Document
Control No. ____

2024

Hudson River-Black River Regulating District

Emergency Action Plan

Old Forge Dam

Old Forge Dam – Class B Intermediate Hazard Dam
NYSDEC, Dam Safety Id. No. 140-2000
National Id. No. NY00315
Latitude 43˚ 42' 45.5", Longitude -74˚ 58' 09.7"
Vertical Datum: NAVD 1988

Project Location:

N.Y.S. Rt. 28, Main Street, Old Forge, NY, 13420, Herkimer County, Fulton Chain of Lakes, Middle Branch of the Moose River.

Potential Inundation Area:

Upstream along the shorelines of 1st, 2nd, 3rd, 4th and 5th Lakes and downstream along the Middle Branch of the Moose River in Herkimer, Oneida and Lewis Counties to Village of Lyons Falls where the Moose River joins the Black River.

Quick Reference:

How should this plan be implemented? – Part 1, Section D

Who are the key players and what do they do? – Part 1, Section E

Who should be called and in what order? – Part 1, Section A

If the dam breaks, which areas are threatened? – Part 1, Section G

Confidential
Critical Energy Infrastructure
Information (CEII)
Do Not Release

Emergency Action Plan (EAP)

Old Forge Dam

N.Y.S. Dam Id. No. 140-2000

Vertical Datum: NAVD 1988

Hudson River-Black River Regulating District
54 State Street, Suite 501
Albany, New York 12207

518-465-3491
hrao@hrbrrd.ny.gov

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HIGH FLOW CONDITION

FLOODING IS OCCURRING
NO DAM FAILURE

HIGH FLOW CONDITION – NO DAM FAILURE

Generally, the High Flow Condition should be used when there is no danger of dam failure, but reservoir and river flow conditions are such that flooding is expected to occur upstream and/or downstream of the dam. Non-Failure Emergency Conditions are more common than the emergency conditions associated with Dam Failures. Use of the EAP can provide an early warning to downstream areas during flood conditions or large spillway releases. Based upon the severity of the flooding, local site conditions, consultations with local emergency response agencies, and standard operating procedures used at the dam, the EAP may not need to be activated during a non-failure emergency condition. However, it may become necessary to fully activate the EAP if conditions escalate to levels agreed to beforehand by all involved participants. Therefore, an important application of the EAP is when there is a flood occurring on the river system, but there may be no apparent threat to the integrity of the dam.

Whenever a possible emergency situation has been identified by an observer or alarm and received by HR-BRRD personnel, the Chief Engineer will be notified. The Chief Engineer will determine the proper level of plan implementation.

EMERGENCY SITUATION - COMMUNICATION

High Flow Emergency Condition

1. This is ________________________, ____________________________with the Hudson River - Black
(Name) (Title)
River Regulating District.

2. A High Flow Emergency Condition has been identified for the Old Forge Dam, on First Lake, Herkimer County, Old Forge, Town of Webb, on the Middle Branch of the Moose River.

3. **Presently there is no danger of dam failure**; however, the Regulating District has made the following changes to the release from the Old Forge Dam. The Changes are as follows:________________________________
____
____
____
____
(Briefly describe situation)

4. The emergency situation was identified pat about ________________.
(hours)

5. We expect flooding of the flood-prone areas in the vicinity of the (river/creek).________________________
____
____
____
____

5a. If conditions worsen, flooding may occur.____
____
____
____
____

6. Current Emergency High Flow Conditions flow is ____________________, estimated at the Old Forge Dam.
(c.f.s.)

7. The estimated time of peak flood at the Old Forge Dam will be at _______________on______________.
(hours) (date)

8. The estimated peak flood at the Old Forge Dam will be ________________.
(c.f.s.)

9. When the Emergency condition becomes upgraded or downgraded, you will be notified by Regulating District Staff.

10. Refer to Part II, Appendix E, **Extreme Event Operation Plan & Notification Procedures** for a Table Summary of Reservoir Outflows, Operation Procedures, Probable Impacts and Actions Taken.

Emergency Action Summary Form/Log

NON-FAILURE CONDITION

NO DAM FAILURE
ADDITIONAL INVESTIGATION REQUIRED

NON-FAILURE CONDITION – NO DAM FAILURE, ADDITIONAL INVESTIGATION IS REQUIRED

The Non-Failure emergency level is appropriate for an event at a dam that will not, by itself, lead to a failure, but requires investigation and notification of internal and/or external personnel. Examples are (1) new seepage or leakage on the downstream side of the dam, (2) presence of unauthorized personnel at the dam, and (3) malfunction of a gate.

Some incidents, such as new seepage, may only require an internal response from the dam owner. Others, such as a gate malfunction, may lead to unexpected high releases that could pose a hazard to the downstream public and would require the notification of outside agencies.

EMERGENCY SITUATION - COMMUNICATION

Non-Failure Emergency Condition

1. This is ___________________________, ______________________________with the Hudson River – Black
   (Name) (Title)
   River Regulating District.

2. A Non-Failure Emergency Condition has been identified and confirmed by visual inspection at the Old Forge Dam, on First Lake, Herkimer County, Old Forge, Town of Webb, on the Middle Branch of the Moose River.

3. Failure has not occurred however, the Regulating District has made the following changes to the release from the Old Forge Dam in order to mitigate failure. The changes are as follows,__________________________________
____
____
____
(Briefly describe situation)

4. The emergency situation was identified at about ____________ hours.

5. We expect flooding of the flood-prone areas in the vicinity of the (river/creek).________________________
____
____
____
____

5a. If conditions worsen, flooding may occur.____
____
____
____

6. Current Non-Failure Emergency Conditions flow is _____________________, estimated at the Old Forge Dam.
   (c.f.s.)

7. The estimated time of peak flood at the Old Forge Dam will be at _________________on______________.
   (hours) (date)

8. The estimated peak flood at the Old Forge Dam will be _________________.
   (c.f.s.)

9. When the Emergency condition becomes upgraded or downgraded, you will be notified by Regulating District Staff.

10. Refer to **Extreme Event Operation Plan & Notification Procedures** for a Table Summary of Reservoir Outflows, Operation Procedures, Probable Impacts and Actions Taken.

Emergency Action Summary Form/Log

POTENTIAL-FAILURE CONDITION

CONDTIONS ARE DEVELOPING THAT COULD LEAD TO DAM FAILURE

POTENTIAL -FAILURE CONDITION –ADDITIONAL INVESTIGATION IS REQUIRED

The Potential Failure emergency level indicates that conditions are developing at the dam that could lead to a dam failure. Some examples are (1) rising reservoir levels that are approaching the top of the non-overflow section of the dam, (2) transverse cracking of an embankment, and (3) a verified bomb threat. Potential Failure should convey that time is available for analyses, decisions, and actions before the dam could fail. A failure may occur, but predetermined response actions may moderate or alleviate failure.

The Regulating District will assess the situation and determine the appropriate Condition/warning level. Based on the Regulating District's assessment the emergency management authorities will be placed on alert and it is up to the emergency management authorities to determine the appropriate course of action.

If it appears that a situation may take days or weeks before it could develop into a failure situation, the local emergency management authorities may decide on one course of action. Periodic status report updates from the Regulating District are important because when it appears that the situation is continuing to worsen at the dam, in spite of the actions being taken to moderate or alleviate failure, the local emergency management authorities may decide to change their course of action. Depending on the location of downstream residents with respect to the dam and the estimated warning time available, the emergency management authorities/evacuating authorities should consider the prudence of early evacuation, or heightened awareness, of certain downstream areas until the emergency has passed.

To assist the emergency management authorities/evacuating authorities in selecting their appropriate course of action and to provide a proper transition from “potential failure” level to “imminent failure” level, the Regulating District will clearly communicate their assessment of the situation to the emergency management authorities. The Regulating District will place the emergency management authorities on an initial alert and provide periodic updates on the situation as it develops so that the emergency management authorities can assess when they should implement their evacuation procedures.

EMERGENCY SITUATION - COMMUNICATION

Potential-Failure Condition

1. This is ___________________________, ______________________________with the Hudson River – Black
   (Name) (Title)
   River Regulating District.

2. A Potential-Failure Emergency Condition has been identified and confirmed by visual inspection at Old Forge Dam, on First Lake, Herkimer County, Old Forge, Town of Webb, on the Middle Branch of the Moose River.

3. Failure has not occurred however, the Regulating District has made the following changes to the release from the Old Forge Dam in order to mitigate failure. The changes are as follows,___________________________________
____
____
____
(Briefly describe situation)

4. The emergency situation was identified at about ____________ hours.

5. We expect flooding of the flood-prone areas in the vicinity of the (river/creek).________________________
____
____
____
____

5a. If conditions worsen, flooding may occur.____
____
____
____

6. Current Non-Failure Emergency Conditions flow is _____________________, estimated at the Old Forge Dam.
   (c.f.s.)

7. The estimated time of peak flood at the Old Forge Dam will be at _________________on______________.
   (hours) (date)

8. The estimated peak flood at the Old Forge Dam will be _________________.
   (c.f.s.)

9. When the Emergency condition becomes upgraded or downgraded, you will be notified by Regulating District Staff.

10. Refer to **Extreme Event Operation Plan & Notification Procedures** for a Table Summary of Reservoir Outflows, Operation Procedures, Probable Impacts and Actions Taken.

11. Refer to **Inundation Maps and Breach Analysis Summary** for location of Inundation Areas and timing of potential flood along the Middle Branch of the Moose River down to McKeever.

Emergency Action Summary Form/Log

IMMINENT-FAILURE CONDITION

THE DAM HAS FAILED OR IS ABOUT TO FAIL

IMMINENT-FAILURE CONDITION –DAM HAS FAILED OR IS ABOUT TO FAIL

The Imminent Failure emergency level indicates that time has run out, and the dam has failed, is failing, or is about to fail. Imminent Failure typically involves a continuing and progressive loss of material from the dam. It is not usually possible to determine how long a complete breach of a dam will take. Therefore, once a decision is made that there is no time to prevent failure, the Imminent Failure warning must be issued. For purposes of evacuation, emergency management authorities should assume the worst-case condition that failure has already occurred.

Notification and Communication

After the emergency level at the dam has been determined, notifications are made in accordance with the EAP's Notification Flowchart(s) located at the end of this section.

When developing notification and communication procedures, the Regulating District will open a conference call line for emergency management authorities to call in for live updates. All parties must understand that the formal declaration of public emergency by emergency management authorities can be a very difficult decision. During this step, the Regulating District will provide available information that will assist in that decision. An early decision and declaration are critical to maximizing available response time.

To assist with Notification and Communication, see pre-scripted messages/Communication to the right.

If it appears that the situation is continuing to deteriorate despite actions being taken to moderate or alleviate failure, local authorities may decide to change their course of action. Depending on the location of downstream residents and the estimated time required to warn them, the evacuating authorities may consider early evacuation or continued warnings until the emergency has passed.

Emergency Actions

After the initial notifications have been made, the Regulating District will act to save the dam and minimize impacts to life, property, and the environment. During this step, there is a continuous process of taking actions, assessing the status of the situation, and keeping others informed through communication channels established during the initial notifications. The EAP may go through multiple emergency levels as the situation improves or deteriorates.

Refer to **Extreme Event Operation Plan & Notification Procedures** for a Table Summary of Reservoir Outflows, Operation Procedures, Probable Impacts and Actions Taken. Refer to **Inundation Maps and Breach Analysis Summary** for location of Inundation Areas and timing of potential flood along the Sacandaga and Hudson Rivers.

During an incident, safety and security measures should be implemented to secure the affected operational areas at the dam to protect operations personnel and the public, and permit an effective performance of emergency response actions.

Termination and Follow-up

The Chief Engineer or Regulating District Staff will notify Emergency Responders that the condition of the dam has been stabilized. Government officials are responsible for declaring an end to the public emergency response.

Following the termination of an incident, the Regulating District will conduct an After-Action Review of the Emergency Situation, Events and Conditions.

EMERGENCY SITUATION - COMMUNICATION

Imminent-Failure Emergency Condition

1. This is ________________________, ___________________________with the Hudson River – Black
   (Name) (Title)
   River Regulating District.

2. An Imminent-Failure Emergency Condition has been identified and confirmed by visual inspection at Old Forge Dam, on First Lake, Herkimer County, Old Forge, Town of Webb, on the Middle Branch of the Moose River.

3. Failure (has occurred/is imminent) due to ____
   ____
   ____
   ____
   (Briefly describe situation)

4. The emergency situation was identified at about ________________.
   (hours)

5. We expect flooding of the flood-prone areas in the vicinity of the (river/creek).______________________
   ____
   ____
   ____
   ____

5a. If conditions worsen, flooding may occur.____
   ____
   ____

6. Current Emergency Conditions A flow is ____________________, estimated at the Old Forge Dam.
   (c.f.s.)

7. The estimated time of peak flood at the Old Forge Dam will be at _______________on_______________.
   (hours) (date)

8. The estimated peak flood at the Old Forge Dam will be ________________.
   (c.f.s.)

9. When the Emergency condition becomes downgraded, you will be notified by the Regulating District Staff.

10. Refer to **Inundation Maps and Breach Analysis Summary** for location of Inundation Areas and timing of potential flood along the shoreline of Fifth and Fourth Lakes.

Emergency Action Summary Form/Log

Notification Flow Chart

Confirmation of Emergency Condition
"First On - Site"

"First On - Site"
(Visual Inspection / Observation)
- **Verify Emergency Condition**

In absence of Chief Engineer,
Operations Engineer will become the primary contact.

HR-BRRD Operations Engineer office 518-465-3491
Michael Mosher cell 518-366-8959
(Perform call out notification per Operations Engineer Flow Chart.)

HR-BRRD Chief Engineer
Robert Foltan office 518-465-3491
mobile 518-461-6927
home 518-439-3486
(Perform call out notification per Chief Engineer Flow Chart.)

HR-BRRD Black River Area Administrator
Watertown Office 315-788-5440
Albany Office 518-465-3491
(Perform call out notification per Administrator Flow Chart.)

HR-BRRD Executive Director
John Callaghan office 518-465-3491
cell 518-590-4785
(Provide updates as available)

Director of Administrative Services
Stephanie Ruzycky office 518-661-5535
cell 518-848-4262
home 518-883-6238

HR-BRRD Staff
Establish Communication Center
Control Access to Dam
Perform Emergency Operations/Measures
(Perform call out notification per Staff Flow Chart.)

Communication with State Agencies
Communication with Public & News Media

Activate Communication Systems

In absence of Area Administrator,
Executive Director will fill in as Area Administrator.

HR-BRRD Executive Director
John Callaghan office 518-465-3491
mobile 518-590-4785
(Perform call out notification per Operations Engineer Flow Chart.)

HR-BRRD Available Staff

Hudson River Staff

Matt Ginter, Operations Manager	cell	518-332-5545
Thomas Baker, Engineering Assistant	cell	315-842-0438
Eric Johnson, Senior Plant Operator	cell	518-848-2651
Stephanie Porter, Administrative Assistant	Sacandaga Field Office	518-661-5535

Black River Staff

Mike Dicob, Black River Area Superintendent	cell	315-778-9883
Josh Rice, Plant Operator	cell	315-286-7350
Megan Cole, Administrative Assistant	Watertown Office	315-788-5440
Kimberly Scott, Sr. Administrative Assistant	Watertown Office	315-788-5440

(Color Print to 11 x 17 inch paper, Landscape Orientation, Single Sided, Three Hole Punch on Left Margin, Fold Twice Beginning at Center.)

Notification Flow Chart

Emergency Condition
Old Forge Dam

Observer

HR-BRRD Chief Engineer
Robert Foltan

office	518-465-3491
mobile	518-461-6927
home	518-439-3486

(Conference)

Internal Conference Call [Chief Engineer & HR-BRRD Staff]
(Review Outline for Emergency Notification)
- **HR-BRRD Staff assists with notifications**

Confirmation of Emergency Conditions
Visual Inspection/Observation

Mike Dicob, Black River Area Superintendent	cell	315-778-9883
Josh Rice, Plant Operator	cell	315-286-7350
Herkimer County 911 Center	(24 hrs.)	315-866-0974

Old Forge Dam is in Herkimer County.

1

Herkimer County Emergency Services
Herkimer County 911 Center (24 hrs.) 315-866-0974
Emergency Dispatcher
Herkimer County Office of Emergency Services Dispatches for the Towns of Webb, Inlet, Old Forge and Eagle Bay

2

Oneida County Office of Emergency Services
Emergency Dispatcher (24 hrs.) 315-527-9521

3

Lewis County 911 Dispatch Center
Emergency Dispatcher (24 hrs.) 315-376-3511

4

National Weather Service

		Albany Weather Forecast Center	800-342-4511
Lead Forecaster	Britt Westergard	Albany Office	518-626-7572
Program Mngr.	Kirk Appfel	Buffalo Office	716-565-9404

5

County Emergency Manager's Conference Call

Legend:
- **Numbers** above indicate call sequence.

(Color Print to 11 x 17 inch paper, Landscape Orientation, Single Sided, Three Hole Punch on Left Margin, Fold Twice Beginning at Center.)

Notification Flow Chart

HR-BRRD Operations Engineer office 518-465-3491
Michael Mosher cell 518-366-8959

(Conference)

Internal Conference Call [Chief Engineer & HR-BRRD Staff]
(Review Outline for Emergency Notification)
- **HR-BRRD Staff assists with notifications**

1

National Grid Call Center
Shift Supervisor (24 hrs.) 315-460-2110
(24 hrs.) 315-460-2130

2

New York State Office of Emergency Management
- NYS Watch Center 518-292-2200
Emergency Dispatch Office Albany Campus

3

American Red Cross
Disaster Services
(24 hrs.) 800-831-0927 x 1

4

NYS DEC Dam Safety
Dam Safety (24-hr/emergency) 518-486-4326
office 518-402-8185
cell 518-852-0415

Legend:
- **Numbers** above indicate call sequence.

(Color Print to 11 x 17 inch paper, Landscape Orientation, Single Sided, Three Hole Punch on Left Margin, Fold Twice Beginning at Center.)

Notification Flow Chart

HR-BRRD Black River Area Administrator

HR-BRRD Administrator

In absence of Area Administrator,
Executive Director will fill in as Area Administrator.

HR-BRRD Executive Director	Sacandaga Field Office	518-661-5535
John Callaghan	Watertown Office	315-788-5440
	cell	518-590-4785

(Conference)

Internal Conference Call [Chief Engineer & HR-BRRD Staff]
(Review Outline for Emergency Notification)
- **HR-BRRD Staff assists with notifications**

1

HR-BRRD Available Staff

Black River Staff		
Mike Dicob, Superintendent	cell	315-778-9883
Josh Rice, Plant Operator	cell	315-369-8184
Megan Cole, Administrative Assistant	Watertown Office	315-788-5440
Kimberly Scott, Sr. Administrative Assistant	Watertown Office	315-788-5440
Hudson River Staff		
Matt Ginter, Operations Manager	cell	518-332-5545
Thomas Baker, Engineering Assistant	cell	315-842-0438
Eric Johnson, Senior Plant Operator	cell	518-848-2651
Stephanie Ruzycky, Director of Administrative Service	cell	518-848-4262
Stephanie Porter, Administrative Assistant	Sacandaga Field Office	518-661-5535

Legend:
- **Numbers** above indicate call sequence.

(Color Print to 11 x 17 inch paper, Landscape Orientation, Single Sided, Three Hole Punch on Left Margin, Fold Twice Beginning at Center.)

Notification Flow Chart

Herkimer County Emergency Services
Herkimer County 911 Center (24 hrs.) 315-866-0974
Emergency Dispatcher
Herkimer County Office of Emergency Services Dispatches for the Towns of Webb, Inlet, Old Forge and Eagle Bay

(Conference)

Emergency Manager's Conference Call
(Conference telephone line will be established for live updates.)
- **HR-BRRD Staff assists with updates**

1
Town of Webb Police
Police Chief Ronald Johnston (24 hrs.) 315-866-0974
office 315-369-6515

2
Old Forge Fire Department
Fire Chief 315-369-3424

3
New York State Police
Troop D H.Q. (24 hrs.) 315-366-6000

4
Town of Webb School
Admin to Superintendent Diane Kull office 315-369-3222
other 315-369-2147

5
Town of Webb Professional Building Health Center
Laura Cooper (24 hrs.) 315-369-6619

Legend:
- **Numbers** above indicate call sequence.

(Color Print to 11 x 17 inch paper, Landscape Orientation, Single Sided, Three Hole Punch on Left Margin, Fold Twice Beginning at Center.)

Notification Flow Chart

Oneida County Office of Emergency Services
Emergency Dispatcher 315-880-0300

(Conference)

Emergency Manager's Conference Call
(Conference telephone line will be established for live updates.)
- **HR-BRRD Staff assists with updates**

1

Oneida County Office of Emergency Services

Director	office	315-765-2527
	24 hour	315-273-9373

2

Oneida County Sheriff's Department

Sheriff	office	315-765-2748

Legend:
- **Numbers** above indicate call sequence.

(Color Print to 11 x 17 inch paper, Landscape Orientation, Single Sided, Three Hole Punch on Left Margin, Fold Twice Beginning at Center.)

Notification Flow Chart

Lewis County

Lewis County 911 Dispatch Center
Emergency Dispatcher (24-7) 315-376-3511

(Conference)

Emergency Manager's Conference Call
(Conference telephone line will be established for live updates.)
- **HR-BRRD Staff assists with updates**

1

Lewis County Emergency Services
Robert Mackenzie Emergency Manager office 315-376-5305
mobile 315-771-6196

2

Lewis County
Ryan Piche County Manager office 315-376-5354

Legend:
- **Numbers** above indicate call sequence.

(Color Print to 11 x 17 inch paper, Landscape Orientation, Single Sided, Three Hole Punch on Left Margin, Fold Twice Beginning at Center.)

Part I, Section B

Statement of Purpose

Statement of Purpose

This Emergency Action Plan provides procedures designed to identify unusual and unlikely conditions which may endanger the Hudson River - Black River Regulating District (Regulating District) facilities, or facilities downstream of the Old Forge Dam. Responsibilities of the Regulating District Staff and other organizations are defined within the Plan and include mitigative actions and notification procedures for emergency responders during an impending or actual failure of the Dam or associate structures.

This plan may also be used to identify flood areas during periods of extreme precipitation and includes the current contact information for appropriate personnel in order to maximize the time of emergency response or evacuation.

Part I, Section C

Project Description

&

Location Map

Project Description

Old Forge Dam

Old Forge Dam is owned and operated by the Hudson River - Black River Regulating District (HR-BRRD), located in the on the southwestern end of First Lake, just off NYS Route 28, Main Street, Old Forge, Town of Webb, Herkimer County, New York.

The Reservoir impounded by the Old Forge Dam is downstream of Sixth Lake Dam and includes Fifth Lake, Fourth Lake, Third Lake, Second Lake and First Lake, which are part of the Fulton Chain of Lakes on the Middle Branch of the Moose River a tributary to the Black River located entirely within the boundaries of New York's Adirondack State Park.

See project location maps; Figures 1-1, 1-2, 1-3 and 2-2, June 2014 at the end of this section for location of Old Forge Dam and Reservoir.

Physical Composition

The Old Forge Dam, built in 1905 consists of the north retaining wall, spillway, outlet structure, and south retaining wall and reservoir. See Part II, Section G, Project Drawings M-1309 and M-1310 for a general layout of the dam.

North Retaining Wall

The north retaining wall is constructed of reinforced concrete, founded on rock, has a top elevation of 1,709.07 ft., N.A.V.D. 1988 and is approximately 11 feet tall at the deepest section. The top of this structure includes steel pipe guardrails to limit access. Upstream of the retaining wall is a public dock located along the shoreline.

Spillway

The broad crested spillway is constructed of reinforced concrete, founded on rock and has a crest elevation of 1,706.07 ft., N.A.V.D. 1988. The spillway is 36 feet long and includes 1 foot tall removable wood flashboards for a top elevation of 1,707.07 ft., N.A.V.D. 1988. The north end of the spillway abuts the north retaining wall. The south end of the spillway abuts the outlet structure.

Outlet Structure

The outlet structure is constructed of reinforced concrete, founded on rock, has a top elevation of 1,709.07 ft., N.A.V.D. 1988 and supports the gate house. The gate house is constructed of wood and houses the gate controls, data collection & monitoring equipment and telephone. The outlet structure and gate house include two 48 inch wide by 48 inch tall steel sluice gates which are operated by electric motors and can also be operated manually. The inlets to the sluice gates are protected by steel grating type trash racks.

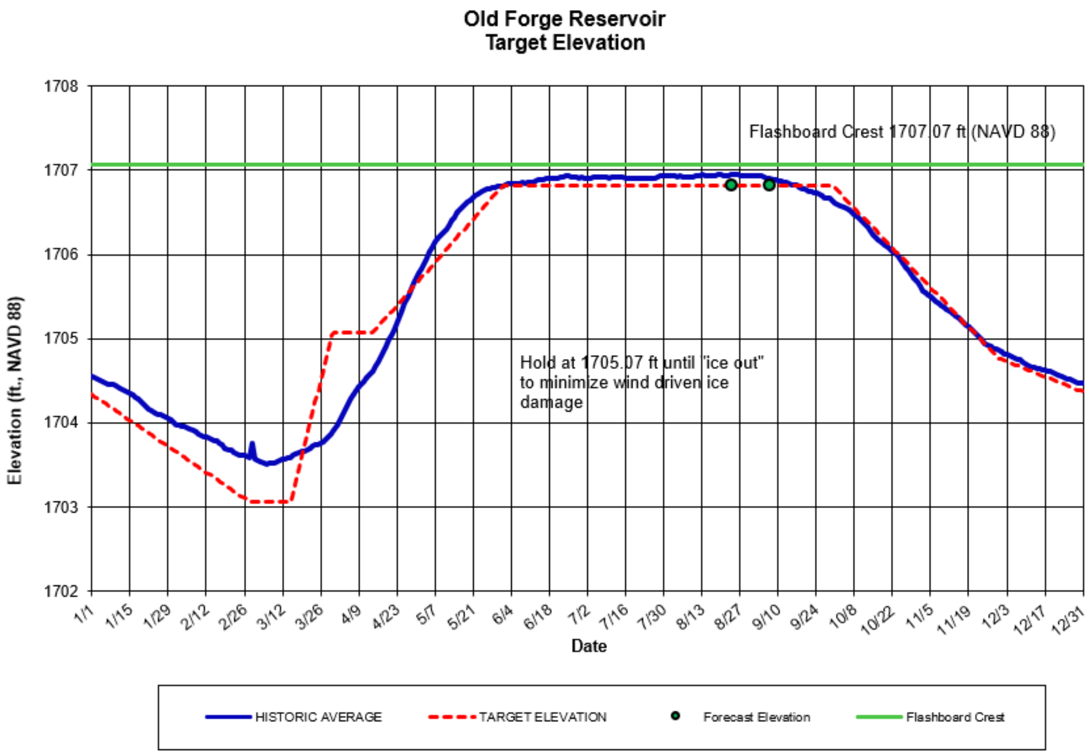
South Retaining Wall

The south retaining wall structure is constructed of reinforced concrete, founded on rock, has a top elevation of 1,709.07 ft., N.A.V.D. 1988, and is approximately 12 feet tall at the deepest section. This structure abuts the south end of the outlet structure, is approximately 30 feet long and includes steel pipe guardrails to limit access.

<u>Reservoir (Fifth Lake – First Lake)</u>

A description of the reservoir impoundment is as follows:

Reservoir Storage at 1,707.97 ft., N.A.V.D. 1988	1.015 billion cubic feet
Reservoir Storage at 1,707.07 ft., N.A.V.D. 1988	0.895 billion cubic feet
Reservoir Storage at 1,706.07 ft., N.A.V.D. 1988	0.757 billion cubic feet
Reservoir Storage at 1,699.47 ft., N.A.V.D. 1988	0.63 million cubic feet
Top of Dam	1,709.07 ft., N.A.V.D. 1988
Spillway Elevation (with Flashboards)	1,707.07 ft., N.A.V.D. 1988
Bottom of Gates (Invert Elev.)	1,696.87 ft., N.A.V.D. 1988
Dam Height	10 ft.
Normal Reservoir Elev. Summer	1,706.77 ft., N.A.V.D. 1988
Normal Reservoir Elev. Winter	1,703.57 ft., N.A.V.D. 1988
Average Summer Release	40 c.f.s.
Estimated Maximum Release without overtopping	800 c.f.s. below 1,709.07 ft., N.A.V.D. 1988
Maximum Reservoir Depth	30 feet
Reservoir Surface Area (1,706.77 ft., N.A.V.D. 1988)	3,100 acres



Project purpose is for river/reservoir regulation and recreation.

NON PROJECT "Downstream Facilities"

Structures, businesses, homes and facilities located along the Middle Branch of the Moose River, Moose River and Black River downstream of **Old Forge Dam**:

Town of Webb Snowmobile and Hiking Trail Bridge

The Town of Webb Snowmobile and Hiking Trail Bridge is a covered wooden bridge located in Old Forge, Town of Webb, Herkimer County approximately 80 feet downstream of the Old Forge Dam used for recreational purposes including snowmobiling, hiking and biking along the Old Forge trail system maintained by the Town of Webb.

This bridge is not overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Main Street, NYS Route 28 Bridge

The Main Street, NYS Rt. 28 Bridge is a steel beam with concrete deck bridge located in Old Forge, Town of Webb, Herkimer County approximately 120 feet downstream of the Old Forge Dam used for automotive traffic along New York State Route 28.

This bridge is not overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

The American Legion and Town of Webb Police Department

The American Legion and Town of Webb Police Department, 250 feet downstream of the Old Forge Dam become flooded during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Homes and Businesses along the Moose River

Homes and Businesses along the Middle Branch of the Moose River in the hamlets of Old Forge and Thendara, Herkimer County should be monitored as flood limits are close to buildings on riverbanks as shown on Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Main Street, NYS Route 28 Bridge

The Main Street, NYS Rt. 28 Bridge is a steel beam with concrete deck bridge located in the hamlet of Thendara, town of Webb, Herkimer County, approximately 1.1 river miles downstream of Old Forge Dam.

This bridge is not overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Thendara Snowmobile and Hiking Trail Bridge

Thendara Snowmobile and Hiking Trail Bridge is a steel truss bridge located approximately 1.3 river miles downstream of Old Forge Dam in the hamlet of Thendara, used for recreational purposes and is maintained by the Town of Webb.

This bridge is overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Green Bridge

The Green Bridge in Thendara is a steel beam with concrete deck bridge located approximately 2.7 river miles downstream of Old Forge Dam in hamlet of Thendara.

This bridge is not overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Thendara Dam, Federal ID NY01631

Thendara Dam in Thendara, Herkimer County, owned and operated by the Town of Webb is a concrete labyrinth spillway and dam located approximately 2.7 river miles downstream of Old Forge Dam used for river regulation and recreation purposes.

This dam is a popular location/destination for canoeing and fishing.

This dam is overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Adirondack (ADK) Railroad

The ADK Railroad is a railway system operating from Railroad Stations and stops located in Utica, Otter Lake, Thendara, Big Moose, and Tupper Lake, NY for recreational travel including scenic rides, holiday travel and dinner events.

The ADK Railroad includes railroad tracks and (3) bridges along the Moose River in Herkimer County.

Two short sections of railway tracks are inundated during the Sunny Day and Stormy Day dam failures of the Old Forge Dam at approximately 3.9 and 4.1 river miles downstream of the Old Forge Dam and 1.0 and 1.2 miles south of Thendara.

ADK Railroad Bridge 1

The ADK Railroad Bridge is a steel truss bridge located near Minnehaha, town of Webb, Herkimer County, approximately 9 river miles downstream of Old Forge Dam used for scenic train traffic between Utica and Old Forge.

This bridge is not overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

ADK Railroad Bridge 2

The ADK Railroad Bridge is a steel truss bridge located near Minnehaha, north of Nelson Lake, town of Webb, Herkimer County approximately 10 river miles downstream of Old Forge Dam.

This bridge is not overtopped during a Sunny Day and Stormy Day dam failures of the Old Forge Dam.

Confluence; Middle Branch of Moose River with the Moose River

The confluence of Middle Branch of Middle Branch of Moose River with the Moose River at McKeever is located approximately 12.5 river miles downstream of Old Forge Dam, Herkimer County.

River flows from Sunny Day and Stormy Day dam failures of the Old Forge Dam occurring downstream of confluence of Middle Branch of Moose River with the Moose River have an incremental rise of less than 2 feet, **no structures, facilities, businesses or homes are overtopped below the confluence.**

River flows should be monitored.

ADK Railroad Bridge 3

The Railroad Bridge is a steel truss bridge located in the hamlet of McKeever, town of Webb, Herkimer County approximately 13.5 river miles downstream of Old Forge Dam.

NYS Route 28 Bridge

The NYS Rt. 28 Bridge is a steel beam with concrete deck bridge located in the hamlet of McKeever, town of Webb, Herkimer County approximately 14 river miles downstream of Old Forge Dam.

Moose River Road Extension Bridge

The Moose River Road Extension Bridge is a steel truss with steel deck bridge located Lewis County approximately 20.1 river miles downstream of Old Forge Dam.

This is a popular location/destination for hiking, fishing and canoeing.

Fowlerville Road Bridge

The Fowlerville Road Bridge is a steel deck bridge located Lewis County approximately 25 river miles downstream of Old Forge Dam.

This is a popular location/destination for hiking, fishing and canoeing.

Twin Rivers Paper Company

The Twin Rivers Paper Company is a manufacturing company located adjacent to the Moose River in Lyons Falls, Lewis County approximately 27.5 river miles downstream of Old Forge Dam and includes an intake structure, spillway and dam. The facility is used for the manufacture of specialty papers.

Lowdale Road Bridge

The Lowdale Road Bridge is an abandoned bridge located in Lyons Falls, Lewis County approximately 27.5 river miles downstream of Old Forge Dam. The Lowdale Road crosses the dam owned by the Twin River Paper Company.

The Lowdale Road Bridge is removed, and road is closed with barricades placed on the Twin Rivers Paper Company dam at the south and north end of dam to prevent traffic from crossing the dam and removed bridge.

Ager Falls Dam

The Ager Falls Dam is an abandoned sawmill constructed in 1871 on the south shore of the Moose River located in Lyons Falls, Lewis County approximately 28 river miles downstream of Old Forge Dam. The site includes the foundations for the mill and home, a picnic area, spillway and canoe launch.

This is a popular location/destination for kayaking, fishing and picnicking. This site is currently closed to the public by Lewis County Sheriff's department.

Kosterville Hydroelectric Facility, P-2548

The Kosterville Hydroelectric Facility owned by Northbrook Lyons Falls LLC, is located in Lyons Falls, Lewis County approximately 29.0 river miles downstream of Old Forge Dam located adjacent to the Moose River, includes an intake structure, spillway, powerhouse and dam.

Shibley Road Bridge

The Shibley Road Bridge, Lewis County is a steel deck bridge located approximately 29.5 river miles downstream of Old Forge Dam.

Gouldtown Hydroelectric Facility, P-2548

The Gouldtown Hydroelectric Facility owned by Northbrook Lyons Falls LLC, is located in Lyons Falls, Lewis County approximately 29.6 river miles downstream of Old Forge Dam located adjacent to the Moose River and includes an intake structure, spillway, short penstock, powerhouse, dam and Gould's Mill.

Confluence; Moose River with Black River Black River

Confluence of Moose River with Black River at Lyons Falls, Lewis County approximately 30.8 river miles downstream of Old Forge Dam.

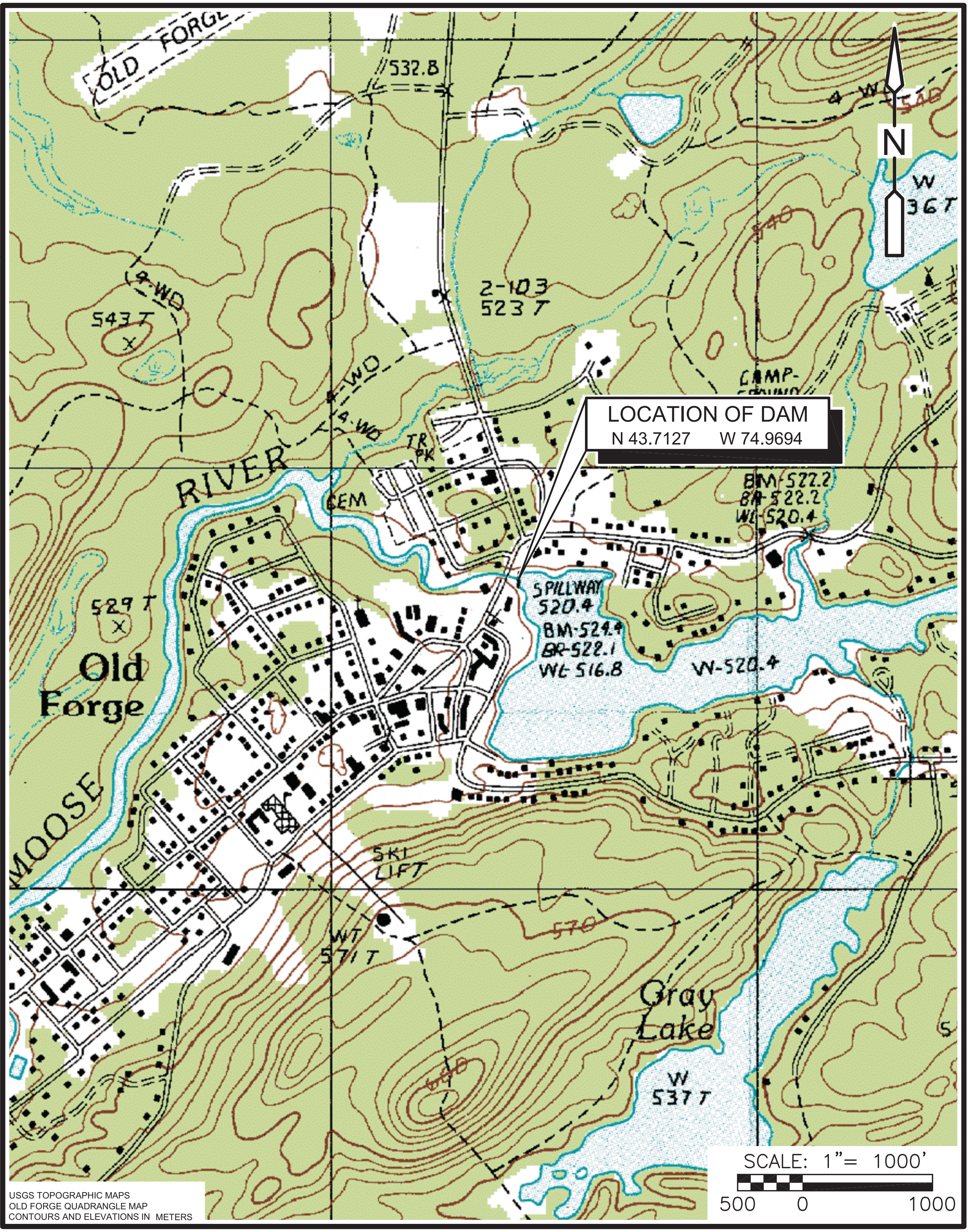
Inundation Mapping for the Sunny Day and Stormy Day dam failures of the Old Forge Dam ends at the confluence of Moose River with Black River at Lyons Falls and includes a minor backwater effect on the Black River.

Lyons Falls Hydroelectric Facility, P-2548

The Lyons Falls Hydroelectric Facility, owned by Northbrook Lyons Falls LLC, is located in Lyons Falls, Lewis County on the Black River downstream of the confluence of Moose River with Black River, approximately 30.9 river miles downstream of Old Forge Dam.

This hydroelectric facility includes an intake structure, spillway, (2) penstocks, powerhouse and dam.

The Lyons Falls Hydroelectric Facility is not overtopped during Sunny Day and Stormy Day dam failures of the Old Forge Dam and is the last structure included in the Old Forge EAP.



CDM Smith

HUDSON RIVER - BLACK RIVER REGULATING DISTRICT
OLD FORGE RESERVOIR DAM
STATE DAM ID NO.: 140-2000 NID ID NO.: NY00315

LOCUS PLAN
FIGURE 1-1
JUNE 2014

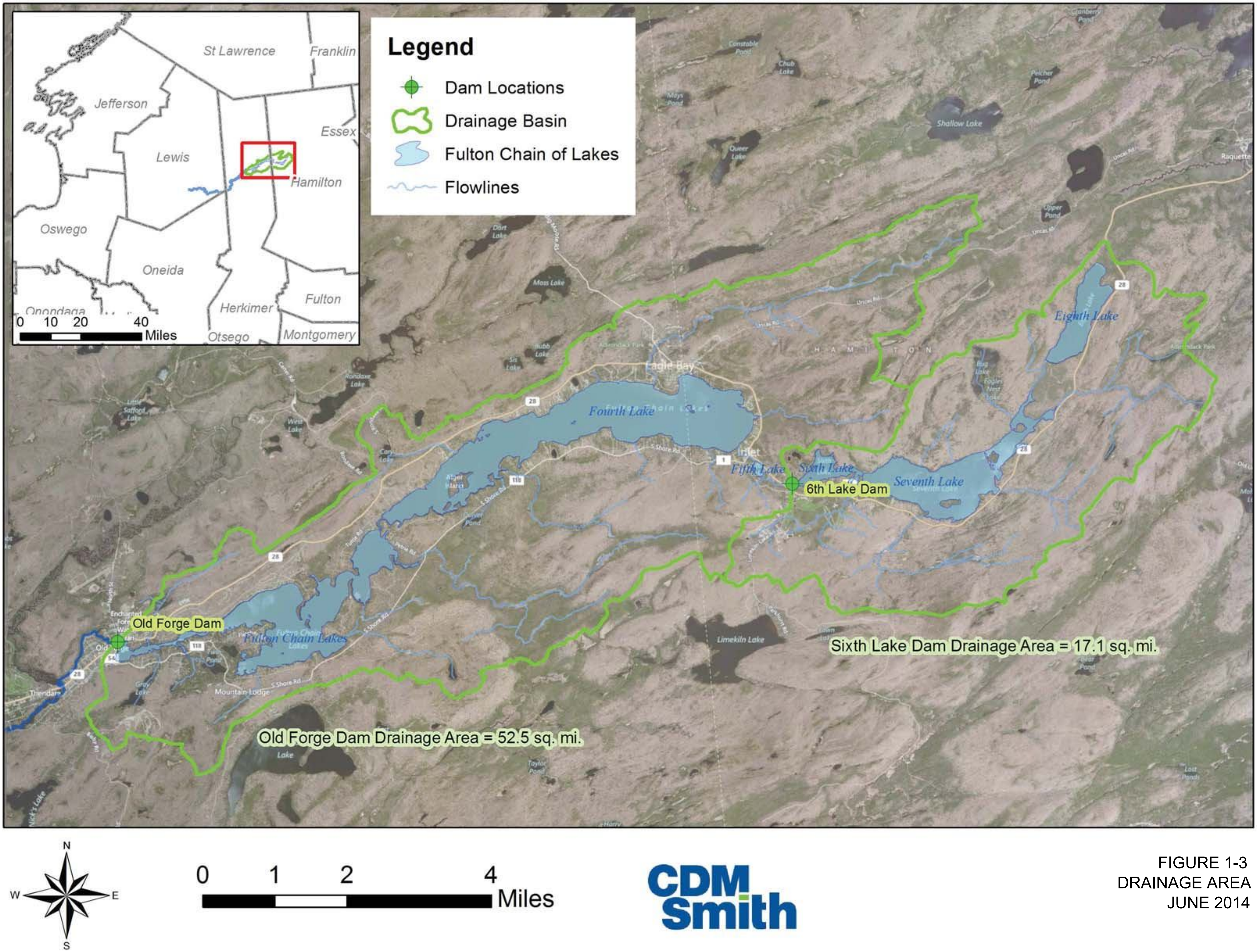
PW:\\PW_PL1\Documents\120400\97697\04 Design Services NM_PDR\13 Geotechnical\Drawings\Old Forge Reservoir Dam\B001LPFG.DWG

HUDSON RIVER - BLACK RIVER REGULATING DISTRICT
OLD FORGE RESERVOIR DAM
STATE DAM ID NO.: 140-2000 NID ID NO.: NY00315

CDM Smith

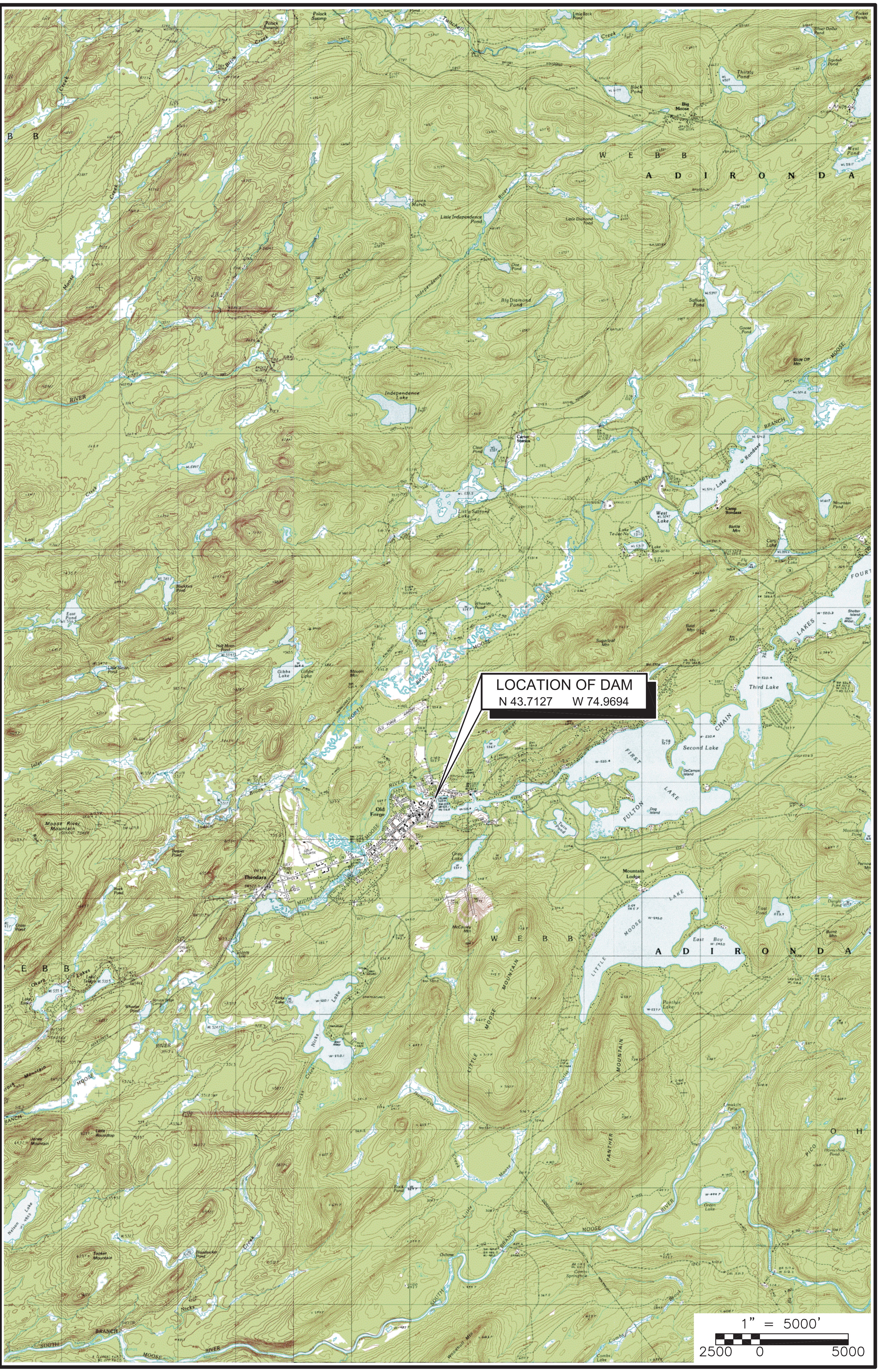
AERIAL PLAN
FIGURE 1-2
JUNE 2014

PW:\\PW_PL1\Documents\120400\97697\04 Design Services NM_PDR\13 Geotechnical\Drawings\Old Forge Reservoir Dam\B002AMFG.DWG



CDM Smith

FIGURE 1-3
DRAINAGE AREA
JUNE 2014



HUDSON RIVER - BLACK RIVER REGULATING DISTRICT
OLD FORGE RESERVOIR DAM
STATE DAM ID NO.: 140-2000 NID ID NO.: NY00315

DOWNSTREAM AREA
FIGURE 2-2
JUNE 2014

CDM Smith

Part I, Section D

EAP Response Process

EAP Response Process

There are generally four steps that are followed when an unusual or emergency incident is detected at a dam. These steps constitute the EAP response process. The steps are:

Step 1: Incident Detection, Evaluation, and Level Classification
Step 2: Notification and Communication
Step 3: Emergency Actions
Step 4: Termination and follow-up

Step 1: Incident Detection, Evaluation, and Level Classification

Incident Detection

Detection of an emergency condition at the Old Forge Dam is performed through the following procedures:

Detection made by Regulating District Staff would occur during the visual inspection of the entire dam performed on a daily basis, Monday through Friday and on weekends if required. Unusual conditions at the Old Forge Dam would be immediately reported to the Regulating District's Engineering Staff.

Detection can be made by other persons, including recreational users, downstream residents and by other persons not familiar with the EAP.

Detection made from other persons near the dam are able to call the emergency phone numbers posted at the dam and would likely call 911 from their cell phone or a public phone in the town of Inlet located approximately one mile away. A 911 call from Old Forge Dam or from downstream of Old Forge Dam would be picked up by Herkimer County or Oneida County Offices of Emergency Services. These Offices have been sent copies of the Old Forge Dam EAP.

Activation of the EAP is performed by the Chief Engineer as indicated on the Notification Flow Charts located in Part I, Section A of this EAP.

Evaluation

Evaluation of an emergency condition at the Old Forge Dam is performed as follows:

The Regulating District's Chief Engineer will evaluate and activate the EAP based upon information as it is received pertaining to the existing condition at the Dam. Based upon information received, the Chief Engineer will classify the emergency as outlined below. The Chief Engineer will also upgrade or downgrade the emergency condition as additional information is received.

Level Classification

After an unusual condition or incident is detected and confirmed, the Regulating District's Chief Engineer will classify the incident/condition into one of the established emergency levels based on the severity of the initiating condition or triggering events.

The four dam safety emergency levels are as follows:

- **High flow**
- **Non-failure**
- **Potential failure**
- **Imminent failure**

Refer to Part I, Section A for examples of each emergency level, a summary of the typical communication and guidance for what can be expected during an **Emergency Condition** at the Old Forge Dam.

Step 2: Notification and Communication

After the emergency level at the dam has been determined, notifications are made in accordance with the EAP's Notification Flowchart(s).

EAP Notification Flow Charts are located in Part I, Section A. Separate Notification Flow Charts have been made for Regulating District Staff and Emergency Responders/Managers.

All parties must understand that the formal declaration of public emergency by emergency management authorities can be a very difficult decision. During this step, the Regulating District will provide available information that will assist in that decision by opening a conference call line for emergency management personnel to call in and receive live updates. Early decisions and declarations are critical to maximizing available response time.

When performing notification and communication activities, it is important that people speak in clear, nontechnical terms to ensure that those being notified understand what is happening at the dam.

Step 3: Emergency Actions

After the initial notifications have been made, the Regulating District will act to save the dam and minimize impacts to life, property, and the environment. During this step, there is a continuous process of taking actions, assessing the status of the situation, and keeping others informed through communication channels established during the initial notifications. The EAP may go through multiple emergency levels during Steps 2 and 3 as the situation improves or deteriorates.

During an incident, safety and security measures should be implemented to secure the affected operational areas at the dam from the public and allow operational and emergency management personnel to effectively perform an emergency response.

Step 4: Termination and follow-up

An Emergency Action Summary Log will be developed and used to document conditions, notifications and responses during the activation of the EAP.

The Regulating District will notify emergency management personnel that the emergency condition at the dam has been stabilized. Emergency managers are responsible for declaring an end to the public emergency response.

Following the termination of an incident, the Regulating District will provide/review an After Action Report (AAR) with emergency management authorities that includes the following topics:

- Events or conditions leading up to, during, and following the activation of the EAP.
- Significant actions taken by each participant and improvements for future emergencies.
- All strengths and deficiencies found in the incident management process, materials, equipment, and staffing levels.
- Corrective actions identified and a planned course of action to implement recommendations.

Part I, Section E

General Responsibilities Under the EAP

General Responsibilities Under the EAP

1. Occurrence of Emergency Condition at the Old Forge Dam.

2. Observer notifies Hudson River – Black River Regulating (HR-BRRD) Engineering Staff as listed on posted Notice located at Old Forge Dam.

HR-BRRD Chief Engineer – **Primary Contact**

1. Receives initial report (or alarm) of situation.

2. Contact HR-BRRD Staff to verify condition at the dam. If HR-BRRD Staff is not readily available, Chief Engineer will request verification from nearest Emergency Agency/Personnel.

3. Based on preliminary notification and verification; determine appropriate **Level** of Implementation as outlined:

   - High Flow Condition
   - Non-Failure Condition
   - Potential Failure Condition
   - Imminent Failure Condition

Note: Detailed Emergency Conditions Evaluation is provided in Part I, Section A.

4. Using the **Notification Flow Charts** and **Typical Communication Form** provided in Part I, Section A:

   - Perform or instruct all HR-BRRD Staff to make required notifications for given Condition.

   - Ensure that all required HR-BRRD activities are performed.

   - Remain in contact with Emergency Agencies/Personnel as shown on the Emergency Notification Flow Charts. Emergency Agencies/Personnel shall be advised of changing conditions at the dam through-out the actual Emergency.

   - Log information on Emergency Action Summary Forms provided in Part I, Section A as appropriate.

   - As time permits and to aid in expediting the time it takes to perform the required Notifications, a conference line will be opened via telephone and/or internet. An access code or link will be provided to Emergency Responders during the initial Notification.

HR-BRRD Area Superintendent, Plant Operator, Engineering Assistant and Staff

1. Perform visual inspection/observation and verify emergency condition when requested by Chief Engineer.

2. Perform remedial measures to reduce potential flood/emergency condition such as

opening gates, performing maintenance activities, operating heavy equipment and etc. as instructed by Chief Engineer.

3. Set-up communication systems such as radios, cell phones or phone at dam in order to maintain communications.

4. Mobilize equipment including generator and emergency lighting.

5. Advise Chief Engineer and Area Administrator of status frequently.

6. Limit access to the dam to Emergency Personnel only.

7. Assist with EAP notifications.

<u>HR-BRRD Executive Director</u>

1. Remain in contact with Chief Engineer and HR-BRRD Staff.

2. Communicate with State Agencies.

3. Communicate with media and public as necessary.

<u>HR-BRRD Director of Administrative Services</u>

1. Remain in contact with Chief Engineer and HRBRRD Staff.

2. Activate Communication/Conferencing Systems.

3. Contact NYS Watch Center at NYS OEM for issuing Emergency Condition Notifications through the NY Alert system.

<u>HR-BRRD Operations Engineer</u>

1. Alternate EAP Contact Person.

2. Notify Emergency Contacts shown on Emergency Notification Flow Chart.

3. Assist Chief Engineer and HR-BRRD Staff as required.

4. Designated EAP Coordinator. Responsibilities include the following:

- Preparing revisions to the EAP
- Establishing training seminars for Regulating District Staff.
- Coordination of the EAP exercises

<u>HR-BRRD Area Administrator</u>

1. Notify Operations Personnel and direct them to respond to required location(s).

2. Notify Emergency Contacts shown on Emergency Notification Flow Chart.

3. Assist as necessary and manage HR-BRRD Staff to reduce possible impact of identified condition.

4. Update Chief Engineer of status frequently.

Herkimer County Office of Emergency Services

1. Close flooded roads or roads which are likely to become flooded.

2. Assist with emergency evacuation.

3. Provide emergency assistance as required.

4. Remain in contact with HR-BRRD Chief Engineer.

Oneida County Office of Emergency Services

1. Close flooded roads or roads which are likely to become flooded.

2. Assist with emergency evacuation.

3. Provide emergency assistance as required.

4. Remain in contact with HR-BRRD Chief Engineer.

Lewis County 911 Dispatch Center

1. Close flooded roads or roads which are likely to become flooded.

2. Assist with emergency evacuation.

3. Provide emergency assistance as required.

4. Remain in contact with HR-BRRD Chief Engineer.

New York State Police

1. When requested by the Herkimer County Office of Emergency Services or the HR-BRRD Chief Engineer, the State Police will travel to the Old Forge Dam to verify condition at the dam and review information regarding the condition with the Regulating District's Chief Engineer.

2. Close flooded roads or roads which are likely to become flooded.

3. Assist with emergency evacuation.

4. Provide emergency assistance as required.

Supervisors, Police, and Fire Departments/Emergency Coordinators – Town of Webb

1. Remain in contact with County Emergency Managers.

2. Initiate actions necessary to protect the health and safety of the public including blocking roads, and planning evacuation routes.

3. Conduct rescue and recovery operations as required.

4. Establish reception centers for evacuated people.

5. Provide emergency assistance as required.

New York State Office of Emergency Management, Albany (NYSOEM)

1. The State Office of Emergency Management provides for the overall coordination of State and Federal assistance in support of local government, as appropriate. State assistance is provided when requested and when the emergency is beyond the capabilities of local/county government, or at the direction of the Governor.

2. Provide Emergency Condition Notifications through the NY Alert system as received from HR-BRRD.

Town, County & State Highway Departments

1. Assist with emergency repairs to dam if possible.

2. Provide emergency repairs to roads where appropriate.

3. Assist with road closure.

Twin Rivers Paper Comapny

1. Remain in contact with County Emergency Managers.

Northbrook Lyons Falls, LLC

Kosterville Hydroelectric Facility, P-2548
Gouldtown Hydroelectric Facility, P-2548
Lyons Falls Hydroelectric Facility, P-2548

1. Ensure that all necessary emergency operating procedures are performed.

2. Remain in contact with HRBRRD Chief Engineer.

Adirondack Railroad

2. Remain in contact with County Emergency Managers.

National Weather Service (NWS)

1. Issue warning using:
   Emergency Alert System (EAS) – NWS EAS.

2. Remain in contact with HR-BRRD Chief Engineer.

N.Y.S. Dam Safety

1. Remain in contact with HR-BRRD.

American Red Cross

1. Provide shelter as necessary.

Notes:

1. Sample of typical communications is included in Part II, Section B, "Annual Test Communication".
2. HR-BRRD chain of command priority of notification listed on Flow Charts, Part I, Section A.
3. HR-BRRD Chief Engineer is Robert Foltan, 54 State Street, Suite 501, Albany, NY 12207.
   Office Phone: 518-465-3491.

Part I, Section F

Preparedness

Preparedness

A. General Provisions for Surveillance

The HR-BRRD Engineering Staff and Field Staff meet at the Old Forge Dam annually to perform an inspection of the dam and associated structures as a means of surveillance and detection of a condition that could lead to dam failure.

HR-BRRD Field Staff visit the dam to record conditions and perform general maintenance work necessary to operate the reservoir on a daily basis Monday through Friday and on weekends when required. Unusual conditions at the dam are reported to Engineering Staff.

During an emergency condition, surveillance will be increased as determined by the Chief Engineer.

B. Response During Periods of Darkness

During periods of darkness, any auxiliary illumination required will be provided through use of appropriate portable lighting equipment provided by HR-BRRD or local Emergency Services forces.

C. Access to the Site

Access to the Old Forge Dam can be obtained from NYS Route 28, Old Forge, NY.

D. Response During Weekends and Holidays

The response during weekends and holidays will be similar to the response during normal working hours. Home phone numbers and cell phone numbers are included with this EAP and shall be used in the event of an emergency.

E. Response During Periods of Adverse Weather

When an emergency condition exists, personnel will be at the site to monitor conditions. Many of HR-BRRD vehicles are four wheel drive which should ensure timely response during most snow storms and adverse weather conditions.

F. Alternative Systems of Communication

Engineering staff and essential operations staff carry cell phones owned and maintained by HR-BRRD. In the event of an emergency, the cell phone system will be utilized both as primary and back-up communications systems. The cell phone numbers are provided in the Notification Flow Charts, Part I, Section A and in Part II, Section D.

G. Response Time

The response time for HR-BRRD Personnel is approximately 15 minutes from the HR-BRRD Field Staff's home to the Old Forge Dam and approximately 15 minutes for Town of Webb Police.

H. Emergency Supplies and Information

1. Emergency supplies and resources to aid evacuees are readily available through local Emergency Services forces.

2. The use of HR-BRRD equipment for emergency use or repair is coordinated through the Chief Engineer. Some of the equipment includes one 24 hp Ford Backhoe, one 6 yard dump truck, a Kubota utility vehicle, a ¾ ton pick-up truck and a medium size utility trailer.

   Other heavy equipment located at the Hudson River Area's Mayfield Office includes one 48hp Caterpillar Backhoe, two 9 yard dump trucks and one heavy duty equipment trailer; the response time for this equipment is approximately three hours.

I. List of Contractors, Equipment, Material Suppliers and Agencies

The list of Contractors, Equipment, Material Suppliers and Agencies that are available during emergency situations are as follows:

Contractors:	Estimated Mobilization & Response Time	
D.A. Collins	(518) 664-9855	24 hours
C.D. Perry & Sons, Inc.	(518) 272-0831	24 hours
Equipment Suppliers:		
Capital Tractor Inc.	(518) 788-0200	24 hours
Tracey Road Equipment	(315) 788-0200	24 hours
Material Suppliers:		
Virkler Stone & Gravel	(315) 376-7022	12 hours
Agencies		
Old Forge DPW	(315) 369-3412	10 minutes
NYS DOT Lowville	(315) 376-3523	1.5 hours
Lewis County DPW	(315) 376-3511	1.5 hours

Part I, Section G

Instruction for Use, Breach Analysis Summary
&
Inundation Maps

Instructions for Use:

The HR-BRRD Chief Engineer will determine the Emergency Level/Category at the Old Forge Dam and will estimate flood flows for areas downstream of the dam.

Emergency Responders will also use the Inundation Maps (Figures 7-1 through 7-11) and the Dam Break Summary Forms 1, 2 or 3 to assist in the identification of roads to close, homes and areas to evacuate and plan evacuation routes using the following steps:

1. Confirm the Emergency Level/Category are as follows:

    - **High Flow**
    - **Non Failure**
    - **Potential Failure**
    - **Imminent Failure**

    See Part I, Section A for a description of Emergency Levels/Categories.

    Emergency Level/Category is ________________________

2. Confirm the time the Emergency Condition at the Dam was first observed (Start Time).

    Emergency Condition Start Time is _____________

3. Confirm estimated flow at the dam using Summary Forms shown below:

    - **High Flow** (Summary Form 1)

    - **Non Failure** (Summary Form 1)

    - **Potential or Imminent Failure**
      Sunny Day Dambreak – Old Forge Lake level at elevation 1707.6 feet.
      (Summary Form 2, Column D)

    - **Potential or Imminent Failure**
      Stormy Day Dambreak – Old Forge Reservoir level **above the dam crest**, elevation 1710.5 feet, or other elevation caused by the Stormy Day Flood.
      (Summary Form 3, Column D)

    Estimated outflow/peak discharge from the Old Forge Dam is _____________________ and will change as conditions evolve.

    Based upon the estimated outflow/peak discharge from the dam, use the appropriate Summary Form (1,2,3 and/or 4) to record the Maximum Stage/Elevation and Time to Peak for each cross-section or station downstream of the Old Forge Dam. **(Insert the Emergency Condition Start Time and Fill in the applicable column/s)**

4. Verify actual inundation areas with HR-BRRD Chief Engineer.

High Flow & Non-Failure Emergency Condition									Summary Form 1
Dam Breach Modeling - Mapping by C.D.M. Smith, February, 2015					(hrs:min)				
Old Forge Dam		Insert Emergency Condtion Start Time:				Data as shown on Inundation Mapping			
		A	B	C	D	E	F	G	H
County	River Cross Section or Station & Map Page Number	Distance Downstream from Dam (miles)	Initial Wave Arrival Time (minutes)	Peak Flood Wave Arrival Time (minutes)	Actual Time (hrs:min)	Peak Flood Stage Elevation (ft NAVD88)	Peak Flood Stage Increase (feet)	Peak Flood Flow Rate (cfs)	Peak Flood Velocity (ft/s)
Herkimer	Figure 7 - 1	0.0							
Herkimer	Figure 7 - 1	0.1							
Herkimer	Figure 7 - 1	0.5							
Herkimer	Figure 7 - 1	1.0							
Herkimer	Figure 7 - 1	1.5							
Herkimer	Figure 7 - 1	2.0							
Herkimer	Figure 7 - 2	3.0							
Herkimer	Moose River Lock & Dam	3.7							
Herkimer	Figure 7 - 2	4.0							
Herkimer	Figure 7 - 2	6.0							
Herkimer	Figure 7 - 3	8.0							
Herkimer	Figure 7 - 3	10.0							
Herkimer	Figure 7 - 4	12.0							
Herkimer	Confluence w/ S. B. of Moose River	12.5							
Herkimer	Figure 7 - 5	14.0							
Oneida	USGS Moose River Gage (Stage) at McKeever	14.5							
Oneida	Figure 7 - 5	15.3							
Oneida	Incremental Rise < 2 ft. Flooding is no longer considered a hazard.								
Lewis	Figure 7 - 6	20.1							
Lewis	F. 7 - 6, Hydro & Mill at Lowdale Road	27.5							
Lewis	F. 7 - 6, Hydro at Lyonsdale	28.0							
Lewis	F. 7 - 6, Hydro at Lyonsdale	29.5							
Lewis	Black River Confluence, Lyons Falls Hydro	30.8							
See Sunny Day & Stormy Day summaries for estimating potential flow & timing.									

Potential Failure or Imminent Failure durring a Sunny Day Storm									**Summary Form 2**
Dam Breach Modeling - Mapping by C.D.M. Smith, February, 2015					(hrs:min)				
Old Forge Dam		**Insert Emergency Condtion Start Time:**				**Data as shown on Inundation Mapping**			
		A	B	C	D	E	F	G	H
	River Cross Section or Station &	Distance Downstream from Dam	Initial Wave Arrival Time	Peak Flood Wave Arrival Time	Actual Time	Peak Flood Stage Elevation	Peak Flood Stage Increase	Peak Flood Flow Rate	Peak Flood Velocity
County	Map Page Number	(miles)	(minutes)	(minutes)	(hrs:min)	(ft NAVD88)	(feet)	(cfs)	(ft/s)
Herkimer	Figure 7 - 1	0.0	0	0		1,707.5	0.0	3,233	4.4
Herkimer	Figure 7 - 1	0.1	1	250		1,704.2	7.5	3,115	4.9
Herkimer	Figure 7 - 1	0.5	7	410		1,702.5	7.9	3,100	3
Herkimer	Figure 7 - 1	1.0	15	570		1,694.3	7.6	3,096	3.7
Herkimer	Figure 7 - 1	1.5	25	760		1,684.2	7.4	2,845	1.2
Herkimer	Figure 7 - 1	2.0	35	870		1,682.7	6.4	2,746	0.9
Herkimer	Figure 7 - 2	3.0	47	930		1,682.4	6.5	2,736	0.3
Herkimer	Moose River Lock & Dam	3.7							
Herkimer	Figure 7 - 2	4.0	125	960		1,681.7	6.3	2,722	1.5
Herkimer	Figure 7 - 2	6.0	180	1,060		1,680.0	6.8	2,710	1.6
Herkimer	Figure 7 - 3	8.0	225	1,110		1,665.0	4.7	2,708	4.2
Herkimer	Figure 7 - 3	10.0	270	1,160		1,604.7	2.9	2,707	2.1
Herkimer	Figure 7 - 4	12.0	405	1,265		1,531.4	2.8	2,707	4.4
Herkimer	Confluence w/ S. B. of Moose River	12.5							
Herkimer	Figure 7 - 5	14.0	540	1,370		1,484.1	2.6	3,007	2.4
Oneida	USGS Moose River Gage (Stage) at McKeever	14.5							
Oneida	Figure 7 - 5	15.3	580	1,450		1,477.5	1.8	3,007	1.6
Oneida	**Incremental Rise < 2 ft. Flooding is no longer considered a hazard.**								
Lewis	Figure 7 - 6	20.1	836	1721		1,292.0	1.0	3050	7.5
Lewis	F. 7 - 6, Hydro & Mill at Lowdale Road	27.5	1227	2134		1,051.2	1.0	3250	0.4
Lewis	F. 7 - 6, Hydro at Lyonsdale	28.0	1252	2161		1,021.7	1.9	3250	0.1
Lewis	F. 7 - 6, Hydro at Lyonsdale	29.5	1333	2245		851.8	1.0	3300	0.8
Lewis	Black River Confluence, Lyons Falls Hydro	30.8	1404	2321		803.6	1.0	4100	0.5

Potential Failure or Imminent Failure durring a Stormy Day									Summary Form 3
Dam Breach Modeling - Mapping by C.D.M. Smith, February, 2015					(hrs:min)				
Old Forge Dam		Insert Emergency Condtion Start Time:				Data as shown on Inundation Mapping			
		A	B	C	D	E	F	G	H
County	River Cross Section or Station & Map Page Number	Distance Downstream from Dam (miles)	Initial Wave Arrival Time (minutes)	Peak Flood Wave Arrival Time (minutes)	Actual Time (hrs:min)	Peak Flood Stage Elevation (ft NAVD88)	Peak Flood Stage Increase (feet)	Peak Flood Flow Rate (cfs)	Peak Flood Velocity (ft/s)
Herkimer	Figure 7 - 7	0.0	0	0		1,710.5	0.0	3,907	4.7
Herkimer	Figure 7 - 7	0.1	1	200		1,705.1	4.2	3,816	6.3
Herkimer	Figure 7 - 7	0.5	3	360		1,703.4	4.1	3,815	3.9
Herkimer	Figure 7 - 7	1.0	10	550		1,695.6	5.0	3,813	4.8
Herkimer	Figure 7 - 7	1.5	15	670		1,685.3	4.0	2,365	1.9
Herkimer	Figure 7 - 7	2.0	20	730		1,683.9	3.9	3,475	1.4
Herkimer	Figure 7 - 8	3.0	30	790		1,683.5	3.8	3,460	0.4
Herkimer	Moose River Lock & Dam	3.7							
Herkimer	Figure 7 - 8	4.0	45	855		1,682.8	3.7	3,448	2.2
Herkimer	Figure 7 - 8	6.0	75	920		1,681.2	3.8	3,436	2.2
Herkimer	Figure 7 - 9	8.0	120	965		1,665.9	2.9	3,433	4.8
Herkimer	Figure 7 - 9	10.0	165	1,010		1,605.3	2.0	3,433	2.4
Herkimer	Figure 7 - 10	12.0	232	1,110		1,531.9	2.0	3,433	5.1
Herkimer	Confluence w/ S. B. of Moose River	12.5							
Herkimer	Figure 7 - 11	14.0	300	1,210		1,484.7	1.7	3,732	5.7
Oneida	USGS Moose River Gage (Stage) at McKeever	14.5							
Oneida	Figure 7 - 11	15.3	340	1,210		1,477.8	1.3	3,732	4.1
Oneida	**Incremental Rise < 2 ft. Flooding is no longer considered a hazard.**								
Lewis	Figure 7 - 6	20.1	836	1721		1292.0	1.0	3050	7.5
Lewis	F. 7 - 6, Hydro & Mill at Lowdale Road	27.5	1227	2134		1051.2	1.0	3250	0.4
Lewis	F. 7 - 6, Hydro at Lyonsdale	28.0	1252	2161		1021.7	1.9	3250	0.1
Lewis	F. 7 - 6, Hydro at Lyonsdale	29.5	1333	2245		851.8	1.0	3300	0.8
Lewis	Black River Confluence, Lyons Falls Hydro	30.8	1404	2321		803.6	1.0	4100	0.5

Flow Calculator

For use to compute flows other than Sunny Day or Stormy Day Breach Flows

Old Forge Dam Outflow Calcs.

North Retaining Wall

Top Elevation:	1709.0	(ft MSL)
Minimum Base Elevation:	1698.0	(ft MSL)
Length:	20.0	(ft)
Height:	11.0	(ft)

Concrete Gravity Spillway

Concrete Spillway Crest Elevation:	1707.0	(ft MSL)
Base Elevation:	1696.8	(ft MSL)
Length:	36.0	(ft)
Height:	10.2	(ft)

Outlet Structure & Gate House

Top of Gate House Floor:	1709.0	(ft MSL)
Gate Invert:	1698.0	(ft MSL)
Length of Gate House:	20.0	(ft)
Height:	11.0	(ft)

South Retaining Wall

Crest Elevation:	1709.0	(ft MSL)
Base Elevation:	1697.0	(ft MSL)
Length:	35.0	(ft)
Height:	12.0	(ft)

Normal Pool Failure Example:

Failure of Spillway

Breach Flow Calculator:

Insert Res. Elev.:	1707.00	ft
c=	2.5	
L=	36	ft
Bottom of Breach	1696.80	ft
H=	10.2	ft
Q=cLH^(3/2)=	2,932	(cfs)

c= Coeficient
L= Length = Bottom width of breach
H= Height

Old Forge Dam: **Estimated Out-Flow (Q) above spillway without breach**

	(full open) **(2) Gates**	**Spillway**			Q=cLH^(3/2)	**North Retaining Wall**			Q=cLH^(3/2)	**South Retaining Wall**	Total		Q=cLH^(3/2)		**Total Outflow**
Reservoir Elevation	Q	c	L	H	Q	c	L	H	Q	c	L	H	Q	Reservoir Elevation	Q
(ft)	(cfs)	(Coef.)	(ft)	(ft)	(cfs)	(Coef.)	(ft)	(ft)	(cfs)	(Coef.)	(ft)	(ft)	(cfs)	(ft)	(cfs)
1706.0	360	3.1	36		0									1706.0	360
1706.5	360	3.1	36		0									1706.5	360
1707.0	360	3.1	36	0.0	0									1707.0	360
1707.5	360	3.1	36	0.5	39									1707.5	399
1708.0	360	3.1	36	1.0	112									1708.0	472
1708.5	360	3.1	36	1.5	205									1708.5	565
1709.0	360	3.1	36	2.0	316	2.5	10	0.0	0	2.5	35	0.0	0	1709.0	676
1709.5	360	3.1	36	2.5	441	2.5	10	0.5	9	2.5	35	0.5	31	1709.5	841
1710.0	360	3.1	36	3.0	580	2.5	10	1.0	25	2.5	35	1.0	88	1710.0	1052
1710.5	360	3.1	36	3.5	731	2.5	10	1.5	46	2.5	35	1.5	161	1710.5	1297
1711.0	360	3.1	36	4.0	893	2.5	10	2.0	71	2.5	35	2.0	247	1711.0	1571

Figure 7.1
Old Forge Dam
Emergency Action Plan
Dam Failure Inundation Limits
"Sunny Day" Scenario

Note: The inundation areas shown on this map are approximate and should only be used as a guideline for establishing evacuation zones. Actual flooding conditions may differ from those depicted on the map.
Basemap: USGS Apr 2009 0.6m
Coordinate System: NAD 1983 SP NY East Feet
Topography: USGS Digital Elevation Map
Vertical Datumn: NAVD 88 Feet
NYS Dam ID.: 140 - 2000 NY

CDM Smith

Figure 7-2
Old Forge Dam
Emergency Action Plan
Dam Failure Inundation Limits
"Sunny Day" Scenario

Note: The inundation areas shown on this map are approximate and should only be used as a guideline for establishing evacuation zones. Actual flooding conditions may differ from those depicted on the map.
Basemap: USGS Apr 2009 0.6m
Coordinate System: NAD 1983 SP NY East Feet
Topography: USGS Digital Elevation Map
Vertical Datumn: NAVD 88 Feet
NYS Dam ID.: 140 - 2000 NY

CDM Smith

0 250 500 1,000 Feet

Figure 7-3
Old Forge Dam
Emergency Action Plan
Dam Failure Inundation Limits
"Sunny Day" Scenario