

Emergency Action Plan (EAP)

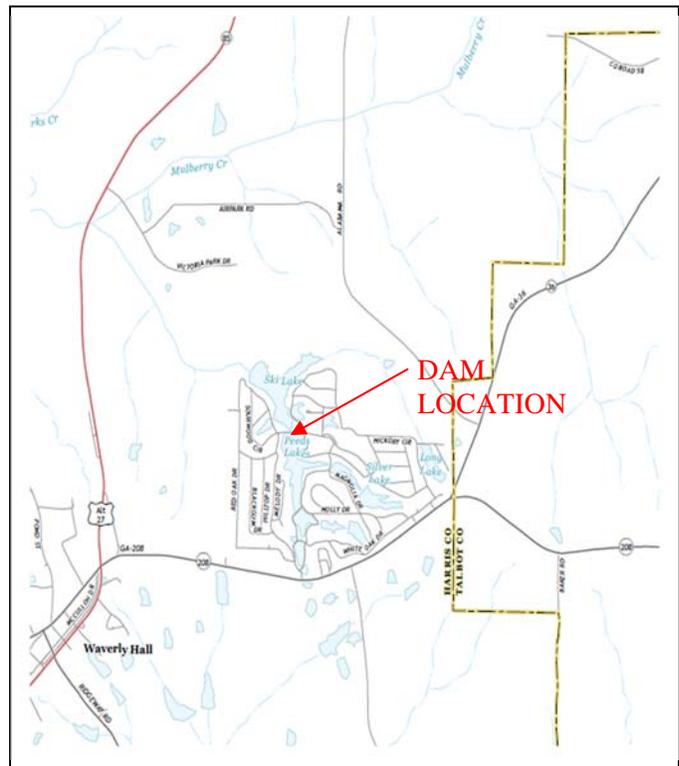
Melody Lakes Dam

(Melody Lake / Whispering Pines Lake)

Georgia ID: 072-002-00078

National Inventory of Dams (NID): GA-01647

Harris County, Georgia



Revision Date: December 27, 2017

Chairman, Harris Co. Board of Commissioners

Local EMA Director, Harris County, GA

Date

Date

Copy ___ of ___

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Basic EAP Data

Purpose

The purpose of this plan is to prescribe procedures to be followed in the event of an emergency associated with the Melody Lakes Dam, which is caused by an unusually large flood, earthquake, a malfunction (hydraulic or structural) of the spillway, malicious human activity such as sabotage, vandalism, or terrorism, or failure of the dam.

This Emergency Action Plan (EAP) defines responsibilities and procedures to:

- Identify unusual and unlikely conditions that may endanger the dam.
- Initiate remedial actions to prevent a dam failure or minimize the downstream impacts of a dam failure.
- Initiate emergency actions to warn downstream residents of impending or actual failure of the dam.

Potential Impacted Area

See *Evacuation Map* tab (Appendix B–5) and *People at Risk* tab (Appendix B–6) for the locations and contact information of the following residents and businesses that may be flooded if the dam should fail and the estimated time for the flood wave to travel from the dam to these locations:

The downstream evacuation area consists of undeveloped, forested areas of land as well as residential lots. The roads are primarily paved with few dirt roads.

Dam Description

Height: 26.0 ft.

Year Built: 1925

Dam Operator: Randy Dowling, County Commissioner

Latitude: 32.6974 Longitude: -84.7172

Dam Designer: Unknown

Drainage Area: 269.8 acres

Hazard Classification: Category I

Major Property Owner: Harris Co. Board of Commissioners

National Inventory of Dams No.: GA-01647

Additional Property Owner: Melody Lakes Ranch Club Assoc.

Donnie & Melonie Bailey

William G. Nolan II

Jesse Petty & Karen Serrano

See detailed design data in *Appendix B* tab.

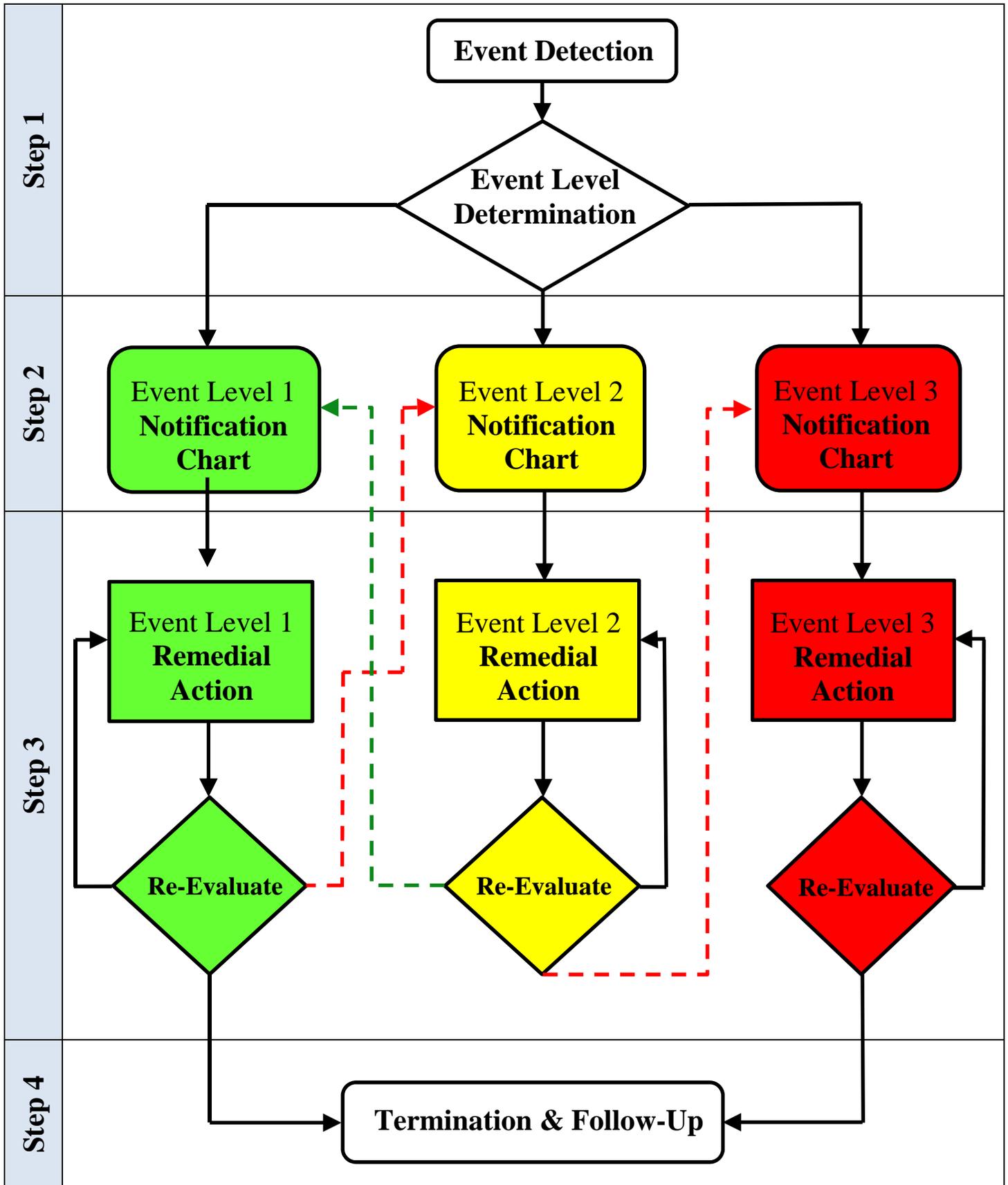
Directions to dam (See *Location and Vicinity Map*; Appendix B–3.)

From downtown Atlanta, get on I-75S/I-85S and keep right at the fork to stay on I-85S. Take exit 41 for US-29/US-27 toward Moreland/Greenville. Turn left onto US-27 ALT S (signs for US-27S) and continue for 3.3 miles. Keep left to stay on US-27ALT S and continue for 18.0 miles until a left onto N. Depot St. Turn left onto S Court Square and continue for 4.2 miles. At the traffic circle, take the 2nd exit and stay on US-27 ALT S for 6.3 miles until a right onto US-27 ALT S. After 11.9 miles, turn left onto Alabama Rd, followed by a right onto GA-36 W. Turn right at the first cross street onto GA-208 W and then turn right onto White Oak Dr. Turn right again to stay on White Oak Dr which becomes Birch Dr. Turn Left onto Melody Dr. The dam will be on the right of Melody Dr.

Directions/Additional Information for Appurtenant Structures

According to the latest visual inspection report, performed by Geosystems Engineering, Inc. dated January 25, 2017, the dam appears to have a conventional riser/ conduit principal spillway. There are also 2 culverts that penetrate the embankment at the right abutment. One is a 12” CMP and the other is an 18” CMP. Both pipes appear to serve as the auxiliary spillway.

EAP Overview



Red Line (Dashed) = Event Escalated

Green Line (Dashed) = Event De-Escalated

Summary of EAP Process

There are four steps that must be followed anytime an unusual or emergency event is detected at Melody Lakes Dam. The steps are:

Step 1 - Event Detection and Level Determination

During the initial step, an unusual event or emergency event is detected at the dam and classified by the EAP Coordinator into one of the following event levels:

Event Level 1, GREEN: Unusual Event, slowly developing

Event Level 2, YELLOW: Emergency Event, potential dam failure situation, rapidly developing

Event Level 3, RED: Urgent!! Emergency Event, Dam failure imminent or is in progress

Step 2 - Notification and Communication

After the event level has been determined, notifications are made in accordance with the appropriate notification flow chart provided in STEP 2 of this EAP.

Step 3 - Remedial Actions

After the initial notifications are made, the EAP Coordinator should confer with the site Engineer and the Georgia Safe Dams Program to develop and execute appropriate preventative actions. During this step of the EAP, there is a continuous process of taking actions, assessing the status of the situation, and keeping others informed through the communication channels established during the initial notifications. The EAP may go through multiple event levels during Steps 2 and 3 as the situation either improves or worsens.

Step 4 - Termination and Follow-up

Once the event has ended or been resolved, termination and follow-up procedures should be followed as outlined in Step 4 of this EAP. EAP operations can only be terminated after completing operations under Event **Level 3** or **Level 1**. If Event **Level 2** is declared, the operations must be reclassified to Event **Level 1** or **Level 3** before terminating the EAP operations.

Roles and Responsibilities

Dam Owner (Harry Lange)

- As soon as an emergency event is observed or reported, immediately determine the emergency level (see *Emergency Levels* tab).
 - **Level 1**: unusual event, slowly developing
 - **Level 2**: potential dam failure situation, rapidly developing
 - **Level 3**: dam failure appears imminent or is in progress
- Immediately notify the individuals in the order shown on the notification chart based on the determined emergency level (see *Notification Charts* tab).
- If under a **Level 2** or **Level 3** emergency, provide updates of the situation to the Emergency Management Agency to assist them in making timely and accurate decisions regarding warnings and evacuations.
- Provide leadership to assure the EAP is reviewed and updated annually and copies of the revised EAP are distributed to all who received copies of the original EAP.

EAP Coordinator (Randy Dowling)

- Owner may designate responsibilities above to an EAP coordinator, if not; the owner is the EAP Coordinator.

Local Emergency Management (Harris County Emergency Management Agency)

- Serve as the primary contact person responsible for coordination of all emergency actions.
- EAP preparation - Coordinate with local responders and dispatchers to ensure each has an opportunity for input into the EAP and each has a copy and is aware of their responsibilities.
- During an event, maintain communication with Georgia Safe Dams Program.
- Assist owners in preparation of *Emergency Access Routes Map*
- Maintain communication with media when necessary.
- When a **Level 2** situation occurs:
 - Prepare response personnel for possible evacuations that may be needed if a **Level 3** situation develops.
 - Alert the public as appropriate.
- When a **Level 3** situation develops:
 - Alert the public.
 - Immediately close roads and evacuate people within and possibly adjacent to the inundation area.
- Participate in an annual review and update of the EAP.
- Coordinate with the dam owner and the Georgia Safe Dams Program to determine when to terminate the emergency.

Dam Operator's Technical Representatives (Brian Kimsey, PE – Carter Engineering Consultants)

- If time permits, advises the dam operator of the emergency level determination.
- If time permits, advises the dam operator of remedial actions to take if an event occurs.

Georgia Safe Dams Program

- Provide technical assistance to the EAP Coordinator as needed.

Step 1: Event Detection and Level Determination

Event Detection

Routine surveillance and observation readings at the site will be the normal methods of detecting potential emergency situations. Unusual or emergency events may be detected by:

- Observations at or near the dam
- Evaluation of instrumentation data (if applicable)
- Earthquakes felt or reported in the vicinity of the dam
- Forewarning of conditions that may cause an unusual event or emergency event at the dam (for example, a severe weather or flash flood forecast)

Emergency Level Definitions

Level 1, GREEN Unusual Event - Slowly developing

This classification indicates a situation is developing, but has not yet threatened the operation or structural integrity of the dam. The Owner's technical representative (Brian Kimsey, PE), if applicable, AND the Georgia Safe Dams Program should be contacted to investigate the situation and recommend remedial actions. The condition of the dam should be closely monitored, especially during storm events, to detect any development of a potential or imminent dam failure situation.

Level 2, YELLOW Emergency - Potential dam failure situation, rapidly developing

This classification indicates that a situation is developing that could lead to dam failure, but there is not an immediate threat of dam failure. The EAP Coordinator should closely monitor the condition of the dam and periodically report the status of the situation to the Georgia Safe Dams Program, Harris County Emergency Management Agency, and Brian Kimsey, PE, the dam's technical representative. A reasonable amount of time is available for analysis before deciding on evacuation of downstream residents. If the dam condition worsens and failure becomes imminent, the Harris County Emergency Management Agency must be notified immediately of the change in the emergency level to allow sufficient time to evacuate the people at risk downstream. If time permits, the Owner's technical representative (Brian Kimsey, PE) and the Georgia Safe Dams Program should be contacted to evaluate the situation and recommend remedial actions to prevent failure of the dam. The dam operator should initiate remedial measures, only after contacting the Georgia Safe Dams Program and technical representative, to prevent further degradation of the dam utilizing local resources that may be available. (See Appendix B-1)

Level 3, RED Emergency – Urgent!! Dam failure is imminent or is in progress

This is an extremely urgent situation when a dam failure is occurring or is about to occur and likely cannot be prevented. Flash flooding will occur downstream of the dam. The dam owner WILL contact 911 and an order for evacuation of residents in potential inundation areas shall be issued by the Harris County Emergency Management Agency.

See the following pages for guidance in determining the proper emergency level for various situations.

Examples of Emergency Situations

The following are examples of conditions that usually constitute an emergency situation that may occur at a dam. Adverse or unusual conditions that can cause the failure of a dam are typically related to aging or design and construction oversights. Extreme weather events that exceed the original designed conditions can cause significant flow through the auxiliary spillway or even overtopping of the embankment. However, accidental or intentional damage to the dam may also result in emergency conditions. The conditions have been grouped to identify the most likely emergency-level condition. The groupings are provided as **guidance only**. Not all emergency conditions may be listed, and the dam owner/operator is urged to use conservative judgment in determining whether a specific condition should be defined as an emergency situation at the dam.

Pre-existing conditions on this dam: Pre-existing conditions have been obtained from the latest visual inspection report performed by Geosystems Engineering, Inc. dated January 25, 2017. This report indicates several deficiencies including, but not limited to: Unsuitable vegetation on the crest, upstream slope and downstream slope, erosion gullies, and animal burrows, bare or eroded areas on the downstream slope, seepage along the right toe, and wave action erosion. The possibility of embankment settlement over the principal spillway was noted as a concern (due to visible pavement cracking on the crest) and should be reviewed in future inspections.

Emergency/Auxiliary Spillway Flows

Emergency Level 1 – Potential downstream flooding situation; slowly developing:

1. Reservoir water surface elevation at auxiliary spillway crest or spillway is flowing with no active erosion.

Emergency Level 2 - Potential dam failure situation; rapidly developing:

1. Spillway flowing with active gully erosion or flow that could result in flooding of people downstream if the reservoir level continues to rise.

Emergency Level 3 - Urgent; dam failure appears imminent or is in progress:

1. Significant erosion or headcutting of the spillway is occurring at a rapid rate, and a breach of the spillway appears imminent.

Embankment Overtopping

Emergency Level 2 – Potential dam overtopping situation; rapidly developing:

1. The reservoir level is rising and approaching the crest of the dam and could begin overtopping if sufficient freeboard does not exist.

Emergency Level 3 - Urgent; dam failure appears imminent or is in progress:

1. The reservoir level has exceeded the top of the dam, and flow is going over the crest of the embankment.

Seepage and Sinkholes

Emergency Level 1 – Potential seepage increases; slowly developing:

1. New or increased areas of wet or muddy soils are present on the downstream slope, abutment, and/or toe of the dam, and there is an easily detectable and unusual increase in volume of downstream seepage.

Emergency Level 2 - Potential dam failure situation; rapidly developing:

1. Cloudy seepage or soil deposits are observed at seepage exit points or from internal drain outlet pipes.

-
3. Significant new or enlarging sinkhole(s) near the dam or settlement of the dam is observed.
 4. Reservoir level is falling without an apparent cause.
 5. The following known dam defects are or will soon be inundated by a rise in the reservoir:
 - Sinkhole(s) located on the upstream slope, crest, abutment, and/or foundation of the dam; or
 - Transverse cracks extending through the dam, abutments, or foundation.

Emergency Level 3 - Urgent; dam failure appears imminent or is in progress:

1. Rapidly increasing cloudy seepage or soil deposits at seepage exit points to the extent that failure appears imminent or is in progress.
2. Water flowing out of holes in the downstream slope, abutment, and/or foundation of the dam to the extent that failure appears imminent or is in progress.
3. Whirlpools or other evidence exists indicating that the reservoir is draining rapidly through the dam or foundation.
4. Rapidly enlarging sinkhole(s) are forming on the dam or abutments to the extent that failure appears imminent or is in progress.
5. Rapidly increasing flow through crack(s) eroding materials to the extent that failure appears imminent or is in progress.

Embankment Movement and Cracking

Emergency Level 3 - Urgent; dam failure appears imminent or is in progress:

1. Sudden or rapidly proceeding slides, settlement, or cracking of the embankment crest, slopes, abutments, and/or foundation, and breaching of the dam appears imminent or is in progress.

Emergency Level Determination & Emergency Level Index

Event	Condition	Emergency level
Unexpected Failure	Dam unexpectedly and without warning begins to fail	3
Auxiliary spillway flow	Reservoir water surface elevation at auxiliary spillway crest or spillway is flowing with no active erosion	1
	Spillway flowing with active gully erosion or flow that could result in flooding of people downstream if the reservoir level continues to rise	2
	Spillway flowing with an advancing head cut that is threatening the control section or that is already flooding people downstream	3
Embankment overtopping	Reservoir level is at the top of dam. Insufficient freeboard available.	2
	Water from the reservoir is flowing over the top of the dam	3
Seepage	New seepage areas in or near the dam, water flowing clear	1
	New seepage areas with cloudy discharge or increasing flow rate	2
	Seepage with a notable increase in flow (minimum a 25 % increase)	2
Sinkholes	Observation of sinkhole in reservoir area or on embankment	2
	Rapidly enlarging sinkhole	3
Embankment cracking	New cracks in the embankment greater than ¼-inch wide without seepage	1
Embankment movement	Visual movement/slippage of the embankment slope	2
	Sudden or rapidly proceeding slides of the embankment slopes	3
Earthquake	Measurable earthquake felt/reported near the dam and dam appears to be stable	1
	Earthquake resulting in visible damage to the dam or appurtenances	3
Security threat	Reported bomb threat, Unverified	1
	Verified bomb threat that, if carried out, could result in damage to the dam or appurtenances	2
	Detonated bomb that has resulted in damage to the dam or appurtenances	3
	Suspected Cyber-attack of pertinent control systems	3
Sabotage/ vandalism	Damage to or modification to the dam or appurtenances; little or no impacts to the functioning of the dam	1
	Damage to dam or appurtenances that has resulted in seepage flow	2
	Damage to dam or appurtenances that has resulted in uncontrolled water release	3
Blocked Pipes	Debris is blocking a spillway pipe, causing lake level to rise	1

After the EAP Coordinator/Owner has determined the event level:

See *STEP 2*: GREEN, YELLOW & RED Notification flowcharts.

See *STEP 3*: Remedial Actions once the emergency level has been determined.

Emergency Level 3 - Urgent event; dam failure appears imminent or is in progress:

The Emergency Management Agency (EMA) should be contacted immediately and the area evacuated (see *Evacuation Map* tab). The following actions should be taken:

1. Call 911. Be sure to say, “This is an emergency.” They will call other authorities and begin the evacuation. The following message may be used to help describe the emergency situation to the local police department or Harris County Emergency Management Agency:

“This is an emergency. This is Identify yourself; name and position.

Melody Lakes Dam, located 2.3 miles northeast of Waverly Hall, Georgia., is failing. The downstream area must be evacuated immediately based on the inundation mapping. Repeat, Melody Lakes Dam, is failing; evacuate the area along low-lying portions of Mulberry Creek.

We have activated the Emergency Action Plan for this dam and are currently under Emergency Level 3. Reference the evacuation map in your copy of the Emergency Action Plan.

I can be contacted at the following number, primary telephone number. If you cannot reach me, please call the following alternative number, secondary telephone number.”

2. Do whatever is necessary to bring anyone in immediate danger (anyone on the dam, downstream from the dam, boating on the reservoir, or evacuees) to safety if directed by the EMA.
3. Keep in frequent contact with the EMA and emergency services to keep them up-to-date on the condition of the dam. They will tell you how you can help with the emergency procedures.
4. If all means of communication are lost: (1) try to find out why, (2) try to get to another radio or telephone that works, or (3) get someone else to try to re-establish communications. If these means fail, handle the immediate problems as well as you can, and periodically try to re-establish contact with the local police department and emergency services.

The following prescribed message may be used as a guide for the local police department or the emergency services personnel to communicate the status of the emergency with the public:

Attention: This is an emergency message from the Harris County Emergency Management Agency , Listen carefully. Your life may depend on immediate action.

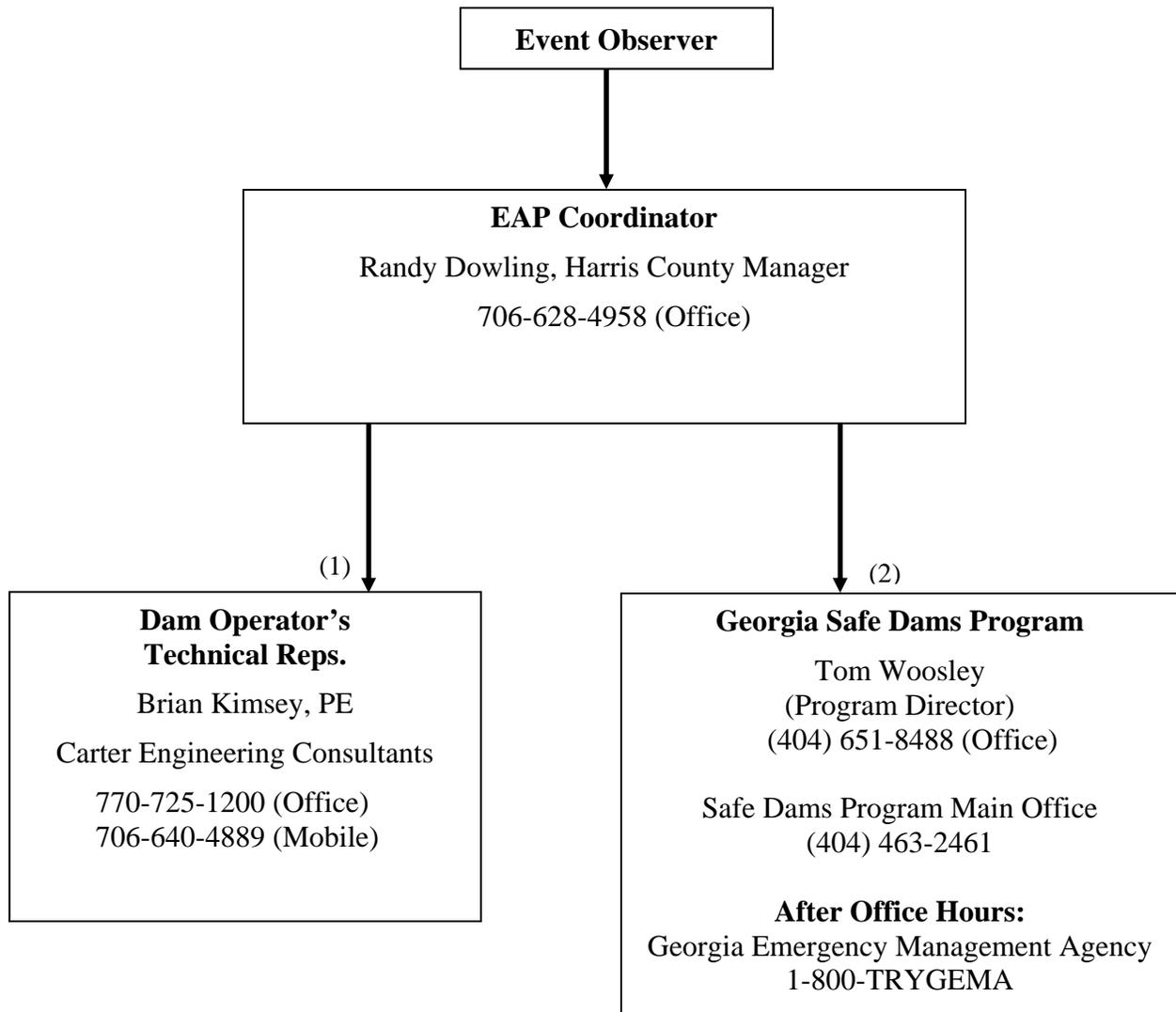
Melody Lakes Dam, located 2.3 miles northeast of Waverly Hall, Georgia., is failing. The downstream area must be evacuated immediately. Repeat, Melody Lakes Dam, is failing.

If you are in or near this area, proceed immediately to high ground away from the flood wave. Do not travel on GA-85 near Mulberry Creek or return to your home to recover your possessions. You cannot outrun or drive away from the flood wave. Proceed immediately to high ground.

Repeat message.

Emergency Level 1 Notifications

Nonemergency
unusual event; slowly developing



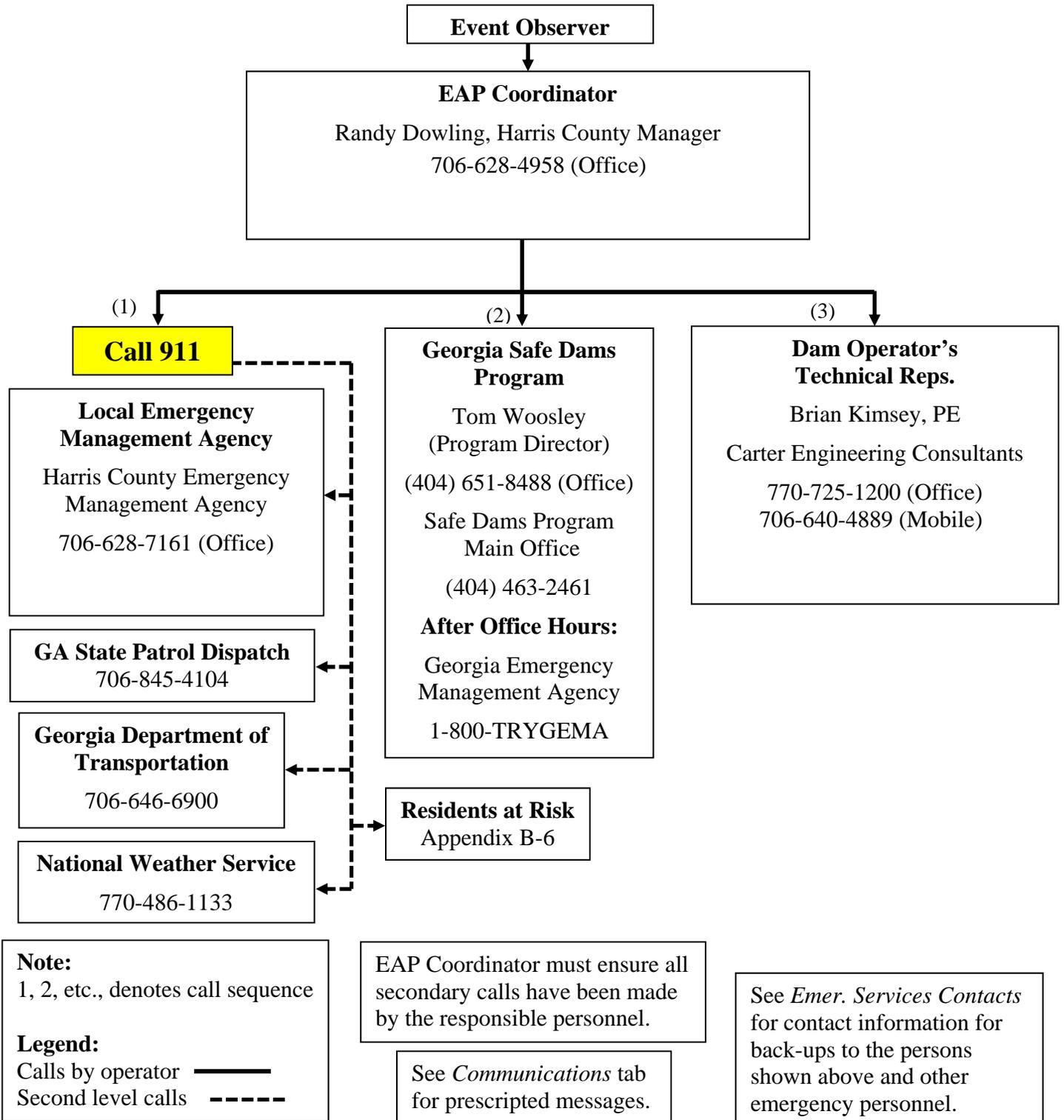
Note:
1, 2, etc., denotes call sequence

Legend:
Calls by operator ———
Second level calls - - - - -

See *Emer. Services Contacts*
for contact information for
back-ups to the persons
shown above and other

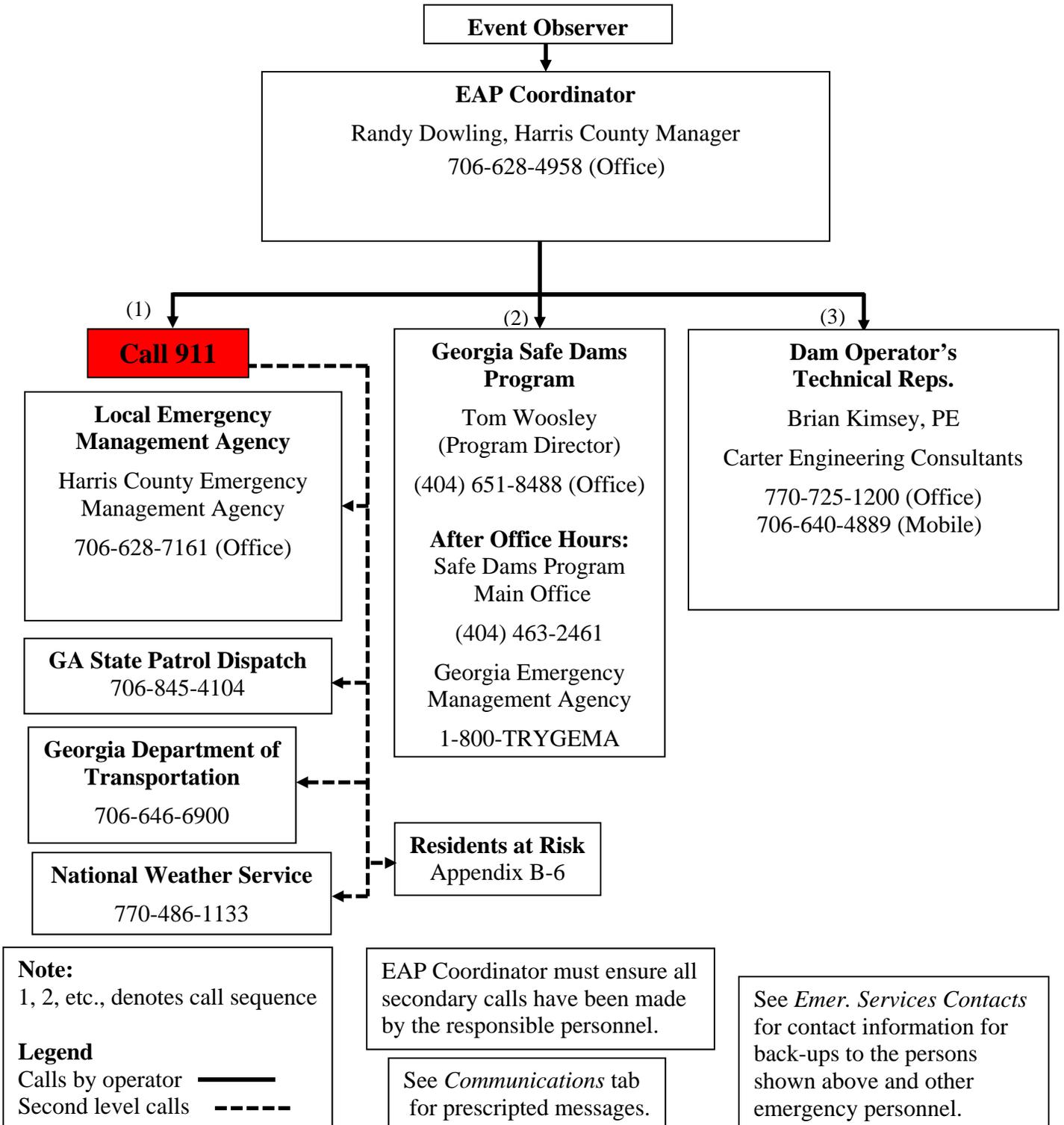
Emergency Level 2 Notifications

**Emergency event, potential dam failure
situation; rapidly developing**



Emergency Level 3 Notifications

Urgent event, dam failure appears imminent or is in progress



Emergency Services Contacts

Agency / Organization	Principal contact	Address	Office telephone number	Alternate telephone numbers
Owner	Harry Lange Chairman, Harris Co. BOC	104 North College Street, PO Box 365, Hamilton, GA 31811	706-628-4958	
Additional Owner	William Nolan Jr.	3980 Alibi Terrace, North Port, FL 34286	941-426-0640	
Additional Owner	Jesse B. Petty Sr. Karen D. Serrano	700 Melody Drive, Waverly Hall, GA 31831	334-297-0461	
Additional Owner	Donnie & Melonie Bailey	831 Melody Drive, Waverly Hall, GA 31831	706-582-2397	
Additional Owner	Melody Lakes Ranch Club Association	P.O. Box 1002, Waverly Hall, GA 31831	**	
Operator	Randy Dowling Harris Co. Manager	104 North College Street, PO Box 365, Hamilton, GA 31811	706-628-4958	
Engineer	Brian Kimsey, PE	3651 Mars Hill Road, Watkinsville, GA 30677	770-725-1200	
Landowner of Dam	Harris Co. Board of Commissioners	104 North College Street, PO Box 365, Hamilton, GA 31811	706-329-4735	
County Sheriff	Mike Jolley	9825 GA-116, Hamilton, GA 31811	706-628-4211	
Georgia Safe Dams Program	Tom Woosley Program Manager	2 Martin Luther King Jr. Dr. SE Atlanta, GA 30334	404-651-8488	404-463-2461
Local Emergency Management Agency	Harris Co. EMA	9907 GA-116, Hamilton, GA 31811	706-628-7161	
Local Fire Department	Melody Lakes Fire Department	934 Melody Drive, Waverly Hall, GA 31831	706-582-2292	
National Weather Service	David Nadler	4 Falcon Dr, Peachtree City, GA 30269	770-486-1133	
Georgia Department of Transportation	GDOT District 3 Director	600 W. Peachtree NW, Atlanta, GA 30308	706-646-6900	
Georgia Highway Patrol	Post 2 – Lagrange Director	1659 Lafayette Parkway, Lagrange, GA 30241	706-845-4104	
Local Radio Station	WCJM	705 4 th Ave West Point, GA 31833	706-645-2991	
Local TV Station	WSB-TV	1601 Peachtree St NW, Atlanta, GA 30309	404-897-7000	

* Back-up to primary contact

** Phone number unknown

Step 3: Remedial Actions

After the initial notifications are made, Randy Dowling should confer with Brian Kimsey, PE, the site engineer, and a representative from the Safe Dams Program to develop and execute appropriate preventative actions. Refer to *Appendix B-1: Resources Available* for emergency equipment access and local available contractors. During this step of the EAP, 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 event levels during Steps 2 and 3 as the situation either improves or worsens.

Step 4: Termination

When the emergency situation is over, the EAP operations must be terminated and follow-up procedures completed. EAP operations can only be terminated after completing operations under Event **Level 3** or **Level 1**. If Event **Level 2** is declared, the operations must be designated Event **Level 3** or **Level 1** before terminating the EAP operations.

Termination responsibilities

Harris County Emergency Management Agency, in coordination with the Georgia Safe Dams Program and EAP Coordinator, is responsible for terminating the EAP operations and relaying this decision to all parties active in EAP operations. It is then the responsibility of each person to notify the same group of contacts that were notified during the original event notification process and inform them that the event has been terminated.

Prior to termination of an Emergency **Level 3** event that has not caused actual dam failure, the Georgia Safe Dams technical representative will inspect the dam and/or require a state certified engineer to inspect the dam and determine whether any damage has occurred that could potentially result in loss of life, injury, or property damage. If it is determined conditions do not pose a threat to human life or property, Harris County Emergency Management Agency will be advised to terminate EAP operations as described above.

Randy Dowling shall assure that the *Dam Safety Emergency Situation Report* (Appendix A-3) is completed to document the emergency event and all actions taken. Randy Dowling shall distribute copies of the completed report to the Georgia Safe Dams Program.

Maintenance—EAP Review and Revision

EAP annual review

Randy Dowling will review and, if needed, update the EAP at least once each year. The EAP annual review will include the following:

- Call all contacts on the three notification charts in the EAP to verify that the phone numbers and the contact personnel are current. The EAP will be revised if any of the contacts have changed.
- Contact the local law enforcement agency to verify the phone numbers and persons in the specified positions. In addition, Randy Dowling will ask if the person contacted knows where the EAP is kept and if responsibilities described in the EAP are understood.
- Call the locally available resources to verify that the phone numbers, addresses, and services are current.
- Call/ check that all hazard contact information shown in Appendix B-6 is correct. In addition, the downstream area should be examined to determine if new hazards, roads, or structures have been developed within the flood inundation area shown in Appendices B-2 & B-5. The EAP will be revised if any of the information has changed.

Revisions

Randy Dowling is responsible for updating the EAP document. The EAP document held by the Randy Dowling is the master document. When revisions occur, Randy Dowling will provide the revised pages and a revised revision summary page to all the EAP document holders. The document holders are responsible for revising outdated copy of the respective document(s) whenever revisions are received. Outdated pages shall be immediately discarded to avoid any confusion with the revisions.

EAP periodic test

Randy Dowling will host and facilitate a periodic test of the EAP at least once every 5 years.

The periodic test will consist of a meeting, including a tabletop exercise, conducted at the Harris County EMA office. Attendance should include Harry Lange, Georgia Safe Dams Program staff, Harris County Emergency Management Agency, at least one representative of the local law enforcement agency, and others with key responsibilities listed in the EAP document. At the discretion of Randy Dowling, other organizations that may be involved with an unusual or emergency event at the dam are encouraged to participate. Before the tabletop exercise begins, meeting participants will visit the dam during the periodic test to familiarize themselves with the dam site.

The tabletop exercise will begin with the facilitator presenting a scenario of an unusual or emergency event at the dam. The scenario will be developed prior to the exercise. Once the scenario has been presented, the participants will discuss the responses and actions that they would take to address and resolve the scenario. The narrator will control the discussion, ensuring realistic responses and developing the scenario throughout the exercise. Randy Dowling should complete an event log as they would during an actual event.

After the tabletop exercise, the EAP will be reviewed and discussed. Contacts will be checked. Mutual aid agreements and other emergency procedures can be discussed. Randy Dowling will prepare a written summary of the periodic test and revise the EAP, as necessary.

Record of Holders of Control Copies

Copy Number	Organization	Person receiving copy
1	Harris Co. Board of Commissioners	Harry Lange
2	Harris County Government – County Manager	Randy Dowling
3	Carter Engineering Consultants 3651 Mars Hill Road, Watkinsville, GA 30677	Brian Kimsey, PE
4	Georgia Safe Dams Program 2 Martin Luther King Jr. Drive SE Suite 1362, Atlanta, GA 30334	Tom Woosley
5	Harris County Sheriff’s Department 9825 GA-116, Hamilton, GA 31811	Mike Jolley
6	Harris County Emergency Management Agency 9907 GA-116, Hamilton, GA 31811	Monty Davis
7	Melody Lakes Ranch Club Association P.O. Box 1002, Waverly Hall, GA 31831	Bobby G. Jones
8	Donnie & Melonie Bailey 831 Melody Drive, Waverly Hall, GA 31831	Donnie & Melonie Bailey
9	William G. Nolan Jr. 3980 Alibi Terrace, North Port, FL 34286	William G. Nolan Jr.
10	Jesse B. Petty Sr. Karen D. Serrano 700 Melody Drive, Waverly Hall, GA 31831	Jesse B. Petty Sr. Karen D. Serrano

Record of Revisions and Updates

Revision Number	Date	Revisions made	By whom

Concurrences

By my signature, I acknowledge that I, or my representative, have reviewed this plan and concur with the tasks and responsibilities assigned herein for me and my organization.

1. _____
Signature *Organization* *Date*

Printed name and title: **Harry Lange, Chairman, Harris County Board of Commissioners, Owner**

2. _____
Signature *Organization* *Date*

Printed name and title: **Mike Jolley, Sheriff, Harris County**

3. _____
Signature *Organization* *Date*

Printed name and title: **William Nolan Jr., Owner**

4. _____
Signature *Organization* *Date*

Printed name and title: **Jesse B. Petty Sr, Owner**

5. _____
Signature *Organization* *Date*

Printed name and title: **Karen D. Serrano., Owner**

6. _____
Signature *Organization* *Date*

Printed name and title: **Donnie Bailey, Owner**

7. _____
Signature *Organization* *Date*

Printed name and title: **Melonie Bailey., Owner**

8. _____
Signature *Organization* *Date*

Printed name and title: **Monty Davis, Harris County Emergency Management Agency, Emergency Management Coordinator**

9. _____
Signature *Organization* *Date*

Printed name and title: **Brian Kimsey, PE, Carter Engineering Consultants**

10. _____
Signature *Organization* *Date*

Printed name and title: **Georgia Safe Dams Program Representative**

11. _____
Signature *Organization* *Date*

Printed name and title: **Randy Dowling, Harris County Manager**

12. _____
Signature *Organization* *Date*

Printed name and title: _____

Appendices—Forms, Glossary, Maps, and Supporting Data

Appendix A

- A-1 Contact Checklist
- A-2 Unusual or Emergency Event Log Form
- A-3 Dam Emergency Situation Report Form
- A-4 Glossary of Terms

Appendix B

- B-1 Resources Available
- B-2 Inundation Maps
- B-3 Location and Vicinity Maps
- B-4 Drainage Area Map
- B-5 Evacuation Map
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Appendix A-1 - Contact Checklist

Melody Lakes Dam

Harris County, Georgia

Date:

The following contacts should be made by the EAP Coordinator or Owner immediately after the emergency level is determined. The person making the contacts should initial and record the time of the call and who was notified for each contact made. See the *Notification Charts* for critical contact information and *Emergency Services Contacts* for contact information for other possible emergency services.

Emergency Level 1

	Person Contacted	Time Contacted	Contacted by
___ Randy Dowling, Harris Co. Manager	_____	_____	_____
___ Brian Kimsey, PE	_____	_____	_____
___ Georgia Safe Dams Program	_____	_____	_____

Emergency Level 2

	Person Contacted	Time Contacted	Contacted by
___ Randy Dowling, Harris Co. Manager	_____	_____	_____
___ Brian Kimsey, PE	_____	_____	_____
___ Georgia Safe Dams Program	_____	_____	_____
___ 911	_____	_____	_____
___ Harris Co. EMA	_____	_____	_____

Emergency Level 3

	Person Contacted	Time Contacted	Contacted by
___ Randy Dowling, Harris Co. Manager	_____	_____	_____
___ Brian Kimsey, PE	_____	_____	_____
___ Georgia Safe Dams Program	_____	_____	_____
___ 911	_____	_____	_____
___ Harris Co. EMA	_____	_____	_____

Appendix A-2 - Unusual or Emergency Event Log

(The following should be completed by the EAP Coordinator or Owner during the emergency)

Dam name: Melody Lakes Dam

County: Harris County

Water Level Elevation: _____ Freeboard: _____

When and how was the event detected? _____

Weather conditions: _____

General description of the emergency situation: _____

Emergency level determination: _____ Made by: _____

Actions and Event Progression

Date	Time	Action/event progression	Taken by

Report prepared by: _____ Date: _____

Appendix A-3 - Dam Emergency Situation Report

(The following should be completed by the Local EMA after the termination of the emergency)

Dam name: Melody Lakes Dam

National Inventory of Dams (NID) No.: GA-01647

Dam location: Waverly Hall Harris County Mulberry Creek
(City) (County) (Stream/River)

Date: _____ Time: _____

Weather conditions: _____

General description of emergency situation: _____

Area(s) of dam affected: _____

Extent of dam damage: _____

Possible cause(s): _____

Effect on dam's operation: _____

Initial reservoir elevation: _____ Time: _____

Maximum reservoir elevation: _____ Time: _____

Final reservoir elevation: _____ Time: _____

Description of area flooded downstream/damages/injuries/loss of life: _____

Other data and comments: _____

Observer's name and telephone number: _____

Report prepared by: _____ Date: _____

Appendix A–4 - Glossary of Terms

Abutment	That part of the valley side against which the dam is constructed. The left and right abutments of dams are defined with the observer looking downstream from the dam.
Acre-foot	A unit of volumetric measure that would cover 1 acre to a depth of 1 foot. One acre-foot is equal to 43,560 cubic feet or 325,850 gallons.
Berm	A nearly horizontal step (bench) in the upstream or downstream sloping face of the dam.
Boil	A disruption of the soil surface due to water discharging from below the surface. Eroded soil may be deposited in the form of a ring around the disruption.
Breach	An opening through the dam that allows draining of the reservoir. A controlled breach is an intentionally constructed opening. An uncontrolled breach is an unintended failure of the dam.
Conduit	A closed channel (round pipe or rectangular box) that conveys water through, around, or under the dam.
Control section	A usually level segment in the profile of an open channel spillway above which water in the reservoir discharges through the spillway.
Cross section	A slice through the dam showing elevation vertically and direction of natural water flow horizontally. Also, a slice through a spillway showing elevation vertically and left and right sides of the spillway looking downstream.
Dam	An artificial barrier generally constructed across a watercourse for the purpose of impounding or diverting water.
Dam failure	The uncontrolled release of a dam's impounded water.
Dam Operator	The person(s) or unit(s) of government with responsibility for the operation and maintenance of dam.
Drain, toe or foundation, or blanket	A water collection system of sand and gravel and typically pipes along the downstream portion of the dam to collect seepage and convey it to a safe outlet.
Drainage area (watershed)	The geographic area on which rainfall flows into the dam.
Drawdown	The lowering or releasing of the water level in a reservoir over time or the volume lowered or released over a particular period of time.
Emergency	A condition that develops unexpectedly, endangers the structural integrity of the dam and/or downstream human life and property, and requires immediate action.
Emergency Action Plan (EAP)	A formal document identifying potential emergency conditions that may occur at the dam and specifying preplanned actions to minimize potential failure of the dam or minimize failure consequences including loss of life, property damage, and environmental impacts.
Evacuation map	A map showing the geographic area downstream of a dam that should be evacuated if it is threatened to be flooded by a breach of the dam or other large discharge.

Filter	The layers of sand and gravel in a drain that allow seepage through an embankment to discharge into the drain without eroding the embankment soil.
Freeboard	Vertical distance between a stated water level in the reservoir and the top of dam.
Gate, slide or sluice, or regulating	An operable, watertight valve to manage the discharge of water from the dam.
Groin	The area along the intersection of the face of a dam and the abutment.
Height, dam	The vertical distance between the lowest point along the crest of the dam and the lowest point at the downstream toe, which usually occurs in the bed of the outlet channel.
Hydrograph, inflow or outflow, or breach	A graphical representation of either the flow rate or flow depth at a specific point above or below the dam over time for a specific flood occurrence.
Incident Commander	The highest predetermined official available at the scene of an emergency situation.
Instrumentation	An arrangement of devices installed into or near dams that provide measurements to evaluate the structural behavior and other performance parameters of the dam and appurtenant structures.
Inundation area	The geographic area downstream of the dam that would be flooded by a breach of the dam or other large discharge.
Notification	To immediately inform appropriate individuals, organizations, or agencies about a potentially emergency situation so they can initiate appropriate actions.
Outlet works (principal spillway)	An appurtenant structure that provides for controlled passage of normal water flows through the dam.
Piping	The progressive destruction of an embankment or embankment foundation by internal erosion of the soil by seepage flows.
Probable Maximum Precipitation (PMP) or Flood (PMF)	The theoretically greatest precipitation or resulting flood that is meteorologically feasible for a given duration over a specific drainage area at a particular geographical location.
Reservoir	The body of water impounded or potentially impounded by the dam.
Riprap	A layer of large rock, precast blocks, or other suitable material, generally placed on an embankment or along a watercourse as protection against wave action, erosion, or scour.
Risk	A measure of the likelihood and severity of an adverse consequence.
Seepage	The natural movement of water through the embankment, foundation, or abutments of the dam.
Slide	The movement of a mass of earth down a slope on the embankment or abutment of the dam.
Spillway (auxiliary or emergency)	The appurtenant structure that provides the controlled conveyance of excess water through, over, or around the dam.
Spillway capacity	The maximum discharge the spillway can safely convey with the reservoir at the maximum design elevation.

Spillway crest	The lowest level at which reservoir water can flow into the spillway.
Tailwater	The body of water immediately downstream of the embankment.
Toe of dam	The junction of the upstream or downstream face of an embankment with the ground surface.
Top of dam (crest of dam)	The elevation of the uppermost surface of an embankment which can safely impound water behind the dam.

Appendix B-1 - Resources Available

Locally available equipment, labor, and materials:

Heavy equipment service and rental	Sand and gravel supply	Ready-mix concrete supply
Harris County Public Works 706-628-5850 United Rentals 706-563-9780	Marietta Martin Aggregates 706-548-4296	Moxley Concrete Services, LLC 706-653-6360
Pumps	Diving contractor	Sand bags
Carrollton Grading Co. 770-214-8100 Sunbelt Rentals 762-207-1372	Zion Marine 770-742-5334	Marietta Martin Aggregates 706-548-4296

Appendix B-2 - Inundation Maps

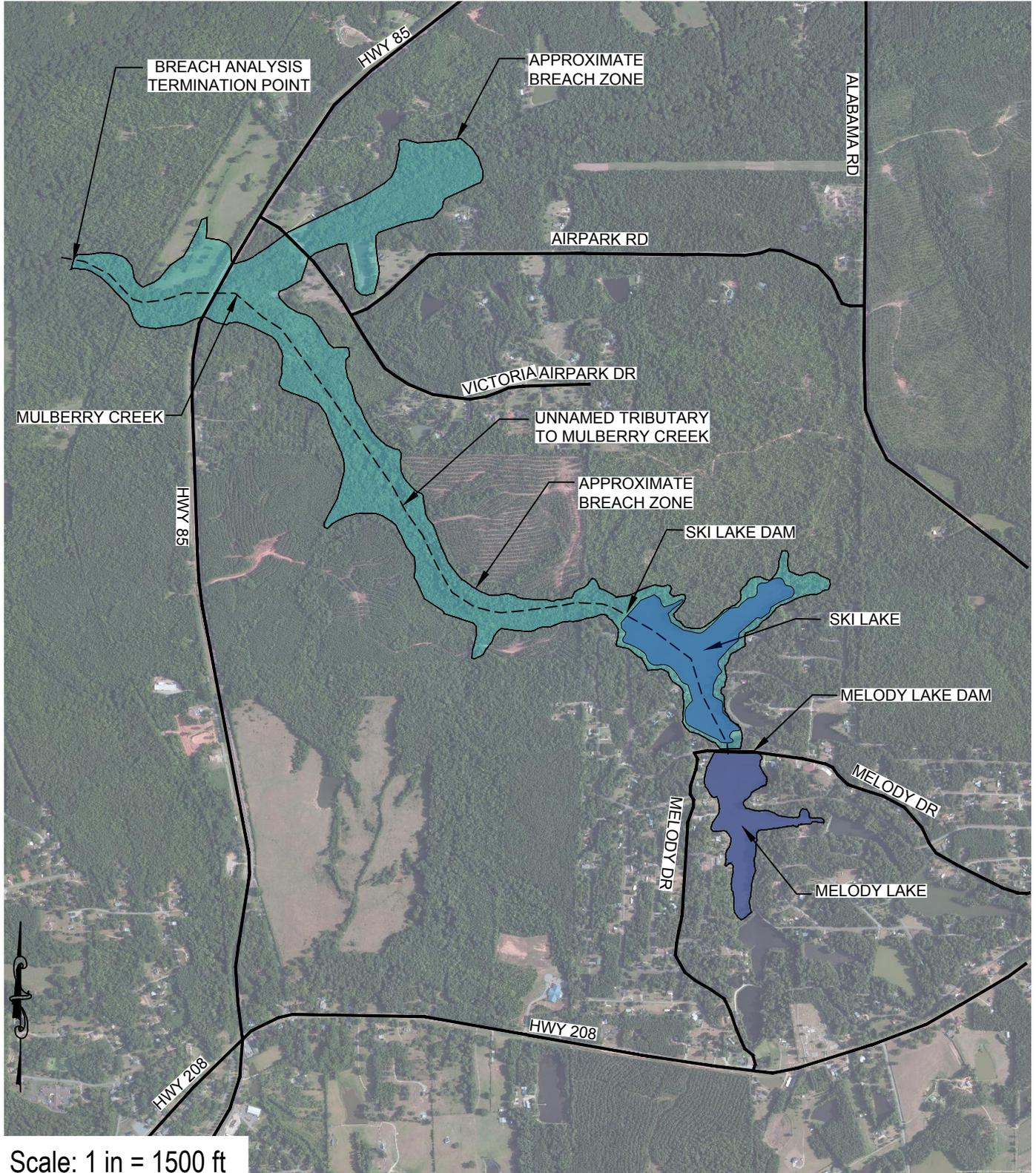
ALL BREACH ROUTING, INUNDATION AND EVACUATION MAPPING PERFORMED BY:

J. Brian Kimsey, P.E.
Carter Engineering Consultants
3651 Mars Hill Rd.
Suite 2000
Watkinsville, Ga 30677



J. Brian Kimsey

NOTE: The breach and inundation maps shown in this EAP assume downstream Ski Lake Dam will breach when Melody Lake Dam fails. The total volume of both lakes have been modelled in the breach and shown on inundation maps.



Scale: 1 in = 1500 ft

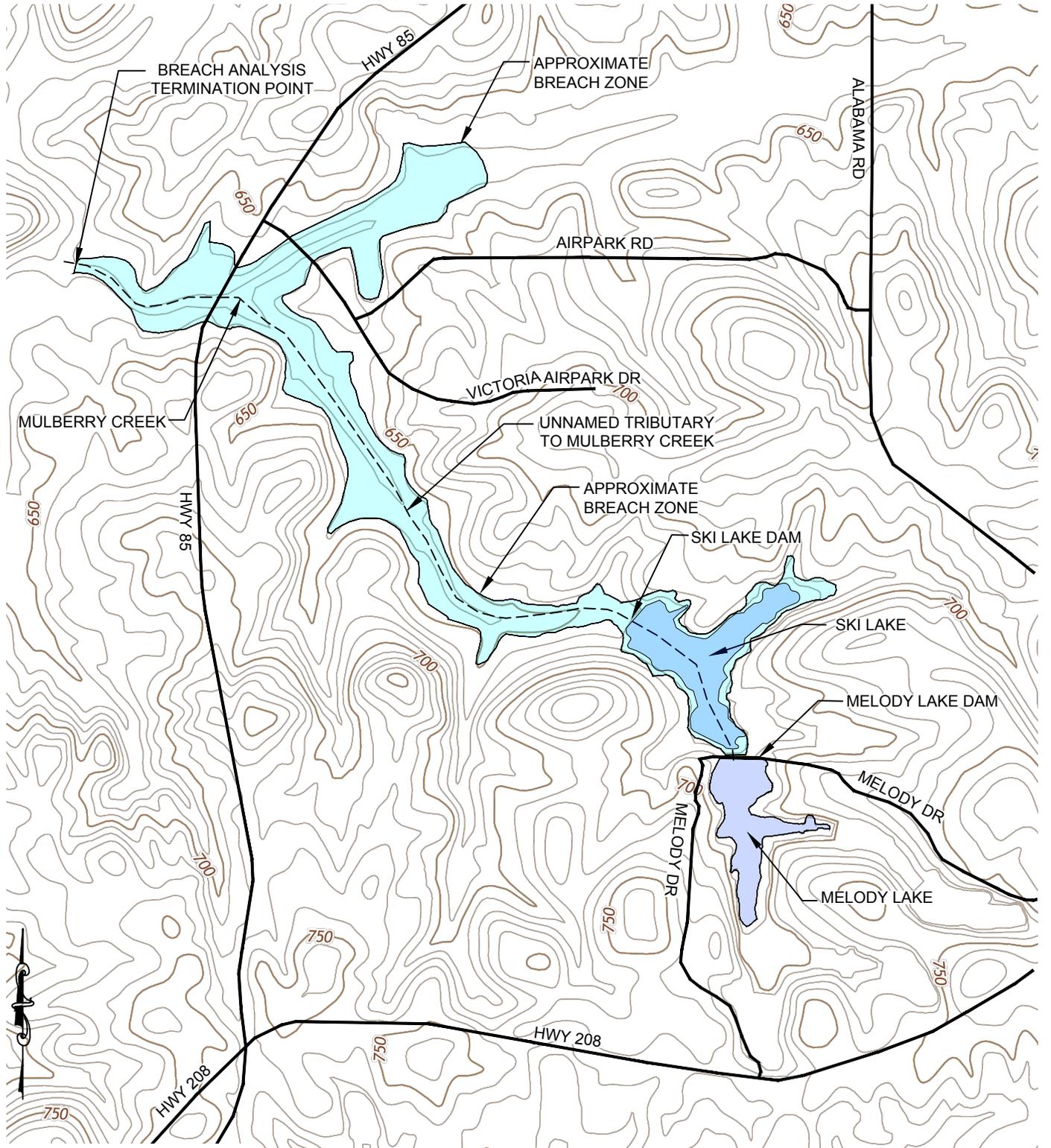


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**OVERALL BREACH ZONE
FLOOD AERIAL MAP
B-2.1**

**MELODY LAKE
HARRIS COUNTY, GEORGIA**

NOTE: The breach and inundation maps shown in this EAP assume downstream Ski Lake Dam will breach when Melody Lake Dam fails. The total volume of both lakes have been modelled in the breach and shown on inundation maps.



Scale: 1 in = 1500 ft

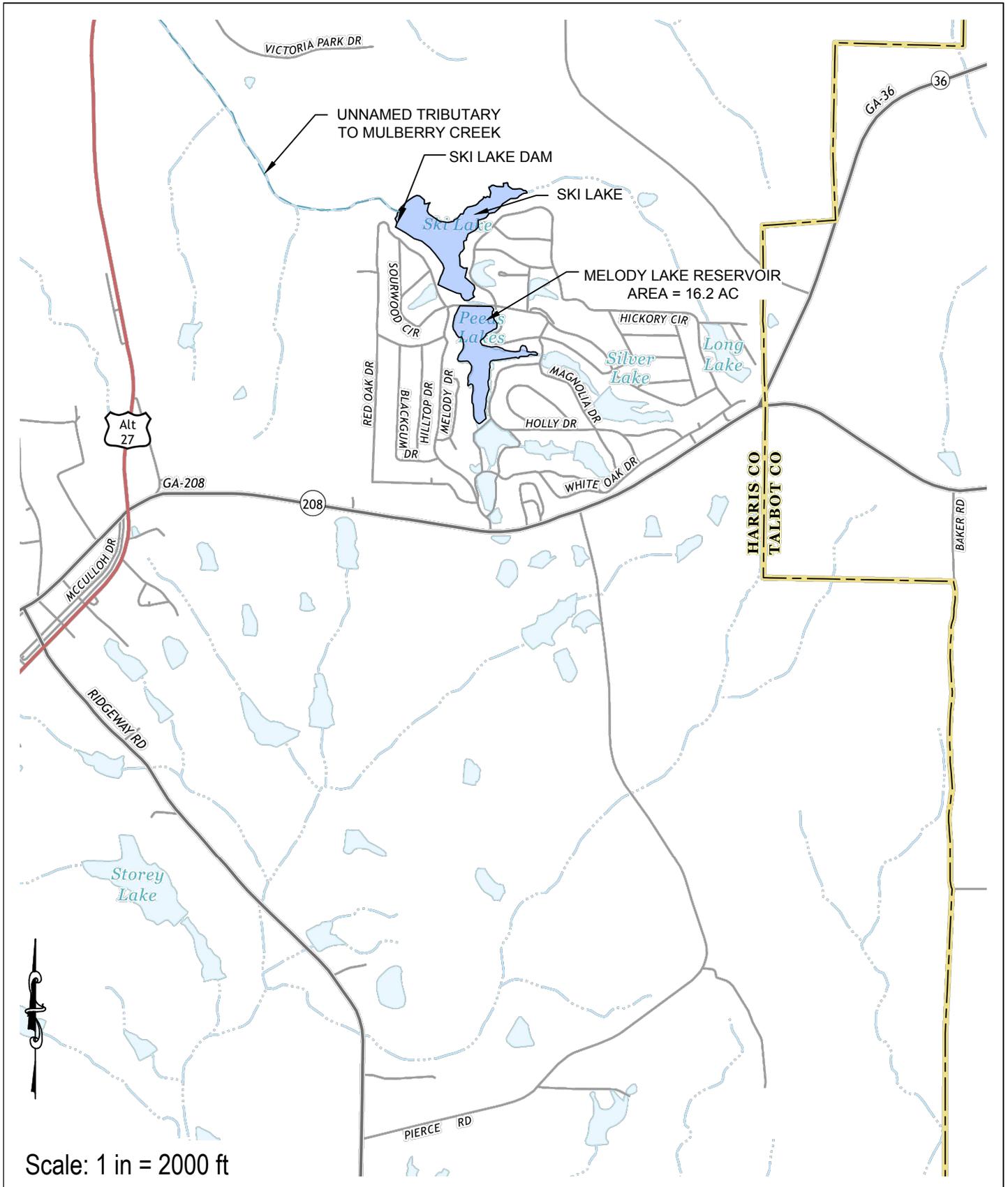


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**OVERALL BREACH ZONE
FLOOD TOPO MAP B-2.2**

**MELODY LAKE
HARRIS COUNTY, GEORGIA**

Appendix B-3 - Location and Vicinity Maps



Scale: 1 in = 2000 ft

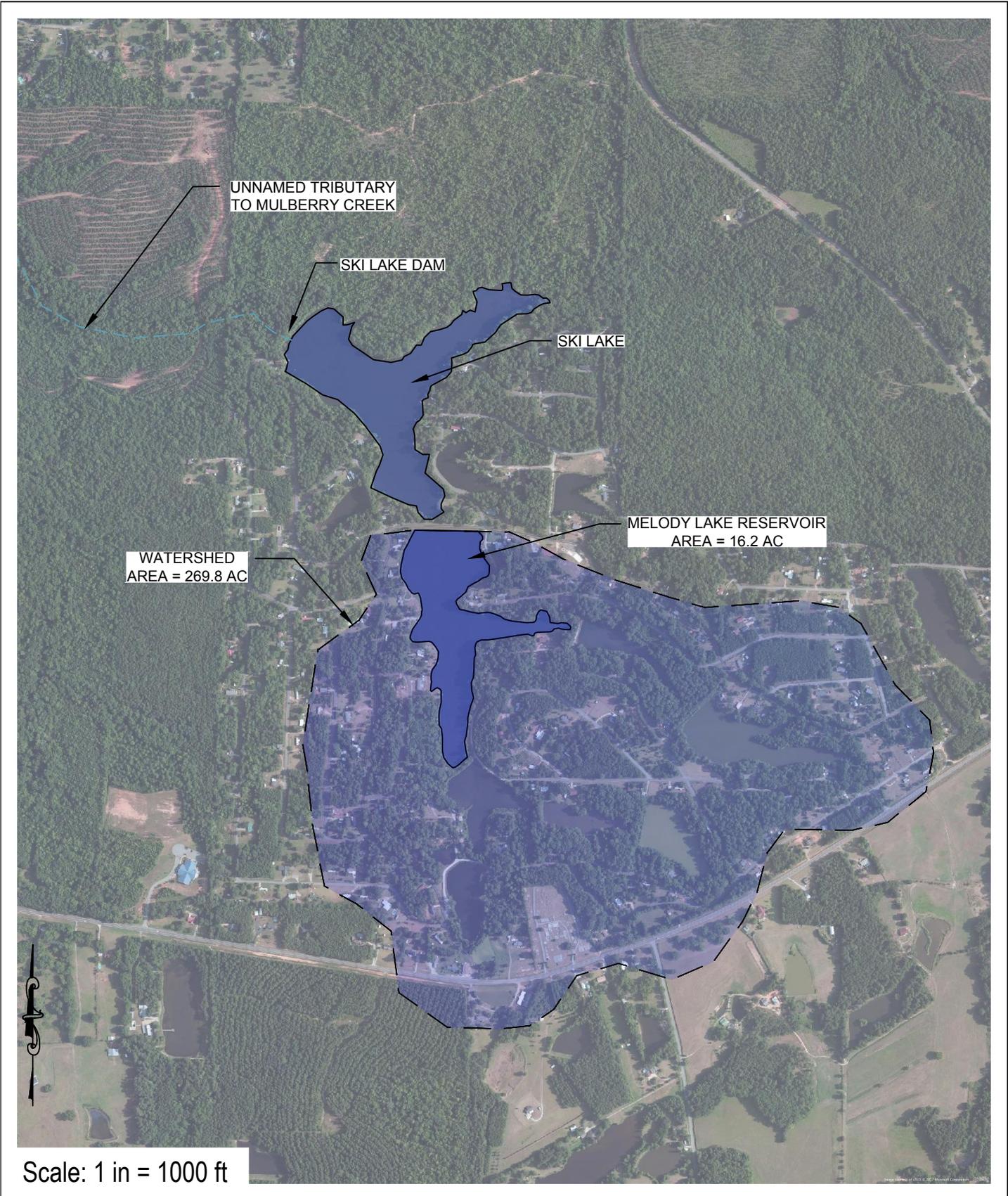


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USGS DOT

MELODY LAKE
 HARRIS COUNTY, GEORGIA

Appendix B-4 - Drainage Area Map



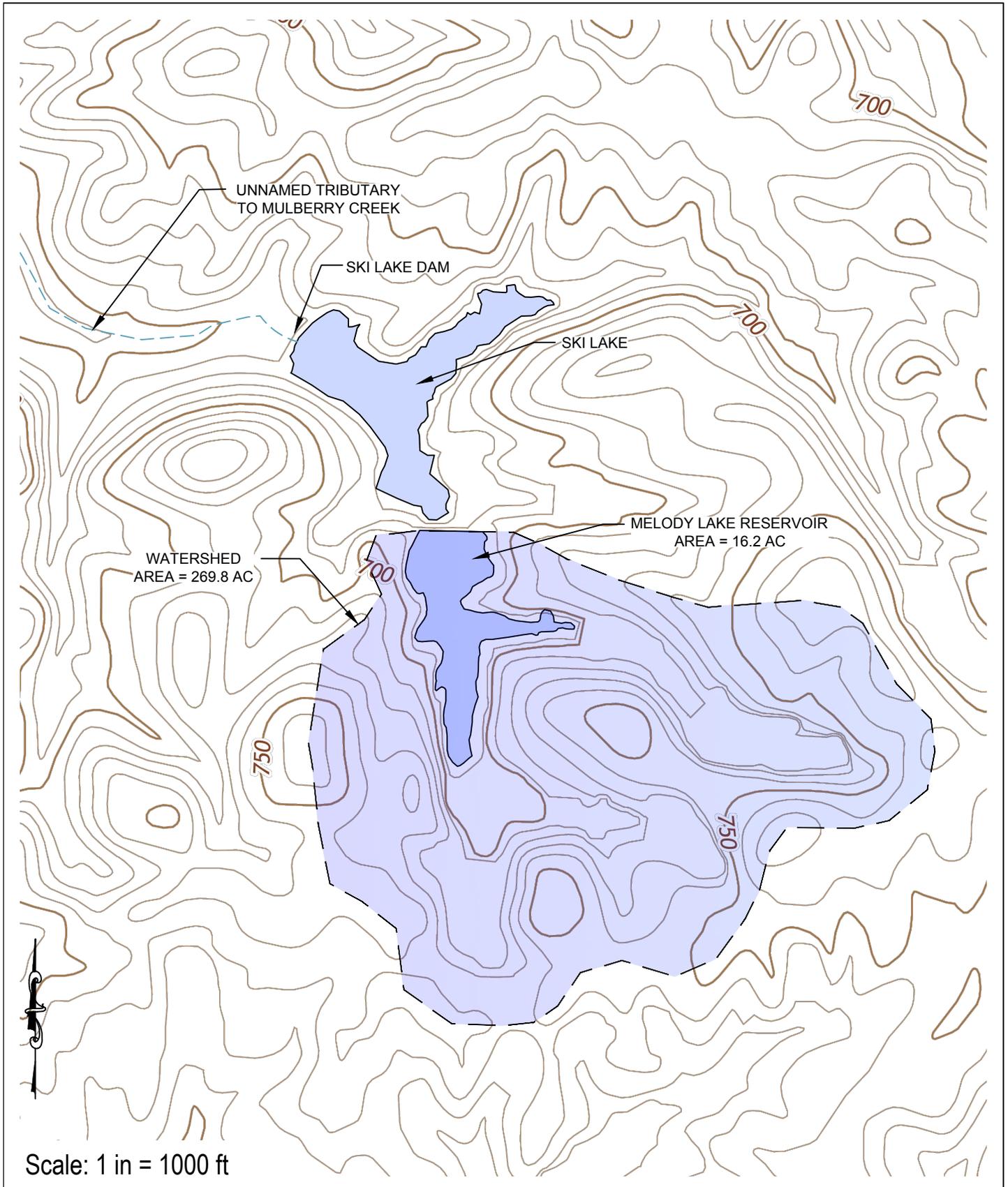
Scale: 1 in = 1000 ft



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WATERSHED AERIAL

MELODY LAKE
 HARRIS COUNTY, GEORGIA



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WATERSHED TOPO

MELODY LAKE
 HARRIS COUNTY, GEORGIA

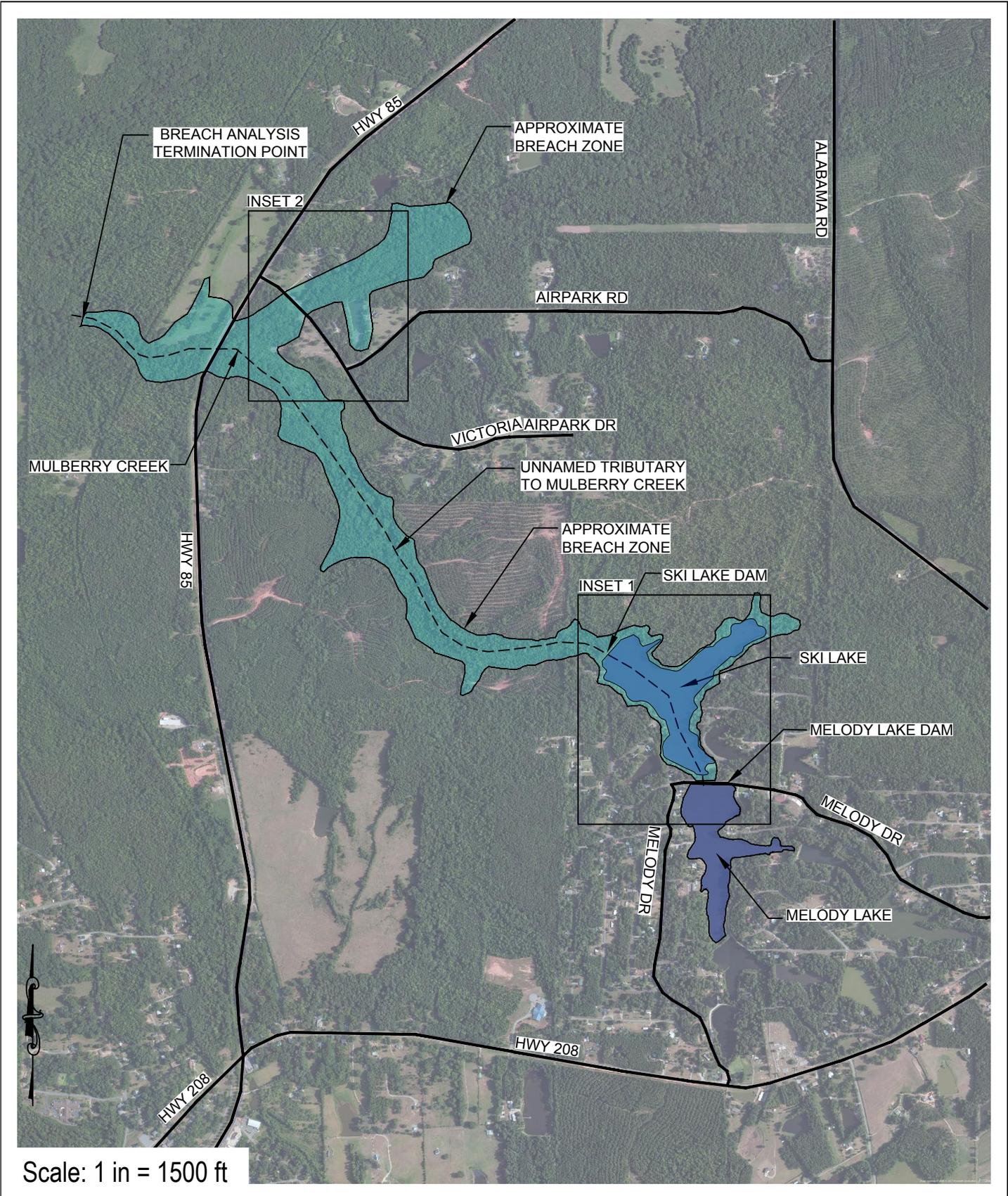
Appendix B-5 - Evacuation Map

ALL BREACH ROUTING, INUNDATION AND EVACUATION MAPPING PERFORMED BY:

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Suite 2000
Watkinsville, Ga 30677



J. Brian Kimsey



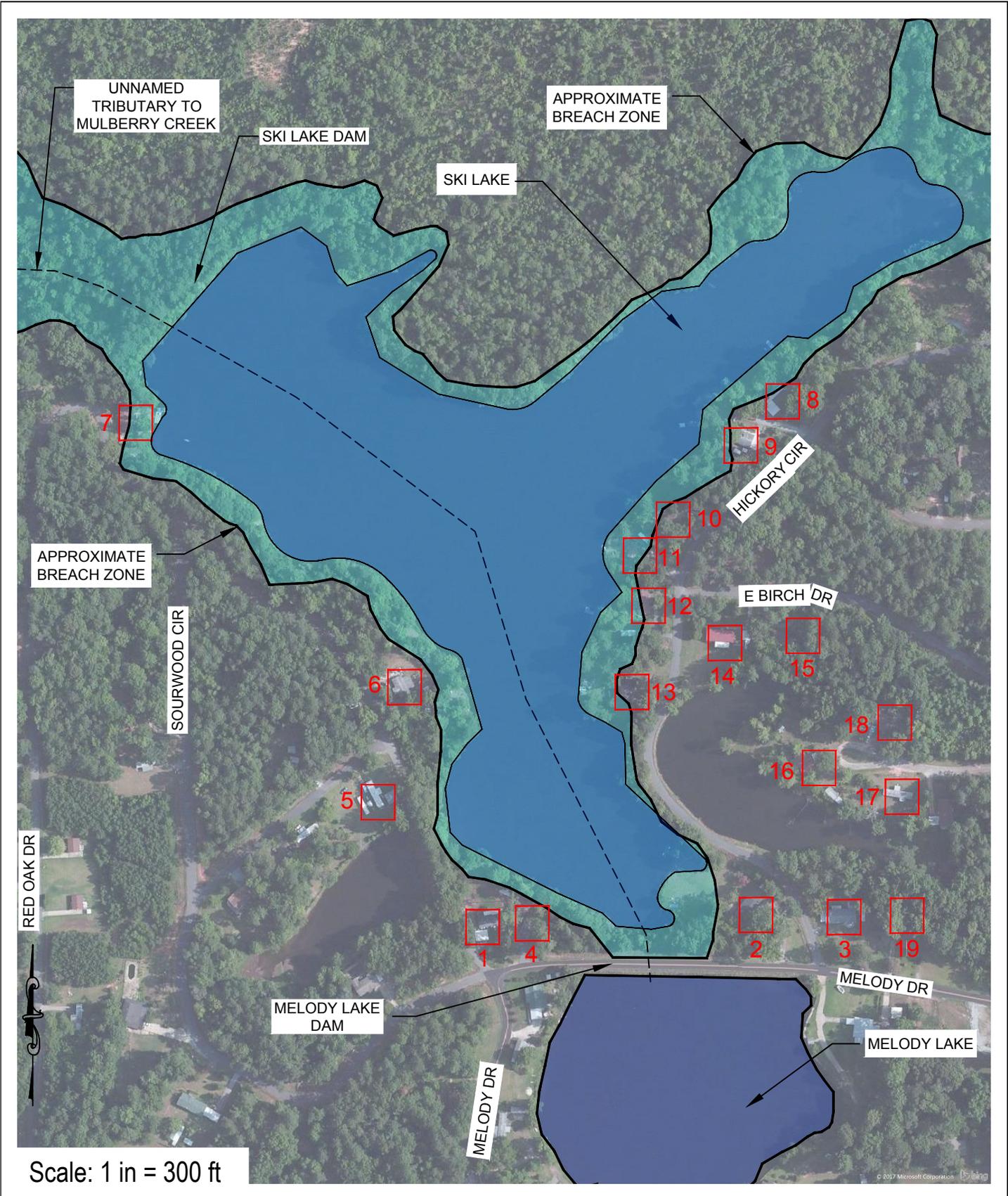
Scale: 1 in = 1500 ft



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**OVERALL INSET MAP
 B-5.1**

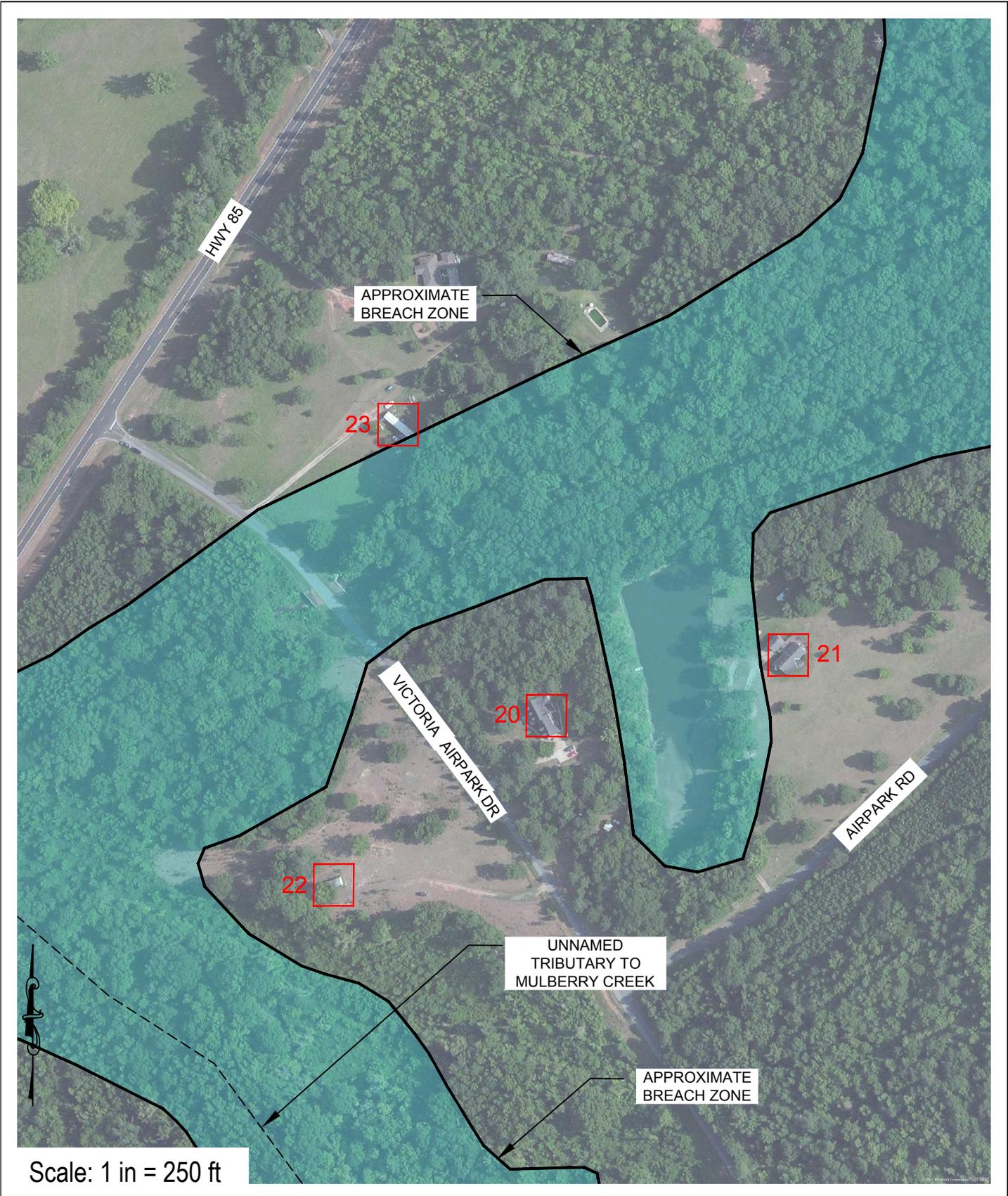
**MELODY LAKE
 HARRIS COUNTY, GEORGIA**



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**INSET 1
 EVACUATION MAP
 B-5.2**

**MELODY LAKE
 HARRIS COUNTY, GEORGIA**



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**INSET 2
 EVACUATION MAP
 B-5.3**

**MELODY LAKE
 HARRIS COUNTY, GEORGIA**

Appendix B-6 - Residents/Businesses/Highways at Risk

A major flood caused by a sudden breach of the dam is estimated to inundate 23 homes, 0 businesses, and 3 roadways. These homes and businesses (marked on the evacuation map) are located south of the Dam.

House / Business / Road No.*	Resident / Business / Road	Address	Phone No.	Distance Downstream from Dam (mi)	Travel Time** (hr)
1	LILLIAN & BILLY RHODES	1373 RED OAK DRIVE	***	0.1	0.01
2	MELONIE & DONNIE BAILEY	831 MELODY DRIVE	706-582-2397	0.1	0.01
3	THOMAS HAMMOCK	20 HICKORY CIRCLE	***	0.1	0.01
4	WILLIAM NOLAN JR	721 MELODY DRIVE	***	0.1	0.01
5	DOUGLAS DAILEY	1296 RED OAK DR	706-582-3418	0.1	0.01
6	GLORIA SMITH	1265 RED OAK DR	***	0.1	0.01
7	BEATRIX ROGERS	1089 RED OAK DR	334-448-4564	0.1	0.01
8	JIMMY & OLLIE WILLIAMS	289 HICKORY CIR	706-582-3218	0.1	0.01
9	TIPTON WYATT	275 HICKORY CIR	***	0.1	0.01
19	DONALD & SHERRILL THOMASON	871 MELODY DR	706-582-2151	0.1	0.01
10	RICHARD & SANDI SHEFFIELD	215 HICKORY CIR	706-582-3808	0.15	0.51
11	RICHARD & SANDI SHEFFIELD	215 HICKORY CIR	706-582-3808	0.15	0.51
12	ROY THORNTON	185 HICKORY CIR	706-323-4707	0.15	0.51
13	FRANKIE POWERS	151 HICKORY CIR	478-825-8516	0.15	0.51
14	STEPHEN BENYO	20 W BIRCH DR	706-582-3065	0.15	0.51
15	RONALD & AUDREY JENKINS	44 W BIRCH DR	***	0.15	0.51
16	MELISSA JONES	87 SUMAC DR	817-535-4236	0.15	0.51
17	KEVIN ANDERSON	59 SUMAC DR	***	0.15	0.51
18	LINDA HAUF	70 SUMAC DR	706-582-2557	0.15	0.51
20	DALE HAGLER	303 VICTORIA AIRPARK DR	706-323-2168	1.4	1.13
21	SHELBY HAGLER	65 AIRPARK DR	***	1.4	1.13
22	ROBERT TAYLOR	230 VICTORIA AIRPARK DR	630-219-3053	1.4	1.13
23	LIDA WRIGHT	65 VICTORIA AIRPARK DR	***	1.4	1.13

* See Appendix B-5.

** Estimated time for breach wave (peak) to travel from dam to downstream locations

***Permanent Home Phone Number Unavailable. Site visits required for contact/notification. (IF SAFETY PERMITS)

Roads within Inundation (Travel should be avoided on these roads where they cross Mulberry Creek)			Distance Downstream from Dam (mi)	Travel Time** (hr)
1	Melody Drive		0.0	0.0
2	Victoria Airpark Drive		1.4	1.13
3	GA-85		1.4	1.13

Basis for computation of evacuation area and flooding depths

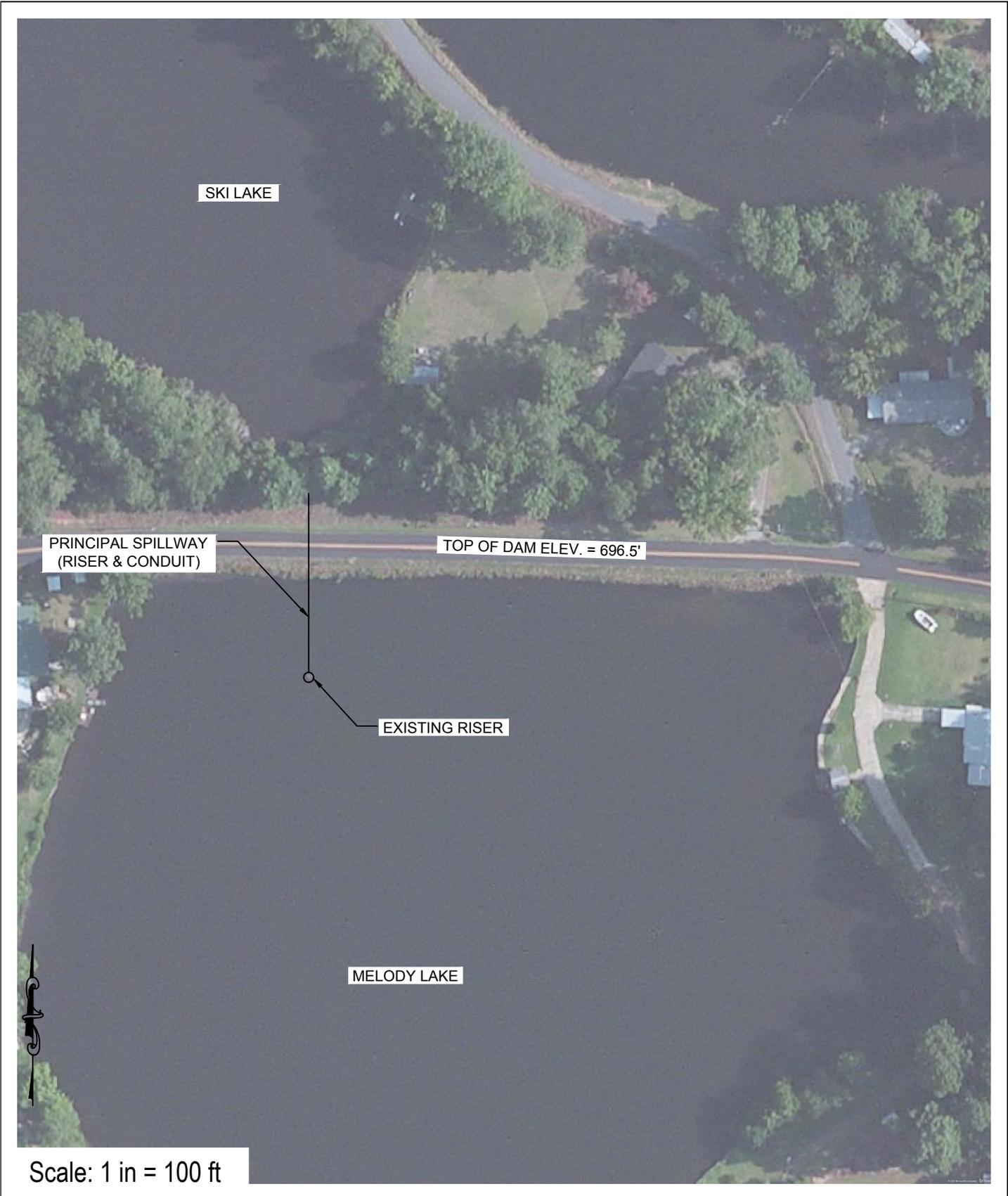
Breach inundation study completed by Carter Engineering Consultants, 8/21/2017

Hydraulic model used: HEC-RAS

Model assumptions:

- "Sunny Day" Breach (no inflow into the reservoir)
- Water surface elevation in reservoir prior to breach = 696.5' (Top of Dam)
- Total volume of breach hydrograph = 675 acre-ft (Melody Lake Dam = 285 ac-ft, Ski Lake Dam = 390 ac-ft)
- Height of water at time of breach = 26.0 ft
- Peak breach discharge = 9,674 ft³/s
- Downstream area defined by cross sections utilizing Light Detection and Ranging (LIDAR) Data

Appendix B-7 - Plan View of Dam



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**EXISTING
 CONDITIONS**

**MELODY LAKE
 HARRIS COUNTY, GEORGIA**

Appendix B-8 – National Inventory of Dams (NID) Data



[Home](#)
[NID By State](#)
[NID National](#)
[NID Interactive Report](#)
[Interactive Map](#)
[Help](#)

NID Detail Report

Report View Row 1 of 1 Exclude Null Values Displayed Columns

Dam Name	MELODY LAKES DAM
State	GA
County	HARRIS
Owner Name	HARRIS COUNTY BOARD OF COMMISSIONERS MELODY LAKES RANCH CLUB ASSOCIATION DONNIE & MELONIE BAILEY
Private Dam	N
NID Storage	285
Max Discharge	0
Max Storage	285
Drainage Area	0
Longitude	-84.7172
Latitude	32.6974
Core	X
Foundation	U
EAP	NR
Inspection Date	03/27/2012
Spillway Type	U
Spillway Width	0
NIDID	GA01647
Owner Type	Private
Dam Type	Earth
Primary Purpose	Recreation
All Purposes	Recreation
Inspection Frequency	1
Year Completed	1925
Surface Area	22
State Reg Dam	Y
State Reg. Agency	GA-SAFE DAMS PROGRAM
Outlet Gates	X
Volume	0
Number Of Locks	0
Length Of Locks	0
Width Of Locks	0
Source Agency	GA
Submit Date	11/24/2015
Congressional District	GA03
Political Party	R
Normal Storage	0
Congressional Rep.	Lynn A. Westmoreland (R)
Number Of Separate Structures	0
Permitting Authority	Y
Inspection Authority	Y
Enforcement Authority	Y
Jurisdictional Dam	Y
Dam Former Name	WHISPERING PINES LAKE DAM
Zoom To	
NID Height (Ft.)	26
Dam Length (Ft.)	570
Dam Height (Ft.)	26
Structural Height (Ft.)	0
Hydraulic Height (Ft.)	0
Distance	0