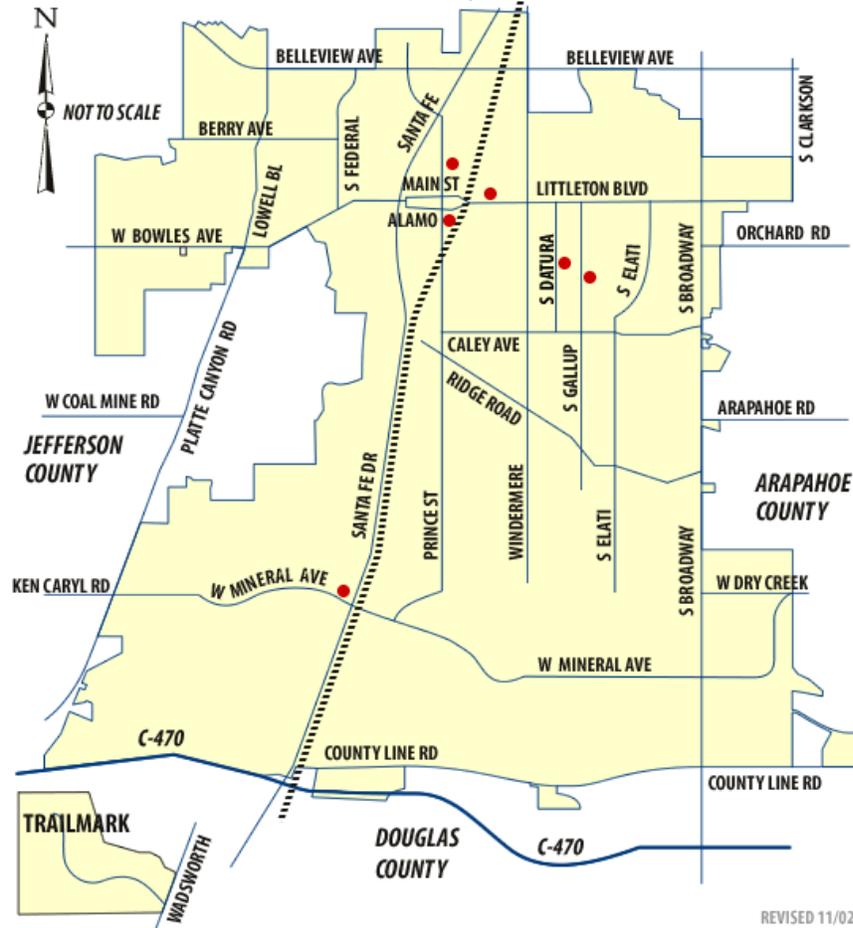
Stephens, a reputed mobster and gambler, renamed the Wolhurst Estate calling it the Wolhurst Saddle Club. The club offered “elegant dining, riding, swimming, tennis, and – reportedly—high stakes gambling.”⁴⁶ Over the years, local law enforcement from Arapahoe and Douglas counties raided the club for its illicit gambling practices. The land lay on both sides of the county line allowing illegal activities to move to one “county” or the other when alerted of imminent raids. Several fires, robberies, and raids highlight the Stephens’ era at Wolhurst Estate. After 1946, Stephens sold his share in the business to his nephew, Eddie Jordan, who continued to operate the Wolhurst Saddle Club. In 1971, Jordan sold the property to the Codeca Corporation of Illinois, who planned to develop a mobile home park on the site.⁴⁷ In 1973, twenty-four-and-a-half acres of land and the lake were sold to the City of Littleton.⁴⁸ Fire destroyed the vacant mansion on March 29, 1976. It was not replaced. The estate is now an all adult-community. Northeast of Wolhurst is the city of Littleton.

⁴⁶ Todd Engdahl, “85-Year-Old Club Led Rich and Racy Life until Second Fire,” *The Denver Post*, 30 March 1976.

⁴⁷ *Rocky Mountain News*, 30 August 1971.

⁴⁸ Engdahl, “Club Led Rich and Racy Life,” *The Denver Post*, 30 March 1976.

Figure 4
Littleton City Limits



Source: City of Littleton website

Littleton

North of Wolhurst is the City of Littleton, founded by Richard S. Little. The east-west boundaries of his land lie between the S. Platte River on the west and the D&RG tracks on the east. Officials of the fledgling city filed papers of incorporation several times before finally becoming incorporated in March of 1890 with a population of 245. In 1901, Jerome C. Smiley, author of the *History of Denver*, referred to Littleton as a suburb of Denver with a population of 738.⁴⁹ However, Littleton's earliest years are associated with its agricultural ties to Little's Rough and Ready Mill and the farms and ranches that surrounded it.

Railway lines through Littleton provided transport for local farmers' produce and goods up and down the Front Range. The number of truck farms east of Littleton eventually led to the construction of the Merry Canning and Pickling Factory in the downtown area. As the city prospered, it managed to win the site of Arapahoe County's seat of government in 1904 from Englewood. With its new status, an influx of population and the creation of more commercial

⁴⁹ Hicks, *Littleton*, 29.

businesses expanded within the Littleton environs. Nevertheless agriculture remained the staple industry of Littleton.

Despite its early manufacturing history and its significance as the county seat, the city of Littleton was actually slow to develop until World War II when the electronics, defense, and aeronautics industries moved into the city and nearby Jefferson County.

During WWII, Heckethorne Manufacturing Company, an armament manufacturer, became one of Littleton's largest employers. Post war highway construction closed the gap between the Denver metropolitan areas and prompted a population boom as automobiles carried residents in and out of the suburban city to jobs in Denver and nearby Jefferson County. Within a few years the aeronautics industry located in nearby Jefferson County and its employees found homes in Littleton. The city quickly expanded its boundaries east as its population swelled to 13,670 in 1960. Eventually the city's boundaries expanded south to the Douglas County line. As of the 2000 census, the city had a population of 40,340. Located southwest of Littleton and near Wolhurst is a ranch that has long felt associated with the history of Littleton, but is actually located in Douglas County.

Douglas County Development

In 1896, Jesse Estlack, who owned a great deal of northern Douglas County, filed for a land patent near present-day C-470, S. Santa Fe Drive, and County Line Road. Within a short time, Mathew Plews purchased the farmland that is now associated with the Flyin' B Ranch.

Plews built a two-story frame house on his property between 1899 and 1900 with the assistance of neighbors. Plews, a gardener for the Littleton Cemetery, developed his ranch land as a small cattle ranch. Later his family entered the nursery and gardening industry; family members continue as nurserymen to this day.

About 1936, Ova E. Stephens bought 80 acres that included the Plews house, but within a year Stephens was sent to prison for five years for illicit activities and attempted murder. His wife and a nephew continued to live on and operate the ranch until Stephens was released. Within a few years, between 1964 and 1965, Fred Eberhart bought the property eventually selling to Gates Rubber Company, who was looking for a southern location for plant operations. Throughout this time the ranch was primarily used for cattle. In a land swap between Gates Rubber Co. and the John Bowens family in 1965, the 80-acre parcel came under the ownership of the Bowens' family. A joint effort, eventually the property became part of Bowen Farms Inc., which is owned by eight family members who live on the property.

After the Bowens' family moved onto the ranch in 1965, it became known as the Flyin' B Ranch due to the aeronautic abilities of the progenitor and his family. The family developed two runways on the property for small, single engine airplanes and applied for FAA licensing. The Bowen men flew daily to and fro to their ranch near Strasburg, their principal ranching operations. The land on County Line Road had become too crowded. Over the years, various family members moved or built residences on the old Plews Ranch crowding out the cattle and crops. The land still supports a small herd of cattle, but gone are the days of

large wheat and grain fields. Development on all sides impedes their operations and the property is now for sale.

Highlands Ranch

Douglas County, south of the city of Littleton and Arapahoe County, is predominantly farming and ranching community. On its northern boundary and adjacent to C-470 is the 22,000 acre ranch called Highlands Ranch. It is the result of land acquisitions of some of Douglas County's earliest ranches.

Once one of Colorado's fastest growing communities Highlands Ranch was originally open cattle range. In 1891, John Springer began to acquire land in northern Douglas County for his Cross Country Ranch. He amassed over 12,000 acres of land in order to breed his imported German Oldenburg horses. He built a "baronial mansion" that became Springer's Castle, rivaling Tweet Kimball's Sedalia Charlford Castle, which is adjoined to Springer's on the south. Springer went on to be the first president of the National Livestock Association organized in 1898 in Denver. In 1920, Springer sold the ranch to Waite Phillips, one of the founders of Phillips Petroleum, who in turn sold in 1926 to Frank E. Kistler. Kistler acquired several ranches including the Springer Ranch, Wolhurst Farm, Blakeland Poultry Farm, Plum Creek Ranch, Grig's Farm, and O'Neill Farm to create the Diamond K Ranch. The Diamond K specialized in raising Angus cattle and purebred sheep.⁵⁰ In 1937 Kistler sold the ranch to Lawrence C. Phipps, Jr.

The nearby Welte Cheese Ranch, owned by Austrian immigrant Johanne Welte, was well known for its quality cheeses. In 1878, Welte and his brother-in-law, Plazidus Gasner, borrowed funds to purchase twenty milk cows and 160 acres in northern Douglas County along the Big Dry Creek. Through hard work and diligence, the men began a dairy ranch that grew to 3,380 acres. On their spread, they built and operated a successful cheese operation that produced some of the finest Brick and Limburger cheeses in Colorado. The ranch became well known for their animal husbandry and manufacturing processes, well enough to be featured in farm journals such as *Scientific Farmer*. Later Philip Renner, purchased the ranch and the cheese operation from his father-in-law Johanne. In 1938, Renner stopped making cheese. Five years later, he sold to Lawrence C. Phipps. Phipps' Highlands Ranch now covers 22,000 acres.⁵¹

After Phipps' death in 1976, Marvin Davis of Davis Oil Company bought the ranch as a business investment, eventually selling it in 1978 to a California corporation, Mission Viejo. The developer envisioned a planned residential and commercial community to stretch across the entire property in northern Douglas County. Since 1981 the community has continually grown and even in 2013 continues to expand and grow adding more and more houses,

⁵⁰ Josephine Marr, *Douglas County: A Historical Journey* (Gunnison, Colorado: B & B Printers, 1983) 132-134; Susan Consola Appleby, *Fading Past: The Story of Douglas County, Colorado* (Palmer Lake, Colorado: Filter Press, 2001) 62; and Richard F. Carrillo, "An Historical, Architectural, and Archeological Study of the Big Dry Creek Cheese Ranch at Highlands Ranch, Douglas County, Colorado," prepared for Mission Viejo Company, 1986, manuscript is part of the Littleton Historical Museum collection.

⁵¹ Marr, *Douglas County*, 132-134, and Appleby, *Fading Past*, 63 and 69.

schools, and commercial properties within its boundaries. The community, with its population over 96,000 in 2010, stretches from S. Santa Fe Drive east to Yosemite.

Lone Tree

At the eastern terminus of C-470 at the Interstate 25 interchange is the city of Lone Tree. In November 1995, the Lone Tree subdivision voted to incorporate in order to reap the benefits from nearby commercial developments.

Results and Evaluations

The historic resource survey completed as part of the Section 106 process, *Historic Resource Survey: C-470 - Kipling Parkway to I-25*, and letter requesting a determination of eligibility for identified historic resources was submitted to SHPO on 16 September 2004. SHPO concurred with the findings on 23 September 2004. A complete list is available as Table B. *C-470 Corridor Historic Resources 45 Years or Older* in the Appendix. In January 2005, SHPO concurred with the findings of the *Historic Resource Effects and Mitigation, C-470 Kipling Parkway to I-25* document.

In 2013, a follow-up field survey on the project corridor identified five historic resources that had reached the 45 year threshold:

- Columbine Hills, a post-WWII subdivision (5JF5143),
- U.S. Army Corps of Engineers' Chatfield Dam (5JF5142 and 5DA3091),
- S. Platte River Bridges (5DA2819 and 5DA2826), and
- Massey Draw Concrete-Box Culvert (5JF4795).

Upon consultation with CDOT Region 1 and History Colorado in June 2013, historic resources identified as Eligible or Listed on the NRHP in the 2005 Effects and Mitigation technical document were re-evaluated and OAHF Re-visitation forms completed if they were within the boundaries of the 2013 APE.

Eligible or Listed Properties

Of the twenty-three properties 45 years or older identified in the 2004 field survey, thirteen are either officially eligible or listed in the National Register of Historic Places. A summary of the 2004 historic resources and eligibility determinations is found in Table 2 with any updates on NRHP Eligibility. A description of each eligible or listed historic property is provided after the table.

In June 2013, each of these thirteen historic resources were re-evaluated for any changes in determination. There are no suggestions for changes in determination. Two historic resources on this table were not re-visited as part of the 2013 historic resource survey since they are out of the 2013 project area. They are Littleton Large Animal Clinic (5AH732) and a segment of High Line Canal (5AH388).

Table 2

Summary of 2004/2005 Historic Resources

State ID#	Name	Location	NRHP Eligibility
5JF188	Hildebrand Ranch HD	8500 Deer Creek Road	National Register (1975)
5JF2613	Selzell Ditch	8500 Deer Creek Road	Officially Eligible (2004)
5AH254.7	City Ditch	Arapahoe County	Officially Eligible (1979), Non-contributing (2004)
5DA987.1	City Ditch	Douglas County	Officially Eligible (1979), Non-contributing (2004)

State ID#	Name	Location	NRHP Eligibility
5AH732	Littleton Lg. Animal Clinic and Canary Ranch Barn	8025 S Santa Fe Drive, Littleton	Officially Not Eligible (2012)
5AH256.4	AT&SF Railroad	Arapahoe County	Officially Eligible (1995), Supports (2012)
5DA922.1	AT&SF Railroad	Douglas County	Officially Eligible (1990), Contributing (2004)
5DA922.2	AT&SF Railroad	Douglas County	Officially Eligible (1995), Contributing (2004)
5AH255.2	D&RG Railroad	Arapahoe County, Littleton	Officially Eligible (1995), Contributing (2004)
5AH255.5	D&RG Railroad	Arapahoe County	Officially Eligible (2004), Supports (2012)
5DA921.1	D&RG Railroad	Douglas County	Officially Eligible (1990), Contributing (2004)
5AH388	High Line Canal	Arapahoe County	Officially Eligible (2000)
5DA600.3	High Line Canal	Douglas County	Officially Eligible (1981), Contributing (2004)

5JF188 Hildebrand Ranch (Re-visitation)

Hildebrand Ranch was listed on the National Register of Historic Places on March 13, 1975. It is significant under criterion A for its association with 1) domestic agriculture in the Rocky Mountain region prior to the advent of Colorado's railroad era, 2) its continuous occupation for over a century by a single family, and 3) its nineteenth-century historical integrity. Today the ranch is part of the Denver Botanic Gardens at Chatfield, which leases the land from the U.S. Army Corps of Engineers. The property is within the flood plain of the Chatfield Reservoir.

5JF2613 Selzell Ditch, Hildebrand Ranch, Jefferson County (Re-visitation)

This linear resource is eligible for National Register criterion A for its association with water rights and irrigation and its contribution to early agricultural and ranching development in Jefferson County. Following the adoption of the Colorado State Constitution, and its provisions regarding the doctrine of prior appropriation of water in the state, every drainage was assigned a water district number that continues to identify the state's streams and rivers. Deer Creek is the water source for the Selzell Ditch owned by Peter Selzell and Frank Hildebrand who constructed the ditch in 1868. Peter Selzell appeared as a witness at the 1883 adjudication hearing for water rights on the Selzell Ditch located in Jefferson County, Colorado. The ditch was determined Officially Eligible (2004).

5AH254.7 City Ditch, Arapahoe County (Re-visitation)

City Ditch (5AH254) is an historic irrigation ditch that began at a point south of Littleton at the S. Platte River. It runs through Littleton, Englewood, and into Denver where it provided water to Washington and City Park. Portions of the ditch through Littleton are still open as originally designed and the section through Washington Park has been found eligible to the

NRHP on December 13, 1979. The section (5AH254.7) in the survey area is non-contributing because it has been enclosed in pipes. A historic flume is located on the property at Green Valley Turf farm where the water leaves the pipes and proceeds northerly in an open ditch until it nears Mineral Avenue where it then is directed into pipes. This segment of the ditch is a non-contributing portion of City Ditch (2004).

5DA987.1 City Ditch, Douglas County (Re-visitation)

The section of City Ditch located in the vicinity of SH 85 and C-470 has lost integrity due to development along S. Santa Fe Road (SH 85) and the enclosure of portions of the ditch in to pipes. It is non-contributing to the significance of City Ditch (2004).

5AH256.4 Atchison, Topeka and Santa Fe Railroad (Re-visitation)

The AT&SF Railway Company was one of the largest railroads in the United States. It was chartered in Kansas, but did not reach solid footing until after its reorganization in 1863. During Colorado's railroad building era, the AT&SF managed to stay afloat as others failed. The railroad played an important role in state's history and development. It was determined officially eligible in 1979 and 1995. This segment of the railroad in the project area contributes to the historic significance of the AT&SF Railroad (2012).

5DA922.1 Atchison, Topeka and Santa Fe Railroad (Re-visitation)

The AT&SF Railway Company was one of the largest railroads in the United States. It was chartered in Kansas, but did not reach solid footing until after its reorganization in 1863. During Colorado's railroad building era, the AT&SF managed to stay afloat as others failed. The railroad played an important role in state's history and development. It was determined officially eligible in 1979 and 1995. This segment of the railroad in the project area contributes to the historic significance of the AT&SF Railroad (2012).

5DA922.2 Atchison, Topeka and Santa Fe Railroad (Re-visitation)

The AT&SF Railway Company was one of the largest railroads in the United States. It was chartered in Kansas, but did not reach solid footing until after its reorganization in 1863. During Colorado's railroad building era, the AT&SF managed to stay afloat as others failed. The railroad played an important role in state's history and development. It was determined officially eligible in 1979 and 1995. This segment of the railroad in the project area contributes to the historic significance of the AT&SF Railroad (2004).

5AH255.2 Denver & Rio Grande Railroad (Re-visitation)

Following the construction of the First Territorial Road between Denver and Colorado City, a similar north-south route along the foothills was surveyed for the site of the first narrow-gauge railroad in the United States. General William Jackson Palmer and the National Land and Improvement Company provided the funds to construct the railroad between Denver and Colorado Springs. This segment of the railroad in the project area contributes to the historic significance of the D&RG Railroad (2004).

5AH255.5 Denver and Rio Grande Railroad (Re-visitation)

Following the construction of the First Territorial Road between Denver and Colorado City, a similar north-south route along the foothills was surveyed for the site of the first narrow-

gauge railroad in the United States. General William Jackson Palmer and the National Land and Improvement Company provided the funds to construct the railroad between Denver and Colorado Springs. This segment of the railroad in the project area contributes to the historic significance of the D&RG Railroad (2004).

5AH388 High Line Canal, Arapahoe County

In 2000, SHPO determined that High Line Canal was officially eligible for its association with Colorado’s early agricultural development. High Line Canal is a 71-mile long linear resource found in Arapahoe, Douglas, and Denver counties. The segment north of C-470 has been surveyed and is not within the APE of the C-470 Corridor study. Therefore, a re-visitation form was not completed.

5DA600.3 High Line Canal, Douglas County (Re-visitation)

In 2000, SHPO determined that High Line Canal was officially eligible under criterion A for its association with Colorado’s early agricultural development. High Line Canal is a 71-mile long linear resource found in Arapahoe, Douglas, and Denver counties. This segment of the canal contributes to the significance and association with agricultural development of northern Douglas County.

2013 Survey Results

In May and June 2013, an intensive-level survey was conducted to re-evaluate historic resources identified in earlier reports and to identify any historic resources that may have reached the 45 year threshold since the 2006 Environmental Assessment document. The 2013 Historic Resource Survey identified five historic resources that have reached 45 years of age. A description of each eligible or listed historic property is provided after the table.

**Table 3
Summary of 2013 Historic Resource Survey**

State ID#	Name	Location	NRHP Eligibility
5JF5142 & 5DA3091	Chatfield Dam	S Wadsworth Blvd	Eligible
5JF5143	Columbine Hills	S Platte Canyon Road	Eligible
5DA2819	S Platte River Bridge F-16-HW	Eastbound C-470, Milepost 16.562	Not Eligible
5DA2826	S Platte River Bridge F-16-HV	Westbound C-470, Milepost 16.563	Not Eligible
5JF4795	Massey Draw Culvert F-16-HY	Eastbound & Westbound C-470, Milepost 14.160	Not Eligible

5JF5142 & 5DA3091 Chatfield Dam

The US Army Corps of Engineers built the dam, reservoir, and associated recreational areas over a ten year period between 1967 and 1977. Chatfield Dam is historically significant under NRHP Criterion A for its association with the US Army Corps of Engineers and their

role as dam builders. In the 20th-Century, the U.S. Army Corps of Engineers became the lead federal flood control agency, a provider of hydroelectric energy, and the country's leading provider of recreation associated with water bodies. Its role also included responding to natural disasters. The Corps built Chatfield Dam after a devastating flood in 1965 in the S. Platte River Valley. The rolled-earth dam is significant under NRHP Criterion C for its embodiment of the distinctive characteristics and method of construction for a Rolled Earth-Fill Dam used by the Corps. The dam is eligible for the NRHP.

5JF5143 Columbine Hills

Columbine Hills subdivision is a good example of a multiple filing subdivision based on a Master Plan that includes amenities, such as shopping, schools, churches, and parks constructed between 1959-1977. It is significant under NRHP Criterion A for its association with postwar development in the Denver metropolitan region to meet growing demand for housing for young professionals who worked in the region's expanding industrial and technological markets. Under NRHP Criterion C, the subdivision is representative of patterns of the metro area's postwar community planning and development that utilized a master plan to create a cohesive, individual community for its residents. The subdivision is eligible for the NRHP.

The following structures 5DA2819, 5DA2826, and 5JF4795 were evaluated in conjunction with the 2013 Update to the Colorado Historic Bridge Inventory, and are submitted for eligibility concurrence with this submission.

5DA2819 S Platte River Bridge, F-16-HW

Colorado Department of Highway (CDH) constructed the T-Beam Bridge in 1968 on a portion of the original Highway 470 in Douglas County. Bridge F-16-HW carries the eastbound traffic on the highway, a sister bridge F-16-HV carries the westbound traffic. The continuous T-beam Bridge is a later example of a design variation dating to the late 1920s and revived by CDH after 1955. The 2013 Historic Bridge Survey determined the bridge not eligible.

5DA2826 S Platte River Bridge, F-16-HV

Colorado Department of Highway (CDH) constructed the T-Beam Bridge in 1968 on a portion of the original Highway 470 in Douglas County. Bridge F-16-HV carries the westbound traffic on the highway, a sister bridge F-16-HW carries the eastbound traffic. The continuous T-beam Bridge is a later example of a design variation dating to the late 1920s and revived by CDH after 1955. The 2013 Historic Bridge Survey determined the bridge not eligible.

5JF4795 Massey Draw Culvert, F-16-HY

The concrete-box culvert is a later example of a structure type used for drainage during the 1910s, common in Colorado by 1940. True to design, the culvert is used as a low-rise, rigid frame bridge for use by a minor stream, Massey Draw, under C-470. The 2013 Historic Bridge Survey determined the culvert not eligible.

In conclusion, the 2013 historic resource survey identified five new properties 45 years or older that are either eligible or not eligible for listing on the National or State Register of Historic Places. Two historic resources, the subdivision (5JF5143) and the dam (5JF5142, 5DA3091) are eligible to the NRHP. The 2006 Environmental Assessment identified 13 historic resources that are officially eligible or listed on the National Register of Historic Places. Two of these historic resources are no longer in the proposed 2013 Area of Potential Effects.

We hereby request your concurrence with these determinations of eligibility for the five (5) historic resources identified in this 2013 revision of the historic resource survey.

Effects & Mitigation Introduction

The purpose of this document is to meet the requirements of Section 106 (36 CFR Part 800 as amended in August 2001), to determine if there are significant historic resources that are listed or eligible for listing in the National Register of Historic Places (NRHP) within the study area, and if these resources are impacted by the Proposed Alternatives for transportation improvements to C-470. This effort is being completed on behalf of the C-470 Revised Environmental Assessment (EA).

This analysis discusses the following elements:

- Applicable portions of the Section 106 regulations of the National Historic Preservation Act, with guidelines on determining adverse effects to historic properties eligible for or listed on the NRHP
- Assessment of direct and indirect and/or overall cumulative impacts to historic properties
- Recommended measures to minimize adverse effects or mitigation to historic properties

In this effects analysis, the term “historic properties” has been used for those structures, sites, or linear features (i.e. railroads, ditches, or roads) that have been either determined to be on or eligible to the NRHP or the State Register of Historic Properties (SRHP), or previously determined to be eligible for or listed on the NRHP or SRHP through consultation on the survey effort for both the 2006 C-470 EA and the 2013 *Revised Historic Resource Survey C-470 – Kipling Parkway to I-25*.

The Colorado SRHP is a list of the state’s significant cultural resources. Resources listed on the State Register can include buildings, structures, objects, districts, or historic and archeological sites. Resources listed in the NRHP are automatically placed on the State Register. However, resources can also be nominated to the State Register without being included in the National Register.⁵²

⁵² History Colorado, Office of Archeology and Historic Preservation, *Directory of State Register Properties* (Colorado Historical Society, Office of Archeology and Historic Preservation, Updated Published 2008) 4-5.

National Historic Preservation Act Section 106 Regulations

The Section 106 regulations, 36 CFR Part 800 (“Protection of Historic Properties”), of the National Historic Preservation Act include specific criteria of adverse effects that must be applied to federal undertakings with the potential to impact historic properties. When considering the potential for adverse effects, all reasonably foreseeable impacts must be taken into account, including direct, indirect, and cumulative impacts. In addition, it is essential to understand the criteria of significance for an historic property, or why a property has been determined to be eligible for or listed on the NRHP. Determination of adverse effect on a historic property is assessed on the potential of the undertaking to alter or diminish the qualities of significance.

Criteria of Adverse Effect

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP or SRHP in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property’s eligibility for the National Register. Adverse effects may include cumulative impacts defined as reasonably foreseeable effects caused by either undertaking that may occur later in time or further removed in distance than the Proposed Alternatives.

Examples of adverse effects on historic properties include, but are not limited to:

- (i) Physical destruction of or damage to all or part of the property;
- (ii) Alteration of a property, including restoration, rehabilitation, repair, maintenance, stabilization, hazardous material remediation, and provision of handicapped access, that is not consistent with the Secretary of Interior’s standards for the treatment of historic properties (36 CFR Part 68) and applicable guidelines;
- (iii) Removal of the property from its historic location;
- (iv) Change of the character of the property’s use or of physical features within the property’s setting that contribute to its historic significance;
- (v) Introduction of visual, atmospheric or audible elements that diminish the integrity of the property’s significant historic features;
- (vi) Neglect of a property which causes its deterioration, except where such neglect and deterioration are recognized qualities of a property of religious and cultural significance to an [Native American] or Native Hawaiian organization; and

(vii) Transfer, lease, or sale of property out of Federal ownership or control without adequate and legally enforceable restrictions or conditions to ensure long-term preservation of the property's historic significance. (36 CFR 800.5)

The revised Section 106 regulations, effective January 11, 2001, contain additional guidance for determining and assessing adverse effects during the preparation of an EA or Environmental Impact Statement (EIS), as follows in Section 3.2 and 3.3.

Environmental Consequences

Project Study Area

The Area of Potential Effect (APE) for this project is defined as that area from the Kipling Parkway interchange on C-470 in Jefferson County east along the corridor to and including the interchange at C-470 and I-25 in Douglas County as shown in Figure 2. SHPO concurred with this APE in May 2004. The APE has been revised at the S. Santa Fe Interchange with C-470 because no improvements will be outside of CDOT's ROW.

Travel demands on C-470 include regional, commuter, destination and local trips. Since its completion in 1990, C-470 has served the transportation needs of communities throughout the southwest Denver metropolitan area, including Littleton, Lakewood, Greenwood Village, Lone Tree, Centennial, Highlands Ranch, Ken Caryl and portions of unincorporated Jefferson County. In addition, C-470 is a vital link between I-25, U.S. Highway 85 (US 85)/Santa Fe Drive, and Interstate 70 (I-70) between the mountains, southern suburbs, and the southern Front Range, which serves essential commercial, commuter, and residential traffic. In this regard, C-470 must serve a variety of roles for a variety of users.

The purpose of this project is to address congestion, reduce traveler delay, and improve reliability and safety for corridor users while at the same time minimizing impacts to the environment and surrounding communities.

In the vicinity of the C-470 Corridor, US 85/Santa Fe Drive was recently improved and as part of a safety project to add lanes and construct a flyover onto C-470 from southbound Santa Fe Drive.

Survey Results

A complete list of the historic resources surveyed in both 2004 and 2013 is provided in Table 4. The historic properties are listed in the order of their location from west to east between Kipling Parkway and I-25. Determinations of adverse effect, also shown in Table 4, are made based on the potential of the undertaking to alter or diminish the qualities of significance of a historic property as outlined in Section 1.1 *Criteria of Adverse Effect* (as stated in Section 106 of 36CFR, Part 800).

Of the sixteen (16) historic resources identified in the 2013 survey area, one is on the NRHP (5JF188), ten (10) are officially eligible or segments that may or may not support the entire linear resource, two (2) are field eligible to the NRHP, and three (3) are field not eligible to

the NRHP. If an entire linear resource is eligible, segments of that resource were considered for potential effects.

Table 4
Analysis Summary of Properties & Determination of Effects

Site Number	Site Name	Location	NRHP Eligibility & Date	Determination of Effect
5JF188	Hildebrand Ranch HD	8500 Deer Creek Road	National Register (1975)	No historic properties affected
5JF2613	Selzell Ditch	8500 Deer Creek Road	Officially Eligible (2004)	No historic properties affected
5JF4795	Massey Draw CBC, F-16-HY	Massey Draw	Not Eligible	No historic properties affected
5JF5142, 5DA3091	Chatfield Dam	S Wadsworth Blvd	Eligible	No Adverse Effect
5JF5143	Columbine Hills	S Platte Canyon	Eligible	No Adverse Effect
5AH254.7	City Ditch	Arapahoe County	Officially Eligible (1979)	No historic properties affected
5DA987.1	City Ditch	Douglas County	Officially Eligible (1979)	No Adverse Effect
5DA2819	S Platte River Bridge, F-16-HW	S Platte River	Not Eligible	No historic properties affected
5DA2826	S Platte River Bridge, F-16-HV	S Platte River	Not Eligible	No historic properties affected
5AH256.4	AT&SF Railroad	Arapahoe County	Officially Eligible (1995)	No historic properties affected
5DA922.1	AT&SF Railroad	Douglas County	Officially Eligible (1990)	No historic properties affected
5DA922.2	AT&SF Railroad	Douglas County	Officially Eligible (1995)	No historic properties affected
5AH255.2	D&RG Railroad	Arapahoe County, Littleton	Officially Eligible (1995)	No historic properties affected
5AH255.5	D&RG Railroad	Arapahoe County	Officially Eligible (2004)	No historic properties affected
5DA921.1	D&RG Railroad	Douglas County	Officially Eligible (1990)	No historic properties affected
5DA600.3	High Line Canal	Douglas County	Officially Eligible (2004)	No Adverse Effect

C-470 Current and Proposed Alternative Descriptions

The existing C-470, a four-lane highway, currently has a 110-foot span that includes two (2) General Purpose Lanes in each direction with a depressed median, as shown in Figure 5 below. In February 2006, CDOT's completed C-470 Environmental Assessment (EA) recommended implementation of tolled express lanes along 13 miles of C-470 between Interstate 25 and Kipling Parkway, now referred to as Segment 1. The majority of this segment was planned in 2006 to implement the tolled express lanes with a barrier-separated typical section and a typical width of 162 feet, as shown in Figure 6 below. Access to the tolled express lanes was planned with slip ramps into and out of the lanes at strategic locations, along with direct connection ramps at Colorado Boulevard, Quebec Street, and Interstate 25. In the past six years, no subsequent environmental decision document was completed for this project, and project implementation has not begun. Interchange improvements at C-470/Santa Fe (e.g., southbound to eastbound flyover ramp) received separate environmental clearance and have been constructed.

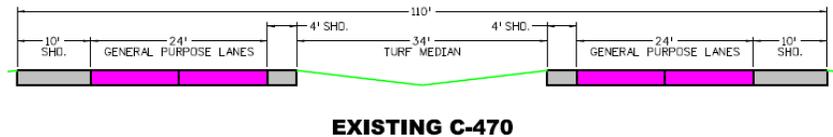


Figure 5 Current Alignment

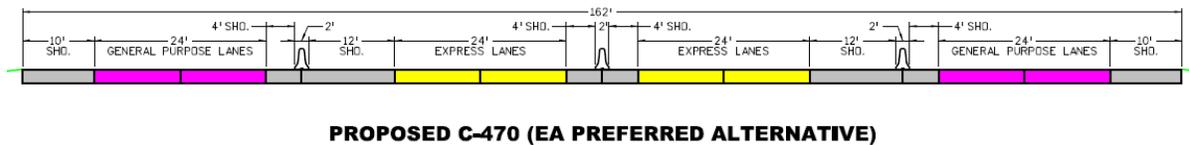


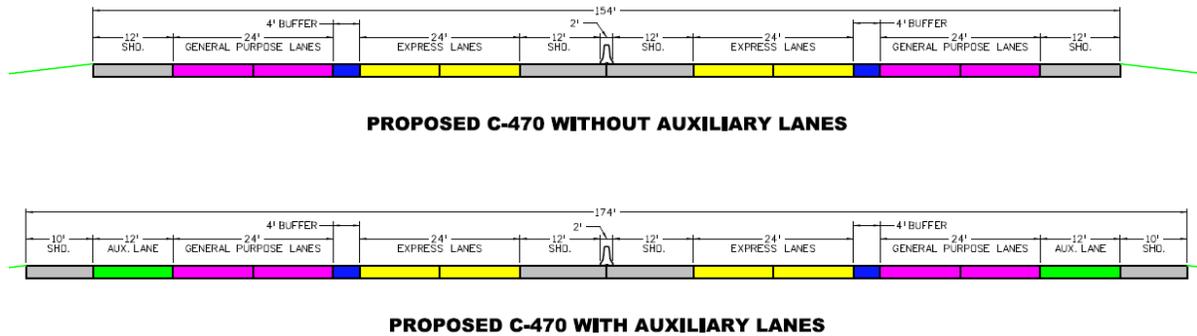
Figure 6 2006 Proposed Alignment

Since the 2006 EA, a coalition of interested parties and agencies has formed to bring this project to fruition. Formed in February 2011, the C-470 Corridor Coalition is a cooperative effort involving local governments and CDOT. The Coalition's purpose is to recommend and implement a plan to pay for improvements to C-470 in Segment 1, and ultimately continue improvements along C-470 from Kipling Street to Interstate 70, now referred to as Segment 2.

In February 2013 the Coalition Policy Committee unanimously approved a new option to implement tolled express lanes in Segment 1, but with a revised typical section and revised access concept. The proposed typical section replaces the original barrier separation with a painted (buffer) separation, and increases shoulder widths. The proposed improvements also include the addition of multiple auxiliary lanes at strategic locations along C-470 where on-ramp to off-ramp spacing is close, and where the auxiliary lane will provide an operational improvement to C-470. Thus, some portions of the corridor will have auxiliary lanes, and other portions will not. The new proposed typical sections are shown in Figure 7, with typical widths of 154 feet and 174 feet. Access to the tolled express lanes is planned with ingress and

egress slip ramps and weaving zones, strategically placed along the corridor. EL traffic will be monitored by electronic devices similar to those used on E-470 located on overhead sign bridges and individual transponders mounted on vehicle windshields. No toll collection booths will be required.

Figure 7 2013 Proposed Alignment



In summary, the proposed 2013 Express Lane Alternative includes the addition of Express Lanes and other improvements as follows:

- Expansion from the corridor’s current four (4) General Purpose Lanes (GPL) to include two to four tolled Expressed Lanes (EL) – one to two lanes in each direction – depending upon location,
- Addition of ingress and egress lanes to access ELs,
- Widening or new construction of existing bridges to accommodate increased number of lanes include but are not limited to the S. Platte River, Broadway, University, Acres Green, and Yosemite bridges.

An analysis of impacts and effects of specific Express Lanes to the historic properties is discussed in the following sections.

Analysis Guidelines

For the purposes of the effects determination, the discussion will only focus on that portion of the corridor between Kipling Parkway and Lucent Boulevard where historic properties are located. Each of the historic properties will be discussed with regard to the potential for the Express Lane Alternative to result in direct or indirect impacts to that property. Graphics depicting proposed improvements in the vicinity of historic resources are included as needed for descriptive purposes. Historic resources and the Express Lane Alternative limits of construction are shown in Figure 8.

Figure 8 Limits of Construction



Analysis of Impacts

Kipling Parkway to Wadsworth Blvd

The first section of the Corridor in this discussion is between Kipling Parkway east to Wadsworth. The Express Lane Alternative in this section will involve adding tolled ELs to the existing GPLs including Auxiliary Lanes eastbound and westbound. The existing Kipling Parkway/C-470 interchange will not be improved. Express Lanes will be constructed within the existing center median. Toll collection for the ELs will operate through the use of electronic overhead toll collection devices and individual transponders mounted on vehicle windshields.

Specifically, the design includes the addition of one EL, in each direction (eastbound and westbound) with a barrier separation between opposing directions of traffic, and a buffer separation between the ELs and GPLs. Barrier separation consists of a two-foot concrete barrier, while a buffer separation consists of a four-foot painted asphalt separation, painted with yellow chevrons on the surface stressing demarcation between lanes. In addition, two (2) Auxiliary Lanes (eastbound and westbound) will allow access to the ELs. Total pavement width will be 150 feet. The existing C-470 Bridge over Wadsworth Boulevard will be widened to accommodate increased lanes. However the bridge will not be completely reconstructed.

The Express Lane Alternative will have no effects on two eligible historic properties in this segment between Kipling and Wadsworth.

Hildebrand Ranch HD (5JF188). West of Wadsworth Boulevard, the entrance to the Hildebrand Ranch located on the grounds of the Denver Botanic Gardens at Chatfield is approximately 1800 feet from the interchange limits, as shown in Figure 8. The addition of ELs and auxiliary lanes will not cause the highway to encroach on the property associated with the Denver Botanic Gardens at Chatfield and the National Register District, as they will be constructed within the existing median and ROW.

At its closest point, the limits of construction are 1,957 feet from the National Register District. Construction limits are extended from the highway at this point to add a drainage feature to treat a water outlet and direct water to natural drainage along Deer Creek Road. Indirect visual impacts are not expected as the addition of the single EL in each direction is within the existing right-of-way. No property acquisition is necessary.

With regard to indirect effects based on noise, it is assumed that the proposed improvements could lead to increased traffic levels and traffic-related noise. Increased noise levels are expected in the vicinity of Chatfield Bluffs subdivision (non-historic) located northwest of the ranch and a noise wall is recommended. However, there are no elevated noise levels in the vicinity of the ranch due to its distance from the highway and the subdivision.

The Express Lane Alternative will not result in any impact to this property and no cumulative impacts have been identified that would diminish the qualities that make this property

eligible to the NRHP. **The resulting determination of effect is no historic properties affected.**

Selzell Ditch (5JF2613). West of Wadsworth, Selzell Ditch is located on the property associated with the Denver Botanic Gardens at Chatfield, also shown in Figure 8. The addition of ELs with auxiliary lanes will not cause the highway to encroach on the property associated with the Botanic Gardens or the Selzell Ditch. At its closest point, the limits of construction are approximately 1,642 feet from Selzell Ditch. Construction limits are extended from the highway at this point to add a drainage feature for a water outlet and direct water to natural drainage along Deer Creek Road. This drainage feature will not drain into Selzell Ditch.

The Express Lane Alternative will not result in any impact to the ditch. There have been no indirect visual or noise impacts identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. **The resulting determination of effect is no historic properties affected.**

Wadsworth Blvd to Platte Canyon Road

The Express Lane Alternative in this section will involve adding tolled ELs to the existing GPLs including a westbound Auxiliary Lane for access to tolled ELs. The existing Wadsworth Boulevard/C-470 interchange will not be improved. Express Lanes will be constructed within the existing center median. Toll collection for the ELs will operate through the use of electronic overhead toll collection devices and individual transponders mounted on vehicle windshields.

Specifically, the design includes the addition of one (1) EL in each direction with a barrier separation between opposing directions of traffic, and a buffer separation between the ELs and GPLs. Barrier separation consists of a two-foot concrete barrier, while a buffer separation consists of a four-foot painted asphalt separation, painted with yellow chevrons on the surface stressing demarcation between lanes. There will only be one auxiliary lane westbound. Total pavement width will be 138 feet. The existing C-470 Bridge over Wadsworth Boulevard will be widened to accommodate increased lanes. However the bridge will not be completely reconstructed.

The Express Lane Alternative will have the following effects on these three historic properties:

Massey Draw CBC, F-16-HY (5JF4795). Massey Draw, as a linear feature, was determined not eligible for listing on the NRHP in 2013 Revised Historic Bridge Survey. The portion of the draw under C-470 east of Wadsworth Boulevard may not be replaced as part of this project. Retaining walls will be implemented to limit grading impacts and allow the CBC to remain in place. Other improvements may take place to improve on-going drainage issues at Massey Draw and C-470, which in turn may prompt replacement of the CBC.

The Express Lane Alternative will not result in any impact to this property. There have been no indirect visual or noise impacts identified. No cumulative impacts have been identified. **The resulting determination of effect is no historic properties affected.**

Chatfield Dam (5JF5142, 5DA3091). Chatfield Dam is eligible for listing on the NRHP. The addition of ELs with westbound auxiliary lane will not cause the highway to encroach on the property associated with the Corps of Engineers dam site. Construction limits will be within CDOT ROW.

With regard to indirect effects based on noise, it is assumed that the proposed improvements could lead to increased traffic levels and traffic-related noise in the vicinity of the Chatfield Dam embankments. With regard to indirect effects based on visual impacts, the span of pavement will increase but within CDOT ROW. The visual impact would be visible only from the top of the west embankment overlook. Figure 9, the photograph taken from the west embankment, illustrates that the line of traffic is sufficiently distant to not detract. The current highway does not impede the view. Noise at the top of the embankment is minimal.

Figure 9 View from West Embankment north towards C-470



The Express Lane Alternative will not result in any impact to this property. Both indirect noise and visual impacts have been identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. **The resulting determination of effect is no adverse effect.**

Columbine Hills (5JF5143). Columbine Hills, a post-WWII subdivision, is eligible for listing on the NRHP. The addition of ELs with westbound auxiliary lane will not cause the highway to encroach on the historic boundaries associated with the subdivision.

With regard to indirect effects based on noise, it is assumed that the proposed improvements could lead to increased traffic levels and traffic-related noise in the vicinity of Columbine Hills. In the 2006 EA, a proposed sound wall and berm (850 feet by 20 feet) in the vicinity of Columbine Hills was recommended. That recommendation stands in 2013. On-going analysis will determine whether the size of the sound wall will be increased to address noise issues. If the sound wall is installed, that visual element will have an indirect effect on the subdivision, but remove the indirect noise effect.

The Express Lane Alternative will not result in any impact to this property. Both indirect visual and/or noise impacts have been identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. **The resulting determination of effect is no adverse effect.**

Platte Canyon Road to Santa Fe Drive

The Express Lane Alternative between Platte Canyon and Santa Fe Drive consists of the addition of ELs to the existing highway and a westbound Auxiliary Lane. East of Platte Canyon Road, the highway will widen further to include a total of two (2) ELs in each direction (eastbound and westbound) plus the existing four (4) GPLs with a barrier separation between opposing directions of traffic and between ELs and GPLs. Specifically, there will be a barrier separation between opposing directions of traffic and a buffer separation between the ELs and GPLs. Barrier separation consists of a two-foot concrete barrier, while a buffer separation consists of a four-foot painted asphalt separation, painted with yellow chevrons on the surface stressing demarcation between lanes. There will only be a westbound Auxiliary Lane in this section. Total width of pavement is 162 feet.

One exception to this typical section layout will occur where C-470 passes under the Union Pacific Railroad Bridges east of Santa Fe Drive, where the EL section narrows to a buffer separation instead of a barrier separation due to restricted distance between the railroad bridge piers. Although the railroad bridges over C-470 do not meet the minimum 50-year age requirement for eligibility to the NRHP, they will not be replaced as part of the Express Lane Alternative.

The Express Lane Alternative will have the following effects on these four historic properties:

Chatfield Dam (5JF5142, 5DA3091). Chatfield Dam is eligible for listing on the NRHP. The addition of ELs with westbound auxiliary lane will not cause the highway to encroach on the property associated with the Corps of Engineers dam site. Construction limits will be within CDOT ROW.

With regard to indirect effects based on noise, it is assumed that the proposed improvements could lead to increased traffic levels and traffic-related noise in the vicinity of the Chatfield

Dam embankments. With regard to indirect effects based on visual impacts, the span of pavement will increase but within CDOT ROW. The visual impact would be visible only from the top of the west embankment overlook. Figure 9, the photograph taken from the west embankment, illustrates that the line of traffic is sufficiently distant to not detract. The current highway does not impede the view. Noise at the top of the embankment is minimal.

The Express Lane Alternative will not result in any impact to this property. The indirect noise and/or visual impacts have been identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. **The resulting determination of effect is no adverse effect.**

South Platte River Bridge, F-16-HW (5DA2819). The bridge, as a linear feature, was determined not eligible for listing on the NRHP in 2013 revised Historic Bridge Survey. The bridge will be widened to accommodate increased lanes.

The Express Lane Alternative will not result in any impact to this property. There have been no indirect visual or noise impacts identified. No cumulative impacts have been identified. **The resulting determination of effect is no historic properties affected.**

South Platte River Bridge, F-16-HV (5DA2826). The bridge, as a linear feature, was determined not eligible for listing on the NRHP in 2013 revised Historic Bridge Survey. The bridge will be widened to accommodate increased lanes.

The Express Lane Alternative will not result in any impact to this property. There have been no indirect visual or noise impacts identified. No cumulative impacts have been identified. **The resulting determination of effect is no historic properties affected.**

City Ditch (5AH254.7 and 5DA987.1). City Ditch, as a linear feature, was determined eligible for listing on the NRHP in 1979; these segments are non-contributing. The portion of City Ditch located under C-470 in the vicinity of the C-470/Santa Fe Drive interchange will be re-aligned and re-constructed as the highway is reconstructed as part of the Express Lane Alternative. During the initial construction between 1982 and 1985 of this section of C-470, these segments of City Ditch were significantly altered when they were re-aligned and put into pipes south of C-470, under the highway, and north of the highway along Santa Fe Drive. As a result, the two segments in the APE lack historical integrity. A majority of the linear resource north of the APE, within the City of Littleton is still intact providing an exemplary example of this resource and its historical significance. While the linear resource as a whole still maintains its historic value and is eligible for listing on the NRHP, the portion of City Ditch the segments within the C-470 Corridor APE are not historically significant. Therefore, the re-construction of the ditch's pipeline as a result of implementing the Express Lane Alternative would not be an adverse effect.

The Express Lane Alternative will not result in any impact to this property. There have been no indirect visual or noise impacts identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. The resulting

determination of effect is **no adverse effect** because it was already altered between 1982 and 1985 with the initial construction of C-470.

Santa Fe Drive to Lucent Blvd

The Express Lane Alternative between Santa Fe Drive and Lucent Boulevard consists of the addition of ELs to the existing highway and a westbound Auxiliary Lane. The highway will widen to include a total of two (2) ELs in each direction (eastbound and westbound) plus the existing four (4) GPLs with a barrier separation between opposing directions of traffic and between ELs and GPLs. Specifically, there will be a barrier separation between opposing directions of traffic and a buffer separation between the ELs and GPLs. Barrier separation consists of a two-foot concrete barrier, while a buffer separation consists of a four-foot painted asphalt separation, painted with yellow chevrons on the surface stressing demarcation between lanes. Total width of pavement is 162 feet.

One exception to this typical section layout will occur where C-470 passes under the Union Pacific Railroad Bridges east of Santa Fe Drive, where the EL section narrows to a buffer separation instead of a barrier separation due to restricted distance between the railroad bridge piers. Although the railroad bridges over C-470 do not meet the minimum 50-year age requirement for eligibility to the NRHP, they will not be replaced as part of the Express Lane Alternative.

The Express Lane Alternative will have the following effects on these three historic properties:

Denver and Rio Grande Railroad (5AH255.5, 5AH255.2, 5DA921.1). The Denver and Rio Grande Railroad (D&RG RR) runs parallel to US 85/Santa Fe Drive, east of the roadway in the project study area. The railroad was determined eligible for listing on the NRHP in 1995; these segments are contributing. The addition of the ELs to C-470 will not impact this resource. The highway road surface under the railroad overpasses will be reduced to a buffer separation instead of a barrier separation due to the restricted distance between the bridge piers. Flared, poured-concrete barriers will abut to the current bridge piers protecting the piers and will remain permanently in place. The wing walls under the overpasses on either side of the highway will be expanded, but expansion will not impact this resource. The railroad overpasses, constructed between 1982 and 1985, do not meet the minimum 50-year age requirement for eligibility to the NRHP.

The Express Lane Alternative will not result in any impact to this linear feature. There have been no visual or noise impacts identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. The resulting determination of effect is **no historic properties affected**.

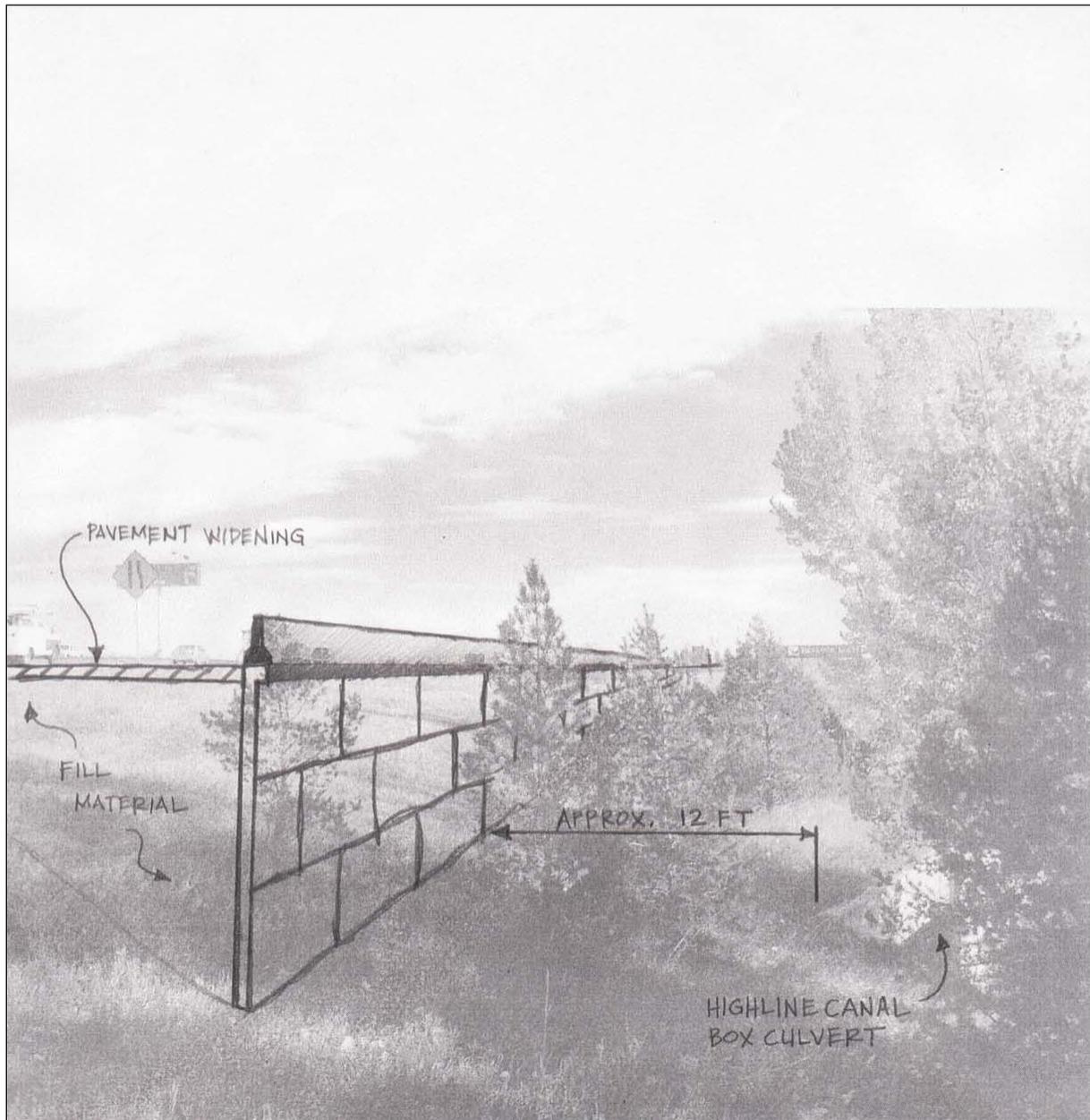
Atchison, Topeka and Santa Fe Railroad (5AH256.4, 5DA922.1, 5DA922.2). The Atchison, Topeka and Santa Fe Railroad (AT&SF RR) runs parallel to US 85/Santa Fe Drive, east of the roadway and the D&RG RR in the project study area. The AT&SF RR was determined eligible for listing on the NRHP in 1990 and 1995; these segments are contributing. The addition of the ELs to C-470 will not impact this resource. The highway

road surface under the railroad overpasses will be reduced to a buffer separation instead of a barrier separation due to the restricted distance between the bridge piers. Flared, poured-concrete barriers will abut to the current bridge piers protecting the piers and will remain permanently in place. The wing walls under the overpasses on either side of the highway will be expanded, but expansion will not impact this resource. The railroad overpasses, constructed between 1982 and 1985, do not meet the minimum 50-year age requirement for eligibility to the NRHP.

The Express Lane Alternative will not result in any impact to this linear feature. There have been no visual or noise impacts identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. The resulting determination of effect is **no historic properties affected**.

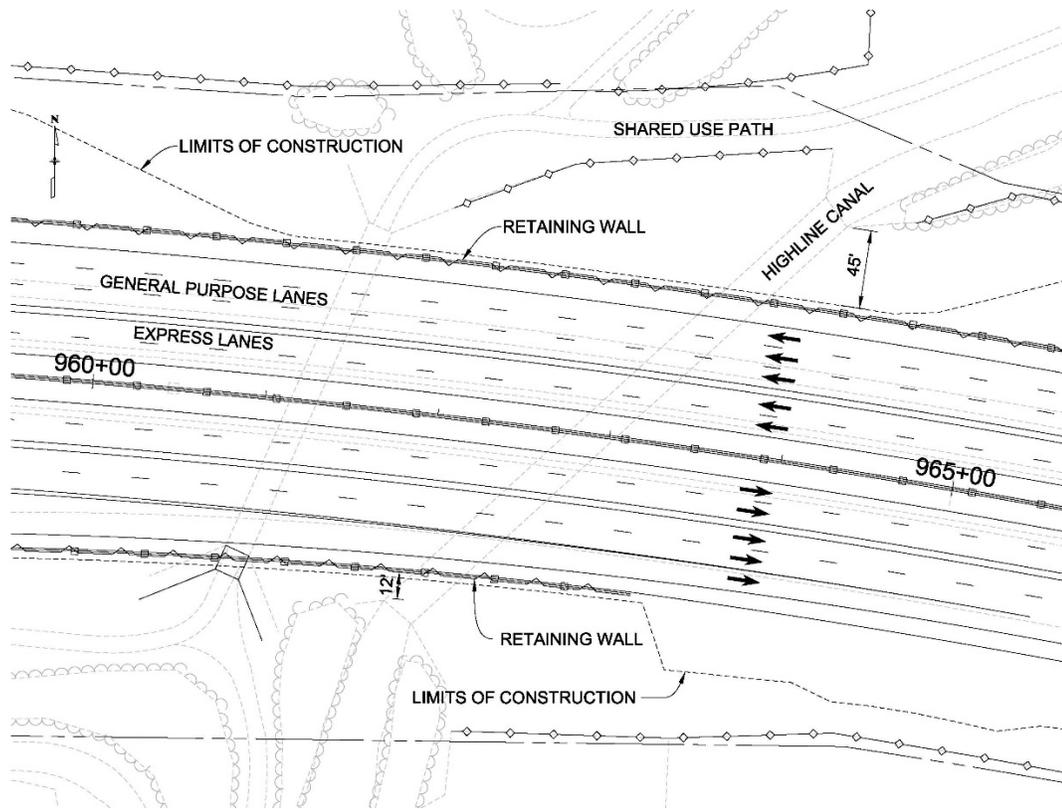
High Line Canal (5AH388 and 5DA600.3). The High Line Canal is a 71-mile long linear resource extending through the project study area crossing under C-470 just east of Santa Fe through Fly'n B Park. Associated Smithsonian numbers to this linear resource include 5AH388, 5DA600 and 5DA600.3. It was determined eligible for listing on the NRHP in 2004. Segment 5DA600.3 is contributing. During the initial construction of C-470, a segment of the High Line Canal was put in a low, concrete-box culvert to allow the highway to cross over the ditch and not interrupt the flow of water. Despite the widening of the corridor, there will be no need to extend the existing box culvert. However, the EL Proposed Alternative will extend a concrete retaining wall from the edge of pavement down the slope to within fifteen feet of the box culvert on both the north and south sides. The concrete wall will stabilize the earthen slope protecting the High Line Canal from erosion associated with the corridor, as shown in Figure 10. An earthen slope will continue from the edge of the wall down to the head wall of the box culvert. Limits of Construction are shown in Figure 11. This action does not constitute an alteration or change in the qualities of significance of the resource.

Figure 10 Retaining Wall at Highline Canal



Construction of the retaining wall is considered an indirect visual impact. The canal at this location was directly impacted during the initial construction when the box culvert was installed. The setting was altered at that time. Presently, the tops of vehicles are visible from the canal. With the construction of the wall in the Express Lane Alternative, vehicles should not be visible from the canal.

Figure 11 Express Lane Alternative Limits of Construction at High Line Canal



During construction, existing vegetation will be removed and the earth will be disturbed, resulting in a temporary incursion into the area above the canal to construct the additional lanes and the retaining wall. However, erosion control measures including installation of silt fence and berm will be taken to protect High Line Canal. Following construction, the area will be re-graded to existing conditions, seeded with native grasses, and the vegetation will be restored to existing conditions. Erosion control measures will be removed after adequate time has elapsed for new vegetation to take root.

The Express Lane Alternative will not result in any impact to this linear feature. Indirect effects are limited to visual impacts from the retaining wall. No noise impacts have been identified. No cumulative impacts have been identified that would diminish the qualities that make this property eligible to the NRHP. The resulting determination of effect is **no adverse effect**.

There are no eligible or listed historic properties further east along the corridor.

Conclusion

This survey recorded sixteen historic properties 45 years or older, including several segments of linear resources. Two ditches, two railroads, and one canal are officially eligible to the National Register of Historic Places. One historic district is listed on the National Register. Three bridges were identified as not eligible, which we hereby request your concurrence on

eligibility. In addition, one post-WWII subdivision and one dam were identified as eligible, which we hereby request your concurrence on eligibility. Of these eleven historic properties, four will be indirectly impacted (no adverse effect) by the Proposed Alternative. They include Chatfield Dam (5JF5142, 5DA3091), Columbine Hills (5JF5143), City Ditch (5DA987.1), and High Line Canal (5DA600.3) that will be indirectly impacted (no adverse effect), by the Proposed Alternative. The Proposed Alternative will not impact the remaining properties either directly or indirectly. The determination of effect for these properties is either no historic properties affected or no adverse effect. Additionally, no cumulative impacts are expected to historic resources as a result of these proposed alternatives.

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Appendix

**Revised C-470 Corridor Historic Resources
Older than 45 years for 2013 Revised Environmental Assessment**

Road Segment & Property Address	Site #	Built	Elig	Re-evaluation	NE-Altered	N Sign
Kipling St. to Wadsworth Blvd						
Green Ranch, 8500 Deer Creek Rd	5JF443	1890	ONE	X		
Hildebrand Ranch, 8500 Deer Creek Rd	5JF188	1860s	NR	X		
Selzell Ditch, 8500 Deer Creek Rd	5JF2613	1868	OE/C	X; addl info		
Wadsworth Blvd to Platte Canyon Rd						
Herrick Dale Acres, 8419 S Otis St	5JF3739	1928	ONE		X	
Columbine Hills, S Platte Canyon Road	5JF5143	1959-1977	FE			
Platte Canyon to S Santa Fe Dr						
Chatfield Dam	5JF5142 & 5DA3091	1967-1977	FE			
Last Chance Ditch, Jefferson County	5AH136.1 5JF258.1	1861-1868	ONE	X	X	
Nevada Ditch, Jefferson County	5AH135	1861	ONE	X	X	
S Platte River Bridge, F-16-HW	5DA2819	1968	FNE			
S Platte River Bridge, F-16-HV	5DA2826	1968	FNE			
City Ditch & Flume, Arapahoe County Line	5AH254.7	1865	OE/NC		X	
City Ditch, Intersection SH 85 & C-470	5DA987.1	1865	OE/NC	X	X	
Wolhurst Estate Club, 8201 S Santa Fe Dr	5AH166	1891	ONE	X	X	
Littleton Large Animal Clinic, 8025 S Santa Fe Dr	5AH732	1913	ONE	X		
Canary Farm Barn, 7951 S Santa Fe Dr	5AH732	1918	ONE			
State Highway 85, S Santa Fe & C-470	5AH2868	1917	ONE		X	
Dad Clark Gulch Bridge, SH 85 & DC Gulch	5AH1576	1939	ONE		X	
Stephens' House, 13837 S.H. 85	5DA1912	1963	ONE			
S Santa Fe Dr to Lucent Blvd						
AT&SF RR, Arapahoe County	5AH256.4	1887	OE/C	X		
AT&SF RR, Douglas County	5DA922.1	1887	OE/C	X		
AT&SF RR, Douglas County	5DA922.2	1887	OE/C	X		
D&RG RR, Arapahoe County	5AH255.2 5AH255.5 5DA921.1	1870-1871	OE/C OE/C OE/C	X X		
Plews Ranch/Flyin' B Ranch	5DA1913	Various	ONE		X	
High Line Canal, Douglas County	5DA600.3	1880-1883	OE/C			
Broadway to University Blvd						
711 E County Line Rd, Wilmore Nurseries	5AH2867	1949	ONE		X	

Note: OE=Officially Eligible, ONE=Officially Not Eligible, FE=Field Eligible, FNE=Field Not Eligible, NR=National Register

PHOTO LOG

Location Arapahoe, Douglas, & Jefferson Counties Project C470 EA Date June 2013

No	Address	Description	View/Elevation
5AH255.2_1	S Santa Fe Drive & C-470	D&RG Railroad	Shot S
5AH255.2_2	S Santa Fe Drive & C-470	D&RG Railroad	Shot N
5AH256.4_1	S Santa Fe Drive & C-470	AT&SF Railroad Upper Track Grade	Shot NE
5AH256.4_2	S Santa Fe Drive & C-470	AT&SF Railroad Upper Track Grade	Shot SE
5AH256.4_3	S Santa Fe Drive & C-470	AT&SF Railroad Bridge at C-470	Shot SE
5DA600.3_1	C-470	High Line Canal	Shot S
5DA600.3_2	C-470	High Line Canal	Shot NE
5DA600.3_3	C-470	High Line Canal Culvert under highway	Shot S
5DA921.1_1	S Santa Fe Drive & C-470	D&RG Railroad Lower Track Grade	Shot N
5DA921.1_2	S Santa Fe Drive & C-470	D&RG Railroad Lower Track Grade	Shot NE
5DA922.1_1	S Santa Fe Drive & C-470	D&RG Railroad Lower Track Grade	Shot SE
5DA922.1_2	S Santa Fe Drive & C-470	D&RG Railroad Lower Track Grade	Shot NE
5JF188_1	Deer Creek Road	Hildebrand Ranch HD farm residence	Shot W
5JF188_2	Deer Creek Road	Hildebrand Ranch HD farm buildings	Shot W
5JF2613	Deer Creek Road	Hildebrand Ranch HD Selzell Ditch	
5JF5142_1	S Wadsworth Blvd	Chatfield Dam Intake & Riprap Water Face	Shot SE
5JF5142_2	S Wadsworth Blvd	Chatfield Dam Embankments	Shot SE
5JF5142_3	S Wadsworth Blvd	Chatfield Dam Boat Ramps	Shot W
5JF5142_4	S Wadsworth Blvd	Chatfield Dam Outlet Channel & Stilling Pond	Shot N
5JF5142_5	S Wadsworth Blvd	Chatfield Dam Chute & Spillway	Shot NW
5JF5142_6	S Wadsworth Blvd	Chatfield Dam 1967 Corps Office	W & S
5JF5142_7	S Wadsworth Blvd	Chatfield Dam 1967 Corps Office	S & E
5JF5142_8	S Wadsworth Blvd	Chatfield Dam 1967 Corps Lab	S & E
5JF5142_9	S Wadsworth Blvd	Chatfield Dam 1967 Corps Lab	E & N
5JF5142_10	S Wadsworth Blvd	Chatfield Dam 1967 Corps Lab	W & S
5JF5142_11	S Wadsworth Blvd	Chatfield Dam 1967 Corps Warehouse	W & S
5JF5142_12	S Wadsworth Blvd	Chatfield Dam 1967 Corps Warehouse	E & N
5JF5142_13	S Wadsworth Blvd	Chatfield Dam Modern Admin Bldg	Shot E
5JF5142_14	S Wadsworth Blvd	Chatfield Dam Bldg 1 (moved in)	W
5JF5142_15	S Wadsworth Blvd	Chatfield Dam Bldg 1 (moved in)	E & N
5JF5142_16	S Wadsworth Blvd	Chatfield Dam Bldg 2 (moved in)	W
5JF5142_17	S Wadsworth Blvd	Chatfield Dam Bldg 2 (moved in)	E

