

APPENDIX I – REGIONAL/STAKEHOLDERS

Status of Regional/Stakeholder Specific Mitigation Actions

Regional Infrastructure Maps

- Plantation Pipeline

- Colonial Pipeline

- Williams Gas Pipeline Transco Pipeline

- Mid-Atlantic Broadband

Dam Inundation Zone Maps

- Sandy River Reservoir (Bush River Dam #12) – Amelia County, Prince
Edward County

Status of Regional/Stakeholder Specific Mitigation Actions

Regional Mitigation Actions

PD 14 Regional Mitigation Action 1	Design an early warning system for hazard events.	
Category:	Emergency Services	
Hazard(s) Addressed:	Multiple	
Priority (High, Moderate, Low):	Moderate/High	
Estimated Cost:	Depends on type and size of system	
Potential Funding Sources:	BRIC, HMGP, or USDA RD (with local matching funds)	
Lead Agency/Department Responsible:	VDEM	
Implementation Schedule:	Dependant on availability of funding	
Status: No action taken – lack of funding/staff resources		

PD 14 Regional Mitigation Action 2	Conduct “Firewise” workshops throughout the region.	
Category:	Public Outreach and Education	
Hazard(s) Addressed:	Wildfire	
Priority (High, Moderate, Low):	Moderate	
Estimated Cost:	Approximately \$200	
Potential Funding Sources:	Department of Forestry grant, SHSP	
Lead Agency/Department Responsible:	Old Dominion RC&D	
Implementation Schedule:	Dependant on availability of funding, willingness of local groups	
Status: No action taken – lack of funding/staff resources		

PD 14 Regional Mitigation Action 3	Education/PR campaign for: NFIP (CRS) Emergency Preparedness, Firewise, and all other hazards impacting the region identified in the plan.	
Category:	Public Education and Outreach	
Hazard(s) Addressed:	Multiple	
Priority (High, Moderate, Low):	Moderate	
Estimated Cost:	Minimal	
Potential Funding Sources:	VDEM (SHSP), Department of Forestry (Firewise), FEMA (NFIP)	
Lead Agency/Department Responsible:	VDEM, Department of Forestry (Firewise), FEMA (NFIP)	
Implementation Schedule:	Dependant on availability of funding, getting resources in place	
Status: Initial activities underway. The CRC received a State Homeland Security grant in 2022 that included funds for a print media campaign and digital media campaign. Additional activities to be undertaken as funding allows.		

PD 14 Regional Mitigation Action 4	Find a location for a NOAA Weather Radio transmitter. (Currently the Piedmont Planning District localities are in a void area of weak to no radio coverage)
Category:	Public Education and Awareness
Hazard(s) Addressed:	Multiple
Priority (High, Moderate, Low):	High
Estimated Cost:	\$60,000 - \$75,000
Potential Funding Sources:	Cost share among affected localities, BRIC, or HMGP grant (with local matching funds), SHSP
Lead Agency/Department Responsible:	National Weather Service – Wakefield
Implementation Schedule:	Dependent on availability of funding
Status: No action taken – lack of funding/staff resources	

PD 14 Regional Mitigation Action 5	Backup wireless connectivity to internet (with power backup at source).
Category:	Emergency Services
Hazard(s) Addressed:	All
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	Unknown at this time
Potential Funding Sources:	Cost share among localities, SHSP, BRIC or HMGP (with local matching funds)
Lead Agency/Department Responsible:	VDEM
Implementation Schedule:	Dependent on availability of funding
Status: No action taken – lack of funding/staff resources	

PD 14 Regional Mitigation Action 6	Development of Community Wildfire Protection Plan to address wildfire response, hazard mitigation, community preparedness, structural protection, and other issues for localities covered under this Plan
Category:	Prevention/Emergency Services
Hazard(s) Addressed:	Wildfire
Priority (High, Moderate, Low):	Moderate/High
Estimated Cost:	Approx. \$50,000 - \$65,000
Potential Funding Sources:	BRIC or HMGP (with local matching funds), SHSP
Lead Agency/Department Responsible:	CRC, with support from participating localities and staff from the Virginia Department of Forestry, Virginia Department of Game and Inland Fisheries, and local state parks
Implementation Schedule:	Dependent on availability of funding
Status: Awaiting funding to implement	

PD 14 Regional New Mitigation Action	Identify vulnerable dam structures and implement infrastructure retrofit projects, to include measures that reduce risk to existing buildings, utility systems, roads, and bridges
Category	Emergency Services/Property Protection
Hazard(s) Addressed	Flooding, Earthquake, Erosion, Hurricanes, Impoundment Failure, Karst, Landslides, NonTornadic Wind, Wildfires, Winter Weather
Priority	High
Estimated Cost	To be determined based on project needs
Potential Funding Sources	DHS: HMGP, PDM, HHPD, FMA; USACE; Virginia CFPF
Lead Agency/ Department Responsible:	Local governments, SWCDs, DCR, VDEM
Implementation Schedule:	Dependent on availability of funding
Status: Seeking funding to implement	

PD 14 Regional New Mitigation Action	Conduct annual in-person education and outreach with local emergency managers, SWCD's, dam owners re: dam safety, reporting, testing
Category	Planning
Hazard(s) Addressed	Flooding, Earthquake, Erosion, Hurricanes, Impoundment Failure, Karst, Landslides, NonTornadic Wind, Wildfires, Winter Weather
Priority	High
Estimated Cost	Expected to be minimal, based on staffing needs
Potential Funding Sources	DHS: HMGP, PDM, SHSP, USACE; Virginia CFPF, DCR
Lead Agency/ Department Responsible:	CRC, DCR, VDEM
Implementation Schedule:	During (as part of) annual Plan review process
Status: Targeting start in Summer 2024	

The following Mitigation Actions that have been identified to be removed from the plan

Other Stakeholders

Piedmont Geriatric Hospital/Virginia Center for Behavioral Rehabilitation (VCBR)

Piedmont Geriatric Hospital/VCBR Mitigation Action	Conduct a detailed needs assessment for the county's emergency response services.
Category:	Emergency Services
Hazard(s) Addressed:	Multiple
Priority (High, Moderate, Low):	Moderate/High
Estimated Cost:	\$10,000
Potential Funding Sources:	SHSP, BRIC or HMGP (with local matching funds)
Lead Agency/Department Responsible:	County Emergency Services Coordinator
Implementation Schedule:	Dependant on availability of funding
Status: REMOVE. This stakeholder did not participate in the current Plan update, or reach out to CRC staff or anyone on the Project Management Team regarding the status of this mitigation action.	

Piedmont Geriatric Hospital/VCBR Mitigation Action	Require the burial of electrical, telephone and cable lines where appropriate.
Category:	Structural Projects/Prevention
Hazard(s) Addressed:	Multiple
Priority (High, Moderate, Low):	Moderate/Low
Estimated Cost:	\$100,000
Potential Funding Sources:	BRIC or HMGP (with local matching funds), state funding if available
Lead Agency/Department Responsible:	Hospital or State
Implementation Schedule:	Dependant on availability of funding
Status: REMOVE. This stakeholder did not participate in the current Plan update, or reach out to CRC staff or anyone on the Project Management Team regarding the status of this mitigation action.	

Piedmont Geriatric Hospital/VCBR Mitigation Action	Design/build water tanks or wells for use in times of water shortage/outage.
Category:	Prevention
Hazard(s) Addressed:	Drought
Priority (High, Moderate, Low):	Moderate
Estimated Cost:	\$100,000
Potential Funding Sources:	VDH-ODW or USDA RD
Lead Agency/Department Responsible:	Hospital or State
Implementation Schedule:	Dependant on availability of funding
Status: REMOVE. This stakeholder did not participate in the current Plan update, or reach out to CRC staff or anyone on the Project Management Team regarding the status of this mitigation action.	

Dillwyn Correctional Facility

Dillwyn Correctional Facility Mitigation Action	Planning on evacuation needs to be better planned so no one is trapped on the road. This needs to be done by state management.
Category:	Prevention
Hazard(s) Addressed:	Hurricane
Priority (High, Moderate, Low):	High/Moderate
Estimated Cost:	Employee time to revise SOP
Potential Funding Sources:	N/A
Lead Agency/Department Responsible:	State Department of Corrections, assistance from facility
Implementation Schedule:	Dependant on availability of funding, state agency
Status: REMOVE. This stakeholder did not participate in the current Plan update, or reach out to CRC staff or anyone on the Project Management Team regarding the status of this mitigation action.	

Dillwyn Correctional Facility Mitigation Action	Need more shelters in areas of business that operate 24 hours a day for the community and employees.
Category:	Emergency Services
Hazard(s) Addressed:	Hurricane/Tornado
Priority (High, Moderate, Low):	Moderate/High
Estimated Cost:	\$100,000 to \$300,000
Potential Funding Sources:	BRIC, HMGP, or USDA RD (with required local matching funds)
Lead Agency/Department Responsible:	County E-911, assistance from facility
Implementation Schedule:	Dependant on availability of funding
Status: REMOVE. This stakeholder did not participate in the current Plan update, or reach out to CRC staff or anyone on the Project Management Team regarding the status of this mitigation action.	

Regional Infrastructure Maps

Plantation Pipeline



Source: Kinder Morgan, Plantation Pipeline Company
http://www.kindermorgan.com/pages/business/products_pipelines/plantation.aspx

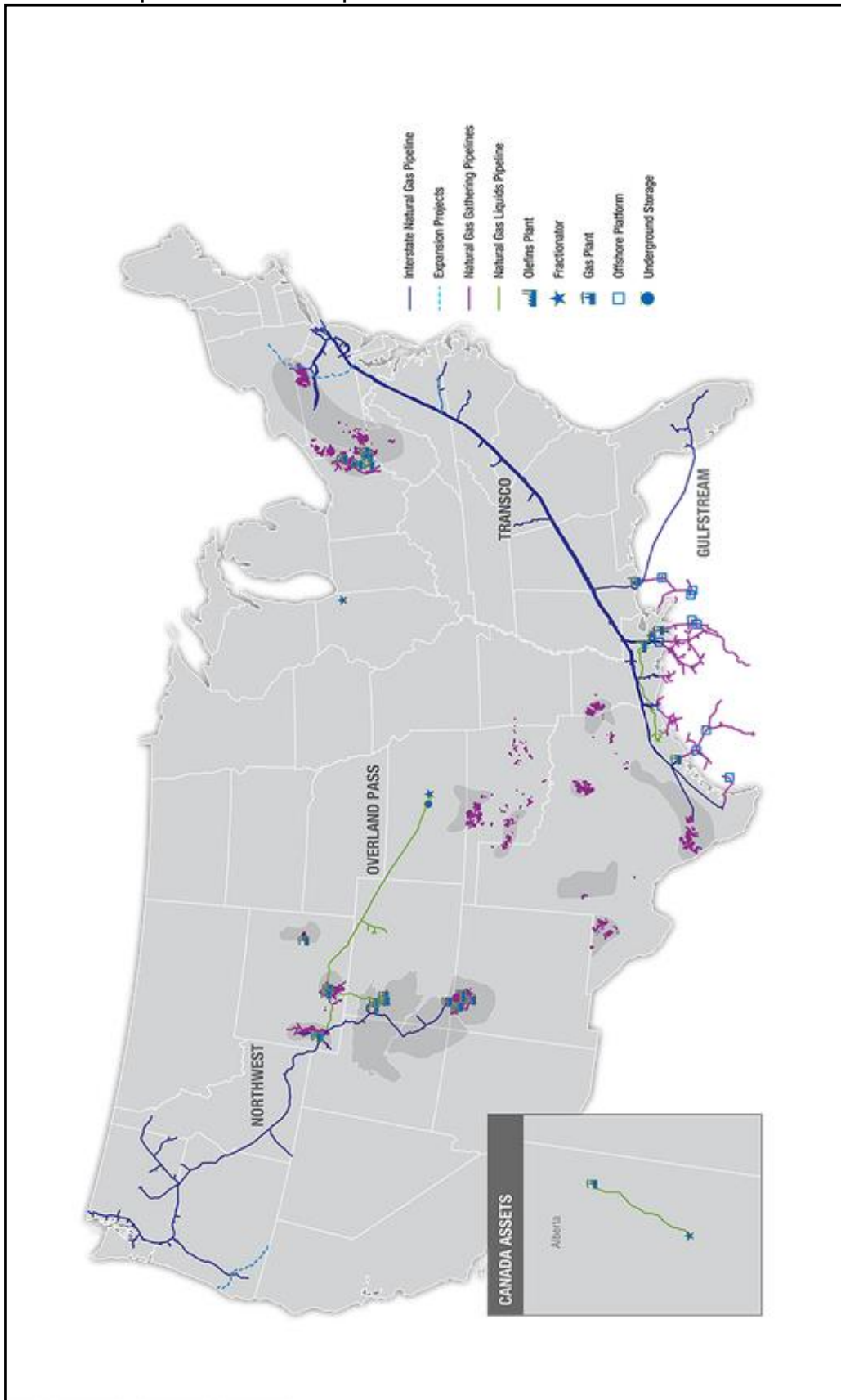
Colonial Pipeline



Source: Colonial Pipeline Company

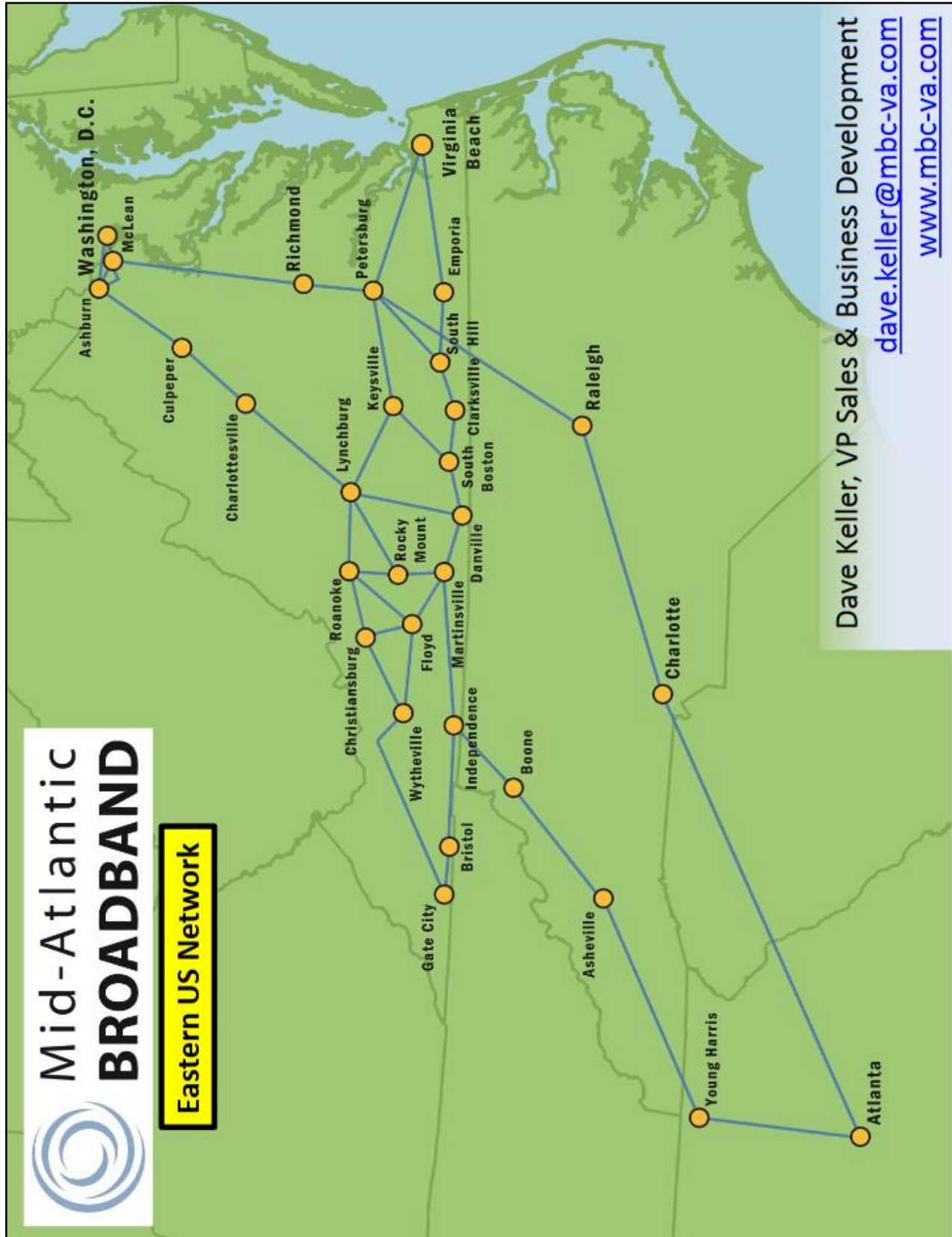
<http://www.colpipe.com/home/about-colonial/system-map>

Williams Gas Pipeline Transco Pipeline



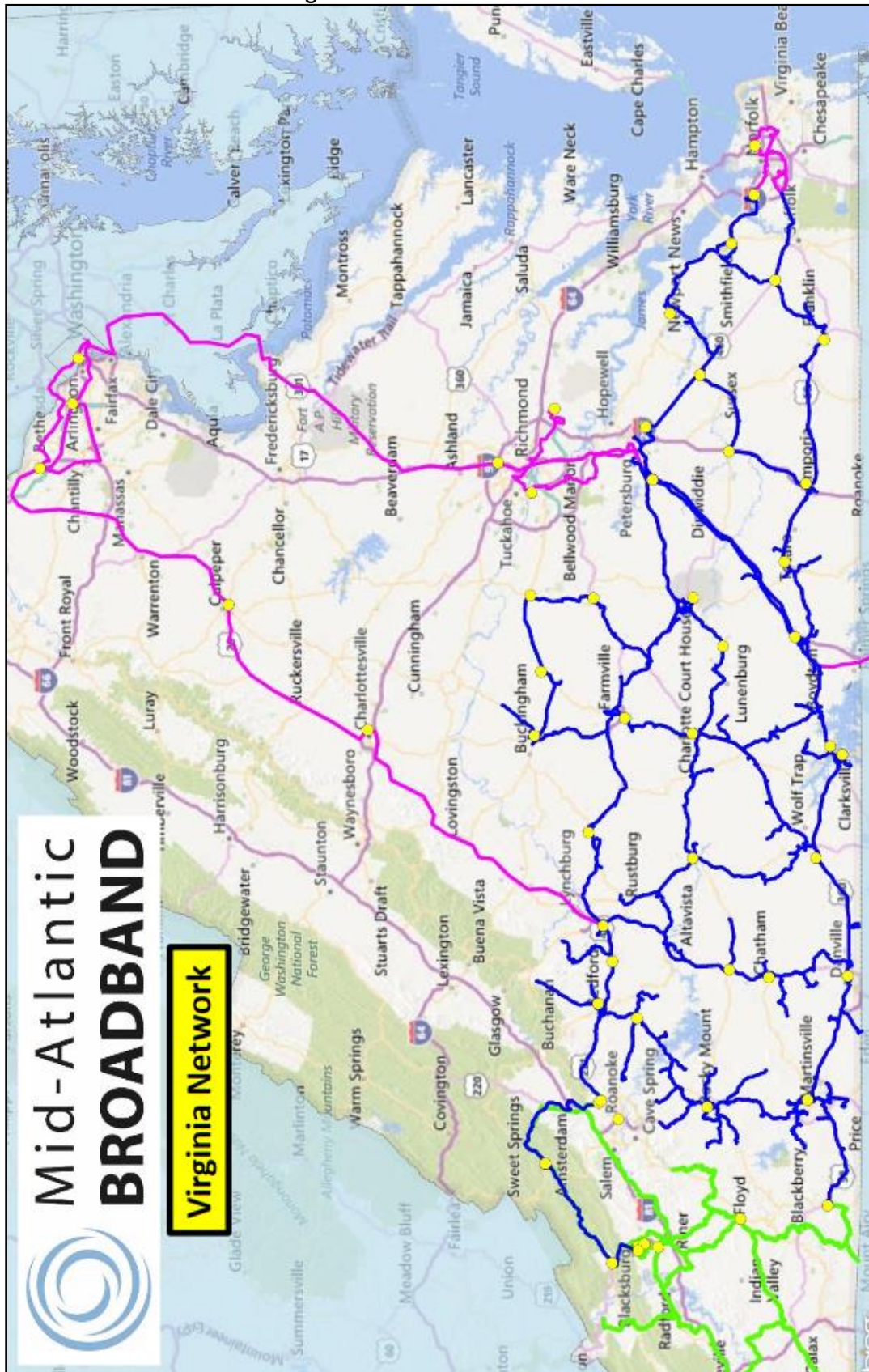
Source: Williams
<http://co.williams.com/operations/>

Mid-Atlantic Broadband – Eastern U.S. Network



Source: Mid-Atlantic Broadband Communities Corporation
<http://www.mbc-va.com/network/>

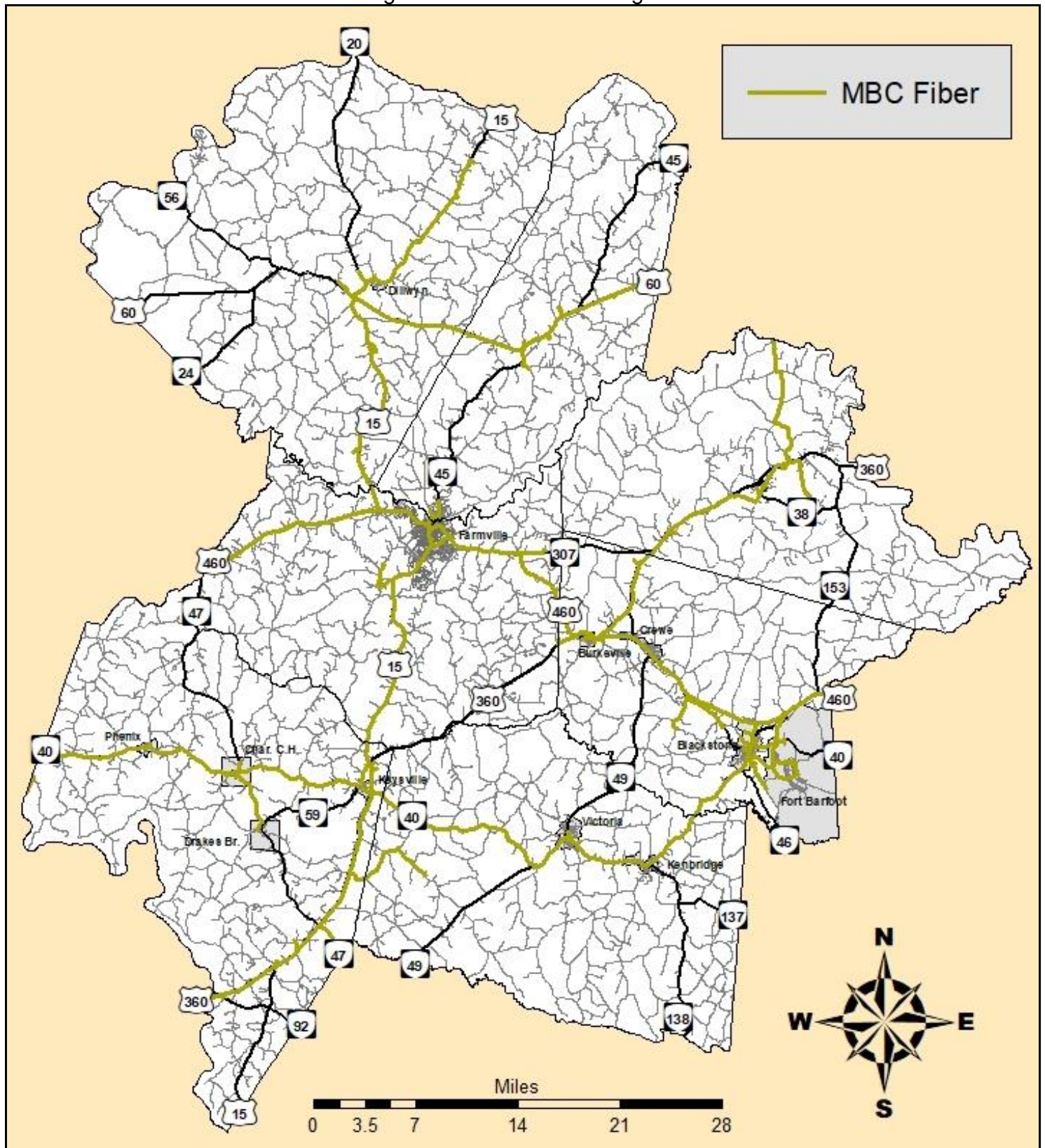
Mid-Atlantic Broadband – Virginia Network



Source: Mid-Atlantic Broadband Communities Corporation

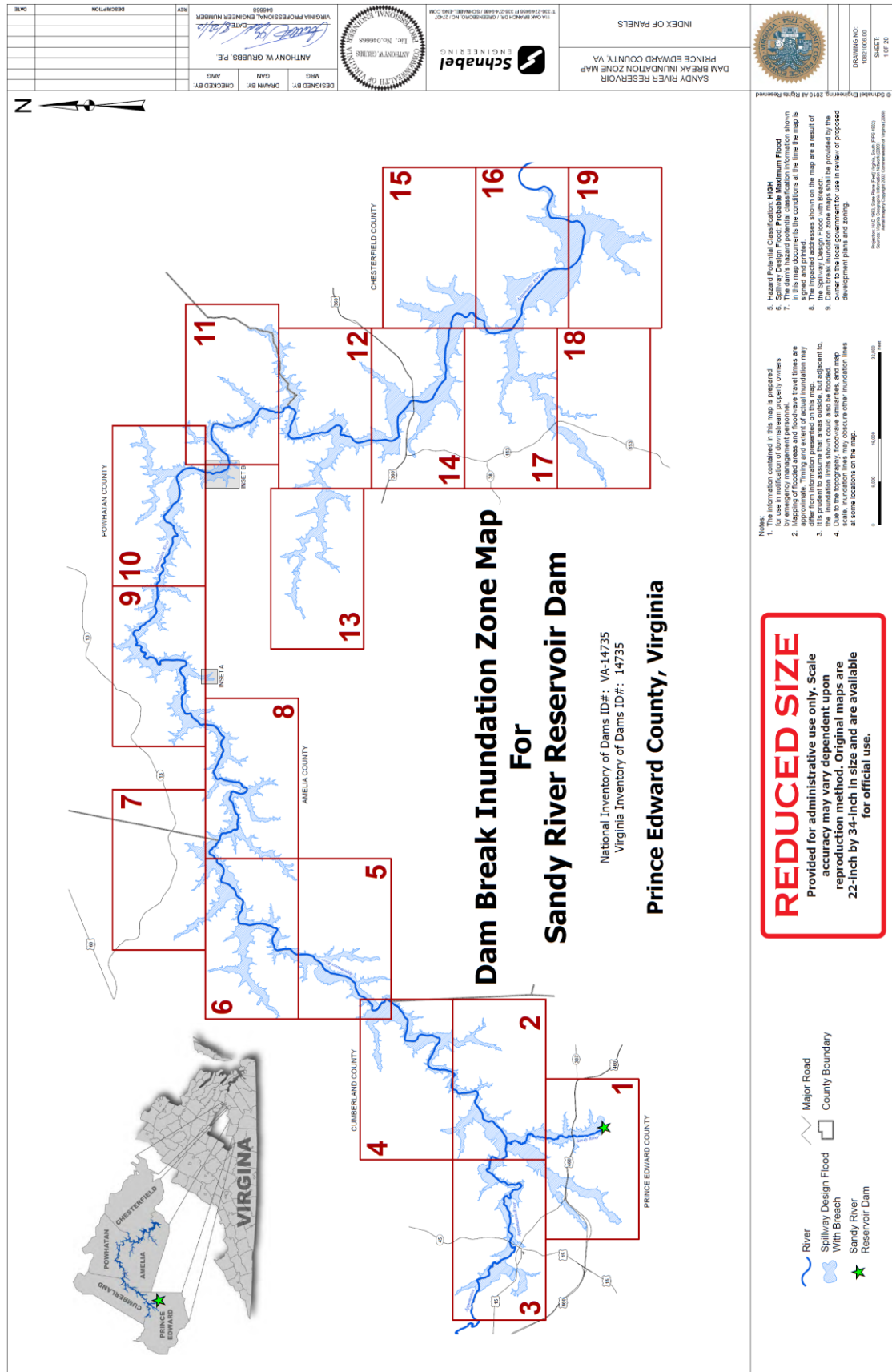
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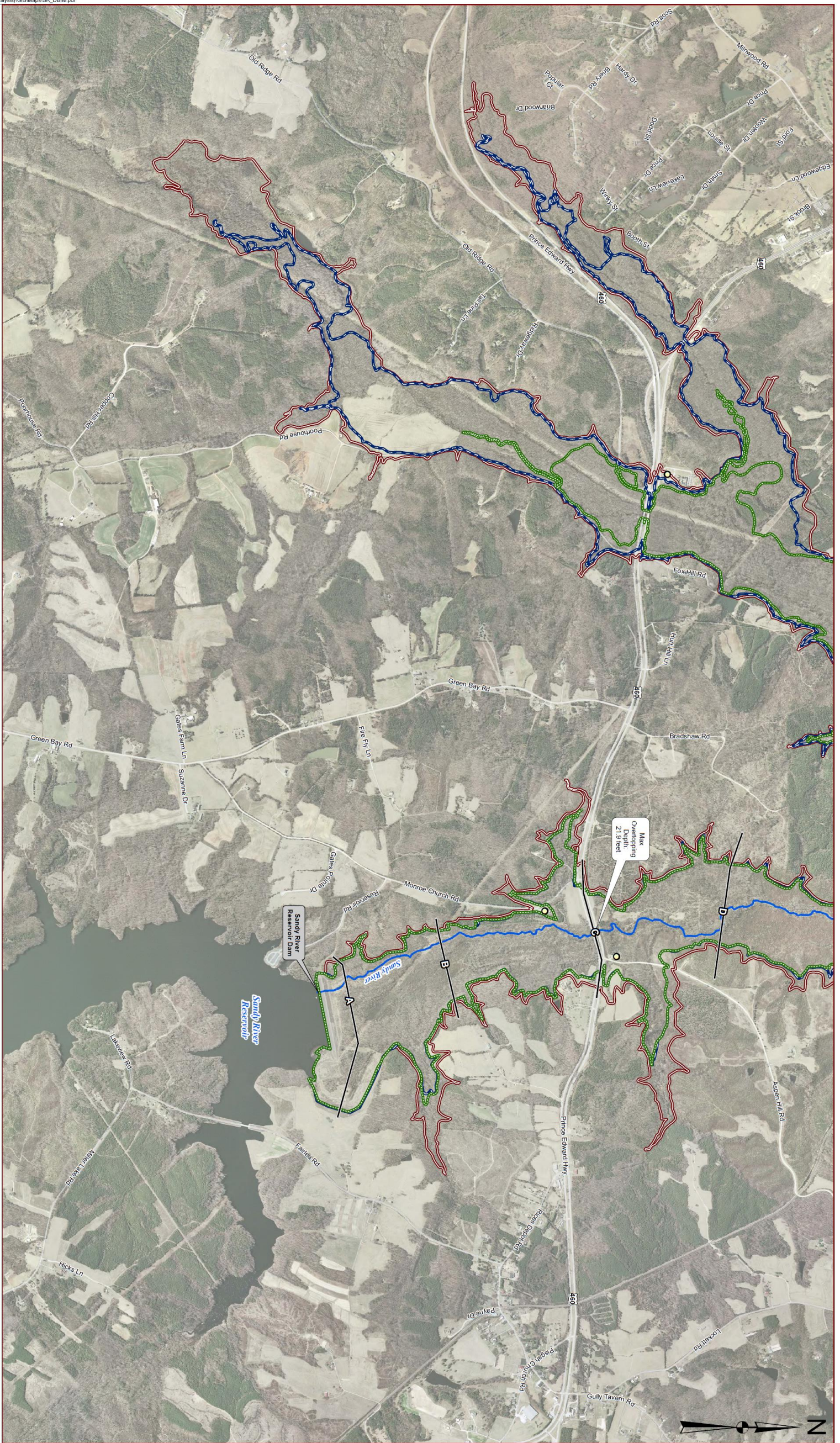
Mid-Atlantic Broadband Regional Network – Planning District 14









Map created by CRC – May 2023
Source: Mid-Atlantic Broadband Communities Corporation
<http://www.mbc-va.com/network/>

Inundation Zone Maps – Sandy River Reservoir (Bush River Dam #12) (source: Schnabel Engineering)





		Sunny Day Breach		River		Cross Section		Spillway Design Flood		Standard Design Flood With Breach		Impacted Addresses	Sunny Day Dam Breach				Spillway Design Flood Breach			
													First Flood Waters*	Peak Flood Level*	Depth of Water***	First Flood Waters**	Peak Flood Level*	Depth of Water***		
Cross Section	Distance from Dam (miles)	(hr: min)	(hr: min)	(feet)	(hr: min)	(hr: min)	(feet)	(hr: min)	(hr: min)	(feet)										
A	0.8	0:00	1:20	24.3	10:45	0:16	35.4													
B	1.2	0:01	1:25	26.9	10:50	0:36	37.7													
C	1.5	0:02	1:30	29.6	10:55	0:41	40.5													
D	3.6	0:30	2:30	30.7	11:00	0:46	44.5													

* Start time is the beginning of the breach.
 ** Start time is the beginning of the storm.
 *** Death of water above channel bottom.

The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel. Mapping of flooded areas and flood-wave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map. It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded. Due to the topography, flood-wave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.

5. **Hazard Potential Classification: HIGH**
 6. **Spillway Design Flood: Probable Maximum Flood**
 7. This map's hazard potential classification information shown in this document documents the conditions at the time the map is signed and printed.
 8. The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
 9. Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.

0 1,000 2,000 4,000 Feet

Population (LAD) 1980, State Parcel (FWS), South (FWS 4200)
 Sources: Virginia Geographic Information Network (2000)
 Sources: Virginia Geographic Information Network (2000)
 Sources: Virginia Geographic Information Network (2000)

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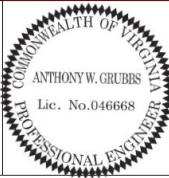


SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 1



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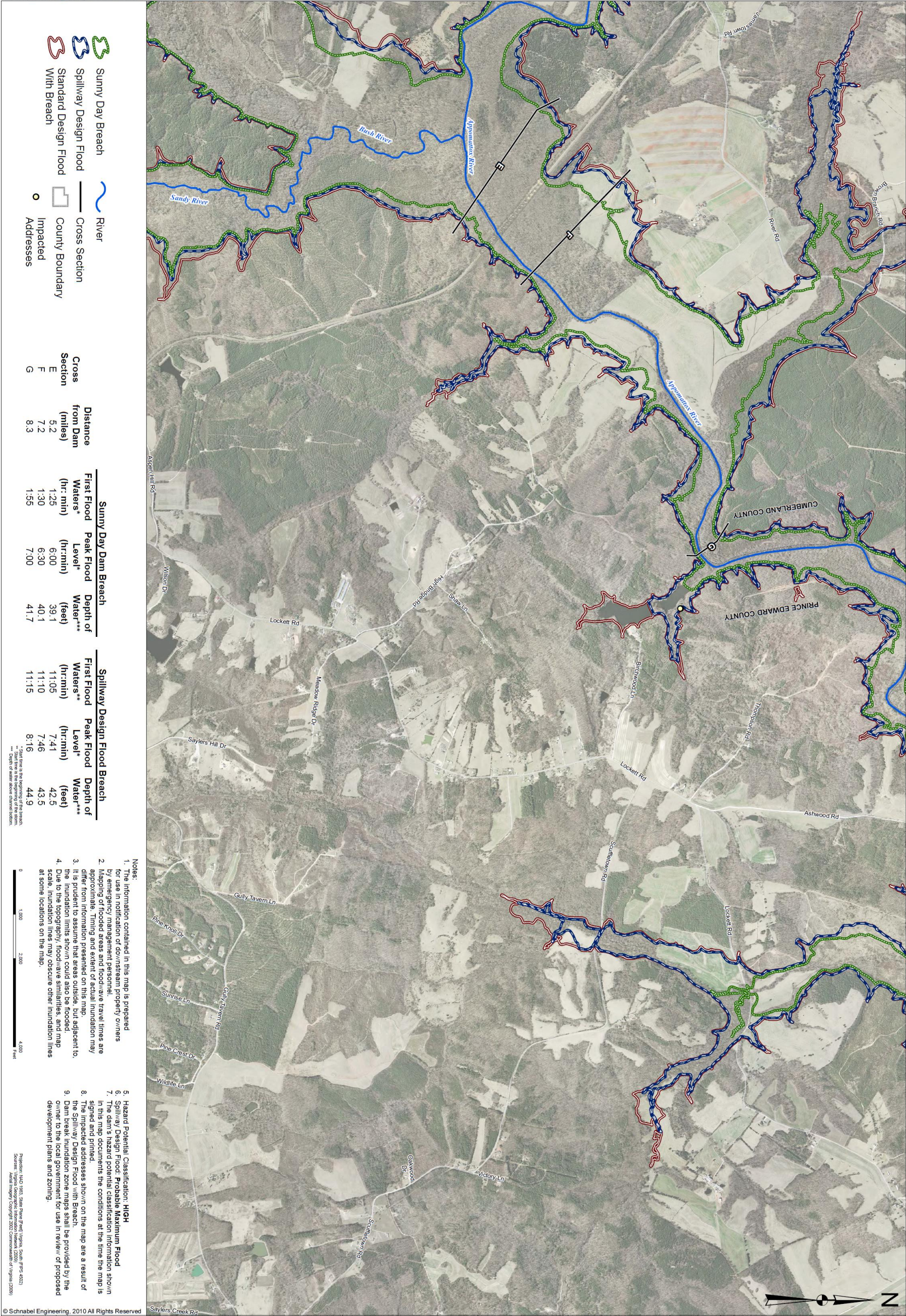


DESIGNED BY: MRG	DRAWN BY: GAN	CHECKED BY: AWG
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ANTHONY W. GRUBBS, P.E.

Chittat *2nd* DATE *8/23/0*
VIRGINIA PROFESSIONAL ENGINEER NUMBER
046668

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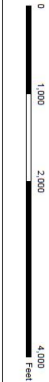
	Sunny Day Breach
	Spillway Design Flood
	Standard Design Flood With Breach
	River
	Cross Section
	County Boundary
	Addresses

Sunny Day Dam Breach				Spillway Design Flood Breach			
Cross Section	Distance from Dam (miles)	First Flood Waters* (hr:min)	Peak Flood Level* (hr:min)	Depth of Water*** (feet)	First Flood Waters** (hr:min)	Peak Flood Level* (hr:min)	Depth of Water*** (feet)
E	5.2	1:25	6:00	39.1	11:05	7:41	42.5
F	7.2	1:30	6:30	40.1	11:10	7:46	43.5
G	8.3	1:55	7:00	41.7	11:15	8:16	44.9

- Notes:

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 3. It is prudent to assume that areas outside but adjacent to the inundation limits shown could also be flooded.
 4. Due to the topography, flood/wave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.
5. Hazard Potential Classification: **HIGH**

 6. Spillway Design Flood: **Probable Maximum Flood**
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 8. The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
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Projection: NAD 83, State Plane (Feet) Virginia, South (FIPS 4520)
Sources: Virginia Geographic Information Network (2009)
Aerial Imagery Copyright 2002 Commonwealth of Virginia (2009)

DRAWING NO.: 10621006.00

SHEET: 3 OF 20

SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 2

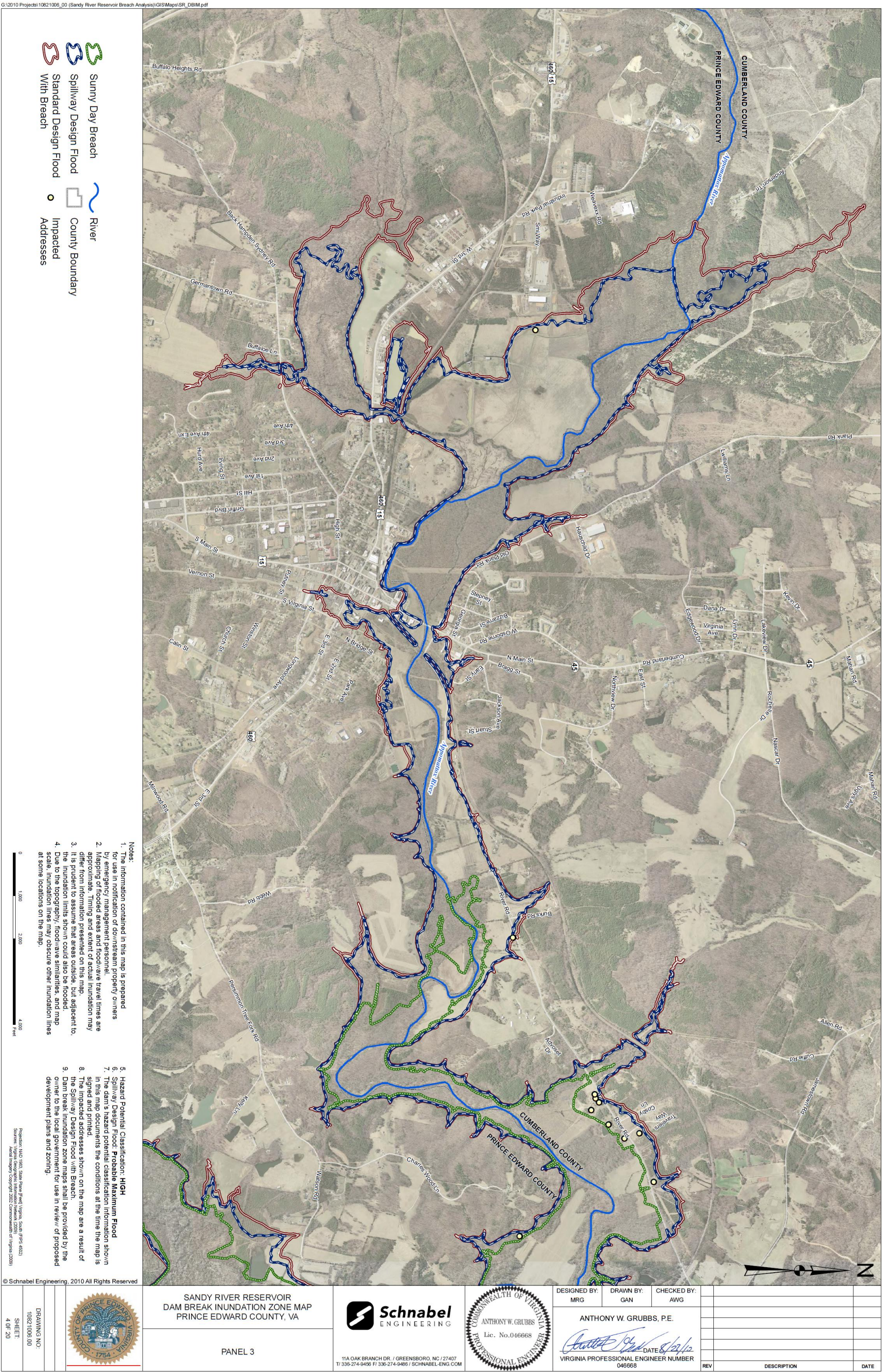
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SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 3




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- 


Sunny Day Breach
- 

Spillway Design Flood
- 

Standard Design Flood With Breach
- 

River
- 

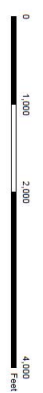
Cross Section
- 

County Boundary
- 

Impacted Addresses

Sunny Day Dam Breach				Spillway Design Flood Breach			
First Flood Waters*	Peak Flood Level*	Depth of Water***	Distance from Dam (miles)	First Flood Waters**	Peak Flood Level*	Depth of Water***	Cross Section
(hr:min)	(hr:min)	(feet)	15.1	(hr:min)	(hr:min)	(feet)	H
2:00	12:30	34.7		11:20	12:36	37.4	

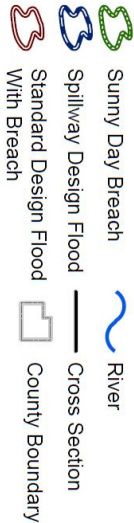
- Notes:
- The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
 - Mapping of flooded areas and flood/wave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 - It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded.
 - Due to the topography, flood/wave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.
 - Hazard Potential Classification: **HIGH**
 - Spillway Design Flood: **Probable Maximum Flood**
 - The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
 - The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
 - Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.



Projection: NAD 1983, State Plane (Feet) Virginia, South (FIPS 4520)
Source: Virginia Geographic Information Network (2009)
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	SANDY RIVER RESERVOIR DAM BREAK INUNDATION ZONE MAP PRINCE EDWARD COUNTY, VA		 11A OAK BRANCH DR. / GREENSBORO, NC / 27407 T/ 336-274-9456 F/ 336-274-9486 / SCHNABEL-ENG.COM		DESIGNED BY: MRG	DRAWN BY: GAN	CHECKED BY: AWG						
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Cross Section	Distance from Dam (miles)
I	19.3

Sunny Day Dam Breach			
First Flood Waters* (hr:min)	Peak Flood Level* (hr:min)	Depth of Water*** (feet)	
3:00	15:55	37.4	

Spillway Design Flood Breach			
First Flood Waters** (hr:min)	Peak Flood Level* (hr:min)	Depth of Water*** (feet)	
11:25	12:41	40.4	

* Start time is the beginning of the breach.
** Spill time is the time between the breach and the peak.
*** Depth is the maximum depth of the breach.

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SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 5

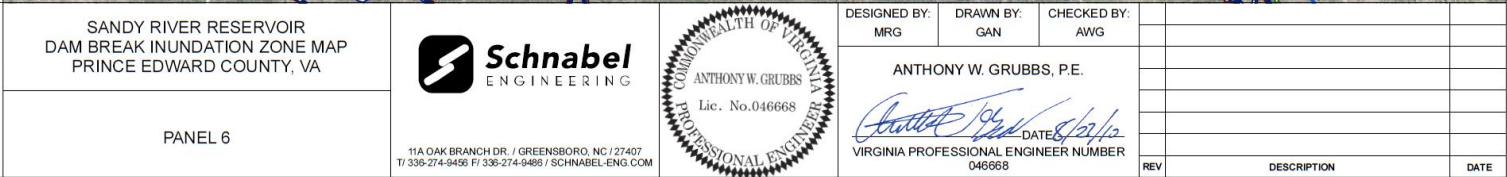


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REV	DESCRIPTION	DATE



-  Sunny Day Breach
-  Spillway Design Flood
-  Standard Design Flood With Breach
-  County Boundary



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SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 7

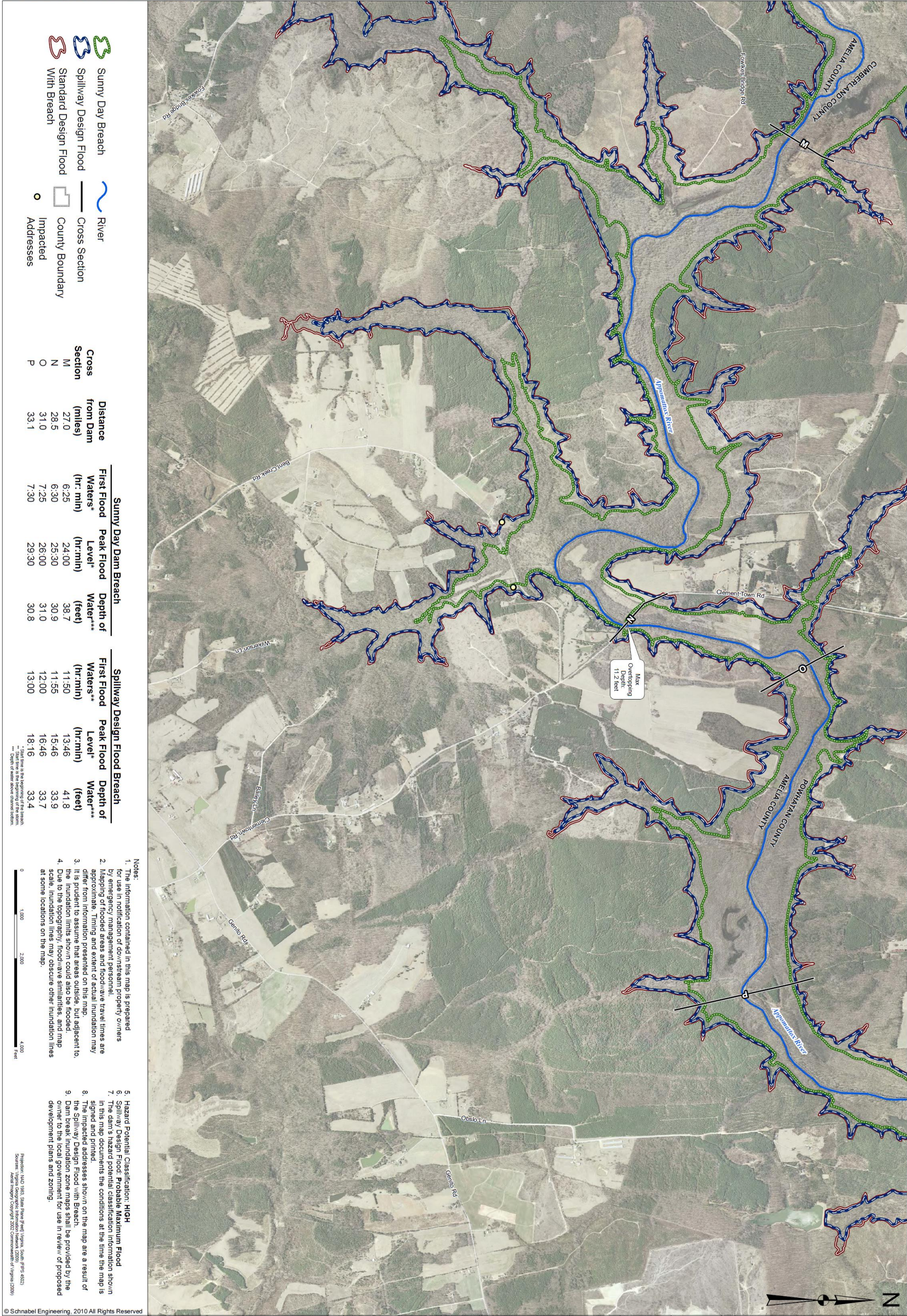


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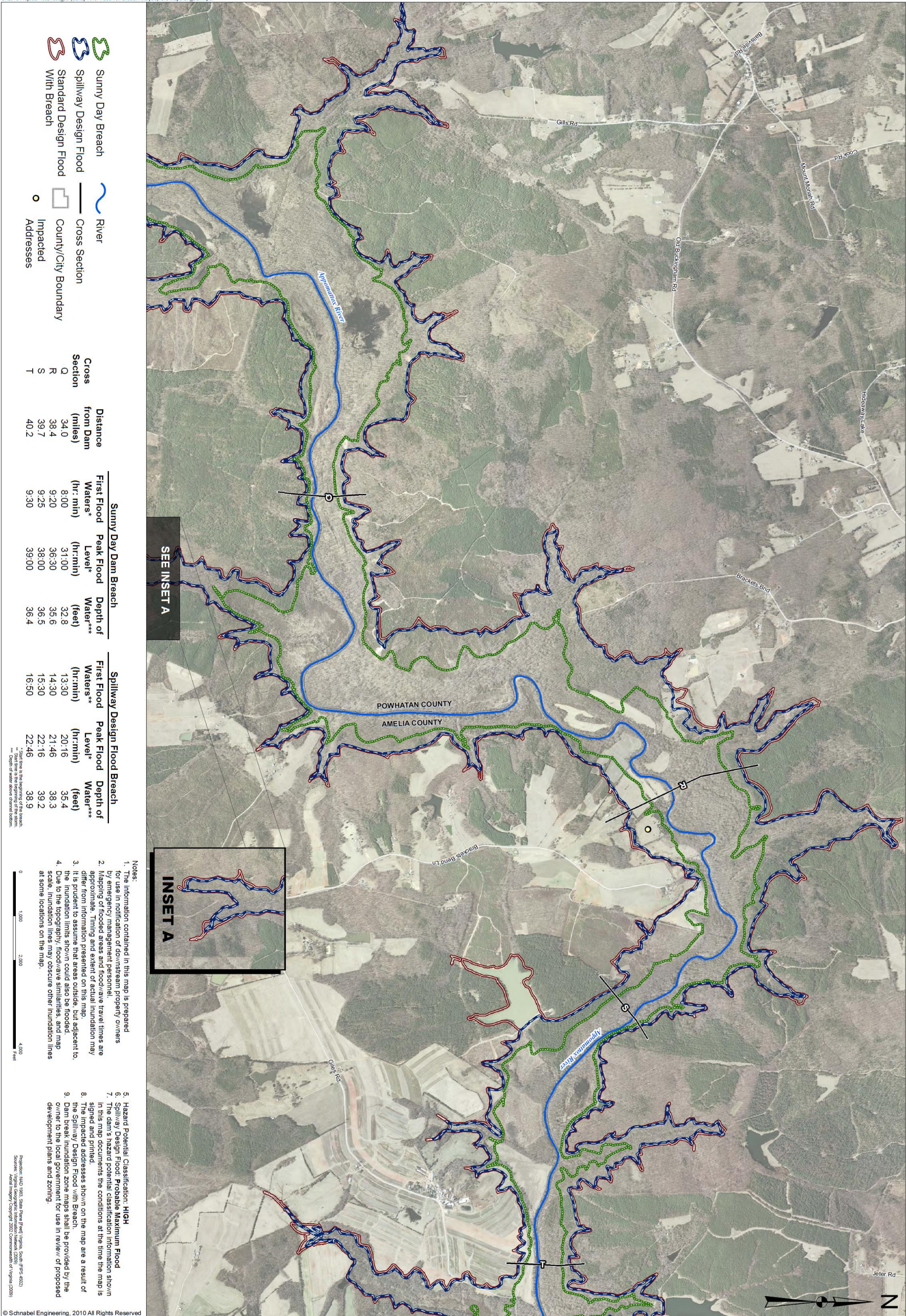


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 DATE 8/2/10		
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668		

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		PANEL 8			ANTHONY W. GRUBBS, P.E.  DATE: 8/22/12 VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668								
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Notes:

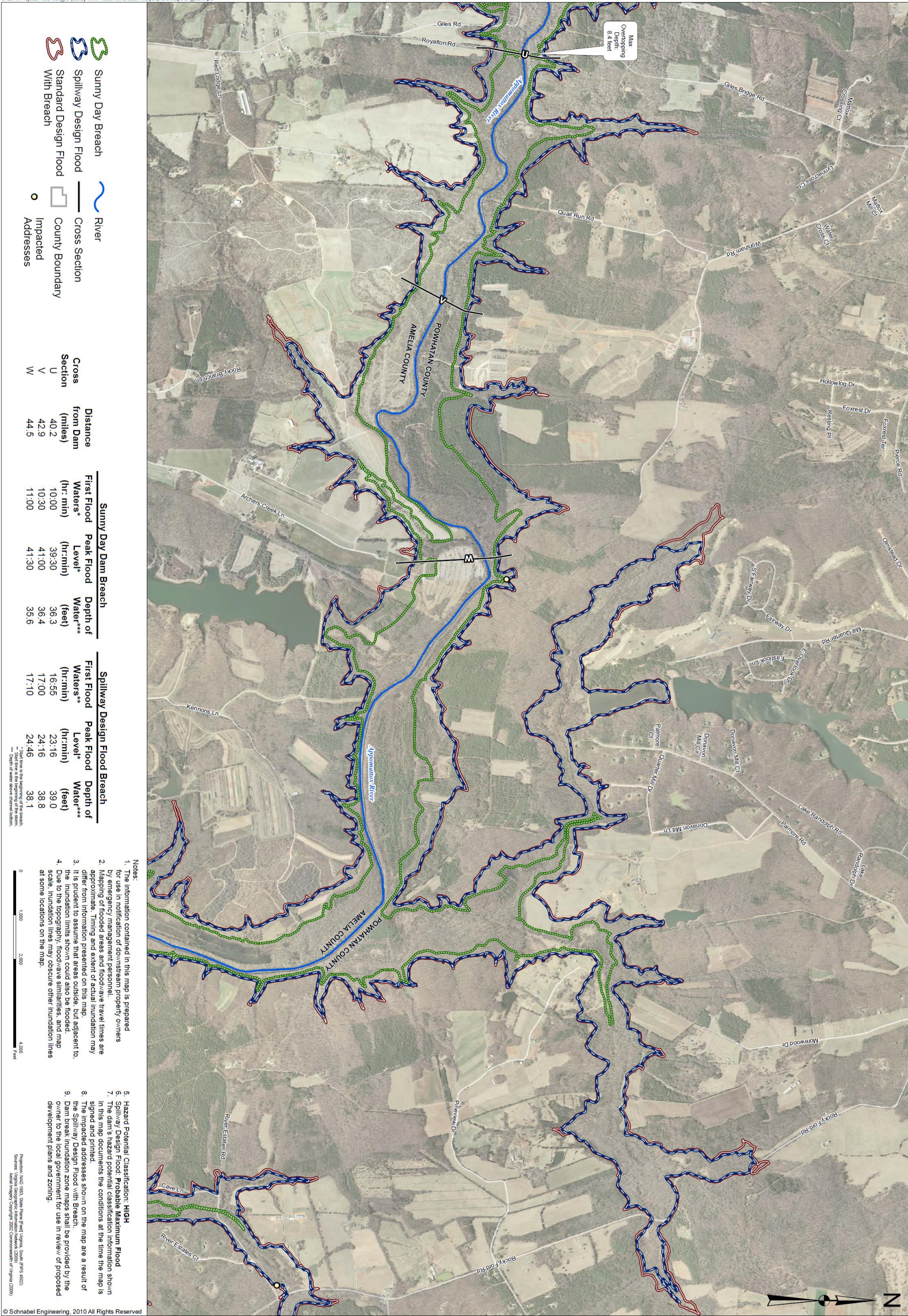
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0 1,000 2,000 4,000 Feet

Projection: NAD 1983, State Plane (Ft) (Virginia, State plane 4020)
Sources: Virginia Geographic Information Network (2008)
Aerial imagery Copyright 2002, Commonwealth of Virginia (2008)

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			ANTHONY W. GRUBBS, P.E.  DATE: 8/23/12 VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668			REV	DESCRIPTION	DATE	



Sunny Day Dam Breach				Spillway Design Flood Breach			
First Flood Waters* (hr: min)	Peak Flood Level† (hr:min)	Water*** (feet)	Depth of Water*** (feet)	First Flood Waters** (hr:min)	Peak Flood Level† (hr:min)	Water*** (feet)	Depth of Water*** (feet)
10:00	39:30	36.3	36.3	16:55	23:16	39.0	39.0
10:30	41:00	36.4	36.4	17:00	24:16	38.8	38.8
11:00	41:30	35.6	35.6	17:10	24:46	38.1	38.1

- Notes:
- The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
 - Mapping of flooded areas and flood/wave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 - It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded.
 - Due to the topography, flood/wave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.
 - Hazard Potential Classification: **HIGH**
 - Spillway Design Flood: Probable Maximum Flood
 - The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
 - The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
 - Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.


Projection: NAD 1983 State Plane (Feet) Virginia, South (FIPS 4602)
Source: Virginia Geographic Information Network (2009)
Aerial imagery Copyright 2002 Commonwealth of Virginia (2009)




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SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 10

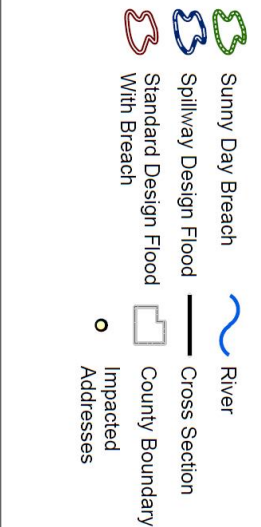
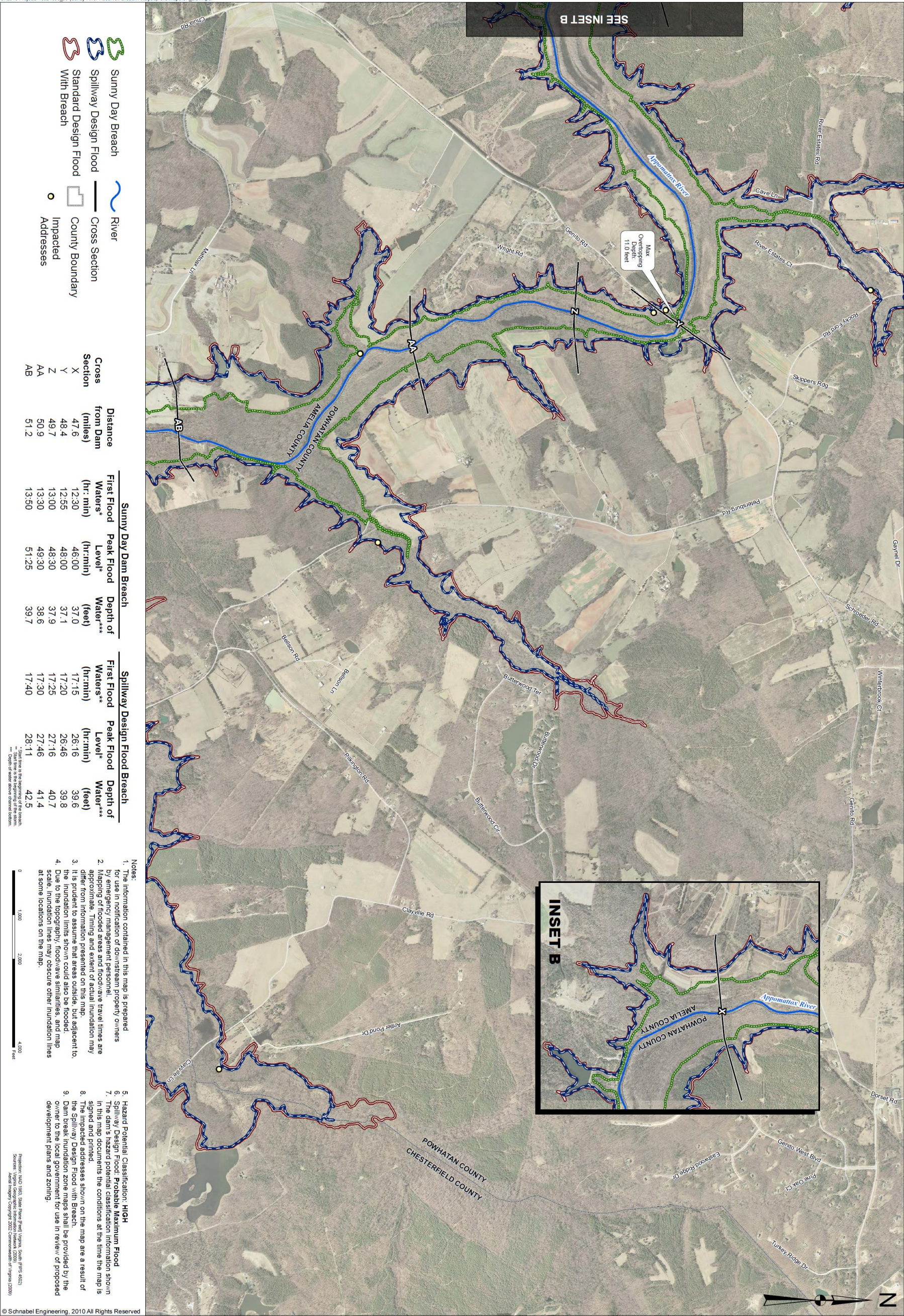


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ANTHONY W. GRUBBS, P.E.		
 DATE: 8/21/12		
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668		

REV	DESCRIPTION	DATE



Sunny Day Dam Breach				Spillway Design Flood Breach			
Cross Section	Distance from Dam (miles)	First Flood Waters* (hr: min)	Peak Flood Level† (hr:min)	Depth of Water*** (feet)	First Flood Waters** (hr:min)	Peak Flood Level† (hr:min)	Depth of Water*** (feet)
X	47.6	12:30	46:00	37.0	17:15	26:16	39.6
Y	48.4	12:55	48:00	37.1	17:20	26:46	39.8
Z	49.7	13:00	48:30	37.9	17:25	27:16	40.7
AA	50.9	13:30	49:30	38.6	17:30	27:46	41.4
AB	51.2	13:50	51:25	39.7	17:40	28:11	42.5

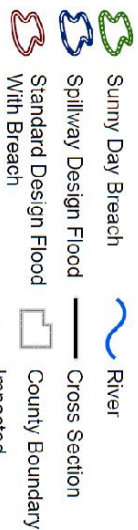
* Start time is the beginning of the breach
** Start time is the beginning of the storm
*** Depth of water above channel bottom

- Notes:
- The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
 - Mapping of flooded areas and floodwave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 - It is prudent to assume that areas outside but adjacent to the inundation limits shown could also be flooded.
 - Due to the topography, floodwave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.
 - Hazard Potential Classification: **HIGH**
 - Spillway Design Flood: **Probable Maximum Flood**
 - The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
 - The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
 - Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.

Prepared: H&C 10/05, State Plane (Feet) (Virginia, State Plane 4000)
Sources: Virginia Geographic Information Network (2009)
Aerial Imagery: Copyright 2002, ComNavSatNet or Virginia (2009)

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 PRINCE EDWARD COUNTY, VIRGINIA 1754	SANDY RIVER RESERVOIR DAM BREAK INUNDATION ZONE MAP PRINCE EDWARD COUNTY, VA	 Schnabel ENGINEERING 11A OAK BRANCH DR. / GREENSBORO, NC 27407 T/ 336-274-9456 F/ 336-274-9486 / SCHNABEL-ENG.COM	 ANTHONY W. GRUBBS Lic. No. 046668 PROFESSIONAL ENGINEER	DESIGNED BY: MRG	DRAWN BY: GAN	CHECKED BY: AWG						
	PANEL 11			ANTHONY W. GRUBBS, P.E.  DATE 8/24/12 VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668	REV	DESCRIPTION	DATE					



Sunny Day Dam Breach					Spillway Design Flood Breach				
Cross Section	Distance from Dam (miles)	First Flood Waters* (hr:min)	Peak Flood Level* (hr:min)	Depth of Water*** (feet)	First Flood Waters** (hr:min)	Peak Flood Level* (hr:min)	Depth of Water*** (feet)		
AC	51.3	14:00	51:30	38.3	17:45	28:16	40.2		
AD	53.6	14:55	54:30	38.1	17:50	29:06	40.0		
AE	54.9	15:00	55:30	38.9	17:55	29:11	40.7		
AF	65.9	15:56	67:00	39.6	18:00	29:16	41.4		

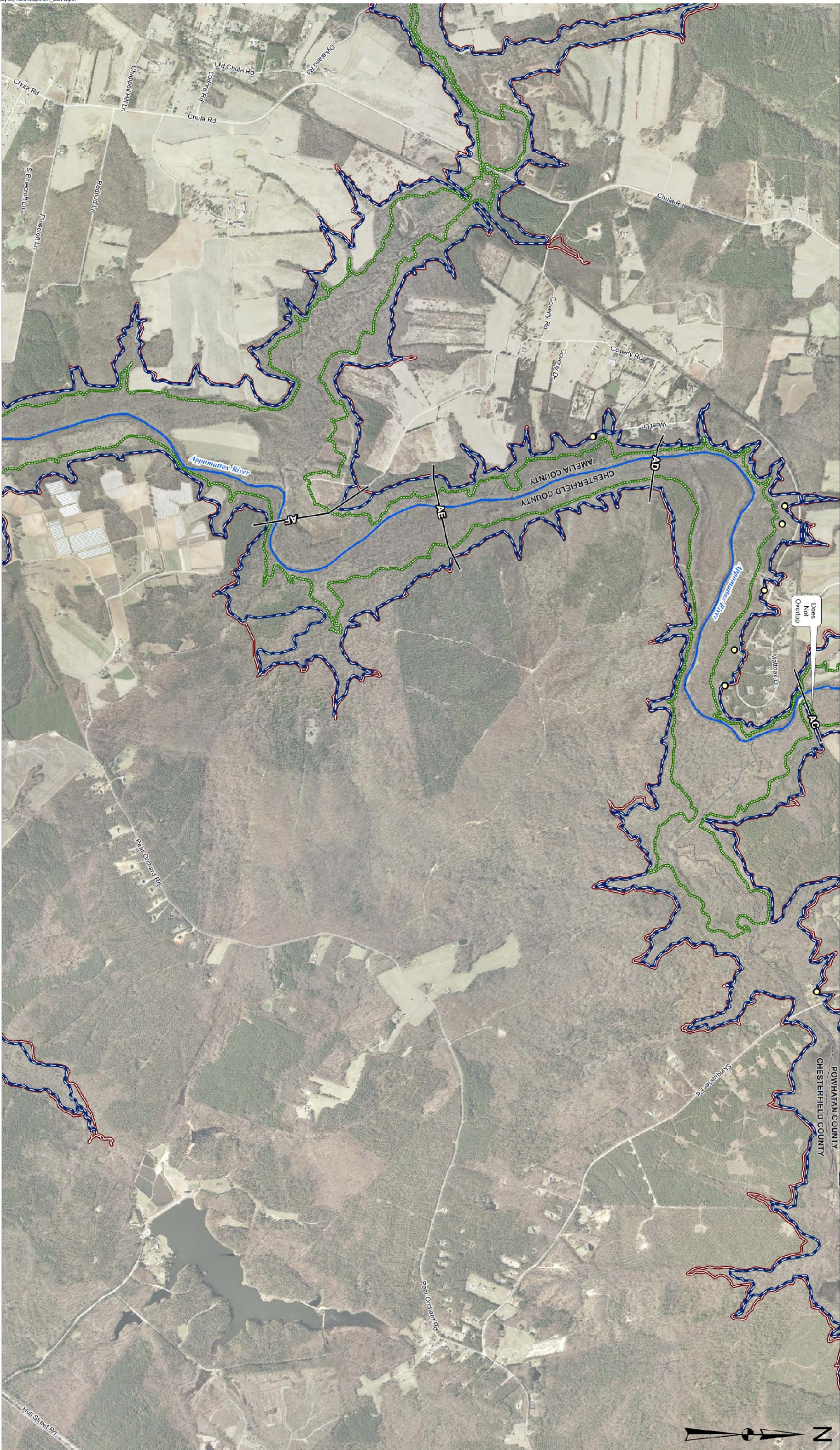
* Start time is the beginning of the breach
** Depth is the beginning of the breach
*** Depth is the maximum depth of the breach

- Notes:
- The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
 - Mapping of flooded areas and flood/wave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 - It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded.
 - Due to the topography, flood/wave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.

- Hazard Potential Classification: **HIGH**
- Spillway Design Flood: **Probable Maximum Flood**
- The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
- The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
- Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.



Prepared by: MFG, State Police (Virginia, South (PSC 400))
Source: Virginia Geographic Information Network (2009)
Aerial Imagery: Copyright 2002 Commonwealth of Virginia (2009)



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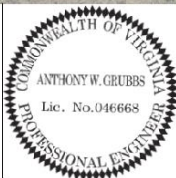



SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 12



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ANTHONY W. GRUBBS, P.E.		
 DATE: 8/21/10		
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046336		

REV	DESCRIPTION	DATE
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- Sunny Day Breach
- Spillway Design Flood
- Standard Design Flood With Breach
- Impacted Addresses

- Notes:
- The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
 - Mapping of flooded areas and flood/wave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 - It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded.
 - Due to the topography, flood/wave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.
 - Hazard Potential Classification: **HIGH**
 - Spillway Design Flood: **Probable Maximum Flood**
 - The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
 - The impacted addresses shown on the map are a result of the Spillway Design Flood With Breach.
 - Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.

Projection: NAD 1983, State Plane (Feet) Virginia, South (FIPS 4602)
Sources: Virginia Geographic Information Network (VGIN)
Aerial Imagery: Copyright 2010, Earthstar Systems (Virginia 2009)

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SHEET: 14 OF 20


SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 13

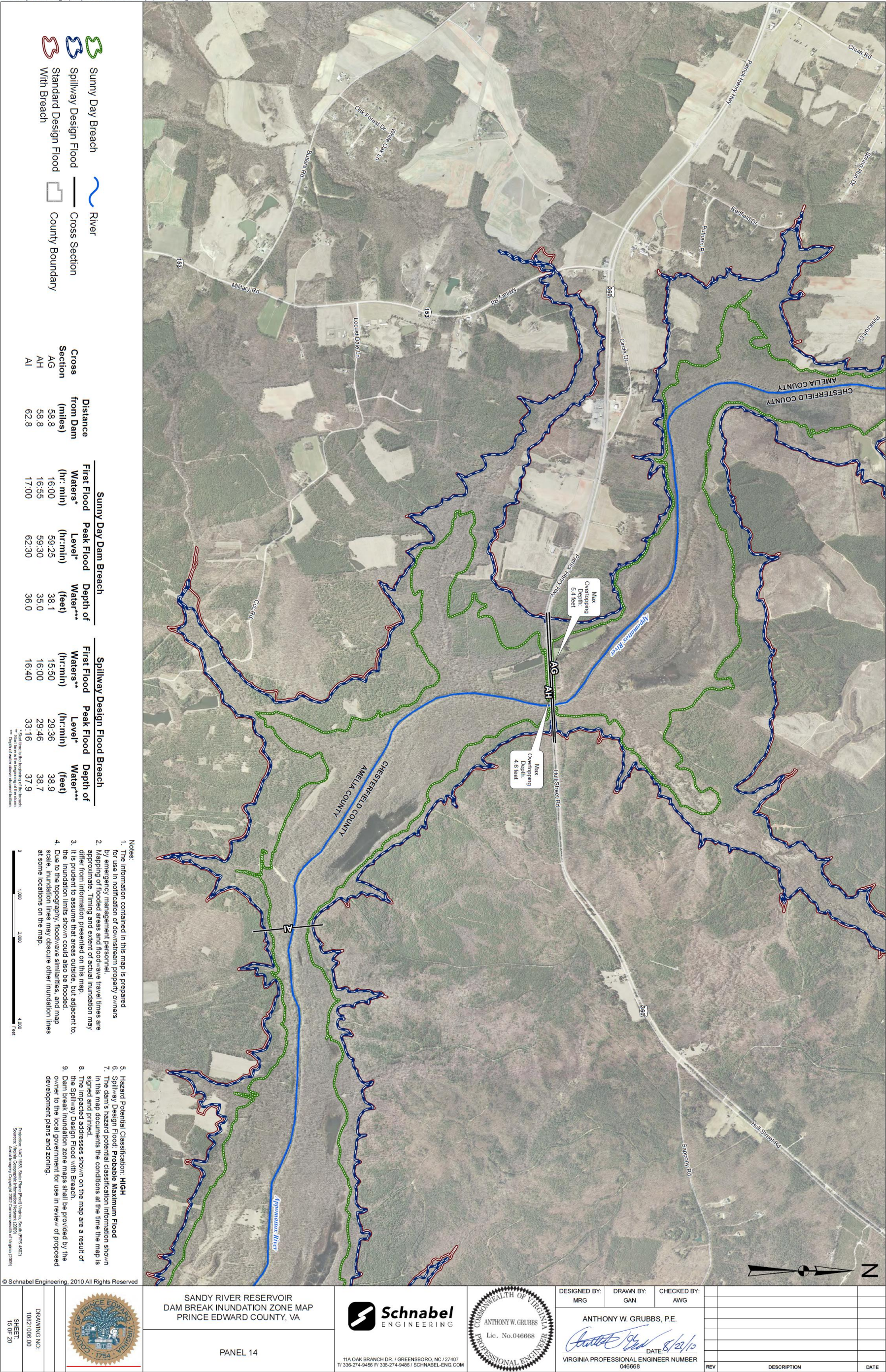


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ANTHONY W. GRUBBS, P.E.		
 DATE 8/23/10		
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668		

REV	DESCRIPTION	DATE



Sunny Day Dam Breach					Spillway Design Flood Breach				
Distance from Dam (miles)	First Flood Waters* (hr: min)	Peak Flood Level† (hr:min)	Depth of Water** (feet)	Cross Section	Distance from Dam (miles)	First Flood Waters** (hr:min)	Peak Flood Level† (hr:min)	Depth of Water*** (feet)	Cross Section
58.8	16:00	59:25	38.1	AG	58.8	16:50	29:36	38.9	AG
58.8	16:55	59:30	35.0	AH	58.8	16:00	29:46	38.7	AH
62.8	17:00	62:30	36.0	AI	62.8	16:40	33:16	37.9	AI

Notes:

- The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
- Mapping of flooded areas and flood/wave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
- It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded.
- Due to the topography, flood/wave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.

5. Hazard Potential Classification: **HIGH**

6. Spillway Design Flood: **Probable Maximum Flood**

7. The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.

8. The impacted addresses shown on the map are a result of the Spillway Design Flood With Breach.

9. Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.

0 1,000 2,000 4,000 feet

Scale

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ANTHONY W. GRUBBS
Lic. No. 046668
PROFESSIONAL ENGINEER

DESIGNED BY: MRG	DRAWN BY: GAN	CHECKED BY: AWG
ANTHONY W. GRUBBS, P.E.		
DATE: 8/21/10		
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668		

REV	DESCRIPTION	DATE

PRINCE EDWARD COUNTY, VIRGINIA
1754

SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 14

DRAWING NO.: 10821006.00

SHEET: 15 OF 20

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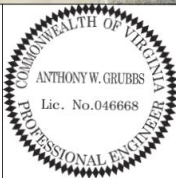


SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

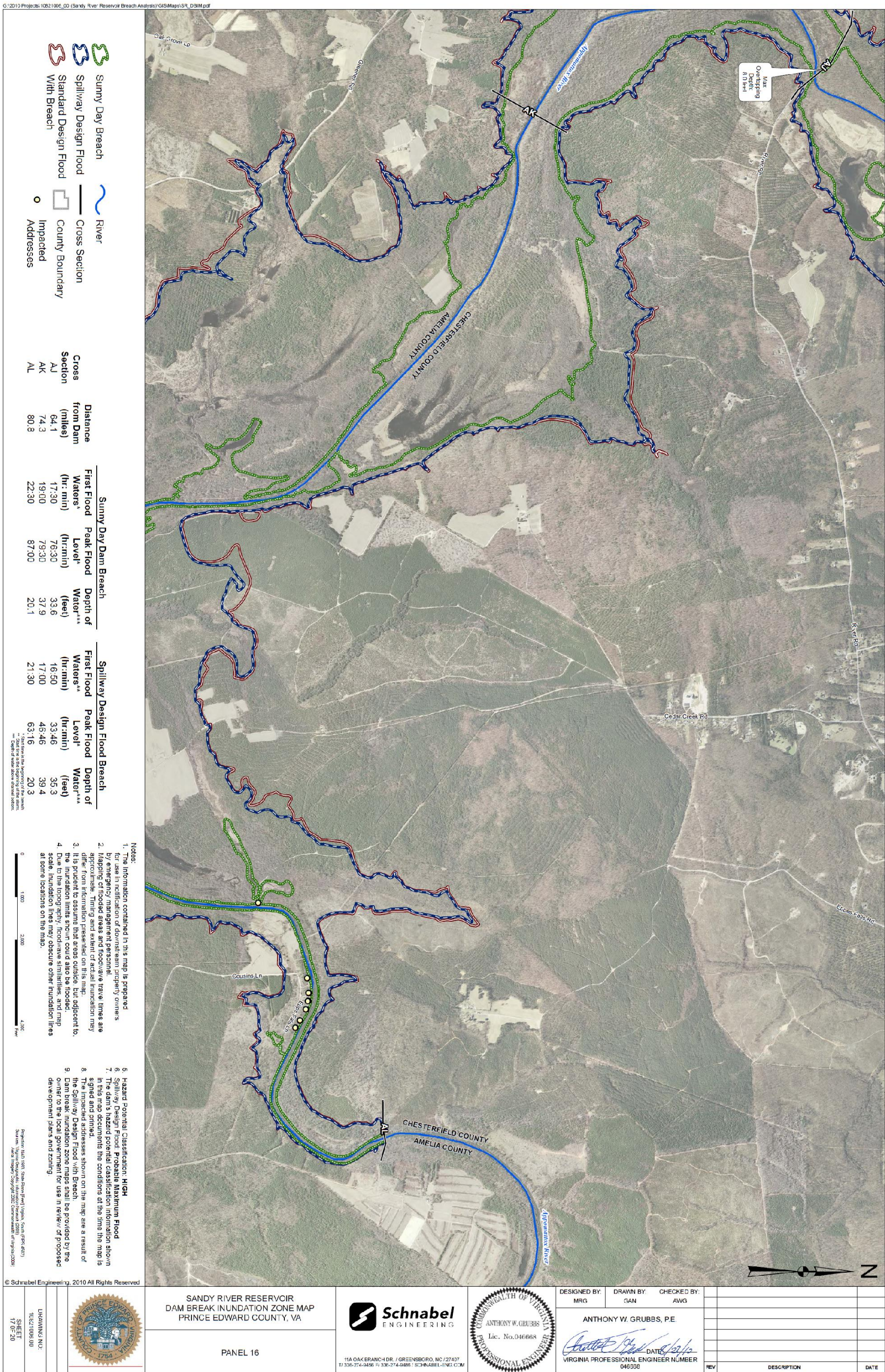
PANEL 15



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ANTHONY W. GRUBBS, P.E.				
<i>Anthony W. Grubbs</i> DATE <i>8/28/10</i>				
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668				
REV	DESCRIPTION			DATE



-  Sunny Day Breach
-  Spillway Design Flood
-  Standard Design Flood With Breach
-  River
-  County Boundary



- Notes:
- The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
 - Mapping of flooded areas and floodwave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 - It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded.
 - Due to the topography, floodwave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.
- Hazard Potential Classification: **HIGH**
 - Spillway Design Flood: **Probable Maximum Flood**
 - The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
 - The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
 - Dam Break Inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.



Printer: MGI (SRI) Shaw River Plant (Prince Edward, VA)
Source: VDOT Geographic Information Systems (2009)
Map Imagery Copyright 2002 ComNaventia, Inc. (Mapbox)

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SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 17



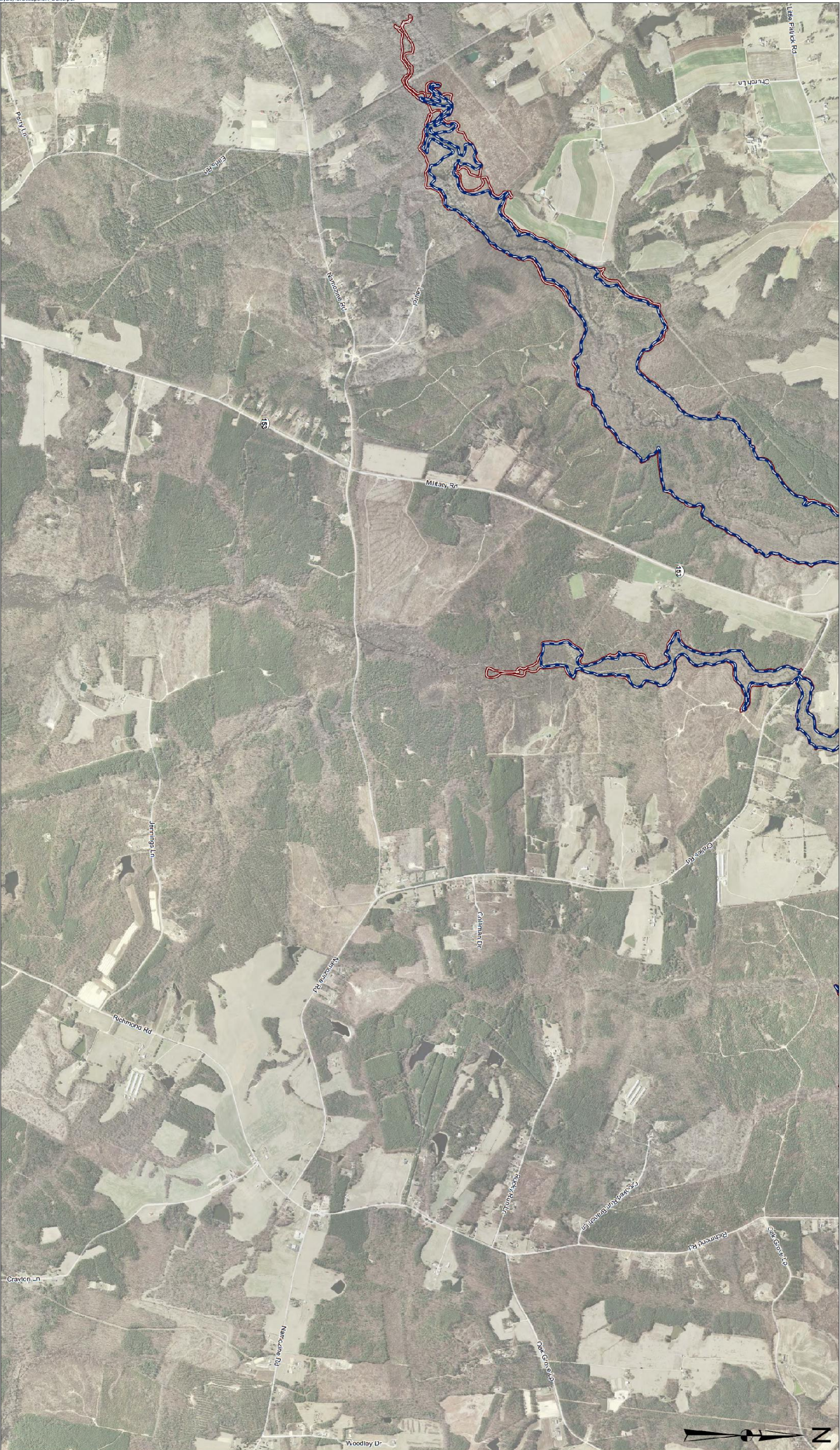
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DESIGNED BY: MRG	DRAWN BY: GAN	CHECKED BY: AWG
ANTHONY W. GRUBBS, P.E.		
<i>Anthony W. Grubbs</i> DATE: 8/23/12		
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668		

REV	DESCRIPTION	DATE

 Spillway Design Flood
 Standard Design Flood
With Breach



- Notes:
1. The information contained in this map is prepared for use in notification of downstream property owners by emergency management personnel.
 2. Mapping of flooded areas and floodwave travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 3. It is prudent to assume that areas outside, but adjacent to the inundation limits shown could also be flooded.
 4. Due to the topography, floodwave similarities, and map scale, inundation lines may obscure other inundation lines at some locations on the map.

5. Hazard Potential Classification: **HIGH**
6. Spillway Design Flood: **Probable Maximum Flood**
7. The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
8. The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
9. Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.



Engineer: NCE 005, State Route 640, Virginia, South (PSP, 650)
Source: Virginia Geographic Information Network (VGIN)
Actual imagery Copyright 2002, Commonwealth of Virginia (2002)

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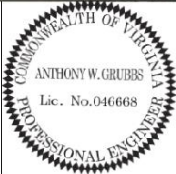



SANDY RIVER RESERVOIR
DAM BREAK INUNDATION ZONE MAP
PRINCE EDWARD COUNTY, VA

PANEL 18








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ANTHONY W. GRUBBS, P.E.		
		
DATE: 8/23/10		
VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668		

REV	DESCRIPTION	DATE

-  Sunny Day Breach
-  Spillway Design Flood
-  Standard Design Flood With Breach
-  River
-  County Boundary



- Notes:
1. The information contained in this map is prepared for use in indication of downstream property owners by emergency management personnel.
 2. Mapping of flooded areas and floodway travel times are approximate. Timing and extent of actual inundation may differ from information presented on this map.
 3. It is prudent to assume that areas outside, but adjacent to, the inundation limits shown could also be flooded.
 4. Due to the young age, floodway streamlines, and map scale, inundation lines may obscure other inundation lines at some locations on the map.
 5. Hazard Potential Classification: **HIGH**
 6. Spillway Design Flood: **Probable Maximum Flood**
 7. The dam's hazard potential classification information shown in this map documents the conditions at the time the map is signed and printed.
 8. The impacted addresses shown on the map are a result of the Spillway Design Flood with Breach.
 9. Dam break inundation zone maps shall be provided by the owner to the local government for use in review of proposed development plans and zoning.



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	SANDY RIVER RESERVOIR DAM BREAK INUNDATION ZONE MAP PRINCE EDWARD COUNTY, VA	 Schnabel ENGINEERING		DESIGNED BY: MRG	DRAWN BY: GAN	CHECKED BY: AWG						
				ANTHONY W. GRUBBS, P.E.								
				 DATE: 8/28/10								
				VIRGINIA PROFESSIONAL ENGINEER NUMBER 046668			REV	DESCRIPTION	DATE			

DRAWING NO.:
10821008.00

SHEET:
20 OF 20