

Prepared exclusively for:



# KLONDIKE PARK – MISS AUGUSTA CRUISE DOCK Flood Plan

February 2022

INTUITION & LOGIC

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February 14, 2022

Jenny Gezella  
Naples Princess  
Miss Naples  
550 Port-O-Call Way  
Naples, FL 34102

RE: Klondike Park – Miss Augusta Cruise Dock Project

Dear Ms. Gezella,

Intuition & Logic Engineering, Inc. is pleased to present the Klondike Park – Miss Augusta Cruise Dock Flood Plan to Miss Augusta.

I have reviewed the contents of this document in its entirety for quality control and compliance with contractual obligations and approve this submittal. If you have any questions or would like additional information, please call me at (636) 777-3000 at your convenience to discuss.

I look forward to hearing from you soon.

Best regards,

A handwritten signature in black ink that reads "Mark E. Meyer".

Mark E. Meyer, PE, CFM  
President

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## 1.0 Introduction

This document will serve as a guide for flood shutdown and reopening procedures for Klondike Park – Miss Augusta Cruise Dock. The park is located in Klondike Park on the Missouri River. The primary flooding source is the Missouri River. It is expected that the park will enter into a flood stage and require closure multiple times per year. The table below provides reference elevations of key park features and the different flood stages. References are provided in terms of both the St. Charles and Labadie river gages and the estimated corresponding park elevation (NAVD88).

	St. Charles Gage Elev. (NAVD88)	St. Charles Gage	Labadie Elev.	Klondike Park Elev.
<b>Action Stage</b>	436.47	23.0	-	466.42
Trailer Pad	~438.00	24.8	-	467.95
<b>Flood Stage</b>	438.47	25.0	-	468.42
<b>Moderate Flood Stage</b>	443.47	30.0	-	473.42
10 year flood	447.60	34.1	-	478
<b>Major Flood Stage</b>	449.47	36.0	-	479.42
50 year	451.50	38.3	483.00	480.80
100 year	452.10	39.3	486.80	482.00
Electrical Tower Floor Elev	~453.05	39.9	-	483.00
500 year (1993 flood)	454.10	41.3	486.80	484.30

### St. Charles Gage

National Weather Service (NWS) Advanced Hydrologic Prediction Service Website

[https://water.weather.gov/ahps2/hydrograph.php?wfo=lsx&gage=sclm7&hydro\\_type=2](https://water.weather.gov/ahps2/hydrograph.php?wfo=lsx&gage=sclm7&hydro_type=2)

The St. Charles gage is located approximately 28 miles downstream of Klondike Park. For reference, select flood impacts and associated gage heights are listed below from the NWS website.

Gage	Description from NWS	Note
42.2	This is the approximate minimum level of protection provided by the Monarch levee protecting Chesterfield Valley. Since this gage is affected by Mississippi River backwater, the actual level of overtopping may be higher.	
38	Floor of the gage house.	
36	Major flooding begins. The levee at the Highway 370 bridge is overtopped.	
34.5	Missouri Highway 94 near Route H will be closed in both directions near this height.	
33.5	Highway 94 floods downstream of St Charles.	
27	The Katy Trail begins flooding near this height along Hawning Road, about 2 miles north northeast of the Highway 370 bridge.	

## **2.0 Shutdown Procedure**

Shutdown procedures should be implemented for the park whenever the forecasted gage elevations at St. Charles are projected to exceed the action stage elevation. Klondike Park – Miss Augusta Cruise Dock is designed to be inundated after the access roads have been flooded. It is paramount that the park should be closed ahead of any forecasted road closures to ensure the public does not become stranded at the park.

### **Evacuation**

Evacuate all guests from the park, close off park access to the public and disconnect check in/office building from all utilities and relocate off site.

### **Electrical Pedestal**

Shut off all breakers and coordinate shutdown of service with Ameren as needed. Ensure access gates are closed and locked.

### **Gangways and Docks**

Tread plates joining the gangway to land will need to be flipped up to allow the dock to raise and lower freely and to cut off access from shore.

### **Utility Pedestal**

The quick release utility pedestal will need to be removed and weather cap placed onto base. The disconnected pedestal will need to be loaded onto a truck/trailer to be removed from the site and placed in a predetermined storage area.

### **Sanitary Storage Wet Wells**

The wet wells should be filled with river water and capped off to prevent migration of wet wells in flood waters.

### **Dumpster**

Collect trash and debris from the site. Once the site is clear contact the waste service company so the dumpster may be removed.

### **Hose Bibs**

All hose bibs will need to have teflon tape applied to the threads and closed off with a threaded cap to prevent infiltration of debris and flood water.

### **Storm Drains**

All drains will need to be closed off to prevent the buildup of silt in the collection system.

### **3.0 Reopening Procedure**

Environmentally friendly soaps or water only must be used in any areas where water cannot be contained while power washing and the water will runoff to the river.

#### **Storm Drains**

Remove accumulated silt to prevent the clogging of lines and uncover. As water recedes inspect storm drains every few days to verify water levels are dropping in drains. Clear the drain of any blockages if the water levels do not drop in a storm drain.

#### **Debris**

All large debris should be cleared from the site, and all paved surfaces be pressure washed to remove silt deposits.

#### **Relocate Check in/Office Building**

Check in/office building should be returned to the site, and all utilities reconnected.

#### **Gangways and docks**

Gangways and docks should be visually inspected from a boat to determine that no debris has become lodged underneath the pontoons or in structural elements. If there is debris in the way it will need to be cleared appropriately. If debris removal requires disassembling elements of the docks or gangways, follow manufacturer guidelines to do so. Visually inspect and clear abutment locations. Once cleared flip back tread plates to reestablish access from shore. Once accessible power wash gangways and deck surfaces and clear any remaining debris. Inspect coast guard safety lights on docks for damage and replace as needed.

#### **Sanitary Storage Wet Wells**

Wet Wells will be pumped out and the wastewater disposed of at a wastewater treatment facility. Wet Wells cannot be dumped into river. Visually inspect wet wells, vent stacks, piping, valves, and service pedestals for any damage and repair accordingly.

#### **Hose Bibs**

Inspect hose bibs for damage and remove caps from all bibs. Run water through hose for 10 to 15 minutes to ensure no blockages or deposits have occurred in the line.

#### **Electrical Pedestal**

Inspect the electrical pedestal for any damages and power wash the pedestal and concrete pad. Inspect conduit and pull boxes across site to verify they are free of water and pump out water if necessary. Inspect transformer for any damage and, once cleared, flip on breakers. Coordinate turning on service with Ameren as needed.

**Dumpster**

Power wash dumpster pad and the inside and outside of the dumpster enclosure. Visually inspect the pad and enclosure and ensure the enclosure gates operate appropriately. Coordinate with waste disposal company for the return of the dumpster.

**Gravel Surfaces**

Gravel should be scraped to remove to remove silt deposits and new gravel added where needed.

**Miscellaneous**

Inspect signs and signposts for damage and power wash or replace as needed. Inspect fire rings for damage and empty out debris and silt if necessary. Replace any damaged fire rings.

**Final Walkthrough**

Walk entire site and shoreline to ensure that all debris has been removed and any damaged items are replaced or repaired.

## 4.0 Estimated Time for Shutdown Procedures

Task	Time: Hours
Evacuation (remove check in/office building)	2
Electrical Pedestal	0.5
Gangways and Docks	1.5
Sanitary Wet Wells	2
Utility Pedestals	1
Dumpster	0.5
Hose Bibs	0.5
Storm Drains	0.5
<b>Total Hours</b>	<b>8.5</b>

## 5.0 Time for Reopening Procedures

Task	Time: Hours
Storm Drains	1
Debris	4
Relocate Check in/Office Building	2
Gangways and Docks	1.5
Sanitary Wet Wells	2
Hose Bibs	0.5
Electrical Pedestal	2
Dumpster	0.5
Gravel Surfaces	6
Hydrants	0.5
Miscellaneous	2
Final Walkthrough	2
<b>Total Hours</b>	<b>24.0</b>

## 6.0 Shutdown Checklist

Flood Shutdown Checklist	
	<b>Electrical Pedestal</b> Shut off all breakers Coordinate with Ameren
	<b>Gangways and Docks</b> Flip up tread plates to cut off gangways and docks
	<b>Utility Pedestal</b> Disconnect pedestal Put on weather cap Load on truck and move to predetermined location
	<b>Sanitary Storage Wet Wells</b> Fill Wet Wells with river water
	<b>Dumpster</b> Collect trash and debris from site Contact waste services to have dumpster removed
	<b>Hose Bibs</b> Apply teflon tape to threads and cap all hose bibs
	<b>Storm Drains</b> cap all drains

## 7.0 Reopening Check List

Reopening Checklist	
	<b>Storm Drains</b> Clear silt and debris then remove caps Ensure water levels drop in drains and clear blockages
	<b>Debris</b> Clear large debris Power wash paved surfaces
	<b>Relocate Check in/Office Building</b> Relocated check in/office building back to site Reconnect all utilities to building
	<b>Gangways and Docks</b> Inspect gangways from boat and clear obstructions Inspect and clear abutments Flip down tread plates Clear decks

	<p><b>Sanitary Storage Wet Wells</b>  Wet wells drained and water disposed of  Inspect wet wells and related equipment for damage</p>
	<p><b>Utility Pedestal</b>  Power wash bases  Remove weather cap and dry connection points  Reconnect pedestal to base</p>
	<p><b>Hose Bibs</b>  Inspect bibs and remove caps  Flush for 20 minutes</p>
	<p><b>Electrical Pedestal</b>  Power wash pedestal and inspect for damage  Inspect and replace water damaged equipment as necessary  Inspect and pump out conduit as necessary  Turn on breakers once service is restored</p>
	<p><b>Dumpster</b>  Have waste services return dumpster</p>
	<p><b>Gravel Surfaces</b>  Scrape to remove silt  Add gravel where necessary</p>
	<p><b>Hydrants</b>  Power wash and inspect for damage</p>
	<p><b>Miscellaneous</b>  Inspect and replace signs and signposts as needed  Inspect and replace fire pits as needed</p>
	<p><b>Final Walkthrough</b>  Ensure entire site has been cleared and repairs made</p>