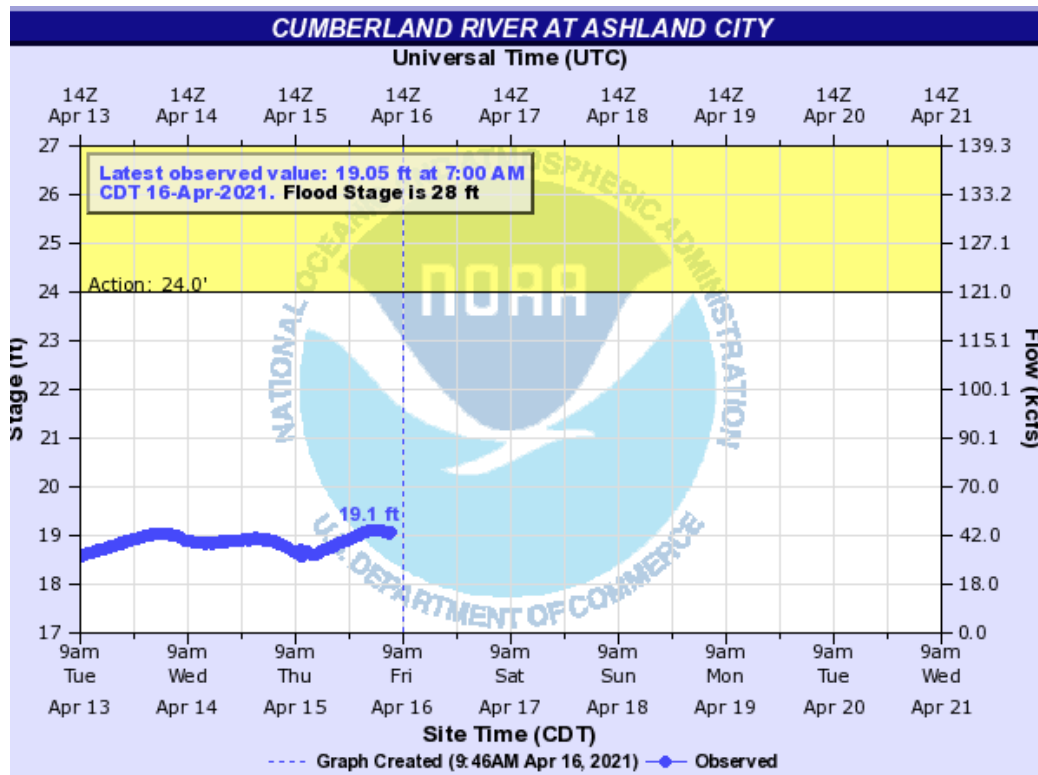
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## Flood Stage Prediction


A river flood gauge has been installed at the Hwy 49 Bridge, and the water level will be monitored online at <https://water.weather.gov/ahps2/hydrograph.php?wfo=ohx&gage=acit1>. One can also look at the Nashville and Clarksville gauge readings to understand the potential value of this information.



The River Gauge “0” reading is 367.04 ft (NAVD88). Thus a 20 ft. river gage reading calculates as elevation 387 ft. The summer pool elevation is around 385’ at the Cheatham Dam. Nashville will be at a higher elevation, and Clarksville will be at a lower elevation. The 100-year flood level elevation is considered to be 402.3 ft (NAVD88) per the 2/26/21 FEMA flood map. The elevation of the top of the A.O. Smith flood abatement system is 409 ft.

## Flood Monitoring

A coordinated effort between the Cheatham County Emergency Management Agency and Town of Ashland City officials will be used to monitor river levels on a continuous basis. When river levels reach **21 ft.**, the Public Works Director will initiate preparations at the Ashland City wastewater treatment plant (WWTP) for a potential flood event. The Fire Chief will coordinate communications between the City and A.O. Smith Plant Staff. See Key Contact information below.

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### Key Contacts

Organization	Name	Title	Phone Number
Cheatham County	Edwin Hogan	Emergency Management Agency Director	(615) 456-4419
Ashland City	Chuck Walker	Fire Chief	(615) 533-8357
Ashland City	Clint Biggers	Public Works Director	(615) 887-5400
USACE Cheatham	Tadd Potter	Cheatham Lake Resource Manager	(615) 330-2001
A.O. Smith	Randy Blessing	Environmental, Health, & Safety (EHS) Manager	(615) 973-9138
A.O. Smith	Greg White	Facilities Manager	(615) 419-9708
A.O. Smith	Mike Head	Levee Project Engineer	(615) 974-3373
Ashland City	Allen Nicholson	Flood Plain Administrator	(615) 712-4623

### Facility Monitoring

Town of Ashland City wastewater treatment plant and transfer station operation and monitoring:

- a. During an event, the City will monitor river levels with the HWY 49 river gauge.
- b. The safety of City personnel is of the utmost importance. While the Public Works Director believes it is safe to do so, some portion of the staff will physically inspect the wastewater treatment plant and transfer point to ensure systems are functioning properly. The staff currently consists of three WWTP operators and the Public Works Director. The City will also use a Supervisory Control and Data Acquisition system (SCADA) for remote monitoring of these facilities once the new Waste Water Treatment Plant is completed.
- c. Ashland City wastewater personnel will perform the following tasks to prevent the backflow of water into the plant:
  1. Confirm fuel level in generator and fill if necessary.
  2. Operate pump(s) continuously to create backpressure inside the effluent pipes.
    - i. There are two effluent pipes. One primary line, and a second legacy line that is only used for draining tanks to clean them.
    - ii. One pump can typically keep all pipelines pressurized with the second pump in reserve.
    - iii. Both pumps have check valves installed.

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3. Secure the manhole cover located within the entry road into the treatment plant after completion of the waste/water sewer plant on or before July 31, 2025.
- d. If the facilities become inaccessible and or conditions become such that staff safety is in question, physical monitoring will be suspended until such time as it is determined to be safe for entry.
- e. If the facility becomes inaccessible by the standard route, the emergency access route for fueling the generator would be utilized. See Figure 1.

## Generator Fueling Coordination

### Purpose:

To provide a coordinated refueling effort between the Town of Ashland City and the Cheatham County Emergency Management Agency.

In the event of a power failure, the follow assessment will be made:


1. Is a significant weather event anticipated?
2. Will this weather provide ample rain fall in the Ashland City drainage basin to increase the level of the Cumberland River?
3. Check the fuel level within each generator. If necessary, top-off the fuel tanks before the event.

### Identified Generators

- The Town of Ashland City currently has a generator in place at the existing City Wastewater Treatment Plant (WWTP) north and adjacent to the A.O. Smith facility.
- The Town of Ashland City will have a future generator at the new Wastewater Treatment facility. Timeframe is tentatively Q3 2025.

### Maintenance and refueling

- Regular maintenance is to be performed by a contracted and qualified vendor.
- Fuel levels are to be checked regularly using external gauges.
  - o A low-level alarm is incorporated into the backup generator remote panel mounted within the WWTP office building.
- Regular refueling is to occur when the fuel level drops below 60%.
  - o City WWTP personnel are responsible for refueling the backup generator(s).
  - o A City-owned shop truck with an approximately 100-gallon capacity fuel tank is used to transport fuel from storage tanks at the Water Treatment Plant to the WWTP backup generator(s).
  - o The northeast section of levee embankment transitions to existing grade at 410 feet near the elementary school ballfields. A truck can transition onto the crest of the levee and access the AO Smith office parking lot and the WWTP using the existing gates.
- Before and during weather-related events, storage tank fuel levels should be routinely checked. If required, contact the appropriate vendor to refill.

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- During emergency conditions, such as a power outage, fuel levels will be checked daily. The generator(s) can operate up to 24 hours after refueling. Fuel consumption may vary depending upon the load and overall pump runtimes. Refueling operations will be conducted during daylight hours.

#### Refueling Vendors

- City will maintain a contract with a refueling vendor.

#### WWTP Access (See Figure 1)

- Town of Ashland City: **Existing** Wastewater Treatment Plant
  - a. Standard access will be through the A.O. Smith Corporate Entrance (Gate A) via Tennessee Waltz Parkway (SR-455) and through the main gate at the WWTP. See the green route on Figure 1.
  - b. Emergency access will be from Elizabeth Street at the southern entrance to the school. Following the internal road to the rear of the school to Vine Street. Turning left onto Vine Street and proceeding beside the ballfield concessions stand. The elevation is 419 ft. at Vine Street. Access to the City WWTP can be made with a vehicle along the south side of the concessions stand and the southern ball field. This area of the school property is flat and open and merges with the peak of the AO Smith levee. Drivers can proceed to the railroad R.O.W. where the elevation is 410 ft. and cross at the opening in the railroad ROW and onto the northeast corner of the AO Smith campus (near the main offices) using an existing gate. At the northeast corner of AO Smith / southeast corner of the City WWTP, an existing double gate provides access to the City WWTP. Once through the gates, drivers have access to the WWTP and its backup generator. See the orange route on Figure 1.
- Town of Ashland City: **Proposed** Wastewater Treatment Plant
  - a. Standard access will be from Tennessee Waltz Parkway at the City access gate just west of the railroad R.O.W. Once through the gate, drivers will proceed over the levee to the WWTP gate and access the facility to refuel the generator. See the blue route on Figure 1.
  - b. Emergency access will be from 233 Tennessee Waltz Parkway and through the gate at the City Public Works building. Drivers will proceed around the back of the facility following the road crossing the railroad R.O.W. to the new City WWTP. See the purple route on Figure 1.

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### Flood Action Plan

This action plan will be initiated based on the existing river levels and projected rainfall in the region. This plan is a guide and should be modified as additional information is available or events change.

The following list is presented as the minimum recommended flood stage to reaction line. With the expectation that the levee system will function as designed, river levels up to at least an elevation of 407 feet are not expected to flood the site if the levee system does not fail. The levee system was constructed to a final elevation of 409 feet.

River Level Gauge	Water Elevation	Location	Responsible Person	Action
20.0'	387.0'	Not yet cresting TN Waltz Pkwy	City Staff	Flood watch is to be initiated, staff is to be alerted, and forecast is to be monitored.
21.0'	388.0'	WWTP	Clint Biggers	Initiates WWTP preparations for a potential flood event a) Check backup generator fuel level b) Monitor pumps in preparation for continuous operation
28.0'	395.0'	WWTP	Clint Biggers	Switch backup generator refueling route to emergency access route if main power is lost. Coordinate with AO Smith contacts (see Key Contacts list).
36.0'	403.0'	WWTP	Clint Biggers	Evacuate WWTP personnel and monitor the plant electronically via SCADA