

State Level Historic Documentation Report

State Project No. S330-3/5-9.33
Federal Project No. STP-0035(122)D

Dingess Tunnel Mingo County



Prepared by:

Randy Epperly, Historian

Department of Transportation
Division of Highways
Engineering Division
Environmental Section

July 11, 2017

STATE LEVEL HISTORIC DOCUMENTATION DINGESS TUNNEL

Location: County Route 3/5
Mingo County
West Virginia

USGS Myrtle Quadrangle

Date of Construction: 1892

Builder: Norfolk & Western Railway

Present Owner: West Virginia Department of Transportation
Division of Highways
1900 Kanawha Boulevard, Building 5, Room A-110
Charleston, WV 25305

Present Use: Vehicular Tunnel

Significance: The Dingess Tunnel is eligible for the National Register of Historic Places under Criterion A for its association with improving access and transportation of goods into the region. It is also eligible under Criterion C for its engineering significance.

Project Information: The project has been undertaken due to the deteriorating condition of the structure. The project will provide a safer and more efficient traffic situation while preventing permanent closure of the tunnel. The existing tunnel warrants rehabilitation. The documentation was undertaken in October 2016 in accordance with a Memorandum of Agreement among the Federal Highway Administration, West Virginia Department of Transportation, and West Virginia State Historic Preservation Office. The project is expected to begin in 2017.

No original plans are available.

Randy Epperly, Historian
West Virginia Division of Highways
Charleston, WV 25305
July 11, 2017

The Dingess Tunnel is located on County Route 3/5 in Mingo County. Construction began in 1890 on the Norfolk & Western Railway's Twelvepole line from Lenore to Ceredo, which included the Dingess Tunnel. On September 25, 1892 the first train traveled the Dingess Tunnel portion of the line, and the entire line was completed on November 12, 1892. The line was not profitable and in the 1930s it was abandoned and converted into a roadway (Abandoned). Although the railroad line was not financially successful, the tunnel was instrumental in opening up an inaccessible area. The tunnel has provided a way to transport coal and timber and therefore provided employment for the region's inhabitants since the late 19th Century.

Dingess Tunnel is approximately 3,331 feet long and straight with natural airflow ventilation. The tunnel was built using stone and a portion was originally timber lined. The northern end of the tunnel was constructed at a later date. Brick lining was added approximately 15 years after the tunnel opened to railroad traffic. A liner was installed in 1979 in a portion of the northern end of the tunnel. There is a drainage ditch along the east side of the tunnel and small recesses are spaced periodically inside the tunnel. Stone outside of the southern portal has Peebles Block etched into it. Peebles Block was made by Peebles Paving Brick Company of Portsmouth, Ohio. The word Dunn is also etched into it representing the Dunn method for making the bricks. Peebles Block dates to the late 1800s/early 1900s, consistent with the construction date of the tunnel (American Trade Index, 1913.) Lighting inside the tunnel is currently inoperable. A drainage creek crosses over the northern end of the tunnel, where surface water infiltrates the tunnel causing deterioration. The tunnel was commemorated with historic signs in the summer of 2015 (Williamson Daily News, 2015). No original plans for the tunnel are available.

Dingess Tunnel has been called "America's Bloodiest Tunnel" due to stories from the late 1800s/early 1900s of immigrant and African-American coal miners and railroad employees being murdered while traveling through the tunnel (Appalachian Magazine, 2014.) These stories have been printed in national publications.

Dingess Tunnel is eligible for the National Register of Historic Places under Criterion A for its association with improving access and transportation of goods into the region and also under Criterion C for its engineering significance. The tunnel was and continues to be integral to the movement of coal, timber, and people in the region.

BIBLIOGRAPHY

- Abandoned. "Norfolk & Western Railroad (Twelvepole Division)." Retrieved 22 October 2012.
<http://abandonedonline.net/locations/railroads/norfolk-and-western-twelve-pole/>
- American Trade Index. "Peebles Paving Brick Company." 1913. National Association of Manufacturers. New York City.
- Appalachian Magazine. "America's Bloodiest Tunnel." 23 February 2014. Retrieved 22 Oct 2015.
<http://appalachianmagazine.com/2014/02/23/americas-bloodiest-tunnel-wv/>
- West Virginia Legislature. House Concurrent Resolution No. 50.
http://www.legis.state.wv.us/Bill_Status/bills_text.cfm?billdoc=hcr50%20intr.htm&yr=2015&sesstype=RS&i=50&houseorig=H&billtype=CR Retrieved 20 October 2016.
- Williamson Daily News. "Historic Dingess Tunnel Commemorated." 26 June 2015.

STATE LEVEL HISTORIC DOCUMENTATION
INDEX TO PHOTOGRAPHS

Dingess Tunnel
County Route 3/5
Mingo County, West Virginia

Photographer: Randy Epperly

August 2014 and November 2015

DINGESS TUNNEL-1	View of Dingess Tunnel south portal.
DINGESS TUNNEL-2	View of Dingess Tunnel south portal with historic marker.
DINGESS TUNNEL-3	View of Dingess Tunnel south portal.
DINGESS TUNNEL-4	View of Dingess Tunnel north portal.
DINGESS TUNNEL-5	View of closeup of Dingess Tunnel north portal.
DINGESS TUNNEL-6	View of Dingess Tunnel looking south.
DINGESS TUNNEL-7	View of historic marker at south portal.
DINGESS TUNNEL-8	View of stone with company etching.



Photo #1



Photo #2



Photo #3



Photo #4



Photo #5



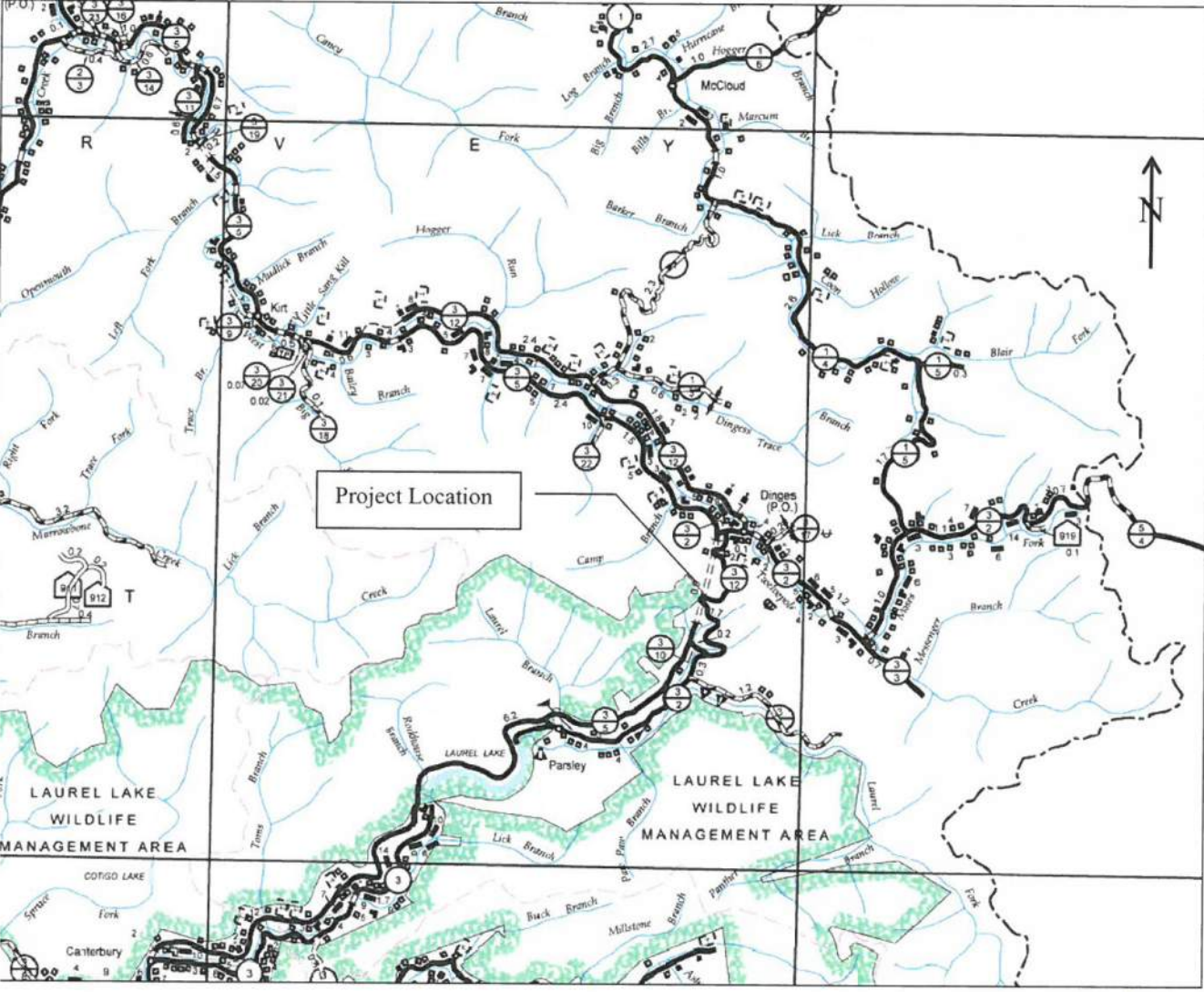
Photo #6

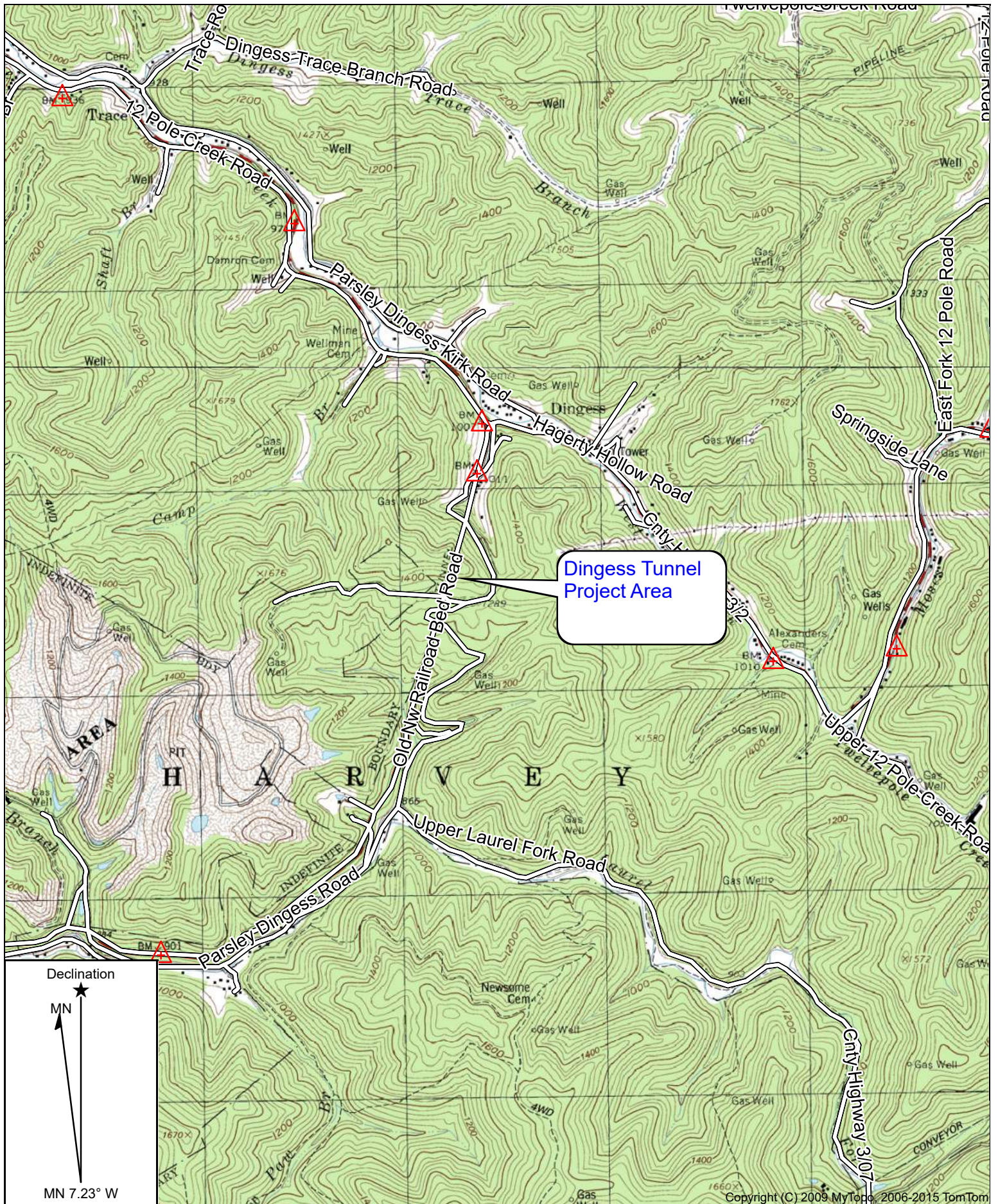


Photo #7



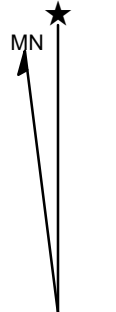
Photo #8





Dingess Tunnel
Project Area

Declination



Dingess Tunnel
Mingo County

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**MEMORANDUM OF AGREEMENT
BY AND AMONG
THE FEDERAL HIGHWAY ADMINISTRATION
THE WEST VIRGINIA STATE HISTORIC PRESERVATION OFFICE
AND THE WEST VIRGINIA DIVISION OF HIGHWAYS
REGARDING IMPLEMENTATION OF THE DINGESS TUNNEL
REHABILITATION PROJECT
S330-3/5-9.33
STP-0035(121)D
MINGO COUNTY, WEST VIRGINIA
MARCH 2016**

WHEREAS, the Federal Highway Administration (FHWA), in cooperation with the West Virginia Division of Highways (WVDOH), proposes to rehabilitate the Dingess Tunnel, located on County Route 3/5 in Mingo County, hereinafter referred to as the Project. The improvements involve installing approximately 270 feet of steel liner inside the tunnel, repointing or replacing loose or missing brick and stone, installing LED lighting with vandal shields inside the tunnel, and installing warning and guidance signs outside of the tunnel. Drainage above the northern end of the tunnel will be corrected using a concrete gutter and the road over the tunnel will be upgraded; and

WHEREAS, the FHWA has determined that the Project will have an adverse effect upon the Dingess Tunnel, a property eligible for the National Register of Historic Places (NRHP); and

WHEREAS, the FHWA has consulted with the West Virginia State Historic Preservation Officer (WVSHPO) pursuant to 36 CFR Part 800 Implementing Section 106 of the National Historic Preservation Act; (16 U.S.C., 470f); and

WHEREAS, the FHWA has determined that the Project will not affect archaeological properties; and

WHEREAS, the WVDOH contacted the Coal Heritage Authority and the Preservation Alliance of West Virginia regarding the Project. Neither group chose to respond;

WHEREAS, in accordance with 36 CFR 800.6 (a) (1), the FHWA has notified the Advisory Council on Historic Preservation (ACHP) of its adverse effect determination providing the specified documentation, and the ACHP has chosen not to participate in the consultation pursuant to 36 CFR 800.6 (a) (1) (iii);

NOW, THEREFORE, the FHWA, the WVSHPO, and the WVDOH, agree that the undertaking will be implemented in accordance with the following stipulations in order to take into account the effects of the undertaking on historic properties.

STIPULATIONS

The FHWA shall ensure that the following stipulations are carried out:

Dingess Tunnel

- I. The Dingess Tunnel will be documented in its present historic setting. The documentation package will include 5"x7" black and white digital prints in accordance with the National Register of Historic Places and National Historic Landmarks Survey Photo Policy Expansion of January 2009.
- II. A brief history of the structure will be included along with fully completed West Virginia Historic Property Inventory forms and copies of any available plan sheets and scans of the tunnel using LIDAR Technology.
- III. West Virginia Division of Highways staff will provide the Mingo County Public Library a copy of the Dingess Tunnel State Level Historic Documentation for references and educational purposes.
- IV. 50 color brochures of the Dingess Tunnel will be developed by the WVDOH and distributed to the Mingo County Public Library. The WVSHPO will be given the opportunity to review all educational materials developed for this stipulation. A CD containing the brochure will also be given to the library to print brochures when the original total has been exhausted.
- V. The Dingess Tunnel will be documented on the West Virginia historic bridge website.

VI. Duration

This MOA will expire if its stipulations are not carried out within five (5) years from the date of its execution. At such time, and prior to work continuing on the undertaking, the FHWA shall either (a) execute an MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. Prior to such time, FHWA may consult with other signatories to reconsider the terms of the MOA and amend it in accordance with Stipulation X below. FHWA shall notify the signatories as to the course of action it will pursue.

VII. Post-Review Discoveries

If any unanticipated discoveries of historic properties or archaeological sites, including human burial sites and/or skeletal remains, are encountered during the implementation of this undertaking, work shall be suspended in the area of the discovery until the WVDOH has developed and implemented an appropriate treatment plan in consultation with the WVSHPO pursuant to 800.13 (b).

VIII. Monitoring and Reporting

Each year following the execution of this MOA until it expires or is terminated, FHWA shall provide all parties to this MOA a summary report detailing work carried out pursuant to its terms. Such report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FHWA's efforts to carry out the terms of this MOA.

IX. Dispute Resolution

Should any signatory or concurring party to this MOA object at any time to any actions proposed or the manner in which the terms of this MOA are implemented, FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution, to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide them with a copy of this written response. FHWA will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day time period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FHWA's responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

X. Amendments

This MOA may be amended when such an amendment is agreed to in writing by all signatories. The amendment will be effective on the date a copy signed by all of the signatories is filed with the ACHP.

XI. Termination

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with the other parties to attempt to develop an amendment per Stipulation X, above. If within thirty (30) days (or another time period agreed to by all signatories) an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, FHWA must either (a) execute a MOA pursuant to 36 CFR 800.6, or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

EXECUTION of the Memorandum of Agreement by the FHWA, WWSHPO, the WVDOT and the Council, and implementation of its terms evidence that the FHWA has afforded the Council an opportunity to comment on the Dingess Tunnel Rehabilitation project and its effects on historic properties, and that the FHWA has taken into account the effects of the undertaking on the historic property.

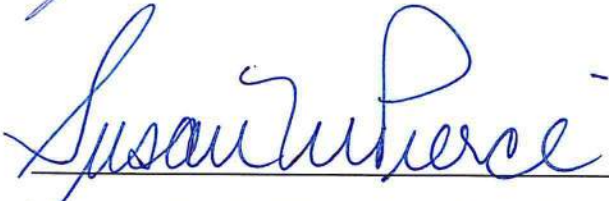
Signatories Page



Federal Highway Administration

9/23/16

Date



West Virginia Deputy State Historic Preservation Officer


4/28/16

Date

Advisory Council on Historic Preservation

Date

CONCUR:



West Virginia Division of Highways

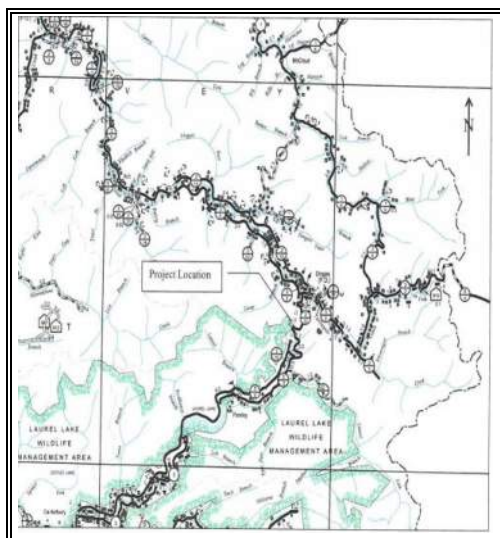
5/17/16

Date



WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

Street Address Located along County Route 3/5.	Common/Historic Name/Both <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Dingess Tunnel	Field Survey # HPI #2	Site # (SHPO Only) MO-58
Town or Community Dingess	County Mingo	Negative No.	NR Listed Date
Architect/Builder Norfolk & Western Railroad	Date of Construction 1892	Style (SHPO Only)	
Exterior Siding / Materials Stone	Roofing Material Brick	Foundation	
Property Use or Function Transportation	UTM Zone18 NAD 1983 Easting 396332E Northing 4191885N		
Survey Organization & Date WVDOH August 13, 2014	Quadrangle Name Myrtle		
Part of What Survey / FR# State County Route S330-3/5-9.33 Federal Project STP-0035(122)D			



Name: Dingess Tunnel
 Survey #: HPI #2
 Survey / FR#: State County Route: S330-3/5-9.33

Present Owners WVDOH	Owners Mailing Address Building 5, Capitol Complex Charleston, WV 25305								
Describe Setting <div style="text-align: right;">Unknown--<1 Acres <input type="checkbox"/> Archaeological Artifacts Present</div> <p>Located in a rural area in Dingess, Mingo County. It is located near the Laurel Lake Wildlife Management Area.</p>									
<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Description of Buildings or Site (Original and Present)</td> <td style="width: 20%; text-align: center;">Stories</td> <td style="width: 20%; text-align: center;">Front Bays</td> </tr> </table> <p>The tunnel is 3,331 feet long and straight with natural airflow ventilation. It was built using stone and a portion was originally timber lined. The northern end of the tunnel was constructed at a later date. Brick lining was added approximately 15 years after the tunnel opened to railroad traffic. A liner was installed in 1979 in a portion of the northern end of the tunnel. There is a drainage ditch along the east side of the tunnel and small recesses are spaced periodically inside the tunnel. Stone outside of the southern portal has Peebles Block etched into it. Peebles Block was made by Peebles Paving Brick Company of Portsmouth, Ohio. The word Dunn is also etched into it representing the Dunn method for making the bricks. Peebles Block dates to the late 1800s/early 1900s, consistent with the construction date of the tunnel (American Trade Index, 1913.) Lighting inside the tunnel is currently inoperable. A drainage creek crosses over the northern end of the tunnel, where surface water infiltrates the tunnel causing deterioration.</p>		Description of Buildings or Site (Original and Present)	Stories	Front Bays					
Description of Buildings or Site (Original and Present)	Stories	Front Bays							
Alterations <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe Brick lining was installed approximately 15 years after construction. The northern end of the tunnel was built at a later date. A liner was installed in 1979 in the northern end of the tunnel.									
Additions <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe The northern end of the tunnel was built at a later date. A liner was installed in 1979 in the northern end of the tunnel.									
Describe All Outbuildings N/A									
Statement of Significance: See Continuation Sheet									
Bibliographical References <ul style="list-style-type: none"> • Abandoned. "Norfolk & Western Railroad (Twelvepole Division)." Retrieved 22 October 2012. www.abandonedonline.net/locations/railroads/norfolk-and-western-twelve-pole/ • American Trade Index. "Peebles Paving Brick Company." 1913. National Association of Manufacturers. New York City. • Appalachian Magazine. "America's Bloodiest Tunnel." 23 February 2014. Retrieved 22 Oct. 2015 http://appalachianmagazine.com/2014/02/23/americas-bloodiest-tunnel-wv/ • Williamson Daily News. "Historic Dingess Tunnel Commemorated." 26 June 2015. • West Virginia Legislature. House Concurrent Resolution No. 50. http://www.legis.state.wv.us/Bill_Status/bills_text.cfm?billdoc=hcr50%20intr.htm&yr=2015&sesstype=RS&i=50&houseorig=H&billtype=CR Retrieved 20 October 2016 									
<table border="0" style="width: 100%;"> <tr> <td style="width: 60%;">Form Prepared By:</td> <td style="width: 40%;">Date: July 11, 2017</td> </tr> <tr> <td colspan="2">Name/Organization: Randy Epperly</td> </tr> <tr> <td colspan="2">Address: WV Division of Highways Capitol Complex Building 5, Rm. 463 Charleston, WV 25305</td> </tr> <tr> <td colspan="2">Phone #: 304-558-9385</td> </tr> </table>		Form Prepared By:	Date: July 11, 2017	Name/Organization: Randy Epperly		Address: WV Division of Highways Capitol Complex Building 5, Rm. 463 Charleston, WV 25305		Phone #: 304-558-9385	
Form Prepared By:	Date: July 11, 2017								
Name/Organization: Randy Epperly									
Address: WV Division of Highways Capitol Complex Building 5, Rm. 463 Charleston, WV 25305									
Phone #: 304-558-9385									

WEST VIRGINIA HISTORIC PROPERTY FORM

CONTINUATION SHEET

Name: Dingess Tunnel
Survey Number: HPI #2
Project / FR#: State County Route: S330-3/5-9.33

The Dingess Tunnel is located on County Route 3/5 in Mingo County. Construction began in 1890 on the Norfolk & Western Railway's Twelvepole line from Lenore to Ceredo, which included the Dingess Tunnel. On September 25, 1892, the first train traveled the Dingess Tunnel portion of the line, and the entire line was completed on November 12, 1892. The line was not profitable and in the 1930s it was abandoned and converted into a roadway (Abandoned). Although the railroad line was not financially successful, the tunnel was instrumental in opening up an inaccessible area. The tunnel has provided a way to transport coal and timber and therefore provided employment for the region's inhabitants since the late 19th Century. Dingess Tunnel has been called "America's Bloodiest Tunnel" due to stories from the late 1800s/early 1900s of immigrant and African-American coal miners and railroad employees being murdered while traveling through the tunnel (Appalachian Magazine, 2014.) These stories have been printed in national publications. The tunnel was commemorated with historic signs in the summer of 2015 (Williamson Daily News, 2015). Dingess Tunnel is eligible for the National Register of Historic Places under Criterion A for its association with improving access and transportation of goods into the region. The tunnel was and continues to be integral to the movement of coal, timber, and people in the region.

The structure is not known to have been associated with the productive period of some notable person's life or to have been associated for any length of time with such a person. The tunnel is not best representation of such a person's historic contribution. The tunnel is not eligible under Criterion B.

Dingess Tunnel is approximately 3,331 feet long and straight with natural airflow ventilation. The tunnel was built using stone and a portion was originally timber lined. The northern end of the tunnel was constructed at a later date. Brick lining was added approximately 15 years after the tunnel opened to railroad traffic. A liner was installed in 1979 in a portion of the northern end of the tunnel. There is a drainage ditch along the east side of the tunnel and small recesses are spaced periodically inside the tunnel. Stone outside of the southern portal has Peebles Block etched into it. Peebles Block was made by Peebles Paving Brick Company of Portsmouth, Ohio. The word Dunn is also etched into it representing the Dunn method for making the bricks. Peebles Block dates to the late 1800s/early 1900s, consistent with the construction date of the tunnel (American Trade Index, 1913.) Lighting inside the tunnel is currently inoperable. A drainage creek crosses over the northern end of the tunnel, where surface water infiltrates the tunnel causing deterioration. Dingess Tunnel is eligible for the National Register of Historic Places under Criterion C for its engineering significance.

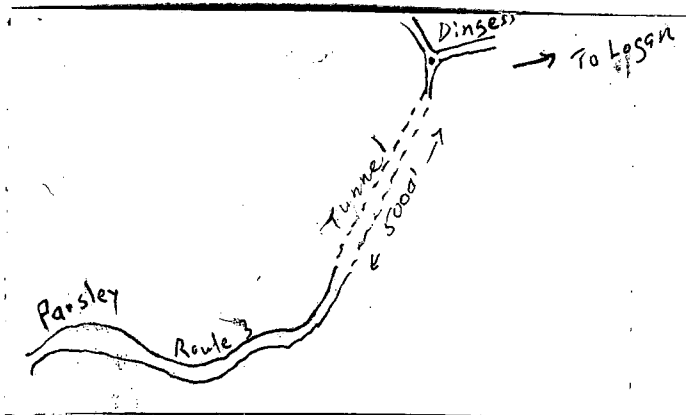
This structure is not likely to have important information that will contribute to our understanding of human history or prehistory. The potential for information is minimal; therefore, it does not meet the requirements for Criterion D.



RATING ABRICE
 CONTEXT _____

WEST VIRGINIA HISTORIC PROPERTY INVENTORY FORM

STREET ADDRESS County Route 3	COMMON/HISTORIC NAME Dingess Tunnel	NO. IN SURVEY M058 M0-t KAV	NO. OF BAYS <input type="checkbox"/> FRONT <input type="checkbox"/> SIDE
TOWN OR COMMUNITY Dingess	COUNTY Mingo	NEGATIVE NO.	NOT VISIBLE FROM ROAD <input type="checkbox"/>
ARCHITECT/BUILDER	DATE OF CONSTRUCTION 1914	EXTERIOR BUILDING FABRIC Stone	
DATE _____ NAT. REGISTER LISTED _____ STATE REGISTER LISTED _____	ROOFING MATERIAL Brick	STYLE (STAFF USE ONLY)	
PROPERTY USE OR FUNCTION Highway Tunnel	TYPE OF FOUNDATION	PHOTOGRAPH (2" X 3" CONTACT)	
SURVEY ORGANIZATION AND DATE	QUADRANGLE NAME Myrtle, WV		
WV SHPO - 1988	PART OF WHAT SURVEY Mingo County		



M058
 A0-t

SITE NO.

PRESENT OWNERS

TEXT

OWNER ADDRESS

GENERAL CONDITION OF PROPERTY

Excellent

ADDITIONS

YES

NO

IF YES, DESCRIBE

ALTERATIONS

YES

NO

IF YES, DESCRIBE

Railroad tracks have been removed and a one-lane highway put through.

NO. AND NATURE OF OUTBUILDINGS

DESCRIPTION OF PROPERTY (ORIGINAL AND PRESENT)

Long, 5000 feet, tunnel between Dingess and Parsley, built in 1914 for the N & W Railroad. Interior is brick arched, with small recesses spaced periodically and a row of lights running down the center of the arch. An extremely significant engineering structure.

Structural system: masonry. Used to be used as a Railroad Tunnel. Original owners: Norfolk and Western Railroad.

HISTORICAL/CULTURAL SIGNIFICANCE

BIBLIOGRAPHICAL REFERENCES

FORM PREPARED BY Michael Pauley

DATE 10-24-88/1989

ADDRESS WV SHPO

HISTORIC PROPERTIES INVENTORY FORM

HISTORIC PRESERVATION UNIT
DEPARTMENT OF CULTURE & HISTORY
THE CULTURAL CENTER
CHARLESTON, WEST VIRGINIA 25305

(Staff Use Only)

File No:
Theme(s):
Neg No(s):
USGS Quad:
UTM Ref:

DISTRICT: SITE: BUILDING: STRUCTURE: OBJECT

1. NAME(S) historic/common: Dingess Tunnel

2. LOCATION street/road: County Route 3

city/town: Dingess
(incorporated/unincorporated)

3. USE/FUNCTION present: Highway Tunnel
original: Railroad Tunnel

(public/private,
restricted)

4. OWNER/ADDRESS present: uncertain

(public/private)

original: Norfolk & Western Railroad

(phone no.)

5. PHOTO/SKETCH OF:

7. PLAN (include approx. dimensions):

6. LOCALE/ENVIRONMENT (map)

8. (A.) ACREAGE (approx):

N/A

(B.) VERBAL BOUNDARY DESCRIPTION:

COUNTY: _____
Survey Region: _____
Planning District: _____

_____ Mingo

PROPERTY NAME: _____
Dingess Tunnel

9. DESCRIPTION (clarify as appropriate):

a. Exterior Fabric

stone X
brick _____
concrete _____
stucco _____
weatherboard _____
clapboard _____
board & batten _____
shingle _____
other _____

b. Structural System

masonry X
frame _____
log _____
metal _____
other _____
foundation _____

c. Roofing Material

wood _____
metal _____
slate _____
tile _____
asphalt _____
composition _____
other _____
brick

d. Associated Structures (use/type):

outbuildings N/A
dependencies _____
other _____

e. Integrity (include dates):

original site/relocated _____
alterations Railroad tracks have been removed and a one-lane highway put through
additions _____

f. Condition:

excellent X
good _____
fair _____
deteriorated _____
abandoned _____

g. Threats:

None Known

10. SIGNIFICANCE (use attachment sheet if necessary):

a. Architect/Builder/Engineer:

b. Style/Period:

c. Date(s):

1914

Long, 5000 feet, tunnel between Dingess and Parsley built in 1914 for the N&W Railroad. Interior is brick arched, with small recesses spaced periodically and a row of lights running down the center of the arch. An extremely significant engineering structure.

11. BIBLIOGRAPHY:

12. FORM PREPARED BY

Michael J. Pauley

a. Address

Historic Preservation U
Dept. of Culture and

b. Organization

304 348-0240

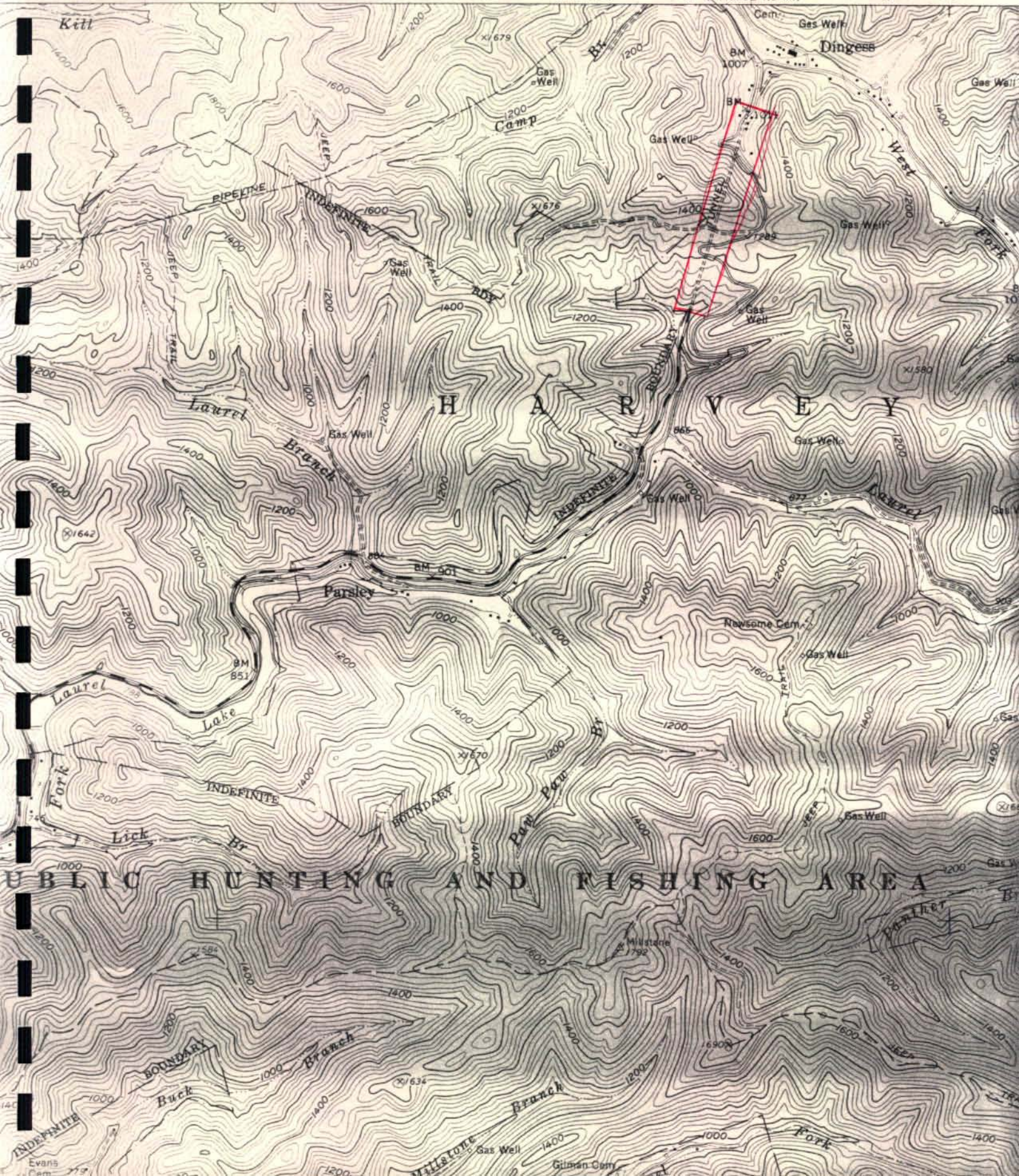
c. Phone no.

Myrtle, W. Va.
Quadrangle

STATE OF WEST VIRGINIA
REPRESENTED BY THE
STATE OF WEST VIRGINIA GEOLOGICAL SURVEY
AND OTHER STATE AGENCIES

Field checked
Oct. 22, 1988

393 12'30" 394 395 4559 1 NW (TRACE) 396 TRACE 1.5 MI. 397 10'



LIDAR SCAN SCREENSHOTS

South End Tunnel Entrance



Cut Stone Segment of Tunnel



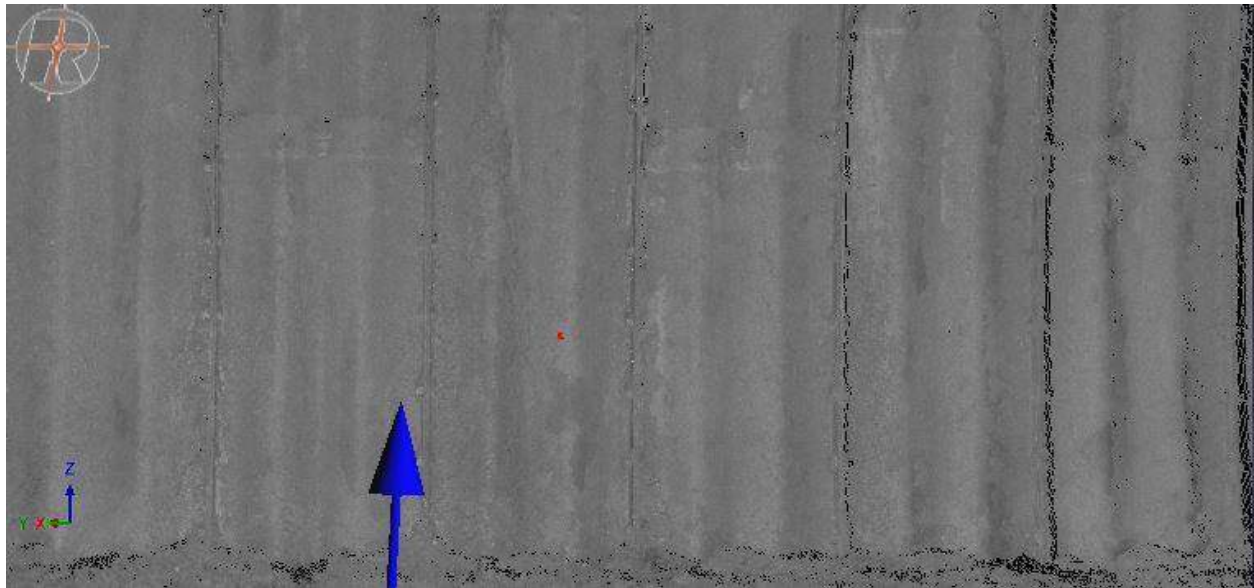
Cut stone detail



Cut Stone to Liner Transition



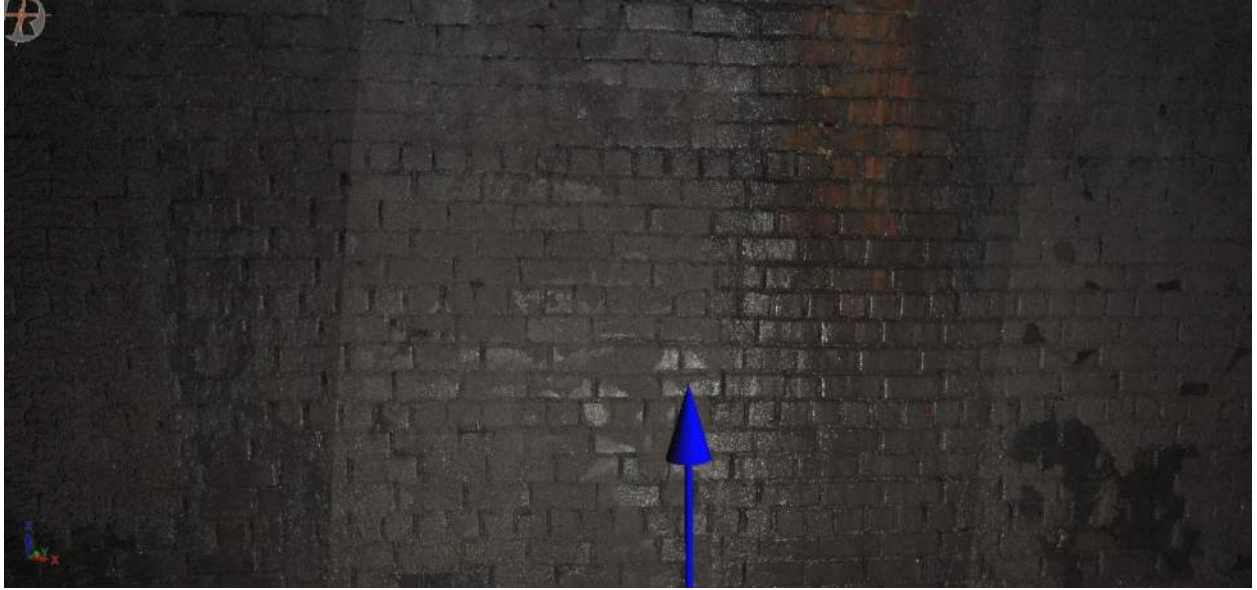
Liner Segment of Tunnel



Liner to Original Brick Segment



Brick Segment Detail



North Entrance of Tunnel

