EMERGENCY ACTION PLAN

SURVEILLANCE, WARNING AND EVACUATION PROCEDURES

HOWELLS RUN DAM
DEP NUMBER D11-103

LOCATED ACROSS HOWELL'S RUN
IN CAMBRIA TOWNSHIP, CAMBRIA COUNTY

LATITUDE 40° 29' 47" N LONGITUDE 78° 43' 00" W

SIZE CATEGORY "B"
HAZARD POTENTIAL CATEGORY "1"

OPERATED BY:	**PUBLIC WORKS DIRECTOR** **JEFF EVANS** **EBENSBURG BOROUGH** **300 WEST HIGH STREET** **EBENSBURG, PA 15931**
TELEPHONE:	**BUSINESS: 814-472-8780** **CELL: 814-244-1414** **E-MAIL: jevans@ebensburgpa.com**
OWNED BY:	**EBENSBURG BOROUGH** **DOUG TUSING, PRESIDENT**
ADDRESS:	**300 WEST HIGH STRET** **EBENSBURG, PA 15931**
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DATE: SEPTEMBER 2018 (Update)

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PROMULGATION AND CONCURRENCE

We, the undersigned, on date indicated, have reviewed the requested support activity in the Emergency Action Plan for the Ebensburg Howells Run Dam. Our support action will be executed in accordance with existing recommended operating guidelines and existing municipal or county emergency operation plans.

DAM OWNER:

DOUG TUSING, COUNCIL PRESIDENT
EBENSBURG BOROUGH

9/24/18
DATE

DAM OPERATOR:

JEFF EVANS
EBENSBURG PUBLIC WORKS DIRECTOR

9/24/18
DATE

COUNTY EMA:

ART MARTYNUSKA
CAMBRIA COUNTY EMA COORDINATOR

09/12/2018
DATE

PEMA AND DEP ACKNOWLEDGEMENTS

The Pennsylvania Emergency Management Agency has reviewed the EBENSBURG STORAGE DAM (D11-061) Emergency Action Plan for appropriate content.

Director, PEMA Western Area Office — **DATE** 15 Nov 2018

The Department of Environmental Protection, Division of Dam Safety, has reviewed EBENSBURG STORAGE DAM (D11-061) Emergency Action Plan for appropriate content.

Chief, Division of Dam Safety — **DATE** 11/26/18

I. PURPOSE AND SCOPE

A. To safeguard the lives as well as to reduce property damage of the citizens living within the dam's potential downstream flood or inundation area.

B. To provide for effective dam surveillance, prompt notification to local emergency management agencies, citizen warning and evacuation response, when required.

C. To identify emergency actions to be taken by the dam owner/operator, public officials, emergency personnel, and to outline response actions in the event of a potential or imminent failure of the dam.

II. SITUATION

A. The Ebensburg Howells Run Dam is a 64-foot high, 670-foot long earthen embankment water supply dam, maintaining a normal pool of 1,324 acre-feet of water at elevation 2,050 with a maximum pool capacity of 2,076 acre-feet at the top of dam (2,058 elevation). The dam structure contains a 50-foot wide, concrete ogee-type spillway crest with a crest elevation of 2,050. Drawdown of the reservoir pool is accomplished with a 16-inch water supply line to the Ebensburg Storage Dam Reservoir.

B. The dam is located across Howells Run in Cambria Township immediately outside of the northeast corner of Ebensburg Borough, 0.68 miles north of the intersection of E. Crawford Street and Tanner Street and 0.36 miles east of the intersection of Julian St and N. Center Street in Ebensburg Borough. Refer to Attachment C - *Location Map*.

C. The inundation area resulting from a sudden dam failure follows Howells Run southward to the Ebensburg Storage Dam and then to Jenks Dam immediately north of the Borough Swimming Pool. The inundation area then extends roughly along the eastern boundary of Ebensburg Borough to Lake Rowena. From Lake Rowena, the inundation area continues across and under SR 22, leaves the Borough and enters Cambria Township where it continues southward along Howells Run through primarily undeveloped woodland area for approximately 3.4 miles to the crossing of Wilmore Road then eastward through woodland area for approximately 1.6 miles where it joins the North Branch of the Little Conemaugh River. From that point the inundation area continues another 0.1 mile where it crosses Spinner Road and then follows the North Branch of the Little Conemaugh River southward through additional woodland area and flows into Wilmore Reservoir. Refer to Attachment A - *Inundation Map*.

D. Within the inundation area there are approximately 38 homes with an estimated 88 residents, and 12 commercial businesses and 12 public/recreational/institutional facilities with an approximate population of 265, for a combined total population of 353. The public/recreational/institutional facilities include: the Ebensburg Water Plant; Ebensburg Reservoir Trail; Ebensburg Swimming Pool; Lions Field; Lake Rowena Park; Ebensburg Lake Field; Ebensburg Tennis Center; Skills of Central PA; Lakeside Church of the Nazarene; Ebensburg Outdoor Hockey Rink; and the Ebensburg Wastewater Treatment Plant. Refer to Attachment A - *Inundation Map* for a map depicting the inundation area boundaries.

III. CONCEPT OF OPERATIONS

A. SURVEILLANCE – NORMAL CONDITIONS - (DAM OWNER OR OPERATOR)

1. The dam operator or a designated representative will conduct an on-site visual inspection of the dam, the dam's spillways, control systems, and the toe area below the dam at a minimum of once every three months. Any abnormal or questionable conditions will be immediately brought to the attention of the owner's engineer and the Division of Dam Safety of DEP.

B. SURVEILLANCE – UNUSUAL EVENT CONDITIONS (DAM WATCH)

1. The dam operator or a designated representative will commence surveillance of conditions at the dam site when:

   a. Severe thunderstorms or heavy rains with local flood warnings, tropical storms and hurricanes, or heavy rains with frozen ground and/or snow cover are occurring.
   b. The National Weather Service issues a flash flood watch or warning and conditions warrant.
   c. Any abnormal or questionable conditions as identified in Section III.D.1.

C. EARLY WARNING NOTIFICATION

1. The dam operator or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute early warning notification to the Cambria County 9-1-1 Emergency Communications Center and require 24-hour around-the-clock surveillance.

   a. The water level in the impoundment area has reached the threshold level of 4 feet below the top of the dam (4 feet of flow in the concrete spillway) and is rising, or
   b. Following the occurrence of an earthquake in the general region of the dam.

2. Early warning notification will be relayed from the Cambria County 9-1-1 Emergency Communications Center to the Cambria County Emergency Management Agency Director/Coordinator, the PEMA - Commonwealth Watch and Warning Center and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

D. WARNING AND EVACUATION NOTIFICATION

1. The dam operator or a designated representative is responsible for determining the dam's threat potential. The following conditions constitute a dam emergency requiring warning and evacuation notification to the Cambria County 9-1-1 Communications Center.

   a. The depth of flow in the emergency spillway has reached a depth of 6 feet (pool elevation of 2056 feet), and
   b. The water level in the impoundment area has reached the threshold level of 2 feet below the top the dam, or
   c. Imminent failure of this dam might be indicated by observance of one or more of the following conditions at the dam site:

      i. The lake or pond level is at or near the top of the dam and water is flowing, or about to flow, over the top of the dam.
      ii. The overflow pipe or spillway is damaged, or clogged with debris or ice, which is resulting in a rapid rise in the lake or pond level.
      iii. The primary or emergency spillway is experiencing heavy flows which are causing severe erosion to the spillway or the dam embankment.
      iv. Any structural movement or failure of the concrete spillway or the spillway abutment walls.
      v. Any sloughing or sliding of the embankment’s upstream or downstream slope. Also, earth slides in the spillway channel, either upstream or downstream of the dam's crest, which could impede the flow in the spillway.
      vi. Subsidence, sinkholes or cracks found in any part of the dam's embankment or abutting slopes.
      vii. Any new discharge of water is observed through the dam's embankment or abutting slopes, adjacent to any conduit outlets, or under the dam, which appears as a boil along the downstream toe. If a discharge occurs and the water is cloudy or muddy in color, then a very serious problem exists.

2. Warning and evacuation notification will be relayed from the Cambria County 9-1-1 Communications Center to the Cambria County Emergency Management Agency Director/Coordinator, the PEMA - Commonwealth Watch and Warning Center and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

3. Emergency management officials will accomplish the needed actions, which are explained in this EAP, in accordance with their existing recommended operating guidelines and existing municipal or county emergency operation plans.

4. Warning and evacuation of the public must commence upon notification by the dam owner, dam operator or a designated representative of a potential or imminent failure of the dam. Emergency responders should initiate action in accordance with the plan outline and any existing internal organizational recommended operating guidelines, and existing municipal or county operation plans.

E. TERMINATION OF SURVEILLANCE AND NOTIFICATIONS

1. The dam operator or a designated representative may terminate 24 -hour surveillance of dam site conditions when:

   a. All National Weather Service flash flood watches or warnings have expired, **and**
   b. Heavy rains have ended and the water level in the lake has dropped to elevation 2053, 5.0 feet below the top of the dam and is receding.
   c. After a personal inspection of the dam site has been conducted by a knowledgeable professional engineer following an earthquake, overtopping of the dam, or an evacuation of the inundation area as a result of this EAP, or other serious problems resulting in a notification of a dam site emergency and the Department concurs with the results of the inspection.

2. Upon termination of 24-hour surveillance of dam site conditions, the dam owner, dam operator or a designated representative shall notify the Cambria County 9-1-1 Communications Center.

3. Termination of notifications will be relayed from Cambria County 9-1-1 Communications Center to the Cambria County Emergency Management Agency Director/Coordinator, the PEMA - Commonwealth Watch and Warning Center and all applicable emergency responders and designated government officials and agencies. Refer to Section IV.B. for additional notifications.

IV. RESPONSIBILITIES AND DUTIES - EMERGENCY RESPONSE

A. DAM OWNER OR DAM OPERATOR (DAM SITE EMERGENCY)

1. The dam operator or a designated representative will provide for 24-hour on-site dam surveillance and monitoring as required in Section III.C.1. and initiate early warning notification to the Cambria County 9-1-1 Communications Center.

2. When the situation meets the criteria under the warning and evacuation notification guidelines, presented in Section III.D.1, indicating a failure of the dam is possible or a significant threat condition is developing, the dam owner, dam operator or a designated representative will initiate warning and evacuation notification to the Cambria County 9-1-1 Center.

B. COUNTY 9-1-1 COMMUNICATIONS CENTER

1. The Cambria County 9-1-1 Communications Center will notify:
   a. Cambria County EMA
   b. PEMA - Commonwealth Watch and Warning Center
   c. Ebensburg Borough Police Department
   d. Cambria Township Police Department
   e. Summerhill Township Police Department
   f. PA State Police (Ebensburg Barracks)
   g. Dauntless Fire Company
   h. Revloc Volunteer Fire Department
   i. Cresson Fire Department
   j. Summerhill Township Fire Company
   k. Ebensburg Area Ambulance Association
   l. Portage Area Ambulance Association
   m. Forest Hills Ambulance Association

C. COUNTY EMA

1. The Cambria County EMA will notify:
   a. National Weather Service
   b. Central Cambria Zone EMA
   c. Munster Township EMA
   d. Portage Township EMA
   e. Summerhill Township EMA
   f. Ebensburg Public Works
   g. Cambria Township Public Works
   h. Cambria County Commissioners (Chairman)
   i. Media – Early Warning and/or Warning and Evacuation (Activate EAS). Refer to Attachment E
   j. Cambria County EOC staff, as necessary
   k. American Red Cross – PA Mountains Chapter (when mass care or family assistance is required). Coordinate sheltering per ESF 6 of County EOP.
   l. Central Cambria School District
   m. Pennsylvania Emergency Management Agency
   n. PENNDOT District 9-3 (Ebensburg Area)
   o. Ebensburg Swimming Pool
   p. Cambria Somerset Authority
   q. Forest Hills School District

2. The Cambria County EMA will ascertain and report to PEMA any unmet needs requirements.

3. The Cambria County EMA will initiate Damage Assessment and Recovery procedures as the situation requires.

D. LOCAL MUNICIPAL EMAs

CENTRAL CAMBRIA EMA ZONE
MUNSTER TOWNSHIP EMA
PORTAGE TOWNSHIP EMA
SUMMERHILL TOWNSHIP EMA

1. Advise facilities with special needs individuals as outlined in the Emergency Operations Plan (EOP) and identified by the Hazard Vulnerability Analysis (areas impacted due to a dam failure and indicated on the *Inundation Map*).
2. Notify municipal elected officials and municipal services (public works/highway, water, sewer etc.) departments.
3. Keep the Cambria County EMA apprised of the situation.
4. Coordinate the evacuation (where appropriate).
5. Provide damage reporting to the Cambria County Emergency Management Coordinator.

E. FIRE DEPARTMENTS

DAUNTLESS FIRE COMPANY
REVLOC FIRE COMPANY
CRESSON FIRE DEPARTMENT
SUMMERHILL TOWNSHIP FIRE COMPANY

1. Provide citizen notification and route alerting to advise residents living within their jurisdiction (See Inundation Map - Attachment A).
2. Assist in evacuation.
3. Assist police with set up and manning of Traffic Control Points and road closures (See Inundation Map - Attachment A and Traffic Control Points - Attachment B).
4. Assist police and EMS, as requested.
5. Provide communications support if feasible and requested.

F. POLICE SERVICES

EBENSBURG BOROUGH POLICE DEPARTMENT
CAMBRIA TOWNSHIP POLICE DEPARTMENT
SUMMERHILL TOWNSHIP POLICE DEPARTMENT
PA STATE POLICE (EBENSBURG BARRACKS)

1. Dispatch radio vehicle to dam site in order to provide alternate communications link to Cambria County 9-1-1 Communications Center – Ebensburg Borough Police Department
2. Assist evacuation traffic flow and establish traffic control points (TCP) at pre-designated locations (See Inundation Map – Attachment A and Traffic Control Points – Attachment B).
3. Prevent unauthorized entry and provide security of evacuated areas.

4. Provide assistance with route alerting, if requested.

G. EMERGENCY MEDICAL SERVICES (EMS)

EBENSBURG AREA AMBULANCE ASSOCIATION
PORTAGE AREA AMBULANCE ASSOCIATION
FOREST HILLS AMBULANCE ASSOCIATION

1. Provide evacuation transportation assistance and coordinate with designated fire services agencies for transportation of persons with disabilities and any special needs.
2. Assist fire and police departments as requested.
3. Provide EMS support to any mass care center as requested.

H. AMERICAN RED CROSS

PA MOUNTAINS CHAPTER (If requested by Cambria County EMA)

1. Identify and activate an appropriate shelter, as necessary.
2. Support and maintain operations of the reception center.
3. Maintain communications with Cambria County Emergency Management Coordinator, local EMAs and reception center.

I. PUBLIC WORKS AND HIGHWAY DEPARTMENTS

PA DEPARTMENT OF TRANSPORTATION (PENNDOT District 9-3)
EBENSBURG PUBLIC WORKS DEPARTMENT
CAMBRIA TOWNSHIP PUBLIC WORKS DEPARTMENT

1. Provide services, signs, barricades and guidance on roads and bridges affecting the evacuation and recovery.

V. ADMINISTRATION AND LOGISTICS

A. The *NOTICE* (Attachment F) will be posted in the following public places (addresses) located within or near the inundation area:

1. Ebensburg Water Plant – Base of Ebensburg Storage Dam, Tanner St
2. Reservoir Trail (Trailhead) – 347 Tanner St
3. Ebensburg Swimming Pool – 151 Swimming Pool Rd
4. Lions Field – 146 Manor Dr
5. Frostbite Ice Cream and Treats – 137 Manor Dr
6. Festival Beverage – 139 Manor Dr
7. Dr. Archibald Morris Medical Office – 125 Manor Dr
8. Lakeview Lanes – 997 Rowena Dr
9. Ebensburg Oil and Gas – 932 Rowena Dr
10. Lake Rowena Park – Rowena/Lakeview Dr
11. Ebensburg Lake Field – 251 Lakeview Dr
12. Ebensburg Tennis Center – 257 Lakeview Dr

13. Traders Guide and Pennysaver – 969 Rowena Dr
14. Mainline Newspaper – 975 Rowena Dr
15. Skills of Central PA – 957 – Rowena Dr
16. Lake Inn Motel – 1001 Rowena Dr
17. Ebensburg Lakeside Community Church of Nazarene – 1006 Rowena Dr
18. Ebensburg Animal Hospital – 922 Rowena Dr
19. Ebensburg Outdoor Hockey Rink – 927 Rowena Dr
20. Country Sisters Store – 951 Rowena Dr
21. Foster F. Wineland Inc. – 766 Rubisch Ln
22. Dunkin Donuts – 542 S Center St
23. Scanlan Electric Supply – 344 Lakeview Dr
24. Ebensburg Wastewater Treatment Plant – 291 Trout Ln

B. The *NOTICE* (Attachment F) must state that copies of the Emergency Action Plan for this dam are available for inspection at the following locations:

1. Cambria County Emergency Management Agency Office
   401 Candlelight Drive, Suite 100, Ebensburg PA 15931

2. Cambria Township Municipal Office
   184 Municipal Road, Revloc PA 15948

3. Ebensburg Borough Office
   300 West High Street, Ebensburg PA 15931

4. Central Cambria EMA Zone
   569 Cambria Ave, Revloc PA 15948

5. Munster Township EMA
   Municipal Township Office
   264 Gaily Road, Lily PA 15938

6. Portage Township EMA
   Portage Township Municipal Office
   4109 Portage Street, Portage PA 15946

7. Summerhill Township EMA
   Summerhill Township Municipal Office
   892 Main Street, Wilmore PA 15962

8. Ebensburg Borough Municipal Authority Office
   300 West High Street, Ebensburg PA 15931

C. A new *NOTICE* will be sent to those locations in paragraph "A" when the EAP is revised.

D. The dam owner is responsible to verify posting of the *NOTICE* and documenting the status in the annual inspection report.

VI. AUTHORITY AND REFERENCES

A. AUTHORITY

1. The Dam Safety and Encroachments Act (32 P.S. Sections 693.1-693.27), May 16, 1985.
2. The Pennsylvania Code - Title 25, Chapter 105 Dam Safety and Waterways Management, Section 105.63 and 105.134.
3. Emergency Management Services Code, 35 Pa C.S. Section 7101 et seq., as amended.

B. REFERENCES

1. Guidelines for Developing an Emergency Action Plan for Hazard Category 1, 2, and 3 Dams. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering and Wetlands, Division of Dam Safety and the Pennsylvania Emergency Management Agency, January 2009.
2. Inspection, Maintenance and Operation of Dams in Pennsylvania. Prepared by the Department of Environmental Protection, Water Management, Bureau of Waterways Engineering and Wetlands, Division of Dam Safety, February 2009.
3. Cambria County Emergency Operations Plan.

VII. DEFINITIONS

A. **ABUTMENT** - The part of the valley's hillside against which the dam abuts. Right and left abutments are those on respective sides of the dam as an observer looks downstream.

B. **AFFECTED COUNTIES/MUNICIPALITIES** – Those jurisdictions within Pennsylvania or adjoining states that, according to the inundation map, may experience flooding as a result of a failure of the dam.

C. **BOIL** - A disturbance in the surface layer of soil caused by water escaping under pressure from behind a water-retaining structure such as a dam or a levee. The boil may be accompanied by deposition of soil particles (usually sand or silt) in the form of a ring (miniature volcano) around the area where the water escapes.

D. **BREACH** - An opening or a breakthrough of a dam sometimes caused by rapid erosion of a section of earth embankment by water.

E. **COMMONWELATH RESPONSE COORDINATION CENTER (CRCC) -** Serves as the Commonwealth's primary coordination point for response and recovery operations during natural or human-caused disasters and other emergencies. When activated, state agencies, volunteer organizations, and other stakeholders send representatives to the CRCC where they work to coordinate state agency response and recovery efforts to support affected counties and local jurisdictions.

F. **COMMONWEALTH WATCH AND WARNING CENTER (CWWC) -**

Serves as the 24/7 monitoring and emergency alerting hub for all-hazards incidents and events throughout the Commonwealth. The CWWC works with county Public Safety Answering Points (PSAP's), Emergency Management agencies, state agencies and other stakeholders to maintain Situational Awareness (SA) and provide a Common Operating Picture (COP) for agencies throughout the state.

G. **CONDUIT -** A pipe used to convey water through or around or under a dam.

H. **CONTROL TOWER -** A structure in the dam or reservoir used to control withdraw of water from the reservoir through pipes or culverts.

I. **CREST OF DAM -** The crown of an overflow section of the dam. In the United States, the term "crest of dam" is often used when "top of dam" is intended. To avoid confusion, the terms **crest of spillway** and **top of dam** should be used for referring to the overflow section and dam proper, respectively.

J. **CULVERT -** (a) A drain or waterway structure built transversely under a road, railway, or embankment. A culvert usually comprises a pipe or a covered channel of box section. (b) A gallery or waterway constructed through any type of dam, which is normally dry but is used occasionally for discharging water; hence the terms scour culvert, drawoff culvert and spillway culvert.

K. **DAM -** A barrier built across a watercourse for impounding or diverting the flow of water.

L. **DAM FAILURE -** The uncontrolled release of a dam's impounded water. It is recognized that there are degrees of failure. Any malfunction or abnormality, outside the design assumptions and parameters, which adversely affect a dam's primary function of impounding water is properly considered a failure. Minor malfunctions or abnormalities can result in a sudden failure of a dam.

M. **EARTH DAM (EARTHFILL DAM) -** An embankment dam in which more than 50% of the total volume is formed of compacted fine-grained earth.

N. **EMBANKMENT -** Fill material, usually earth or rock, placed with sloping sides.

O. **EMERGENCY -** A condition of serious nature which develops unexpectedly and endangers the structural integrity of a dam or endangers downstream property and human life. An emergency requires immediate action.

P. **EAP –** Emergency Action Plan - A formal document that identifies potential emergency conditions at a dam and specifies preplanned actions to be followed to minimize property damage and loss of life. It contains procedures and information to assist the dam owner in issuing early warning and notification messages to responsible downstream emergency management authorities of the emergency situation. It also contains inundation maps to show the emergency management authorities of the critical areas for action in case of an emergency.

Q. **EOP –** Emergency Operations Plan - "The document … which describes the hazards, vulnerabilities, emergency management situations and assumptions that

affect the municipality, the concept of operations during an emergency, and the various roles and assignments of the elected officials, emergency management coordinator and other emergency response personnel, whether paid or volunteer." (From PEMA Directive D2007-1). The EOP includes checklists for known critical facilities, special facilities, critical personnel, hearing impaired residents, non-English speaking residents, residents requiring ambulance assistance, etc., as identified by local emergency management officials.

R. **FACE** - With reference to a structure, the external surface that limits the structure, e.g., the face of a wall or dam.

S. **FAILURE** - An incident resulting in the uncontrolled release of water from an operating dam. See "Dam Failure".

T. **FOUNDATION OF DAM** - The natural material on which the dam structure is placed.

U. **GROIN** - That area along the contact (or intersection) of the face of a dam with the abutment.

V. **HAZARD** - A situation which creates the potential for adverse consequences such as loss of life, property damage, and adverse social and environmental impacts. Impacts may be for a defined area downstream of a dam from flood-waters released through spillways and outlet works of the dam or waters released by partial or complete failure of the dam. This could include an area upstream of the dam from effects of backwater flooding or effects of landslides around the reservoir perimeter.

W. **INUNDATION AREA** - The downstream area that would be flooded or otherwise affected by the failure of a dam or large flows. This area can be subject to a fast-moving flood wave, 20 to 50 MPH is common, with a height of 1 foot to tens of feet.

X. **INUNDATION MAP** - A map delineating the area that would probably be flooded in the event of a dam failure. This map must be prepared by a registered professional engineer.

Y. **NOTIFICATION** - To promptly inform appropriate individuals or emergency agency about an emergency condition so they can initiate appropriate actions.

Z. **NORMAL WATER LEVEL (NORMAL WATER POOL)** - For reservoir with a fixed overflow spillway crest, it is the lowest level of that crest.

AA. **OPERATOR** - The person or position in a company or organization, who is responsible for a dam's operation and surveillance.

BB. **OUTLET** - A constructed opening through which water can be safely discharged for a particular purpose from a reservoir.

CC. **OWNER** - Any person, authority or agency that manages a dam or reservoir.

DD. **PSAP** - Public Safety Answering Point - an agency in the United States, typically county or city controlled, responsible for answering 9-1-1 calls for emergency assistance from police, fire, and ambulance services.

EE. **SEEPAGE -** The movement of water that might occur through the dam, its foundation or its abutments. Small amounts of clear water seepage is normal. Increase in the amount of water flow or change in color is a concern for a dam's safety.

FF. **SLIDE -** The movement of a mass of earth down a slope. In embankments and abutments, this involves the separation of a portion of the slope from the surrounding materials.

GG. **SPILLWAY -** A structure over or through which flows are discharged. If the flow is controlled by gates, it is considered a controlled spillway; if the elevation of the spillway crest is the only control, it is considered an uncontrolled spillway.

HH. **SPILLWAY CHANNEL -** A channel conveying water from the spillway crest to the river downstream.

II. **TOE OF DAM -** The junction of the downstream face of a dam with the ground surface. Also, referred to as downstream toe. For an embankment dam, the junction of the upstream face with ground surface is called the upstream toe.

JJ. **TOP OF DAM -** The elevation of the uppermost surface of a dam, usually a road or walkway, excluding any parapet wall, railings, etc.

KK. **TRAFFIC CONTROL POINT (TCP)** – Manned or unmanned posts established at critical road junctions for the purpose of controlling or limiting traffic. TCPs are used to control evacuation movement and also limit entry into the inundation area when an emergency situation requires it.

LL. **VOAD -** Voluntary Organizations Active in Disasters - collaboration of diverse organizations and citizens trained to meet community needs in the wake of a large-scale disaster.

VIII. EXERCISE AND TRAINING

The dam owner will advise and cooperate with the Cambria County EMA of any exercises scheduled, and coordinate with the Cambria County EMA to exercise all or portions of this EAP as part of the county's all-hazard exercise program schedule.

IX. PLAN MAINTENANCE AND DISTRIBUTION

A. This EAP will be reviewed every five years by the owner or the owner's engineer. During the five-year review:

1. The owner or the owner's engineer will conduct an on-site review of the flood (inundation) area for any increase in downstream development and revise the Inundation Map, if needed.
2. The owner's engineer will review and revise surveillance conditions as needed.
3. The owner will coordinate with Cambria County EMA if population increase or development within the inundation area could affect the

emergency response requirements. If so, a new or revised plan must be developed.

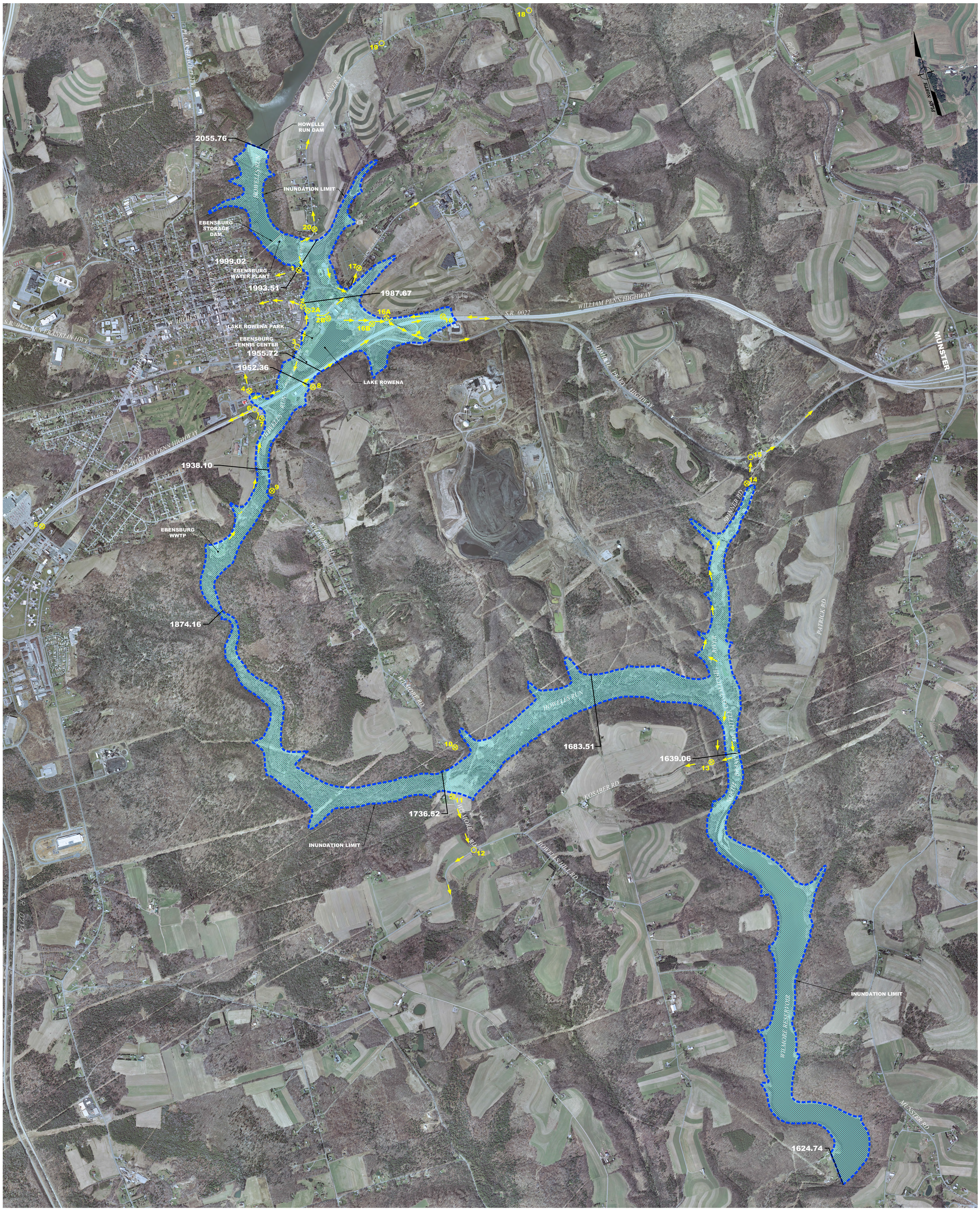
4. The owner will meet with and obtain concurrence from the Cambria County EMC.
5. The owner will submit 6 copies at a minimum of the revised plan to DEP for review and approval.

B. A copy of the approved EAP will be distributed by the dam owner to those emergency response agencies listed in Section IV. DEP, Division of Dam Safety will distribute a copy of the approved EAP to PEMA's Area Office, the affected county Emergency Management Agency(s) and PSAP/911 Center(s), the National Weather Service, and the DEP's Regional Office. Within 60 days, the dam owner will submit a letter certifying distribution of the approved EAP and posting of NOTICE(s) to the DEP, Division of Dam Safety.

ATTACHMENTS:

ATTACHMENT A INUNDATION MAP
ATTACHMENT B TRAFFIC CONTROL POINTS
ATTACHMENT C LOCATION MAP
ATTACHMENT D TELEPHONE ROSTER
ATTACHMENT E MEDIA ANNOUNCEMENT
ATTACHMENT F NOTICE

ATTACHMENT A
EBENSBURG HOWELLS RUN DAM
INUNDATION MAP



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F:/15-0017/EXHIBITS/HOWELLS-INDTN.DWG

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ENGINEER
16223-E

Stiffler, McGraw & associates, Inc.

Owner:
EBENSBURG BOROUGH
300 WEST HIGH STREET
EBENSBURG, PA. 15931

Project Name:
HOWELLS RUN DAM
DEP NUMBER D11-103

CAMBRIA TOWNSHIP
CAMBRIA COUNTY, PENNSYLVANIA

Sheet Title:

INUNDATION PLAN

PROJECT NO.	15-0017.103
DRAWN BY:	SEL
DESIGNED BY:	RMM
CHECKED BY:	DRS
SCALE:	GRAPHIC

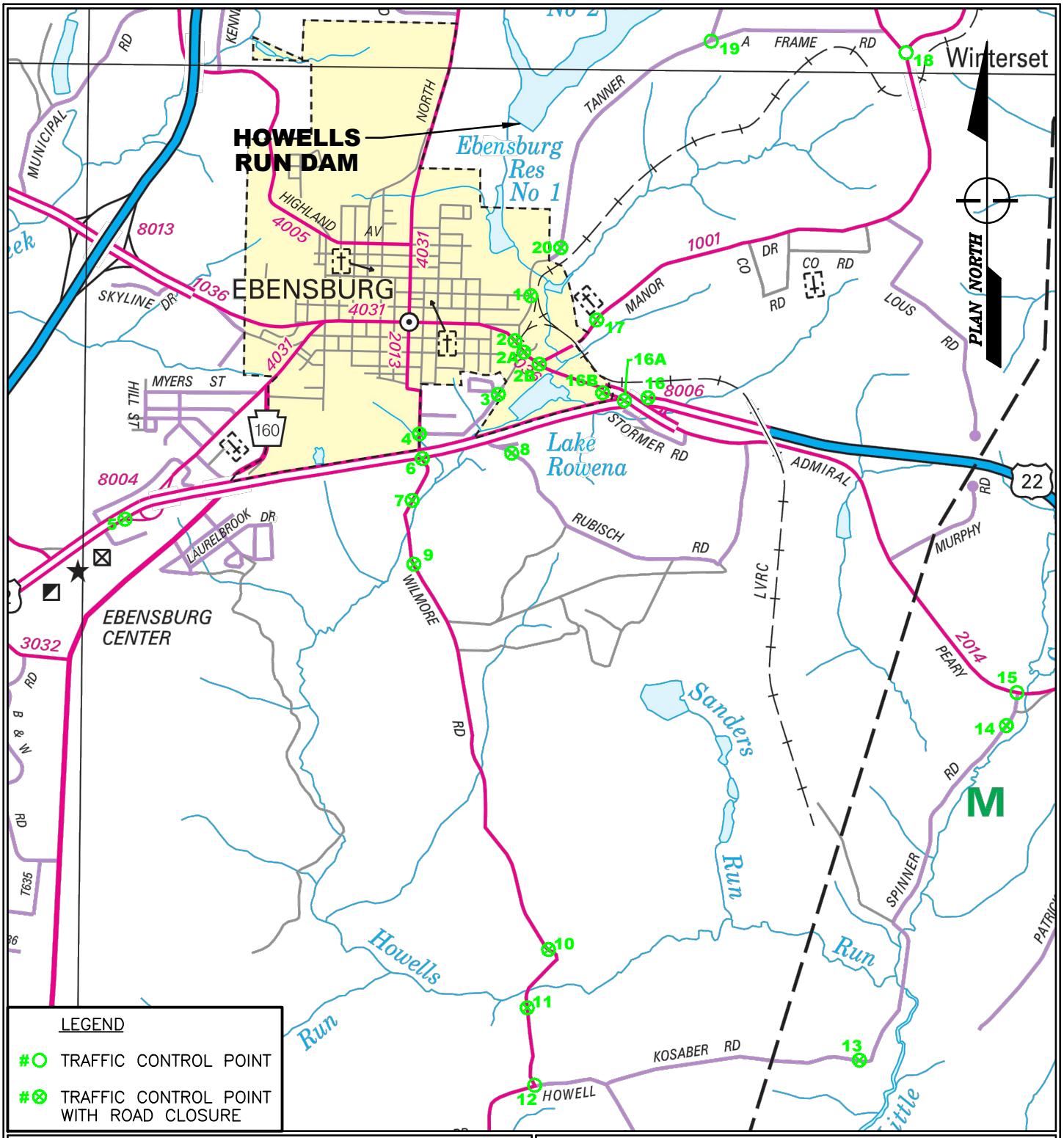
LEGEND

- EVAC ROUTE-DIRECTION OF TRAVEL
- TRAFFIC CONTROL POINT
- TRAFFIC CONTROL POINT WITH ROAD CLOSURE
- INUNDATION BOUNDARY (ESTIMATED)

GRAPHIC SCALE
800 0 400 800 1600
(IN FEET)

GENERAL NOTES:
THIS INUNDATION AREA MAP HAS BEEN PREPARED USING THE INUNDATION AREA MAP PREVIOUSLY DEVELOPED BY L. ROBERT KIMBALL & ASSOCIATES, INC., DATED 1/18/2005 & REVISED 7/22/2011 AND PROVIDED IN THE 2011 EBENSBURG STORAGE DAM EAP. THE DELINEATION OF THE INUNDATION AREA IS PRESUMED TO BE ACCURATE BUT HAS NOT BEEN CONFIRMED THROUGH RE-EVALUATION OF THE DAM FAILURE ANALYSIS PREPARED BY L. ROBERT KIMBALL. THE INUNDATION AREA BOUNDARY HAS BEEN REPLOTTED ON TO THIS PHOTO IMAGERY BASEMAP WHICH WAS DERIVED FROM PASDA IMAGERY MAP TILES AND PASDA CONTOUR DATA. INUNDATION AREA CROSS SECTION ELEVATIONS DEPICTED ON THE L. ROBERT KIMBALL INUNDATION AREA MAP WERE USED TO RECREATE THE INUNDATION BOUNDARY ON THIS MAP UPDATE.

ATTACHMENT B
TRAFFIC CONTROL POINTS
AND MAP



ATTACHMENT B1
SCALE: 1" = 3000'

EMERGENCY ACTION PLAN

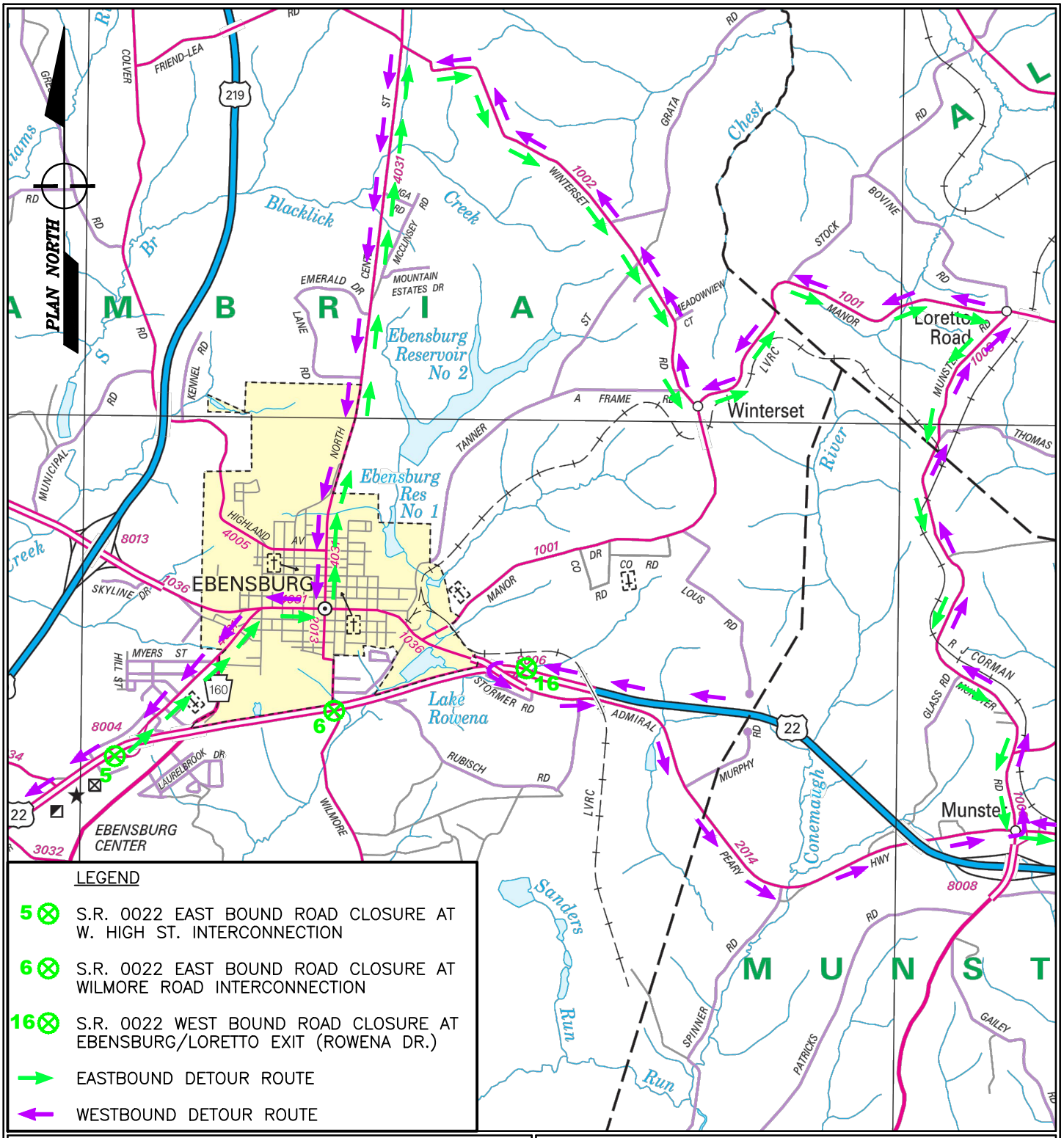
TRAFFIC CONTROL POINTS

REVISED DATE: AUGUST 2018

BOROUGH OF EBENSBURG

EBENSBURG HOWELLS RUN DAM
DEP NUMBER D11-103

CAMBRIA TOWNSHIP
CAMBRIA COUNTY, PA
PROJECT NO.: 15-0017.103



ATTACHMENT B2
SCALE: 1" = 4000'

EMERGENCY ACTION PLAN

S.R. 0022 CLOSURE
DETOUR ROUTE MAP

AUGUST 2, 2018

BOROUGH OF EBENSBURG

EBENSBURG HOWELLS RUN DAM
DEP NUMBER D11-103

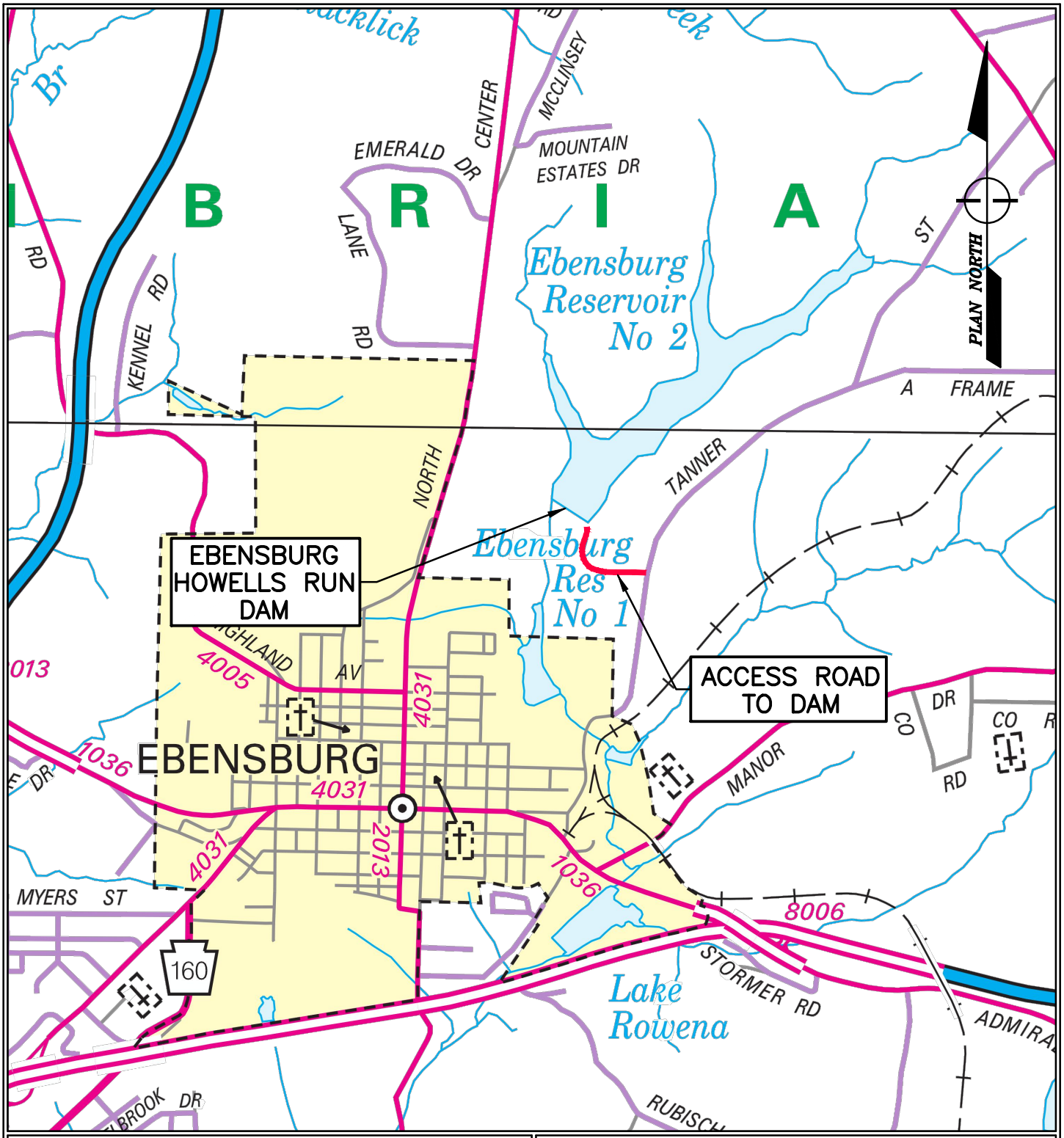
CAMBRIA TOWNSHIP
CAMBRIA COUNTY, PA
PROJECT NO.: 15-0017.103

TRAFFIC CONTROL POINTS		
TCP	**Road Closures and Access Control Points**	**Coverage Responsibility**
1	E. Crawford Street at Tanner St intersection (Ebensburg Borough), traffic control with road closure onto Tanner St northbound.	Ebensburg Borough Police/Dauntless Fire Dept
2	Rowena Dr (SR1036) southbound closure immediately past Tanner St intersection (Ebensburg Borough) – UNMANNED, BARRICADES ONLY	Ebensburg Borough Public Works
2A	Rowena Dr (SR1036) southbound lane closure immediately southeast of Lakeview Dr intersection (Ebensburg Borough) UNMANNED, BARRICADES ONLY	Ebensburg Borough Public Works
2B	Rowena Dr (SR1036) southbound lane closure immediately southeast of the Manor Dr (SR 1001) intersection (Ebensburg Borough)- UNMANNED - BARRICADES ONLY	Ebensburg Borough Public Works
3	Karen St (T629) at Barton St (T632) intersection, 125 feet west of Lakeview Rd (T685) intersection (Cambria Twp)	Cambria Twp Police/Dauntless Fire Co.
4	S. Center St southbound closure at Candlelight Dr/Lakeview Rd (T685) intersection area	Ebensburg Borough Police/Dauntless Fire Dept
5	SR 22 eastbound road closure with traffic control on west side of Ebensburg at Ebensburg Exit (Detour routing of eastbound traffic onto SR 4031 detour route).	PA State Police/Dauntless Fire Dept/Revloc Fire Dept
6	SR 22 at S. Center St/Wilmore Rd (SR 2013) intersection - traffic control with SR 22 eastbound road closure	PA State Police/Dauntless Fire Dept
7	Wilmore Rd (SR2013) southbound road closure 0.1 mile south of intersection of Wilmore Rd and SR22	Cambria Twp Police/Dauntless Fire Co.
8	Rubisch Rd (T447) northbound road closure at Summit Rd (Foster Wineland Inc.)	Cambria Twp Police/Dauntless Fire Co.
9	Wilmore Rd (SR2013) northbound road closure 0.1 mile south of first bridge crossing of Howells Run	Cambria Twp Police/Dauntless Fire Co.
10	Wilmore Rd (SR2013) southbound road closure 0.2 miles north of the 2nd bridge crossing of Howells Run immediately past St Vincent de Paul entrance	Cambria Twp Police/Dauntless Fire Co.
11	Wilmore Rd (SR2013) northbound road closure 250 feet (0.05 mile) south of the 2nd bridge crossing of Howells Run	Cambria Twp Police/Dauntless Fire Co.
12	Wilmore Road (SR2013) and Howell Hill Rd (T416) Intersection - traffic control	Cambria Twp Police/Dauntless Fire Co.
13	Kosaber Rd (T410) eastbound road closure 1.0 mile east of the intersection of Kosaber Rd and Howell Hill Rd (T416)	PA State Police/Cresson Fire Dept
14	Spinner Rd (T407) southbound closure 0.15 miles south of the intersection of Spinner Road and Admiral Peary Hwy (SR2014)	PA State Police/Cresson Fire Dept
15	Spinner Rd (T407) southbound closure at Admiral Peary Hwy (SR2014) with traffic control	PA State Police/Cresson Fire Dept
16	SR 22 westbound road closure on east side of Ebensburg at Ebensburg/Loretto Exit access ramp – UNMANNED, BAARRICADES ONLY	PENNDOT

TRAFFIC CONTROL POINTS		
TCP	**Road Closures and Access Control Points**	**Coverage Responsibility**
16A	SR 22 interchange at Admiral Peary Hwy (SR2014) and Rowena Dr (SR1036) - detour routing – UNMANNED, BARRICADES AND DETOUR SIGNAGE ONLY	PENNDOT
16B	Rowena Dr (SR2014) exit ramp closure onto SR 22 westbound lane – UNMANNED, BARRICADES ONLY	PENNDOT.
17	Manor Rd (SR1001) southwest bound road closure 0.3 miles northeast of Rowena Dr (SR 1036) intersection	Cambria Twp Police/Dauntless Fire Co.
18	Manor Rd (SR1001) and Winterset Rd (SR1002) – traffic control/detour routing	Cambria Twp Police/Dauntless Fire Co.
19	Tanner Street (T455) and A Frame Road Intersection (T465) – traffic control	Cambria Twp Police/Dauntless Fire Co.
20	Tanner Street (T455) southbound road closure 0.2 miles north of Crawford St intersection	Cambria Twp Police/Dauntless Fire Co.
See Inundation Map (Attachment A) and Traffic Control Points Map (Attachment B1) for Locations See Attachment B2 Map for SR 22 Detour Route around Ebensburg		

ATTACHMENT C
EBENSBURG HOWELLS RUN DAM
LOCATION MAP

From Rt 22 take the Ebensburg/Loretto Exit toward Ebensburg to Rowena Drive. Follow Rowena Drive westbound toward Ebensburg Borough for approximately 0.32 miles to the intersection of Tanner Street. Turn right onto Tanner Street and travel northbound on Tanner Street for 0.80 to the access road on the left. Turn left onto the access road and follow the access road for 0.25 miles to the Dam site.



ATTACHMENT C
SCALE: 1" = 2000'

EMERGENCY ACTION PLAN

EMERGENCY ACTION PLAN
LOCATION MAP

REVISED DATE: AUGUST, 2018

BOROUGH OF EBENSBURG

EBENSBURG HOWELLS RUN DAM
DEP NUMBER D11-103

CAMBRIA TOWNSHIP
CAMBRIA COUNTY, PA
PROJECT NO.: 15-0017.103

ATTACHMENT D
TELEPHONE ROSTER

EMERGENCY OPERATIONS ENTITY	CONTACT	24 Hr/EMERGENCY	NON-EMERGENCY
DAM FACILITY:			
DAM OWNER – Borough of Ebensburg	Doug Tusing, President	814-472-4260 (home) 814-244-6830 (cell)	814-472-8780 (Borough office)
DAM OPERATOR – Borough of Ebensburg	Jeff Evans, Public Works Director	814-244-1414 (cell)	814-472-7811 (Public Works) 814-472-8780 (Borough office)
EMERGENCY MANAGEMENT AGENCIES:			
Pennsylvania EMA (PEMA)	State CWWC 24 Hr Watch Desk	717-651-2001 800-424-7362	717-651-2001 800-424-7362
Cambria County EMA	Art Martynuska, Deputy Director/ Coordinator	9-1-1	814-525-0080 814-472-2072 (24 hr)
Cambria County 9-1-1 Communications Center	Robbin Melynk, Coordinator.	Contact through 911	800-281-1680 814-472-2500
Central Cambria EMA Zone	Gregg Sloan, Coordinator	Contact through 911	814-322-5960
Munster Township EMA	Steve Shuagis	Contact through 911	814-471-2787
Portage Township EMA	Raymond Lee	Contact through 911	814-736-3625
Summerhill Township EMA	George Fedore	Contact through 911	814-487-5331
PA DEP:			
DEP Southwest Regional Office		412-442-4000	412-442-4187
DEP Division of Dam Safety		717-787-4343 800-541-2050 717-805-3057	717-787-8568
FIRE and RESCUE SERVICES:			
Dauntless Fire Company	Mike Sheehan, Chief	Contact through 911	814-472-9281
Cresson Fire Department	Shawn McGonigle, Chief	Contact through 911	814-886-4485
Summerhill Township Volunteer Fire Company	George Fedore, Chief	Contact through 911	814-487-5177
Revloc Volunteer Fire Department	Brian Houghton, Chief	Contact through 911	814-472-7102

EMERGENCY OPERATIONS ENTITY	CONTACT	24 Hr/EMERGENCY	NON-EMERGENCY
POLICE SERVICES:			
Ebensburg Borough Police	Terry Wyland, Chief	Contact through 911	814-472-8930 814-472-2100
Cambria Township Police	Gary Makosy, Chief	Contact through 911	814-472-6040
Summerhill Township Police	Paul Bonfanti, Chief	Contact through 911	814-487-7314
Munster Township	Covered by PA State Police	Contact through 911	814-471-6500
Pennsylvania State Police – Ebensburg Barracks	Sgt. Michael A. Sbardella Communications Dept	814-471-6500	814-471-6500
AMBULANCE/EMERGENCY SERVICES:			
Ebensburg Area EMS	Barry Blake, Exec Director	Contact through 911	814-472-6700
Portage Area Ambulance Association	Terry Sloan	Contact through 911	814-436-3360
Forest Hills Ambulance Service	Eric Miller	Contact through 911	814-495-5107
HIGHWAY AND PUBLIC WORKS SERVICES:			
Ebensburg Dist 9-3 Maintenance Office	Maintenance Manager	Contact through 911	814-472-7100
Ebensburg Public Works Department	Jeff Evans (Public Works Director)	814-244-1414 (cell)	814-472-7811 (Public Works) 814-472-8780 (Borough office)
Cambria Township Public Works	Public Works Supervisor	Contact through 911	814-472-8810
AMERICAN RED CROSS			
PA Mountains Chapter – Disaster Services	Jayme Houck, Disaster Program Manager	814-262-3170, Option 1	814-944-6146, Ext. 1641 717-585-5728 (cell)
MUNICIPAL OFFICIALS:			
Ebensburg Borough	Daniel Penatzer, Borough Manager	814-659-3491	814-472-8780
Cambria Township Supervisors	Tim Bracken, Chairman	814-472-6040 (police)	814-472-8810
Munster Township Supervisors	Francis Hoover, Chairman	814-886-8809	814-886-5190

EMERGENCY OPERATIONS ENTITY	CONTACT	24 Hr/EMERGENCY	NON-EMERGENCY
Portage Township Supervisors	William Cooper, Chairman	814-421-2063	814-736-3372
Summerhill Township Supervisors	Darren Wilson, Chairman	814-525-1362	814-487-4147
Cambria County Commissioners	Thomas Chernisky, Chairman	Contact through 911	814-472-1600
HOSPITALS:			
Conemaugh Hospital	Emergency Room	Contact through 911	814-534-9000
SCHOOLS:			
Central Cambria School District Office	Jason Moore, Superintendent	Contact through 911	814-472-8870
Central Cambria High School Mass Care Center	Administrator	Contact through 911	814-472-8860
Forest Hills School District Office	Administrator	Contact through 911	814-487-7613
WEATHER SERVICE			
National Weather Service		814-235-7980	717-783-4999 814-231-2408 (State College)
MEDIA:	Contact		Phone/FAX
WTAJ TV-10	News Room		814-944-4545/ 814-946-4763
WJAC TV-6	News Room		800-662-6116/ 814-255-7600
WWCP Fox TV 8/ABC Channel 23	News Room		814-266-8088/ 814-266-8329
WHPA/WRDD/WNCC Radio	News Room		814-472-4060
WWGE/WKGE Radio	News Room		814-472-0888
Forever Broadcasting – Altoona Area Radio Stations WFGY, WALY, WWOT, WRKY, WFBG, WVFAM	News Director		814-941-9800/814-941-9800
Forever Broadcasting – Johnstown Area Radio Stations WFGI, WKYE, WYOT, WRKW, WNTJ, WNTW	News Director		814-255-4186/814-255-6145
WBXQ/WBRX	News Room		814 943-6112
Media Center (WCCZ-97.3 FM)			814-948-4653

ATTACHMENT E
MEDIA ANNOUNCEMENT

MEDIA ANNOUNCEMENT

EARLY WARNING MESSAGE:

The Cambria County Emergency Management Agency advises that, due to conditions at the Ebensburg Howells Run Dam located in Cambria Township just outside the northeast corner of Ebensburg Borough, the public should avoid the following areas downstream from the dam: areas along Howells Run from the dam breast southward to the Ebensburg Storage Dam and Jenks Dam located immediately north of the Borough Swimming Pool; areas around Howells Run along the eastern boundary of Ebensburg Borough to Lake Rowena, areas around Howells Run southward to its confluence with the North Branch of the Little Conemaugh River and the areas along the North Branch of the Little Conemaugh River south to Wilmore Reservoir. The public is also advised to avoid the roadway crossings of Howells Run at Tanner Street, Manor Drive, Rowena Drive in Ebensburg Borough, Rt 22 and Wilmore Road in Cambria Township and the crossing of the North Branch of the Little Conemaugh River at Spinner Road in Munster Township. Stay tuned for further information.

REPEAT PERIODICALLY

WARNING AND EVACUATION MESSAGE:

The Cambria County Emergency Management Agency is advising all residents living downstream of the Ebensburg Howells Run Dam located in Cambria Township just outside of the northeast corner of Ebensburg Borough to evacuate the area immediately. Evacuate the following areas downstream of the dam: areas along Howells Run from the dam breast southward to the Ebensburg Storage Dam and Jenks Dam located immediately north of the Borough Swimming Pool; areas around Howells Run along the eastern boundary of Ebensburg Borough to Lake Rowena; areas around Howells Run southward to its confluence with the North Branch of the Little Conemaugh River; and the areas along the North Branch of the Little Conemaugh River south to Wilmore Reservoir. Avoid the roadway crossings of Howells Run at Tanner Street, Manor Drive, Rowena Drive in Ebensburg Borough, Rt 22 and Wilmore Road in Cambria Township and the crossing of the North Branch of the Little Conemaugh River at Spinner Road in Munster Township. If you require shelter during this emergency you should report to (location of reception/mass care center to be determined by county EMC, American Red Cross or other VOAD at time of emergency).

REPEAT PERIODICALLY

INCIDENT RESOLVED - SAFE TO RETURN:

The Cambria County Emergency Management Agency is advising residents of the area downstream of the Ebensburg Howells Run Dam in Cambria Township that the problem at the dam has been resolved and that residents may return to their homes.

REPEAT PERIODICALLY

ATTACHMENT F
NOTICE

NOTICE

EBENSBURG HOWELLS RUN DAM HAS BEEN CATEGORIZED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION, DIVISION OF DAM SAFETY, AS A HIGH HAZARD DAM; THIS IS A DAM SO LOCATED AS TO ENDANGER POPULATED AREAS DOWNSTREAM BY ITS FAILURE.

AN EMERGENCY ACTION PLAN HAS BEEN DEVELOPED FOR

EBENSBURG HOWELLS RUN DAM

A COPY OF THIS PLAN, INCLUDING AN INUNDATION MAP NOTING AREAS IN

EBENSBURG BOROUGH AND CAMBRIA, MUNSTER AND SUMMERHILL TOWNSHIPS

SUBJECT TO FLOODING IN THE EVENT OF FAILURE, IS AVAILABLE FOR PUBLIC INSPECTION AT THE FOLLOWING LOCATIONS:

CAMBRIA COUNTY EMERGENCY
MANAGEMENT AGENCY OFFICE
401 CANDLELIGHT DRIVE, SUITE 100,
EBENSBURG PA 15931

EBENSBURG MUNICIPAL AUTHORITY
300 WEST HIGH STREET
EBENSBURG PA 15931

PORTAGE TOWNSHIP EMA
PORTAGE TOWNSHIP OFFICE
4109 PORTAGE STREET
PORTAGE PA 15946

EBENSBURG BOROUGH OFFICE
300 WEST HIGH STREET
EBENSBURG PA 15931

SUMMERHILL TOWNSHIP EMA
SUMMERHILL TOWNSHIP OFFICE
892 MAIN STREET
WILMORE PA 15962

CENTRAL CAMBRIA ZONE EMA
569 CAMBRIA AVENUE
REVLOC PA 15948

MUNSTER TOWNSHIP EMA
MUNSTER TOWNSHIP OFFICE
264 GAILY ROAD
LILY PA 15938

CAMBRIA TOWNSHIP OFFICE
184 MUNICIPAL ROAD
REVLOC PA 15948

This NOTICE is posted per Department of Environmental Protection's Chapter 105 Dam Safety and Waterway Management §105.134(d).