State or Federal agency and bureau

OMB No. 1 RECEIVED 2280

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United States Department of the Interior National Park Service NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

1. Name of Property historic name: CHESAPEAKE AND OHIO 2755 STEAM LOCOMOTIVE other name/site number: 2. Location street & number: 500 feet from jct. of Little Buffalo Creek Road and Park Route 801 not for publication: N/A city/town: Henlawson vicinity: X state: West Virginia code: WV county: Logan code: 045 zip code: 25624 3. State/Federal Agency Certification As the designated authority under the National Historic Preservation Act, as amended, I hereby certify that this X nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property X meets does not meet the National Register Criteria. I recommend that this property be considered significant nationally statewide X locally. See continuation sheet.) - August 2006 Randall Reid-Smith, SHP West Virginia Division of Culture and History State or Federal agency and bureau In my opinion, the property meets does not meet the National Register criteria. See continuation sheet for additional comments.) Signature of Certifying Official/Title Date

4. National Park Service Certifica	tion
entered in the National Research See continuation she determined eligible for the National Register See continuation she determined not eligible for National Register removed from the National other (explain):	gister et. et. et. r the
5. Classification	
Ownership of Property: (Check as many boxes as apply)	Category of Property: (Check only one box)
private public-localX public-State public-Federal	building(s) district site X structure object
Number of Resources within Prop (Do not include previously listed	· · · · · · · · · · · · · · · · · · ·
Contributing 1 1	Noncontributing buildings sites structures objects TOTAL
Name of related multiple property (Enter "N/A" if property is not pa	~

Number of contributing resources previously listed in the National Register 0

Chesapeake and Ohio 2755 Steam Locomotive Name of Property		Logan, West Virginia County and State	
6. Function or Use			
Historic Functions Transportation/Rail-related/Locomotive	Current Functions Other/Static Locomo	tive Display	
7. Description			
Architectural Classification	Materials		
OTHER: K-4 Class Locomotive	Foundation: Walls: Roof: Other:	N/A N/A N/A Steel	
Narrative Description (See continuation sheets)			
8. Statement of Significance			
Applicable National Register Criteria (Mark "X" in one or more boxes for the crilisting.)	teria qualifying the pro	perty for National Register	
X A Property is associated with events patterns of our history.	that have made a signi	ficant contribution to the broad	
B Property is associated with the liv	res of persons significan	nt in our past.	
X C Property embodies the distinctive construction or represents the work of a massignificant and distinguishable entity whos	aster, or possesses high	artistic values, or represents a	
D Property has yielded, or is likely thistory.	to yield, information in	nportant in prehistory or	

<u>Chesapeake and Ohio 2755 Steam Locomotive</u> Name of Property

Logan, West Virginia County and State

Criteria Considerations (Mark "X" in all the boxes that apply.)
Property is: A owned by a religious institution or used for religious purposes.
B removed from its original location.
C a birthplace or grave.
D a cemetery.
E a reconstructed building, object, or structure.
F a commemorative property.
G less than 50 years of age or achieved significance within the past 50 years.
Areas of Significance TRANSPORTATION ENGINEERING
Period of Significance 1947-1956
Significant Dates 1947
Significant Person (Complete if Criterion B is marked above)
Cultural Affiliation N/A
Architect/Builder Lima Locomotive Works, Lima, Ohio
Narrative Statement of Significance (See continuation sheets)

Chesapeake and Ohio 2755 Steam Locomotive Name of Property	Logan, West Virginia County and State
9. Major Bibliographical References	
Bibliography (Cite the books, articles, and other sources used in preparing continuation sheets.)	ng this form on one or more
Previous documentation on file (NPS):	
preliminary determination of individual listing (36 of previously listed in the National Register previously determined eligible by the National Register designated a National Historic Landmark recorded by Historic American Buildings Survey precorded by Historic American Engineering Record	ister #
Primary location of additional data:	
State Historic Preservation Office Other State agency Federal agency Local government University X Other	
Name of Repository: West Virginia Division of Natural R Section, Building 3, 1900 Kanawha Blvd., East, Charleston	
10. Geographical Data	
Acreage of Property: Approximately 2/10 acre	
UTM References (Place additional UTM references on a c	continuation sheet.)
Quad Map Name: <u>CHAPMANVILLE</u> , W.VA.	
<u>17</u> <u>411200</u> <u>4194196</u> Zone Easting Northing	
Verbal Boundary Description (See continuation sheet.)	
Boundary Justification (See continuation sheet.)	

Chesapeake and Ohio 2755 Steam Locomotive Logan, West Virginia Name of Property County and State 11. Form Prepared By Name: Thomas F. Lambert and assistance from WV SHPO staff Date: December 16, 2005 Telephone: 304 736-7349 Street & Number: 26 Nedra Drive City or Town: Barboursville State: West Virginia Zip: 25504-1023 Property Owner Name: Mr. Bob Beanblossom, Director West Virginia Division of Natural Resources Parks and Recreation Section

State: West Virginia Zip: 25305

Street & Number: Building 3, 1900 Kanawha Blvd., East

City or Town: Charleston

Telephone: 304 558-2764

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

<u>Chesapeake and Ohio 2755 Steam Locomotive</u> Name of Property Logan, West Virginia County and State

Section number

7

Page

1

Architectural Description:

The setting of the 2755 is largely rural and mountainous. As it is located in the context of a state park, the surroundings are forested hillsides. Within view of the locomotive is the park's museum building. The setting of steep hillsides and narrow valleys continues to typify the locomotive's operating environment during its period of significance. Generally speaking, the locomotive is a structure comprised of steel billets, castings, and sheets.

The introduction of the 2-8-4 wheel arrangement by the Lima Locomotive Works in 1925 is generally accepted as the commencement of the "Super Power" era of the North America steam locomotive. The term has generally been used to denote large road locomotives with relatively high drivers, large fireboxes and relatively high working pressures. One characteristic generally considered to be essential was a four-wheel, and, in some cases, a six-wheel trailing truck. The key event in the development of the steam locomotive designs was a successful method of delivering high temperature superheated to the cylinders. This was a "Schmidt" superheater, designed by William Schmidt, 1859-1924.

A superheated locomotive, for the same amount of fuel burned, would produce 25 to 30% more power than one of the same specifications but retaining saturated steam. Although its introduction was not without problems, all road locomotives were being built superheated, and many roads were extensively retrofitting superheaters to existing locomotives. Lima Locomotive Works built 147 steam locomotives of various classes for the Chesapeake and Ohio Railway between 1925 and 1948.

The Chesapeake and Ohio Railway purchased ninety, Class K, 2-8-4, "Kanawhas", twenty from the Lima Locomotive Works and seventy from the American Locomotive Company between 1943 and 1947. These locomotives were numbered 2700 to 2789. All of the 90 locomotives had 69" diameter drivers, 26" x 34" cylinders, a 245 psi boiler pressure, they exerted 69,350 pounds of tractive effort and each weighed about 292,500 pounds. The C&O's 2755 was in the third order of "Kanawha" Steam Locomotives, 2750-2759, and the second order constructed by Lima. The construction number for this order was 9296. The 2755 and the 2756 are the only locomotives of the 2750-2759 order that have been preserved. The 2756 is on display in Huntington Park adjacent to the War Memorial Museum on the James River in Newport News, Virginia.

¹ Wenstein, Edward G., "Berkshires (and Kanawhas)"

² Chesapeake and Ohio Historical Society, "C & O Steam Roster by Years"

³ SteamLocomotive.com, "Chesapeake and Ohio Kanawha Type Locomotives"

⁴ Email from Scott Lindsay dated 12-24-05

United States Department of the Interior National Park Service

NATONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Chesapeake and Ohio 2755 Steam Locomotive

Name of Property

Logan, West Virginia County and State

Section number

7

Page

2

Principle dimensions /statistics of the K-4 class are as follows:⁵

Class K-4

Road Numbers: 2750-2759

Builder Lima Locomotive Works

Lima. Ohio

Built 1947 Builder's Order 1198

Weight: Lbs.

 Driver's
 293,100

 Engine Truck
 48,500

 Trailing Truck
 128,080

 Engine Total
 469,680

 Tender
 394,100

 Engine and Tender
 863,780

Boiler Pressure 245 psi Cylinders (Diameter x stroke) 26" x 34"

Firebox 135 1/16" x 96 1/4"
Grate area 90 sq. ft.

Total Heat, Surface 4,714"

Tractive Effort 69,350 lbs.
Tractive Effort Booster 14,000 lbs.
Total Track Effort 83,350 lbs.

Factor of Adhesion 4.23 Cylinder Horse Power 2,979

⁵ Huddleston, Eugene L., Philip Shuster, and Alvin Shaufer. <u>C & O Power: Steam and Diesel Locomotives of the Chesapeake and Ohio Railway</u>, 1900-1965 (Medina, OH: Alvin Staufer, 1965), 90.

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HSTORIC PLACES CONTINUATION SHEET

Chesapeake and Ohio 2755 Steam Locomotive

Name of Property

Logan, West Virginia County and State

Section number

7

Page

3

Value Gear Baker

Super Heater Elesco Type E

Feedwater Heater Worthington Type 5 ½ SSA

Stoker HT

Franklin Booster E-1

Drivers 69"

Driving Wheel Base 18' 3"

Length Engine 56' 4/1/2"
Length over couplers 105' 1 7/8"

Tender Class 21-RG

Tender Class
Tender capacity:

Coal 30 tons

Water 21,000 gallons

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Chesapeake and Ohio 2755 Steam Locomotive

Logan, West Virginia

Name of Property

County and State

Section number

8

Page

4

Statement of Significance

The Chesapeake & Ohio 2755 Steam Locomotive is considered significant under Criterion A for Transportation and Criterion C for Engineering. The period of significance begins with the locomotive's construction in 1947, and ends in 1956. During the period of significance, the locomotive operated continuously as a coal hauler on the Logan Subdivision.

The Chesapeake and Ohio Railroad began with the merger of the Virginia Central and the Covington & Ohio Railroads. It later acquired the Chicago, Cincinnati & Louisville Railroad, the Pere Marguette and the Baltimore & Ohio. By 1987 when it was taken over by CSX it also had incorporated the Western Maryland Railroad.

The C&O 2755 Steam Locomotive is an integral part in the history and development of the railroad business and coal mining industry in West Virginia. The period of significance begins with the locomotive's construction in 1947, and ends with a nine year cut-off point in 1956. During this period the 2755 pulled coal trains on the C&O Railway's Logan Subdivision. Under Criterion A for Transportation, the locomotive is significant as a physical representative of the C&O's continued use of steam power into the post WWII period. Under Criterion C for Engineering, the locomotive is a significant example of the final generation of American steam engines that featured the hallmarks of augmented power and increased efficiency in the face of competition from Diesel technology. The engine exhibits a high amount of physical integrity, being operated only a short time, then going into protected storage. The locomotive was obtained from the C&O by the West Virginia Division of Natural Resources and placed by them in March, 1961 in their Chief Logan State Park, near Henlawson.

Criterion A: Transportation

During World War Two, the C&O turned to the 2-8-4 wheel arrangement to handle the fast freight schedules demanded by war-time needs. The C&O had watched the development of the 2-8-4 on the Nickel Plate Road and the Pere Marquette through the "Advisory Mechanical Committee" which was common to the four railroads controlled by the Van Sweringens. It based its 2-8-4 design on the NKP and Pere Marquette "Berkshires." However, it chose to name them "Kanawhas" after the Kanawha River, which paralleled its main line.⁶

⁶ SteamLocomotive.com, "Chesapeake and Ohio Kanawha Type Locomotives"

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATON SHEET

Chesapeake and Ohio 2755 Steam Locomotive Name of Property

Logan, West Virginia County and State

Section number

8

page

5

The development of the 2-8-4 wheel arrangement for steam locomotives was a result of an effort by the Lima Locomotive Works to improve on the speed and horse power of the USRA Mikado (2-8-2) locomotive, which was designed by the United States Railroad Administration during World War I. The USRA design had difficulty keeping up steam over long periods and often experienced wheel slippage.⁷

The big 2-8-4's first saw service between Stevens yard, near Cincinnati, Ohio and Hinton, West Virginia, including the various branch mainlines between, and/or Clifton Forge-Richmond-New Port News region, the two low-grade ends of the road. They were an immediate hit with the road and yard crews and the "Big Mikes", as the crews affectionately called them, soon became Chessie's most versatile performers. At home in any road service, the K-4s were soon lugging coal drags, thundering along with merchandise trains, and speeding heavy passenger runs. With their 69' drivers, the K-4's were certainly not in the racehorse class but given a heavy passenger train and moderate to heavy grades to overcome the Kanawha could move the passengers with the best of them. Some regularly supplemented the 4-8-4's between Hinton and Charlottesville, and for a time handled the GEORGE WASHINGTON between Ashland and Lexington, Kentucky, and were frequently used for regular power on other parts of the road during rush seasons or shopping cycles.

C&O ordered 10 K-4's, 2750-2759, from Lima in 1946 for early 1947 delivery. By mid 1952, the C&O had received enough diesels that it had begun to retire even the "Kanawhas", which still had service time, and by 1957 all were retired. All but the thirteen that were donated to various cities were scrapped by May, 1961. The City of Buffalo, New York, received number 2701 and placed it on display near the waterfront until vandals wrecked it and it was scrapped. There are twelve surviving C&O 2-8-4 "Kanawha" type locomotive. These twelve are the 2700, 2705, 2707, 2716, 2727, 2732, 2736, 2755, 2756, 2760, 2776, and the 2789. 10

⁷ SteamLocomotive.com, "Berkshires & Kanawhas"

⁸ SteamLocomotive.com, "Kanawha"

⁹ Eugene L. Huddleston, Philip Shuster, and Alvin Staufer. <u>C & O Power: Steam</u> and <u>Diesel Locomotives of the Chesapeake and Ohio Railway, 1900-1965</u> (Medina, Oh: Alvin Staufer, 1965), 87.
¹⁰ SteamLocomotive.com, "Chesapeake and Ohio Kanawha Type Locomotives"

United States Department of the Interior National Park Service

NATONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

<u>Chesapeake and Ohio 2755 Steam Locomotive</u> Name of Property Logan, West Virginia
County and State

Section number

8

Page

6

Criterion C: Engineering

The Advisory Mechanical Committee, after exhaustive studies and tests, had used the most favorable ratios, proportions, and characteristics of the Erie 2-8-4 of 1927 and enlarged them into the famous C&O's T-1, 2-10-4, built by Lima in 1930. In 1934 the process was applied in reverse from the 2-10-4 and the equally famous NKP Class S 2-8-4 resulted. The Pere Marquette Class N-2-8-4's (later C&O Class N-3), by Lima in 1937 were, except for larger cylinders and slightly heavier engine weight, virtually duplicates of the NKP design. When it came time for the C&O to place an order for new engines for its low grade territory, it was only natural to pick the proven design of its first cousins, and War Production Board restrictions, limiting orders for new locomotives to existing designs, clinched the deal. The Lima Locomotive Works was located in Lima, Ohio between the B&O's Cincinnati-Toledo line and Nickel Plate's main line and shops.

Lima Locomotive Works is most famous for developing the Super Power 2-8-4 design. Around 1920, the railroads and locomotives builders were trying various techniques to increase the speed of freight trains. Some approaches used high-pressure boilers, three cylinders, water-tube fireboxes, or all three. William Woodard of Lima Locomotive Works experimented in increasing the grate area to greatly increase the steaming ability of the locomotive. A locomotive with a 100 sq. ft. grate area was constructed. The firebox was so large that it required a four-wheel trailing truck to support it. The 2-8-4 wheel alignment was born. This demonstrator locomotive also had a booster on the rear axle of the trailing truck. It was designated number "1", Class A-1 and was so successful from the start that a number of railroad lines soon placed orders for more of this type. Lima locomotive Works became famous for developing this design. 12

Summary:

The C&O 2755 Steam Locomotive played a fundamental role in the development of coal mining and the railroad industry in West Virginia. The 2755 is significant under Criterion A for Transportation. The 2755 was important to the transportation of coal which fueled the growth for both the coal mining and railroad industry in West Virginia. The 2755 is also significant under Criteria C for Engineering. The design of the 2755 made its type unique to coal mine service in the Appalachian Mountain region. The engineering of the locomotive is also important as a remnant of steam technology used after diesel engines had become the principle

¹¹ SteamLocomotive.com, "Kanawha"

¹² SteamLocomotive.com, "Steam Locomotive Builders"

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTNUATION SHEET

<u>Chesapeake and Ohio 2755 Steam Locomotive</u> Name of Property Logan, West Virginia County and State

Section:

8

Page

7

form of power in the railroad industry. The period of significance begins in 1947 with the construction of the 2755 and runs until the cut off in 1956.

A Time Book owned by Bob Withers indicates the 2755 was in tonnage freight service on January 18, 1956 and ran from Handley, West Virginia to Russell, Kentucky. The engineer was Lidge D. Kingery and the fireman was Ralph W. Shelton. This is the last known date of freight service for the 2755. The 2755 was taken out of service in the fall of 1956. On August 22, 1957 Mr. Withers saw the 2755, along with several other steam locomotives, at the Russell, Kentucky yard. His visit to the Russell, Kentucky yard was recorded in a journal he kept of locomotives that he had seen.

An editorial in the Huntington Herald Dispatch dated December 20, 1960 stated, "Logan, W. Va. will soon take possession of one of these old monsters. It will find a new permanent home in the new state park at Henlawson (West Virginia) which is being readied for full State Park status under the STEP program." The locomotive referred to in this article was the 2755 and the state park was the Chief Logan State Park. Harry Burks, who was one of the engineers for the 2755, had indicated C&O's Logan Subdivision was the last to be dieselized.

The 2755, after it was taken out of service, went to the C&O's Russell, Kentucky shops where it stayed until it was sent, in the fall of 1960, to be refurbished at the C&O's Huntington, West Virginia shop's prior to its placement at the Chief Logan State Park.

The West Virginia Division of Natural Resources owns the Chesapeake and Ohio 2755 and placed it at their 4,000 acre Chief Logan State Park, Logan, West Virginia in March, 1961. A diesel, which had the 2755 in tow, picked up empty coal cars in Huntington, West Virginia and took them to Peach Creek, West Virginia. A diesel locomotive pushed the 2755 up Little Buffalo Creek from Peach Creek to where it is now located. The track that was in front of and behind where the locomotive stands has been removed.

West Virginia's Governor, W. W. Barron, accepted the title to the Chesapeake and Ohio 2755 steam locomotive and about four miles of right-of-way from W. I. Dunn, vice-president of the Chesapeake and Ohio Railway Company, on September 17, 1961. The park is located in the heart of West Virginia's southern coalfields four miles north of Logan, West Virginia. The park and town share the name of the Chief of the Cayuga Tribe (also known as the Mingo Tribe). The Merrill Coal Mines, Inc. once operated a mine on the property where the Chief Logan State Park is currently located. Coal was hauled from Merrill's mine using C&O's H-4's and H-6's to

¹³ Herald-Advertiser, Huntington, W. V., September 17, 1961

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

<u>Chesapeake and Ohio 2755 Steam Locomotive</u> Name of Property Logan, West Virginia
County and State

Section number

8

Page

8

Peach Creek where the Kanawha's transported the coal on C&O's mainline to Russell, Kentucky, Chicago, Illinois, Handley and Hinton, W V and to New Port News, Virginia.¹⁴

In the 1970's or early 1980's, 2755 was badly vandalized. Her windows were broken and her gauges were destroyed by vandals. Anything that could have been stolen was, or was badly damaged by the attempted theft. She was later repaired, her glass replaced, and she was enclosed in a fence for protection. ¹⁵

The 2755 originality had a 6" Nathan Hooter whistle on it which no longer exists. In the summer of 1996 Steam Operations Corporation did a cosmetic restoration including jacket support system, jacket, paint and lettering in the proper C&O style. In addition, the headlight and class light were repaired and wired for operation. If John R. Pope, a former employee of the West Virginia Division of Natural Resources created a new version of the Monopoly game entitled, "Wild and Wonderful West Virginia State Parks and Forests: 75th Anniversary Edition". This edition varies from the original game in that all of the real estate is named after West Virginia's State Parks and Forests of which one is titled, "Chief Logan State Park" and has a picture of the 2755 under the caption. Members of The Island Creek Model Railroad Club are curators for the 2755 and have a model railroad museum located in a building to the right of where the locomotive is situated.

¹⁴ Archives of the Chief Logan State Park

¹⁵ SteamLocomotive.com, "Chesapeake and Ohio Kanawha Type Locomotives"

¹⁶ Keith Vernatter, President, Island Creek Model Railroad Club, Peach Creek, West Virginia

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

<u>Chesapeake and Ohio 2755 Steam Locomotive</u> Name of Property Logan, West Virginia County and State

Section number

9

Page

9

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Weinstein, Edward G, "Berkshires (and Kanawhas)"

Huddleston, Eugene L., Philip Shuster and Alvin Staufer. <u>C & O Power: Steam and Diesel Locomotives of the Chesapeake and Ohio Railway, 1900-1965.</u> Medina, OH: Alvin Staufer, 1965.

SteamLocomotive.com, "Berkshires and Kanawhas"

SteamLocomotive.com. "Kanawha"

SteamLocomotive.com, "Steam Locomotive Builders"

Herald-Dispatch, Huntington, WV, dated September 17, 1961, page 7.

Archives from the Chief Logan State Park, Logan, West Virginia

Vernatter, Keith, President, Island Creek Model Railroad Club, Peach Creek, West Virginia

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Chesapeake and Ohio 2755 Steam Locomotive

Name of Property

Logan, West Virginia
County and State

Section number

10

Page

10

Verbal Boundary Description

The nomination boundary for the Chesapeake and Ohio 2755 Steam Locomotive encompasses only the locomotive and tender and the track and ground upon which its stands.

Boundary Justification

The nomination boundary includes only the locomotive and its tender, excluding the unrelated structures that are a part of the Chief Logan State Park that surround it, within the fenced enclosure.

United States Department of the Interior National Park Service

NATIONAL REGISTER OF HISTORIC PLACES CONTINUATION SHEET

Chesapeake and Ohio 2755 Steam Locomotive

Name of Property

Logan, West Virginia County and State

Section number

Photo

Page

11

Photographer:

Alan Rowe

Date:

May 2006

Images:

Digital

Photo 1 of 6:

Camera facing southwest.

Photo 2 of 6:

Camera facing northwest

Photo 3 of 6:

Camera facing north.

Photo 4 of 6:

Rear of 2755's tender indicating it holds 21,000 gallons of

water and 30 tons of coal. Camera facing north.

Photo 5 of 6:

2755's 69" cylinders. Camera facing north.

Photo 6 of 6:

Camera facing west.

