



Systemwide Safety Programs
Department of Facilities Management
MONTGOMERY COUNTY PUBLIC SCHOOLS
Rockville, Maryland

July 2014

Tornado Safety Information

The following information was obtained from the Federal Emergency Management Agency (FEMA) and the National Oceanic and Atmospheric Administration (NOAA) to be reviewed and implemented in the event of severe weather. Tornadoes can occur at any time of year; however, according to the National Weather Service, the peak activity period is March through early July. Administrators should share this information with students, staff, and parents, as appropriate. Also, NOAA alert radios and Nextel emergency phones should be monitored continuously. Questions regarding this information may be directed to the Department of School Safety and Security at 301-279-3066 or Mr. Peter Park, team leader, Systemwide Safety Programs, Department of Facilities Management, at 240-314-1070.

Tornado Safety in Schools

- Be prepared to respond to a wide range of weather-related emergencies such as severe thunderstorms, tornadoes, and winter storms. Designate internal spaces such as interior hallways and classrooms as safe areas to go to in the event of a tornado.
- Basements offer the best protection. Schools without basements should use interior rooms and hallways on the lowest floor and away from windows. Rooms with wide spans of open space (cafeterias, gymnasiums, all purpose rooms) should not be used.
- Designate a staff person to monitor weather information from local radio and television stations and the school's NOAA alert radio.
- Check the emergency kit and first aid kits regularly to ensure readiness of supplies.
- If there is a power failure during a tornado or other weather-related emergency, schools equipped with a generator will maintain the fire alarm system, public address system, phones, and emergency lighting. Schools without generators should plan for alternative ways to communicate throughout the school (megaphone, runners, cell phones, etc.).
- Make specific provisions for students and staff with special needs.

- Initiate a Severe Weather Shelter and provide students and staff with directions via the public address system or e-mail during severe weather.
- Ensure student/staff accountability during all types of weather emergencies.

About Tornadoes

The average tornado moves from southwest to northeast and can produce whirling winds of tremendous speeds. Tornadoes are classified using the Fujita Scale between F-1 and F-5—the higher the number, the stronger the winds. Winds can exceed 300 miles per hour during an F-5 tornado. The updated Enhanced F-Scale (replacing the original Fujita Scale) is a more precise way to assess tornado damage. The scale ranges from 0 through 5 (EF Number)—the higher the number, the stronger the winds from the tornado. The enhanced F-scale still is a set of wind estimates (not measurements) based on damage. It uses three-second gusts estimated at the point of damage based on a judgment of eight levels of damage to 28 damage indicators. Thunderstorms often produce large hail, strong winds, and tornadoes.

Tornado Watch vs. Tornado Warning

It is important to know the difference between *tornado watches* and *warnings*. A *tornado watch* means that tornadoes are possible in the area and that you should remain alert for approaching storms. A *tornado warning* means a tornado has been sighted or indicated by weather radar. If a tornado warning is issued for the area and the sky appears threatening, move to a pre-designated place of safety and follow the “Tornado Safety in Schools” information listed on page 1 of this document.

Tornado Danger Signs

The following information regarding tornado danger signs was obtained from the FEMA website at www.fema.gov.

Occasionally, tornadoes develop so rapidly that advance warning is not possible.

- Look out for—
 - dark, often greenish sky
 - large hail
 - wall cloud
 - loud roar, similar to a freight train
- Caution—
 - Some tornadoes are clearly visible.
 - Some tornadoes may be obscured by rain or nearby low-hanging clouds.
 - Before a tornado hits, the wind may die down and the air may become very still.
 - A cloud of debris can mark the location of a tornado even if a funnel is not visible.
 - Tornadoes generally occur near the trailing edge of a thunderstorm.
 - It is not uncommon to see clear, sunlit skies behind a tornado.

Immediate Response

If a tornado warning is issued or threatening weather approaches, immediately seek safety.

- Quickly move students, staff, and visitors from relocatable/portable classrooms and outside activities to the main building.
- When practical, go to the basement or an inside hallway at the lowest level.
- Avoid places with wide-span roofs such as auditoriums, cafeterias, or large hallways.
- Get under a piece of sturdy furniture such as a workbench or heavy table or desk and hold on to it.
- If the tornado warning is issued during school arrival or dismissal times, initiate a Severe Weather Shelter procedure and hold students and staff in the interior hallways of the main building until it is safe to release them.
- The National Weather Service has recommended that in the event of an actual tornado, students should be instructed to assume the tornado protection position; i.e., on the floor in a tucked position with hands folded behind head. Use arms to protect head and neck.
- Stay away from windows. Do not open the windows.
- Consideration should be given to delay lunches or assemblies in large rooms; i.e., gymnasium, cafeteria, and auditorium, when warnings are issued.
- If caught outside or in a vehicle with no safe place to go, the National Weather Service recommends lying flat in a nearby ditch or depression. Be aware of the potential for flooding.

Additional information about weather safety can be found at the NOAA website—<http://www.noaa.gov>. An online tornado fact sheet entitled *Tornado Safety* is an informative Web link that includes safety information for schools and homes and can be downloaded from <http://www.spc.noaa.gov/faq/tornado/safety>. Also attached is a NOAA tornado safety in schools preparedness guide sheet regarding best available tornado shelter locations and a tornado tuck position for your information.

(rev. 7/14)



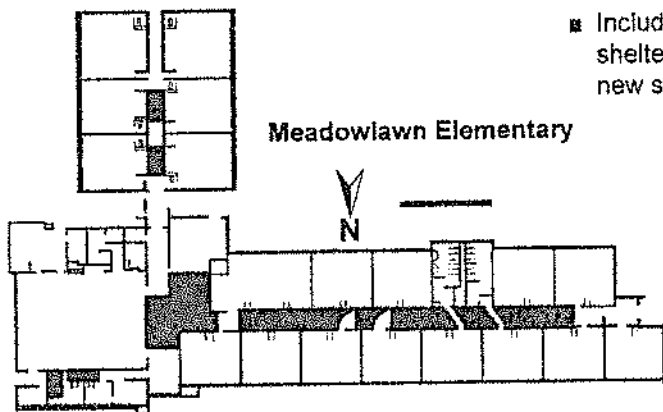
American Red Cross

Hospitals, nursing homes, and other institutions should develop similar severe weather safety plans.

Tornado Safety in Schools

Every School Should Have a Plan

- Develop a severe weather safety plan that ensures everyone will take cover within 60 seconds. Conduct frequent tornado drills. Include provisions for all after-hours, school-related activities.
- Every school should be inspected and tornado shelter areas designated by a registered engineer or architect. Rooms with exterior walls should never be used as tornado shelters.
- Basements offer the best protection. Schools without basements should use interior rooms and hallways on the lowest floor, away from windows.
- Delay lunches or assemblies in large rooms if severe weather is anticipated. Rooms with large roof spans (e.g., gymnasiums, cafeterias, and auditoriums) offer little or no protection from tornado-strength winds.
- Ensure students and staff know the protective position (shown below). Everyone should sit facing an interior wall, elbows to knees, and with hands over the back of their heads.
- Each school should have a NOAA Weather Radio with battery back-up. Remember, the NWS issues a Tornado Watch when conditions are *favorable for tornado development* and a Tornado Warning when a tornado *has been spotted or indicated by radar*.
- If the school's alarm system relies on electricity, have an alternative method to notify teachers and students in case of power failure.
- Make special provisions for faculty and students with disabilities, those in portable classrooms, and those outdoors. They should be notified first of approaching severe weather.
- Keep children at school beyond regular hours during a Tornado Warning. School bus drivers should identify protective areas along each part of their route where they and their passengers can take cover if overtaken by a tornado or high winds.
- Include properly designed tornado shelters when planning additions or new school buildings.



■ = "BEST AVAILABLE" Tornado Shelter





MONTGOMERY COUNTY PUBLIC SCHOOLS

Department of Transportation Tornado Warning Procedures for Buses

1. Tornado Warning

A tornado warning means that a tornado has been sighted or reported by weather radar in the area covered by the warning. In the event a tornado warning is issued by the National Weather Service, school bus operations will follow the procedures listed below:

2. Morning pickup procedures

- a. If a tornado is sighted by an individual school bus operator, the school bus operator will cease picking up students and immediately seek appropriate shelter for all passengers at the nearest school or other substantial building. School bus operators and school bus attendants will follow Severe Weather Shelter procedures by school administration and seek shelter inside the school immediately.
- b. In the absence of a tornado sighting, the school bus operator will continue to pick up all students for the trip, proceed to the school, cease all remaining operations, and follow the instructions of the dispatcher. School bus operators and school bus attendants will follow Severe Weather Shelter procedures by school administration and seek shelter inside the school immediately.
- c. Upon expiration of the tornado warning, transportation operations will resume—although late—without change to pick-up sequence.

3. Afternoon drop-off procedures

- a. If a tornado is sighted by an individual school bus operator, the school bus operator will cease discharging students and immediately seek appropriate shelter for all passengers at the nearest school or other substantial building. School bus operators and school bus attendants will follow Severe Weather Shelter procedures by school administration and seek shelter inside the school immediately.
- b. In the absence of a tornado sighting, the school bus operator will continue to drop off all students for the trip and proceed to the next school. Upon arrival at the school, all transportation operations will cease; and the school bus operator will follow the instructions of the dispatcher. School bus operators and school bus attendants will follow Severe Weather Shelter procedures by school administration and seek shelter inside the school immediately.
- c. If the school administrator and/or school bus driver receives information that a tornado warning is in effect at the school site (Severe Weather Shelter), prior to departure, the school bus operator is to cease transportation operations and remain at the school until the warning has expired. Follow instructions of school administration until school Severe Weather Shelter has been terminated.
- d. Upon expiration of the tornado warning, transportation operations will resume—although late—without change to drop off sequence.