



Moorhead Tornado Recovery Exercise

Situation Manual

6/26/2025

This Situation Manual (SitMan) provides exercise participants with all the necessary tools for their roles in the exercise. Some exercise material is intended for the exclusive use of exercise planners, facilitators, and evaluators, but players may view

other materials that are necessary to their performance. All exercise participants may view the SitMan.

EXERCISE OVERVIEW

Exercise Name	Recovery from the Rumble on the Red
Exercise Dates	June 26 th , 2025
Scope	This exercise is a tabletop planned for June 26th at Hjemkomst Center Oak Room in Moorhead, MN
Focus Area(s)	Recovery
Capabilities	Operational Coordination, Housing, Infrastructure Systems, Economic Recovery, Planning
Objectives	<ul style="list-style-type: none"> • Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities. • Examine housing solutions that meet the community's post-disaster recovery and housing needs while promoting future sustainability and resilience. • Stabilize critical infrastructure, reduce health risks, and restore essential services to support a resilient community. • Explore economic and business recovery activities to sustain a healthy and economically viable community. • Develop a comprehensive plan for community recovery using a systematic approach to create actionable strategic, operational, and tactical methods that achieve specific objectives.
Threat or Hazard	Tornado
Scenario	An EF3 tornado has severely impacted 20-30% of Moorhead. The effects of the recovery will be felt for years to come. The focus of the recovery exercise is to address the immediate concerns affecting Moorhead, with the recovery lasting up to three years. This exercise will concentrate on three key areas: government and business impacts, infrastructure systems, and housing and schools, along with the community as a whole.
Sponsor	Moorhead Emergency Management
Participants	See Appendix B

Point of Contact

Chad Stangeland, Moorhead Emergency Management

Chad.Stangeland@moorheadmn.gov

218-299-5433

Gabe Tweten

Gabe.Tweten@claycountymn.gov

218-299-7357

GENERAL INFORMATION

Exercise Objectives and Capabilities

The following exercise objectives describe the expected outcomes for the exercise. The objectives are linked to capabilities, which are the means to accomplish a mission, function, or objective based on the performance of related tasks, under specified conditions, to target levels of performance. The objectives and aligned capabilities are guided by senior leaders and selected by the Exercise Planning Team.

Exercise Objectives	Capability
Examine housing solutions that meet the community's post-disaster recovery and housing needs while promoting future sustainability and resilience.	Housing
Stabilize critical infrastructure, reduce health risks, and restore essential services to support a resilient community.	Infrastructure Systems
Explore economic and business recovery activities to sustain a healthy and economically viable community.	Economic Recovery
Develop a comprehensive plan for community recovery using a systematic approach to create actionable strategic, operational, and tactical methods that achieve specific objectives.	Planning
Establish and maintain a unified and coordinated operational structure and process that appropriately integrates all critical stakeholders and supports the execution of core capabilities.	Operational Coordination

Table 1. Exercise Objectives and Associated Capabilities

Participant Roles and Responsibilities

The term *participant* encompasses many groups of people, not just those playing in the exercise. Groups of participants involved in the exercise, and their respective roles and responsibilities, are as follows:

- **Players:** Personnel who have an active role in discussing or performing their regular roles and responsibilities during the exercise. Players discuss or initiate actions in response to the simulated emergency.

- **Observers:** Do not directly participate in the exercise. However, they may support the development of player responses to the situation during the discussion by asking relevant questions or providing subject matter expertise.
- **Facilitators:** Provide situation updates and moderate discussions. They also provide additional information or resolve questions as required. Key Exercise Planning Team members also may assist with facilitation as subject matter experts (SMEs) during the exercise.
- **Evaluators:** Are assigned to observe and document certain objectives during the exercise. Their primary role is to document player discussions, including how and if those discussions conform to plans, policies, and procedures.

Exercise Structure

This exercise will be a multimedia, facilitated exercise. Players will participate in the following 3 modules:

- Module 1: Short Term Recovery
- Module 2: Mid Term Recovery
- Module 3: Long Term Recovery

Each module begins with a multimedia update that summarizes key events occurring within that time period. After the updates, participants review the situation and engage in functional group discussions of appropriate tornado recovery issues. For this exercise, the functional groups are as follows:

- Government / Business Focus
- Infrastructure Focus
- Housing / Educational Focus

After these functional group discussions, participants will engage in a moderated plenary discussion in which a spokesperson from each group will present a synopsis of the group's actions, based on the scenario.

Exercise Guidelines

- This exercise will be held in an open, no-fault environment wherein capabilities, plans, systems, and processes will be evaluated. Varying viewpoints, even disagreements, are expected.
- Respond to the scenario using your knowledge of current plans and capabilities (i.e., you may use only existing assets) and insights derived from your training.
- Decisions are not precedent setting and may not reflect your jurisdiction's/ organization's final position on a given issue. This exercise is an

opportunity to discuss and present multiple options and possible solutions.

- Issue identification is not as valuable as suggestions and recommended actions that could improve tornado recovery efforts. Problem-solving efforts should be the focus.
- The assumption is that the exercise scenario is plausible, and events occur as they are presented. All players will receive information at the same time.

Exercise Evaluation

Evaluation of the exercise is based on the exercise objectives and aligned capabilities, capability targets, and critical tasks, which are documented in Exercise Evaluation Guides (EEGs). Evaluators have EEGs for each of their assigned areas. Additionally, players will be asked to complete participant feedback forms. These documents, coupled with facilitator observations and notes, will be used to evaluate the exercise and compile the After-Action Report (AAR)/Improvement Plan (IP)

MODULE 1: SHORT TERM RECOVERY

Scenario

May, 9th, 2025

It has been 48 hours since an EF3 tornado severely impacted Moorhead, damaging 20% of the homes in the affected area and rendering them uninhabitable. In the aftermath of the tornado, some roads remain blocked by fallen trees, damaged vehicles, and debris. Public Works and Utility crews are diligently working to clear both primary and secondary roadways, reach the severely affected neighborhoods, eliminate safety concerns, and restore services. Additionally, ongoing heavy rain has caused significant street flooding, further threatening residential areas.

- Nearly 90% of electric customers were originally disrupted, so Moorhead Public Service is actively working to restore electric power. They are prioritizing their efforts to restore power for the largest number of customers and critical infrastructure and facilities.
- Temporary shelters have been established at Trinity Lutheran Church and Triumph Lutheran Church. Both shelters are currently at full capacity. All hotels within a 90-minute radius are also fully occupied, creating significant challenges in securing accommodation for displaced city, county, and educational staff, as well as mutual aid resources called in to assist. This situation is leading to workforce shortages and operational delays.
- All K-12 schools, colleges, and universities have suspended classes and requested that students participate in recovery efforts. Some of these institutions' facilities are being repurposed for critical activities such as

distribution sites for essential food and water, volunteer centers, and family assistance centers.

- Xcel Energy has successfully isolated all active gas leaks, which has resulted in several areas within Moorhead being without natural gas service.
- Storm damage and system overload led to both complete and intermittent disruptions in parts of Moorhead. Providers are aware and are attempting to bring in additional temporary sites, but outages persist.

EOC provides the following situation report:

• All Search and Rescue has been completed	• 381 Homes Inhabitable	• 75% of Power to Moorhead is still out
• 15 Fatalities	• 101 Severely Damaged	• 5% of Natural Gas is
• 60 Injuries	• 90 Homes Moderately Damaged	• 2 Assisted Living Facilities are Inhabitable
• 34 Businesses Damaged	• 190 Homes have Minor Damage	• 3 Dormitories Inhabitable (2 Concordia & 1 MSUM)

Module 1 focuses on the recovery efforts that will occur between 48 hours and 1 week after the tornado

Questions

Based on the information provided, participate in the discussion concerning the issues raised in Module 1. Identify any critical issues, decisions, requirements, or questions that should be addressed at this time.

Government / Business Focus

1. Identify at least five critical recovery priorities for government and businesses within the first 48 hours to one-week post-crisis to facilitate community recovery efforts.
2. Despite efforts to keep the public informed, confusion is growing due to the lack of reliable communication channels. Rumors are spreading on social media, and there is growing frustration among residents about the lack of clear, consistent information regarding recovery plans, safety measures, and utility restoration.

How would you help address these concerns?

3. Several businesses along 8th Street South have been devastated by the tornado, prompting their owners to seek urgent relief and financial assistance. How will your team collaborate with local chambers of commerce, state officials, and non-profit organizations to facilitate business recovery and provide financial support?
4. Volunteer teams are flooding into Moorhead from surrounding areas, but there is no clear system to manage them. Some have self-deployed and may cause liability issues for Moorhead & Clay County. How will your team set up a volunteer reception center, screen volunteers for specific tasks, and ensure they're properly trained before deployment?
5. Residents are posting screenshots on social media regarding differing information about shelter status, water safety, and debris pickup schedules. Local media outlets have requested a unified recovery timeline and statement. How will the local government manage public messaging effectively? What systems exist to centralize and verify recovery information?
6. Many cases of carbon monoxide poisoning have occurred due to improper generator use in closed spaces, and unsafe building repairs have begun. The building code department is overwhelmed with inspection requests. How can escalating safety concerns be managed effectively with limited staff?

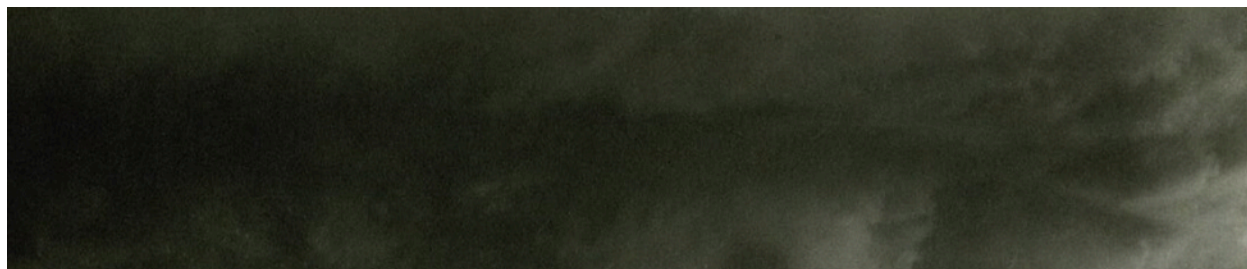
Infrastructure Focused

1. Identify at least five critical recovery priorities for infrastructure systems within the first 48 hours to one-week post-crisis to facilitate community recovery efforts.
2. The tornado has left behind massive amounts of debris, including fallen trees, wrecked vehicles, and building materials. This debris is blocking roadways, complicating efforts to restore utilities, and posing safety hazards for residents attempting to return to their neighborhoods. What strategies can be used to expedite clearing debris?
3. Power outages are extensive, affecting over 50% of the community. The restoration of power has been delayed due to significant damage. Emergency generators have been deployed in certain areas; however, many residents still lack access to essential utilities. What strategies are considered when restoring power to such a large part of the community? Please explain how prioritization is determined.
4. Public spaces like parks, playgrounds, and community centers remain cluttered with debris, creating hazards for residents. Cleaning is delayed due to limited resources and focus on critical infrastructure. How can this be addressed?
5. Due to the widespread power outage and resulting pressure drop in the system caused by destroyed homes, Moorhead Public Service has issued a boil water advisory out of an abundance of caution following the tornado. What strategies could be implemented to restore this service?

6. In order to isolate all the multiple natural gas leaks, many neighborhoods were isolated, and now residents are calling to have their service turned back on. What strategies could be implemented to address these customer concerns?
7. The tornado caused damage to the I-94 bridge and some of the city's storm and wastewater lift stations, either through physical harm or power outages. What strategies could the city implement to inspect, isolate, and restore these critical infrastructures?
8. Network and communication systems have experienced intermittent and severe disruptions. What strategies could be considered to restore this service?

Housing / Education Focused

1. Based on the tornado path and impact area, identify at least five critical recovery priorities for the educational system and housing concerns that need to be addressed within the first 48 hours to one-week post-crisis to support community recovery efforts.
2. The primary shelters are currently overwhelmed with displaced residents. There is an urgent need to identify additional space to accommodate individuals, particularly vulnerable populations such as the elderly, disabled, and families with young children. What strategies can be implemented to address the issue of shelter overcrowding?
3. Several dormitories at both Concordia and MSUM have been damaged or destroyed, resulting in the loss of life of students on both campuses. What are the strategies to address the emotional needs of the students and provide physical support for their housing and personal belongings?
4. Many of the K-12 students and their families have been directly impacted by the tornado, with loss of family and friends, along with their housing and belongings. What would be strategies that the K-12 educational system could implement to help its student population?
5. Due to concerns about potential sex offenders or crime in public shelters, some residents prefer staying in homes deemed uninhabitable. What strategies could encourage the use of shelters?
6. Many K-12 and higher education students depend on your facilities for their regular meals. What strategies could be considered to address feeding concerns? Would serving the general public be a viable option? What would be the cost considerations?
7. Tent camps have emerged in public areas as residents report shelters being inaccessible and unsafe. Some families with children attending local K-12 schools are among those displaced. What are some considerations to address these concerns and basic shelter needs?



MODULE 2: MID-TERM RECOVERY

Scenario

May 14th, 2025

It has been one week since the EF3 tornado impacted Moorhead, and recovery operations are now fully underway. All life safety concerns have been addressed. Roads are at least passable, although a significant amount of debris remains along the sides of the streets. Public Works crews have initiated a debris removal plan, including guidelines for residents to move debris to the street for collection.

- Moorhead Public Service has reported that 50% of the electricity has been restored; however, remaining areas will take longer as crews need poles and sub-station equipment for repairs.
- All critical infrastructure has been inspected for damage and assessed for necessary repairs.

Module 2 focuses on the recovery efforts that will occur between 1 week and six months after the tornado

Questions

Based on the information provided, participate in the discussion concerning the issues raised in Module 2. Identify any critical issues, decisions, requirements, or questions that should be addressed at this time.

Government / Business Focus

1. What are some expected business /government concerns that would be anticipated during this time of recovery?
2. Despite federal and state disaster relief programs being activated, many residents are unclear on accessing financial aid or emergency housing. Slow processing of recovery grants and insurance claims is causing frustration as people rebuild their lives. What strategies can help address these concerns?
3. Local organizations like schools, churches, and businesses are mobilizing for recovery efforts, but coordination remains fragmented. A unified recovery plan is needed to clarify responsibilities, from debris removal to long-term rebuilding. What strategies could improve coordination?
4. The city has received several complaints from residents regarding neighbors placing debris on their property, and there is a strong demand for the city to address this issue. However, all inspectors are currently occupied with assessing properties and building permits. What strategies will be implemented to address these citizen concerns?

5. Many local businesses have been destroyed or significantly damaged, raising concerns about job losses and economic challenges for residents. Several businesses remain closed, contributing to worries about the disaster's economic impact. What strategies can be considered to help the business community recover?
6. City of Moorhead staff and elected officials have received complaints from citizens about contractors who have been paid for rebuilding projects but have completed little to no work. They are seeking advice and options on how to address this issue. Are there any measures the city should consider implementing to resolve this matter?
7. Housing inspections and rebuilding permits are facing a significant backlog, delaying residents from starting home reconstruction. Many remain in temporary housing, uncertain of when they can return permanently. How can this process be improved?

Infrastructure Focused

1. What infrastructure system restoration progress can be expected during this recovery period?
2. The damage to public infrastructure is considerable, necessitating that the community prioritize its rebuilding efforts. However, there is a shortage of skilled labor and construction materials, which impedes timely repairs. What strategies can be considered to address the challenges related to costs, timeliness, and workforce availability?
3. The continuous accumulation of debris has filled local landfills, raising concerns about capacity. Some of the debris is being disposed of improperly, leading to worries about air and water pollution. What are some strategies to address these issues and the expected costs?
4. Utility contractors performing repairs accidentally cut a fiber optic line, causing an internet disruption to the EOC, school operations, and city hall. What back-up considerations should be taken into account?
5. Some of the specific transformers required for the electrical sub-station repair are on backorder and will take months to arrive. What strategies can be employed to expedite the restoration of the electric grid?
6. Due to the increase in home repairs and new construction, along with the growing metro population, residents are experiencing long delays in installing natural gas lines and meters. Are there strategies to address this issue?
7. The use of heavy trucks and machinery for debris removal and reconstruction has caused significant damage to many residential streets. How does this impact the city's infrastructure and street repair and maintenance plan? What about the added future costs?

Housing / Education Focused

1. What impacts on the housing and educational systems can be expected during this recovery period based on this scenario?
2. The tornado has caused significant destruction to the community's housing stock, resulting in over 1,000 homes being uninhabitable. This situation has led to many residents being displaced and requiring temporary or permanent housing solutions. What are some housing strategies that could be explored to transition people out of shelters and into more permanent housing?
3. The tornado has displaced several vulnerable populations, including the elderly, disabled individuals, and low-income families, who are disproportionately affected by the housing crisis. Many of these groups have specific needs related to accessibility and affordability that must be prioritized. Given the shortage of housing inventory and the rising costs of housing, what strategies can be explored to address this housing crisis?
4. Due to severe damage to the dormitories, Neumaier Hall at MSUM and Townhouse East and West at Concordia are uninhabitable for the 2026-2027 academic year. What strategies would you implement for housing your student population?
5. Many K-12 students continue to be displaced and are living in temporary housing, which creates various challenges related to disaster programs and insurance housing eligibility as we approach the 2026-2027 school year. Additionally, storm damage may have affected personal transportation for these students. What strategies should be considered for busing and transportation in this context?
6. Area schools are struggling to retain and hire staff due to a slow recovery process. What strategies can be implemented to address this workforce concern?
7. Individuals living in shelters after displacement are experiencing an increase in mental and physical health issues. They report anxiety, depression, and stress related to their circumstances. Additionally, some have physical health conditions that may be worsened by shelter living. Shelter staff are requesting assistance to address the health needs of these residents. How would you respond to this request?



MODULE 3: LONG TERM RECOVERY

Scenario

September 7th, 2025

It has been six months since the tornado, and the recovery process and efforts to restore the community to a new normal have begun. The rebuilding process is placing significant demands on city staff due to the volume of building projects. All temporary shelters have closed; however, the demand for single-family and multi-family housing has caused local housing costs to increase. Hotels remain fully occupied, complicating bookings for upcoming events and conferences and leading to event cancellations and reduced convention business revenue.

- Infrastructure repairs have been identified and prioritized, but funding challenges affect all the projects and their planned schedules. Federal, State, and Local leaders aim to incorporate considerations for enhancing the resilience of critical infrastructure against future disasters, which entails additional costs.
- Both K-12 and higher education institutions have reported a decrease in enrollment due to displacement, impacting their financial outlook.

Module 3 focuses on the recovery efforts that will occur between six months and three years after the tornado

Questions

Based on the information provided, participate in the discussion concerning the issues raised in Module 3. Identify any critical issues, decisions, requirements, or questions that should be addressed at this time.

Government / Business Focus

1. What business or government issues do you anticipate needing attention within this module's timeframe?
2. With a substantial portion of the housing stock destroyed, there is growing concern about long-term recovery. Many residents are uncertain about their living arrangements during the rebuilding period, which could last months or years. Affordable housing is a primary priority. What strategies should be considered from a business or government perspective to address these concerns?
3. As debris removal and recovery efforts extend into months following the tornado, the community is experiencing an increasing financial strain. Although federal assistance has alleviated some expenses, local funds are being significantly affected, raising concerns regarding the long-term sustainability of financing these recovery initiatives. What strategies should be considered to address this issue?
4. A local organization has proposed the establishment of a community resilience task force to oversee long-term recovery and equity planning to support the rebuilding process. Are there evaluated strategies that incorporate recommendations from this task force, ensuring they do not complicate or delay the recovery efforts?
5. Given the substantial workload involved in conducting building inspections and addressing nuisance complaints, what workforce strategies can be implemented to prevent employee burnout?

Infrastructure Focused

1. Considering the time frame of this module, what business or government concerns or issues might require attention?
2. Delays in major infrastructure projects like road repairs, bridge reconstruction, and lift station and sub-station rebuilds are due to resource constraints, workforce shortages, and ongoing damage assessments. These delays have caused numerous complaints and cost overruns. What strategies can address this issue?
3. The state is providing resilience grant funds for infrastructure improvements, but only for jurisdictions with updated hazard mitigation plans. Moorhead Public Service is interested in applying for funds to bury overhead power lines in the impact area to enhance resilience and seek assistance. What is the process for updating and including these improvements in the Hazard Mitigation Plan?
4. The city website is frequently used for recovery communications, providing information about various assistance resources. A cyber-hacker has exploited the website to obtain internal employee information and data from visitors. How would we identify the hack and determine the appropriate steps to take next?

5. City leaders must reassess the **10-year capital plan**, which encompasses both tornado rebuild projects and deferred maintenance, due to the anticipated financial implications of prioritizing the rebuilding project. In the absence of substantial federal funding, what will be the fate of this 10-year capital plan?

Housing / Education Focused

1. Considering this module's time frame, what potential housing and educational concerns or issues might need attention?
2. There has been a notable outflow of residents relocating to neighboring areas for permanent housing, employment, or improved living conditions. This migration has resulted in a population decline, impacting local tax revenue, school enrollments, and workforce availability. How will this affect our future school planning?
3. Several dormitory and classroom facilities at both MSUM and Concordia have sustained damage and will be unfit for use during the 2026-2027 academic year. What strategies and considerations would you assess to continue supporting your students' housing requirements and classroom space needs while these facilities are being demolished and reconstructed?
4. The substantial rise in housing insecurity has been accompanied by a marked increase in mental health issues among K-12 students. What measures of support can be implemented to address this concern?
5. It is essential to expedite the reconstruction of housing to sustain community lifelines. However, how can we balance this urgency with ensuring safety, quality, and resilience against future disasters?

APPENDIX A: EXERCISE SCHEDULE

Date	June 26 th , 2025
0800	Registration
0830	Welcome and Introductions
0840	Module 1: Short-Term Recovery
0930	Break
0940	Module 2: Mid-Term Recovery
1020	Break
1030	Module 3: Long-Term Recovery
1120	Hotwash
1145	Closing Comments



APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations
State
Minnesota Homeland Security and Emergency Management
Minnesota State University Moorhead
City of Moorhead
Emergency Management
Community Development
Neighborhood Services
Building Codes
Public Works
Engineering
GIS
IT
Clay County
Clay County Emergency Management
Clay County Solid Waste
Clay County Public Health
Partners
Moorhead Public Schools
Xcel Energy
Park Christian School
Moorhead Public Service

The June 20, 1957 F5 tornado was a historic event in meteorological history. This tornado would be studied by Dr. Ted Fujita, who would later go on to create the Fujita damage scale. Dr. Fujita would also coin the terms wall cloud, tail cloud and collar cloud from photogrammetric work done by analyzing around 200 photos from the Fargo/Moorhead tornado. June 20, 1957 was a very muggy day, and Ray Jensen, the warning meteorologist on duty at the Weather Bureau office in Fargo, felt that there would be thunderstorms that day, and he was right.

The path of the tornado was 9 miles long and up to 700 feet wide. This F5 tornado was one in a family of 5 tornadoes, with an intermittent damage track of nearly 70 miles from Buffalo, North Dakota, to Dale, Minnesota. (Taken From The National Weather Service)

APPENDIX C: RELEVANT MAPS

