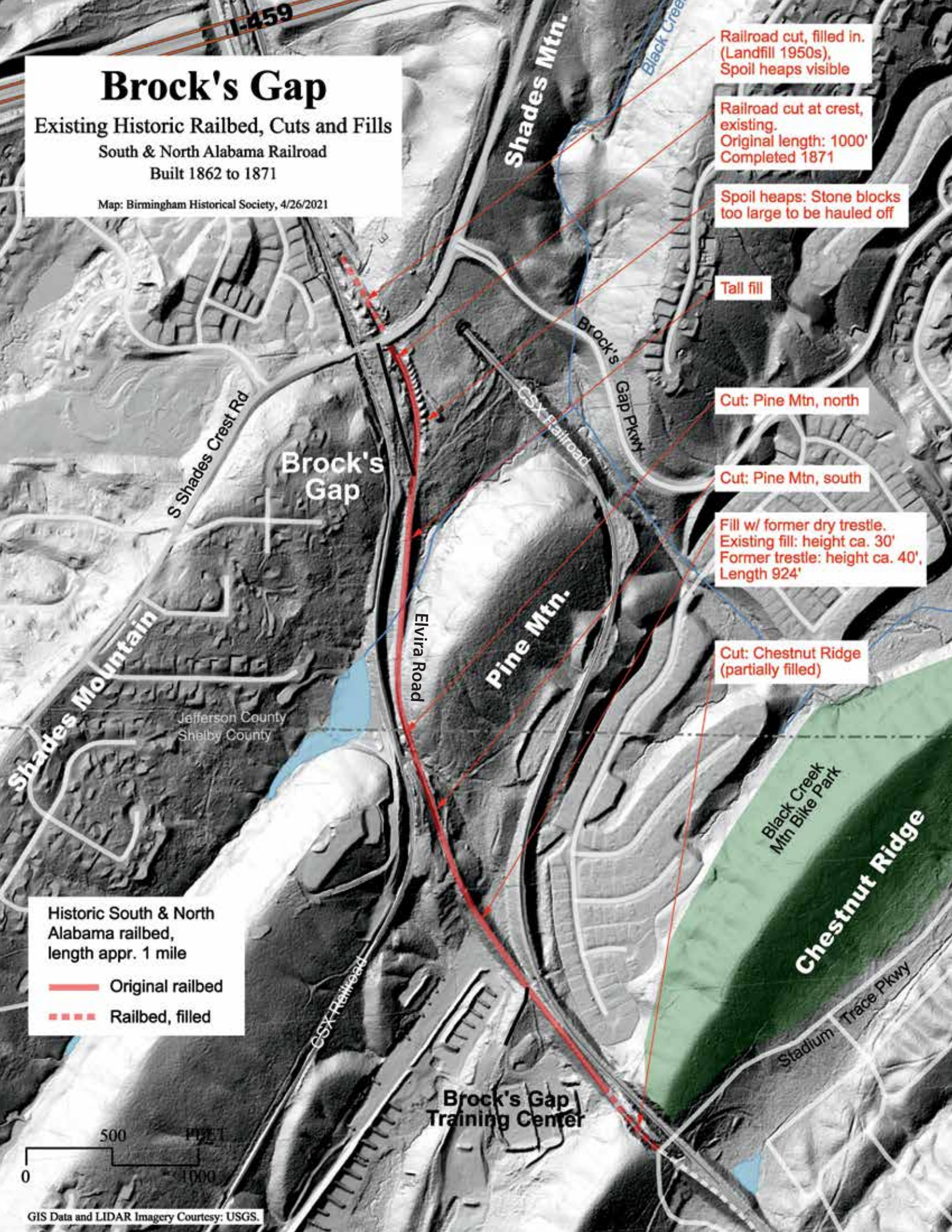
Brock's Gap

Blasting the Way to Birmingham

For generations, residents of the sparsely settled part of western Shades Valley about Brock's Gap have told tales of iron being hauled through the gap to the Confederate arsenal at Selma and of the difficulties of the South & North Alabama Railroad attempting to pass through the gap.

Birmingham is 150 years old in 2021 because in 1871 railroad engineers and hundreds of laborers finally blasted their way through the hard rock summit of Brock's Gap, completing the last rail link that led to the founding of the city. Birmingham became the center of the Alabama mineral region and the South's largest industrial center.

Working in a rock cut at Smithville, Minnesota, using a steam-powered derrick, similar to that used at Brock's Gap, to lift and haul massive stone following a blast. National Iron Company, Engineers and Designers of Steel Structures ad. Courtesy Bob Yuill.

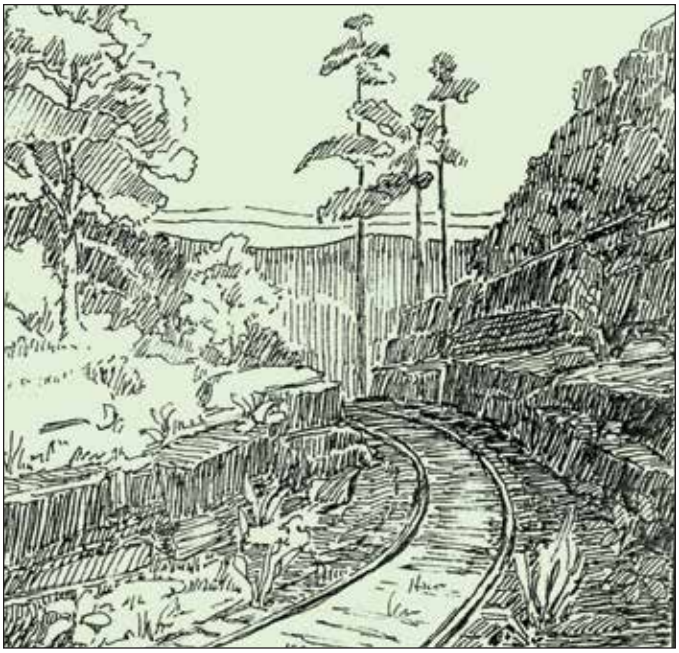

Brock's Gap
Existing Historic Railbed, Cuts and Fills
South & North Alabama Railroad
Built 1862 to 1871
Map: Birmingham Historical Society, 4/26/2021
I-459
Shades Mtn.
Black Creek
Railroad cut, filled in. (Landfill 1950s), Spoil heaps visible
Railroad cut at crest, existing. Original length: 1000' Completed 1871
Spoil heaps: Stone blocks too large to be hauled off
Tall fill
Brock's Gap Pkwy
CSX Railroad
Cut: Pine Mtn, north
S Shades Crest Rd
Brock's Gap
Cut: Pine Mtn, south
Fill w/ former dry trestle. Existing fill: height ca. 30' Former trestle: height ca. 40', Length 924'
Shades Mountain
Elvira Road
Pine Mtn.
Cut: Chestnut Ridge (partially filled)
Jefferson County
Shelby County
Black Creek Mtn Bike Park
Chestnut Ridge
Historic South & North Alabama railbed, length appr. 1 mile
Original railbed
Railbed, filled
CSX Railroad
Trace Pkwy
Stadium
Brock's Gap Training Center
500
FEET
0
1000
GIS Data and LIDAR Imagery Courtesy: USGS.

Brock's Gap is a natural pass through which Native American trails, the Montevallo Road—a 19th century wagon route—and the South & North Alabama Railroad have passed. It extends from the crest of Shades Mountain through the tall adjoining ridges that form the southern flank of Shades Mountain. The gap connects Shades Valley with the Cahaba River near Helena. The historic railbed, today's Elvira Road, extends through the gap on a one-mile stretch passing through Chestnut Ridge and Pine Mountain to the crest of Shades Mountain. Named for Pinckney L. Brock who acquired it in 1858, Brock's Gap is located in Jefferson and Shelby Counties and in the city of Hoover, Alabama.

Elvira Road extends south from South Shades Crest Road through the gap to Stadium Trace Parkway, forming the entry into the Brock's Gap Training Center. The mile-long driveway follows the historic railbed on a tall fill, traversing several cuts before passing through a wider valley on a second embankment. To the north and south of South Shades Crest Road the original cut through the hard Shades Mountain sandstone rock lies much lower than the road, creating a now wooded, secluded canyon with walls up to 30' high. Spoil heaps of immense cut stone blocks line the top of the cut. The entire one-mile segment, as it proceeds through the forested gap, provides insight into the challenge for a railroad to achieve the necessary low grade for the unrelenting ascent from the Cahaba River to the summit of Shades Mountain.

> *"The country is very rough around Brock's Gap and there are a number of deep cuts, high fills and perilous looking dry trestles."*
>
> "Big Developments Near Brock's Gap," *The Birmingham News,* September 13, 1906. Courtesy John Stewart.

Heading out to explore the gap, February 2021. Marjorie White.



An artist's view of the South & North Alabama Railroad passing through the crest of Shades Mountain at Brock's Gap, with Red Mountain and Birmingham in the distance. Oven Magic Book of Southern Recipes, Linly Heflin Unit, 1940.

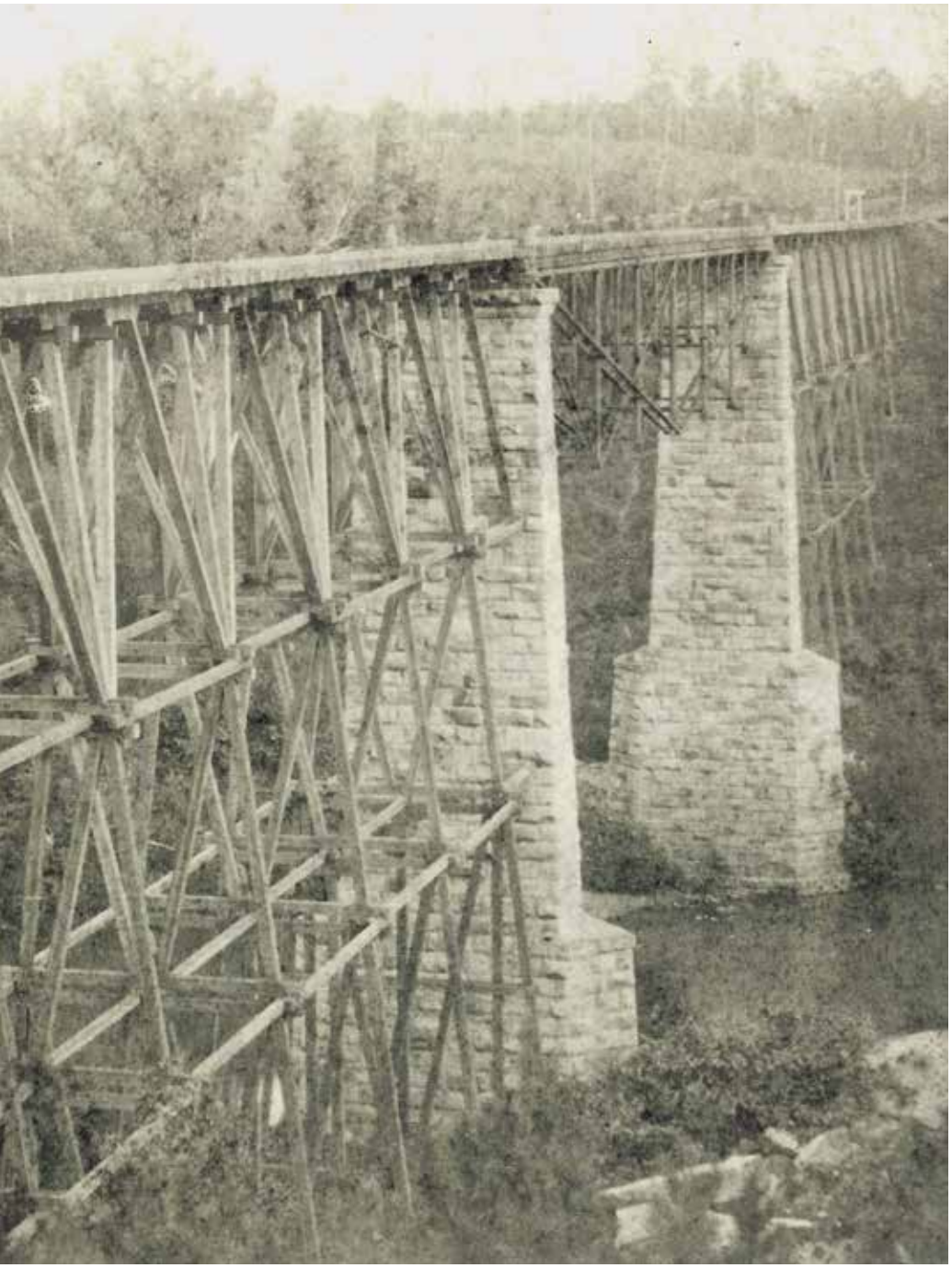
John Stewart and Birgit Kibelka, contemplating the hard rock cut at the crest of Shades Mountain, February 2021. Marjorie White.

The cut at the crest of Shades Mountain, Birgit Kibelka, 2021.

Tall fill creating the railroad embankment, Birgit Kibelka, 2021.

The historic railway today presents itself as a forested road through multiple mountain ridges. Its massive earthen fill and deep rock cuts witness the amazing feat of grit and perseverance made possible by savvy engineers and multitudes of slave and convict laborers who chiseled, blasted, carted, lifted, and otherwise accomplished the removal of fracture and immense sandstone rock to create the enormous fills and cuts. These permit the railroad to rise 66' per mile at a 1.25% grade up the rugged south slope of Shades Mountain. While the 924' long and 40' high wooden dry trestle that extended across today's sag in Elvira Road at the shooting range no longer remains, the Brock's Gap Training Center has done a remarkable job of integrating their activities within the valley setting while preserving the historic railbed with its fills and cuts completed in 1871.

LEFT: *Convict labor, working on the railroad*, Photograph, circa 1890, Thomas H. Lindsey, "*The Land of the Sky:" Convicts Working on Western North Carolina Railroad*. Hunter Library Special Collections, Western Carolina University, Cullowhee, NC. In 1871, State of Alabama convicts provided the labor to complete the rail link to Birmingham through Brock's Gap.

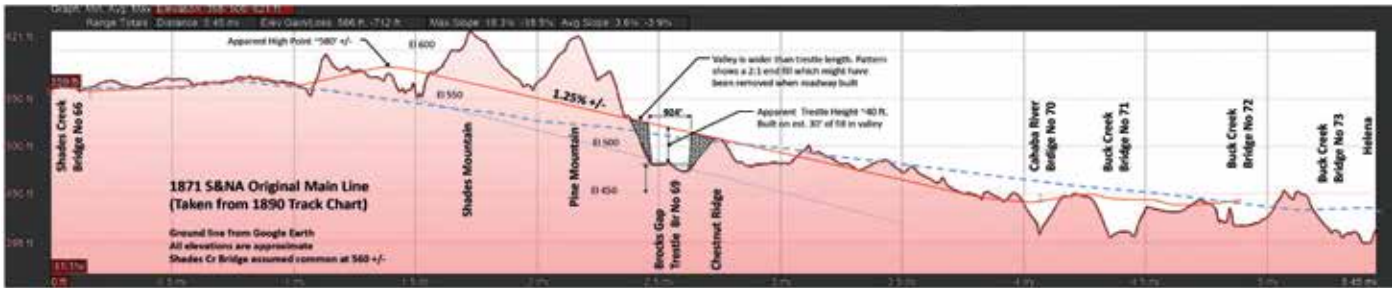


South & North Alabama Railroad Trestle at Warrior, Alabama, 1870s. Courtesy John Stewart and Jim Bennett. A similar 924' long and 40' high trestle once extended across the sag in Elvira Road as it arrives at today's Brock's Gap Training Center.

To one who has never seen anything of the sort, Brock's Gap presents a scene of curiosity and wonder. The Shades Mountain is here broken into a series of billowy ridges which, at an old cabin once occupied by a man named Brock, terminate in a solid backbone of almost unstratified limestone over which ran the old dirt road between the towns of Montevallo and Columbiana in Shelby county and the town of Elyton in Jefferson county. These ridges have been cut through by the South & North road and the valleys between them have been filled and trestled so that the voyager finds himself at one moment from thirty to seventy feet beneath the surface of the earth and the next from forty to seventy three feet above it. A man can hardly stoop to the depth of his own personal insignificance in the grand economy of creation until he whirls along in an open car over that half mile of trestling seventy three feet above the surface of his Mother Earth!

The cut through the solid limestone rock at the Gap proper, is over sixty feet, perpendicular in depth and about twenty-five or thirty feet in width at the top. Almost every foot has been cut by the agency of gunpowder, at a cost of 1,800 kegs of powder and largely over $100,000 in cash. Some of the solid blocks of stone, removed by the derricks from the cut, are from four to six feet long and from two to three in width and depth; and as they lie there on the margin of that cut, piled up in vast conical mounds averaging from fifteen to twenty feet in height, they constitute a lasting monument to the great superiority of human brains over human muscle. They also commemorate the wonderful perseverance, energy, pluck, and enterprise of that truly wonderful man, Colonel J. F. B. Jackson, contractor on that part of the route, under whose personal supervision this stupendous work was inaugurated and pushed forward, in less than twelve months, to a successful and triumphant completion.

The Montgomery Advertiser, July 17,1871. Courtesy John Stewart.



Profile of the South & North Railroad as it ascends from Helena across Shades Mountain and Brock's Gap to Shades Creek, 1871. Courtesy John Stewart. The line served as the L.&N. mainline.

History of Brock's Gap

The South & North Alabama Railroad, the Development of Alabama's Mineral Region

The South & North Alabama Railroad was chartered on February 17, 1854, by the Alabama legislature. The railroad was intended to link Alabama's capital city of Montgomery with the Tennessee River in the northern part of the state. The legislative charter for the company stated that the company could raise $3 million in stock, but that it must complete 30 miles of grading within two years and the entire 180-mile line within 15 years. A principal in the organization of the company was Tennessee-born Frank Gilmer Jr. of Gilmer & Company, cotton merchants in Montgomery.

Alabama was a cotton state at this time, and few legislators were interested in the development of North Alabama's mineral resources, especially its coal and iron, which an 1850 state geological survey had identified. Furthermore, there were other, competing railroads attempting to capture Alabama's mineral resources and direct them to manufactories in other states. Another railroad sought to link Selma and Montgomery. These interests had sufficient legislative influence to delay the start of Gilmer's enterprise, Alabama's "Great Central Railroad"—often referred to as the Alabama Central Railroad or the Central Railroad. On February 15, 1856, the South & North's incorporation documents were amended to give the railroad five years to get started (i.e., until February 17, 1859).

"John T. Milner. Founder of Birmingham" in Ethel Armes, *The Story of Coal & Iron in Alabama*, 1910.

Four years after initial incorporation of the South & North, on March 27, 1858, Alabama Governor Andrew Barry Moore selected the 32-year-old Georgia-born and -trained railroad engineer John Turner Milner to survey routes to develop the state's mineral resources. Milner's education included study at the University of Georgia and extensive field experience working on railroads in Georgia with his father, a railroad contractor. The state appropriated $10,000 for the Alabama Central Railroad survey. Milner reported back to Governor Moore that same year. His *Report to the Governor of Alabama on the Alabama Central Railroad* originally included a report (in Mrs. Milner's handwriting) with "maps, profiles, plans and books of the survey numbers and plainly designated." Only the report was published as a 144-page document in 1859.

In the report, Milner planned a railroad to run through the center of the state with spur lines running through the valleys to access the North Alabama mineral regions while connecting the navigable waters of the Gulf of Mexico with the Tennessee River to the north. The line would do so by creating the very hilly missing link from Montgomery—via Wetumpka, Montevallo (this location later changes to Lime Kiln–Calera), and Blount Springs—to Decatur on the Tennessee River, a terminus decided by Milner and favorable interests in that city led by James Withers Sloss. Before construction of the Alabama Central Railroad was finally started, other railroads would run from the Gulf to Montgomery and from Decatur to Nashville and Louisville. Another will link Selma to Montgomery. Indeed, by 1860 Alabama had 800 miles of short-line railroads built by many competing interests during the 1850s.

Milner's report included prescient forecasts about the future value of coal and showcased the success of Georgia railroads with which he had firsthand experience in developing entire regions by extending railroads to them. Milner's preferred route for his railroad traversed the wilds of western Shades Valley before arriving in the farming region of Jones Valley about Elyton, then the county seat of Jefferson County. In 1858, his preferred route continued across Jones Valley, across Sand Mountain and "the Warriors" (branches of the Warrior River), to Blount Springs, and on to Decatur. Milner stated, "from Montevallo to 30 miles South of Decatur is on a succession of ridges, mountains, and valleys, running northeast and southwest." Railroads of the era found grades of 1 percent to be steep; mountains that rose 400 and 500 feet above their valleys presented significant challenges, as did the many intervening ridges and the rivers and creeks that flowed from them. In addition to engineering talent, manpower, and money, blasting powder was an essential ingredient in the construction of such a railroad.

Milner estimated the cost for a 121-mile Montevallo-to-Elyton-to-Decatur segment at $2,806,905.75, or $23,197.57 per mile. He also noted that the railroad would receive "400,000 acres of public land, which at $2 per acre will be $800,000 or 28½ percent of the amount necessary to build and equip the road, saying nothing of the immense value of the coal, 100,000 acres of which the Company will get." Of the $2.8 million cost, $1.26 million—the largest category of expense—was for Grading, Masonry, and Bridges.

Other expense categories included Superstructure (iron, cross ties, spikes, frogs, castings, and track laying); Depots and Water Stations; Equipment, including locomotives and passenger, freight, baggage, and mail cars; and Engineering. Milner's cost estimates were to build the railway, depots, machine shops, and engine houses and to acquire rolling stock and tools to repair everything. He argued that the state legislators would receive returns of at least 7½ percent of any appropriation made to build and equip the railroad, based on the most conservative projections of cost and revenue from the enterprise.

Milner closed his report by saying that this railroad "would build up our state more than any other." With that statement, the enthusiastic young engineer became the railroad's chief advocate, a role in which he would work harder, longer, and more successfully than he could have imagined. Principal and assistant engineers for the 1858 survey and report were his cousin John A. Milner, N. W. Long, John T. Elmore, and R. B. Harris.

Milner had wanted to cross Shades Mountain where Shades Creek cuts through it and then head directly to the center of the Warrior coal field, but he abandoned this route as too costly. The least expensive of the six routes he explored crossed Shades Mountain at today's Brock's Gap and crossed Red Mountain at Grace's Gap, both natural mountain gaps. This route hugged the topography and paralleled the Montevallo Road, the only north/south road crossing this portion of the then largely undeveloped wilderness with its scattered farms. Elyton resident Baylis Grace had a farm at Grace's Gap on Red Mountain and observed as horse and oxen hooves and wagon wheels crushed the red rock there into a fine red dust. In the 1840s, Grace had a wagonload of this red rock tested in a Bibb County forge, and it did indeed produce iron.

Pinckney Brock, James Taylor Ross, and George Coward Get Key Patent Lands in Shades Valley

On June 1, 1858, Pinckney L. Brock purchased 160 acres at what became known as Brock's Gap; and nearby James T. Ross purchased 120 acres along the Montevallo Road as it crossed Ross Creek; George W. Coward purchased 80 acres of very rocky Shades Mountain land. The Brocks, Rosses, and Cowards were Jefferson County residents who had migrated from South Carolina. They farmed, raised livestock, and did not own slaves. The lands they acquired in 1858 in this then very sparsely settled and remote area of Shades Valley (Township 19 South, Range 3 West) were U.S. Government patent lands made available at a reduced cost.

1859: Railroad Acquires Contractor and Labor

Physical work on the South & North Alabama Railroad appears to have been set in motion by January 1859,when chief engineer John T. Milner placed a "Notice to Contractors" for grading and culvert masonry for the first 30 miles of the railroad. Bids were to be presented to the South & North office "above F. M. Gilmer Jr.'s" cotton warehouse in Montgomery. On September 16, 1859, the *Daily Confederation* reported "glorious news": work on the railroad had begun. The paper noted that Dr. William H. Rives had gone "east to purchase slaves" and had returned the day before with 85 negroes whom he had "delivered to Mr. Boyle, the contractor, who will put them to work" staking the railroad between Montgomery and Wetumpka.

Bartholomew ("Bartley") Boyle (1826–1875) was an Irish-born railroad contractor active in building railroads across Alabama. In the 1860 census, the 35-year-old Boyle was living in Wetumpka with numerous other men whose occupations were principal surveyor, assistant surveyor, laborer, and overseer. By the time of his death in 1875, Boyle had acquired 2,000 acres of mineral lands in the North Birmingham area that were later developed as the Lewisburg and New Castle coal mines. These lands probably included the gap still known as Boyles Gap, as well as the future location of the L. & N. (now CSX) shops and yards at Boyles, established 1904.

Fall 1860: The South & North Acquires a Construction Loan

In 1860, the Alabama legislature officially adopted John Milner's recommendations as to the best route for a railroad that would run through the center of the state, granting a loan of $663,135 "on condition that the entire line be graded and prepared for iron by the end of five years." By this time, cotton planter Frank Gilmer controlled three-quarters of the railroad's stock, other investors having withdrawn their support. Alabama's major industrialist, Daniel Pratt of the Continental Gin Company in Prattville, the nation's largest maker of cotton gins, also became a major investor. Milner finally had funds to begin work on the railroad, albeit half of his 1858 estimate.

January 1861: Alabama Secedes from the Union

On January 11, 1861, Alabama seceded from the Union. Montgomery became the capital of the Confederate states. Shortly thereafter, the state set up the Alabama Arms Manufacturing Company to mine ore and manufacture iron for Confederate ordnance. Frank Gilmer Jr. and John T. Milner were involved in this company. That the South & North had hired workers and had started on its line is attested by an April 18, 1861 notice in the *Southern*

Confederacy of Atlanta, Georgia, that the company had "sent down fifty hands to assist in completing the Montgomery and Pensacola Railroad." By early 1861, the South & North had extended track to the borders of the Cahaba coal field in Shelby County, just south of the Cahaba River and Shades Valley, and was approaching the mineral regions of Jefferson County.

1861–1862: The South & North Acquires Key Lands in Shades Valley

From May 1861 to October 1862, railroad contractor Bartholomew Boyle and chief engineer John T. Milner acquired the strategic land to enable the future South & North Railroad to cross Shades Mountain, reach the Red Mountain ores, enter the mineral regions beyond, and establish a new city at their center.

On May 22, 1861, Pinckney Brock sold five tracts (approximately 300 acres) of his land at Brock's Gap to Boyle. Brock subsequently moved to Winston County, where residents were known for their opposition to the war. He took an oath of allegiance to the United States there on July 31, 1864.

On December 9, 1861, the Alabama legislature passed an act giving the South & North nine months to "locate, select and designate the portions of the public lands in this State granted to said company by the government of the United States," these lands having been "withdrawn from the market for the benefit of said railroad." The South & North did not exercise this option for additional land until 1871.

In September 1862, Baylis Grace granted a right of way for the South & North Alabama Railroad to cross his farm at Grace's Gap on Red Mountain near today's Red Mountain Park.

On October 10, 1862, James Taylor Ross and his wife Mary Coward Ross sold four tracts of land (approximately 490 acres) in the area of Ross Creek to John T. Milner for $1,500. The James T. Ross and Wife Land Deed to John T. Milner of October 10, 1862, is witnessed by R. H. Kelly, indicating that Richard Hamlin Kelly, an Irish-born railroad engineer, is in Alabama, is associated with the South & North Alabama Railroad, and is consulted on the location of a culvert to be built across a major creek in this portion of Shades Valley, through which the future railroad would soon be graded. Initial procedure for the construction of 19th-century railroads, as noted in the advertisements for workers, included clearing the land, grading, and building bridges and culverts.

Richard Hamlin Kelly (1832–1878) was born in Northern Ireland in 1832. According to an unsourced profile, Kelly was a civil engineer "of great talent," who first located in Iowa, where he married. He went south shortly before the Civil War to work on the South & North railroad and was "stranded" in Alabama when the war broke out. Kelly is said to have designed the 1856 Rock Island Railroad bridge at Davenport, Iowa, the first bridge to span the Mississippi River. The 1860 census lists Kelly as a 30-year-old engineer living in Iowa City, Iowa; the 1870 census lists him as an engineer living in Union Springs, Alabama. Kelly is on the job with the South & North by October 10, 1862 and is party to the acquisition of the Brock's Gap and Ross Creek Culvert properties in 1862 and 1863.

1862: The Red Mountain Iron & Coal Company Is Established

On April 11, 1862, the Confederate government established the Nitre and Mining Bureau to encourage the production of war materials for its arsenals. The government quickly backed the construction of 13 furnaces in Alabama with funds of up to $100,000 per furnace to produce iron for shot, shell, and warships. It also provided funds to railroads to haul the iron to its arsenal at Selma. Iron was also shipped to the Confederate arsenal at Rome, Georgia.

In late 1862, as related by John Milner's biographer Dorothea Warren, "Colonel Frank Gilmer and Mr. Milner went up to Richmond, and from Secretary of War [James] Seddon succeeded in getting a contract drawn up with the Confederate Government to erect a furnace and rolling mills and to build a railroad to them." Ethel Armes, writing in her 1910 history of the development of coal and iron in Alabama, footnoted the deal between Gilmer, Milner, and Seddon, crediting "Milner's Address to Georgia Society." (A copy of the address has not been located.)

On November 5, 1862, a group of 25 Alabama planters and business men—including cotton planter Frank Gilmer Jr., his brother William Gilmer of Montgomery, industrialist Daniel Pratt, and railroad engineer John T. Milner—incorporated the Red Mountain Iron & Coal Company, the successor firm to the Alabama Arms Manufacturing Company, and capitalized it with an astonishing $1.25 million in stock options. Thus, demand for Confederate armament prompted formation of Jefferson County's first iron manufactory and iron ore mines and development of its major railway.

Winter 1862: Land and Labor Acquired to Push Forward

Chief engineer John Milner quickly began newspaper advertising for more railroad workers to build the road to access the industrial sites. On December 12, 1862, editors of the *Montgomery Mail* endorsed the campaign to build the South & North:

The Central Rail Road Company

> The advertisement calling for six hundred negroes to work on the South & North Alabama (or Central) Rail Road shows that the efforts of the company to connect Montgomery with the Tennessee river at Decatur are not flagging.
>
> We need hardly say that we are rejoiced at this new evidence that the company is determined to push the good work forward to a speedy completion. Knowing the character of the President [Frank Gilmer Jr.], Engineers, contractors, &c. for energy and perseverance, we have never doubted that the road would be built, the croakings of those who did not choose to join the company to the contrary notwithstanding. The public may rely upon the assertion that North and South Alabama will be within a reasonable time united by a first class rail road, and thousands of acres of land now uncultivated [will] be in demand. And the coal and iron that will be thus developed! Words cannot convey an idea of their extent and value along the line of the road which is to be to Alabama what the Western & Atlantic road is and has long been to Georgia. Speed the day!

On December 20, 1862, another *Montgomery Mail* editorial noted that "the laboring force of the company will be increased to one thousand negroes within a very short period, several hundred being now and for nearly two years past engaged upon the work. The Chief Engineer is yet advertising for six hundred more negroes, to work on the road." In January 1863, Milner's advertisements appeared in the *Mobile Register*, the *Selma Morning Reporter*, and the *Vicksburg Whig*. Milner sought "600 Negroes" and "800 Negroes" to work "in getting ties, track laying, bridging, &c., near Elyton and Montevallo." Workers would live in camps of ten with housing and sustenance, supplied by the railroad and prepared for each group of 10 by their "woman" (cook) and "boy." Parties sending 50 or more workers could send an overseer to assist with proper management.

In January and March 1863, the Red Mountain Iron & Coal Company acquired the land to build the railroad into Shades Valley and access the future Oxmoor Furnace land and future city of Birmingham. The company purchased 1,920 acres that included 300 acres of Pinckney Brock's land at Brock's Gap, James Ross's 490 acres in the Ross Creek area, and properties South & North officials Milner and Boyle had acquired from Brock and Ross in 1861 and 1862, respectively. R. H. Kelly witnessed the 1863 sale of the Ross land.

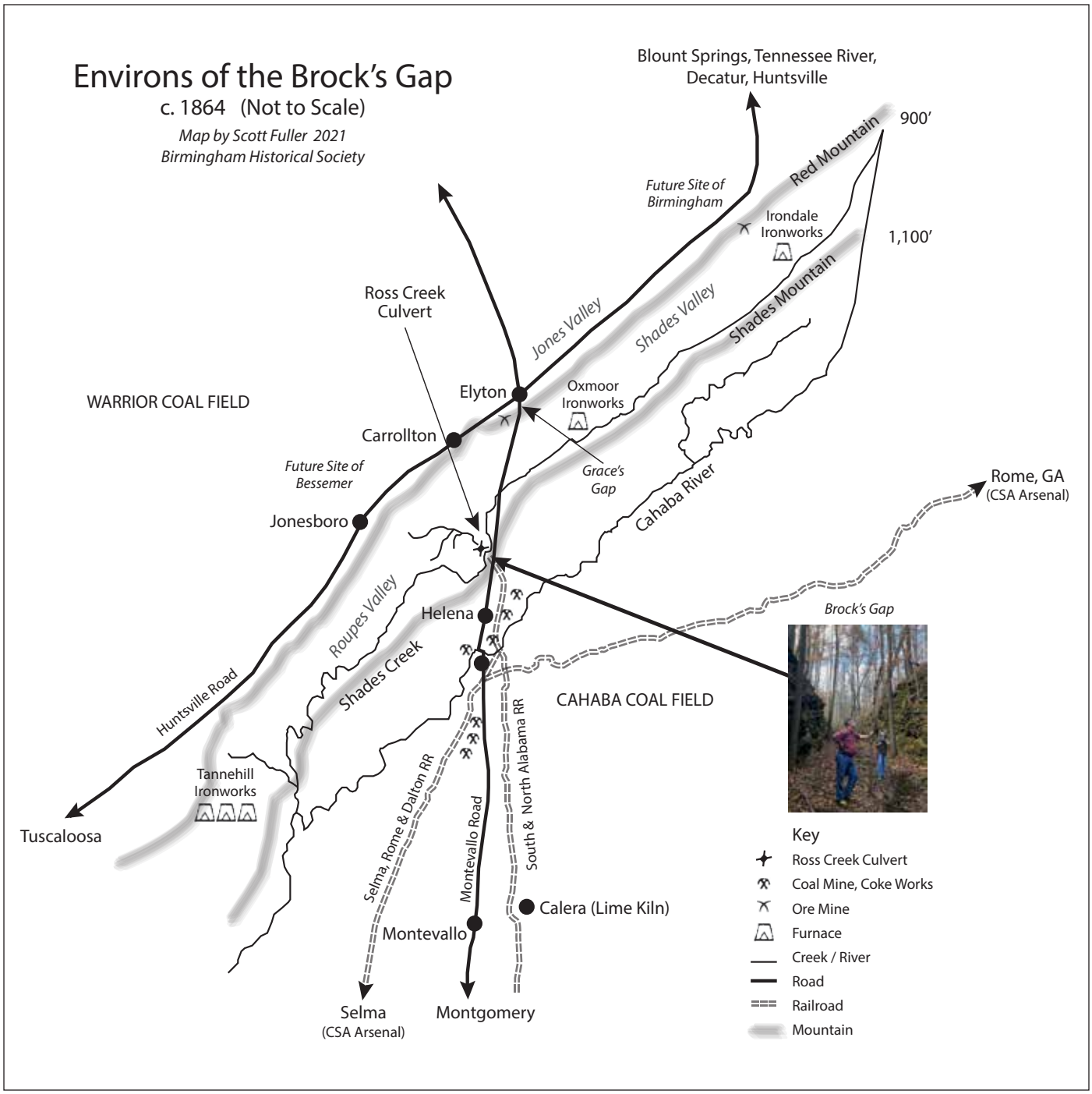
"Confidently expecting that the railroad would soon reach the ore lands," as Milner's biographer Dorothea Warren records, work forged ahead on the South & North railroad and a new furnace in Shades Valley. The Red Mountain Iron & Coal Company acquired a total of 7,340 acres and selected a site for the furnace. The construction of a 32-foot-high circular stone furnace, blown in in October or November 1863 (the first of two at the site), began a new community along Shades Creek that became known as Ox Moor. Ox Moor (eventually spelled "Oxmoor") was named for company lawyer Daniel Shipman Troy's North Carolina plantation, which was named after the family homestead in Ireland. Tramways were extended to the soft ore on Red Mountain's crest near Grace's Gap. (Baylis Grace had made the first sale of Red Mountain's ore lands to the Oxmoor enterprise in 1862.) The near 70-year-old ironmaster Moses Stroup was hired away from the Tannehill furnaces to supervise the enterprise. Forests surrounding Oxmoor were timbered for railroad construction and burned for charcoal to fire the furnace.

With 60 furnace men and 200 to 300 slaves (hired for an estimated $125 to $175 each annually) to cut the timber and haul wood, the furnaces at Oxmoor were a continuously successful operation, pouring out at least five to six tons of iron per day. As historian Ethel Armes reported, the Oxmoor furnaces "kept up to the mark, steady and true, and everyone knew it was because 'Old Man Stroup was on the job.'" Teamsters drove ox carts, heavily laden with three to four tons of charcoal iron, over the Montevallo Road through Brock's Gap to the South & North's railhead on the other side of the gap. Here, the iron was loaded onto railcars and transported to the Selma arsenal, where 900 men turned it into shot and shell.

The Long Haul to the Railhead

Furnaces were located near ore supplies, not expedient transportation routes. The haul of iron over the deeply rutted and often muddy and impassable Montevallo Road to the railhead was arduous travel. The road was made more passable through the spreading of slag from the furnaces.

By the time the furnaces began production in 1863, thanks to infusions of Confederate funds, Milner had built up the South & North Railroad from Calera through the Cahaba coal field to Billy Gould's Coal Mine and Coke Ovens (a National Register of Historic Places site currently being developed as a park) just south of Brock's Gap. In December 1863, Gould's partner, Fred Woodson, wrote to J. S. White at the Selma Arsenal requesting 75 pounds of blasting powder to put his coal mines "in a condition to throw out fifty tons coal per day." White directed the military store keeper to "please sell the Blasting Powder at customary rates, as . . . requested; provided the same be on hand to spare." The Red Mountain Iron & Coal Company also opened coal mines at Helena, and the railroad was busy transporting this coal for use by Confederate industries.

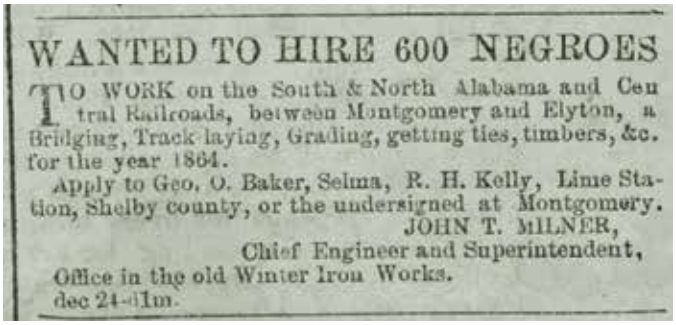


By 1863, Milner claimed to have laid six miles of railroad, with toiling curves and extreme grades, across the southern flank of the steep, rocky Shades Mountain, to establish a railhead at the southern foot of Brock's Gap. Milner stated that he maintained this railroad during the years from 1863 to 1865, when substantial quantities of iron and coal were hauled to Selma and to Rome. (The precise location of Milner's railhead and the location of Milner's temporary rails have not been determined and no one has found any physical evidence of this railroad in exploration of the gap. If Milner's statement is true, then the Brock's Gap railbed may date solely to 1871.)

Although the Red Mountain Iron & Coal Company had acquired the land at Brock's Gap in the spring of 1863, the mountain remained, and, as historian Armes reports, there was no gunpowder to blast through it. Men were put to work with hand tools to attempt to chisel through the hard sandstone rock, but the mountain won the contest. The railhead remained on the south side.

1864: Milner Gets 600 More Railroad Workers

In December 1863, chief engineer Milner again advertised for 600 negroes to work on the South & North Railroad between Montgomery and Elyton. Tasks listed for the year



WANTED TO HIRE 600 NEGROES

TO WORK on the South & North Alabama and Central Railroads, between Montgomery and Elyton, a Bridging, Track laying, Grading, getting ties, timbers, &c. for the year 1864.

Apply to Geo. O. Baker, Selma, R. H. Kelly, Lime Station, Shelby county, or the undersigned at Montgomery.

JOHN T. MILNER,
Chief Engineer and Superintendent,

Office in the old Winter Iron Works.
dec 24-d1m.

"Wanted to Hire 600 Negroes." Advertisement, *Sunday Mississippian*, January 24, 1864. Alabama Department of Archives and History.

1864 included "Bridging, Track-laying, Grading, getting ties, timbers, &c." Applications were to be directed to Geo. O. Baker, Selma; R. H. Kelly, Lime Station [Calera], Shelby County; or John T. Milner in Montgomery.

In 1864, Milner was engaged in maintaining the railroad as it existed from Calera to Brock's Gap and completing the grading on to Grace's Gap, the farthest point north to which grading was extended during the war years. The "Willis J. Milner," a wood-burning locomotive named for Milner's father, hauled the majority of the Red Mountain Iron & Coal Company's iron and coal over a "patchwork line," made, according to Milner, of "every sort and kind of rail from 60 pounds T to 30 pounds T and strap rail and stringer!"

According to all historians, the railroad was graded north of Brock's Gap to Grace's Gap on Red Mountain. If any rails were laid, they did not remain after the Civil War. It is highly probable that, together with the grading of the railroad, the earthen fill that creates the railbed both through Brock's Gap and beneath the Ross Creek Culvert was created during the Civil War-era construction. The 40'-high and 924'-long wooden trestle across the valley at the site of the shooting range today may have been built at this time. Bridging was a primary construction activity noted in all advertisements for labor. No records of the South & North Alabama Railroad or the Red Mountain Iron & Coal Company have been located to prove or disprove these theories. Records that have been found document the labor force that Milner sought to hire to work on the railroad during the Civil War. Reports of the State of Alabama Inspector of Convict Labors document the labor force in the 1871 era.

Red Mountain Iron & Coal Company Builds the Culvert

The Oxmoor furnace had been blown in in October or November of 1863. The company had also opened its coal mine at Helena at this time. With ownership of the Brock's Gap and the Ross Creek sites by January 1863 and workers assigned to the railroad near Elyton and Montevallo for the years 1863 and 1864, it seems highly probable that the well-capitalized Red Mountain Iron & Coal Company under John Milner's and Richard Kelly's supervision also built the Ross Creek Culvert. The labor force advertised for in both of these years was hired to get ties, lay tracks, and build bridges and culverts.

Although no sources have been located that document the construction of either the fill or the Ross Creek Culvert during 1863 or 1864, the physical evidence of the stone culvert itself reflects a well-engineered structure built for the ages by significant manpower and financial resources. Stories in the Coward-Curren family passed down through many generations state that the culvert WAS built during the war and iron hauled over it to Selma.

Shades Mountain sandstone block remaining at the Coward-Curren quarry site, north of Shades Crest Road. Birgit Kibelka, 2017.

Robert Curren states that stone for the 1863 Oxmoor Furnace and the Ross Creek Culvert came from the Coward quarry on the north slope of Shades Mountain about two miles from the culvert site. Curren's sources include his great-grandfather, Peter Curren, who operated the Coward quarry after the Civil War; his grandfather, John C. Curren; many uncles; and Green Avery, a slave and later freeman who drove ox carts to haul the sandstone blocks across a ford at Shades Creek to the nearby construction sites. The quarry remains today along Shades Crest Road. (George Coward, a relative of the Rosses, acquired the quarry site in 1858 and did not sell it to the railroad engineers when his fellow South Carolinians sold their lands.) The Curren and Urie families operated the quarry through the 1880s, providing construction materials for the railroad and early buildings in Birmingham.

If the culvert was not built during 1863, it surely could have been built in 1864 with new laborers reporting directly to engineer R. H. Kelly in Calera.

Box culvert, east of the Ross Creek Culvert and similar to the culvert carrying an unnamed tributary under the railroad fill beneath today's Elvira Road, Jet Lowe, 2017.

A small and still functioning culvert was built to facilitate the passage of an unnamed subsidiary of Black Creek at Brock's Gap.

Constructing the Ross Creek Culvert

James Gage, who is an authority on stone structures in the Northeastern United States (whose website, www.stonestructures.org, presents detailed analyses and photographs of stone bridge and culvert construction), assessed a similar stone arched railroad culvert built in 1864 and still remaining in a remote area of McKean County, Pennsylvania. Gage described how the Pennsylvania culvert would have been built. His description appears also to apply to the well-designed, superbly built, and once remote Ross Creek Culvert:

> The stones were cut, shaped, and finished by skilled artisans. The assembly of the culvert would have been overseen by a master stonemason. Carpenters would have been needed to construct the support framework to hold the arch in place during placement of the stones. Laborers would have been needed for transporting, hoisting, and positioning the stones.
>
> The standard practice of 19th century railroads was to reserve the best quality construction work for bridges and culverts in the most remote areas. The logic being that the most remote and difficult-to-access structures needed to be built to minimize maintenance and repairs.

Engineers directing the building of a stone culvert. Dave Rathfon, *The Story and History of the 1864 Stone Arch Culvert Railroad Bridge*, www.backtobradford.com.

The Ross Creek Culvert, elevation from the east. Jet Lowe, 2017. HAER AL-214-1.

March–April 1865: Wilson's Raiders Destroy Furnaces and Railways

In the spring of 1865, the 28-day, 525-mile cavalry campaign of Union General James Harrison Wilson (1837–1925) across Alabama and Georgia concentrated on destroying the Confederate government's ability to make weapons of war. It was, according to historian Jim Bennett, "the largest cavalry raid and last major engagement of the war" and a major success. On March 28, Wilson's troops torched wooden structures and destroyed machinery at the Oxmoor and Irondale furnace operations in Shades Valley. They destroyed the munitions-making facilities at Selma April 2–9. Troops dismantled rails and railroads wherever they found them. Per Robert Curren, they did not damage the culvert at Ross Creek; the local militia of old men and boys fired one shot, then surrendered the culvert. An Iowa cavalryman recorded shots fired at Brock's Gap near the Brock cabin at the Cahaba River.

1869: Work Resumes on the South & North Railroad

After the close of the war, efforts to build the South & North Alabama Railroad resumed. In April 1868, the Montgomery City Council granted the railroad a $500,000 bond to build and equip the road from Montgomery to Calera. The state legislature approved this aid on December 7, 1866. The Council records mention a contracting company that was formed by partnership of Bartholomew Boyle, Richard H. Kelly, John T. Milner, and others as having control of "the labor of the penitentiary convicts." The state of Alabama may have put up a $2 million bond to finance the railroad.

On April 12, 1869, the South & North contracted with Sam Tate & Associates to complete the line from Calera to Elyton by April 1871 and to Decatur by December 1871. The cost was now $16,000 per mile, significantly less than Milner's estimate. Tennessean Sam Tate had been a major railroad promoter, manager, and contractor for the Decatur & Tuscumbia line, a very high-volume railway, and had also built the Memphis & Charleston Railroad.

Frank Gilmer Jr. was still a major stockholder and the driving force in making the South & North Alabama Railroad happen. Milner had produced a new routing survey in November 1866 (Ethel Armes was shown a copy); this became the plan to rebuild the railroad. However, as Armes relates, those building the railroad were instructed to build it as cheaply as could be, "and more cheaply if possible," substituting long grades and curves for costly tunneling and bridgework.

There was another reason Milner acted with expediency. A well-financed and politically powerful competing railroad company, the Alabama & Chattanooga, headed by a pair of Northern businessmen, was attempting to undermine Milner's 1858 plans to build a city on 7,000 well-chosen acres in the center of the Alabama mineral region. Stockholders of the competing company, "backed by predatory bankers of the East" (as the contemporary writer Mary Gordon Duffee put it), wanted to divert Alabama's mineral resources and iron-making potential to Chattanooga, Tennessee, where they held major interests. The Alabama & Chattanooga owners had bought the vote of every Alabama legislator. They also tried to gain control of Gilmer and Milner's railroad, and briefly did so, as well as control of the point at which their railroad and the South & North would cross, creating a new city. (Milner outwitted the Yankees and crossed his railroad with the existing line at the point of his choosing, and the point that determined the placement of the Birmingham city center.)

Blasting Through Brock's Gap

The final remaining obstacle to completing the railway across Shades Valley and into the future site of Birmingham was the lengthy cut through Shades Mountain's hard rock summit at Brock's Gap. During 1871, this feat was engineered and completed by Colonel J. F. B. Jackson (1830–1912) using State of Alabama convicts. According to monthly reports by the state inspectors of convict workers, 111 convicts worked under Jackson's supervision in February 1871 and "appear[ed] to be well cared for." Mary Ellen Curtin, writing about the Alabama convict-lease system for the Encyclopedia of Alabama, states that since antebellum times, prisoners "had been put to work under the authority of a state warden." Curtin states that in the 1870s, "state prisoners convicted of felonies worked on railroads, where they suffered extremely high rates of death." During this period, railroad companies housed and fed the labor force but did not pay the state for the labor received.

The July 1871 report of the state inspectors notes that convicts working on the South & North Railroad were well cared for, but that 15 convicts died at Brock's Gap and Tate's mills (including two killed accidently, by a falling rock and a blast). Jackson's workers used nitroglycerin to blast the reported 75-foot-deep channel through the hard sandstone rock of Shades Mountain and achieve the desired railway bed.

Shades Mountain Cut drill marks. Birgit Kibelka, 2017.

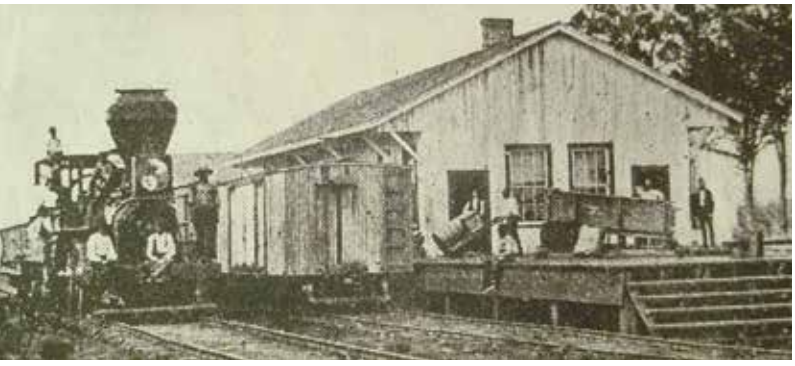
It took more than $2 million (in today's dollars) of black powder to get through Brock's Gap. It took a massive amount of manpower working with levers, derricks, and drills. Lining the historic railbed fill (now Elvira Road) are large piles of fracture rock. Rail historian Bob Yuill of Birmingham relates that manpower could use wedges and levers to break the rock loose and load the broken rock on

carts and or 4-axle wagons. Once the wagons were at the dumping point atop the fill, the rocks would have been manhandled out of the wagon. This excavation work was done by hand in a time-consuming process involving significant manpower. However, the more difficult part was the removal of the large rock that had to be blasted loose. There are several sections of very massive and solid sandstone rock in Brock's Gap. The biggest rocks remaining in repeated rock piles atop the fill today were too large for carts to remove them. Here railroad engineers directed the operation of derricks and manpower to lift the rocks out of the cut.

November 1871: A Train Rolls Through Brock's Gap and Birmingham Begins

Coming from Montgomery, the first train to run over the tracks of the South & North Alabama Railroad through Brock's Gap into Shades Valley and across the Ross Creek Culvert did so in November 1871. It arrived in the cornfields that filled the future city of Birmingham on November 11, 1871. The city at the center of the North Alabama mineral region was chartered a month later on December 19, 1871. Streets were laid out parallel to the tracks of the South & North Alabama Railroad and lots sold.

Milner completed the South & North over arduous terrain to within 66 miles of its destination at Decatur on the Tennessee River during 1871. But it was not until late 1872 that North Alabama merchant and railroad promoter James Withers Sloss helped negotiate a deal with officers of the Louisville & Nashville Railroad to finish the line to Decatur and subsequently link it within the L. & N. (now CSX) system north to Nashville, Louisville, and beyond. Due to the hilly terrain, the link was very difficult to construct and very expensive.



Unloading at a depot in Birmingham, c. 1873. Alabama Department of Archives and History, DCSO8474.

Sam Tate sold his construction contract, and neither Milner nor Gilmer, the visionaries who worked for more than a decade to complete the railroad, were involved in the L. & N. Gilmer died in poverty; Milner made a fortune investing in coal mining in the Birmingham area.

As Milner had envisioned in his 1859 report, the L. & N. extended spurs, beginning in 1886, that encircled Birmingham's mines, mills, and foundries. The loop became known as the Birmingham Mineral Railroad. An Alabama Mineral Railroad followed by 1904, linking industrial sites across the state. Thus, the L. & N. quickly became the principal conveyor of Alabama's mineral resources, iron and steel, pipe, and foundry products and a major Southern railroad. Birmingham became and remains the rail and industrial capital of not only Alabama but also of the South.

The South & North and the L. & N.

In 1872, the 180-mile South & North Alabama line extending from Montgomery to Decatur, Alabama, became a branch of the Louisville & Nashville Railroad. It retained its name for many years. From 1872 to 1908, the mainline of the L. & N. ran through Brock's Gap, transporting minerals, iron, pipe, and foundry products as well as passengers. In 1908, the L. & N. double-tracked this section of its original route and eliminated the Brock's Gap passage through Shades Mountain by building the Parkwood Tunnel. After 1908, the line through the gap remained and became Elvira Road.

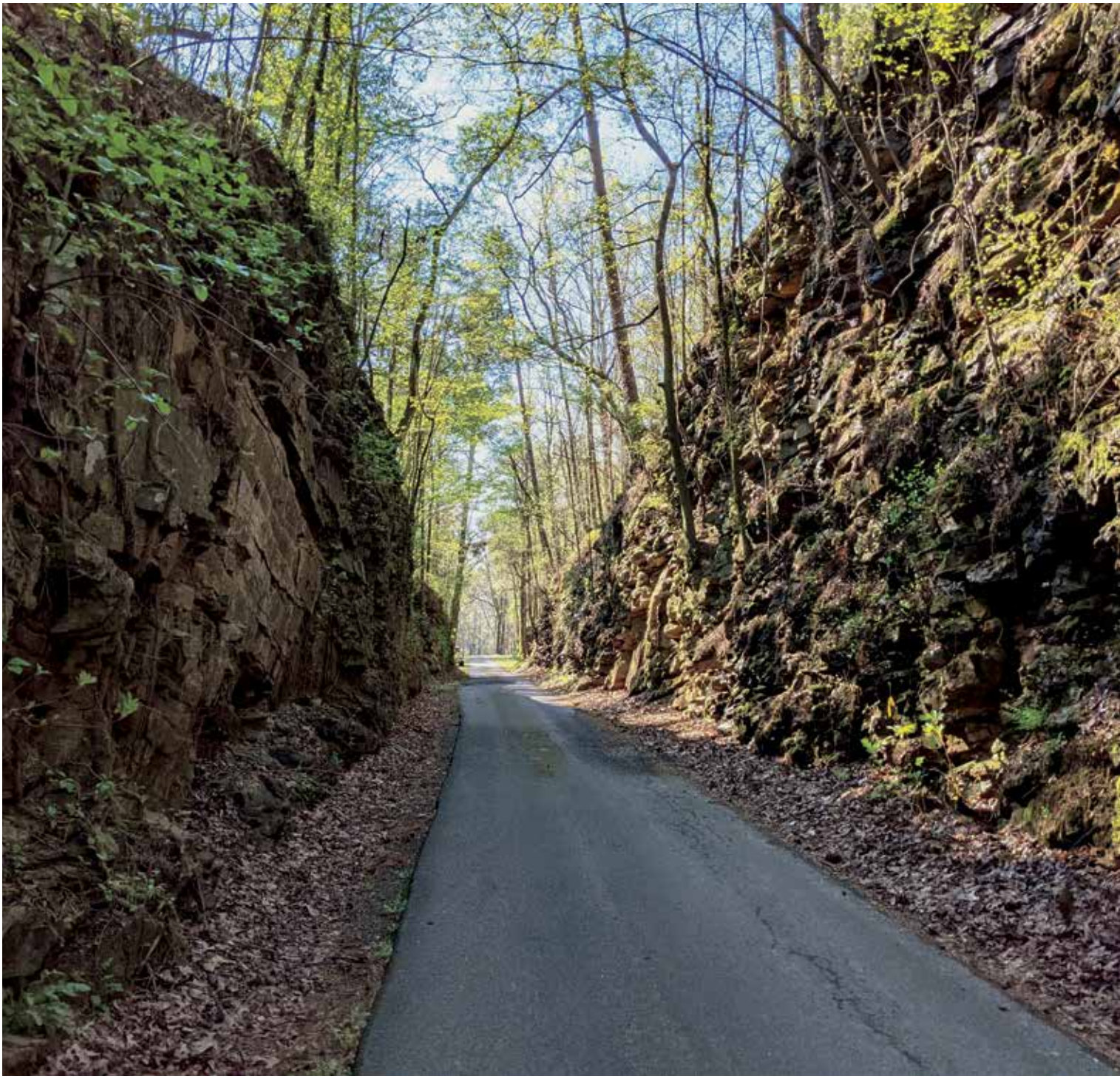
Oxmoor Rebuilds the Furnaces… and the Vast Acreage

The Oxmoor furnaces were rebuilt after the war with Daniel Pratt as the major investor and his son-in-law, Henry DeBardeleben, as manager. It was here in 1876 that Birmingham coke, made from coal, was first used to make iron from Birmingham ores. The successful experiment led to the great expansion of the Birmingham mines and mills. Only coke iron could compete with Northern iron makers, as it yielded superior output to charcoal iron. The vast Oxmoor site that included ore and coal mines was acquired by several interests and later merged into the local Tennessee Coal, Iron & Railroad Company. U.S. Steel acquired this successful enterprise in 1907. The Oxmoor furnaces functioned until 1927. Thereafter the Oxmoor valley remained sparsely populated until the 1980s when the City of Birmingham annexed substantial portions for its several Oxmoor Valley development projects.

From Oxmoor to Ross Bridge

Beginning in 2002, Daniel Corporation, USS Real Estate, and the Retirement Systems of Alabama acquired vast acreage in Oxmoor valley and undertook development of a new 1,600-acre community, named Ross Bridge for the historic railroad culvert. Ross Bridge adopted its central arch as the community's logo and designed its resort hotel, residences, and community buildings in the style of a late 19th- to early 20th-century railroad town. In 2002, the City of Hoover annexed the land upon which the Ross Bridge

community would be built. In 2008, the physical culvert, causeway, and historic railway bed became part of a two-acre park, the Historic Park at Ross Bridge, now heavily frequented and enjoyed by residents of Ross Bridge. In 2021, the Ross Bridge community is nearing final development with hundreds of homes, apartments, and commercial buildings now rising in the formerly remote area. Developers are currently seeking to provide better interstate access for Ross Bridge and to extend home-building to the south through Brock's Gap and into the training center property where the finest segment of the historic railway remains.



Cut Pine Mountain South. Birgit Kibelka, 2021.

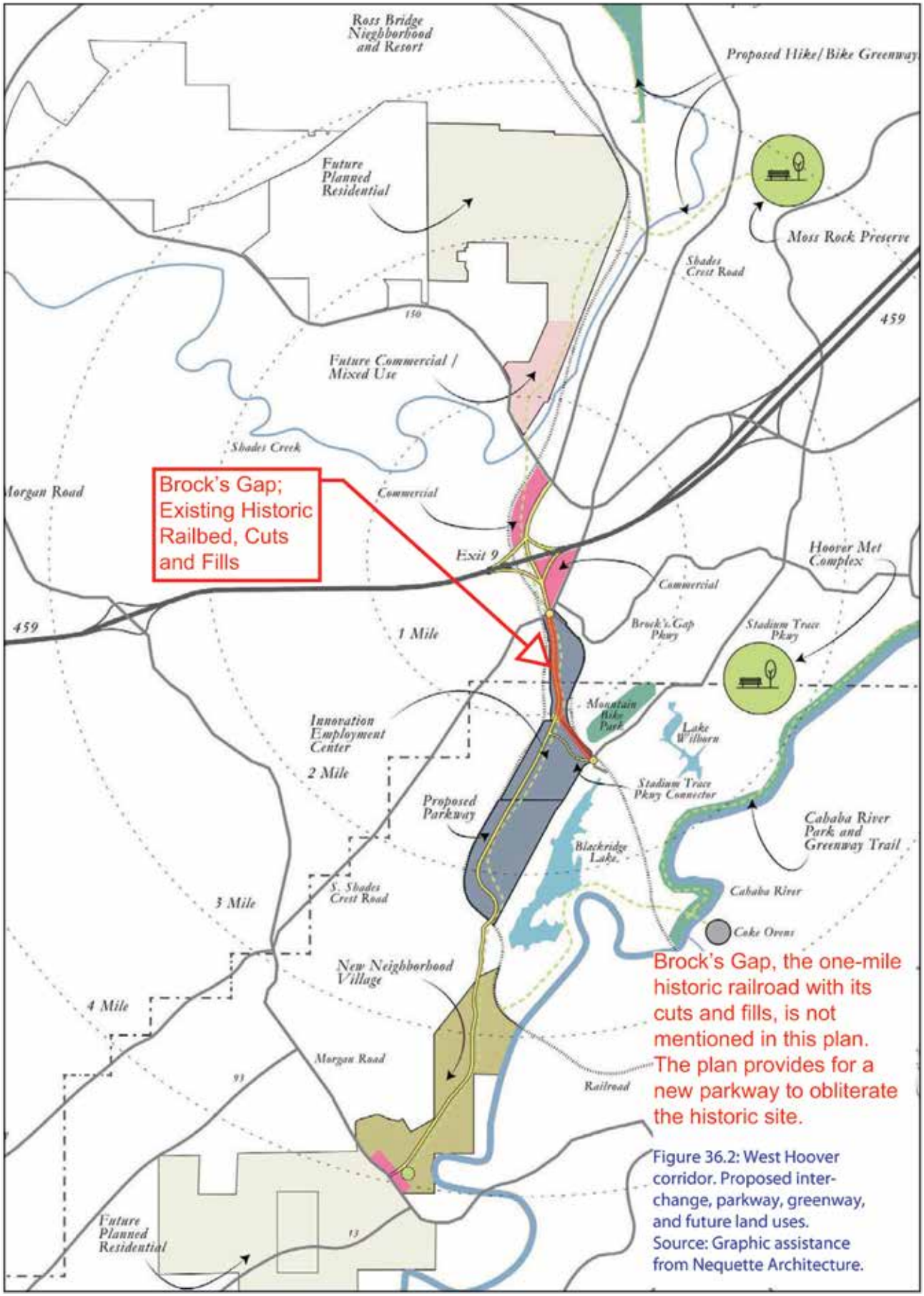


Figure 36.2: West Hoover corridor. Proposed interchange, parkway, greenway, and future land uses. Source: Graphic assistance from Nequette Architecture.

Figure 36.2 from *Future Hoover, The Built Environment,* page 55.