

Information on Boulder County's Emergency Notification System

WHAT IS BOULDER COUNTY'S EMERGENCY NOTIFICATION SYSTEM?

Boulder County uses a software called Everbridge to initiate emergency notifications to various contact paths: landlines, cell phones, text, TTY/TDD, emails or faxes. This system is one of many tools that public safety officials use when attempting to disseminate information to communities during emergencies. Throughout the Marshall Fire, numerous emergency notifications were sent along with Law, Fire, EMS and Search & Rescue officials moving through the impacted communities by car and on foot, announcing the evacuations.

It is important to remember: *Do not wait for emergency alerts if you feel your safety is compromised, take appropriate actions.*

HOW DOES THE SYSTEM WORK?

The Everbridge system is populated with all landlines from Century Link and Voice Over Internet Protocol (VoIP) phones from Xfinity/Comcast. These are automatically loaded in our system. The updates occur quarterly, capturing new lines and purging ones that are disconnected. In order to receive notifications on cell phones, by voice or text, email, or TDD/TTY, you must create an account. Access to this system can be found at www.BoulderOEM.com. To receive alerts, click "Emergency Messages Sign-Up" on the website. Any alerts issued through the Everbridge will only be applicable to the following geographical areas:

- City of Boulder
- City of Lafayette
- City of Longmont (including the Weld County side of Longmont)
- City of Louisville
- Town of Erie (including the Weld County side of Erie)
- Town of Lyons
- Town of Superior
- Town of Nederland
- Town of Ward
- Unincorporated Boulder County

WHAT SHOULD BE ENTERED WITHIN MY ACCOUNT?

Consider including the addresses for home, work, child's school, loved ones, etc. You can choose to receive voice calls, text messages, TTY/TDD, emails or faxes by entering each contact path separately. You will also decide the order of the message delivery. The system will attempt to contact you on the first contact path that you list. If you do not answer, the next option on your list will be attempted. Boulder County is not responsible for incorrect information provided by participants or fees that may be charged for text messages, etc.

We encourage you to create a profile for every person in the household that has a mobile device. If an address listed on your profile is within the geographical boundary created by public safety officials for an event, you will receive information through your chosen contact paths.

WHAT IS THE PROCESS TO LAUNCH AN EMERGENCY ALERT?

Public safety officials encounter a situation and determine when messaging is necessary for the community to **prepare to take action, or when immediate action is required**. The following information is provided from field responders:

- 1) Type of message necessary:
 - **Advisory:** Informational message about an emergency situation that is likely to impact one of the addresses listed on your profile.
 - **Warning:** *Prepare to take action* for you and your family for an emergency situation affecting one of the addresses listed on your profile. Individuals needing extra time to mobilize should consider taking immediate action when a warning notification is issued. A warning is issued for areas that could receive an evacuation order within 1.5 to 4 hours. The goal of an evacuation warning is to raise awareness of the resident, create urgency to prepare, and if needed, to evacuate.
 - **Order:** *Take required action immediately.*

- 2) Action (or information) requested:
 - **Climb to Higher Ground:** This may be as simple as going up a hillside in the immediate vicinity, which can save your life in flooding emergencies.
 - **Evacuation:** This is the most commonly issued alert during a wildfire but may be used for law enforcement or HAZMAT situations when public safety officials need you to leave the area.
 - **Shelter in Place:** Issued for law enforcement situations or other emergencies when public safety officials determine it is safer for the community to remain indoors until the situation is resolved.
 - **Missing/Endangered Person(s):** Public safety officials may send this notification if they are needing the community to be aware of a missing or endangered person.
 - **All Clear:** A follow-up to previous messages issued after public safety officials determine the hazard has been mitigated and no longer presents a threat to the community.

- 3) Geographical footprint:
 - This request must be translated onto a digital map within the software. Depending on the hazard and conditions, some shapes may be pre-built. In the case of the Marshall Fire, the location, wind speed, and direction were unique to the emergency and all shapes were digitally created on-the-fly by the dispatchers.

The information relayed to dispatchers is entered in a template within the Everbridge software. Requests must be approved by a field supervisor before the emergency notification is launched. Most of the time, approval occurs during the process of information being relayed to dispatch. The length of time it takes to complete this process depends on the complexity of mapping needed for building the launch area and the development of the actual message. In 2019, a working group was established to make pre-built mapping polygons for the areas most often affected by disasters, which is the mountains. This greatly reduces the time needed to complete the process, especially in areas without multiple roads to use as boundaries.

After the content is drafted in the template, each message is recorded by the dispatcher. Although this adds time to a launch, it is important that we utilize a human voice for dictation, versus allowing the system to generate a computerized voice from text. This enhances the audio for anyone that may have hearing challenges or are panicking due to the emergency.

The process to launch an emergency alert is completed in parallel or triaged alongside all other critical dispatching responsibilities such as answering incoming 911 calls and dispatching public safety resources to the incident. During a

disaster such as the Marshall Fire, our Dispatch center increases staffing as quickly as possible. We identify a specific person that is dedicated to sending emergency alerts upon request from field personnel.

WHAT MESSAGES WERE SENT DURING THE MARSHALL FIRE?

Please refer to the [map](#) when reviewing the information in the chart below.

Date	Time	Message Title	Message Content	Total Contacts	Map Label
12/30/2021	11:47:52	Evacuation Order	This is the Boulder County Sheriff's Office Emergency Notification System. At 11:47:51 on 12-30-2021, a Mandatory Evacuation Order has been issued for the area(s) of Highway 93 and Marshall due to Wildland Fire moving east from this intersection. Take the following protective actions immediately: Mandatory Evacuation, you can evacuate to Sacred Heart of Mary Church in Boulder at 6739 S Boulder Rd. This Order stands Until Further Notice	215	Marshall Fire 1
12/30/2021	12:15:55	Evacuation Order	This is the Boulder County Sheriff's Office Emergency Notification System. At 12:15:55 on 12-30-2021, a Mandatory Evacuation Order has been issued for the area(s) of Highway 93 and Marshall due to Wildland Fire that is moving east bound. Take the following protective actions immediately: Mandatory Evacuation and proceed north and east of this area. This Order stands Until Further Notice	2588	Marshall Fire 2a, 2b
12/30/2021	12:46:18	Evacuation Order	This is the Boulder County Sheriff's Office Emergency Notification System. At 12:46:18 on 12-30-2021, a Mandatory Evacuation Order has been issued for the area(s) of Highway 93 and Marshall due to Wildland Fire that is now threatening Superior. Take the following protective actions immediately: Mandatory Evacuation. Leave this area and go east on Highway 36 or southbound on Mccaslin. This Order stands Until Further Notice	254	Marshall Fire 3a, 3b
12/30/2021	12:49:56	Evacuation Warning	This is the Boulder County Sheriff's Office Emergency Notification System. At 12:49:56 on 12-30-2021 an Evacuation Warning has been issued for the area(s) of Southern Superior (south of Discovery) due to Wildland Fires. Take the following protective actions: Prepare to evacuate or leave if you feel unsafe evacuate now. This Warning stands Until Further Notice. If you need assistance or might need extra time, begin your evacuation now	4173	Marshall Fire 4
12/30/2021	13:08:48	Evacuation Order	This is the Boulder County Sheriff's Office Emergency Notification System. At 13:08:48 on 12-30-2021, a Mandatory Evacuation Order has been issued for the area(s) of Mccaslin and Highway 36 due to Wildland Fire. Take the following protective actions immediately: Evacuate the Area and go north and east of this area immediately. This Order stands Until Further Notice	7251	Marshall Fire 5a, 5b
12/30/2021	13:15:08	Evacuation Order	This is the Boulder County Sheriff's Office Emergency Notification System. At 13:15:08 on 12-30-2021, a Mandatory Evacuation Order has been issued for the area(s) of Mccaslin and Highway 36 due to Wildland Fire. Take the following protective actions immediately: Evacuate the Area. This Order stands Until Further Notice	2509	Marshall Fire 6a, 6b
12/30/2021	13:25:39	Evacuation Order	This is the Boulder County Sheriff's Office Emergency Notification System. At 13:25:38 on 12-30-2021, a Mandatory Evacuation Order has been issued for the area(s) of Mccaslin and Highway 36 due to Wildland Fire. Take the following protective actions immediately: Evacuate the Area going north and east of this area. This Order stands Until Further Notice	276	Marshall Fire 7
12/30/2021	14:51:14	Evacuation Order	This is the Boulder County Sheriff's Office Emergency Notification System. At 14:51:14 on 12-30-2021, a Mandatory Evacuation Order has been issued for the area(s) of City of Louisville due to a Wildland Fire. Take the following protective actions immediately: Evacuate the Area and go North immediately. If you can utilize Highway 42 to leave the area. This Order stands Until Further Notice	4806	Marshall Fire 8
12/30/2021	14:58:04	Evacuation Warning	This is the Boulder County Sheriff's Office Emergency Notification System. At 14:58:03 on 12-30-2021 an Evacuation Warning has been issued for the area(s) of Cherryvale and South Boulder North and East of due to Wildland fire. Take the following protective actions: Prepare to evacuate. This Warning stands Until Further Notice. If you need assistance or might need extra time, begin your evacuation now.	2217	Marshall Fire 9

WHAT DOES THE FUTURE HOLD?

During the Marshall Fire event, the Boulder County Sheriff's office has fielded questions from community members asking why they did not receive a notice on their cellular phone, like those received for Amber and weather alerts. The Sheriff's office is working towards incorporating a system which will allow location-based cell phone notification, regardless of a subscriber's address or registration with the Everbridge system. These systems are commonly used for weather-related events such as tornadoes or floods in our area.

The Boulder Office of Disaster Management (ODM), in conjunction with the Boulder County Communications Center and Boulder Police and Fire Communications is currently working to implement Wireless Emergency Alerts (WEA) in our area. ODM secured the licensure and certification from the State of Colorado in late 2019. The implementation process was in its infancy when COVID struck and the Boulder ODM was stood up for COVID response, which has been continuing since January 26, 2020. The Boulder ODM in conjunction with the Boulder County Communications Center and Boulder Police and Fire Communications are on track to implement WEA with the Everbridge system in 2022.

Everbridge and WEA are similar systems which execute in two different ways. Everbridge allows law enforcement and fire resources to accurately target emergency notification messages to a distinct geographical area based upon an address. With WEA, the messages are broadcast to a much wider geographical area by systems put in place by your cellular provider. Experience of neighboring jurisdictions and WEA alerts has told us that they often exceed their intended targets.

According to the FCC website consumer guide on wireless emergency alerts, in 2021, it was estimated only approximately 34% of consumers' smart phones supported an enhancement which allows geographical certainty of their location to 1/10 of a mile. The remaining smart phones which support WEA alerts are only required to target the following accuracy, known as the 2017 geographic area requirements. FCC stated, "participating wireless providers were required to transmit alerts to a geographic area that best approximated the area affected by the emergency, even if it was smaller than a county."

In a wildfire scenario, a WEA is likely to warn residents over a larger geographic area than intended, causing traffic congestion and egress issues for those closest to the danger attempting to evacuate. WEA notifications, if unclear to residents, will increase calls into the 911 center, resulting in additional call volume at the communication centers likely taxing 911 resources. When evacuating areas during a wildfire, it must be stressed that individuals near the evacuation zones need to evacuate immediately and emergency responders have to consider the transportation routes needed for areas evacuating immediately due to the encroaching fire.

The near-term future of the Boulder County Communications Center will involve both Everbridge and WEA notifications. Because of the current variance of effective geographic targeting associated with WEA systems, its use in wildfires must balance the expectations of the community with the practices that first responders use to evacuate residents. Our goal is to alert or warn residents quickly, over a large area and do so without causing negative secondary effects that interfere with the orderly and effective movements of dense populations away from hazardous conditions. Technology will continue to progress, land-based phone lines will continue to become more obsolete and targeting for handheld cellular devices must become more accurate allowing for the precise geolocation data needed to accurately issue emergency messages. Boulder Office of Disaster Management and the Boulder County Communications Center are working to have the implementation for both systems working in harmony together during 2022, and will continue to evaluate emerging technology. Until that day comes, Boulder County will have to find a way to comprehensively serve both areas with solid cellular coverage and areas with poor cellular coverage in the mountains since WEA is dependent on connection to a cellular tower.

CONCLUSION

The Boulder County Sheriff's Office and Boulder Office of Disaster Management unfortunately have a long history of responding to and recovering from disasters within the county over the last 20 years. After each of these, room for improvement has always been identified. The lessons learned and improvements are incorporated into the disasters in future years. The Marshall Fire will be no different. One thing we have found consistent through all the disasters is successful notifications of evacuations involve three distinct elements. The first element is our community members. Members of the community are most often the first to notify us of the emergency and take it upon themselves to notify neighbors closest to the hazard. Second, an emergency notification system which has the flexibility to target notifications to individuals and can be requested or launched by first responders on scene quickly and efficiently through the communications center. The emergency notification system must have the flexibility to target both mountainous terrain and the plains. Lastly, nothing will ever replace door-to-door evacuations in an emergency such as the Marshall Fire. First responders who are incredibly efficient and adapt quickly to mobilize door-to-door evacuations make sure people are notified in the path of danger regardless of what technology is available.