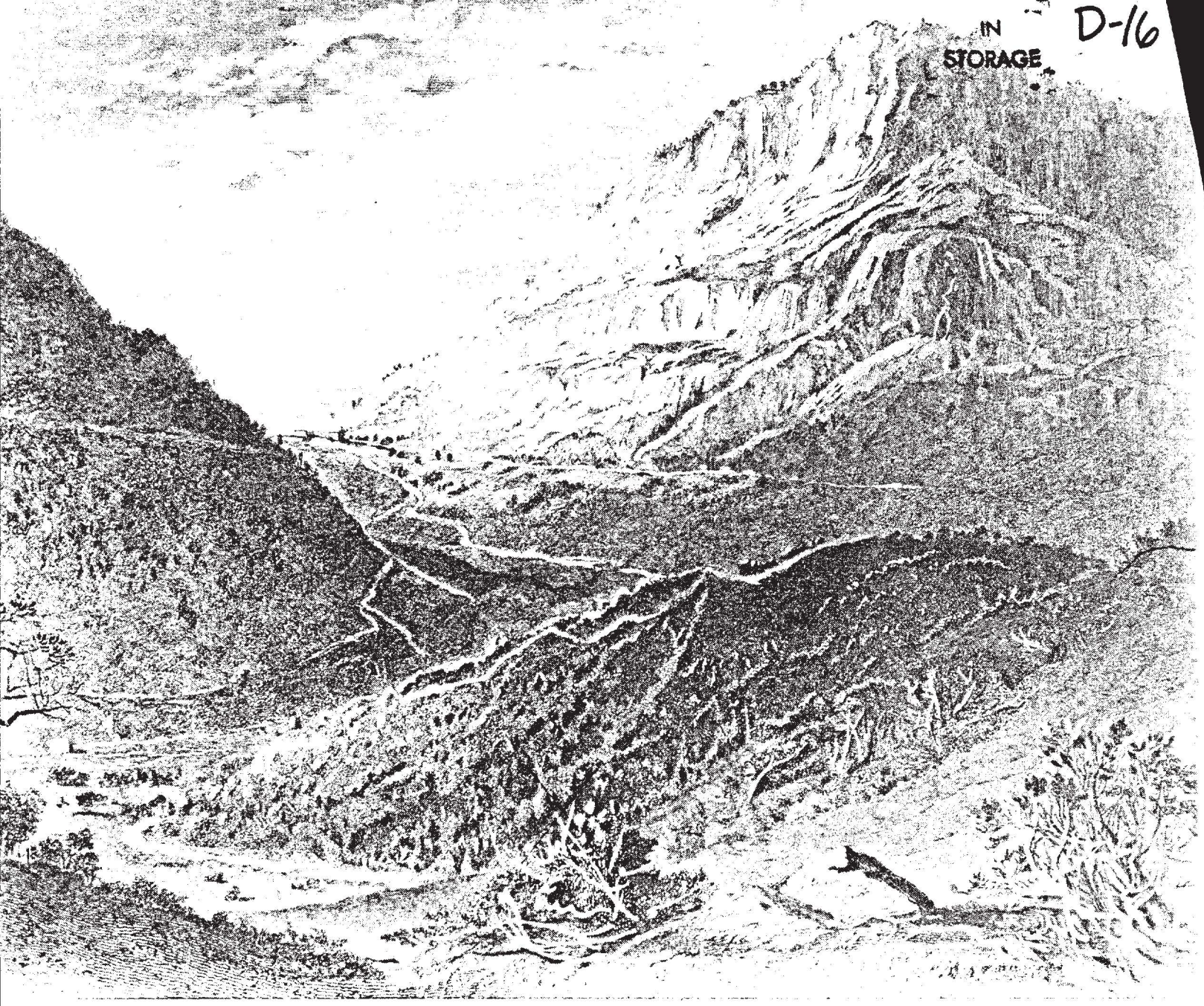

SPECIAL REPORT

IMPROVEMENTS TO HIGHWAY 25E THROUGH HISTORIC CUMBERLAND GAP

CUMBERLAND GAP NATIONAL HISTORICAL PARK

october 14, 1966

ATTENTION:

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D-16

TASK FORCE REPORT

IMPROVEMENTS TO U. S. HIGHWAY 25 EAST

AND

RESTORATION OF HISTORIC CUMBERLAND GAP

OCTOBER 14, 1966

A PRESENTATION TO THE SPECIAL GROUP
CONCERNED WITH PRESERVATION OF THE GAP

TASK FORCE

J. T. ANDERSON - KENTUCKY STATE HIGHWAY DEPARTMENT

P. B. COLDIRON - VIRGINIA STATE HIGHWAY DEPARTMENT

PATRICK FLEMING - APPALACHIA COMMISSION

J. L. OBENSCHAIN - BUREAU OF PUBLIC ROADS

EUGENE R. DeSILETS - NATIONAL PARK SERVICE

PREFACE

The long dormant problem concerning the improvements of U.S. Highway 25E through historic Cumberland Gap came to life early in 1965 following passage of the Appalachian Regional Redevelopment Act of 1965 signed by President Johnson on March 9, 1965, which provided funds for highway improvements as well as financial aid to other programs in the depressed area in Appalachia. Since the establishment of Cumberland Gap National Historical Park in 1955 followed by the preparation of the Master Plan, the proposal for restoring the Gap to its historic wilderness appearance through the use of a tunnel has been a prime objective for this park's development program.

Stimulated by the contents of the Appalachian Development Act, the states of Tennessee, Kentucky and Virginia took immediate steps to identify routes that would qualify for aid under the program. U.S. 25E, an old and dangerous outmoded highway, became one qualifying for such aid. An exchange of correspondence between Commissioner Henry Ward, Kentucky Department of Highways, provided impetus to the Cumberland Gap problem and resulted in a meeting in the conference room of Mr. George B. Hartzog, Jr., Director of the National Park Service on July 29, 1966, to discuss ways and means to expedite the improvements through the Gap in line with Highway Department programs and the Appalachian Act including the objectives of the National Park Service for preservation of the Gap.

The meeting was chaired by Mr. J.E.N. Jensen, Assistant Director, Design and Construction, in Mr. Hartzog's absence. A task force was appointed and charged with the responsibility to investigate the proposed improvement program in the Park and prepare a report for submission on September 1, 1966. Due to delays involving appointments to the task force and arrangements for committee action, the date of September 1, 1966 could not be met. Accordingly, the new date of October 14, 1966 was selected.

The committee herewith respectively submits this report for your review, consideration and approval:

J. T. Anderson

J. T. ANDERSON - KENTUCKY STATE HIGHWAY DEPARTMENT

P. B. Coldiron

P. B. COLDIRON - VIRGINIA STATE HIGHWAY DEPARTMENT

JOSEPH W. FLEMING, JR. - APPALACHIA COMMISSION

J. L. Obenschain

J. L. OBENSCHAIN - BUREAU OF PUBLIC ROADS

Concurred - E. R. DeSilets 10/14/66

EUGENE R. DeSILETS - NATIONAL PARK SERVICE

STATEMENT

On March 9, 1965, the President signed into law the "Appalachian Regional Development Act of 1965." Soon thereafter the Congress appropriated funds providing for implementation of the Act. The Appalachian Regional Commission, which was established by the Act, selected for development those highway routes which could best serve to aid in promoting the economic development of the region. Route US-25E through Cumberland Gap was included as one of those selected routes.

For a number of years studies have been under way by both the National Park Service and the State of Kentucky to provide for the solution to a plan for improving US-25E in conjunction with the restoration of the Cumberland Gap to its original condition of terrain cross section, and vegetation.

While enactment of the Appalachian Regional Development Act is not the initiating force influencing this improvement, it is felt that the Act has precipitated the movement and provided the stimulus needed to seek a satisfactory solution within the limiting time imposed by the Act.

October 10, 1966

PART I

HISTORICAL BACKGROUND

A. History

B. Establishment of the Park

C. Highway Improvement - Accomplishments

D. Park Development - Accomplishments

HISTORY

The earliest use of the Gap was by the Indians over what was called the Warrior's Path, an important north-south Indian trail.

In 1750, Dr. Thomas Walker passed through what is now known as Cumberland Gap, not knowing he had found an opening in the Cumberland Mountain Range that would allow thousands of pioneers to emigrate west to the Appalachian Mountains. Daniel Boone first crossed over the Gap in May of 1769. In 1775, he was hired to open a path through the Gap and on through to the Great Falls of the Ohio. This path became the Wilderness Road, over which settlers poured to settle Kentucky, Tennessee, Indiana, and points westward.

Migration continued over the Wilderness Road and, by 1783, 12,000 settlers had entered Kentucky through the Gap. In 1796, the Wilderness Road was widened and improved for wagon traffic.

During the Civil War, the Gap was a strategic location and it was alternately held and fortified by both the Confederate and Union Armies.

In 1890, an I&N Railroad Tunnel, approximately one mile in length, was constructed under the Gap.

ESTABLISHMENT OF PARK

Cumberland Gap, the most significant resource of the Park, is an impressive example of the "wind gap", frequently found in the Appalachian Mountain range. However, the primary importance is in its historical value as the principal Trans-Allegheny Gateway to the west during a critical period of our national existence. Daniel Boone blazed his Wilderness Road through the gap in 1775, which was followed by frontiersmen and thousands of settlers in their push of the national boundary westward to the Mississippi River. Prior to the coming of the white man, Cumberland Gap was an important north-south passage for the Indians Warrior Path.

The states of Kentucky, Virginia and Tennessee meet at Tri-state Peak, the southwest shoulder of the gap. Extensive Civil War remains, principally earthen forts, rifle pits and well-defined military roads are located within the Park. These were used by both armies of the North and South. In Virginia, between the Gap and the town of Cumberland Gap, Tennessee, there are remains of a 19th century iron furnace.

Besides the Gap's historical significance, the Park has important natural significance. These include spectacular panoramic views of the valleys below, caves, forested mountain peaks, small waterfalls and interesting geological rock formations.

With the establishment of the Park, this important historical and natural area is set aside to be conserved and interpreted for the benefit and enjoyment of the people.

The Park embraces an area of 20,184.20 acres of land. This land was acquired by the following three states and given to the Federal Government.

From Virginia - 7,477.98 acres in Lee County, December 1, 1953.
From Tennessee - 2,027.06 acres in Claiborne County, January 15, 1953.
From Kentucky - 10,679.16 acres comprising 9,329.16 acres in Bell County and 1,350 acres in Harlan County on June 9, 1955.

The final boundary has not been established and parcels of certain lands are needed to establish the proper boundaries. There is an inholding of 5.619 acres owned by the J. F. Schneider & Son, Inc. meat packing plant on the southeast side of Brewery Lane, a county maintained section of road.

Legislation was first introduced for the park in 1923, but it was not authorized until June 11, 1940 when President Franklin D. Roosevelt

signed the bill. The formal establishment did not come until September 14, 1955.

The primary Master Plan objective is the preservation of the Gap and the surrounding area for the inspiration, understanding and appreciation of the natural and human history of the Gap.

Interpretive programs are planned around a combination of museum exhibits and audiovisual programs; these are supplemented with outdoor exhibits and self-guided tours to place major emphasis on the westward migration period of 1750—1800 and to consider the pre-pioneer, Civil War and industrial boom periods as supporting themes.

A minimum of development has taken place within the park, with only construction as required to serve the visitor and keep within park objectives being carried out. The major developments consist of the reconstruction of the Pinnacles Road, Pinnacles Overlook, park visitor center, campground and picnic areas, Tri-state Shelter, and improvement of trails and interpretive signs.

HIGHWAY IMPROVEMENTS - ACCOMPLISHMENTS

The initial improvement to the Wilderness Road, in 1796, consisted of widening to accommodate wagons; this essentially was the first road. Early photographs of the Gap area indicate that a road existed, in somewhat the same location as the present road, prior to 1900. It is estimated that a highway existed in what is generally the present alignment through the Gap in the 1920's. A rock quarry was opened in the Gap area on the road right-of-way in 1925 and gravel from the quarry was placed on the road. Other improvements over the years consisted of relocating Dead Mans curve to Harris Court in Kentucky in 1948, and completing the present road in 1953 with 3 lanes in Kentucky joining the existing 2 lanes in Virginia.

PARK DEVELOPMENT AND ACCOMPLISHMENTS

The first items completed within the park after its establishment consisted mainly of improvements to existing facilities, with new construction following later. Briefly, the following is a schedule of construction as it was accomplished.

Construction and improvement of Pinnacles overlook, walks and parking area in 1956

Pinnacles interpretive shelter and comfort station (1957)

Improvement of old Pinnacles Road from Gap to parking area in 1956

Visitor Center (1959)

Skyland Tour Road, four mile drive with overpass at U.S.-25E, from visitor center (1959)

Wilderness Road campground and picnic areas (1964)

Tri-State Shelter (1965)

An estimated expenditure of nearly $2,000,000. has been made to date for facilities since the area was established as a National Historical Park.

Nearly 35% of park travel originates from four midwest states and 22.5% from Kentucky. The pattern of use varies through the year with heaviest use in the summer, moderate spring and fall use, and light use during the winter months. The most heavily used area in the park is the Pinnacle which receives over two-thirds of the total park visitation. Campground and picnic areas receive the next heaviest use and the use of the hiking trails is the lightest. Cudjos Cave in the Gap, on Route 25E, and the Iron Foundry, in the town of Cumberland Gap, are other popular attractions.

Annual visitation to Cumberland Gap is 250,000 which will continue to increase over the years as Highway 25E is improved and the Gap is restored.

PART II

THE PROBLEM

A. Importance of the Historic Gap

B. Highway Improvements - Proposed

C. Appalachian Program

D. Preservation of Historic and Landscape Values

IMPORTANCE OF HISTORIC GAP

The Allegheny Mountains presented a formidable barrier to the westward expansion of English colonists. With the discovery of Cumberland Gap and later the opening of Daniel Boone's Wilderness Road, a gateway was provided to the West.

Thousands of settlers followed Boone and the early frontiersmen through the gap, to settle first Kentucky and then lands further west. This route was the main artery of the westward expansion across the mountains until the final defeat of the northern Indians which allowed by 1825 more direct routes to the west.

HIGHWAY IMPROVEMENTS — PROPOSED

The problem of improving the alignment and grades of U. S. Route-25 through the town of Cumberland Gap and the Cumberland Gap National Historical Park was sought by Tennessee and Virginia in 1955. In May of that year the National Park Service received copies of plans from Virginia and shortly thereafter from Tennessee showing their proposals. These plans had been coordinated by the states of Virginia, Kentucky and Tennessee and indicated a route through historic Cumberland Gap which was mutually agreeable to them. The National Park Service promptly began studies designed to lessen the damage to historic and scenic values and submitted alternates which were later rejected by the states.

Among these alternates was a suggestion for a proposed tunnel which could lead to eventual restoration of the historic gap vista. Surveys to determine costs and feasibility of this tunnel were begun by the Bureau of Public Roads in July 1956, at the request of the National Park Service on this suggestion after rejection of the states proposal by the National Park Service. As a result of this study the Bureau estimated that a 1400 foot long tunnel with maximum grade of 6% and including approaches would cost $3,200,000. Virginia and Kentucky (the states directly involved) approved the plan but declined to share any part of the tunnel cost.

The matter was reopened in 1965, after U. S. 25E had been designated as part of the Appalachian Highway System, by Kentucky requesting meeting with Park Service Officials, which led to the formation of a study group comprising representatives of all agencies involved.

APPALACHIAN PROGRAM

The Appalachian Regional Commission passed resolution number 92 on August 10, 1966 for the purpose of allocating funds for the Appalachian Development Highway System and for establishing the order of construction of projects.

Allocations of authorized Federal Funds under Section 201, were $183,911,000 for Kentucky, $51,421,000 for Tennessee and $40,689,000 for Virginia.

These funds are to cover 70% of total approved project costs for:

Preliminary engineering and right-of-way

BPR construction authorized on or before July 1, 1966

Highway facilities after July 1, 1966, for 2 or 4 lane construction provided the cost of 4 lane construction does not exceed 2 lane construction costs.

Funds allocated to the states are to be available in the order prescribed:

Projects approved by Commission and Secretary of Commerce on or before July 1, 1966.

Approved by above after July 1, 1966 based on priority for each state on basis of adequacy rating pursuant to Resolution 30 priorities to be adjusted to enhance development opportunities.

Funds are available to the states for preliminary engineering and right of way work on any segment of the system, without regard to established construction priorities.

Resolution is to be effective as of August 10, 1966.

PRESERVATION OF HISTORIC AND LANDSCAPE VALUES

Cumberland Gap from Indian times to present has been involved in the story of transportation; first in the Indian footpaths over the Gap, then the early pioneers, the wilderness road, enlargement to a wagon trail and later a railroad tunnel through the Gap which was ultimately followed by the existing highway as it stands today. Each of these in its own way has modified the natural aspects of the Gap by altering its physical structure and its vegetation, and each of these has added somewhat to the interesting history of the area.

To this day, as in the past the Gap is involved in transportation and it will continue to play an important role in this story. As the nation continues to expand and traffic increases almost daily, it is evident that the current road is no longer sufficient and studies and proposals for the future must be made.

A number of studies were made of different alternatives including the possibility of removing the road from the Gap completely and finding another route to replace it. These studies resulted in the conclusion that a road over the Gap was the most economical feasible solution and pointed out the need for an expanded road through the Gap, which resulted in a proposal for widening of 25E

The determination to widen 25E to four lanes brought into a new focus the problem of building a road through the Gap in such a way as to have a minimum of impact in the Gap and its surroundings. In order to accomplish this end, the proposal for the tunnel was brought forth and the resulting studies as outlined in the report are aimed at preserving the Gap, both from a historic and a landscape aspect.

Construction of the tunnel section will allow for reconstruction of the Gap area to its original contours at about elevation 1648, and the proposed studies for planting will provide for reforestation of the Gap to the approximate conditions at the time the early settlers crossed the Gap. This will allow visitors the experience of standing in the Gap and looking off into the distance with a minimum of intrusion into the view by the highway itself, giving an experience similar to what Daniel Boone might have had as he stood atop the Gap.

The tunnel however will not be the only consideration since the design of the entire road must be planned to fit into the surrounding area with a minimum of scaring and intrusion on the landscape, otherwise the purpose of the tunnel will be largely nullified.

PART III

THE SOLUTION

A. Task Force Actions

B. Virginia Proposal

C. Kentucky Proposal

D. National Park Service Proposal

E. Plans

ACTION TO DATE - MEETINGS

As previously stated in the preface of this report, the enactment of the Appalachian Regional Development Act of 1965 stimulated action concerning improvements to U.S. Highway 25E through Cumberland Gap. A series of meetings were held by the Department of Highways in Kentucky shortly after the passage of the law. These meetings were attended by Superintendent of Cumberland Gap, leading up to a meeting of all agencies involved. This meeting was held at Cumberland Gap National Historical Park on November 18, 1965.

The meeting revealed the status of road improvements for U.S. 25E in Tennessee which involved the portion of the highway in Virginia. It also revealed the immediate need for coordinated studies for improvements to the highway through the gap. It was determined that each state would proceed immediately with these studies. It also was decided that the Tennessee-Virginia project would terminate at the intersection of U.S. Highway 58 and old U.S. 25E.

A second meeting was held in the park on March 22, 1966, at which time the studies completed by the states were reviewed. This meeting revealed the need for still further coordination of study.

Early in July this year, Commissioner Ward requested a meeting with Director Hartzog to review the studies accomplished to date. Director Hartzog accordingly, arranged for a meeting in his office on July 29, 1966. Attending this meeting were Assistant Secretary of the Interior Stanley Cain, Federal Highway Administrator Rex Whitton, Commissioner Ward and representatives of the Kentucky Department of Highways, Senator Cooper's office, Bureau of Public Roads, the Appalachian Commission, the National Park Service, Bureau of Outdoor Recreation, General Services Administration, the Department of Defense.

Commissioner Ward outlined his position as advocate to the preservation of historic Cumberland Gap in connection with the proposed improvements to U.S. Highway 25E through Cumberland Gap National Historical Park. It was determined that many questions remained unanswered relative to solutions to achieve these objectives. Also, the problem of financing the proposal lacked definitive recommendations. Director Hartzog, due to the pressure of other business, was not present to conduct the meeting and was represented by Assistant Director, Design and Construction, J. E. N. Jensen, who chaired the meeting.

Following the discussion of the problem, Mr. Jensen appointed a Task Force Committee composed of a representative from Kentucky, Virginia, the Bureau of Public Roads, the Appalachian Commission, and National Park Service. Mr. Ward named J. T. Anderson his representative. Mr. Fleming was appointed to represent the Appalachian Regional Commission, Mr. Whitten appointed Mr. J. L. Obenschain to represent

the Bureau of Public Roads, and Mr. E. R. DeSilets was named to represent the National Park Service and act as chairman of the Task Force. Mr. P. B. Coldiron was named later to represent Virginia on the committee since no representative from Virginia attended the meeting.

The Task Force met in Washington on August 17 to begin their assignment. The meeting in Washington was followed by a trip to the site where members of the Task Force or their representatives made a careful examination of the ground and observed, first-hand, the field problems involved. Each was assigned a portion of the investigation to do.

Mr. Jensen had asked for the Task Force report to be submitted on September 1 for presentation to the same group who met on July 29. It was soon discovered that the September 1 date could not be met due to the inability of many of the key members to be present. It was also soon determined that the task force investigations could not be completed by that time. A new date of October 14 was established for the target date to submit the report. The Task Force met again in Washington on September 30 to review their work to date and to formulate the preliminary layout and inclusions for this report.

In the meantime, many problems developed. The first problem that confronted the committee was establishing historical background data for elevations of the original Gap and its appearance. Through the aid of Park Historian Abelson, of the park staff, and others in the Southeast Regional Office, this was accomplished. The second problem, one that provided most concern, was a matter of limits of existing right-of-way for the present Highway 25E. Through the aid of Clifford J. Harriman, Chief of National Park Service Office of Land and Water Rights, the limit of right-of-way was established as generally 80 feet in width. It should be noted that the width varies according to topographic changes.* A third problem concerned the handling of facilities for Cudjos Cave operated and maintained, through agreement with National Park Service, by Lincoln Memorial University, Cumberland Gap, Tennessee. This problem, as yet, is not completely solved. Statements from the university concerning their clearance of Virginia Highway plans for relocating the gift shop and parking area have not been obtained, at the time this report was assembled. The fourth problem concerned additional studies by the Kentucky Highway Department for the location of the proposed tunnel.

* See letters dated September 22, 1966, and September 29, 1966, and record telephone conversation of September 29, 1966, in the appendix.

TASK FORCE REPORT
VIRGINIA PROPOSAL

Plans have been developed for improving Route 25 to a four lane divided facility from the Tennessee State Line to the Kentucky State Line.

The alignment generally follows along the existing road with a minor relocation in the vicinity of Cudjo Cave. In this area, we propose to shift our alignment to the south in order to place all facilities pertaining to the operations of the Cave, parking and curio shop, on the north side of the road to eliminate the pedestrian crossing of Route 25.

A short section of this route, 0.2 mile in length, from the Tennessee State Line north is presently under construction in conjunction with the project in Tennessee.

From the project under construction to the Kentucky State Line the plans are for the most part complete.

The National Park Service recently submitted to this office two (2) schemes for relocating Route 25 to the south in the Cudjo Cave area. These schemes provide for a greater shift in alignment than that proposed on our road plans.

These proposals would place a portion of this relocation on a trestle and differ only in the amount of shift to the south. We estimate Scheme I to cost approximately $425,000 and Scheme II to cost approximately $490,000.

Insofar as our road plans are concerned, we could tie in to either scheme without too much difficulty. However, additional survey data would be required. These schemes, also, are considerably more expensive than our proposed method of development shown on the plans.

The Kentucky Department of Highways have been studying the possibility of providing a tunnel at the Gap Proper in order that the Gap can be restored to its original appearance. The lengths of the various tunnels vary from 4800 feet to 750 feet depending upon the alignment proposed.

Of the various proposals for a tunnel it appears that the 750 foot tunnel would be the most acceptable to us. This would involve approximately 1300 feet of relocation to the south of the existing road to which our location could be adapted.

Our construction estimate on the plans presently proposed is approximately $285,000.

P. B. COLDIRON
LOCATION AND DESIGN ENGINEER

D30

DEPARTMENT OF HIGHWAYS
RICHMOND, VA. 23219

October 11, 1966

Special Task Force
Improvements to U.S.
Cumberland Gap

Mr. Eugene R. DeSilets
U. S. Department of Interior
National Park Service
Philadelphia Planning and Service Center
Design and Construction
143 South Third Street
Philadelphia, Pennsylvania 19106

Dear Mr. DeSilets:

In accordance with our agreement at the meeting in Mr. Obenschain's office on September 30, 1966, we are attaching our Virginia portion of the report to be presented to the special group concerned with the preservation of the Cumberland Gap in Washington on Friday, October 14, 1966.

Due to the lack of time, we have been unable to secure 35 mm slides of an oblique aerial view of the Gap from Virginia and Kentucky. We will, however, arrange to do this as soon as possible.

We are bringing with us a transparency showing the vertical view of the Gap, together with stereo pairs showing a vertical view of the Gap. We are also bringing with us to the meeting cross sections of Station 1048 to the Kentucky State Line.

As you requested, we have made a quick estimate of the cost of the longer line utilizing a 150' trestle. This cost has been estimated to be $490,000. You will recall that the short line using 150' trestle was estimated to cost $425,000.

I will accompany Mr. A. K. Hunsberger, Director of Engineering, who will represent Mr. D. B. Fugate at this meeting.

Should there be any additional information which we could supply, we would be happy to undertake it. We are looking forward to seeing you on October 14th.

Yours very truly,

P. B. Coldiron
Location and Design Engineer

PBC/lsw
C-Mr. A. K. Hunsberger
Mr. H. M. Morecock

D30

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

September 16, 1966

P. S. C. - D. & C.
SEP 21 1966

Chief
Admin.
Chief, Planning
Site Dev.
Estimators
Proj. Contr.
Chief, Design
LA. ARCH. ENG.
Chief, Const.
Const. Adm. Compl. Safety
Specs. LA. ARCH. ENG.
Const. Supvs.
LA. ARCH. ENG.
Action Taken Date

HS 9/21 acty.

MEMORANDUM TO: Mr. Eugene R. DeSilets, Chief
Development Planning and Project Control

FROM: J. T. Anderson, Projects Management Engineer
Kentucky Department of Highways

SUBJECT: Special Task Force Report on Improvement of US Highway 25-E through Cumberland Gap

This is in reference to your memorandum of September 12, 1966, and our telephone conversation of this date regarding the submission of our preliminary study of this project prior to the next scheduled meeting of the committee on September 30, 1966.

Mr. Hatter has completed his review of this project for the Kentucky Department of Highways as outlined in our last meeting at Cumberland Gap. This study includes three basic schemes, all of which include the improvement of US 25-E from Cumberland Avenue in Middlesboro to the end of construction in Virginia. The cost of the improvement of US 25-E in Virginia was furnished by the Virginia Department of Highways.

Scheme A

Using existing grade and alignment and widening to four lanes with a median width varying from 4 ft. to 16 ft. (40 mph design on vertical curve through the Gap).

Kentucky - 1.3 miles	-	$589,000
Virginia - 0.6 miles	-	$285,000
Total Estimated Construction Cost		$874,000

Scheme B

Using existing grade and alignment and widening to four lanes with a median width varying from 4 ft. to 16 ft. This scheme is the same as Scheme A except the stopping sight distance through the Gap is 50 miles per hour which requires an 11 ft. cut in the existing grade at the top of the vertical curve.

Kentucky - 1.3 miles	-	$615,000
Virginia - 0.6 miles	-	$300,000
Total Estimated Construction Cost	-	$915,000

Scheme C

Using existing grade and alignment and widening to four lanes with a median width varying from 4 ft. to 16 ft. except at the Gap where a 750 ft. rigid frame, cut and cover tunnel is proposed on new alignment.

Kentucky - (Cumberland Avenue in Middlesboro to the tunnel)	1.23 miles	$550,000
Virginia - (Approaches to the tunnel)	0.53 mi.	$275,000
750 ft. rigid frame tunnel	-	$2,600,000
Total Estimated Construction Cost	-	$3,425,000

I am enclosing herewith revised preliminary plans which show the new alignment of the tunnel and the revised grade which conforms to the suggested alignment and grade made by the Virginia Department of Highways. This revised alignment at the tunnel makes it necessary to restrict the traffic on US 25-E to two lanes through the Gap during construction.

We have investigated the feasibility of using a structure with a center pier rather than the single spans as originally planned. Our Bridge Division has indicated that the two structures would cost approximately the same per lin. foot; consequently, the single span scheme would be more economical due to the difference in over-all width.

This completes my initial committee assignment outlined in your memorandum of August 26, 1966. My schedule for the September 30, 1966, meeting in Arlington is as follows: Arrive Washington National Airport at 11:06 a.m. and leave Washington National Airport at 7:00 p.m. If you should have any questions prior to this meeting, please advise.

JTA:mfn

Enclosure

cc-Henry Ward
J. L. Obenschain
P. B. Coldiron

NATIONAL PARK SERVICE PROPOSAL

Having reviewed the historic background for Cumberland Gap and the establishment of the historic elevation, the National Park Service prepared studies showing the extent of restoration requirements that this Service will undertake. The objective is to restore the gap as near to its original form as possible from available evidence. Upon completion of this fill, the area will be covered with the necessary topsoil and fertilizers to aid in the reforestation and cover of the area.

The Service was fortunate to have on hand a series of historic photographs showing the condition of the Gap at various times in the middle of the 1800's until the present time.*

In order to provide an adequate plant material screen at each end of the tunnel which, though adequate, becomes somewhat limited in view of the terrain involved. The plantings are envisioned to aid nature in its reforestation of this area by planting a skeleton of larger trees indigenous to the area and supplemented by an understory planting of smaller sappling material and shrubs. With a careful molding of the area and a restoration of the forest cover, the Service believes that the impression of the original gap can be achieved.

It should be pointed out that the improved 4-lane highway will still be exposed, leaving the tunnel at either end as a modern transportation feature in this area. Despite this condition, it is believed that the visitor can gain some impression of the wilderness experience as seen by Daniel Boone and Walker in their early explorations through the restoration work outlined above.

It also should be pointed out at this time that the Service will provide a spur road and parking area, in the vicinity but out of sight of the gap, to permit visitors to walk on a trail into the historic scene. This trail will also permit the visitor to visit the recently completed tri-state shelter at the nearby peak where the three states join in a common point. Also, the original wilderness road will be recreated through the Gap permitting the visitor to walk on about the location trod by the pioneers in their trek westward.

It is well to reiterate that the Cumberland Gap National Historical Park was established to commemorate this event of westward expansion by the restless pioneers in the later 1700"s; that the Master Plan considerations have consistently advocated the abolition of the present highway in the Gap area itself. This objective continues to be the Service's policy and remains its present position. The Service thoroughly recommends that no further additional scar to the existing landscape of this exciting area be considered.

* See Appendix - Photographs

In summary, the Service proposal is to restore the ground form as near to the original as humanly possible, reforest areas through the planting of trees and shrubs and to install the necessary interpretive facilities to provide the park visitor with the best historic expanse possible in this area.

PLANS

1. IMPROVEMENT TO HIGHWAY 25E AND RESTORATION OF HISTORIC CUMBERLAND GAP

2. SUGGESTED IDEAL SOLUTION

3. CUMBERLAND GAP TUNNEL PROFILE

4. SUGGESTED SOLUTIONS, ALIGNMENT AND PARKING - CUDJOS CAVE VICINITY

5. VIRGINIA HIGHWAY PLANS - SHOWING CHANGES IN R.O.W. REQUIRED FOR NEW CONSTRUCTION OF 25E (3 SHEETS)

KENTUCKY HWY. DEPT. LINE A

B.P.R. ALIGNMENT LINE B

COMMITTEE ALIGNMENT LINE C

PREFERRED N.P.S. ALIGNMENT LINE D

PARKING AREA PROPOSED

INTERPRETIVE SHELTER

PINNACLES OVERLOOK

THE PINNACLE

CUDJOS CAVE DEED RESERVATION

APPROXIMATE RELOCATION OF U.S. 25E (UNDER CONSTRUCTION)

TO BRISTOL

TO KNOXVILLE

MIDDLESBORO

TO PINEVILLE

PARK VISITOR CENTER

SCHNEIDER MEAT PACKING

LOUISVILLE & NASHVILLE R.R.

WILDERNESS TRAIL

TRI-STATE TRAIL

TRI-STATE SHELTER

THE GAP

CUMBERLAND GAP

LITTLE TUNNEL INN

KENTUCKY

VIRGINIA

TENNESSEE

BELL CO.

CLAIBORNE CO.

LEE CO.

SUGAR RUN RD.

OAKLAND RD.

A30

MT

4"W

25E

LEGEND

NRS. BNDRY.
STATE BNDRY.
BUILDINGS
BRIDGE
STREAM
TUNNEL
POWER (AERIAL) — A30
TELEPHONE (AERIAL) — MT
WATER — 4"W

EXISTING ROCK FACE, CRITICAL TO FUTURE PLANS FOR IMPROVING U.S. 25E

400' 200' 0' 400' 800'

SCALE 1"=400' CONTOUR INTERVAL 100'

DRAWING NO. NHP-CG 9012
BASIC DATA APPROVED DEV. PLAN; DRAWING NO. NHP-CG 3003-A; NOV. 30, '65

1

ORIENTATION

PREPARED	E.O.D.C.
DESIGNED	HOLLISTER
DRAWN	J.D. STOUT
CHECKED	
DATE	INITIAL
REVISED	

RECOMMENDED _____ DATE

APPROVED _____

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DESIGN AND CONSTRUCTION
PREPARED BY
PHILA. PLANNING & SERVICE CENTER
OFFICE

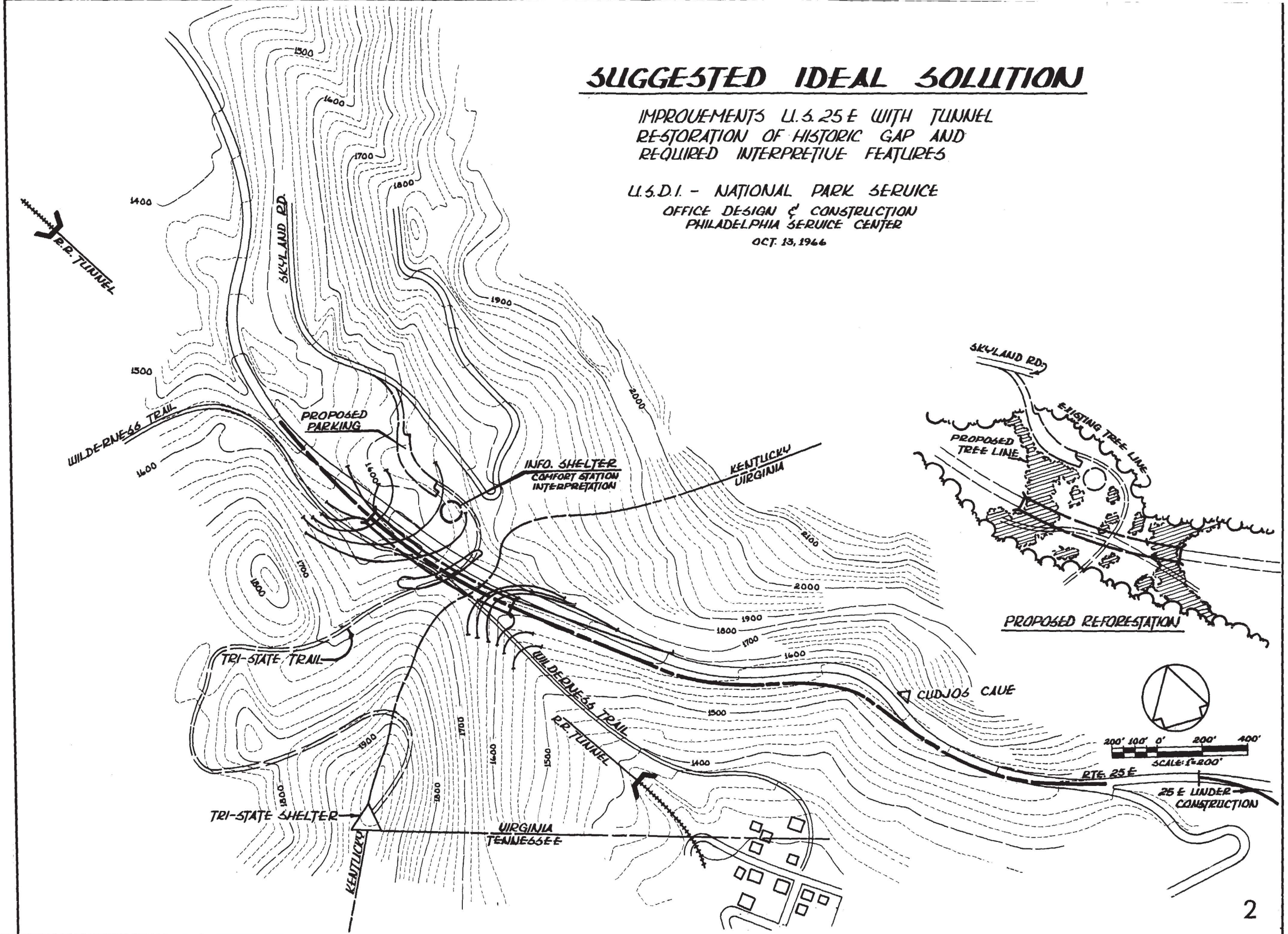
IMPROVEMENTS TO HWY 25E & RESTORATION OF HISTORIC GAP
TITLE OF DRAWING
CUMBERLAND GAP VICINITY
LOCATION WITHIN PARK
CUMBERLAND GAP NATIONAL HISTORICAL PARK
NAME OF PARK

REGION	SOUTHEAST
PCP NO.	
SHEET	1 OF 1
DRAWING NO.	NHP-CG 3114 A
DATE	SEPT. '66

SUGGESTED IDEAL SOLUTION

IMPROVEMENTS U.S. 25 E WITH TUNNEL
RESTORATION OF HISTORIC GAP AND
REQUIRED INTERPRETIVE FEATURES

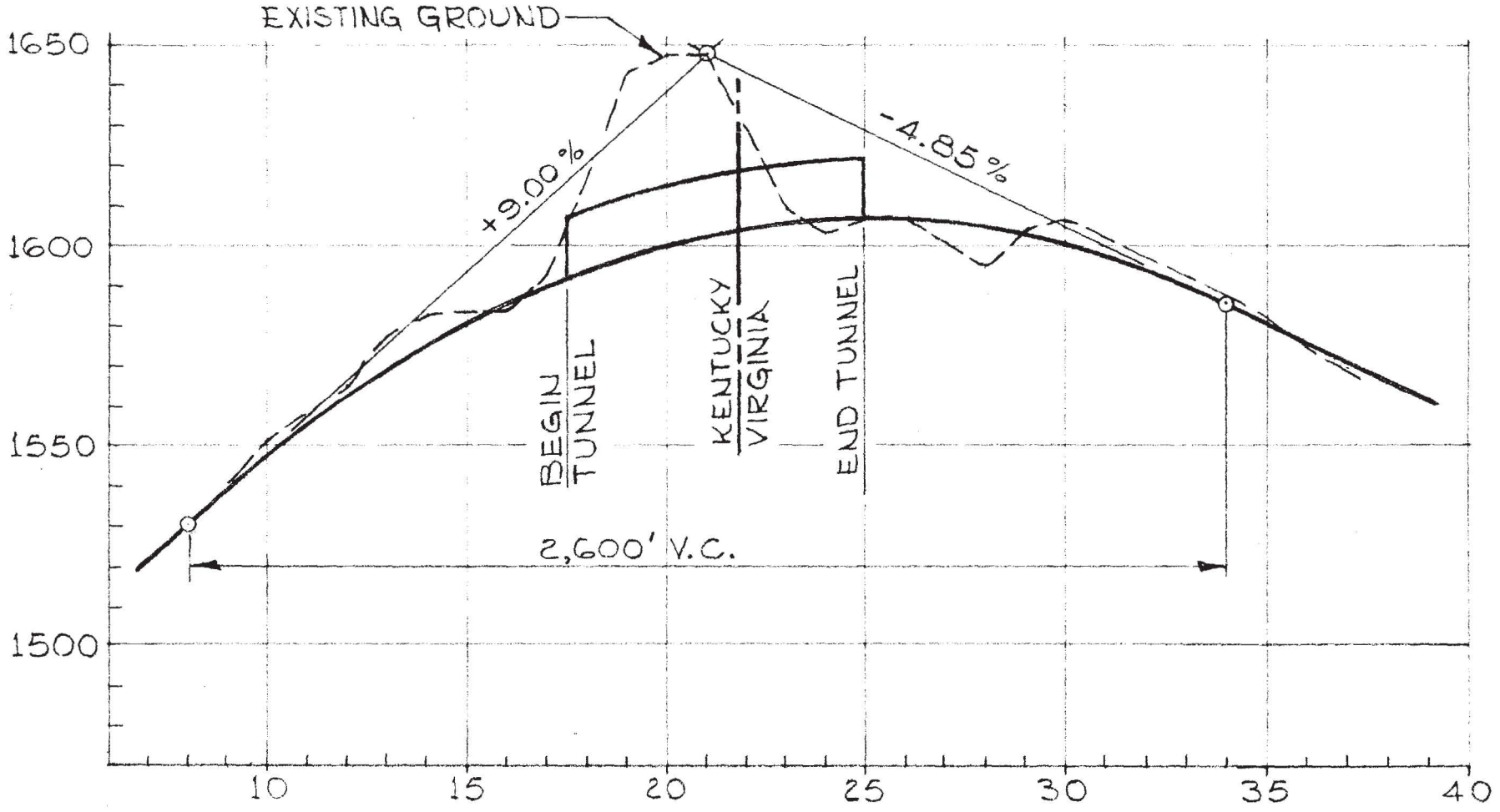
U.S.D.I. - NATIONAL PARK SERVICE
OFFICE DESIGN & CONSTRUCTION
PHILADELPHIA SERVICE CENTER
OCT. 13, 1966



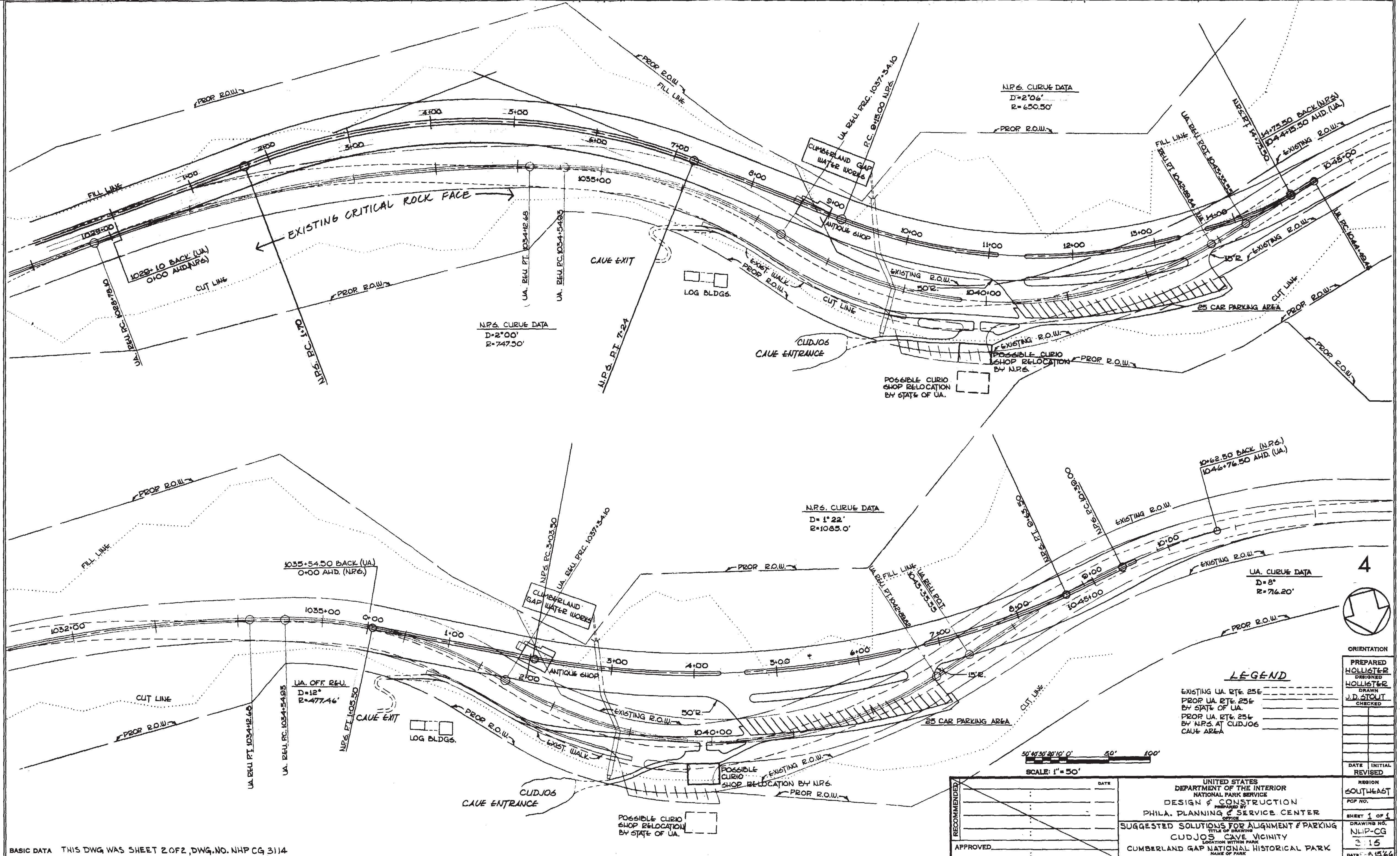
PROPOSED REFORESTATION

200' 100' 0' 200' 400'
SCALE: 1"=200'

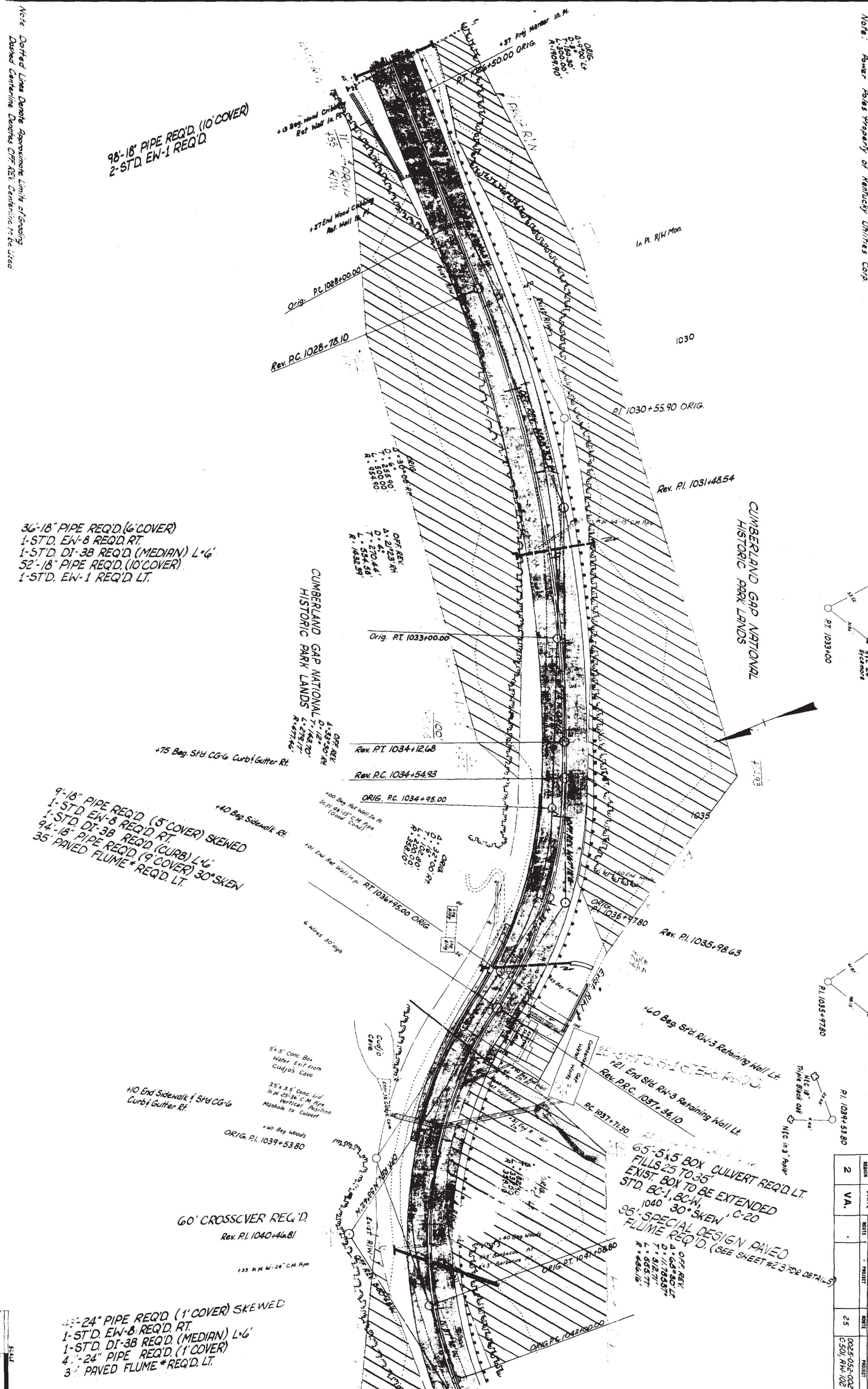
CUMBERLAND GAP TUNNEL PROFILE



HORIZONTAL SCALE: 1" = 400'
VERTICAL SCALE: 1" = 40'

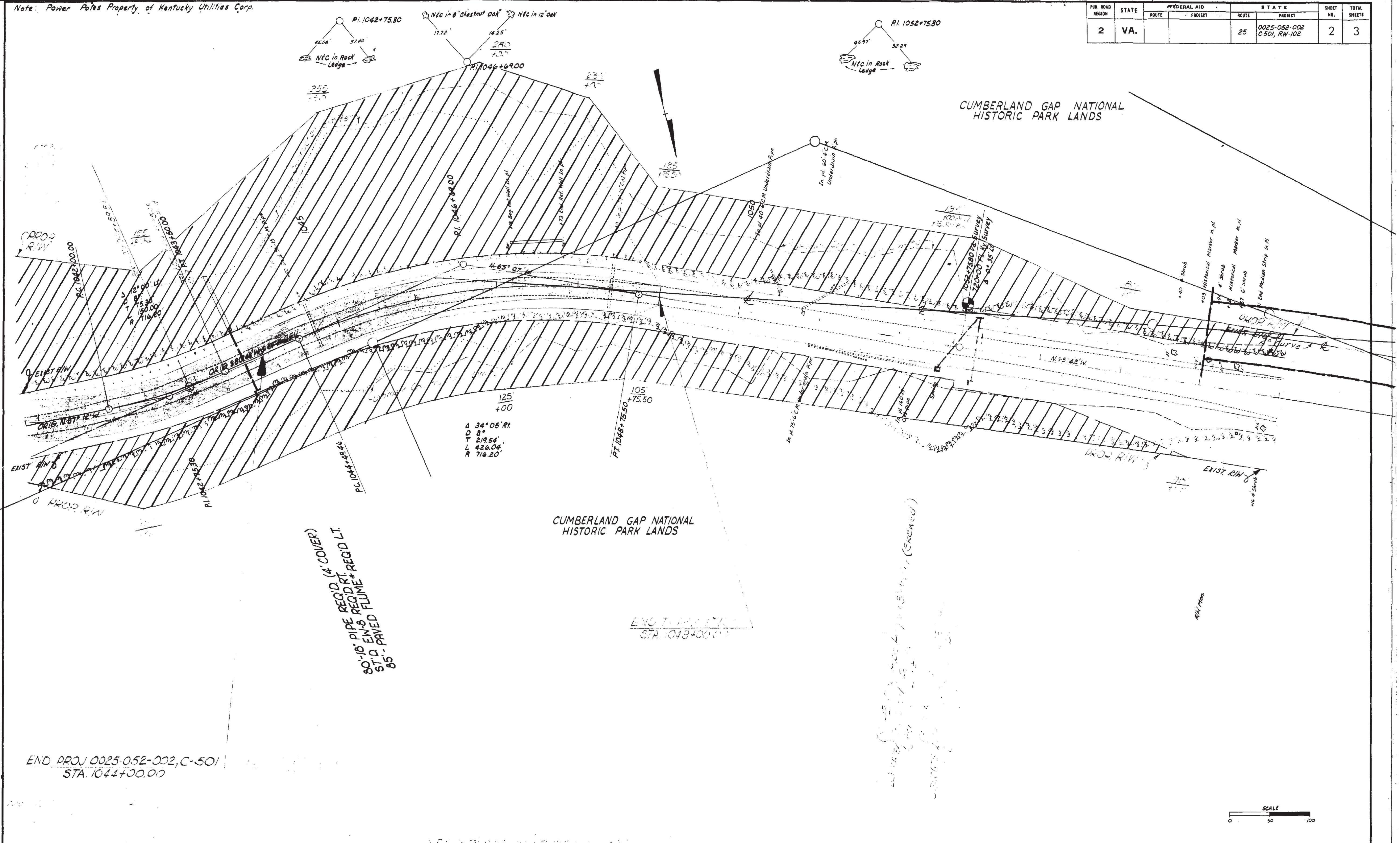

FILL LINE
PROP R.O.W.
1029+00
1029+10 BACK (UA.)
0+00 AHD.(N.P.S.)
UA. REU. P.C. 1028+78.10
N.P.S. P.C. 1+70
EXISTING CRITICAL ROCK FACE
CUT LINE
UA. REU. P.T. 1034+12.68
UA. REU. P.C. 1034+54.93
1035+00
N.P.S. CURUE DATA
D=2°00'
R=747.50'
CAUE EXIT
N.P.S. P.T. 7+24
LOG BLDGS.
CUMBERLAND GAP WATER WORKS
UA. REU. PRC. 1037+34.10
P.C. 9+15.00 N.P.S.
ANTIQUE SHOP
N.P.S. CURUE DATA
D=2°06'
R=650.50'
EXIST. WALK
EXISTING R.O.W.
50'R.
1040+00
CUDJOS
CAUE ENTRANCE
POSSIBLE CURIO SHOP RELOCATION BY N.P.S.
POSSIBLE CURIO SHOP RELOCATION BY STATE OF UA.
25 CAR PARKING AREA
15'R.
N.P.S. P.T. 14+73.50
14+73.50 BACK (N.P.S.)
1044+15.50 AHD. (UA.)
1045+00
1032+00
1035+54.50 BACK (UA.)
0+00 AHD. (N.P.S.)
UA. OFF. REU.
D=12°
R=477.46'
N.P.S. P.T. 1+05.50
N.P.S. P.C. 3+03.50
N.P.S. CURUE DATA
D=1°22'
R=1065.0'
N.P.S. P.T. 8+63.50
N.P.S. P.C. 10+30.00
10+62.50 BACK (N.P.S.)
1046+76.50 AHD. (UA.)
UA. CURUE DATA
D=8°
R=716.20'
4
ORIENTATION
LEGEND
EXISTING UA. RTE. 25E
PROP UA. RTE. 25E BY STATE OF UA.
PROP UA. RTE. 25E BY N.P.S. AT CUDJOS CAUE AREA
SCALE: 1"=50'
RECOMMENDED
DATE
APPROVED
UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
DESIGN & CONSTRUCTION
PHILA. PLANNING & SERVICE CENTER
SUGGESTED SOLUTIONS FOR ALIGNMENT & PARKING
CUDJOS CAVE VICINITY
CUMBERLAND GAP NATIONAL HISTORICAL PARK
PREPARED HOLLISTER
DESIGNED HOLLISTER
DRAWN J.D. STOUT
CHECKED
DATE INITIAL
REVISED
REGION SOUTHEAST
PCP NO.
SHEET 1 OF 1
DRAWING NO. NHP-CG 3115
DATE 8.15.66
BASIC DATA THIS DWG WAS SHEET 2 OF 2, DWG. NO. NHP CG 3114

PLAN		BY	DATE
NOTE BOOK NO. 20641	SURVEYD		
	PLOTTED	D.R.H	7-20-65
	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		
	INKED	D.R.H	7-28-65



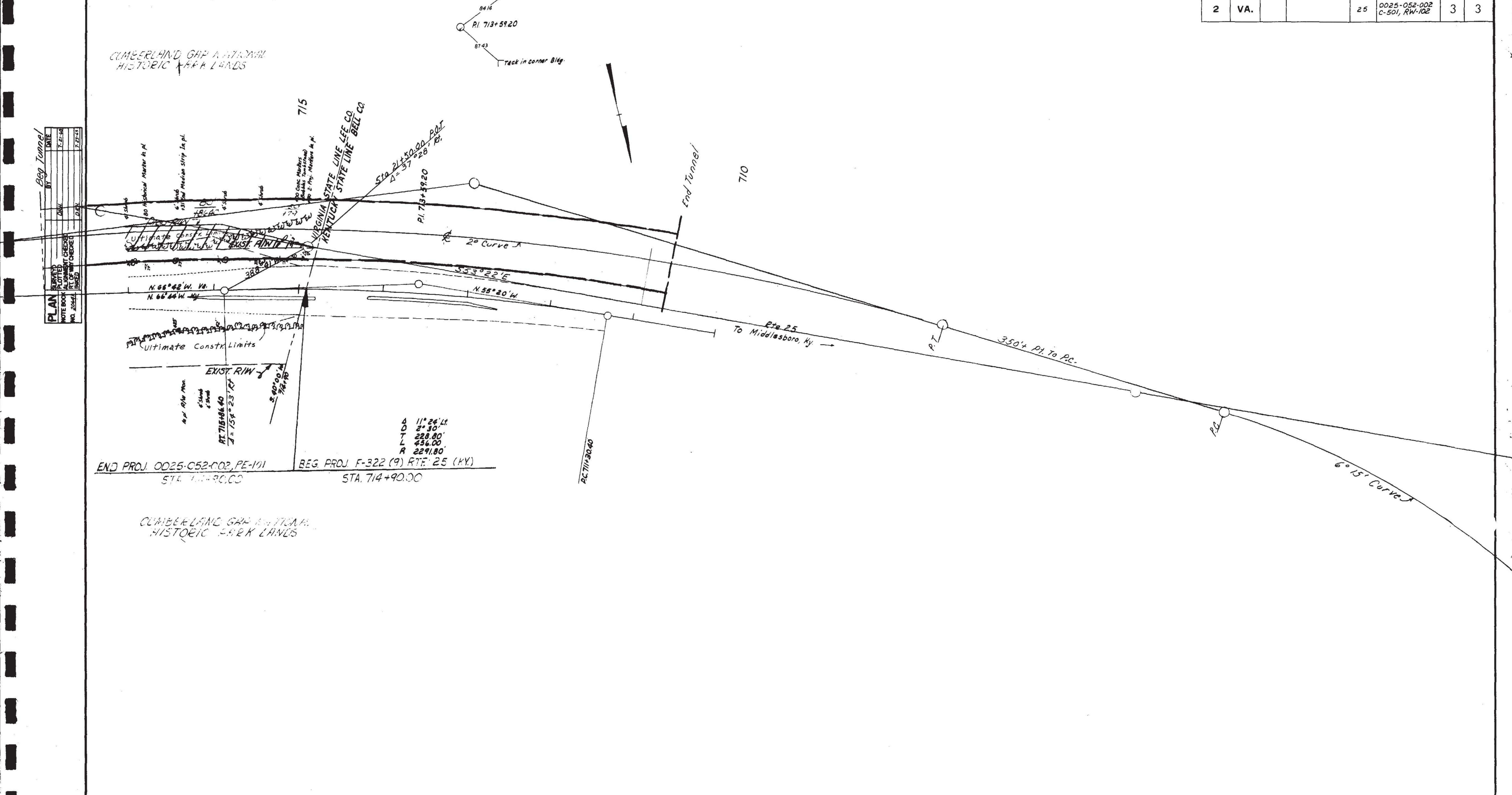
FED. ROAD REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	VA.	.		25	0025-052-002 C-501, RW-102	1	3

PUB. ROAD REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	VA.			25	0025-052-002 C501, RW-102	2	3



Note: Power Poles Property of Kentucky Utilities Corp.

PUB. ROAD REGION	STATE	FEDERAL AID ROUTE	FEDERAL AID PROJECT	STATE ROUTE	STATE PROJECT	SHEET NO.	TOTAL SHEETS
2	VA.			25	0025-052-002 C-501, RW-102	3	3



Tack in corner Bldg.
P.I. 713+59.20
Tack in corner Bldg.
CUMBERLAND GAP NATIONAL HISTORIC PARK LANDS
715
VIRGINIA STATE LINE LEE CO.
KENTUCKY STATE LINE BELL CO.
Sta 21+50.00 P.O.T.
Δ = 37°28' Rt.
P.I. 713+59.20
End Tunnel
710
Beg. Tunnel
PLAN
Ultimate Constr. Limits
EXIST. R/W
℄ 2° Curve
S53°22'E
N.66°42'W. Va.
N.66°44'W. Ky.
N.55°20'W.
Rte 25
To Middlesboro, Ky.
P.T.
350'± P.I. To P.C.
P.C.
6°15' Curve
S.40°00'W.
P.I. 715+86.40
Δ = 154°23' Rt.
Δ 11°24' Lt.
D 2°30'
T 228.80'
L 456.00'
R 2291.80'
P.C. 711+30.40
END PROJ. 0025-052-002, PE-101
BEG. PROJ. F-322 (9) RTE. 25 (KY.)
STA. 714+90.00
CUMBERLAND GAP NATIONAL HISTORIC PARK LANDS
0
50
100

Note: Dashed lines denote approximate limits of grading.

PART IV

COST ESTIMATES

A. Estimates of Virginia Portion

B. Estimate of Kentucky Portion

C. Estimate for Tunnel

D. Estimate for National Park Service Portion

E. Summary

CONSTRUCTION ESTIMATE

A. VIRGINIA

1.	Normal Planned Widening (0.6 Mile)	$ 285,000
2.	Use of Revised NPS Scheme No.I with use of 150 Foot Trestle & 450 Foot Approach Fill	610,000*
3.	Use of Revised NPS Scheme No. I with 600 Trestle and Approaches	900,000
4.	Use of Revised NPS Scheme No. 2 with Trestle and Approaches(Estimated by NPS)	1,900,000

B. KENTUCKY

1.	Normal Planned Widening (1.3 Miles)	589,000
2.	Improving of Profile Through Gap (Distance of 1.23 Miles)	615,000
3.	Using Profile to Approach Tunnel	550,000 *

C. TUNNEL

	(Supplied By Kentucky Hwy. Dep't)	2,600,000*

D. RESTORATION OF GAP - NATIONAL PARK SERVICE 927,000*

SUMMARY

Total Cost for Preservation & Restoration of Gap (Using the Items Bearing the Most Economical Cost Estimate Envisioned to Obtain the Desired Objective and Marked by Asterisks)

The Total Cost is $4,687,000

SUPPLEMENTARY CONSTRUCTION ESTIMATE
BY NATIONAL PARK SERVICE
INTERPRETIVE FACILITIES

TRAIL SYSTEM	$17,700
PARKING AREA AND ENTRANCE ROAD	25,000
BUILDING	32,000
PLANTING FOR INTERPRETIVE AREAS	14,900
UTILITIES	19,800
TOTAL INTERPRETIVE FACILITIES	$109,400

PART V

SUMMARY AND RECOMMENDATIONS

A. Conclusive Statements of the Committee Agreements

B. Recommendations

SUMMARY AND RECOMMENDATIONS

The Task Force Committee meeting in Washington on September 30, 1966, agreed that their findings should be made into this special task force report stating the problem, outlining the various conditions on the site and the factors surrounding achievement of the objectives. The Committee agreed that it would not be in a position to recommend financing, rather it would present cost estimates as necessary to meet the objective; both economical and ideal desires included. The Committee therefore recommends that:

1. The use of a 750 foot tunnel, with approximately 400 feet located in Kentucky and 350 feet located in Virginia, be accepted as the minimal structure required to permit restoration of the Gap.

2. The alignment on the Kentucky portion of the improvements to the highway be generally along the existing road except in those places involving additional scars to rock slopes.

3. The Virginia Highway Department accept the recommendations of the National Park Service to adjust their alignment in such manner to provide adequate space for facilities to operate Cudjos Cave is required by Lincoln Memorial University and to hold a minimum further cut into the existing rock slopes adjacent to the present highway.

4. The National Park Service accept the responsibility to re-establish the historic gap as near to its natural form and historic scene as possible. That interpretive facilities be provided for the visitor to enjoy the gap in the proper manner.

5. A solution be determined for financing these improvements by all agencies involved.

PART VI

APPENDIX

A. Historic Data

B. Historic Photographs

C. Pertinent Correspondence and Reports

D. Land Status and Deeds

A. HISTORIC DATA

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

SEP 9 1966

Chief
Admin.
Chief, Planning
Site Dev.
Estimates
Proj. Contr.
Chief, Design
L.A. ARCH. ENG.
Chief, Const.
Const. Adm. Compl. Safety
Supvr. L.A. ARCH. ENG.
Const. Supvr.
L.A. ARCH. ENG.
Action Taken: Date:

NATIONAL PARK SERVICE 1916 1966 50TH ANNIVERSARY

IN REPLY REFER TO:

D30-DP
X H2215 SER(OIV)

SEP 8 - 1966

HS 9125

Return to DeSilets

Memorandum

To: Chief, Design and Construction, PSC

From: Acting Assistant Regional Director, Operations

Subject: Data for proposed reconstruction of Cumberland Gap

While in SERO last week Mr. DeSilets requested information on the probable needs for reconstruction of Cumberland Gap following the proposed relocation of Highway 25E. Enclosed is a copy of the outline just received from Cumberland Gap giving the basic information as they now see it.

Under Part Two - Visitor Center Facilities, you will note that most of the items, such as the comfort station and exhibit shelter, parking area, trails, etc., will not be involved in the physical reconstruction of the Gap itself. These features will be treated in the project only as related developments.

We call particular attention to the two items listed under IV., as being very pertinent to both the construction and interpretation of the Gap. Actual restoration work will require considerable additional research to insure that the final restoration is as near to the original as available information dictates, and we are suggesting to the Park that they re-submit RSP's for this work.

Secondly, provision should be made for relocation or burial of the existing communication and power lines through the Gap, continued existence of which would destroy the very scene which we are trying to recreate by the Gap reconstruction.

W. Mikell

W. Mikell

Enclosures 4

cc:
Supt., Cumberland Gap

September 3, 1966

D30 SER(OIV)

Memorandum

To: Regional Director, Southeast Region

From: Superintendent, Cumberland Gap

Subject: Data for proposed reconstruction of Cumberland Gap

The subject report is in outline form. The time factor precluded formal documentation since all available time was used to check and secure as much local information and material as possible.

Part One - Topographic Data

I. Elevation

A. 1675 feet
1. 1886, James Lane Allen, see attachment #1

B. 1648 feet
1. 1901, Benchmark location cannot be established, see attachment #2

II. Contour Maps

A. 1891, USGS Topographic Map
1. Cumberland Gap, Ky., Va. & Tenn. Quadrangle
2. Interval 100 feet scale 1 - 125,000
3. 1935 Reprint in August 30, 1937 Report on Proposed Cumberland Gap National Park
a. Plate 128

B. 1930, USGS Topographic Map
1. Middlesboro, Ky., Va. & Tenn. Quadrangle
2. Interval 50 feet scale 1 - 62,500
3. See Report on Proposed Cumberland Gap National Park
a. Plate 129

C. L & N Railroad may still have topographic data of Gap from 1889 tunnel construction.

III. Photographs - Early Gap Landscape

A. Nine captions 8 x 10's
B. Attachments 3 to 11
C. Two additional photos to be mailed under separate cover

Part Two - Visitor Center Facilities

I. Roads and Trails

A. Two-lane access road from Pinnacle road
B. Gap parking area
   1. 40 to 50 cars depending on available space
C. Wilderness Trail - Gap to Iron Furnace
   1. Reroute existing trail at the Gap making a partial loop using existing Wilderness Road Trail
D. Tri-State Trail
E. Indian Rock and Wilderness Road Trail
   1. Gap Interpretation Shelter to Indian Rock
   2. Establish Canebrake in swamp above and in existing Tri-State parking area

II. Interpretive Shelter

A. Comfort Stations
   1. This area will serve 3 trails for extended stay and will be chief access to Wilderness Road and Iron Furnace
   2. Sewer, water, and electricity

B. Small Office and Storage
   1. Projected heavy use indicates need for minimum staffing facilities should be provided.

C. Covered outdoor exhibit space for a minimum of 5 panels or cases.

D. Interpretive Exhibits - 7
   1. Statement of Significance
   2. First White Men
      a. Gabriel Arthur, 1674 - Thomas Walker, 1750
   3. Long Hunters
   4. Panel
      a. Wilderness trail map showing Gate City to Boonesboro, from Virginia original source if possible.
      b. Warrior's Path
   5. Life Line
      a. Clark, Hamilton, Kentucky Settlement
      b. Wagon trail West 1795 - 1810 Peak Travel

6. Gap Alterations
   a. 1863 Civil War Bridge and roads
   b. 1908 Object lesson road
   c. 1889 Railroad tunnel
   d. 1928 relocation
   e. 1950 relocation
7. Gap Tunnel and Restoration

III. Trailside Exhibits

A. Wilderness Trail - Iron Furnace
   1. Start of Self-guide trail - Routed marker similar to Smokies
B. Tri-State Trail
   1. Start of self-guide trail - Routed - Covered - Smokies
C. Indian Rock
   1. Cast Aluminum Sewah type at D.A.R. Marker
D. Virginia Highway Tunnel Portal
   1. Cast aluminum picture of original view 1800
   2. Natural Visitor focal point
   3. Message repeater
E. Kentucky Highway Tunnel Portal
   1. Cast aluminum original scene 1800

IV. Other

A. Historical and Natural History Research Project
   1. Team Study - Historian, Geologist, Naturalist and Landscape architect
B. Underground burial for existing telephone, electrical and telegraph lines in Gap.

SIGNED

Joseph Kulesza
Superintendent

Enclosures 11

achment #1)

THROUGH CUMBERLAND GAP ON HORSEBACK[1]

Bell County and the Yellow Creek Valley serve to illustrate the incalculable mineral and timber resources of eastern Kentucky. Our road at times cut through forests of magnificent timbers--oak (black and white), walnut (black and white), poplar, maple, and chestnut, beech, lynn, gum, dogwood and elm. Here are some of the finest coal-fields in the known world, the one on Clear Creek being fourteen feet thick. Here are exceedingly pure cannel-coals and cooking coals. At no other point in the Mississippi Valley are iron ores suitable for steel-making purposes so close to fuel so cheap. With an eastern coal-field of ten thousand square miles, with an area equally large covered with a virgin growth of the finest economic timbers, with watercourses feasible and convenient, it cannot be long before all eastern Kentucky will be opened up to the great industries of the modern world. Enterprise has already turned hither, and the distinctiveness of the mountaineer race has already begun to disappear. The two futures before them are, to be swept out of these mountains by the in-rushing spirit of contending industries, or to be aroused, civilized, and developed.

Long before you come in sight of the great Gap, the idea of it dominates the mind. At length, while yet some miles away, it looms up, sixteen hundred and seventy-five feet in elevation, some half a mile across from crest to crest, the pinnacle on the left towering to the height of twenty-five hundred.

It was late in the afternoon when our tired horses began the long, winding, rocky climb from the valley to the brow of the pass. As we stood in the passway, amid the deepening shadows of the twilight and the solemn repose of the mighty landscape, the Gap seemed to be crowded with two invisible and countless pageants of human life,—

James Lane Allen was a College Professor in Mathematics and Latin beside being a noted author, which should lend credence to his reliability.

[1]James Lane Allen, Harper's New Monthly Magazine, Volume LXXIII, June 1886, (New York: Harper & Brothers, 1886), pages 65-66

4

QUAD. MIDDLESBORO STATE KENTUCKY BY W.N.Franklin, F.L.Foust, 1903 ALTITUDE ABOVE MEAN SEA LEVEL (Feet)

ORDER THIRD ADJ. Sea Level Datum of 1912

Bul. 554
Recopy 9/18/51 fat

KENTUCKY
MIDDLESBORO QUADRANGLE
(Latitude 36 30'-36 45'; Longitude 83 30'-83 45')
BELL COUNTY

- 1 -

FROM CUMBERLAND NORTH ALONG SCUTHERN RY. TO POINT NEAR FERNDALE STATION, THENCE NORTHEAST ALONG HIGHWAY TO CAMPBELLS FORD (PERCIVALS FORD). (MEAN DIRECT AND REVERSE LINE.)

Cumberland Gap, summit of; on stone post (Kentucky, Tennessee, and Virginia cor.); chisel point 1,648.47

Middlesboro, 775 ft. S. of sta., in W. end of S. abutment of culvert over Cumberland Ave.; aluminum tab. stamped "1137 Lexington" 1,136.447

Middlesboro, in front of sta.; top of rail 1,138.94

Excelsior, coal mines, in front of store door; top of W. rail 1,132.2

Pineville, 6 mi. SE. of, 375 ft. NW. of Percivals Ford on Cumberland River, S. edge of rd.; iron post stamped "1029 Lexington" 1,028.385

FROM POINT 4 MILES EAST OF FERNDALE EAST TO MOUTH OF SHILLALY CREEK.

Middlesboro, 8 mi. NE. of, 30 ft. S. of mouth of Shillaly Creek, on Clear Fork of Yellow Creek, S. edge of rd., in bowlder; bronze tab. stamped "1362 Lexington" 1,362.469

FROM CUMBERLAND RIVER WEST ALONG HIGHWAY TO WASIOTO

Wasioto, in front of sta.; top of rail 1,025.

By C.E. Reick, 1926
Bk. B2522

FROM MIDDLESBORO ALONG HIGHWAY NORTH 4.9 MILES, THENCE EAST UP CLEAR FORK TO POINT 8 MILES NORTHEAST OF MIDDLESBORO CHECKING OLD SPUR LINE OF 1903 UP CLEAR FORK.

Middlesboro, 1.2 mi. NE. of, on SW. abutment to Yellow Creek RR. bridge, SE. cor. of steel girder base; cross cut, painted "B. M. 1135" 1,134.90

UNITED STATES COAST AND GEODETIC SURVEY
Descriptions of Triangulation Stations.

Huntington, W.Va., to Pennington Gap, Va.
W. Va., Ohio, Ky., Va. and Tenn.

MINTER (continued)
Level School, continue 0.95 mile to fork, turn right, go 0.05 mile to another fork, turn right again, go 0.45 mile to fork, turn left, go 0.1 mile to fork at barn of Allen Yeary, turn right and go 0.05 mile to end of truck travel at sharp left turn. Go up hill to top of ridge and wagon road, follow road along top of ridge to saddle between two knobs and station site.

****

MINTER (U.S.G.S.) (Lee County,Va.,M.A.H.,1934)--Probably a standard disk of United States Geological Survey set in flat stone on summit of cultivated field belonging to Carter Brooks, 837.59 feet in azimuth 131°01'55", from station MINTER.

****

FORGE (U.S.G.S.) (Claiborne County,Tenn.,M.A.H.,1934)--Station is about 4 miles SE of Cumberland Gap, about 1 1/2 miles SW of Forge School, on Forge Ridge (a low, bare, rounded knoll), about 25 yards E of W edge of knoll, near NW apex of triangular plot of uncultivated land, and 105 feet SSE of 8-inch walnut with triangular blaze.

Station mark is United States Geological Survey disk in buried granite post.

Reference mark No.1 is in rock outcrop at S edge of summit and 167.28 feet from station in azimuth 333°54'.

Reference mark No.2 is in buried granite post at edge of summit and 35.89 feet from station in azimuth 28°08'.

Azimuth mark is in buried rock on adjoining knoll, at N edge of cultivated field, about 100 yards ENE of barn, 80 feet W of W edge of woods, 4 feet S of center line of field road, and about 0.5 mile from station in azimuth 257°53'11". Stations VIRGINIA CORNER 2 and PINNACLE (U.S.G.S.) are visible from ground.

To reach from junction of U.S. Highway 25 E and U.S. Highway 58, follow U.S. Highway 58 E 2.7 miles, turn right onto macadam T-road, go 0.15 mile to fork, turn left and follow main road 4 miles, turn right around Forge School Building (brick), continue 0.8 mile on main road to cross road, turn right up grade, go 0.9 mile, turn onto right fork of field road, go 0.1 mile, turn onto another right fork and follow dim road to top of knoll and station site.

****

PINNACLE (Bell County,Ky.,-Lee County,Va.,A.H.B.,1893)--Station is about 1/2 mile N of and 1/4 mile above town of Cumberland Gap, on or near Virginia-Kentucky boundary line, and on large rock facing NW 2 or 3 feet from SE corner of "Pinnacle House."

Station mark was drill hole at intersection of N-S and E-W grooves with letters "U.S.C.S." cut in rock. In 1934, it was reported that rock bearing station mark had become detached from mass and had fallen over side of mountain. Station PINNACLE (U.S.G.S.) has been established nearby.

****

PINNACLE (U.S.G.S.) (Bell County,Ky.,-Lee County,Va.,M.A.H., 1934)--Station is on or near State Line between Kentucky and Virginia, on sharp peak on E side of Cumberland Gap, known as "The Pinnacle", 1.9 miles by Scenic Highway from point where U.S. Highway 25 E passes through gap, on S edge of summit, 30.2 feet W of slanting rock outcrop, and near site of station PINNACLE.

Station mark is standard United States Geological Survey bench mark disk stamped "PINNACLE 1934" set in drill hole in rock ledge. Reference marks are standard United States Geological Survey bench mark disks.

Reference mark No.1 is in bedrock at W end of S face of summit and 14.47 feet from station in azimuth 32°24'.

Reference mark No.2 is in outcropping rock ledge in about center of summit, on S side of path to top, and 20.31 feet from station in azimuth 156°59'. Station VIRGINIA CORNER 2 is visible from ground.

PINNACLE (U.S.G.S.) (Bell County,Ky.,-Lee County,Va.,M.A.H., 1934;Ky.Hwy.,Planning Comm.,1938)--New station mark, a standard U.S.G.S.B.M. stamped "PINNACLE 1934" set in a rock ledge on summit of a sharp peak on the E side of Cumberland Gap, known as "The Pinnacle", was recovered in good condition. It is on the S edge of summit in the top of an outcropping ledge of rock and 30.2 feet W of a slanting rock outcrop. The reference marks were also recovered in good condition. VIRGINIA CORNER which was used as an azimuth mark was also found as described, in good condition.

To reach Pinnacle, turn on Scenic Highway at point where U.S. Highway 25 E passes through Cumberland, and follow Scenic Highway to near top, a distance of approximately 1.9 miles. Station is located approximately 100 yards E of end of highway at highest point on ridge.

****

VIRGINIA CORNER (Bell County,Ky.,A.H.B.,1893;M.A.H.,1934)--Near corner common to States of Kentucky, Virginia, and Tennessee, about 100 feet SW of point of ridge, on W side of backbone of ridge.

To reach from Middlesboro, Kentucky, go E about 4 miles on U.S. Highway 25 E to Cumberland Gap, and end of truck travel. Follow trail up ridge to S about 1/2 mile to station site.

Station mark is a drill hole at intersection of N-S and E-W grooves with letters "U.S.C.S." cut in NW face of vertical rock ledge called in (1893) "Virginia State Corner" or "Corner Rock." No marks were on rock before station was established. (There are two cut-stone monuments in vicinity of Cumberland Gap. First is SW of central part of town, between tracks of the K.C.G.& L. and the L.&N. railroads, approximately 978 meters (3,209 feet) in approximate azimuth 19°49' from station PINNACLE, and about 3/8 mile S 56°E from station. On N face of this monument is inscription "N 55°35' W to stone at chestnut oak (Tennessee and Virginia) Corner." On W face of inscription "S 49°14' W to stone at 7 pines and 2 black oaks (Tennessee and Kentucky) Corner." Second monument is in gap in Cumberland Mountain, north of Virginia road, about 835 meters (2,739 feet) NW of first monument, and about 1/4 mile N of station. On S face of this monument is inscription "1859 S 28°14' W 1,200 feet to stone at chestnut oak (Virginia) Corner." On S face are names of field party - words Engineer and " Rennett", (Bennett) being legible.

Nothing was legible on other faces of either monument. Station established is therefore not in accord with inscriptions on these monuments, but was supposed to be close to recognized corner common to states of Kentucky, Virginia and Tennessee.

In 1934 station VIRGINIA CORNER 2 was established 26.470 meters (86.84 feet) from station in azimuth 8°28'.

****

VIRGINIA CORNER 2 (Lee County,Va.,-Bell County,Ky.,-Claiborne County,Tenn.,M.A.H.,1934)--At corner common to states of Kentucky, Virginia and Tennessee, on backbone of ridge, in center of saddle, about 60 feet E of power line, 11.4 feet NE of 10-inch oak with triangular blaze, and 12.2 feet ESE of triangular inclined rock.

Station is marked by standard bronze disk set in concrete frustum of pyramid, 12 by 12 by 4 inches, which now marks corner of states.

Reference marks are standard bronze disks in rock outcrops.

Reference mark No.1 is flush with surface of ground, on downward slope of side of ridge, 7.8 feet W of western tip of triangular inclined rock, and 19.96 feet from station in azimuth 113°34'.

Reference mark No.2 is slightly higher than station, 9 feet ESE of black oak which is on crest of ridge, and 24.03 feet from station in azimuth 209°31'. Station VIRGINIA CORNER is 26.470 meters (86.84 feet) from station in azimuth 188°28'.

Station PINNACLE (U.S.G.S.) is visible from ground.

To reach from Middlesboro, Kentucky, go E about 4 miles on U.S. Highway 25 E to Cumberland Gap and end of truck travel. Follow trail up ridge to S about 1/2 mile to station site.

****

KENTUCKY CORNER (Bell County,Ky.,-Claiborne County,Tenn.,A.H.B., 1893;M.A.H.,1934)--Station is about 2 miles SW of Cumberland Gap, about 2 miles SE of Middlesboro, Kentucky, about 1 mile NW of Hamilton Springs, on ridge of Cumberland Mountain, at point just before it drops off rapidly, slightly on western side near point supposed to be close to corner common to states of Kentucky, and Tennessee, and in 1893 was 6 feet 5 inches S 11 E from pine tree.

Station mark is drill hole 2 inches deep at intersection of N-S and E-W grooves cut in large rock. Rock is lettered "U.S.C.S." on eastern face. Stone mentioned in inscription on cut-stone monument at Cumberland Gap, as being "at 7 pines and 2 black oaks" could not be identified when station was established. In 1934 two reference marks and an azimuth mark were established.

Reference mark No.1 a standard bronze disk is in projecting slab of rock flush with surface of ground, about 10 feet E of path, about 10 feet W of bluff, about 6 feet SW of slanting 6-inch oak snag, and 130.57 feet from station in azimuth 299°36'.

Reference mark No.2 standard bronze disk is in eastern edge of rock outcrop, on western side of ridge, about 45 feet from crest, about 12 feet SW of 18-inch oak, and 52.04 feet from station in azimuth 206°19'.

Azimuth mark is in boulder on crest of ridge, about 225 feet from station in azimuth 357°15'.

To reach from Cumberland Gap, (about 4 miles E of Middlesboro, on U.S. Highway 25 E), follow trail up ridge to S about 1/2 mile to station VIRGINIA CORNER, and continue along backbone of ridge, over series of knobs about 2 miles to station site.

KENTUCKY CORNER (Bell County,Ky.,A.H.B.,1893;Ky.,Hwy.,Planning Comm.,1938)--Station mark, a standard disk in drill hole at intersection of two grooves in a large boulder with U.S.C.S. carved on face of boulder. Reference marks and azimuth mark were also standard disks in drill holes in boulders and were also recovered in good condition, as described.

To reach station from point on U.S. Highway 25 E at Cumberland Gap, turn S up trail to top of ridge and follow backbone of mountain over several knobs crossing VIRGINIA CORNER approximately 1/2 mile S of highway and about 2 miles to the station on western slope where ridge drops off very rapidly.

****

CLINCH (Union County,Tenn.,A.H.B.,1891;M.A.H.,1934)--Station is about 3 miles NE of Corryton, about 2 miles SE of Luttrell, and about 2 miles NW of Blaine, and on top of higher and more northerly of two points at southwestern terminus of Clinch Mountains.

Surface mark was drill hole at intersection of N-S and E-W grooves cut in large heavy stone set firmly in ground with top projecting just above surface.

Three reference marks were drill holes in rocks insitu with arrows pointing toward station.

Reference mark No.1 was 26 feet 8 inches from station in azimuth 315°25'; No.2, 17 feet 4 inches, in azimuth 22°26'; and No.3, 21 feet 9 inches, in azimuth 92°35'. In 1930 standard bronze disks were set in drill holes of station surface mark and reference marks Nos.1 and 2. In 1934, reference mark ties were re-measured and described as follows: Reference mark No.1 is standard disk in concrete in top of rock 4-feet by 3-feet projecting 3 inches above ground, on top of ridge, about same elevation as station, and 26.06 feet from station in azimuth 315°03". No.2 is standard disk in concrete in outcropping rock 2-feet by 3-feet, projecting 3 1/2 feet above ground on lower side and 3 inches on upper side on edge of cliff, 24.82 feet from Reference mark No.1, and 17.05 feet from station in azimuth 23°17'.

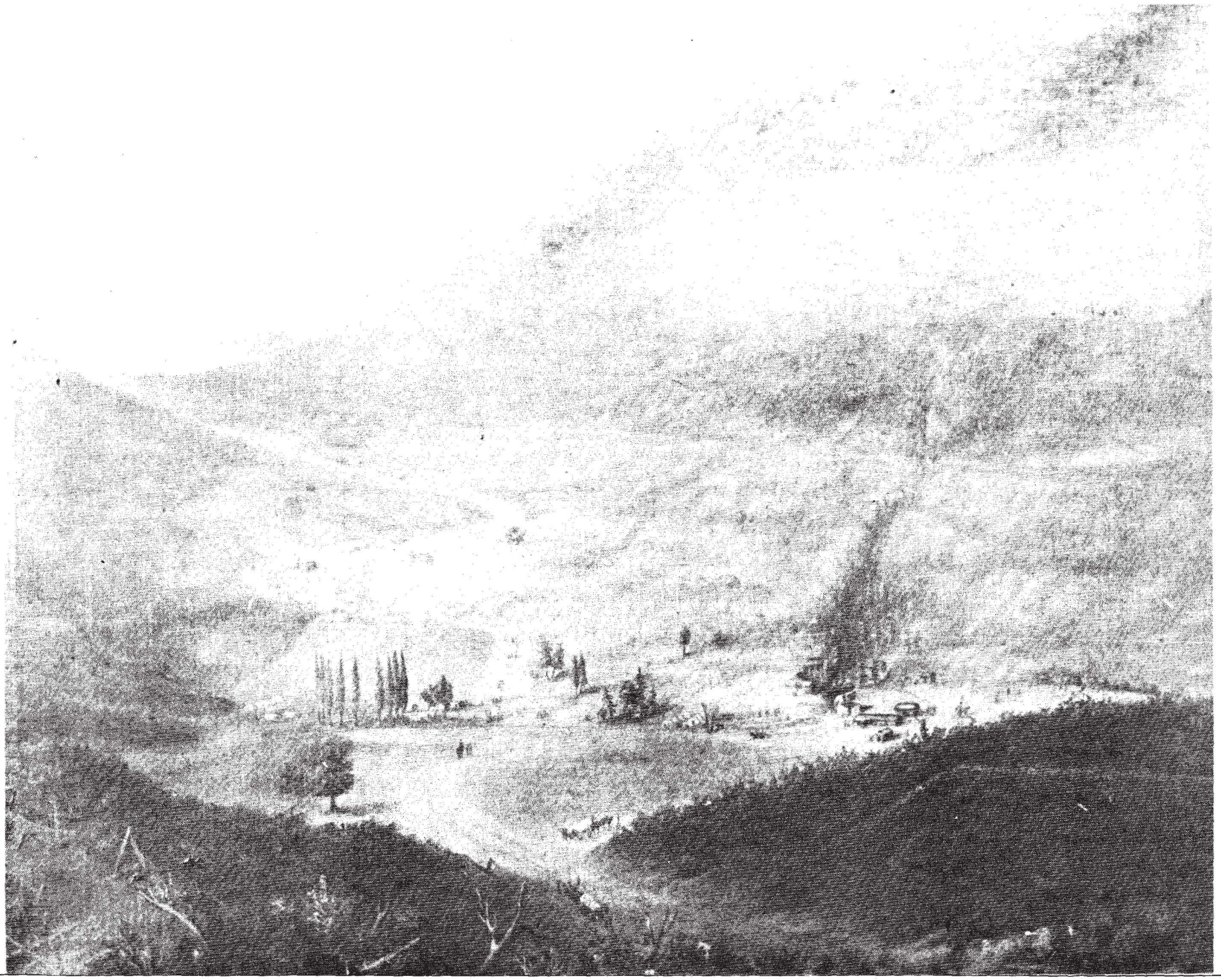
Azimuth mark established in 1934, is standard bronze disk in concrete in large outcropping rock about 2 by 3 feet projecting 4 feet above ground, on W end of same knob as station, 3 feet NNE of 12-inch pine tree, and 50 yards from station in azimuth 137°43'.

To reach from junction of U.S. Highway 11 W and State Highway 92 in Rutledge, go S 12 miles on U.S. Highway 11 W to sign on left (S) "Leas Lake" (which is 1.7 miles N of Blaine on U.S. Highway 11 W), turn right (W) onto Leas Lake road and go 1 mile to Tee T-road on left at triangle-blazed tree, turn left and follow narrow dirt road 0.35 mile to stream where road ends, thence on foot by path across stream and to left about 100 yards to spring. Keep right-hand path here which bears immediately to left, continue 150 yards and take right fork up divide, proceed 1 1/2 miles to waterfall along most prominent path to top of ridge. Station site can be seen about 700 yards distant directly W along top of ridge.

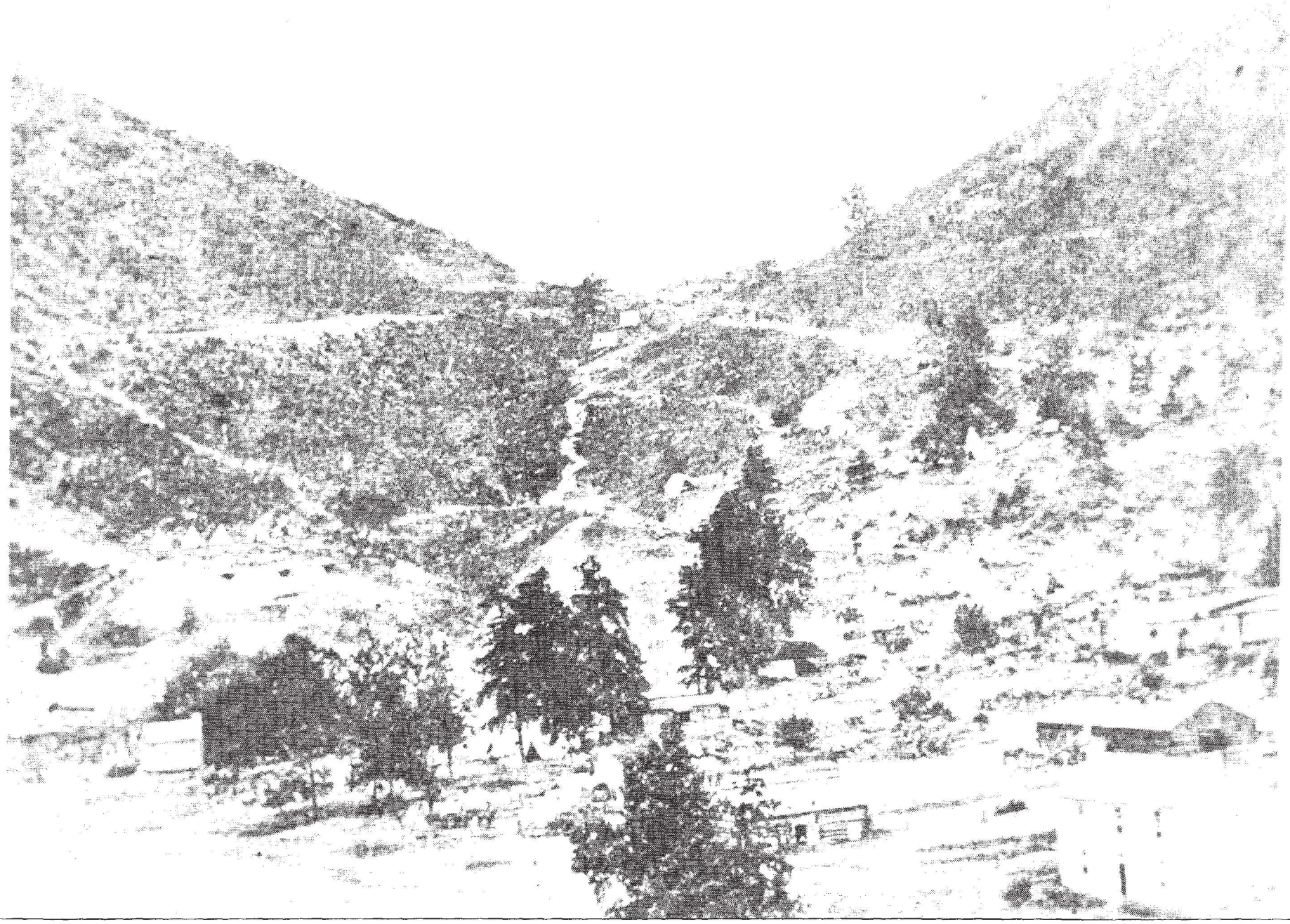
(Continued on p.8)

B. HISTORIC PHOTOGRAPHS

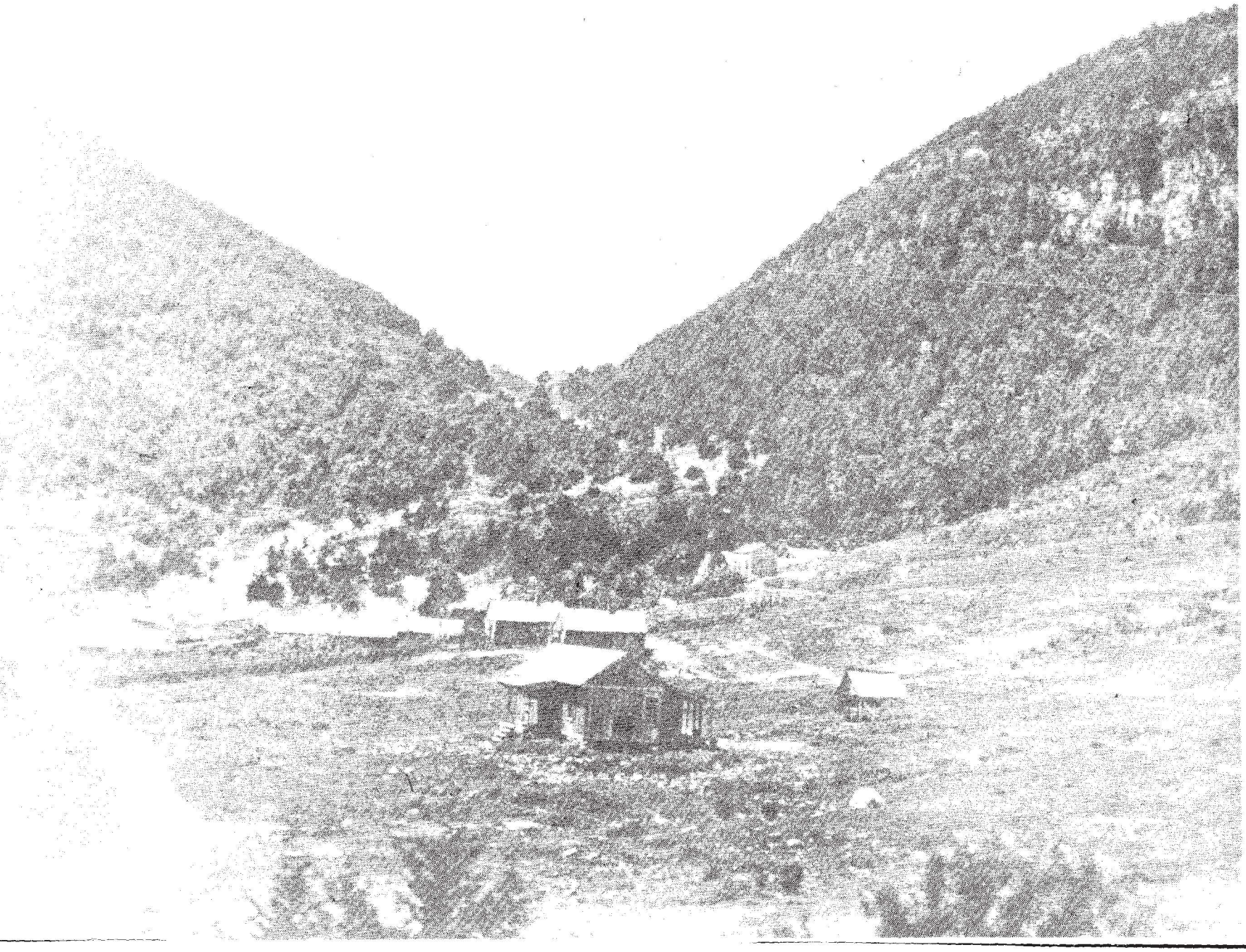
View of Cumberland Gap as visualized by H. Fenn. This painting was made about ten years after the Civil War. The Pinnacle is on right, road in center foreground, and slope of the Tri-state Peak on left.



View of Cumberland Gap, from Little Pinnacle. Date of this view is uncertain but it must have been made in the middle of the last century as there is very little of the city of Cumberland Gap in the middle foreground of the view. Dark ravine in center right is more than likely Iron Furnace complex and stream from Cudjo's Cave.

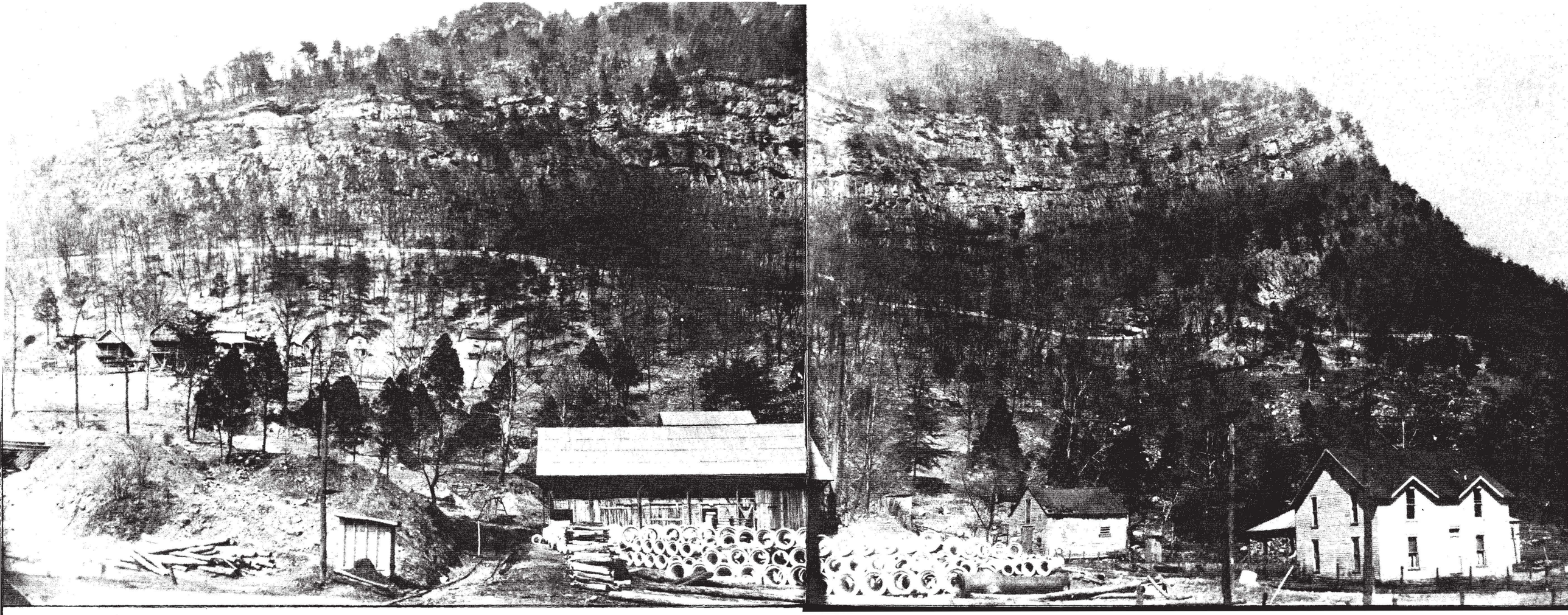


View of Cumberland Gap from the south looking toward Kentucky. Picture was made during the Civil War. Building in lower right foreground is still standing and it was used as headquarters by the Union and Confederate Forces during the War. U.S. 25E makes a 90 degree left turn (south) at the log building directly behind tree in front center foreground.



Picture taken in the early 1900's. Collwyn Street (main street) of Cumberland Gap, Tennessee is more than likely the road that is visible in left foreground of picture. The talus slope of Pinnacle Mountain is to the right of the view and on the left is the beginning of Tri-state Peak.

View of the Saddle of Cumberland Gap taken in 1889. View is from south side of Pinnacle Mountain looking through the Gap toward Tennessee. Road in foreground is coming out of Kentucky and passing under the bridge to south side of mountain. The two buildings in upper right center are on north side of Tri-state Peak. Valley in upper background is the Powell Valley of Tennessee with Poor Valley Ridge discernible as the far ridge in the background. Notch in Poor Valley Ridge in the upper left background is where U.S. 25E passes through the Ridge and on south toward Tazewell, Tennessee.



Pinnacle Mountain

View is of Pinnacle Mountain looking North. U.S. 25E may be seen in center of photograph. Tile factory in right portion of picture was founded about 1920 and remained in production until the end of 1945 or 46. The house in right foreground is the Baumgardner House. Houses below U.S. 25E are no longer present and were removed before Park was established in 1955. Railroad in center of picture is still located as when constructed. Old Wilderness Road was located directly behind the factory and the mound of earth in the left portion of picture.

C. PERTINENT CORRESPONDENCE AND REPORTS

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
Cumberland Gap National Historical Park
P.O. Box 840
Middlesboro, Kentucky 40965

IN REPLY REFER TO:

D30

September 14, 1966

SEP 16 1966

Chief
Admin.
Chief, Planning
Dep.
Estimators
Prof. Contr.
Chief, Design
LA. ARCH. ENG.
Chief, Const.
Cont. Adm. Compl. Safety
Specs. LA. ARCH. ENG.
Const. Supvs.
LA. ARCH. ENG.
Action Taken: Date: 9/2-7

NATIONAL PARK SERVICE 1916 1966 ANNIVERSARY

115 9/23

Memorandum

To: Chief, EODC

From: Superintendent, Cumberland Gap

Subject: U.S. 25-E Highway widening - Cumberland Gap

This refers to a September 9 telephone call from Mr. Eugene R. DeSilets requesting follow-up action on information lacking subsequent to the subject task force meeting at this Park on August 19.

I was able to talk with Mr. Tom Fugate on September 11 regarding Virginia highway contacts on the U.S. 25-E widening around Cudjo's Cave and more particularly how it would affect the L.M.U. water reservoir. Mr. Fugate said he had seen a plan of the road and as best as he could remember a retaining wall would be constructed on the north side of the water reservoir and the road relocation shifted south which would be near the water reservoir. The cave parking area would be shifted to the north side of the existing U.S. 25-E and west of the cave entrance. The plan for parking would more than double their present size. The souvenir shop would also be shifted to the north side of U.S. 25-E.

Mr. Fugate advises that these plans are acceptable to Lincoln Memorial University.

On September 13 I met with Mr. D. L. Jones, Resident Engineer, Jonesville, Virginia and discussed the U.S. 25-E plans with him.

Mr. Jones advised me that he had submitted his plans to Mr. Coldiron.

Essentially what Mr. Jones proposes is just about identical to the last set of road plans that were used at our meeting on August 19, a set of which on that date was given to Mr. DeSilets by L. R. McCabe.

On the plans submitted to the Richmond, Virginia Highway office, Mr. Jones recommends or proposes to provide a 38 car parking area on the north side of U.S. 25-E at approximate stations 1039 + 00 to about station 1041 + 50. Also the plan of Mr. Jones proposes to move the souvenir shop to a corner of the parking area at about station 1039 + 00. (The attached tracing of the Cudjo's Cave area made from sheet 4 of the Va. Project 0025-052-002 C 501, RW-102 shows in red dotted lines the approximate proposed parking area and relocation of souvenir shop)

arking area and relocation of the souvenir shop some-
ws the plan advanced by the Park Service (Southeast Region,
of 2, Drawing No. NHP CG 3114, dated February 15, 1966).
plan of the Virginia Highway Department will result in a cut of
about 30 feet or more into the mountain but Mr. Jones says this cut
will be in loose material which will require no blasting.

The Virginia Highway Department plans (Project 0025-052-002) also calls for cuts into the mountain between station 1028 + 00 and 1032 + 00 (approximate).

Here at the Park we were hopeful that additional cuts into the mountain, whether in loose material or rock, could be avoided. We are still of the opinion that these cuts might be avoided by the shifting of U.S. 25-E slightly further to the south. We realize however that the feasibility of this is an engineering decision.

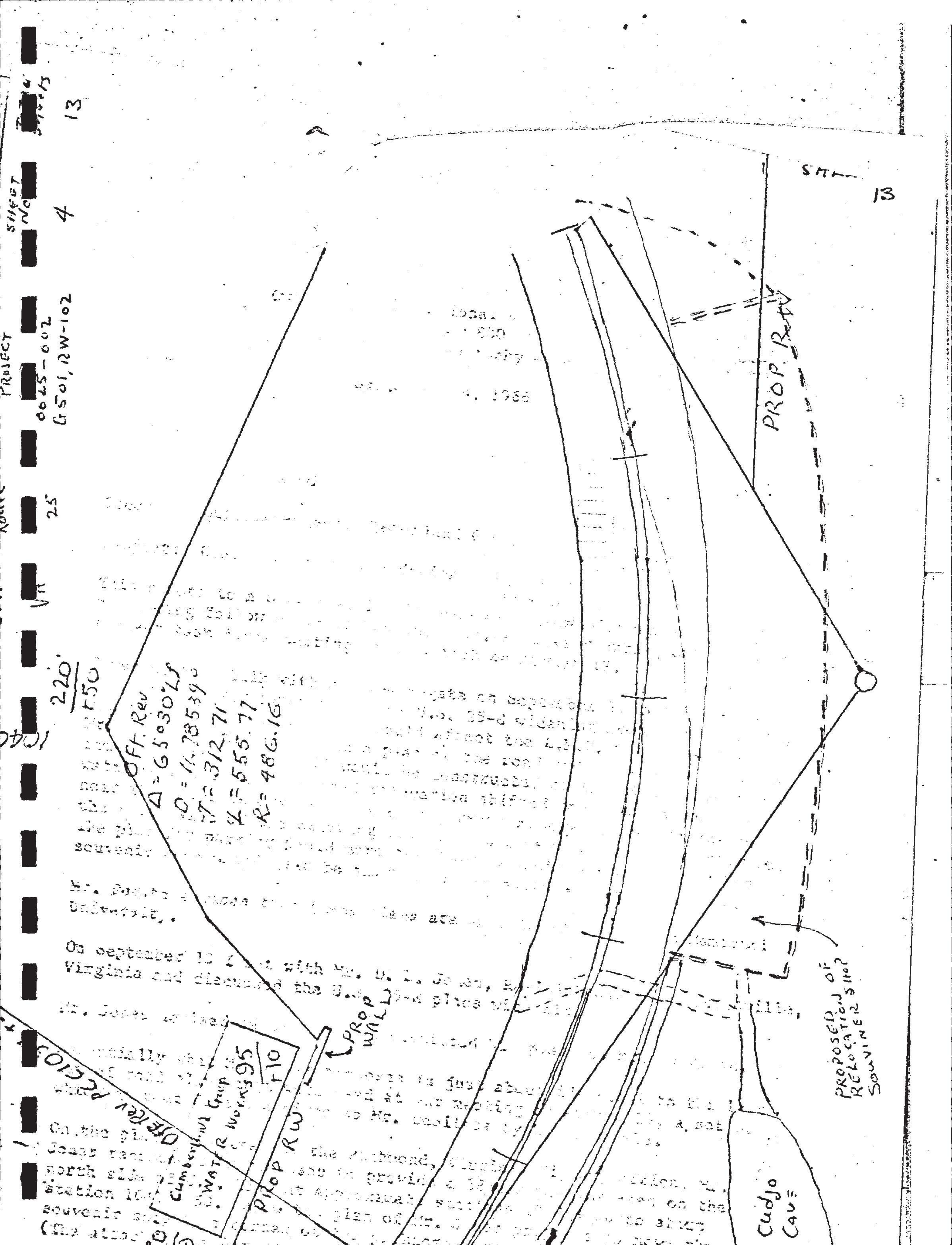
Mr. Jones advises that he has not received any road or tunnel plans from the Kentucky Department of Highways since our meeting on August 19 and because of that he cannot revise his plans for U.S. 25-E west of station 1028 + 00 until such plans are received.

This is a layman's summary of the information requested by Mr. DeSilets and we will be glad to further explain any parts of it that may not be clear from a professional view.

Joseph Kulesza
Superintendent

Enclosure

cc: Mr. DeSilets
SERO



STATE VA
ROUTE 25
PROJECT 0025-002 G501, RW-102
SHEET No 4
TOTAL SHEETS 13
220' +50
Off. Rev
Δ = 65°30' Lt
D = 11.78539
T = 312.71
L = 555.77
R = 486.16
PROP WALL
CUMBERLAND GAP WATER WORKS 95 +10
PROP R/W
OFF REV PERIOD
PROP R/W
PROPOSED RELOCATION OF SOUVINER SHOP
Cudjo Cave
STA 13

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
SOUTHEAST REGION, P. O. BOX 10008
FEDERAL BUILDING, RICHMOND, VA. 23240

IN REPLY REFER TO:
D30-DP
SER(D)

SEP 21 1966

P S. C. - D. & C.
SEP 22 1966
Chief
Chief, Planning
Site Dev.
Estimators
Proj. Contr.
Chief, Design
LA. ARCH. ENG.
Chief, Const.
Const. Adm. Compl. Safety
Specs. LA. ARCH. ENG.
Const. Surve.
LA. ARCH. ENG.
Action Taken; Date

NATIONAL PARK SERVICE 50TH ANNIVERSARY 1916 1966

145/23 auto.

Memorandum

To: Chief, Design and Construction, PSC
Attention: Chief, Division of Development Planning and Project Control

From: Assistant to the Regional Director, Development

Subject: Proposed improvements to U.S. Highway 25-E, Cumberland Gap

Pursuant to our telephone conversation, I telephoned to Mr. Tom Fugate of Ewing, Virginia, regarding our desire to have a written statement from appropriate authorities representing Lincoln College and Cudjo's Cave concerning the acceptability of the road work to be accomplished in the vicinity of Cudjo's Cave. Mr. Fugate said he had received a letter from John Harwood, Chief Engineer of the Virginia Department of Highways, enclosing a study plan which would be acceptable to the Lincoln College and Cudjo's Cave interests and which would provide double the amount of parking they now have at the Cudjo's Cave area. He advised, however, that the Highway Department had informed him that they would be unable to provide final plans until other matters which might have an influence on the road location and design had been resolved.

I thanked Mr. Fugate for this information and told him we would advise Mr. Coldiron that it would be necessary to provide appropriate prints of the final plans for the road work in the vicinity of Cudjo's Cave to the proper Lincoln College authorities so that we could obtain a written concurrence from them. Mr. Fugate said this would be fine and we should ask Mr. Coldiron to have the plans sent direct to him.

W. E. O'Neil, Jr.

D30

COMMONWEALTH OF KENTUCKY
DEPARTMENT OF HIGHWAYS
FRANKFORT

September 16, 1966

P. S. C. - D. & C.
SEP 21 1966

Chief
Admin.
Chief, Planning
Site Dev.
Estimators
Proj. Contr.
Chief, Design
LA. ARCH. ENG.
Chief, Const.
Const. Adm. Compl. Safety
Specs. LA. ARCH. ENG.
Const. Supvs.
LA. ARCH. ENG.
Author Typist Date

HS 9/21 acty.

MEMORANDUM TO: Mr. Eugene R. DeSilets, Chief
Development Planning and Project Control

FROM: J. T. Anderson, Projects Management Engineer
Kentucky Department of Highways

SUBJECT: Special Task Force Report on Improvement of US Highway 25-E through Cumberland Gap

DeSilets 9/28

This is in reference to your memorandum of September 12, 1966, and our telephone conversation of this date regarding the submission of our preliminary study of this project prior to the next scheduled meeting of the committee on September 30, 1966.

Mr. Hatter has completed his review of this project for the Kentucky Department of Highways as outlined in our last meeting at Cumberland Gap. This study includes three basic schemes, all of which include the improvement of US 25-E from Cumberland Avenue in Middlesboro to the end of construction in Virginia. The cost of the improvement of US 25-E in Virginia was furnished by the Virginia Department of Highways.

Scheme A

Using existing grade and alignment and widening to four lanes with a median width varying from 4 ft. to 16 ft. (40 mph design on vertical curve through the Gap).

Kentucky - 1.3 miles	-	$589,000
Virginia - 0.6 miles	-	$285,000
Total Estimated Construction Cost		$874,000

Scheme B

Using existing grade and alignment and widening to four lanes with a median width varying from 4 ft. to 16 ft. This scheme is the same as Scheme A except the stopping sight distance through the Gap is 50 miles per hour which requires an 11 ft. cut in the existing grade at the top of the vertical curve.

Kentucky - 1.3 miles	-	$615,000
Virginia - 0.6 miles	-	$300,000
Total Estimated Construction Cost	-	$915,000

Scheme C

Using existing grade and alignment and widening to four lanes with a median width varying from 4 ft. to 16 ft. except at the Gap where a 750 ft. rigid frame, cut and cover tunnel is proposed on new alignment.

Kentucky - (Cumberland Avenue in Middlesboro to the tunnel)	1.23 miles	$550,000
Virginia - (Approaches to the tunnel)	0.53 mi.	$275,000
750 ft. rigid frame tunnel	-	$2,600,000
Total Estimated Construction Cost	-	$3,425,000

I am enclosing herewith revised preliminary plans which show the new alignment of the tunnel and the revised grade which conforms to the suggested alignment and grade made by the Virginia Department of Highways. This revised alignment at the tunnel makes it necessary to restrict the traffic on US 25-E to two lanes through the Gap during construction.

We have investigated the feasibility of using a structure with a center pier rather than the single spans as originally planned. Our Bridge Division has indicated that the two structures would cost approximately the same per lin. foot; consequently, the single span scheme would be more economical due to the difference in over-all width.

This completes my initial committee assignment outlined in your memorandum of August 26, 1966. My schedule for the September 30, 1966, meeting in Arlington is as follows: Arrive Washington National Airport at 11:06 a.m. and leave Washington National Airport at 7:00 p.m. If you should have any questions prior to this meeting, please advise.

JTA:mfn

Enclosure

cc-Henry Ward
J. L. Obenschain
P. B. Coldiron

Philadelphia Planning and Service Center
Design and Construction
Philadelphia, Pa. 19106

D30-DP

August 26, 1966

Mr. P. B. Coldiron, Location Design Engineer
Virginia State Highway Department
Richmond, Virginia

In re: Special Task Force, Improvements to Virginia Highway 25E,
Cumberland Gap National Historical Park

Dear Mr. Coldiron:

Our on-site inspection last Friday, of the Cumberland Gap and plans for improving U. S. Highway 25E through the Gap, was a most beneficial and productive part of the first meeting of the Task Force. I am sorry that your duties and commitments prevented you from attending. Mr. L. R. McCabe, assisted by Messrs. B. T. Cooke, J. G. Gates and D. L. Jones, certainly did a fine job representing your Department. They provided us with valuable information and suggestions which I hope can be incorporated into the special report.

In discussing the problem of widening the highway in the vicinity of Cudjos Cave, I showed your representatives prints of some drawings prepared in this office last February suggesting an adjustment in alignment and relocation of the highway to provide adequate space for a new gift shop and parking area on the cave side of the road. My request to Mr. McCabe, in this instance, was for an estimate on this suggested revision which may require the use of trestle type of construction if existing condition problems prevent normal road construction practices. None at the meeting had seen these drawings, although I was under the impression that they had been forwarded to your Department for comment some months ago.

Accordingly, I am attaching two sets of prints of Comment Sketch, Drawing No. NHP-CG-3114, Adjustment - Route 25E, 2 sheets for your use and information in preparing estimates for your portion of the report. These prints have been colored to make them more readable and understandable. I would appreciate your comments about this proposal.

If you need further clarification about this idea, please do not hesitate to call me.

Sincerely yours,

(Sgd.) Eugene R. De Silets

Eugene R. DeSilets, Chief, Development
Planning and Project Control

Enclosures (2)

cc: [redacted] Asst. Director, [redacted] - w/[redacted] prints
Supt., Cumberland Gap - w/set of prints
Reg. Director, Southeast
Mr. Obenschain - w/prints
[redacted] Mr. [redacted] w/[redacted]
Mr. Fleming - w/prints
Mr. Schuster - w/prints
Mr. O'Neill, Southeast Region

ERDeSilets:sfe

Philadelphia Planning and Service Center
Design and Construction
Philadelphia, Pa.-19106

D30-DP

August 26, 1966

Memorandum

To: Mr. J. T. Anderson, Kentucky State Highway Department
Mr. P. B. Coldiron, Virginia State Highway Department
Mr. Patrick Fleming, Appalachia Regional Commission
Mr. J. L. Obenschain, Bureau of Public Roads

From: Chief, Development Planning and Project Control

Subject: Special Task Force Meeting, Second Part, at Cumberland Gap - Improvements to U. S. Highway 25E

Except for Messrs. Fisher and Coldiron, the Special Task Force travelled to Cumberland Gap National Historical Park on Thursday, August 18, and resumed their meeting in the Superintendent's office on Friday, August 19, at 10:30 a.m. Mr. Coldiron was represented by Mr. L. R. McCabe, Road Design Engineer from the Richmond, Virginia office of the Virginia Highway Department. No representative of the Appalachia Regional Commission was able to attend. This field meeting included an on-site inspection and review of surveys and State Highway planning to date. Those who attended the second session of the first meeting of the Special Task Force are listed below:

Kentucky State Highway Department
J. T. Anderson, Project Management Engineer
C. W. Hatter, Asst. Director Design
E. V. Hilton, District Design Engineer

Virginia State Highway Department
D. L. Jones, Resident Engineer
J. G. Gates, Survey Party Director
B. T. Cooke, Asst. District Engineer
L. R. McCabe, Road Design Engineer

Bureau of Public Roads
J. L. Obenschain, Regional Planning Engineer

National Park Service
Joseph Kulesza, Superintendent, Cumberland Gap
Lloyd A. Abelson, Chief Historian, Cumberland Gap
Eugene R. DeSilets, Chief, Development Planning and Project Control, Philadelphia Service Center

The meeting revealed certain problems which are listed below:

1. The need for extending the date for submitting the report due to the lateness in organizing the committee and the need for more time to assemble data.

2. The need for further study by the Kentucky Highway Department as to the location of the tunnel in order to reduce excavation and possible scar.

3. The need for further study by the Virginia Highway Department for the location and alignment of the proposed highway widening in the vicinity of Gudjo's Cave including the problem of the concrete water reservoir belonging to Lincoln Memorial University.

4. The need to ascertain ownership of lands adjacent to highway right-of-way as shown on the construction plans of the Virginia Highway Department.

5. The need to tie field surveys of both Kentucky and Virginia Highway Departments plans together so that all concerned are kept properly informed.

6. The need for cost data for restoration of the historic gap after tunnel—highway construction including cost of interpretive development. The need also includes historical research data for establishing original grades in the historic gap.

Accordingly, it was agreed that the following people would be responsible for obtaining data and answers to the above questions:

1. Mr. DeSilets will follow up his telephone call to Deputy Assistant Director Krueger to extend the date for the report through a formal request.

2. Mr. Anderson, Kentucky Highway Department with assistance from Messrs. C. W. Hatter and E. V. Hilton, would restudy the tunnel location problem to eliminate unnecessary scar and excavation.

3. Mr. Coldiron, Virginia Highway Department with assistance from Messrs. L. R. McCabe, B. J. Cocke, J. C. Gates and D. L. Jones, would restudy the problem involving access and parking to Cudjo's Cave and relocation of the gift shop; less cut in existing rock escarpments; and methods of construction in the vicinity of the existing water reservoir including replacement and/or relocation. This assignment includes contacts with officials of Lincoln Memorial University to ascertain total requirements of space for new gift shop at Cudjo's Cave; space for parking of cars and suitable walks or trails to and from the cave; and future plans for the water distribution system in view of changes occurring as a result of the creation of new water district to serve several towns in the valley.

4. Mr. DeSilets is to obtain precise information and identification regarding highway rights-of-way controlled by the Highway Departments and the lands transferred to the National Park Service in the vicinity of the highway that belongs to the Service and used for park purposes. This information is to be secured from the Office of Land and Water Rights in the Washington Service Center.

5. Mr. J. C. Gates will send a crew to Cumberland Gap during the week of August 22 to coordinate surveys and establish unified controls for the highway improvements in the Gap as planned by States of Kentucky and Virginia. The Virginia Highway Department will adjust their plans for the approaches to the 750' tunnel proposed by Kentucky.

6. Mr. DeSilets will prepare studies and estimates for the complete restoration of the Gap and the interpretive development including access, parking, trails and exhibits. In order to establish historic grades, the Regional and Park historians will furnish necessary data through immediate research.

In order to prepare the initial draft of the report each person should have his portion ready by September 9.

This summarizes the job that needs to be done during the next two weeks in order to prepare the first draft of the special report. It was agreed tentatively that the committee would meet on September 16, either in Washington or the park, to review and consolidate the final draft of the report into proper form for presentation to the Director and those who met originally with Commissioner Ward on July 29. The date for such a meeting will be requested for Tuesday, September 27, at 1"30 p.m., depending on the availability of the Director and others representing the States and agencies involved.

(Sgd.) Eugene R. DeSilets

Eugene R. DeSilets

cc:
Asst. Director, D&C
Supt., Cumberland Gap
Regional Director, Southeast
Mr. Chas. Schuster, WSC
Liaison Officer O'Neil, Southeast

Chief, DP&PC
ERD7csk

Rough draft of attached memo approved by HRS. Final draft of memo was finished too late for HRS to initial off on green copy.

SBpstein

Philadelphia Planning and Service Center
Design and Construction
143 South Third Street
Philadelphia, Pa. 19106

D30-DP

August 8, 1966

CUGA

Memorandum

To: Mr. J. L. Obenschain, Bureau of Public Roads
Mr. J. T. Anderson, Kentucky State Highway Dept.
Mr. Patrick Fleming, Appalachia Reg. Comm., WASO
Mr. P. B. Coldiron, Virginia State Highway Dept.

From: Chief, Development Planning and Project Control, PSC

Subject: Arrangements for initial meeting Special Task Force, U.S. 25 E and proposed tunnel, Cumberland Gap National Historical Park

In accordance with instructions from Assistant Director, Design and Construction, J.E.N. Jensen, of July 29, 1966, this will confirm our conference telephone call this date relative to setting up a meeting of the Special Task Force enumerated above to prepare a special report on the subject problem. Tentative date for the meeting was scheduled for Thursday, August 11, 1966, at 10:00 a.m. in the office of Mr. J. L. Obenschain, Regional Planning Engineer, Region XV, Bureau of Public Roads, Arlington, Virginia, depending upon the availability of Mr. Coldiron. Mr. Obenschain's office is Room 310, 1000 North Glebe Road, Arlington, Va. Their office building color is blue and is jokingly referred to as the "Blue Moon." An alternate date of Wednesday, August 17, 1966 was set to accommodate possible prior commitments.

The purpose of this report as outlined by Mr. Jensen is to (1) review and consolidate the various proposals made to date by the States and Federal Government for improvements to U. S. Highway 25 through Cumberland Gap; (2) recommend a feasible and economic solution for such improvements with the use of a tunnel, keeping in mind the objectives of preserving historic, natural, scenic and park values in the Gap; (3) and provide cost estimates for such improvement with recommendations for financing the undertaking. Also, the problem of preserving and adjusting the facilities for the operation of Cujos Cave by Lincoln Memorial University must be given careful consideration in view of the agreement between the Service and the University.

Since the conversation this morning, I have had a call from Mr. Anderson of Kentucky advising me that he had other commitments for Thursday and cannot make the August 11 date. We, therefore, agreed to use the alternate date of August 17, 1966, 10:00 a.m. in Mr. Obenschain's office in Arlington. I have checked this by phone with other members and all have agreed to this date.

(Sgd) Eugene R. DeSilets

Eugene R. DeSilets

cc:
Assistant Director, D&C
Deputy Assistant Director, D&C
Regional Director, Southeast
Superintendent, Cumberland Gap

ERDeSilets:sfe

enry Ward	Kentucky Dept. of Highways	Frankfort, Ky.
J. T. Anderson	Kentucky Dept. of Highways	Frankfort, Ky.
Stanley Cain	Secretary's Office, Interior	Washington, D.C.
Richard Rodgers	Secretary's Office, Interior	Washington, D.C.
Elbert Cox	National Park Service	Richmond, Va.
W. E. O'Neil, Jr.	National Park Service	Richmond, Va.
G. Liles	National Park Service	Richmond, Va.
J.E.N. Jensen	National Park Service	Arlington, Va.
Charles E. Krueger	National Park Service	Arlington, Va.
Charles S. Schuster	National Park Service	Arlington, Va.
Eugene R. DeSilets	National Park Service	Philadelphia, Pa.
Rex Whitton	Bureau of Public Roads	Washington, D.C.
H. L. Adkins	Bureau of Public Roads	Washington, D.C.
A. W. Schimberg	Bureau of Public Roads	Washington, D.C.
B. H. Zwick	Bureau of Public Roads	Washington, D.C.
F. C. Turner	Bureau of Public Roads	Washington, D.C.
J. L. Obenschain	Bureau of Public Roads	Arlington, Va.
William A. Schmidt	General Services Admin.	Washington, D.C.
Thomas Holley	Bureau of Outdoor Rec.	Washington, D.C.
Col. Russell DeGroat	Department of Defense	Washington, D.C.
Pat Fleming	Appalachian Regional Comm.	Washington, D.C.
Bailey Guard	Office of Sen. Cooper, Ky.	Washington, D.C.

AUG 12 1966

Chief
Admin.
Chief Planning
Sec'y Des.
Estimates
Proj. Contr.
Chief Design
L.A. ARCH. ENG.
Chief, Const.
Const. Adm. Control, Safety
Specif. L.A. ARCH. ENG.
Const. Supvs.
L.A. ARCH. ENG.
Action Taken: Date:

HS 8/12 ACTG.

8/26

AUG 8 1966

Henry Ward — Kentucky Dept. of Highways
J. T. Anderson — Kentucky Dept. of Highways
Stanley Cain — Secretary's Office, Interi
Richard Rodgers — Secretary's Office, Interi

Mr. Henry Ward
Commissioner, Department
of Highways
State Office Building
High and Clinton Streets
Frankfort, Kentucky 40601

National Park Service
National Park Service
National Park Service
National Park Service

SAVE FOR DESILETS!

Dear Mr. Ward:

Enclosed for your information is a copy of the roster of those attending the meeting of July 29, 1966 at 2:00 p.m. in the Interior Building, Washington, D. C. to discuss road improvement proposals and problems at Cumberland Gap National Historical Park.

As you will recall a committee was formed to make further detail studies and estimates to provide the basis for subsequent discussion. The committee is to report by September 1 and is composed of the following members:

Mr. Eugene R. De Silets, National Park Service, Philadelphia, Pennsylvania
Mr. J. L. Chenoweth, Region 15, Bureau of Public Roads, Arlington, Virginia
Mr. J. T. Anderson, Kentucky Department of Highways, Frankfort, Kentucky
Mr. Pat Fleming, Appalachian Regional Commission, Washington, D. C.

The fifth member of this committee will be appointed by the Virginia Department of Highways.

Department of Defense

Sincerely yours,

Appalachian Regional Comm.

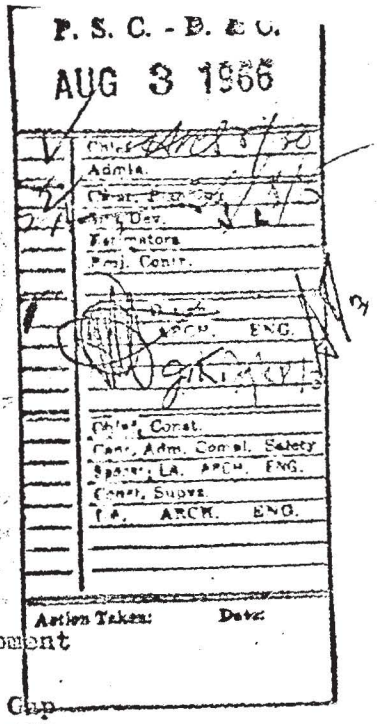
Office of [illegible] Cooper, Ky.

SIGNED
Chas. E. Krueger
Acting Assistant Director

Enclosure

cc:
Mr. Eugene R. DeSilets - PSC

** Identical letters were sent to all members attending the meeting.



D30 SER(D) AUG 2 1966

Memorandum

To: Superintendent, Cumberland Gap

From: Assistant to the Regional Director, Development

Subject: Improvements to US 25-E through Cumberland Gap

You may know that Mr. Cox and I attended a meeting of the Office of the Director at 2:00 PM on July 29. The meeting was requested by the Commissioner of Highways Ward of Kentucky. Those in attendance included Assistant Secretary Cain; BPR Administrator Rex M. Whitton; representation from the Appalachia Commission and the President's Committee on Highway Beautification; representation from the Office of Senator Scott of Kentucky; several representatives of the Press and a number of representatives from the National Park Service and the Bureau of Public Roads, including Assistant Director Jensen who chaired the meeting; Chuck Krueger, Deputy Assistant to Mr. Jensen; Chuck Schuster of the BPR Roads Division of the Washington Service Center; Mr. Obenschain from the Region 15 Office of the BPR; Mr. Cox and myself. I will provide you with a complete list as soon as we receive it.

After the meeting had been opened, Commissioner Ward was requested to present the subject of discussion which he did ably and substantially along the lines of his recent press release. In brief, it was the consensus of the group that a committee consisting of one representative from each of the two states concerned, one from the Bureau of Public Roads and one from the National Park Service be designated to develop a coordinated proposal which would incorporate a design element that would permit restoration of the historic

Cumberland Gap to an extent considered feasible, effective, and economically justifiable. Mr. Ward designated Mr. J. T. Anderson as representative for the State of Kentucky, Mr. Whitton designated Mr. Obenschain as representative for the Bureau of Public Roads, and Mr. Jenson designated Mr. DeSilets as representative for the National Park Service. The State of Virginia was not represented at the meeting and will be requested to designate their representative as soon as possible.

The committee has been instructed to have its recommendations for presentation to a somewhat similar group at a meeting to be held at the Director's Office on September 1. They will no doubt be meeting at the Park and consulting you concerning their activities.

We shall keep you advised of all developments as rapidly as they come to our attention.

(Signed)

W. E. O'Neil, Jr.

cc:
Mr. Obenschain, BPR
Mr. DeSilets, PSC
Mr. J. T. Anderson, Ky. Dept. of Highways
Mr. Coldiron, Va. Dept. of Highways

August 12, 1966

D30-DP

Memorandum

To: Mr. J. L. Obenschain, Regional Planning Engineer,
Region XV, Bureau of Public Roads, Arlington, Virginia

From: Superintendent, Cumberland Gap

Subject: Railroad Tunnel Data - Cumberland Gap

The information you requested by phone this morning on this subject is provided below.

The subject tunnel was constructed in 1890 and is approximately one mile long, according to Mr. Bill Cannon, L&N Assistant Engineer, Corbin, Kentucky. At the time of construction, loose rock as well as tilted rock and dirt was encountered. The tunnel is lined partially with brick and timber except where solid rock exists. Water flows from both ends of the tunnel in streams about the size of a man's arm. Water drips from roof of tunnel but major source is from walls. The Tannery in Middlesboro pipes the water from the north portal of the tunnel to their plant north of Middlesboro.

The railroad company has not experienced any major maintenance problems in the tunnel for the last 20 years or more. Occasionally some rotted timber has to be replaced.

Tunnel is on a vertical curve with plus grades on both ends.

Mr. Cannon is of opinion that any drilling, excavation or boring in the vicinity of the Gap will encounter loose rock, tilted rock, dirt and water.

If an inspection is made of the railroad tunnel Mr. Cannon feels it should be made on foot with a railroad flagman provided for safety.

This information was obtained by phone and is transmitted direct so that you may have it before the Special Task Force (US 25-E) meeting on August 17. Copies are being sent to EODC for Mr. DeSilets and SERO for Mr. O'Neil.

Please let us know if there is any other information we can provide.

Joseph Kulesza
Superintendent

cc: SERO
EODC

STANDARD FORM NO. 64

In reply refer to:
D30

Office Memorandum • UNITED STATES GOVERNMENT

TO : Chief, EODC

DATE: September 19, 1957

FROM : Supervising Highway Engineer Moran
Supervising Park Landscape Architect Stout

SUBJECT: Inspection of Site Possibilities for Reconstruction of U. S. 25-E, Cumberland Gap National Historical Park

On August 26 Highway Engineer Moran and I flew to Cumberland Gap to meet with Bureau of Public Roads representatives to study possibilities for tunnel locations and relocation or reconstruction of Highway U. S. 25-E from the Gap down the Kentucky side.

During the afternoon of the 26th and on the 27th discussions were held and reconnaissance made by the following:

Supervising Highway Engineer, F. W. Cron, BPR, Gatlinburg, Tennessee
Highway Engineer Perry Abbott, BPR, Gatlinburg, Tennessee
Superintendent Millard D. Guy, Cumberland Gap NHP
Supervising Highway Engineer T. M. Moran, EODC
Supervising Park Landscape Architect J. D. Stout, EODC

On the 27th, we were joined by Highway Engineer Alfred Vick, Region One Office.

On September 4, Mr. Cron sent to Mr. Spelman a detailed report together with a marked photostat of topography illustrating the situation and some proposals. Copies of this information were furnished the Regional Director, Region One, the Superintendent, and this office. We have no extra print of the map for distribution, but an extra copy of Mr. Cron's report is attached for Washington Office information.

We have marked Mr. Cron's proposals on prints of the Development Plan, NHP-CG 3003-D, for the information of all concerned, and are distributing them herewith, denoted as Scheme A. We have also, as Scheme B, shown on marked prints proposals retaining the park tour road location as now approved.

There are several considerations which are basic to this road study.

First, the desire of the National Park Service to restore the historical appearance of the Gap as nearly as possible.

Second, the fact that the highways will require four-laning eventually and that except for our proposed gap restoration the States would most certainly accomplish this by widening the road on the existing alignment and on the existing grade at their own expense.

Third, if we propose a tunnel in the gap, the State of Kentucky wishes the grade in the up-hill roadway to be a maximum of 6 per cent.

Fourth, it seems likely that the States would be unwilling to assume more of a financial burden than would normally be theirs in widening the road on the present alignment with no tunnel.

Mr. Cron's proposal, Scheme A, is very well explained in his report, and is illustrated on the marked print. It envisions, on the Kentucky side, a new 6 per cent up-grade roadway of two lanes mostly on new location and a steeper down-grade roadway of two lanes, about half of which would utilize the existing highway. The up-grade roadway would be located higher on the mountainside toward our proposed tour road location. This scheme conforms to the desire of the State of Kentucky.

The tunnel would have to be a double bore, with each roadway in a separate bore, not necessarily on the same grade or in parallel alignment. Each bore would need to be about 30 feet wide with about 30 feet between. Each bore would probably have to be 25 to 30 feet high at the centerline to provide a 16-foot vertical clearance at the roadway edge.

Scheme A provides that our tour road stay on the same side of the road all the way up to the gap, then cross in the gap, above the tunnel to a connection with the existing road to the Pinnacle. We do not favor crossing in such a manner since one of the main objectives of restoring the gap is to remove such intrusions. Although Mr. Cron does not feel that the scar will be increased appreciably, we cannot be so optimistic. From the bottom of the mountain on the Kentucky side up to the gap, the three roadways would be on the same hillside and cut and fill slopes would quite likely meet in many cases. The situation becomes critical in the vicinity of the Sugar Run Road and the old Cumberland Mountain Hotel site, and also just below the gap. We believe, too, that the proposed tour road grade would prove to be excessive just below the gap crossing.

Scheme A with its traffic benefits, due to the lessened up-hill grade, is estimated by Mr. Cron to cost about $3,200,000, with the Park Service assuming $875,000 of the cost and State and Federal-aid funds the remainder, about $2,325,000. The traffic benefits estimated at $80,000 per year capitalized would be about $2,200,000, indicating just about an even break.

Scheme B, as marked on the print, envisions an eventual four-lane highway essentially on the present alignment and grade, with a dual roadway at the junction of the Sugar Run Road and at the proposed tour road overpass site. A divided highway might also be required through the tunnel, depending on whether we built a double bore tunnel or a subway type. The present highway grade would be essentially unchanged except at the tunnel approaches, and the tunnel itself could be, as Mr. Cron suggests, a 5 or 10 foot through cut with the remainder of the cover provided by the restoration of the gap. It retains our presently approved tour road location, with the grade separation, thus eliminating any intrusion into a restored gap.

We feel that the Park Service's primary position in considering removal of the state highway from the gap is a historical one, and that the Service would not be justified in assuming any appreciable extra cost to provide increased traffic benefits to the State highway.

The question then seems to be that of justifying the cost of highway reconstruction, tunnel building, and restoration of the gap on a historical basis alone.

If this is true, we believe that Scheme B as marked on the plan would provide a satisfactory solution.

We would be glad to assist in any further study or provide additional explanation of the situation in any way we can.

Thomas M. Moran
Supervising Highway Engineer

J. Dean Stout
Supervising Park Landscape Architect

Attachment

Copy to: Director
Regional Director, Region One
Supt., Cumberland Gap NHP
Mr. Cron, BPR

Mr. H. J. Spelman, Regional Engineer, Bureau's engineering June 19, 1957
Arlington, Virginia

F. W. Cron, Supervising Highway Engineer, were directed to [illegible] Catlinburg, Tennessee [illegible] and without lengthening [illegible] US Highway 25E through [illegible] Cumberland Gap National Historical Park [illegible] including such tunnelling as might be necessary or desirable.

I have been trying for several months to get something concrete done on the location study for US Highway 25E through Cumberland Gap National Historical Park. Mr. Cornell is correct when he says in his letter of May 28, 1957 that this road is the key to all future road development planning in this park.

Preliminary studies made to date indicate that:

1. The highway departments of both Kentucky and Virginia feel that traffic will require 4 lanes within 18 years.

2. The Virginia Department of Highways has prepared plans for a 4-lane, divided highway with a very narrow median from the junction of US Highway 25E and US 58 to the Kentucky State line. Except for a short stretch of 6.4% grade, this relocation is on the 5% grade or less.

3. The existing road on the Kentucky side is on 9½% grade for about 4,500 feet approaching the Gap and is 3 lanes (two upgrade and one downgrade). The creeper lane is of fairly recent construction.

4. The National Park Service desires to place the road in a tunnel and restore the Gap to its original elevation for historical reasons.

If a tunnel is resorted to, I believe some effort should be made to improve the grade on the Kentucky side so as to provide an economic justification for the tunnel in addition to the historical justification.

To get an idea of what the economic justification for a tunnel might be, we borrowed the AASHO Report on "Road User Benefit Analysis for Highway Improvements" from the Bureau library and made some calculations, based on the Kentucky State Highway Department's prediction of an average daily traffic of 8,500 vehicles per day for 1975. These calculations appear to show that the annual cost of operation on the existing 9½% road would be less than on Mr. Obenschain's proposed new 6% line, due to the extra 0.25 mile of distance on the flatter grade.

EASTERN OFFICE Division of Design & [illegible] June [illegible], 195[illegible]

This seems hardly credible, and I believe that before we are through with the problem we should get one of the Bureau's engineer-economists to look it over for us.

On the other hand if the present road were lowered to 6% grade substantially on its present location and without lengthening the distance, the annual cost of operation in 1975 would be reduced by about $85,115. This, capitalized at 3½% might indicate that $2,430,000 could with some economic justification be spent to reduce the grade, including such tunneling as might be necessary or desirable.

I believe that before we make any more surveys we should agree with the Park Service and the two States on the maximum grade, the design speed and the number of lanes that will be required. On the Virginia side the problem is comparatively simple, and I think we can assume that they can meet without difficulty anything that Kentucky proposes. I have written to Mr. Cobb (copy attached) for a statement regarding the maximum grade and design speed desired by the Kentucky Department of Highways. When I have this information I will arrange for the study requested by Mr. Cornell.

Attachment

cc: Mr. Zimmer ✓
Mr. Guy

FWC/fs

Note: cy. memo to CRP, 6/18/57, sent Mr. Zimmer 6/18/57

1. The Highway Departments of both Kentucky and Virginia feel that traffic will require 4 lanes width. [illegible]

2. The Virginia Department of Highways has prepared plans [illegible], divided highway with a [illegible] from the junction of US Highway [illegible] and US [illegible] to the Kentucky State line. Except for a short stretch of [illegible] grade, this relocation is on the [illegible] grade or less.

3. The existing [illegible] for about 4,300 feet approaching the Gap has 3 lanes (two upgrade and one downgrade). The [illegible] lane is of fairly recent construction.

4. The National Park Service desires to place the road in a tunnel and restore the Gap to its original elevation for historical reasons.

If a tunnel is resorted to, I believe some effort should be made to improve the grade on the Kentucky side so as to provide an economic justification for the tunnel in addition to the historical justification.

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September 4, 1957

Mr. H. J. Spelman, Regional Engineer
Arlington, Virginia

F. W. Cron, Supervising Highway Engineer
Gatlinburg, Tennessee

Cumberland Gap National Historical Park

When the lands within the Cumberland Gap National Historical Park were given to the Federal Government by Kentucky, Tennessee and Virginia the rights of way of existing highways, railroads and power lines were excluded from the cession. The most important of the reserved highways is US Highway 25E which traverses all three States as shown on the attached map. US Highway 58 lying entirely in Virginia is of lesser importance.

US 25E passes through the principal topographic and historic feature of the Park, which is the Gap itself. The present highway is in a cut at a grade which is about 25 feet lower than the original elevation of the Gap. At the summit, Highway 25E is joined by a crooked steep road inherited by the National Park Service with the Park, which winds up the face of Cumberland Mountain some 760 feet to "The Pinnacle" where there is a new parking area constructed by the Park Service. The cuts for Highway 25E and for this Park Service road, plus a large abandoned stone quarry on the Virginia side, have so altered the topography in Cumberland Gap that it is difficult for anyone to visualize its original appearance. Since the Cumberland Gap is the principal feature of the Park--indeed the only reason for the Park's existence--the Park Service desires to restore it as nearly as possible to its original condition; and since the present trunk highway is a foreign intrusion into this restored picture, the Park Service would like to get it out of sight. They have therefore suggested that US 25E be placed underground in a subway before the Gap is restored.

According to an inspection made on the ground on August 27, 1957 with Messrs. Guy, Stout, Moran and Vick of the National Park Service, and Mr. Abbott of the Bureau and myself, an acceptable restoration of the Gap could be accomplished if a subway about 1000 feet long were built. This subway would extend from a point 150 feet south of the State line on the Virginia side to a point about 850 feet north of the boundary on the Kentucky side. (The terrain is much steeper on the Virginia side.) The subway would not have to be buried very deeply since it would be covered in any event by 15 to 20 feet of backfill in restoring the Gap. It could easily be built at present grade level or in an open cut not more than 5 feet deep and then covered up when the Gap is restored.

Such a subway would accomplish the Park Service's historical purpose at a cost of possibly $875,000 for the required 4-lane structure. This subway would probably require lighting, power for which is available from a power line now passing through the Gap.

Such a structure would be of no benefit to the traffic using US Highway 25E, which in 1956 was 5185 vpd ADT, and is estimated to increase to 9300 vpd by 1976. (Truck traffic is about 16% of the total.) A traffic benefit will arise only if the approach grades are made less steep. At present there is a 6-1/2% grade on the Virginia side, and 8 to 9% on the Kentucky side. If these were reduced to 6% maximum on both sides, annual benefits of about $80,000 to traffic would be realized, but a 4-lane tunnel at a considerably lower level than the present Gap would be required to effect such a reduction in grade. It would have to be at least 1300 feet long, but 1400 feet would fit the topography much better. Considerable reconstruction of the approaches, especially on the Kentucky side, would be required. The cost of two 2-lane tunnels, each 1400 feet long, would be about $2,625,000.

The cost of a 4-lane approach from the Virginia portal of this tunnel back to the junction of US 25E and US 58 would be about $200,000. To reconstruct the approach from the Kentucky portal to the foot of the mountain near Middlesboro would cost about $375,000. (This would provide a new 6% up-grade roadway of 2 lanes on new location, and a steeper down-grade roadway also of 2 lanes, about one half of which would utilize the existing highway.) The scars for the new roadways could be kept pretty generally within the existing road scars as shown by the attached map. (On this map the proposed northbound roadway is colored green and southbound is red.)

The total cost of the Tunnel Scheme thus would be about $3,200,000. If the Park Service were willing to contribute $375,000 (the estimated cost of the Subway Scheme) toward the accomplishment of the Tunnel Scheme the States would then have to put in $2,325,000 of State and Federal-Aid funds to secure the estimated traffic benefits of $80,000 per year, deriving from the easier grades. These benefits capitalized at 3-1/2% would amount to about $2,200,000.

The above cost figures assume the following direct construction costs: (1) 4-Lane Reinforced Concrete Subway, $700.00 per lineal foot; (2) Single-bore Tunnels, 31 feet wide with reinforced concrete lining and masonry portals, $750.00 per lineal foot (including $280.00 per lineal foot for steel supports).

To the direct construction cost, we added 25% for engineering and contingencies.

The State of Virginia has prepared plans for reconstructing US 25E as a 4-lane road from US 58 to the State line at a cost said to be in excess of $200,000. I understand that Virginia is holding up this improvement pending a decision as to what the Government will do in the Gap. Kentucky and Virginia are agreed that 4 lanes of traffic will be needed through the Gap, whatever scheme is adopted.

The construction cost figures above, and the benefits to traffic are rather rough figures, but they provide us with a fairly good scale

with which to weigh the two choices. There is also a third choice which is to construct 4 lanes through the Gap at grade without restoring the Cap. This would be much less expensive than either the Tunnel or the Subway Scheme but would not permit the type of interpretive development the Park Service considers essential for this Park.

At the meeting mentioned above, I said that I thought additional information including more topography and core borings would have to be obtained before we could make good estimates of cost for the Tunnel or the Subway Schemes. I now believe that at this stage we do not need exact estimates. The figures above should be sufficient to enable the National Park Service and the Bureau to agree between themselves as to what should be done before approaching the States. If the Subway Scheme is adopted, no additional surveys or core drillings need be made to arrive at a pretty close estimate of cost. But if the Tunnel Scheme is adopted some additional surveys should be made so that a better estimate can be made before approaching the States to participate in the Scheme.

There are other road problems in this Park, such as the location of US 25E in Tennessee, the location of the National Park Service Pinnacle Point Road and the secondary Sugar Run Road, but they are all subordinate to the problem of what is to be done in the Cumberland Gap itself. Once this is decided the solutions to the other problems will not be very difficult.

At present we have a balance of $5,089.29 in the survey allotment for this Park. We will make no further surveys or studies in this area until we receive your instructions as to what scheme should be followed.

Enclosure

In duplicate

cc Regional Director, NPS
Mr. Zimmer
Mr. Guy

D. LAND STATUS AND DEEDS

UNITED STATES
DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE
WASHINGTON PLANNING AND SERVICE CENTER
1730 NORTH LYNN STREET
ARLINGTON, VIRGINIA 22209

P. S. C. - D. & C.
OCT 7 1966

NATIONAL PARK SERVICE 1916 1966 50TH ANNIVERSARY

Chief	
Admin.	
Chief, Planning	
Site Dev.	
Estimators	
Prof. Contr.	
Chief, Design	
LA. ARCH. ENG.	
Chief, Const.	
Cont. Adm. Compl. Safety	
Specs.; LA. ARCH. ENG.	
[illegible]	
LA. ARCH. ENG.	
Date:	

IN REPLY REFER TO:

September 29, 1966

L1425-WSC (Lands)

Memorandum

To: Chief, Development Planning and Project Design and Construction, Philadelphia Service Center

From: Chief, Office of Land and Water Rights, WSC

Subject: Land ownership - Cumberland Gap

As requested, I contacted Mr. Charles E. Owen, Jr., Assistant State Right of Way Engineer, Commonwealth of Virginia Department of Highways in Richmond regarding right-of-way for Highway 58 at Cumberland Gap.

He advised me that the State's ownership is an 80' easement which was obtained by the attached deeds, one being from the American Association and the other from Lincoln Memorial University, both deeds dated 1936.

He further said that he was not aware of any planning beyond the present work being done by the State of Tennessee on the bypass around Cumberland Gap, Tennessee. He stated that Mr. Jones had nothing whatsoever to do with any planning he was familiar with and that we should not be dealing with Mr. Jones. He was not aware of any plans in which the State would be participating to provide a tunnel through the Gap.

I told him I would pass this information on to you and if yuu had further questions that you would get in touch with him at telephone number: MI 4-4111, Ext. 2775 in Richmond or you may write him at the Department of Highways, Commonwealth of Virginia, Richmond 19, Virginia.

Clifford J. Harriman

Clifford J. Harriman

Enclosures (2)

cc:
Superintendent, Cumberland Gap

THIS DEED, Made this 24th day of January, 1936, by and between AMERICAN ASSOCIATION, Inc., and The Sky Land Company of Bell County, Kentucky, hereinafter designated as grantor (even though more than one), and the COMMONWEALTH OF VIRGINIA, Grantee:

WITNESSETH: In consideration of the benefits accruing or to accrue to the said grantor, by reason of the location and construction, or other improvement of part of Route No. 58 and Project No. 623-B between 1.23 Mi. E. of Kentucky Line and Kentucky Line State Highway System, along, through, or over the lands of the grantor, and for further consideration paid by the grantee to the grantor, receipt of which is hereby acknowledged, the said grantor hereby grants and conveys unto said grantee with general warranty of title, a strip or parcel of land over the lands of the grantor needed for the location and construction or other improvement of said road, the said strip or parcel of land being as shown on a plat and survey of the said road, along, through or over said lands, on file in the office of the Department of Highways at Richmond, Virginia, identified as Sheet No. 5-6-7, Project No. 623-B, Route No. 58, the said strip or parcel of land being in Lee County, Virginia, and described as follows:

Beginning at a point on the centerline of Rt. 58, from 1.23 Mi. E. of Kentucky Line and Kentucky Line, shown on plans as Sta. [illegible]+00, adjoining the lands of Geo. Laws; thence to the right on a 6° curve, 800 Ft. to Sta. 1002+00; thence N. 36° 12' W., 250 Ft. to Sta. 1004+50; thence to the left on a 4° curve, 450 Ft. to Sta. 1009+00; thence S. 75° 48' W., 150 Ft. to Sta. 1010+50; thence to the left on a 4° curve, 450 Ft. to Sta. 1015+00; thence N. 36° 12' W., 43 Ft. to the lands of B. L. O'Dell, being Sta. 1015+43. Also beginning at Sta. 1026+25, adjoining the lands of B. L. O'Dell; thence to the left on a 3° curve, 25 Ft. to Sta. 1026+50; thence S. 54° 48' W., 150 Ft. to Sta. 1028+00; thence to the right on a 5° curve, 500 Ft. to Sta. 1033+00; thence N. 65° 12' W., 221.6 Ft. to the lands of Lincoln Memorial University, being Sta. 1035+21.6.

Also beginning at Sta. 1053+56; and adjoining the lands of Lincoln Memorial University; thence N. 65° 12' W., 273.9 Ft. to Sta. 1056+29.7; thence to the left on an 8° curve, 137.5 Ft. to Sta. 1057+17.2; thence N. 80° 12' W., 70.8 Ft. to the end of Project 625-D, shown on plans as Sta. 1058+88 (Kentucky-Virginia State Line). Also beginning at Sta. 0+00-Sta. 1027+75, beginning of Connection of Rt. 25 with Rt. 58; thence to the right on a 36° curve, 75 Ft. to Sta. 0+75; thence to the left on a 36° reverse curve, 50 Ft. to Sta. 1+25; thence S. 86° 12' E., 110 Ft. to Sta. 2+35; thence to the right on a 40° curve, 175 Ft. to Sta. 4+10; thence S. 16° 12' E., 40 Ft. to the end of connection with Rt. 25, shown on plans as Sta. 4+50.

The land conveyed hereunder being a strip or parcel of varying width, lying on the North (right) side of the hereinabove described centerline, being 0.0 Ft. wide at Sta. 997+50; thence widening with the property line of Geo. Laws to 40 Ft. at Sta. 998+25, and continuing 40 Ft. in width to Sta. 1011+00; thence narrowing with the property line of Smith Ball to 20 Ft. at Sta. 1012+50; thence widening to 40 Ft. at Sta. 1013+50, and continuing 40 Ft. wide to Sta. 1015+43. Also being 40 Ft. wide from Sta. 1026+25 to Sta. 1035+21.6. Also being 40 Ft. wide from Sta. 1053+56 to Sta. 1058+88. Also a strip or parcel of varying width, lying on the North (left) side of Connection Rt. 58 with Rt. 25, and being 0.0 Ft. wide at Sta. 0+00; thence widening to 40 Ft. at Sta. 2+50; thence narrowing with center of present road to 0.0 Ft. at Sta. 4+10. Also a strip or parcel of varying width lying on the South (left) side of the hereinabove described center-line, being 0.0 Ft. wide at Sta. 996+00; thence widening with the property line of Geo. Laws, and being adjacent thereto, to 40 Ft. at Sta. 997+50, and continuing 40 Ft. wide and adjacent to centerline to Sta. 1015+43. Also being 40 Ft. wide from Sta. 1026+25 to Sta. 1035+21.6. Also being 40 Ft. wide from Sta. 1053+56 to Sta. 1058+88. Also being 25 ft. wide from Sta. 0+00 (Conn. with Rt. 25) to Sta. 4+50.

The above described strips or parcels contain 6.16 acres, more or less, of which 1.13 acres are included in the present right of way, and 5.03 acres, more or less, additional land, together with the right to make the necessary additional cuts and fills, as shown on plans, outside of the above described right of way. Also the necessary land for the preparing the sight Vista, as shown on plans, Sta. 1033 to Sta. 1035+21, left.

The Sky Land Company, a Kentucky Corporation, hereby joins in the above conveyance for the purpose of releasing any claim their company has on the unexpired lease on the tract or parcel of land lying between Sta. 1053+56 and Sta. 1058+88.

The said grantor covenants that he has the right to convey the said land to the grantee; that he has done no act to encumber the said land; that the grantee shall have quiet possession of the land, free from all encumbrances, and that he will execute such further assurance of the said land as may be requisite.

The said grantor covenants and agrees for himself, his heirs and assigns and successors, that the considerations hereinabove mentioned and paid to him shall be in lieu of any and all claims to compensation and damages by reason of the location, construction and maintenance of said road.

WITNESS THE following signatures and seals:

AMERICAN ASSOCIATION INCORPORATED (SEAL)

Attest:
D. G. Hinks

By C. W. Rhodes (SEAL)
Director & Gen'l Manager
The Sky Land Company (SEAL)
By J. H. Chesney
Local Manager

STATE OF KENTUCKY:
SS.
COUNTY OF BELL :

Before me, J. D. Rhodes, a Notary Public of the state and county aforesaid, personally appeared C. W. Rhodes and J. H. Chesney, with whom I am personally acquainted, and who upon oath acknowledged themselves respectively to be the Director and General Manager of the American Association Incorporated, and the local manager of The Sky Land Company, the within named bargaining corporations; and the said C. W. Rhodes upon oath acknowledged that

he as such Director and General Manager, being authorized so to do, executed the foregoing instrument for the purpose therein contained by signing the name of the corporation by himself as Director & Gen'l Manager, and the said J. H. Chesney upon oath acknowledged that he as local manager, being authorized so to do, affixed thereto his signature.

WITNESS my hand and seal at office in Middlesborough, Kentucky, this 10 day of February 1936.

J. D. Rhodes
Notary Public, Bell County, Ky.
My Commission Expires May 16, 1939

Virginia, Lee County, to-wit:

In the Clerk's office of Lee County, on this the 29th day August, 1938, this deed was presented, and, together with the certificate annexed, admitted to record and indexed.

Teste: D. C. Sewell, Jr., Clerk

C. L. Grabeel, D. Clerk

Recorded in:
Lee County, Virginia
Deed Book #97, page 482.

This March 13, 1958: A COPY TESTE: Arthur T. Burchette, Clerk

BY: _____
Deputy Clerk