EMERGENCY ACTION PLAN

GRAND HAVEN BOARD OF LIGHT AND POWER

J.B SIMS GENERATING STATION

Emergency Action Plan

Pursuant to 40 CFR 257.73(a)(3)

Unit 3 East and West Ash Pond Surface Impoundments

Submitted To: Grand Haven Board of Light and Power
17000 Eaton Drive
Grand Haven, Michigan 49417

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March 2017

Project No. 1775416

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1. EMERGENCY ACTION PLAN APPROVAL

We, the undersigned, this date acknowledge this document as a part of the Emergency Action Plan (EAP) that would be taken to protect life and reduce property damage in case of an emergency due to failure of any of the Coal Combustion Residuals (CCR) Final Rule regulated surface impoundments located at the Grand Haven Board of Light and Power (GHBLP) J.B. Sims Generating Station (JBSGS) East and West Bottom Ash Ponds.

Furthermore, this plan has been reviewed for accuracy, and we verify that notification personnel and telephone numbers are correct. We have also incorporated the results of recent exercises and drills into the EAP.

Paul Cederquist 3/29/17

Signature, Environmental Compliance Specialist Date

3/29/17

Signature, Maintenance Supervisor Date

2. BASIC EMERGENCY ACTION PLAN DATA

2.1 Applicability

On April 17, 2015, the U. S. Environmental Protection Agency (EPA) issued its final rule (the “CCR Rule”) on the management of Coal Combustion Residuals (CCR) in 40 Code of Federal Regulations (CFR) Part 257 under Subtitle D of the Resource Conservation and Recovery Act (RCRA). A provision of the CCR Rule requires that power generating facilities with high or significant risk CCR surface impoundments create an Emergency Action Plan (EAP). This document is relevant to facilities that, after performing their structural integrity assessments, are rated as high or significant risk and thus must comply with the EAP requirements.

This guidance document addresses only the development of an Emergency Action Plan (EAP), which satisfies just one component of compliance with the CCR Rule.

2.2 Purpose

The purpose of this EAP is to describe procedures that are to be followed to reduce the risk of human injury and loss of life and minimize damage to property during an unusual or emergency event at the GHBLP J.B. Sims Generating Station (or Site) East and West Bottom Ash Ponds.

2.3 Potential Impacted Area

See Appendix A, Site Location Map.

See Appendix B for the Site Plan and Warning Areas.

See Appendix C, Potential Breach Flow Path Map, for locations that may be flooded and estimated time for the flood wave to travel from the basin to downstream locations if one of the basins above should fail.

3. BASIN DESCRIPTIONS

Table 1: Unit 3 East and West Bottom Ash Pond Dimensions and Size

Dimension	Units	West Pond	East Pond
Year of Construction	year	1983	1983
Hazard Classification	n/a	Significant	Significant
Designed Dam Height	feet	13	13
Designed Crest Width	feet	10	10
Designed Berm Length	feet	625	611
Designed Crest Elevation	ft-amsl	594	594
Designed Bottom Elevation	ft-amsl	585	585
Side Slopes (upstream)	Horizontal:Vertical	2:1	2:1
Side Slopes (downstream)	Horizontal:Vertical	3:1	3:1
Surface Area	acre	0.3	0.2
Total Storage Capacity (with 2 feet of freeboard)	cubic feet	77,000	68,000
Total Storage Capacity	acre-feet	1.8	1.6
Current Crest Elevation	ft-amsl	591.2 to 592.7	591.2 to 592.7
Normal Pond Elevation	ft-amsl	588 to 590	588 to 590
Inflow	MGD	0.5	0.5
Recent Liner Modifications	year (see note 3)	1996	1996

Notes:
1) Information from USEPA (2012), Black and Veatch (1983), and Soils & Structures (2016).

2) ft-amsl = feet above mean sea level.

3) During the process of removing bottom ash from each pond, using an excavator, some of the clay liner can become disturbed or removed. GHBLP periodically hires an earthworks contractor to repair the clay liner. The most recent relining was completed in October 1996.

4) Per GHBLP personnel, GHBLP circulates approximately 0.5 MGD and blows down approximately 0.030 MGD. MGD = million gallons per day.

4. SUMMARY OF EAP PROCESS AND OVERVIEW

The following four steps must be followed anytime an unusual or emergency event (see Section 6.1.2.1) is detected at the following CCR surface impoundments at the GHBLP's facility East and West Bottom Ash Ponds.

Step 1 – Event Detection and Level Determination

During this step, an unusual or emergency event is detected at one of the two subject basins and classified by the *Environmental Compliance Specialist (ECS)* into one of the following event levels:

- Event Level 3: Unusual Event, slowly developing
- Event Level 2: Emergency Event, rapidly developing
- Event Level 1: Emergency Event, imminent dam failure or flash flooding

Step 2 – Notification and Communication

After the event level has been determined, notifications are made in accordance with the appropriate notification flow charts provided in Appendix D.

Step 3 – Expected Actions

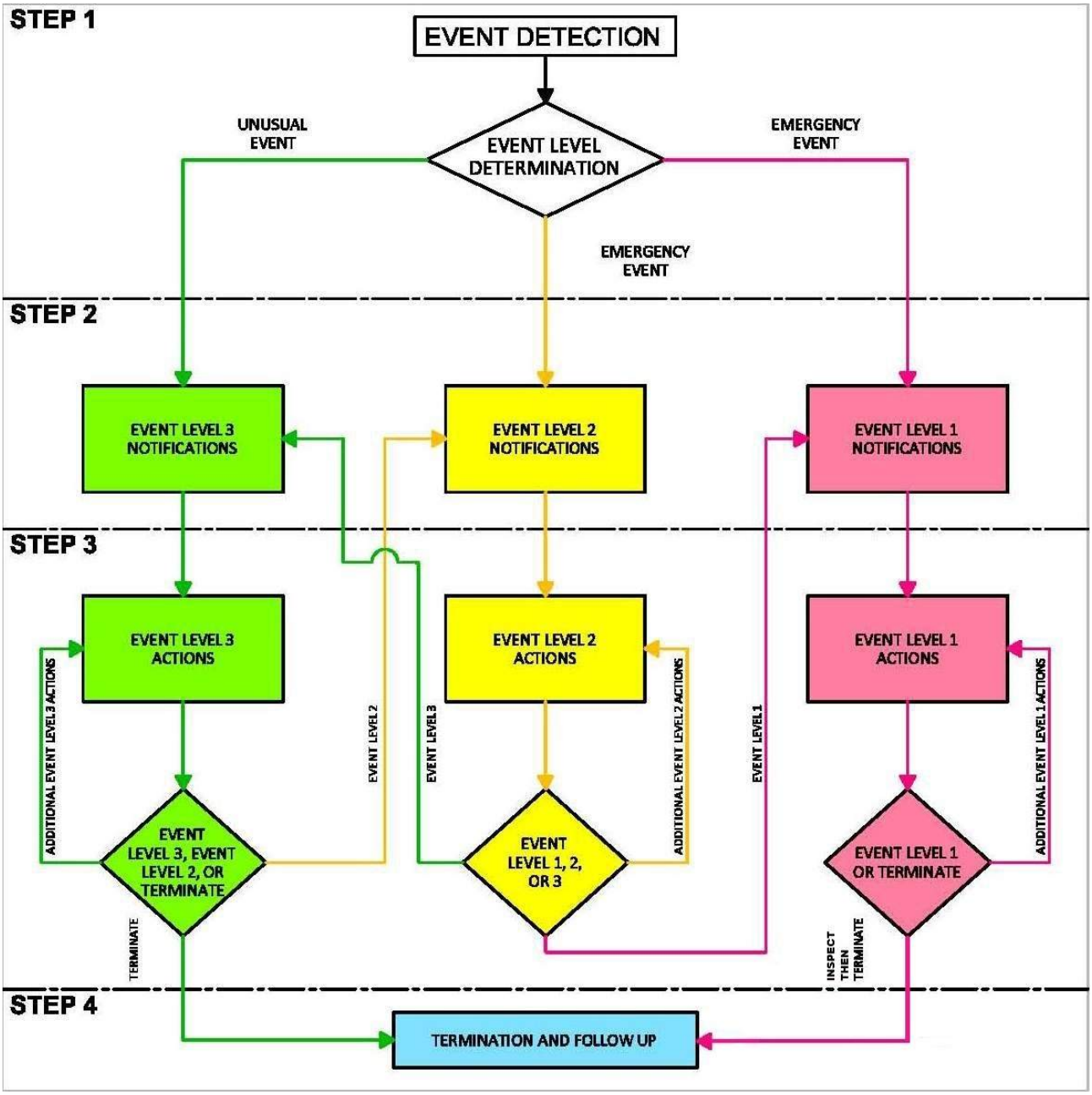
After the initial notifications are made, the *ECS* is to refer to Table 2 and confer with the *Maintenance Supervisor or designee* to develop and execute appropriate preventative actions. During this step, there is a continuous process of taking actions, assessing the status of the situations, and keeping 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 and Follow-up

Once the event has ended or been resolved, termination and follow-up procedures are to be followed. EAP operations can only be terminated after completing operations under Event Level 3 or 1. If Event Level 2 is declared, the operations must be designated Event Level 3 or 1 before terminating the EAP operations. Following an Event Level 1 determination, an inspection of the CCR surface impoundment structure is to be conducted prior to terminating the EAP operations.

Unusual and emergency events are defined in Section 4. Specific actions required for each step will depend on the severity of the situation as defined during Step 1. This four step process is depicted graphically on the EAP Flow Chart, Figure 1 below.

Figure 1. EAP Overview



5. ROLES AND RESPONSIBILITIES

5.1 EAP Coordinator (ECS or Designee)

- The EAP Coordinator is the *Environmental Compliance Specialist (ECS) or Designee*. As soon as an unusual event or emergency event is detected, immediately classify it by one of the following emergency event levels:
  - Event Level 3: Unusual Event, slowly developing
  - Event Level 2: Emergency Event, rapidly developing
  - Event Level 1: Emergency Event, imminent dam failure or flash flooding
- Immediately notify the personnel in the order presented on the notification chart (Appendix D) for the appropriate level and if time permits, confer with the *Maintenance Supervisor or Designee*.
- Provide updates of the situation to the police dispatcher to assist them in making timely decisions regarding warnings and evacuations.
- Ensure the EAP process is followed and the process is completed.

5.2 Warning/Evacuation Director (Ottawa County Emergency Management Agency)

- Serves as a primary contact for coordination of emergency services.
- Coordinate the preparation to evacuate downstream from the dam, as well as the implementation of the evacuation itself. The *ECS* will contact the Warning/Evacuation Director.
- Under a Level 3 Event, the Warning/Evacuation Director notifies residents of an evacuation.
- Decide when to terminate the emergency.
- Inundation maps and lists of associated, at-risk property owners are included in Appendix C.

5.3 Maintenance Supervisor (or designee)

- The *Maintenance Supervisor's* responsibilities involve assistance in environmental infrastructure issues, which includes technical aspects of the basins, event level determination and evaluation, and anything that pertains to the condition of the basins, including any necessary follow-up activities, including issuing updates to the EAP.

5.4 Public Affairs Manager

- The *Public Affairs Manager* prepares a public statement and will be solely responsible for notifying the media about the event.

5.5 On-Call Engineer

- Provide decision and technical support to the *Maintenance Supervisor or Designee* as appropriate.

6. THE FOUR-STEP EAP PROCESS

6.1 Step 1 – Event Detection and Level Determination

This section of the EAP describes the first step that must be followed whenever an unusual or emergency event is detected with respect to one of the two subject CCR impoundments GHBLP's facility. This section also describes event detection and information to assist the *ECS* in determining the appropriate level for the event.

6.1.1 Event Detection

Unusual or emergency events may be detected by:

- Daily visual observations of the structures and spillways;
- Daily water level measurement;
- Weekly measurement of calibrated rain gauge; and
- Routine inspection of the embankments, spillways, and associated structures by trained personnel and completion of inspection form.

After any unusual or emergency event is detected and reported to the *ECS*, the *ECS* (or Acting *ECS*) is responsible for determining the level of the event. If the *Ottawa County Emergency Management Agency (Sheriff's Office)* receives a 911 call regarding observations of an unusual or emergency event at one of the structures, the 911 dispatcher is to first contact the *ECS*. The *ECS* is to determine the appropriate event level (as defined in Section 6.1.2.2) and advise the dispatcher of the event level.

6.1.2 Event Level Determination

6.1.2.1 Definition of Unusual and Emergency Events

- **Unusual Event** - is defined as an event, which takes place, or a condition, which develops, that is not normally encountered in the routine operation of the basins and reservoir, or necessitates a variation from Standard Operating Procedures. An unusual event requires operations in accordance with Event Level 3 of this EAP.
- **Emergency Event** - is defined as an event, which takes place, or a condition, which develops, that is of a serious nature that may endanger the basins, or endanger persons or property, and demands immediate attention. An emergency event requires immediate operations in accordance with Event Level 2 or 1 of this EAP.

6.1.2.2 Level Determination

The *ECS* is responsible for defining unusual or emergency events as one of the three following event levels:

- **Event Level 3** - This is an unusual event that is defined as a slowly developing situation that may endanger the structural integrity of the basins. The *ECS* is responsible for monitoring the progression of the event. This event does not require emergency action, but appropriate maintenance and monitoring shall be performed immediately.

- **Event Level 2** - This is an emergency event that is defined as rapidly developing and could quickly lead to dam failure and flash flooding downstream of the basins. The *ECS* will notify the Ottawa County Emergency Management Agency to prepare the downstream areas for evacuation. If the *ECS* is unable to make an event level determination, the *Maintenance Supervisor* will make the determination.
- **Event Level 1 -** This is an emergency event that is defined as imminent dam failure or flash flooding downstream of the basins. The *ECS or Maintenance Supervisor* will notify the Ottawa County Emergency Management Agency for the immediate evacuation of potentially inundated areas downstream of GHBLP's facility.

6.1.2.3 Level Determination Guidance

Use Table 2, below, as a guide for determining the appropriate event level. This table is intended to be all inclusive; however, an event or condition may arise that is not included in this table. In the circumstance of multiple events occurring at the basins with conflicting event levels, always designate the more severe applicable event level as the governing event level.

Table 2: Event Level Determination Guidance

Event	Observation	Event Level
Flooding	Flooding is unlikely because the structures are ring dikes and only receive inflows from pumps and rainfall directly on the basin.	3
Earthquake	Measurable earthquake felt or reported on or within 50 miles of the basins.	3
	Earthquake that causes visible damage to the embankments or appurtenances.	2
	Earthquake resulting uncontrolled release of water	1
Seepage	Discovery of new seepage areas on or near the basins.	3
	New seepage areas or existing seepages with now cloudy discharge or increased flow rate	2
	Seepage with cloudy water, transporting embankment material, and increasing in flow.	1
Cracking	New cracks in embankment greater than several inches deep, several feet long.	3
	New cracks in embankment with seepage (see seepage above)	2
Moving	Visible gradual movement of the embankment slope	3
	Visible and accelerating movement of the embankment slope affecting embankment crest height.	2
Overtopping	Water level within 6 inches to 1 foot of the basin crest	3
	Water flowing over the top of the basin crest	1
Trashrack Failure or Blockage (WDA only)	Inability to clean trash racks.	3
	Inability to clean trash racks, rising water, >1 ft below crest.	2
	Inability to clean trash racks, water flowing over basin crest.	1
Sabotage/ Vandalism	Damage to embankments or appurtenances with no impacts to normal functions	3
	Damage to embankment or appurtenances with cloudy seepage flow	2
	Damage to embankment or appurtenance resulting in uncontrolled release of water	1

Notes:

- **Event Level 3** - This is an unusual event that is defined as a slowly developing situation that may endanger the structural integrity of the basin.
- **Event Level 2** - This is an emergency event that is defined as rapidly developing and could quickly lead to basin failure and flash flooding downstream of the basin.
- **Event Level 1 -** This is an emergency event that is defined as imminent basin failure or flash flooding downstream of the basin.

6.2 Step 2 – Notification and Communication

This section of the EAP describes the appropriate notifications that are to be made after the *ECS* has determined the event level as an Event Level 3, 2, or 1. This section also outlines the communication systems that are available for making notifications as well as a Public Affairs Plan with sample media release and a list of media contacts. Notifications are to be made in accordance with the appropriate Notification Flow Chart provided in Appendix D.

6.2.1 Communication Systems

Communication equipment available to the *ECS* and other GHBLP personnel includes radios and cellular phones. Radios shall be the primary means of communication on Site. Cellular phones can be used as secondary means of communication, in the event radios are non-functioning or not available.

6.2.2 Scripted Messages

The following scripted messages **is to be used** as a guide to communicate the status of an event **using event level notifications listed in Appendix D, Figure D.1 through D.3 - Notification Flow Chart for applicable event level.**

ECS Event Level 3 Scripted Message

- This is the *Environmental Compliance Specialist,* I am making this call in accordance with the *GHBLP JBSGS EAP*.
- An unusual event has been detected at *the JBSGS*.
- The EAP has been activated, currently at Level 3.
- If a problem occurs, flooding along *Grand River* is possible.
- The situation is being monitored to determine if any evacuation warnings are necessary.
- We will keep you apprised of the situation. The best telephone number to reach me during this event is … (*state the best number to reach you*).
- Refer to Appendix D, Figure D.1 - Notification Flow Chart for Event Level 3.

ECS Event Level 2 Scripted Message

- This is the *Environmental Compliance Specialist.* I am making this call in accordance with the *GHBLP JBSGS EAP*.
- An emergency event has been detected *at the JBSGS*.
- The EAP has been activated, currently at Level 2.
- Flooding along *the Grand River* is possible.
- **Prepare to evacuate** homes/structures around the *JBSGS*.
- We will keep you apprised of the situation. The best telephone number to reach me during this event is … (*state the best number to reach you*).
- Refer to Appendix D, Figure D.2 - Notification Flow Chart for Event Level 2.

ECS Event Level 1 Scripted Message

- This is the *Environmental Compliance Specialist,* I am making this call in accordance with the *GHBLP JBSGS* EAP.
- An emergency event has been detected at the JBSGS. Failure of *a basin* is imminent.
- The EAP has been activated, currently at Level 1.
- Flooding along *the Grand River will occur or is already occurring*.
- **Immediately evacuate** homes/structures around the *JBSGS*.
- We will keep you apprised of the situation. The best telephone number to reach me during this event is … (*state the best number to reach you*).
- Refer to Appendix D, Figure D.3 - Notification Flow Chart for Event Level 1.

6.2.3 Public Affairs Plan

In the event of an unusual or an emergency condition, the *Public Affairs Manager* will be alerted and briefed on the situation. The *Public Affairs Manager* will prepare and be solely responsible for delivering a message for public release based on the existing conditions and information from the *Maintenance Supervisor or designee*, or other sources.

Preparation of warning messages is to begin as soon as their potential need is apparent so that they can be issued promptly upon determination of a Level 2 or Level 1 event. Where time is available for its preparation, the initial message is to contain all pertinent information. However, in some cases, an emergency condition may be declared with little or no advance notice. The following example messages provide a model for the first announcements for Event Levels 2 and 1. Subsequent announcements are to provide additional details at the discretion of the Public Affairs Manager.

Public Affairs Manager - Event Level 2 Basin Failure Announcement (Example)

- THE *GHBLP JBSGS* ANNOUNCED AT (*time*) TODAY THAT AN EMERGENCY CONDITION EXISTED AROUND ONE OF *(The JBSGS Basins)* DUE TO (*general description of problem*). THE BASIN IS LOCATED *AT THE JBSGS on Harbor Island, Grand Haven, Michigan*.
- THE *GHBLP* SPOKESPERSON SAID THAT THE WATER LEVEL OF THE (Identify Specific Basin) WAS BEING LOWERED (*reason*).
- THE SPOKESPERSON EMPHASIZED THAT THE DRAWDOWN OF THE STRUCTURE WAS BEING CARRIED OUT UNDER CONTROLLED CONDITIONS AND THERE IS NO IMMEDIATE DANGER OF THE BASIN FAILING. HOWEVER, AS A PRECAUTIONARY MEASURE, *residents in the immediate area* SHOULD PREPARE TO EVACUATE.
- ADDITIONAL INFORMATION WILL BE RELEASED AS PROMPTLY AS POSSIBLE.

Public Affairs Manager - Event Level 1 Dam Failure Announcement (Example)

- **URGENT, URGENT:** THE *GHBLP JBSGS* ANNOUNCED AT (*time*) TODAY THAT AN EMERGENCY CONDITION EXISTED AROUND ONE OF *(The JBSGS Basins)* DUE TO (*general description of problem*). THE BASIN IS LOCATED *AT THE JBSGS on Harbor Island, Grand Haven, Michigan.*
- ATTEMPTS TO SAVE THE BASIN ARE UNDERWAY BUT THEIR SUCCESS CANNOT BE DETERMINED AS YET. *Residents in the immediate area* SHOULD EVACUATE TO HIGH GROUND **IMMEDIATELY!**
- IF THE BASIN FAILS, WATER WILL TAKE (*describe time for flood wave to travel from dam breach to point of interest*). AREAS CLOSER TO THE BASIN WILL BE FLOODED SOONER.
- ADDITIONAL INFORMATION WILL BE RELEASED AS PROMPTLY AS POSSIBLE.

Media Contacts

Emergency announcements will be released through the National Weather Service. The telephone number appears below:

- NATIONAL WEATHER SERVICE (24-hour telephone number): (616) 956-7180.

6.3 Step 3 – Expected Actions

6.3.1 Action Data Sheets

After the *ECS or acting ECS* has determined the event level and has made the appropriate notifications, the *ECS* is to take action, using the Action Data Sheets provided in Appendix J as a guide. Table 3 below is an index of Appendix J Action Data Sheets.

The Action Data Sheets are to be reviewed by the *Maintenance Supervisor or designee*. If an event is not covered, adapt an Action Data Sheet of a similar event and event level. If resources described in the Action Data Sheets are not available, adapt with the available resources.

Table 3: Event Level Determination Action Data Sheet Index

Event	Event Level	Action Data Sheet
Flooding (A)	3	A3
	2	A2
	1	A1
Earthquake (B)	3	B3
	2	B2
	1	B1
Seepage (C)	3	C3
	2	C2
	1	C1
Cracking (D)	3	D3
	2	D2
Movement (E)	3	E3
	2	E2
Overtopping (F)	1	F1
Gate or Trashrack Failure (G)	3	G3
	2	G2
	1	G1
Blocked Trashracks (G)	3	G3
Instruments (H)	3	H3
Sabotage (I)	3	I3
	2	I2
	1	I1

6.3.2 Locally Available Equipment, Labor, and Materials

- On-Site Equipment- SEE APPENDIX L.
- Heavy Equipment Contractors – SEE APPENDIX L

6.3.3 Unusual or Emergency Event Log

Use the Unusual or Emergency Event Log (Appendix K) to record actions and events during an Unusual or Emergency Event and the time that the action or event occurred.

6.4 Step 4 – Termination and Follow-up

Once EAP operations have begun under Event Level 3, 2, or 1, the EAP operations must eventually be terminated and follow-up procedures completed. As shown on Figure 1, EAP operations can only be terminated after completing operations under Event Level 3 or 1. If Event Level 2 is declared, the operations must be designated Event Level 3 or 1 before terminating the EAP operations.

6.4.1 Termination Responsibilities

The *ECS* will be responsible for terminating EAP operations. This decision will be relayed to the *Maintenance Supervisor*, *Public Affairs Manager* and the *Warning/Evacuation Director (Ottawa County Emergency Management Agency)*. Each Director will notify the persons within their branch of the termination.

Prior to termination of a Level 1 event that did not result in dam failure, the *ECS* will coordinate inspection of the basin to determine if any damage has occurred that could potentially result in the loss of life, injury, or property damage. If it is determined that these conditions do not exist, the *ECS* will be advised to terminate the EAP as described above.

6.4.2 Follow-up

Event Level 3 – Following termination of a Level 3 event, the Maintenance Supervisor will conduct a review of the EAP. The review will include all parties that participated in the EAP activities and will document any EAP procedures that were followed effectively, as well as any ways to improve the EAP. A copy of the review document will be inserted into Appendix E of the EAP. Follow-up activities will be completed within 2 months of event termination.

Event Level 2 or 1 – The Maintenance Supervisor will use the follow-up procedures described above. In addition, any extra measures that must be taken due to the increased severity of the event will also be documented in the review. A copy of this review will also be inserted into Appendix E.

Event That Has Caused Loss of Life, Injury or Property Damage – In addition to the course of action outlined above for Event Level 2 or 1, note any special procedures that must be followed in the event of loss of life, injury or property damage. A closer look at the EAP operations will be taken. Follow-up review will be completed within 1 month and any conclusions will be inserted into Appendix E of the EAP.

7. PRIVACY STATEMENT

Information collected for the purposes of this document are to be used for emergency and unusual events at the GHBLP JBSGS. This information is to be distributed to all parties included in the EAP. All parties included in the EAP are to be made aware of the plan's existence and their level of involvement. An emergency roster has been created for the successful completion and implementation of this EAP during emergencies. Appendix G contains the current EAP distribution. This plan is subject to the provision of the applicable Federal and State privacy acts and regulations.

8. EAP ANNUAL REVIEW AND PERIODIC TEST

This EAP document will require an annual review and update to stay current. A periodic test of the EAP procedures is also required every 5 years to ensure continued effectiveness. For annual review and periodic test procedures, reference Appendix F.

APPENDIX A

Site Location Maps

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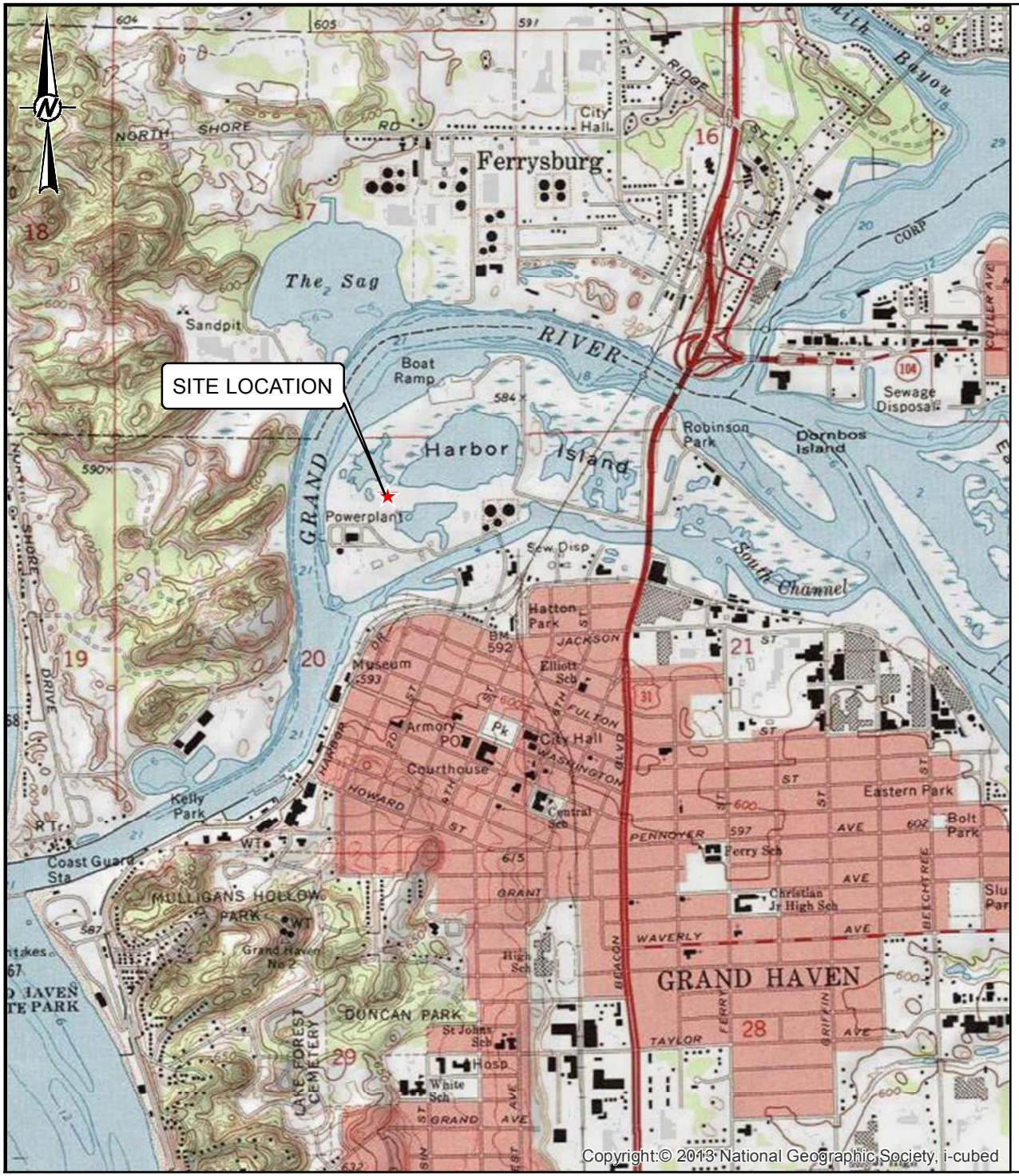

CLIENT
GRAND HAVEN BOARD OF LIGHT AND POWER
HARBOR ISLAND DRIVE
GRAND HAVEN, MI

PROJECT
CCR RULE COMPLIANCE

TITLE
SITE LOCATION MAP

CONSULTANT
Golder Associates

YYYY-MM-DD	2017-03-20
PREPARED	JJS
DESIGN	JJS
REVIEW	
APPROVED	

PROJECT No.	CONTROL	Rev.	FIGURE
1775461	1775461A000-GIS.mxd	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET HAS BEEN MODIFIED FROM: ANSI A
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APPENDIX B

Site Plan and Warning Areas

0 150 300
1" = 300' FEET

REFERENCE(S)

Service Layer Credits: Source: ESRI, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community.

CLIENT
GRAND HAVEN BOARD OF LIGHT AND POWER
HARBOR ISLAND DRIVE
GRAND HAVEN, MI

PROJECT
CCR RULE COMPLIANCE

CONSULTANT
Golder Associates

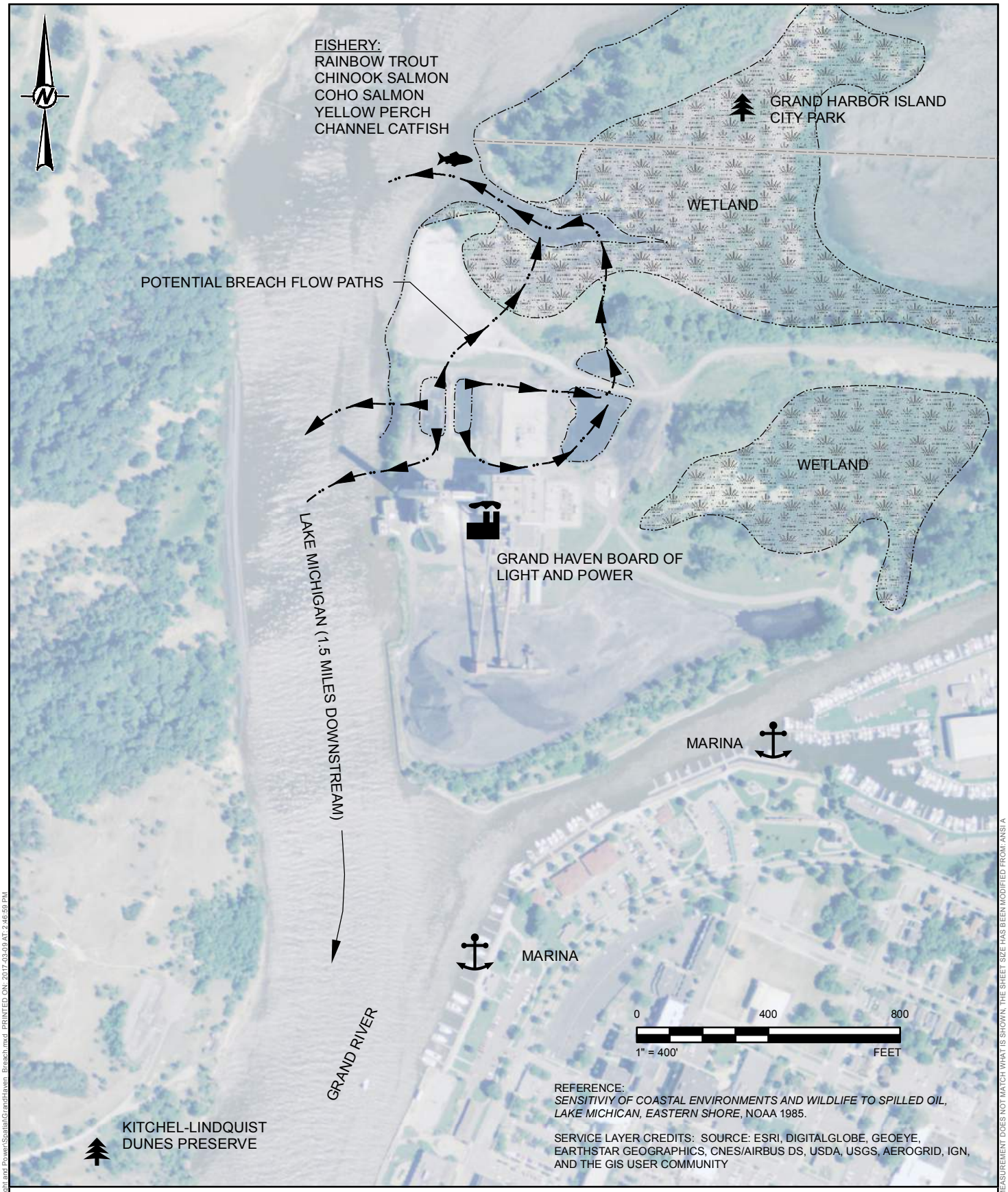
YYYY-MM-DD	2017-03-20
DESIGNED	JJS
PREPARED	JJS
REVIEWED	
APPROVED	

TITLE
OVERALL SITE PLAN

PROJECT NO.	CONTROL	REV.	FIGURE
1775461			2

APPENDIX C

Potential Breach Flow Paths



REFERENCE:
SENSITIVIY OF COASTAL ENVIRONMENTS AND WILDLIFE TO SPILLED OIL, LAKE MICHICAN, EASTERN SHORE, NOAA 1985.

SERVICE LAYER CREDITS: SOURCE: ESRI, DIGITALGLOBE, GEOEYE, EARTHSTAR GEOGRAPHICS, CNES/AIRBUS DS, USDA, USGS, AEROGRID, IGN, AND THE GIS USER COMMUNITY

CLIENT
GRAND HAVEN BOARD OF LIGHT AND POWER

CONSULTANT
Golder Associates

YYYY-MM-DD	2016-03-10
DESIGNED	MTC
PREPARED	####
REVIEWED	####
APPROVED	####

PROJECT
HAZARD CLASSIFICATION

TITLE
POTENTIAL BREACH FLOW PATHS

PROJECT NO.	CONTROL	REV.	FIGURE
1775416	####	0	**1**

APPENDIX D

Notification Flow Charts

EVENT LEVEL 3 NOTIFICATION
UNUSUAL EVENT, SLOWLY DEVELOPING

Person Observing or Learning of emergency

(Environmental Compliance Specialist)

PRIMARY CONTACT
Paul Cederquist
231–740–5830

ALTERNATE CONTACT
Adam McConnell
616–502–3853

Scripted Environmental Compliance Specialist Message

- This is the (Environmental Compliance Specialist). I am making this call in accordance with the GHBLP Hydraulic Structures EAP.
- An unusual event has been detected at the GHBLP.
- The EAP has been activated, currently at Level 3.
- If a problem occurs, flooding along the Grand River is possible.
- The situation is being monitored to determine if any evacuation warnings are necessary.
- We will keep you apprised of the situation. The best telephone number to reach me during this event is .....(Insert number)

[1]

(PUBLIC AFFAIRS MANAGER)

PRIMARY CONTACT
Renee Molyneux
616–638–6974

[2]

(MAINTENANCE SUPERVISOR)

PRIMARY CONTACT
Adam McConnell
616–502–3853

ALTERNATE CONTACT
Mike Kellogg
231–740–9013

ON–CALL ENGINEER

[2a]

NATIONAL WEATHER SERVICE
24–HOUR NO. (616) 956–7180

[2b]

(WARNING/EVACUATION DIRECTOR)

PRIMARY CONTACT
Public Safety
616–842–3460

[2c]

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY – DAM SAFETY

PRIMARY CONTACT
1–800–292–4706

LEGEND

———— CALLS BY ENVIRONMENTAL COMPLIANCE SPECIALIST

– – – – – SECOND LEVEL CALLS (as warranted)

NOTES

1.) [1b] DENOTES SUGGESTED SEQUENCE

Golder Associates Michigan

PROJECT
GRAND HAVEN BOARD OF LIGHT & POWER
EMERGENCY ACTION PLAN
GRAND HAVEN, MICHIGAN

TITLE
NOTIFICATION FLOW CHART FOR EVENT LEVEL 3

PROJECT No.	1775416	
FILE No.	Flow Charts	
REV. 0	SCALE AS SHOWN	
DESIGN	NA	NA
CADD	TDJ	
CHECK		
REVIEW		

APP. D.1

File: P:\17x–Projects\1775416 GHBLP CCR Compliance\200 Reports\EAP\Appendices\Appendix D – Notification Flow Charts\Flow Charts.dwg Layout: APP D1 User: tjohnson Mar 29, 2017 – 9:03am

EVENT LEVEL 2 NOTIFICATION
EMERGENCY EVENT, RAPIDLY DEVELOPING

Person Observing or Learning of emergency

(Environmental Compliance Specialist)

PRIMARY CONTACT
Paul Cederquist
231–740–5830

ALTERNATE CONTACT
Adam McConnell
616–502–3853

Scripted Environmental Compliance Specialist Message

- This is the (Environmental Compliance Specialist). I am making this call in accordance with the GHBLP EAP.
- An emergency event has been detected at the GHBLP.
- The EAP has been activated, currently at Level 2.
- Flooding along Grand River is possible.
- Prepare to evacuate homes/structures around the GHBLP.
- We will keep you apprised of the situation. The best telephone number to reach me during this event is .....(Insert number)

[1]

(WARNING/EVACUATION DIRECTOR)

PRIMARY CONTACT
Public Safety
616–842–3460

[2]

(MAINTENANCE SUPERVISOR)

PRIMARY CONTACT
Adam McConnell
616–502–3853

ALTERNATE CONTACT
Mike Kellogg
231–740–9013

ON–CALL ENGINEER

[3]

(PUBLIC AFFAIRS MANAGER)

PRIMARY CONTACT
Renee Molyneux
616–638–6974

[2a]

NATIONAL WEATHER SERVICE
24–HOUR NO. (616) 956–7180

[2b]

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY – DAM SAFETY
PRIMARY CONTACT
1–800–292–4706

ENDANGERED RESIDENTS
DISPATCH TO CONTACT ENDANGERED RESIDENTS. (MESSAGE: PREPARE TO EVACUATE)

LEGEND

——— CALLS BY ENVIRONMENTAL COMPLIANCE SPECIALIST

——— SECOND LEVEL CALLS (as warranted)

NOTES

1.) [1b] DENOTES SUGGESTED SEQUENCE

Golder Associates Michigan

PROJECT
GRAND HAVEN BOARD OF LIGHT & POWER
EMERGENCY ACTION PLAN
GRAND HAVEN, MICHIGAN

TITLE
NOTIFICATION FLOW CHART FOR EVENT LEVEL 2

PROJECT No.		
FILE No.		Flow Charts
REV. 0	SCALE AS SHOWN	
DESIGN	NA	NA
CADD	TDJ	
CHECK		
REVIEW		

APP. D.2

EVENT LEVEL 1 NOTIFICATION
EMERGENCY EVENT, IMMINENT DAM FAILURE OR FLASH FLOOD

Person Observing or Learning of emergency

(Environmental Compliance Specialist)

PRIMARY CONTACT
Paul Cederquist
231–740–5830

ALTERNATE CONTACT
Adam McConnell
616–502–3853

Scripted Environmental Compliance Specialist Message

- This is the (Environmental Compliance Specialist). I am making this call in accordance with the GHBLP EAP.
- An emergency event has been detected at the GHBLP. Failure of a basin is imminent.
- The EAP has been activated, currently at Level 1.
- Flooding along Grand River River will occur or is already occurring.
- Immediately evacuate homes/structures around the GHBLP.
- We will keep you apprised of the situation. The best telephone number to reach me during this event is .....(Insert number)

[1]

(WARNING/EVACUATION DIRECTOR)

PRIMARY CONTACT
Public Safety
616–842–3460

ENDANGERED RESIDENTS
DISPATCH TO CONTACT ENDANGERED RESIDENTS. (MESSAGE: PREPARE TO EVACUATE)

[2]

(MAINTENANCE SUPERVISOR)

PRIMARY CONTACT
Adam McConnell
616–502–3853

ALTERNATE CONTACT
Mike Kellogg
231–740–9013

ON–CALL ENGINEER

[2a]

NATIONAL WEATHER SERVICE
24–HOUR NO. (616) 956–7180

[2b]

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY – DAM SAFETY
PRIMARY CONTACT
1–800–292–4706

[3]

(PUBLIC AFFAIRS MANAGER)

PRIMARY CONTACT
Renee Molyneux
616–638–6974

LEGEND

CALLS BY ENVIRONMENTAL COMPLIANCE SPECIALIST

SECOND LEVEL CALLS (as warranted)

NOTES

1.) [1b] DENOTES SUGGESTED SEQUENCE

Golder Associates Michigan

PROJECT
GRAND HAVEN BOARD OF LIGHT & POWER
EMERGENCY ACTION PLAN
GRAND HAVEN, MICHIGAN

TITLE
NOTIFICATION FLOW CHART FOR EVENT LEVEL 1

PROJECT No.	1775416	
FILE No.	Flow Charts	
REV. 0	SCALE AS SHOWN	
DESIGN	NA	NA
CADD	TDJ	
CHECK		
REVIEW		

APP. D.3

File: P:\17x-Projects\1775416 GHBLP CCR Compliance\200 Reports\EAP\Appendices\Appendix D – Notification Flow Charts\Flow Charts.dwg Layout: APP D3 User: tjohnson Mar 29, 2017 – 9:04am

APPENDIX E

Past EAP Activity

This Appendix is the placeholder for copies of past EAP activity reports, Annual Review Verification Statements that must be completed after the annual review is performed, and Periodic Test Memos to be included after periodic tests have been performed.

APPENDIX F

EAP Review and Revision

APPENDIX F

EAP REVIEW AND REVISION

EAP Annual Review

An annual review of the EAP will be conducted by the Environmental Compliance Specialist and will include, at a minimum, the following:

- The Environmental Compliance Specialist will contact all parties listed in the EAP to verify that the phone numbers and persons in the positions are current;
- Contact the local law enforcement/emergency response agency to verify that the phone numbers are correct;
- Ask the appropriate contact persons listed in the EAP if they know where the copy of the EAP is kept and if they know and understand their roles; and
- Call the locally available resources to verify that the contact numbers are up to date.

After conducting the EAP Annual Review, the Environmental Compliance Specialist will complete the attached Form F.1, EAP Annual Review Verification Statement.

EAP Periodic Test

The Environmental Compliance Specialist will conduct periodic tests of the EAP. The periodic test will consist of a meeting held at the GHBLP JBSGS, which will include a tabletop exercise. Attendance should include the MDNR, at least one member of local law enforcement and other key members listed in the EAP. Before the meeting, it may be helpful if members of the EAP visit the basins to familiarize themselves with the site.

The tabletop exercise will involve presenting an emergency scenario or unusual event involving one or more of the basins. This scenario should be developed prior to the meeting. The participants will discuss the responses and actions to be taken to resolve the emergency. The Environmental Compliance Specialist will control the discussion throughout the exercise. All paperwork should be filled out as if it were an actual event to ensure realistic responses and approaches. After the exercise, the EAP will be reviewed and discussed. A written summary of the test will be prepared by the Environmental Compliance Specialist and the EAP will be revised as necessary.

Revision

The Environmental Compliance Specialist will be responsible for ensuring that the EAP is up to date and that all parties involved have the most recent revision. After a revision has been made, the Environmental Compliance Specialist will collect the old copies from each party and provide them with the most recent version. This will ensure that each party involved has the most current information and that

all copies are identical. EAP distribution and Copy Control numbers will help this process. An example EAP Distribution List is included in Appendix G.

FORM F.1

EAP ANNUAL REVIEW VERIFICATION STATEMENT

Name of Dam: _____

Date of Drill: _____

A. The current EAP is on hand and all revisions have been inserted.
B. The emergency procedures observed during the drill were in accordance with the EAP.
C. The readiness evaluated in the drill was acceptable.
D. The communications network is correct and was verified.
E. The training of personnel is sufficient and acceptable.
F. The EAP Annual Review procedures were followed.

Additional Comments: _____

_____ _____

(Individual responsible for conducting EAP Annual Review) Date

(Printed name)

_____ _____

(Environmental Compliance Specialist Date

(Printed name)

APPENDIX G

EAP Distribution

APPENDIX G

EAP DISTRIBUTION

Name/Title	Address	Telephone Numbers		Email Address	EAP Doc #
		Office	Cell		
Paul Cederquist (ECS)	1231 N. 3rd Street, Grand Haven, Michigan 49417	616-607-1292	231-740-5830	PCederquist@ghblp.org	1
Adam McConnell (MS)	1231 N. 3rd Street, Grand Haven, Michigan 49417	616-607-1290	616-502-3853	AMcconnell@ghblp.org	2
Renee Molyneux (Public Affairs)	1700 Eaton Drive, Grand Haven, Michigan 49417	616-607-1261	616-638-6974	RMolyneux@ghblp.org	3
Production Manager	1231 N. 3rd Street, Grand Haven, Michigan 49417	616-607-1285			4
Lead Shift Operator	1231 N. 3rd Street, Grand Haven, Michigan 49417	616-607-1296			5

APPENDIX H

Supplementary Information

APPENDIX H.1 - TRAINING

1.0 GHBLP PERSONNEL

In addition to the annual EAP review and periodic test, training of the EAP process and personnel responsibilities are to be conducted annually for the Environmental Compliance Specialist or designee, Maintenance Supervisor or designee, Public Affairs Manager, and any other staff that may assume responsibility for the roles above or have some involvement in the EAP process, including equipment operators, and security and site inspection personnel. The following topics should be covered:

- Review of EAP Purpose and 4-Step EAP Process
- Review of JBSGS Basin Layout, Associated Infrastructure, and Typical Operation of the Basins
- Review of Roles and Responsibilities of the Environmental Compliance Specialist, Maintenance Supervisor, Public Affairs Manager, and Warning and Evacuation Director
- Review of Unusual or Emergency Event Definitions and Event Level Determination as well as other nomenclature relevant to EAP Process
- Review of Notification Requirements and Scripted Messages
- Review of Expected Actions
- Review of Termination Process
- Review of Evacuation Routes

Training records are to be kept in the environmental coordinator's office and updated on an annual basis. EAP training can be conducted in concert with Basin Operation, Maintenance, and Inspection annual training. When covering the JBSGS Basin Layout information above, basin-specific information such as freeboard, emergency outlet location and capacity, pumping and piping systems, and lowest crest elevation locations should be reviewed. Additional general information such as seepage, piping and general dam design may be covered as well.

APPENDIX I

Glossary

APPENDIX I

GLOSSARY

Acre-Foot. A term used in measuring the volume of water that would cover one acre to a depth of one foot. It is equal to 43,560 cubic feet.

Appurtenant structure. A structure necessary for the operation of a dam such as outlets, trash racks, valves, spillways, power plants, tunnels, etc.

Breach. An eroded opening through a dam that drains the reservoir. A controlled breach is a constructed opening. An uncontrolled breach is an unintentional opening that allows uncontrolled discharge from the reservoir.

Channel. A general term for any natural or artificial watercourse.

Conduit. A closed channel to convey water through, around, or under a dam.

Culvert. A closed channel to convey water.

Crest of Dam. Top of dam.

Cross section. A sectional view of a dam formed by passing a plane through the dam perpendicular to the axis.

Dam. A barrier constructed across a watercourse for the purpose of impounding or diverting water.

a. Embankment dam. Any dam constructed of excavated natural materials or of industrial waste materials.
b. Concrete dam. Any dam constructed of concrete materials.

Dam failure. The uncontrolled release of reservoir contents.

Drain, toe. A system of pipe and/or pervious material along the downstream toe of a dam used to collect seepage from the foundation and embankment and convey it to a free outlet.

Drainage area. The area that drains to a particular point on a river or stream.

Drawdown. The difference between a water level and a lower water level in a reservoir within a particular time. Used as a verb, it is the lowering of the water surface due to release of water from the reservoir.

EAP Operations. All actions taken by the dam owner and other involved agencies to address an unusual or emergency event.

Earthquake. A sudden motion or trembling in the earth caused by the abrupt release of accumulated stress along a fault.

Emergency Action Plan (EAP). A comprehensive, single-source document providing accurate and current instructions intended to help dam owners/operators save lives, minimize property damage, and

minimize environmental impacts caused by large releases from a dam, dam failure, or other events that present hazardous conditions.

Emergency Event. An event which takes place or a condition which develops that is of a serious nature that may endanger the dam, or endanger persons or property, and demands immediate attention.

Filter (filter zone). A band of granular material graded (either naturally or by selection) so as to allow seepage through or within the layers while preventing the migration of material from adjacent zones.

Flood. A temporary rise in water levels resulting in inundation of areas not normally covered by water may be expressed in terms of probability of exceedance per year such as one percent chance flood or expressed as a fraction of the probable maximum flood of other reference flood. Some related terms are:

a. Flood, Inflow Design (IDF). That flood used in the design of a safe dam and its appurtenant works particularly for sizing the spillway and outlet works, and for determining maximum temporary storage and height of dam requirements.
b. Flood, Probable Maximum (PMF). The largest flood reasonably expected at a point on a stream because of a probable maximum storm and favorable runoff conditions.

Freeboard. Vertical distance between a stated water level and the top of dam.

Gate. A movable, watertight barrier for the control of water.

a. Outlet gate. A gate controlling the flow of water through a reservoir outlet.
b. Slide gate (sluice gate). A gate that can be opened or closed by sliding in supporting guides.

Height, hydraulic. The vertical distance between the maximum design water level and the lowest point in the original streambed.

Height, structural. The vertical distance between the lowest point on the dam crest and the lowest point of the excavated foundation.

Hydrograph, breach or dam failure. A flood hydro graph resulting from a dam breach.

Hydrograph, flood. A graphical representation of the flood discharge with respect to time for a particular point on a stream or river.

Hydrograph, unit. A hydrograph with a volume of one inch of runoff resulting from a storm of a specified duration and aerial distribution. Hydrographs from other storms of the same duration and distribution are assumed to have the same time base but with ordinates of flow in proportion to the runoff volumes.

Incident Command System (ICS). A management system designed to control personnel, equipment, supplies, and communications at the scene of an unusual or emergency event. An Incident Command System is typically deployed at the beginning of an event until the management of the on- scene operations are no longer needed. The structure of the Incident Command System can be expanded or contracted depending on the changing needs of the event. The Incident Command System allows agencies of all kinds to effectively communicate using common terminology.

Incident Manager. The Incident Manager is the highest ranking official available at the scene of an unusual or emergency event. All personnel involved in the operating procedures of the dam or emergency operations should be trained in the fundamentals of ICS.

Instrumentation. An arrangement of devices installed into or near dams (i.e., piezometer, inclinometer, strain gage, survey points, etc.) that provide measurements that can be used to evaluate performance parameters of a structure.

Intake. Any structure in a reservoir, dam or river for the purpose of directing water into a conduit, tunnel, canal or pipeline.

Inundation map. A map delineating the area that would be submerged by a particular flood event.

Length of dam. The length along the top of the dam between contact abutments. This also includes the spillway, power plants, navigation lock, fish pass, etc., where these form part of the length of the dam. If detached from the dam, these structures should not be included.

Outlet. An opening through which water can be discharged.

Phreatic surface. The free surface of water seeping at atmospheric pressure through soil or rock.

Piezometer. An instrument for measuring pressure head.

Piping. The progressive development of internal erosion by seepage appearing downstream as a hole or seam discharging water containing soil particles.

Probability. The likelihood of an event occurring within a given period of time.

Probable Maximum Flood (PMF). The maximum runoff condition resulting from the most severe combination of hydrologic and meteorological conditions that are considered reasonably possible for the drainage basin under study.

Probable Maximum Precipitation (PMP). Theoretically, the greatest depth of precipitation for a given duration that is physically possible over a given size storm area at a particular geographical location.

Public Information Officer (PIO). A Property staff member designated by the *(EAP Coordinator)*. During EAP operations, the PIO will be the contact person at the Property for the media, and will keep the media informed of the EAP operations.

Relief Wells. A line of vertical wells or boreholes to facilitate drainage of the foundation and abutments and to reduce water pressure.

Reservoir. A body of water impounded by a dam and in which water can be stored.

Reservoir surface area. The area covered by a reservoir when filled to a specified level.

Riprap. A layer of stone, precast blocks, bags of cement or other suitable material, generally placed on the upstream slopes of an embankment or along a watercourse as protection against wave action, erosion, or scour. It consists of pieces of relatively large size as distinguished from a gravel blanket.

Seepage. Flow or movement of water through a dam, its foundation, or its abutments.

Slope. Inclination from the horizontal, measured as the ratio of horizontal units to corresponding vertical units.

Spillway. A structure over or through which flow is discharged from a reservoir. If the rate of flow is controlled by mechanical means such as gates, it is considered a controlled spillway. If the elevation of the spillway crest is the only control, it is considered an uncontrolled spillway.

Spillway channel. An 'open channel or closed conduit conveying water from the spillway inlet downstream.

Spillway crest. The lowest level at which water can flow over or through the spillway.

Spillway, chute. An inclined channel, usually separate from the dam, to convey reservoir overflow into the natural channel below the dam or into an adjacent natural drainage channel.

Standing Operating Procedures (SOP). A comprehensive, single-source document providing accurate and current instructions for normal operation, maintenance, monitoring, and inspection of a dam and appurtenant features.

Stoplogs. Timbers or steel beams placed on top of each other with their ends held in guides on each side of a channel or conduit so as to provide a cheaper or more easily handled means of temporary closure than a bulkhead gate.

Storage. The retention of water or delay of runoff either by planned operation, as in a reservoir, or by temporary filling of overflow areas, as in the progression of a flood wave through a natural stream channel. Definitions of specific types of storage in reservoirs are:

a. Dead Storage. The reservoir volume between the invert of the lowest intake and the reservoir bottom.
b. Active Storage. The reservoir volume between the normal reservoir water surface elevation and the invert of the lowest intake.
c. Flood Storage. The reservoir volume between the crest of the dam and the normal reservoir water surface elevation.

Unusual Event. An event which takes place, or a condition which develops, that is not normally encountered in the routine operation of the dam and reservoir, or necessitates a variation from the operating procedures.

Note:

Glossary terms and definitions provided in this Appendix are from the EAP Guidance Template provided by the MDEQ.

APPENDIX J

Action Data Sheets

EVENT: EARTHQUAKE LEVEL: 3	Sheet B3

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.1 have been made. B. Observe and inspect the upstream/downstream slopes, spillway structures and crest without compromising the safety of anyone performing these tasks. Slides/slumps may have occurred which will increase the risk of failure. Beware of areas with known seepage that may have been weakened. Look for increased seepage in these areas or new seepage areas. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to develop a plan to minimize dam failure risk and avoid damage downstream. C. Record all information, observations, and actions on an Event Log Form (Appendix K). D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be terminated if an inspection has been completed and no failures were documented.
B) The event remains at the current Event Level 3 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*
C) The event warrants escalation to Event Level 2 if failures were encountered during the inspection and determined to be significant by the *Environmental Compliance Specialist*.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 3	C) EVENT LEVEL 2
Go to **Termination and Follow-up** (Section 4.4)	Continue recommended actions on this sheet	Go to **Event Level 2 or Event Level 1 Notification Chart**

EVENT: *EARTHQUAKE* LEVEL: 2	Sheet B2

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.2 have been made. B. Careful observation and inspection of every part of the dam is necessary without compromising the safety of anyone performing these tasks. If potential failure areas were noted in the inspection for Event Level 3, continue to monitor these areas with the *Environmental Compliance Specialist's* supervision. Evacuate the immediate area of all personnel and equipment. C. Record all information, observations, and actions on an Event Log Form (Form 3.1). D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Inspect the impoundments and assess the opportunity for remedial action. If possible, lower the water level in the impoundments at a rate not to exceed 3 foot/day. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least twice daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event warrants downgrade to Event Level 3 if the Environmental Compliance Specialist has determined that the impoundments are stable and remedial actions have started. All contacts on Event Level 2 Notification Flow Chart shall be notified of downgrade from Event Level 2 to Event Level 3.

B) The event remains at the current Event Level 2 until remedial action has been completed.

C) The event warrants escalation to Event Level 1 if potential failure is imminent. Evacuate the downstream areas immediately.

Based on this determination, follow the appropriate actions below.

A) EVENT LEVEL 3	B) EVENT LEVEL 2	C) EVENT LEVEL 1
Go to **Event Level 3 Notification Chart**	Continue recommended actions on this sheet	Go to **Event Level 1 Notification Chart**

EVENT: *EARTHQUAKE*	Sheet
LEVEL: 1	B1

RECOMMENDED ACTIONS

Time/Date Completed

Lead Shift Operator

A. Make sure notifications on Figure D.3 have been made.
B. Continue to monitor the situation and stay in contact with emergency agencies and the Maintenance Supervisor and/or the Environmental Compliance Specialist. Dam failure may be imminent so ensure that the area is evacuated.
C. Record all information, observations, and actions on an Event Log Form.
D. Establish a means to keep in frequent contact with the *Environmental Compliance Specialist or designee* until Event Level 1 is terminated.

Environmental Compliance Specialist or designee:

A. *In general, this will be to review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation.*)

Maintenance Supervisor:

A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate. Send a qualified individual to the site as soon as possible.

EVALUATION / DECISION

Evaluate the situation as events progress, or whenever conditions change. Determine whether:

A) The event remains at the current Event Level 1.
B) The event can be terminated when structure has been inspected and no visible signs of impact are observed.

Based on this determination, follow the appropriate actions below.

A) EVENT LEVEL 1	B) TERMINATED	
Continue recommended actions on this sheet	Go to **Termination and Follow-up** (Section 4)	

EVENT: SEEPAGE LEVEL: 3	Sheet C3

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.1 have been made. B. Observe and inspect the upstream/downstream slope and concentrate on inspection near the downstream toe. Be aware of areas with known seepage and monitor the color and discharge rate if possible. Look for increased seepage in these areas or new seepage areas. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to determine if remedial action should be taken. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be terminated if an inspection has been completed and no increase in seepage from existing areas was documented and no new seepage areas were encountered.

B) The event remains at the current Event Level 3 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 2 if large seepage volumes and piping has occurred.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 3	C) EVENT LEVEL 2
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 2 or Event Level 1 Notification Chart**

EVENT: SEEPAGE LEVEL: 2	Sheet C2

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.2 have been made. B. Observe and inspect the upstream/downstream slope and concentrate inspections near the downstream toe. Continue to monitor the seepage areas as long as personnel can do it safely. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to determine if/what remedial action should be taken. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be downgraded to Event Level 3 after being cleared through an inspection following completion of remedial action.

B) The event remains at the current Event Level 2 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 1 if failures were encountered during the inspection and determined to be significant by the *Environmental Compliance Specialist*.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 2	C) EVENT LEVEL 1
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 1 or Event Level 1 Notification Chart**

EVENT: *SEEPAGE* LEVEL: 1	Sheet C1

RECOMMENDED ACTIONS

	Time/Date Completed
Lead Shift Operator A. Make sure notifications on Figure D.3 have been made. B. Continue to monitor the situation and stay in contact with emergency agencies and the Maintenance Supervisor and/or the Environmental Compliance Specialist. Dam failure may be imminent so ensure that the area is evacuated. C. Record all information, observations, and actions on an Event Log Form. D. Establish a means to keep in frequent contact with the *Environmental Compliance Specialist or designee* until Event Level 1 is terminated. *Environmental Compliance Specialist or designee:* A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate. Send a qualified individual to the site as soon as possible.	

EVALUATION / DECISION

Evaluate the situation as events progress, or whenever conditions change. Determine whether:

A) The event remains at the current Event Level 1.

B) The event can be terminated at the direction of the Environmental Compliance Specialist.

Based on this determination, follow the appropriate actions below.

A) EVENT LEVEL 1	B) TERMINATED	
Continue recommended actions on this sheet	Go to **Termination and Follow-up** (Section 4)	

EVENT: CRACKING LEVEL: 3	Sheet D3

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.1 have been made. B. Observe and inspect the upstream/downstream slope and crest for cracks. Be aware of areas with known cracks. Look for cracks increasing in size and for seepage. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to determine if remedial action should be taken. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be terminated if an inspection has been completed and increase in cracking was noted and remedial action has been completed.

B) The event remains at the current Event Level 3 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 2 if large cracks are evident.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 3	C) EVENT LEVEL 2
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 2 or Event Level 1 Notification Chart**

EVENT: CRACKING LEVEL: 2	Sheet D2

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.2 have been made. B. Continue to observe and inspect the cracks in the embankment. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to determine if/what remedial action should be taken. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be downgraded to Event Level 3 after being cleared through an inspection following completion of remedial action.

B) The event remains at the current Event Level 2 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 1 if failures were encountered during the inspection and determined to be significant by the *Environmental Compliance Specialist*.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 2	C) EVENT LEVEL 1
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 1 Notification Chart**

EVENT: MOVEMENT LEVEL: 3	Sheet E3

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.1 have been made. B. Observe and inspect the upstream/downstream slope and crest for movement if personnel can remain safe while performing this task. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to determine if remedial action should be taken. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be terminated if an inspection has been completed and movement was determined to be surficial.

B) The event remains at the current Event Level 3 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 2 if movement surfaces appear to be deep.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 3	C) EVENT LEVEL 2
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 2 or Event Level 1 Notification Chart**

EVENT: MOVEMENT LEVEL: 2	Sheet E2

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.2 have been made. B. Continue to observe and inspect the movement surfaces. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to determine if/what remedial action should be taken and if it can be completed safely. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be downgraded to Event Level 3 after being cleared through an inspection following completion of remedial action.

B) The event remains at the current Event Level 2 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 1 if failures were encountered during the inspection and determined to be significant by the *Environmental Compliance Specialist*.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 2	C) EVENT LEVEL 1
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 1 Notification Chart**

EVENT: *OVERTOPPING* LEVEL: 1	Sheet F1

RECOMMENDED ACTIONS

Time/Date Completed

Lead Shift Operator

A. Make sure notifications on Figure D.3 have been made.
B. Continue to monitor the situation and stay in contact with emergency agencies and the Maintenance Supervisor and/or the Environmental Compliance Specialist. Dam failure may be imminent or in progress so ensure that the area is evacuated.
C. Record all information, observations, and actions on an Event Log Form.
D. Establish a means to keep in frequent contact with the *Environmental Compliance Specialist or designee* until Event Level 1 is terminated.

Environmental Compliance Specialist or designee:

A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation.

Maintenance Supervisor:

A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate. Send a qualified individual to the site as soon as possible.

EVALUATION / DECISION

Evaluate the situation as events progress, or whenever conditions change. Determine whether:

A) The event remains at the current Event Level 1.
B) The event can be terminated at the direction of the Environmental Compliance Specialist.

Based on this determination, follow the appropriate actions below.

A) EVENT LEVEL 1	B) TERMINATED	
Continue recommended actions on this sheet	Go to **Termination and Follow-up** (Section 4)	

EVENT: GATE OR TRASHRACK FAILURE/BLOCKED LEVEL: 3	Sheet G3

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.1 have been made. B. Maintenance personnel should try to open/close gates or remove debris. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be terminated if the gates are freed and will reliably open/close or if the water level can be controlled without overtopping the dam.

B) The event remains at the current Event Level 3 until an inspection of the gates is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 2 if the gates can't be opened/closed or trashracks cannot be cleared of debris and the water level in the pond continues to rise.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 3	C) EVENT LEVEL 2
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 2 or Event Level 1 Notification Chart**

EVENT: GATE OR TRASHRACK FAILURE LEVEL: 2	Sheet G2

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.2 have been made. B. Continue to monitor the gates or trashrack and have maintenance personnel work on opening. Confer with the Maintenance Supervisor and/or the Environmental Compliance Specialist or designee to determine any preventative action that must be taken. Work with the Environmental Compliance Specialist to determine if/what remedial action should be taken and if it can be completed safely or if the gates should be replaced. The water level in the pond should be lowered if possible. C. Record all information, observations, and actions on an Event Log Form. D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be downgraded to Event Level 3 after being cleared through an inspection following completion of remedial action.

B) The event remains at the current Event Level 2 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 1 if the gates cannot be opened or the trashracks cannot be cleared of debris, the water level continues to rise and overtopping is imminent.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 2	C) EVENT LEVEL 1
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 1 Notification Chart**

EVENT: GATE OR TRASHRACK FAILURE LEVEL: 1	Sheet G1

RECOMMENDED ACTIONS

Time/Date Completed

Lead Shift Operator

A. Make sure notifications on Figure D.3 have been made.
B. Continue to monitor the situation and stay in contact with emergency agencies and the Maintenance Supervisor and/or the Environmental Compliance Specialist. The dam is overtopping and failure may be imminent so ensure that the area is evacuated.
C. Record all information, observations, and actions on an Event Log Form.
D. Establish a means to keep in frequent contact with the *Environmental Compliance Specialist or designee* until Event Level 1 is terminated.

Environmental Compliance Specialist or designee:

A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation.

(*Maintenance Supervisor*):

A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate. Send a qualified individual to the site as soon as possible.

EVALUATION / DECISION

Evaluate the situation as events progress, or whenever conditions change. Determine whether:

A) The event remains at the current Event Level 1.
B) The event can be terminated when gates operate as intended and is verified by the Environmental Compliance Specialist, and the water level is at or below safe operating level and not rising.

Based on this determination, follow the appropriate actions below.

A) EVENT LEVEL 1	B) TERMINATED	
Continue recommended actions on this sheet	Go to **Termination and Follow-up** (Section 4)	

EVENT: INSTRUMENTS LEVEL: 3	Sheet H3

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.1 have been made. B. If an abnormal reading is obtained, re-read the instrumentation. Contact maintenance personnel for a solution if the instrumentation is not working properly. C. Record all information, observations, and actions on an Event Log Form (Form 3.1). D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be terminated if there was an incorrect reading of the instruments or instruments were repaired.
B) The event remains at the current Event Level 3 until a normal reading is obtained.
C) The event warrants escalation to Event Level 2 if the instruments are operating properly and the readings indicate unsafe operating conditions.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 3	C) EVENT LEVEL 2
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 2 Notification Chart**

EVENT: SABOTAGE LEVEL: 3	Sheet I3

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.1 have been made. B. If sabotage is suspected, call Law Enforcement for further evaluation. Determine degree of sabotage and if it is likely to cause failure. Inspect the principal spillways, embankments and instruments for damage. Reduce water level and/or cease plant inflows if necessary. C. Record all information, observations, and actions on an Event Log Form (Form 3.1). D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be terminated if the suspected sabotage is unlikely to cause damn failure.
B) The event remains at the current Event Level 3 until an inspection of the pond is completed and cleared by the *Environmental Compliance Specialist.*
C) The event warrants escalation to Event Level 2 if the sabotage may cause dam failure.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 3	C) EVENT LEVEL 2
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 2 or Event Level 1 Notification Chart**

EVENT: SABOTAGE LEVEL: 2	Sheet I2

RECOMMENDED ACTIONS

Lead Shift Operator: A. Make sure notifications on Figure D.2 have been made. B. If the embankment or spillways have been damaged, provide temporary protection with sandbags, riprap or other materials. Work with the Environmental Compliance Specialist to determine what remedial action should be taken and if it can be completed. The water level in the pond should be lowered if possible. C. Record all information, observations, and actions on an Event Log Form (Form 3.1). D. Contact the *Environmental Compliance Specialist or designee* at least daily to report the latest observations and conditions. If conditions change significantly, contact the *Environmental Compliance Specialist or designee* immediately. *Environmental Compliance Specialist or designee*: A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation. *Maintenance Supervisor*: A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate.	Time/Date Completed

EVALUATION / DECISION

Evaluate conditions at least daily, or whenever conditions change significantly. Using Table 1, determine whether:

A) The event can be downgraded to Event Level 3 after being cleared through an inspection following completion of remedial action.

B) The event remains at the current Event Level 2 until an inspection is completed and cleared by the *Environmental Compliance Specialist.*

C) The event warrants escalation to Event Level 1 if the damage will cause failure.

Based on this determination, follow the appropriate actions below.

A) TERMINATION	B) EVENT LEVEL 2	C) EVENT LEVEL 1
Go to **Termination and Follow-up** (Section 4)	Continue recommended actions on this sheet	Go to **Event Level 1 Notification Chart**

EVENT: SABOTAGE LEVEL: 1	Sheet I1

RECOMMENDED ACTIONS

Time/Date Completed

Lead Shift Operator

A. Make sure notifications on Figure D.3 have been made.
B. Continue to monitor the situation and stay in contact with emergency agencies and the Maintenance Supervisor and/or the Environmental Compliance Specialist. If malicious human activity that could endanger public safety is suspected, contact Law Enforcement immediately to help evaluate the situation. Contact the Environmental Compliance Specialist if the principal spillway has been damaged or plugged, implement measures to protect and/or unplug the damaged structure or re-route the flow.
C. Record all information, observations, and actions on an Event Log Form.
D. Establish a means to keep in frequent contact with the *Environmental Compliance Specialist or designee* until Event Level 1 is terminated.

Environmental Compliance Specialist or designee:

A. Review all pertinent information in order to recommend appropriate actions to the Lead Shift Operator. If necessary, contact local emergency contractors and/or other individuals that may be able to assist in monitoring the situation.

Maintenance Supervisor:

A. Provide decision support and technical support to the *Environmental Compliance Specialist or designee* as appropriate. Send a qualified individual to the site as soon as possible.

EVALUATION / DECISION

Evaluate the situation as events progress, or whenever conditions change. Determine whether:

A) The event remains at the current Event Level 1.
B) The event can be terminated at the direction of the Environmental Compliance Specialist.

Based on this determination, follow the appropriate actions below.

A) EVENT LEVEL 1	B) TERMINATED	
Continue recommended actions on this sheet	Go to **Termination and Follow-up** (Section 4)	

APPENDIX K

Unusual or Emergency Event Log

APPENDIX K

UNUSUAL OR EMERGENCY EVENT LOG

YOU ARE (CIRCLE ONE): Environmental Compliance Specialist or designee / Maintenance Supervisor / Sheriff / Other

GENERAL DESCRIPTION OF EMERGENCY SITUATION:

_____

_____

_____

DETECTION:

When did you detect/get notified of the event? _____

How did you detect/get notified of the event? _____

LEVEL DETERMINATION:

What initial level has the *(Environmental Compliance Specialist or designee)* assigned to the event?

_____

ACTIONS AND EVENT PROGRESSION

Date	Time	Action/Event Progression	Taken By

REPORT PREPARED BY: _____ **DATE**: _____

APPENDIX L

Contacts

APPENDIX L - CONTACTS

1.0 GHBLP CONTACTS

Environmental Compliance Specialist

Primary Contact - Paul Cederquist, Cell Phone 231-740-5830

Alternate Contact - Adam McConnell, Cell Phone 616-502-3853

Maintenance Supervisor

Primary Contact - Adam McConnell, Cell Phone 616-502-3853

Alternate Contact – Mike Kellogg, Cell Phone 231-740-9013

Warning/Evacuation Director

Primary Contact – Grand Haven Public Safety, Phone 616-842-3460

Public Affairs Manager

Primary Contact – Renee Molyneux, Cell Phone 616-638-6974

MDEQ – Dam Safety Division

Primary Contact – 1-800-292-4706

2.0 LOCALLY AVAILABLE EQUIPMENT, LABOR, AND MATERIALS

2.1 On-site

Front-end Loader

Skid Steer

Excavator

Multiple Trash Pumps

2.2 Heavy Equipment Contractors

Name	Available Equipment/Service	Phone # and Address
Jackson Merkey	All Excavating Equipment	231-728-9344
Northern A1	Vacuum Truck	800-847-3154

At Golder Associates we strive to be the most respected global group of companies specializing in ground engineering and environmental services. Employee owned since our formation in 1960, we have created a unique culture with pride in ownership, resulting in long-term organizational stability. Golder professionals take the time to build an understanding of client needs and of the specific environments in which they operate. We continue to expand our technical capabilities and have experienced steady growth with employees now operating from offices located throughout Africa, Asia, Australasia, Europe, North America and South America.

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