

Appendix A. Meeting Minutes

Marshall County Hazard Mitigation Meeting Minutes

Meeting #1 – Marshall County Sheriff's Office Administrative Building April 21, 2015 – 11 AM

Meeting attended by: Jeff Bunn, State Center Police Chief; Jim Eckhardt, State Center Fire and EMS Chief; Maren Williams, City of LeGrand City Hall Deputy Clerk; Jodi Abrahams, City of LeGrand Clerk/Treasurer; Dale Thompson, City of Ferguson Mayor; Glenda Thompson, City of Ferguson Council; Susanne Sietmann, City of Laurel City Council; Brian Batterson, Marshalltown Police Captain; Andrew Nickell, Beck's Hybrids Site Manager; David Daters, City of Marshalltown Public Facility Superintendent; Scott Johnson, Marshalltown Fire Department Deputy Chief; David Rierson, Marshalltown Fire Department Fire Chief; Leah Cox, Lennox Industries Health Care Specialist; Steve Sincox, Marshalltown Water Works General Manager; Mike Stagmann, Marshall County Conservation Board Director; Brandon Hilstrom, American Red Cross Disaster Program Manager; Pat Thompson, Marshall County Public Health; Robert Douglas, Central Iowa Health Care; Mark Stephens, IDOT Highway Maintenance Supervisor; Mark Kingery, Hearland Coops LEPC Representative; Kimberly Elder, Marshall County Emergency Management Coordinator; Robert Monroe, Melbourne Fire Department Chief; Deb Mercer, City of Melbourne Deputy Clerk; Hank Penner, City of Liscomb Mayor; Tom McWilliams, Green Mountain Fire Department; Matt Tullis, Marshalltown Community School District Director of Equity/District Safety.

Meeting started at 11:05 AM

The Marshall County Hazard Mitigation Committee met for the first time on April 21, 2015. Julie Whitson and Stacy Lentsch facilitated the meeting on behalf of Region VI. Marty Wymore, Executive Director of Region 6 Planning Commission, explained the purpose of the meeting and mitigation plan, what the mitigation plan was intended to do for the community, and what the planning process would look like.

Next, the committee discussed which hazards could impact Marshall County using a list of 21 hazards and their associated definitions from the State of Iowa 2013 Mitigation Plan. The committee determined that the following hazards would have little to no impact on Marshall County and should be removed from further discussion:

- Expansive soils
- Landslide
- Sinkholes

The committee also determined that the following hazards should be addressed at the county level, as they posed similar levels of risk to each jurisdiction if they were to occur:

- Animal/Plant/Crop Disease
- Drought
- Earthquake
- Extreme Heat
- Radiological
- Severe Winter Storm
- Wind Storms

The committee did not identify any additional hazards that were not included on the list.

The group then conducted a risk assessment for the hazards that were to be addressed at the county level. The group agreed to a score for each county-wide hazard based on historical occurrence, probability of the hazard occurring in the future, vulnerability of people and property, severity of impact, and speed of onset. Individual communities then scored the remaining hazards using the same criteria. The committee decided to hold their next meeting on Tuesday, May 19th at 11:30AM in the same location at the Marshall County Sheriff's Office Administrative Building in Tama County.

Meeting adjourned at 12:15

Marshall County Hazard Mitigation Meeting Minutes

Meeting #2 – Marshall County Sheriff's Office Administrative Building May 19, 2015 – 11:30 AM

Meeting attended by: Jeff Bunn, State Center Police Chief; Jim Eckhardt, State Center Fire and EMS Chief; Maren Williams, City of LeGrand City Hall Deputy Clerk; Jodi Abrahams, City of LeGrand Clerk/Treasurer; Dale Thompson, City of Ferguson Mayor; Glenda Thompson, City of Ferguson Council; Susanne Sietmann, City of Laurel City Council; David Daters, City of Marshalltown Public Facility Superintendent; David Rierson, Marshalltown Fire Department Fire Chief; Steve Sincox, Marshalltown Water Works General Manager; Mike Stagmann, Marshall County Conservation Board Director; Brandon Hilstrom, American Red Cross Disaster Program Manager; Pat Thompson, Marshall County Public Health; Mark Kingery, Hearland Coops LEPC Representative; Kimberly Elder, Marshall County Emergency Management Coordinator; Robert Monroe, Melbourne Fire Department Chief; Deb Mercer, City of Melbourne Deputy Clerk; Jerry McDonald, City of Liscomb City Council; Gale Klosterman, City of Rhodes Clerk; Keith Balvanz, City of Albion Representative; Rick Simpson, Marshalltown Community School District Buildings and Grounds Supervisor; Robb Gage, East Marshall Community School District Buildings and Grounds Director.

Meeting started at 11:30 AM

Julie Whitson and Stacy Lentsch facilitated the meeting on behalf of Region VI. Facilitators led the meeting participants through the following steps:

- Reviewed the risk assessment results and supporting information about hazards that they provided at the previous meeting. Communities were given the opportunity to make changes to scores and information as needed.
- Guided communities who hadn't yet completed the risk assessment through the process
- Updated critical facilities maps and community assets narrative from previous plan
- Drew on map to indicate location of areas prone to flash flooding
- Completed community capabilities worksheets that indicated each city's current staffing, plans, regulations, and programs in which each community participates.
- Reviewed goals from the previous plan and agreed that communities wanted to keep the goals from the previous plan
- Began a preliminary list of new mitigation actions for each community
- Began an update of the status of existing actions from the previous plan

- Set the meeting date for the third and final meeting on Tuesday, June 16th at 11:30 AM in the same location (Marshall County Sherriff's Office Administrative Building)

Meeting adjourned at 12:30 PM.

Note that some communities took meeting items back to their city councils and other city staff to confer with others and gather additional information. Communities will return these items to planners electronically before Meeting #3.

Marshall County Hazard Mitigation Meeting Minutes

Meeting #3 – Marshall County Sherriff's Office Administrative Building June 16, 2015 – 11:30 AM

Meeting attended by:

Meeting attended by: Jeff Bunn, State Center Police Chief; Jim Eckhardt, State Center Fire and EMS Chief; Jodi Abrahams, City of LeGrand Clerk/Treasurer; Dale Thompson, City of Ferguson Mayor; Glenda Thompson, City of Ferguson Council; David Daters, City of Marshalltown Public Facility Superintendent; Brian Bateson, Marshalltown Police Captain; Pat Thompson, Marshall County Public Health; Kimberly Elder, Marshall County Emergency Management Coordinator; Robb Gage, East Marshall Community School District Buildings and Grounds Director; Randy Denham, East Marshall Community School District Business Manager; Mark Polich, GMG Community School District Principal.

Meeting started at 11:30 AM

Julie Whitson and Stacy Lentsch facilitated the meeting on behalf of Region VI. Meeting materials were prepared ahead of time according to mitigation actions that communities had indicated they wanted to carry over from the previous plan or add as new actions to the plan update. Facilitators led the meeting participants through the following steps:

- STAPLEE evaluation – Participants completed the economic portion of the STAPLEE evaluation for each mitigation action.
- Action plan – Participants completed an action plan for each mitigation action, including the hazards that each action addressed, the party or department that would be responsible for implementing the action, the estimated cost, funding source, mitigation measure category, estimated start date, and target completion date of the action.
- Prioritization – Participants viewed how their actions were prioritized based four criteria that considered the risk assessment score of the hazard (s) addressed with each action, start date of the project, total score of the STAPLEE economic evaluation, and a local preference “bonus” point for up to three actions that participants wished to give the actions that they hoped to accomplish if money were not an issue.

Participants were notified that they may be contacted for follow-up information.

Meeting ended at 12:30 PM.

Appendix B: Action Updates

The following 17 jurisdictions in Marshall County participated in the previous Multi-Jurisdictional Hazard Mitigation Plan that was approved in 2012:

- City of Albion
- City of Clemons
- City of Ferguson
- City of Gilman
- City of Haverhill
- City of Laurel
- City of LeGrand
- City of Liscomb
- City of Marshalltown
- City of Melbourne
- City of Rhodes
- City of Vining
- City of State Center
- Marshall County (Unincorporated)
- East Marshall Community School District
- Marshalltown Community School District

Below is a table of the mitigation actions that were included in the previous plan. **Only the actions that were included in the previous plan are listed in this section.** For details about actions that communities have included in the plan update, including actions that were carried over from the previous plan, see the Mitigation Strategy Section of this plan. Each activity has been given a “status” that explains whether a community has made progress on an action and whether the action has been included in the plan update. Activity status descriptions are as follows:

- **Completed:** Activities have already been completed and will not be carried over to the next hazard mitigation plan
- **Deleted:** Activities were not completed and are no longer a priority to pursue for the jurisdiction. Additional information about why the activity was deleted is included at the bottom of each table.
- **Carried Over:** Activities were not completed, but the jurisdiction wishes to pursue these actions in the next hazard mitigation plan. Information about progress towards an action is included at the bottom of each table when applicable.
- **Completed and Carried Over:** Activities are ongoing. Progress has already been made to implement and complete the action, and work on the action will continue as specified in the updated plan.

It is important to note that many communities listed the action “Maintain Participation in Code Red,” which is an alert system that many communities use to warn residents about hazard events. The Code Red system has been replaced by the “Alert Iowa” system. This change is reflected in the wording of actions throughout this plan. At the bottom of each table, additional details are included regarding activity statuses. When available, details may include how and when an action was completed, the extent of progress made on an action even if it is not completed, or why an action was deleted. Action updates are listed on the following pages in alphabetical order by jurisdiction. Participating school districts are listed at the end of this chapter.

Action Updates by Jurisdiction

Jurisdiction	Mitigation Action	Status
Albion	Bigger rural water line for backup water	Carried over
	Water well improvements	Completed and Carried over
	Construct a safe room that doubles as communications storage and backup	Carried over
	Purchase of emergency equipment for water rescue	Deleted
	Purchase generators	Completed
	Purchase warning siren with backup power and remote triggering	Completed and Carried over
	Elevate roads	Deleted
<p>Additional Details: The rural water line has not yet been completed due to the cost of the project. This project would easily be over \$300,000 because it requires the old line to be removed and a new, bigger water line to be installed. • The water well improvements are currently in progress and should be completed by the fall of 2015 or winter of 2016. Prior to the project, 2 of 3 of the wells were not working. • The city would still like to pursue a safe room, but it is not a high priority. Most people in the community have basements. There is one mobile home park in Albion, but it currently does not have any homes located within it. The city may use it as a place to house temporary workers who are working in the area. If this occurred, these people would need a safe shelter. The room should be able to accommodate 10-15 people. • Water rescue equipment does not need to be purchased by the City and was removed from the plan. If a water rescue needed to occur, it likely would not affect the City (it would be in an area outside of the city). Marshalltown or Marshall County Sheriff would be the entities responsible for any water rescue. • The city purchased generators for their fire station and their water treatment facility. There is no need for additional generators, and the action is completed. • The city does not wish to purchase a new warning siren, but it does want to work with Marshall County EMA in the future to set up remote access. As of now, the siren has backup power through the generator that powers the Fire Station, and it has more than 20 people who are able to activate the siren if an alert is issued. • Elevating roads in the city limits was removed from the plan because there is no need. Albion sits on a large hill and is not affected by river flooding from the Iowa River. Roads outside of the city limits do flood (several miles away), but these roads are in the county/state jurisdiction.</p>		

Jurisdiction	Mitigation Action	Status
Clemons	Maintain existing culverts and add new culverts	Completed and Carried over
	Add lift station	Carried over
	New emergency siren	Deleted
	Purchase generators	Completed
	Remove junk cars and farm machinery	Completed and Carried over
<p>Additional Details: Maintain and add new culverts – There are two areas in the city where new culverts need to be added. The city has estimated the cost of installing new culverts to be \$1,600 and \$36,000. The</p>		

location of the more expensive culvert is near the NW corner of town, at the bottom of the hill, on and near Market Avenue. Flooding in this area currently occurs and affects one house. It washes out their entire driveway and affects the road. The road is used by farmers who need to get their product to the elevator and by other members of the community. This area is right along the boundaries of where county maintenance ends and city maintenance begins. • **Lift station** – the lift station was built in the late 70s. It is expensive to operate and is capable of failing. During heavy rains, the city has to watch the facility and make sure it doesn't fail. The city of working with Region 6 on this matter currently. • **New emergency siren** – Deleted because the cost of a new siren (\$17,000+) is prohibitive. The city has instead added an action in which they will ensure that people in the community have access to weather updates. • **Purchase generators** – Completed, purchased 3 at sewer

Jurisdiction	Mitigation Action	Status
Ferguson	Upgrade and purchase new emergency siren	Completed and Carried over
	Purchase generator for community center	Completed and Carried over
	Purchase generators	Deleted
	Create a public information session and conservation (water) program for Ferguson	Deleted
	Establish cooling center	Completed
	Update general water system	Deleted
	Add hazard information inserts to water bills and city newsletter	Completed and Carried over
	Public education on open burning	Completed and Carried over
	Further emergency education and training opportunities between jurisdictions	Completed and Carried over
Additional Details: Central Iowa Water Association took control of Ferguson's water and sewer systems December 2013. Because of this change, the deleted actions related to the water infrastructure (purchase generators and create a public information session) are no longer Ferguson's responsibility. The city is ready to move on upgrading the emergency siren and purchasing a generator for the community center. These actions will still require funding. Ferguson completed the action "Establish cooling center" by establishing air conditioning at the Ferguson Church and in the kitchen at the community center. These areas can be used as cooling centers.		

Jurisdiction	Mitigation Action	Status
Gilman	Update fire rescue equipment	Completed and Carried over
	Establish warming/cooling shelter at Fire Station	Completed
	Remove debris from abandoned properties	Completed and Carried over
	Public education sessions on warning siren	Completed and Carried over
Additional Details: The city has no major city problems that need to be addressed with mitigation actions. The city has 2 generators: one at city hall and the other at the sewer station. The city has 2 sirens with		

backup power. There are no trailer park or campgrounds are located in the city, therefore there is no need for a safe room. The sewer system has experience and handful of backups or bypasses during the heaviest rains, but it's not a significant problem. The Fire Station and City Hall are still in good condition and meet the city's needs.

The city purchases fire rescue equipment as needed. The city purchased a new fire truck 2 to 3 years ago and is still looking for additional equipment. The city is working with landowners to remove blight from private property; at this time, the city is responsible for maintaining and mowing the lawns of these properties. Public education on the warning sirens is achieved by including information about the sirens in a yearly newsletter that goes out to city residents.

Jurisdiction	Mitigation Action	Status
Haverhill	New emergency siren	Deleted
	Purchase new fire truck	Deleted
	Purchase generators for Haverhill critical facilities and citizens	Completed
	Create community water/supply station	Deleted
	Pave a second road to town	Deleted
	Establish warming/cooling shelters	Completed
	Emergency equipment upgrades for first responders	Carried over
	Install sump pumps for city buildings and citizens	Deleted
	Improve roads	Carried over
	Construct a safe room with backup generator	Completed
	Public education sessions on hazard procedures	Carried over
	Create a sandbag committee	Deleted
	Mutual aid for disaster clean up	Completed and Carried over
	Purchase debris removal equipment	Deleted

Additional Details: **New emergency siren** – Deleted, not a city priority. Outdoor siren taken out 30 years ago. Many homes have emergency weather radios, many people have smart phones and/or personal computers where they can get weather updates. Town currently has no working siren, but it is not a priority for the city since it is so small and financially limited. • **Purchase new fire truck** – Deleted. Not city's responsibility. Township's responsibility. The city is just responsible for the fire station. • **Purchase generators** – Completed during the building of the new fire station. It is stationary and purchased through a grant. The city does not need any additional generators. • **Create community water/supply station** – Deleted. This is not a priority for the city. The city is with Central Iowa Water and does not have any additional funding to pursue a new water supply tank or area. • **Pave a second road to town** – Deleted. City does not have issues accessing town after or during flood events. • **Establish warming/cooling shelters** - Shelter house (community building) has AC and people can go there during events of extreme heat. City owns building, state owns ground. City controls ground. Heating: generator in fire station in the event of power loss in town during winter weather/storm. • **Emergency equipment** – Carried over. Haven't done in last 5 years, could need it in the future. • **Install sump pumps for city buildings and citizens** – Deleted. This action is not needed. No flood problems in city facilities. Brand new fire station, no flooding issues. • **Improve roads** – Carried over, regular maintenance.

Jurisdiction	Mitigation Action	Status
Laurel	New emergency siren	Carried over
	Distribute NOAA All-Hazard Radios to all Laurel residents	Deleted
	Purchase generators	Carried over
Additional Details: Distribute NOAA All-Hazard Radios to all Laurel residents - this action was deleted due to changing city priorities. Most residents have access to weather updates through their smart phones, personal computers, or a TV weather station. • The purchase of generators and the new emergency siren were not completed during the previous planning process due to lack of funding. These actions are both being carried over to be completed in the next planning process.		

Jurisdiction		
Le Grand	Improve and update all city buildings	Carried over
	Purchase generators for all critical facilities	Carried over
	Install alternate communication devices in all critical facilities	Carried over
	Identify each critical facility's function in a hazard event	Carried over
	Create a sandbag committee	Deleted
	Construct safe room	Carried over
	Lagoon improvements	Completed and Carried over
	Hydrant improvements	Carried over
	New emergency siren	Deleted
	Public education program	Carried over
	Create online forms of hazard information	Carried over
	Create an emergency phone tree	Carried over
	Continued water tower updates and maintenance	Completed and Carried over
	Ensure online emergency system is working	Completed and Carried over
	Mutual aid for disaster relief	Completed and Carried over

Additional Details: **Improve and update all city buildings** – all city buildings need improvements. Lack of funding kept this action from being completed. • **Purchase generators for all critical facilities** – Fire station has a generator, sewer lift station generator was purchased in 2014. There is no funding for the remaining city facilities, but city will still attempt to pursue this action in the coming years. • **Install alternate communication devices in all critical facilities** – City will need to pursue funding elsewhere. • **Identify critical facility functions** – The city intends to do this soon. • **Sandbag committee** – there is no need for this committee because the city does not have a substantial water body nearby that causes flooding and/or threatens buildings. This action was deleted. • **Construct a safe room** – The city will have to pursue funding for this action. • **Lagoon improvements** – Facility plan will begin June 2015. Project will take 3 years to complete. • **Emergency siren** – The current emergency siren is smaller and cannot be heard by everyone indoors. However, this siren is meant to be an outdoor warning siren – it is not meant to inform people who are inside of a house or building. It is designed for people outdoors who may be unaware of impending storms. The city has verified that the siren can be heard in all open areas of the city, especially where children may be located. The siren can be heard in open areas, the city park, the high school, high

school softball diamonds, high school football field, and the Little League Diamond (which is next door to where the siren is located). Therefore, the siren's purpose is being served and does not need to be replaced. The siren does still need a backup power source. A new action has been added to the plan to research what kinds of backup power sources might be compatible with the siren. Ideally, if the city was able to fund a generator for its critical facilities, the city would also use the generator as a backup power source for the siren. If this power source is not compatible, the city will pursue grant funding for a backup battery. • **Public education program** – will begin in 2015 • **Create online forms of hazard information** – will begin in 2015 • **Phone tree** – will begin in 2015 • **Water tower** – the city does not own the water tower. The city will continue to maintain the water distribution lines.

Jurisdiction		
Liscomb	New automatic emergency siren	Carried over
	Purchase generator for City	Completed
	Develop an alternate water supply	Deleted
Additional Details: A new automatic siren was purchased with local funds and is wired to the fire house. This unit must be manually started and has suffered occasional failures due to operational complexity and lack of experienced operators. The city plans to get remote activation for the siren soon. The city purchased a generator during the last plan period. The city chose to delete developing an alternative water supply. An alternative water supply is already available and the city did not see the need to purchase additional storage tanks.		
Jurisdiction		
Marshalltown	Flood protection and repairs for sewer lift station and levees	Completed and Carried over
	Structural inspections of levee	Completed and Carried over
	Inspections of medical and care facilities in town	Deleted
	Flood protection and repairs for medical and care facilities in town	Deleted
	Public education program	Carried over
	Further education and training opportunities between jurisdictions	Carried over
Additional Details: Flood protection and repairs for sewer lift station and levees – the levee has been inspected. There are plans to raise the levee in 2016 roughly one mile east of highway 14 to highway 14. There are no problems with the levee East of this location. • Inspections of medical and care facilities in town – this is no longer a priority for the city. Task Force members are not aware of any significant problems related to the structural and sanitary status of the care facilities. • Flood protection and repairs for medical and care facilities in town – this is no longer a priority for the city • Structural inspections of levee – are regularly completed • Public education program, Further education and training opportunities between jurisdictions – city has plans to complete these actions in the upcoming planning cycle		

Jurisdiction		
Melbourne	New emergency siren	Deleted
	Sewer improvements	Completed and Carried over

	Demolish hazardous buildings in town	Completed and Carried over
	Add hazard information articles to quarterly newsletter	Completed and Carried over
	Back up computer system off-site	Completed
<p>Additional Details: New emergency siren – removed. This action is not necessary. New technology makes a siren update less important. Cell phone alerts and Alert Iowa help to inform residents of severe weather and hazards. The city has a functioning emergency siren and cannot justify the cost of updating the siren. • Sewer improvements – a large section of the system (the force main) was lined in 2013-2014. The project is ongoing. The rest of the project does not qualify for grant monies and there is no local funding available at this time. • Demolish hazardous buildings – the city is working with the building owner who owns the old school. Owner removed asbestos in 2014 but no additional action has been taken. The city will continue to work with the building owner as the relationship allows. The council approved moving forward with the demolition at the recommendation of the city attorney. • Information in newsletter – City includes information about hazards quarterly in the newsletter and will continue to do so. • Computer backup – computer is backed up M-F every night and will continue to be backed up. The city no longer needs this action as a mitigation action although the work will continue.</p>		

Jurisdiction		
Rhodes	Demolition of building on Main Street	Completed
	New emergency siren	Completed
	Inform residents of shelter areas in town	Completed and Carried over
<p>Additional Details: Demolition of building on Main Street – General funds used • New emergency siren – Donations and general funds used • City is already planning how to implement a plan to inform residents about the shelter areas in town</p>		

Jurisdiction	Mitigation Action	
St. Anthony	Construct a safe room	Deleted
	Backup power for shelter and critical facilities	Ongoing
	Recruiting emergency responders	Ongoing
	Public education sessions on warning siren	Deleted
<p>Additional Details: Construct a safe room – Deleted because most homes have basements. A safe room is no longer a priority for the city. • Public education sessions on warning siren – Deleted because this is no longer a priority for the city. The city does not have an emergency siren. • Other actions are ongoing for the city as funding at time allows.</p>		

Jurisdiction	Mitigation Action	
State Center	New warning siren	Carried over
	Backup power for critical facilities	Completed and Carried over

	Purchase new grass fire vehicle	Completed
	Construct a safe room	Carried over
	Coordinate city public awareness	Carried over
Additional Details: Grass fire vehicles – 2 pickup trucks purchased during the last planning period and in use. Main pumper refurbished with pump, recertified • Backup power for critical facilities – Generators were purchased for some critical facilities, but not others. City would still like to purchase 1 or 2 generators. They would need to be very small generators that would be used to run the station (critical computers, etc.) in the event of a power loss. • Other items that were carried over were not completed due to lack of funds.		

Jurisdiction	Mitigation Action	
Marshall County	Reinforce levee and surrounding land	Carried over
	Construct safe rooms in vulnerable areas of the county	Completed and Carried over
	Acquisition and elevation of structures	Completed and Carried over
	Laminated glass for use during hailstorms	Carried over
	Plant windbreaks	Carried over
	Ground water protection	Completed and Carried over
	Coordinate public awareness	Completed and Carried over
	Courthouse security	Carried over
	Create a public information session and conservation (water) program	Completed and Carried over
	Install radiology monitors in all county vehicles	Carried over
	Public education program	Completed and Carried over
	CERT responder training	Completed and Carried over
	Animal/Crop/Plant and Human Disease Epidemic planning and training	Completed and Carried over
	Train fire departments for grass fires and maintain needed equipment	Completed and Carried over
	Public warnings of dam failures	Deleted
	Create hazardous materials removal plan	Completed
	Purchase generators for critical facilities	Carried over
	Elevate roads	Carried over
	Improve communication systems	Carried over
	Purchase/update snow removal equipment	Carried over
	Maintain quality of courthouse's technological equipment with temperature regulation	Carried over
Additional Details: The county has made progress on many of their mitigation actions, including constructing safe rooms, acquiring and elevating structures, ground water protection, coordinating public awareness, creating a public information session and water conservation program, public education programs, CERT responder training, disease training, and fire department training. Many of these action		

items are actions that the county has looked into how the action can be completed and has started reaching out to partners and other entities that can assist in completing the task. Other actions are ongoing in nature and will continue throughout the foreseeable future; these actions include the CERT responder training, improving communications systems, and the public information program. Plan procedures are included in emergency support functions and the hazardous materials plan. The actions “reinforce levees” and “elevate roads” were not completed due to lack of funding.

During the last planning process, the county completed a hazardous materials removal plan.

Public warning of dam failures is the only action item that was deleted. This action was deleted because dam failures in the county would be relatively rare, and county priorities have shifted to other, more pressing mitigation actions. If a dam failure were to occur for either of the two Moderate classification dams, residents would not likely be affected. Green Castle Dam would dump into a quarry that is already full of water. Southridge Road Detention Basin would go under a creek, wouldn’t go over road. This area contains a deep valley with no structures downstream that would be affected.

East Marshall Community School District	Reinforce school buildings	Completed and Carried over
	Complete required hazard drills every year	Completed and Carried over
	Purchase/update snow removal equipment	Completed and Carried over
	Create debris removal plan	Completed and Carried over
	Ensure proper grounding of facilities during hazard events	Completed and Carried over
	Retrofit school buildings as shelters	Carried over
	Public education sessions on safe room procedures	Completed and Carried over
	Coordinate city public awareness and emergency plan	Completed and Carried over
Additional Details: Almost all items on the District’s hazard mitigation plan are ongoing. Most of the items are things that are ongoing and looked at continuously through the year. The district looks at the item and prioritizes those items with other items in the District to work into our budget. The district recently put together a safety team to put more emphasis on overall safety within the district. The safety team will look into incorporating the hazard mitigation actions into the district’s master safety plan.		

Marshalltown Community School District	Maintain facility standards and safe code compliance	Completed and Carried over
	Update and review facility safety awareness program	Completed and Carried over
	Create a hazard/safety information session for students	Completed
	District-wide training	Completed and Carried over
	Write an emergency plan for city, emergency response, and schools	Completed and Carried over

Additional Details: Maintain facility standards – upgrades are ongoing as needed and as funding allows

- **Update and review facility safety awareness program** – Ongoing and reviewed at least on an annual basis
- **Create a hazard safety information session for students** – this session is now part of the facility training for the district
- **District-wide training** – while this training exists, it needs improvement. The school district will work to incorporate more hazard-related topics into this training so that the district will be prepared for any event.
- **Write an emergency plan** – this plan is in progress.

Appendix C. Public Notification

From The Marshalltown Times Republican

4-17-15 (left), 5-6-15 (center), and 6-2-15 (right)

PUBLIC NOTICE
NOTICE OF PUBLIC MEETING
Marshall County has begun work on a county-wide Hazard Mitigation Plan. The plan will assess the county's risk to hazards and will identify actions to reduce vulnerability to such risks. This is the first of three county-wide meetings that will be held to assess risk, set goals for the county, and identify actions that communities will take in the coming years to mitigate the risk of certain hazards.

The overall outcome of these meetings is the creation of a FEMA-approved Hazard Mitigation Plan, which will detail the strategies and actions that communities plan to take to improve quality of life and keep residents and visitors safe from hazards. Completion of this plan will also allow communities to qualify for certain types of grant funding.

The meeting will take place on April 21, 2015 at the Marshall County Sheriff's Office Administrative Building (Floor 3) at 11:00 AM. We would like to invite the public to provide input on setting goals and identifying mitigation strategies for the county.

If you have any questions or would like to RSVP, please contact Marty Wymore, Region 6 Planning Commission, by phone or email at 641-752-6202 ext. 107 or mwymore@region6planning.org.
-----18910

Legals
PUBLIC NOTICE
NOTICE OF PUBLIC MEETING
Marshall County will continue work on a county-wide Hazard Mitigation Plan with a second county-wide hazard mitigation meeting. This is the second of three county-wide meetings that will be held to assess risk, set goals for the county, and identify mitigation actions that communities in Marshall County will pursue in the next five years.

The overall outcome of these meetings is the creation of a FEMA-approved Hazard Mitigation Plan. Completion of this plan will also allow communities to qualify for certain types of grant funding.

The meeting will take place on May 19, 2015 at the Marshall County Sheriff's Office Administrative Building (Floor 3) at 11:30 AM. We would like to invite the public to provide input on setting goals and identifying mitigation strategies for the county.

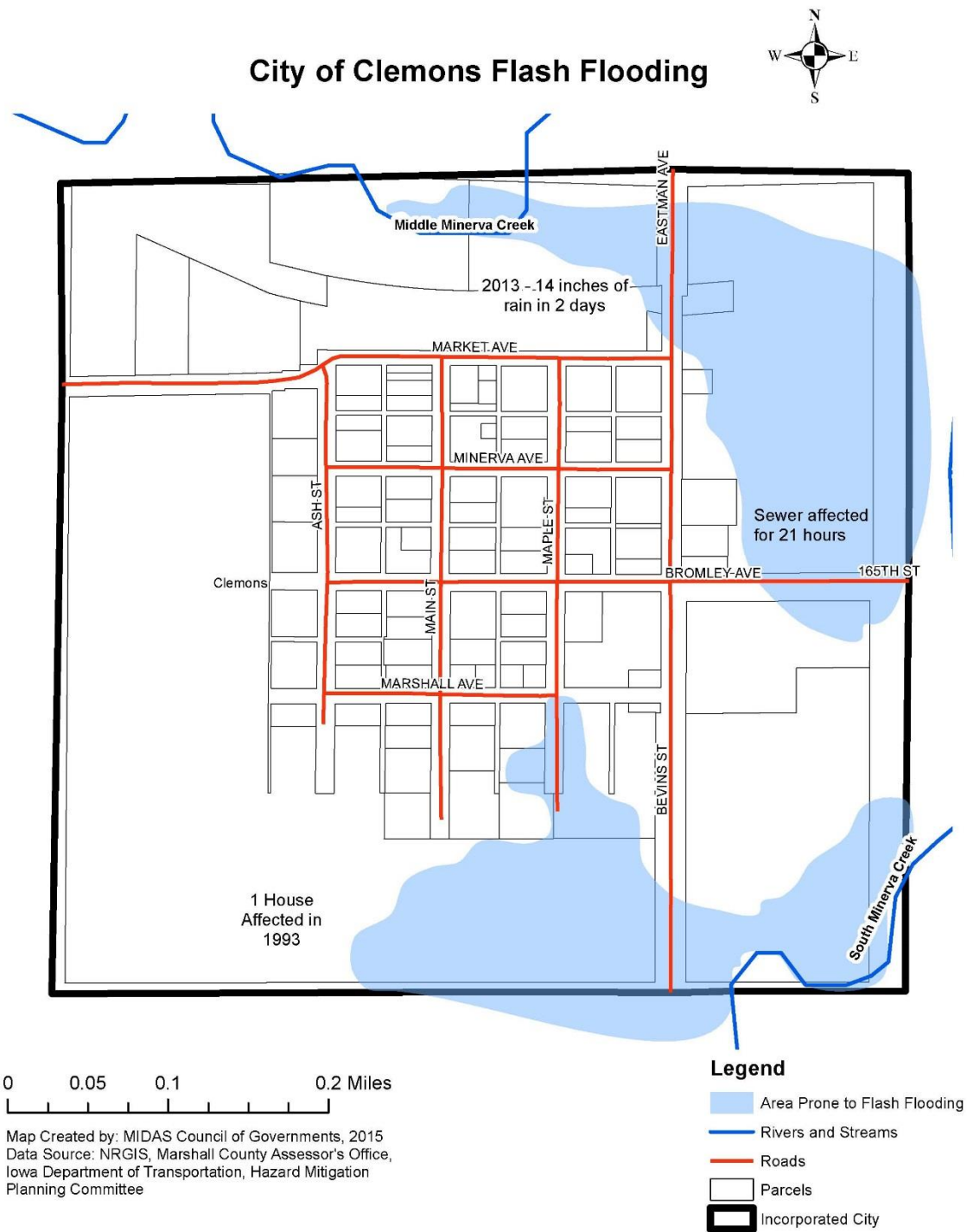
If you have any questions or would like to RSVP, please contact Marty Wymore, Region 6 Planning Commission, by phone or email at 641-752-6202 ext. 107 or mwymore@region6planning.org.
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PUBLIC NOTICE
NOTICE OF PUBLIC MEETING
Marshall County will continue work on a county-wide Hazard Mitigation Plan with the last of three county-wide hazard mitigation meeting. These meetings brought together community leaders to assess risk, set goals for the county, and identify mitigation actions that communities in Marshall County will pursue in the next five years. The overall outcome of these meetings is the creation of a FEMA-approved Hazard Mitigation Plan. Completion of this plan will also allow communities to qualify for certain types of grant funding.

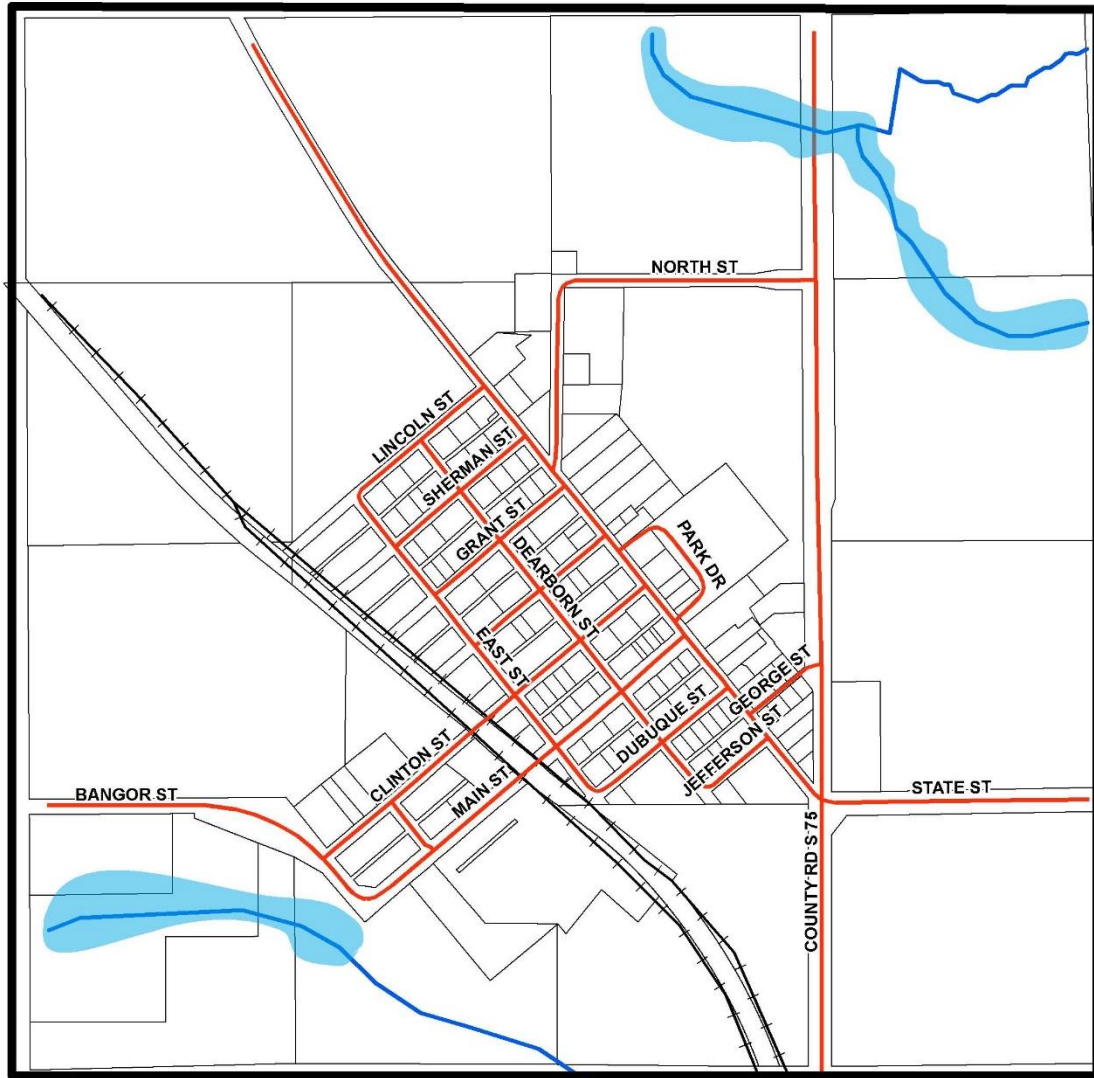
The meeting will take place on June 16, 2015 at the Marshall County Sheriff's Office Administrative Building (Floor 3) at 11:30 AM. We would like to invite the public to provide input on setting goals and identifying mitigation strategies for the county.

If you have any questions or would like to RSVP, please contact Marty Wymore, Region 6 Planning Commission, by phone or email at 641-752-6202 ext. 107 or mwymore@region6planning.org.
-----19175

Appendix D. Flash Flood Maps



City of Liscomb Flash Flooding



0 0.125 0.25 0.5 Miles

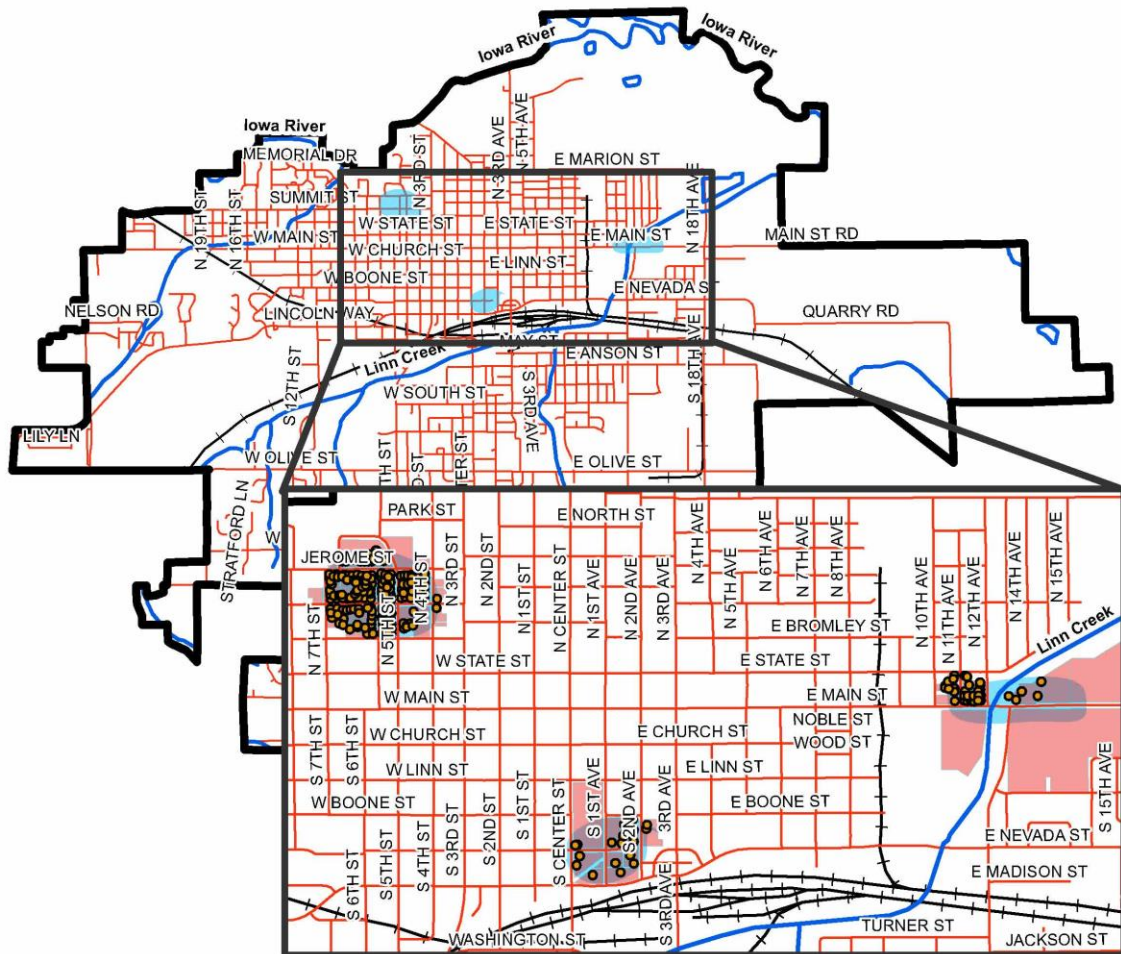
Map Created by: MIDAS Council of Governments, 2015
Data Source: NRGIS, Marshall County Assessor's Office,
Iowa Department of Transportation, Hazard Mitigation
Planning Committee

Legend

- Areas Prone to Flash Flooding
- Rivers and Streams
- Roads
- Railroads
- Parcels
- Incorporated City



City of Marshalltown Flash Flooding

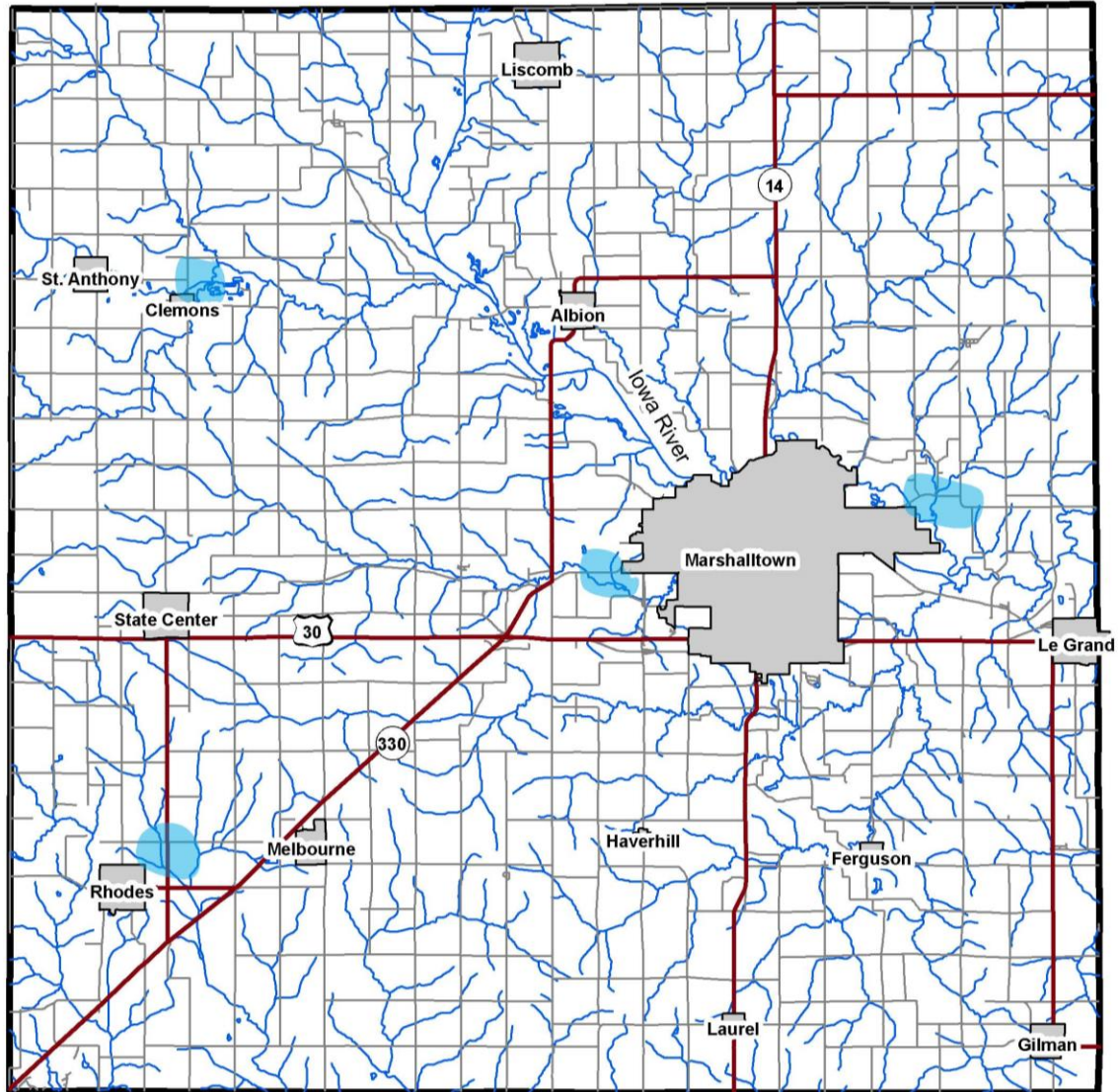


Map Created by: MIDAS Council of Governments, 2015
 Data Source: NRGIS, Marshall County Assessor's Office,
 Iowa Department of Transportation, Hazard Mitigation
 Planning Committee

Legend

- Marshalltown Structures in Hazard Area
- Areas Prone to Flash Flooding
- Parcels With Value in Hazard Area
- Parcels
- Rivers and Streams
- Roads
- + + Railroads
- Incorporated City

Marshall County Flash Flooding



0 3 6 12 Miles

Map Created by: MIDAS Council of Governments, 2015
Data Source: NRGIS, Marshall County Assessor's Office,
Iowa Department of Transportation, Hazard Mitigation
Planning Committee

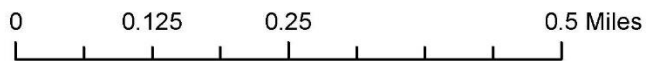
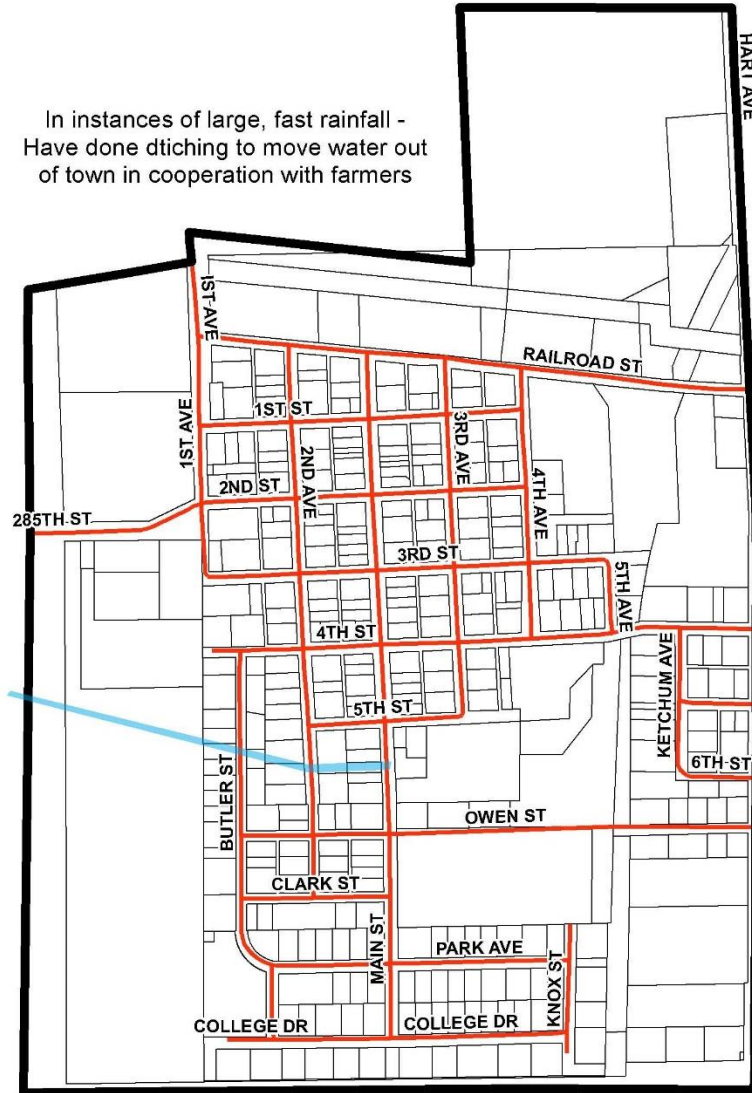
Legend

- Areas Prone to Flash Flooding
- Highways
- Roads
- Rivers and Streams
- ++ Railroads
- Incorporated City
- County Boundary

City of Melbourne Flash Flooding



In instances of large, fast rainfall -
Have done ditching to move water out
of town in cooperation with farmers

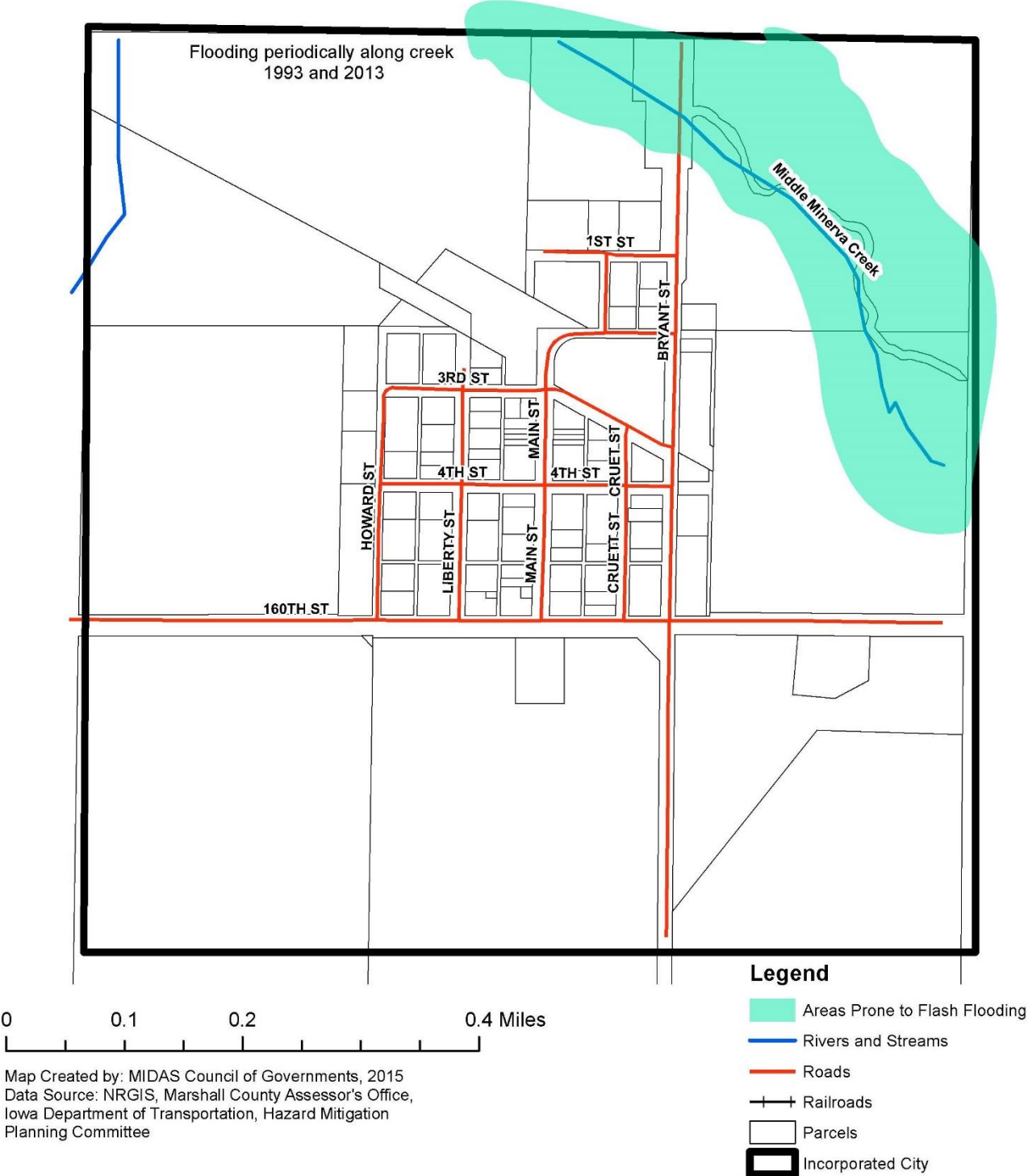


Map Created by: MIDAS Council of Governments, 2015
Data Source: NRGIS, Marshall County Assessor's Office,
Iowa Department of Transportation, Hazard Mitigation
Planning Committee

Legend

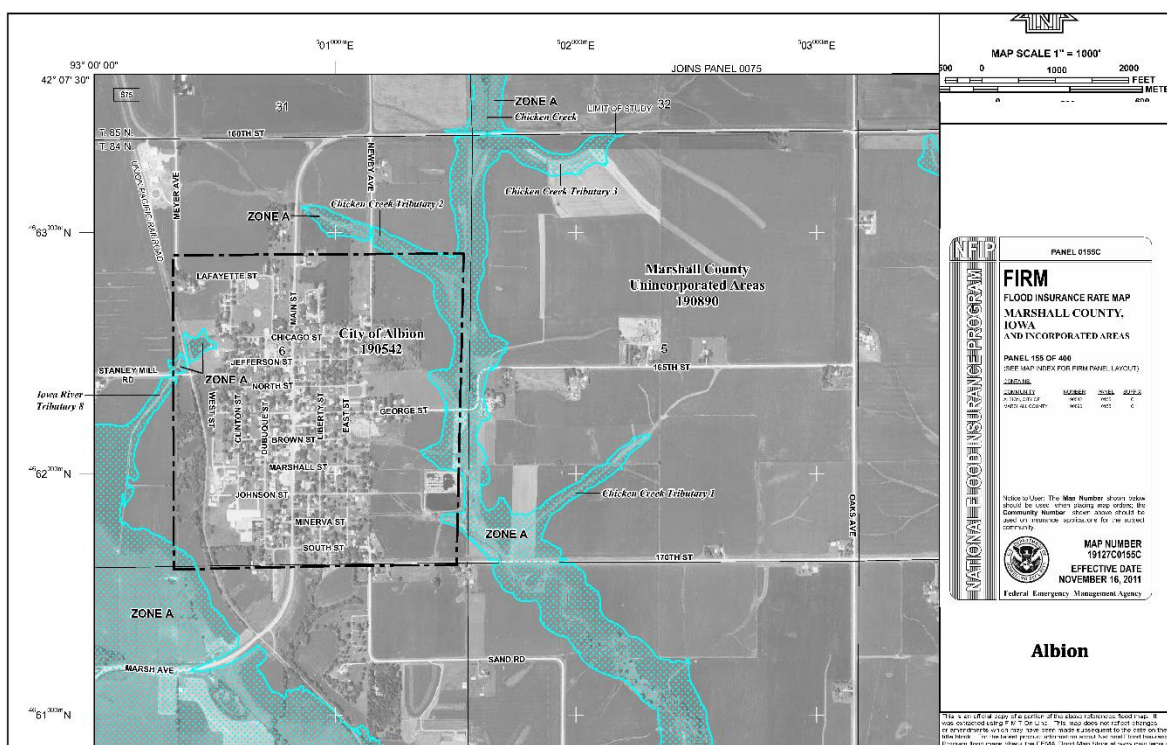
- Areas Prone to Flash Flooding
- Rivers and Streams
- Roads
- Railroads
- Parcels
- Incorporated City

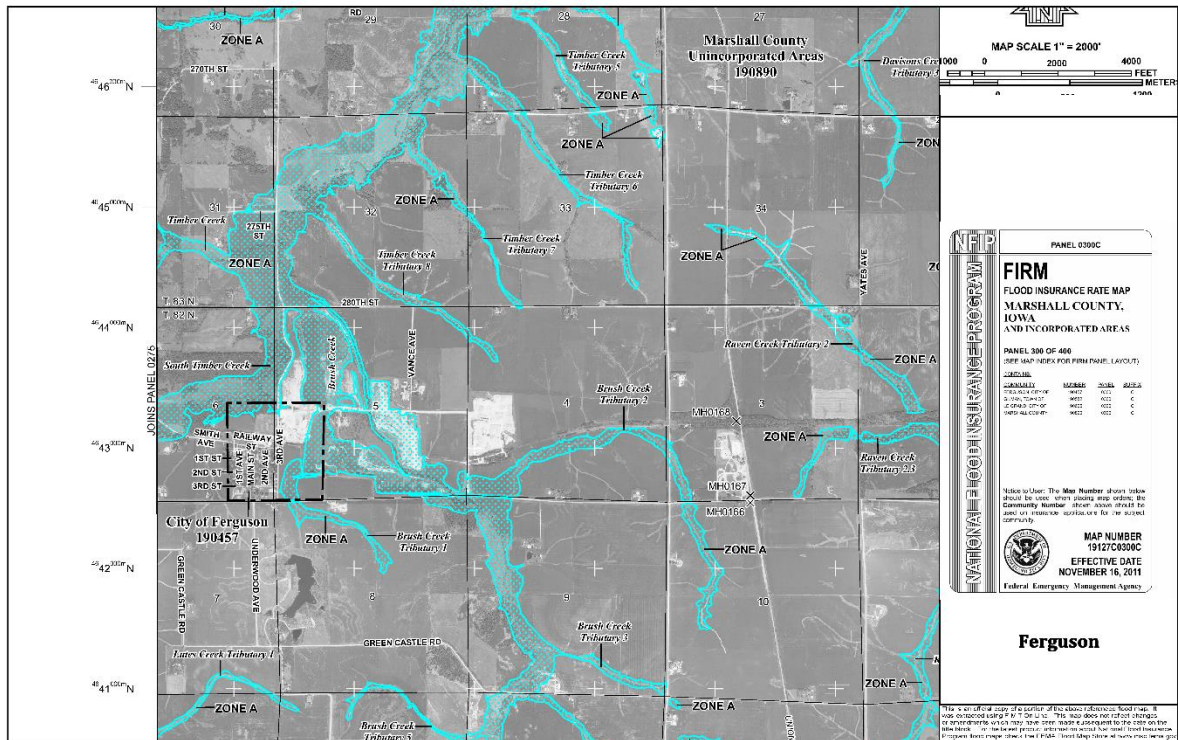
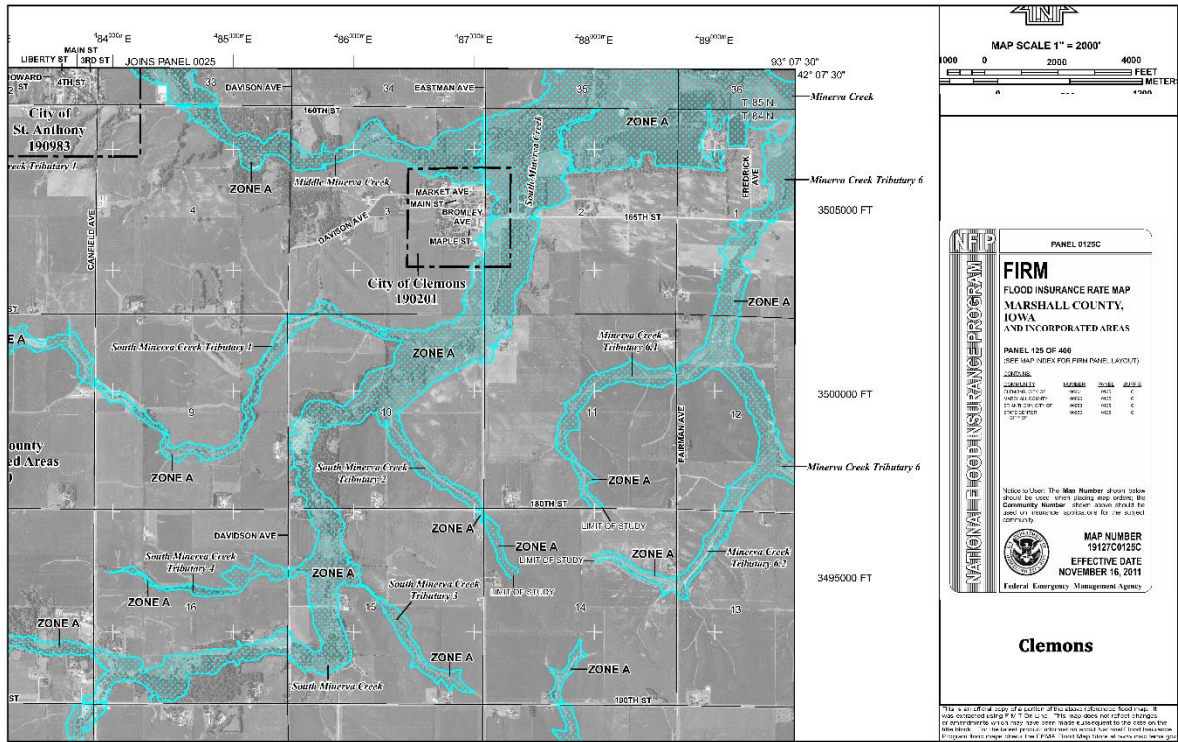
City of St. Anthony Flash Flooding

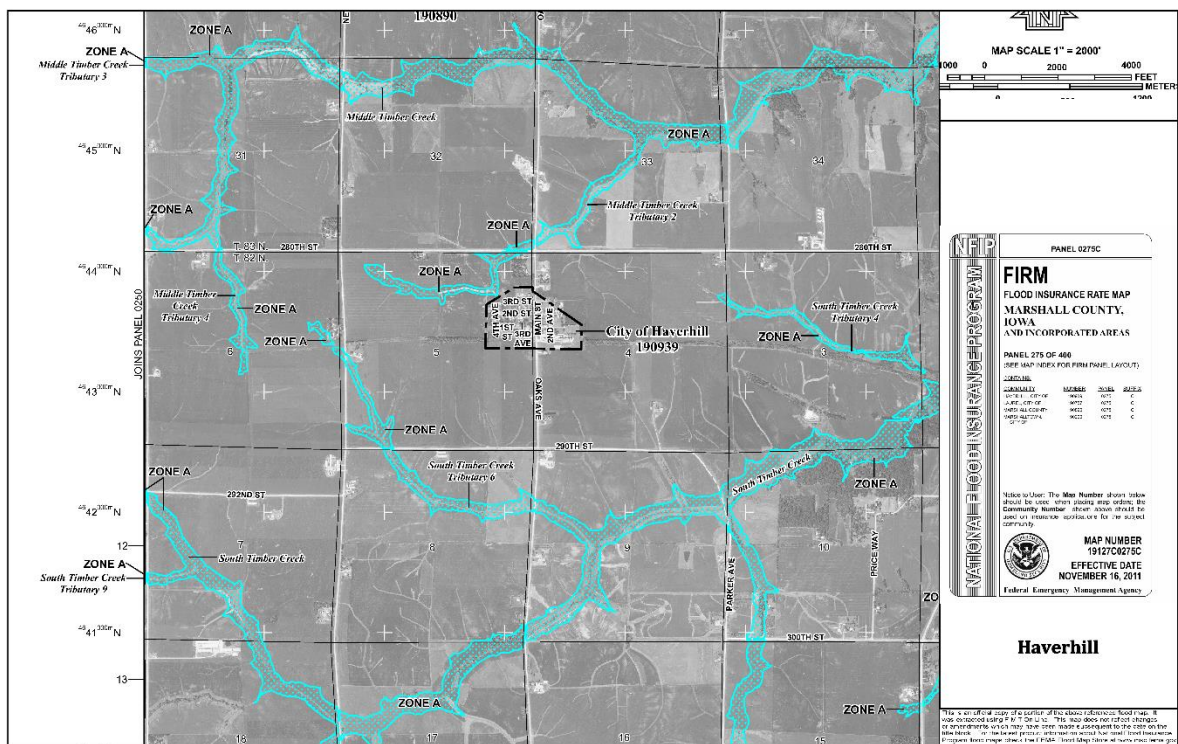
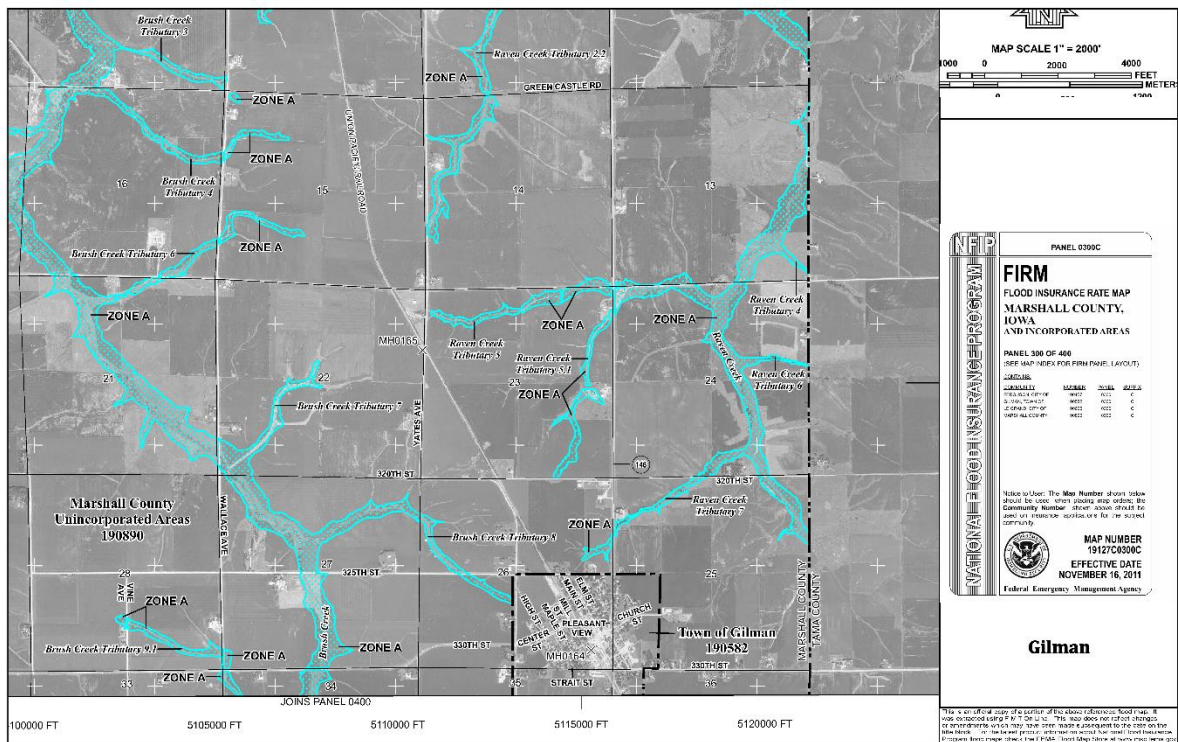


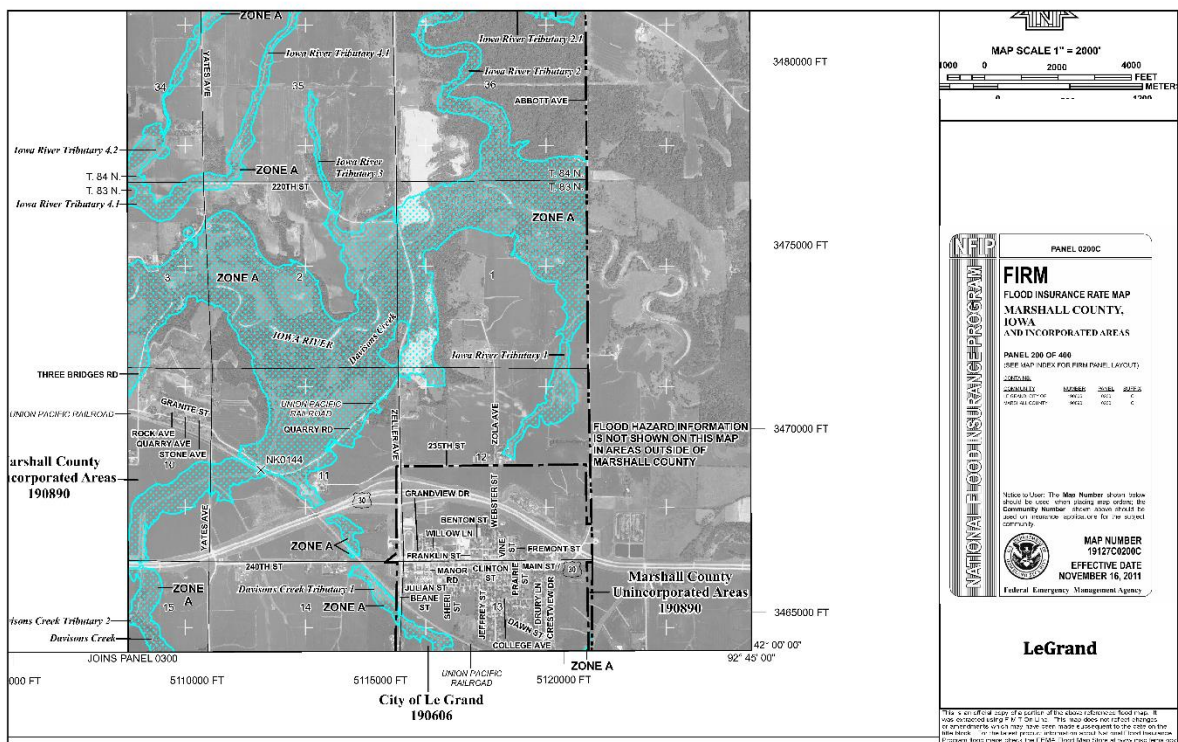
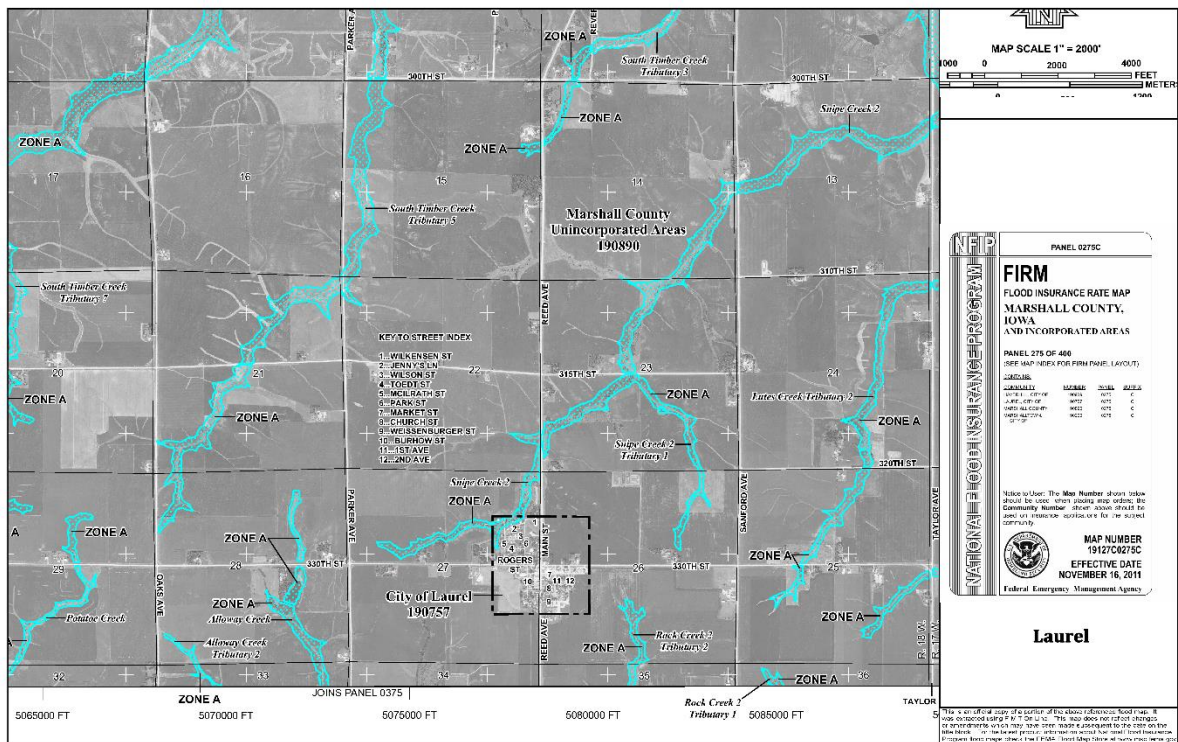
Appendix E. Marshall County Floodplain Maps

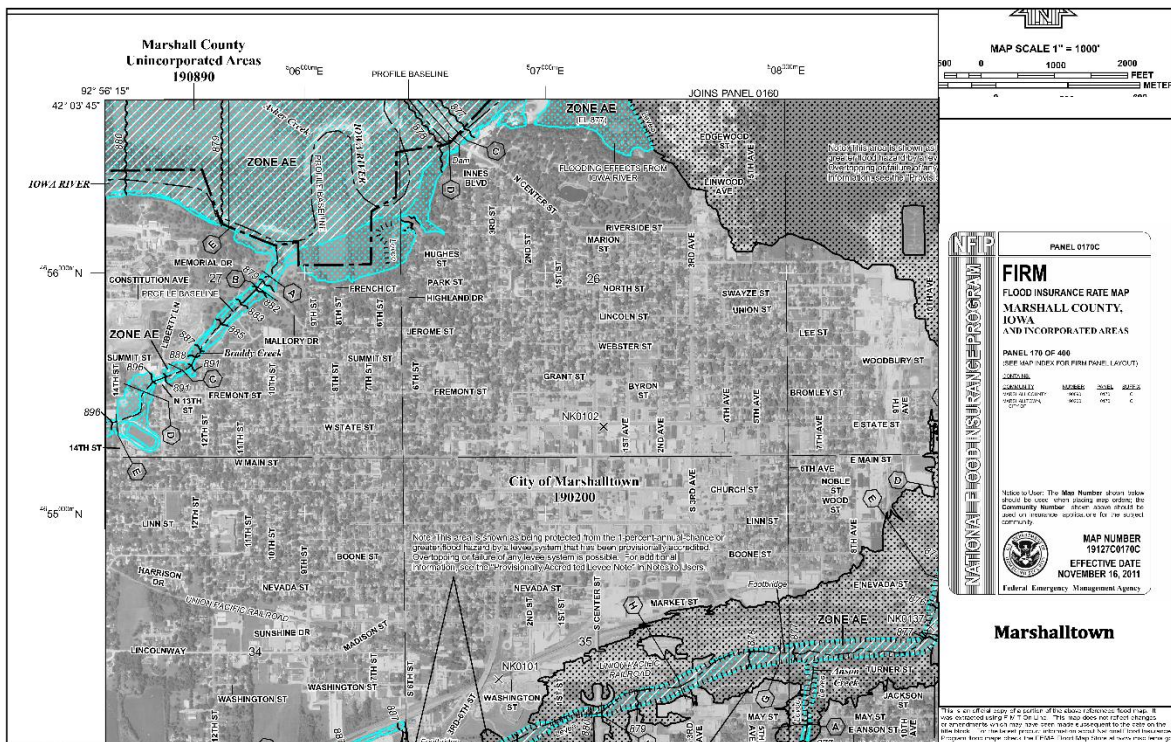
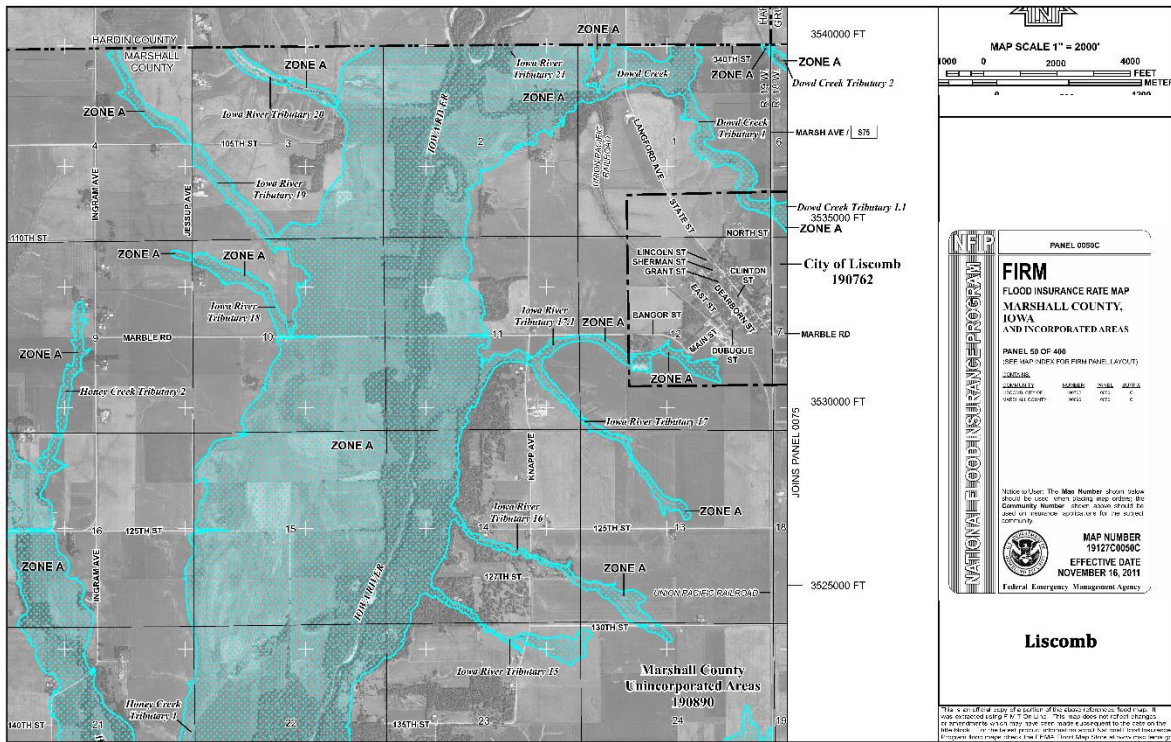
The following maps are FIRMettes of each incorporated area in Marshall County. The floodplains of some incorporated areas require multiple FIRMettes and/or map panels to capture. Incorporated areas are listed in alphabetical order.

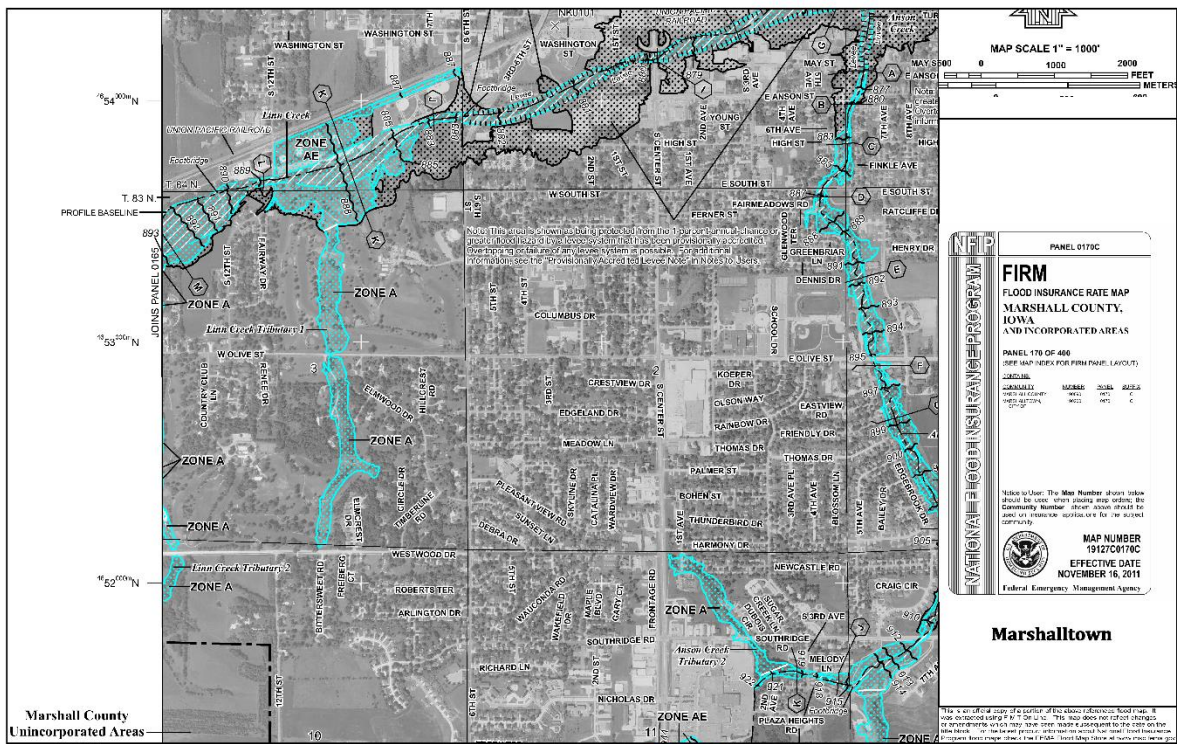
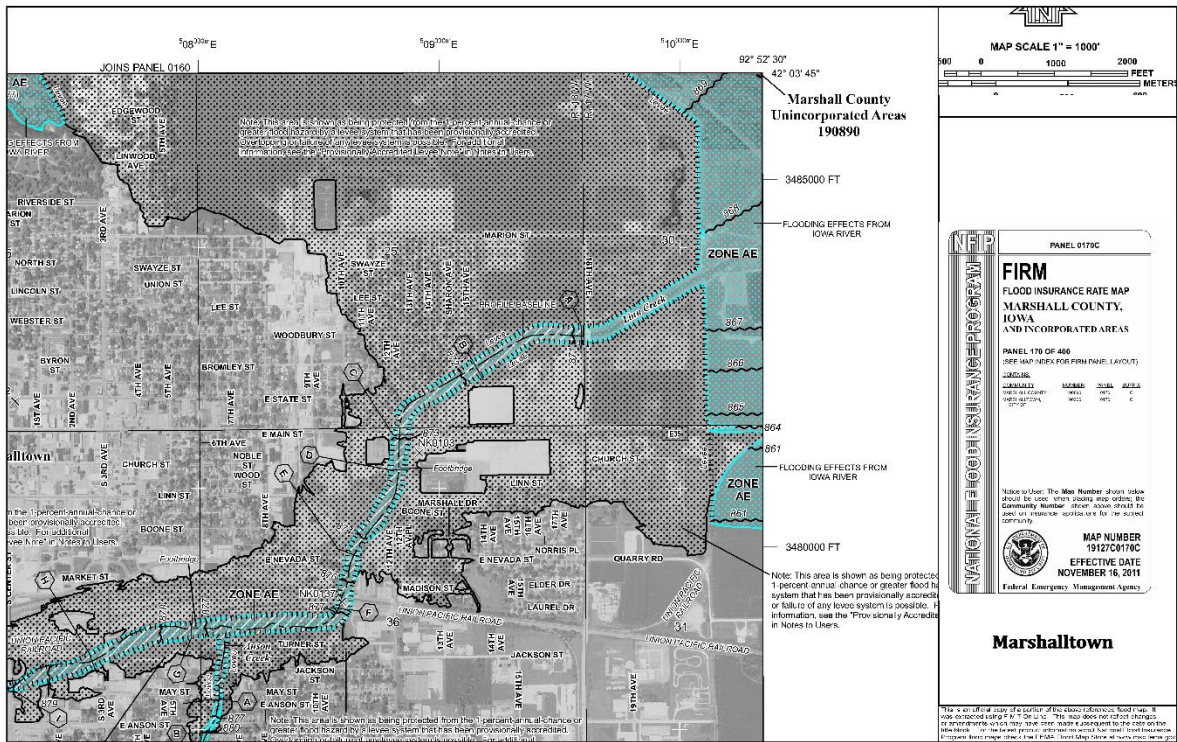


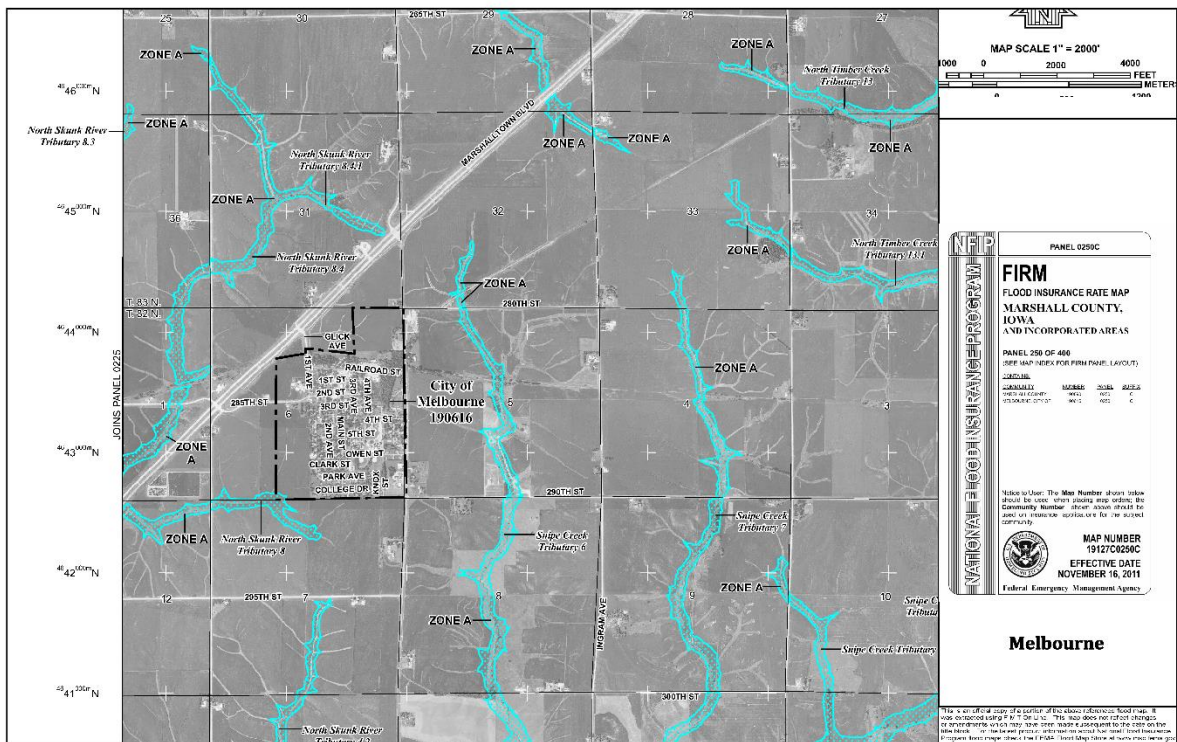
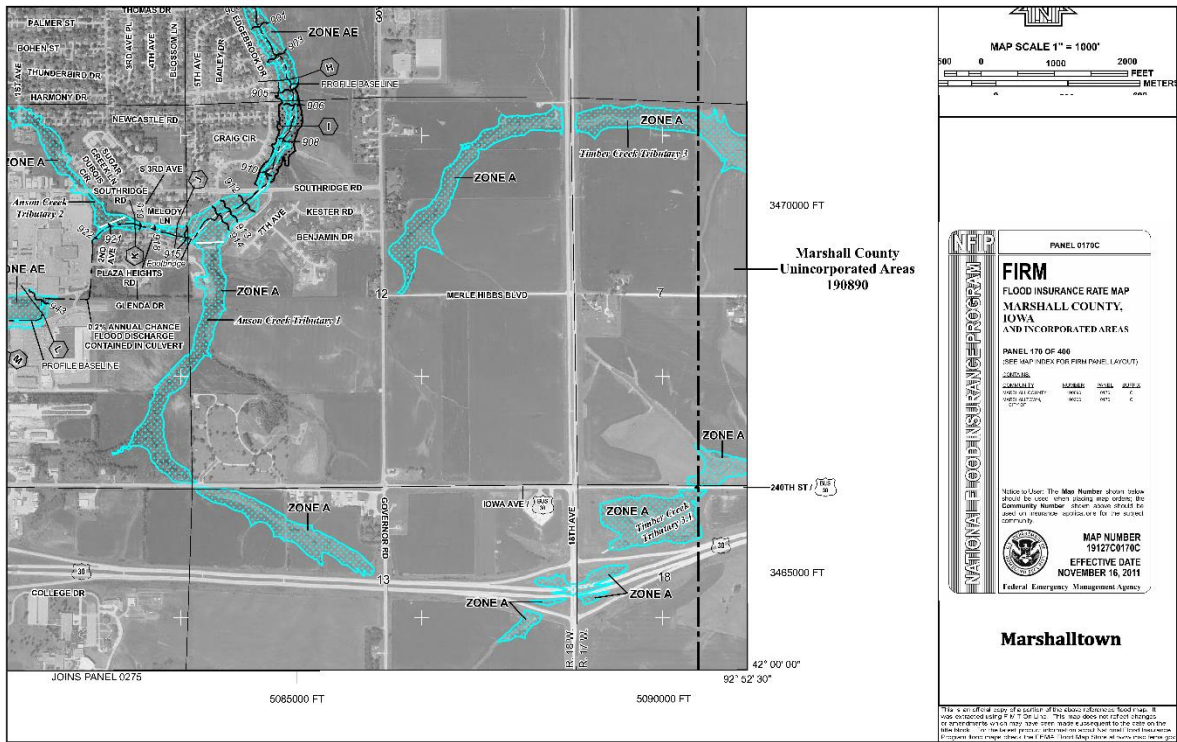












Appendix F. Marshall County, Iowa

Historic River Flooding News Articles

The following article documents river flooding events in Marshall County, Iowa in 2013. The purpose of including this article in the plan is to demonstrate that when the Iowa River basin floods, communities along the Iowa River in Marshall County are affected. These effects are not always documented in the available NCDC data. Iowa River communities are impacted by flood events which result in closed roads, flooding of agricultural lands, and sometimes flooding that affects infrastructure and buildings. Plain text of the news article and associated pictures have been collected. For the article as it appears at the source, follow the link provided.

As a point of reference to spatially show the communities affected by flooding in this article, a map displaying the Special Flood Hazard Areas for Marshall County has been included at the end of this section.

Source name: Times Republican

Flood date: References flooding in 2013

Link: <http://timesrepublican.com/page/content.detail/id/560627/Flooding-makes-for-dicey-travel-in-Marshalltown-area.html>

Flooding makes for dicey travel in Marshalltown area

May 31, 2013

By ANDREW POTTER - Staff Writer (apotter@timesrepublican.com), Times-Republican

At the Marshall County board of supervisors meeting Tuesday morning, Marshall County Engineer Paul Geilenfeldt said those looking to get to Marshalltown from the north can use Marble Road (E-18) west of Liscomb or 148th Street northwest of Albion to cross the river. There is also access to from Bangor to e-29 to Highway 330 to East Main Street.

Kim Elder, director of Marshall County Emergency Management, estimated that between 70 and 80 percent of basements in the area saw flooding. She said the Iowa River failed to hit its record 22 feet, and its level was falling Tuesday morning.

The board of supervisors signed a disaster declaration Tuesday, making the county available for state and federal assistance. A representative with the office of U.S. Rep. Bruce Braley, D-Iowa, is coming to Marshalltown Tuesday morning to meet with local officials.

In case of an emergency north of the river, the Marshalltown Area Paramedic Service has stationed an ambulance north of the Iowa River in Albion to serve the northern portions of the county. Supervisor Denny Grabenbauer urged area residents to continue to use caution and not drive through water.

"This is a dangerous situation," Grabenbauer said.

The NWS is also predicting severe weather, including possibly tornados, for all of Iowa Tuesday and select areas west of I-35 Wednesday.

The Iowa Department of Transportation and Marshall County Secondary Road Department announced the following road closures:

- Iowa Highway 14 between US Highway 30 and Iowa Highway 330, Marshalltown.
- Iowa Highway 330 between County Road E29 and County Road S75, near Albion.
- Zeller Avenue from 2200 mile to 2300 mile is closed.
- East Main Street Road in Marshalltown is closed from 2900 to 3100 block due to water over the road.
- US Highway 63 between County Road E64 and US Highway 30, near Tama.
- US 30 eastbound: Left lane closed between County Road T47 and Exit 202: US 63, two miles east of the Montour area. The left lane is closed because of flooding.
- US 30 westbound: Right lane closed between County Road T47 and Exit 202: US 63, near Montour. The right lane is closed because of flooding.
- Stanley Mill Road from 2000 to 2100 mile is closed due to water over the road from east of Knapp Avenue to Lafayette Avenue.
- Garwin Road from 2600 to 2700 mile is closed due to water at the intersection of Highway 14 and Garwin Road, right of Wiesegarden intersection.
- North Center Street Road from 1900 to 2100 mile is closed due to water over the road south of KDAO through the Marshalltown Water Works.

Article Photos

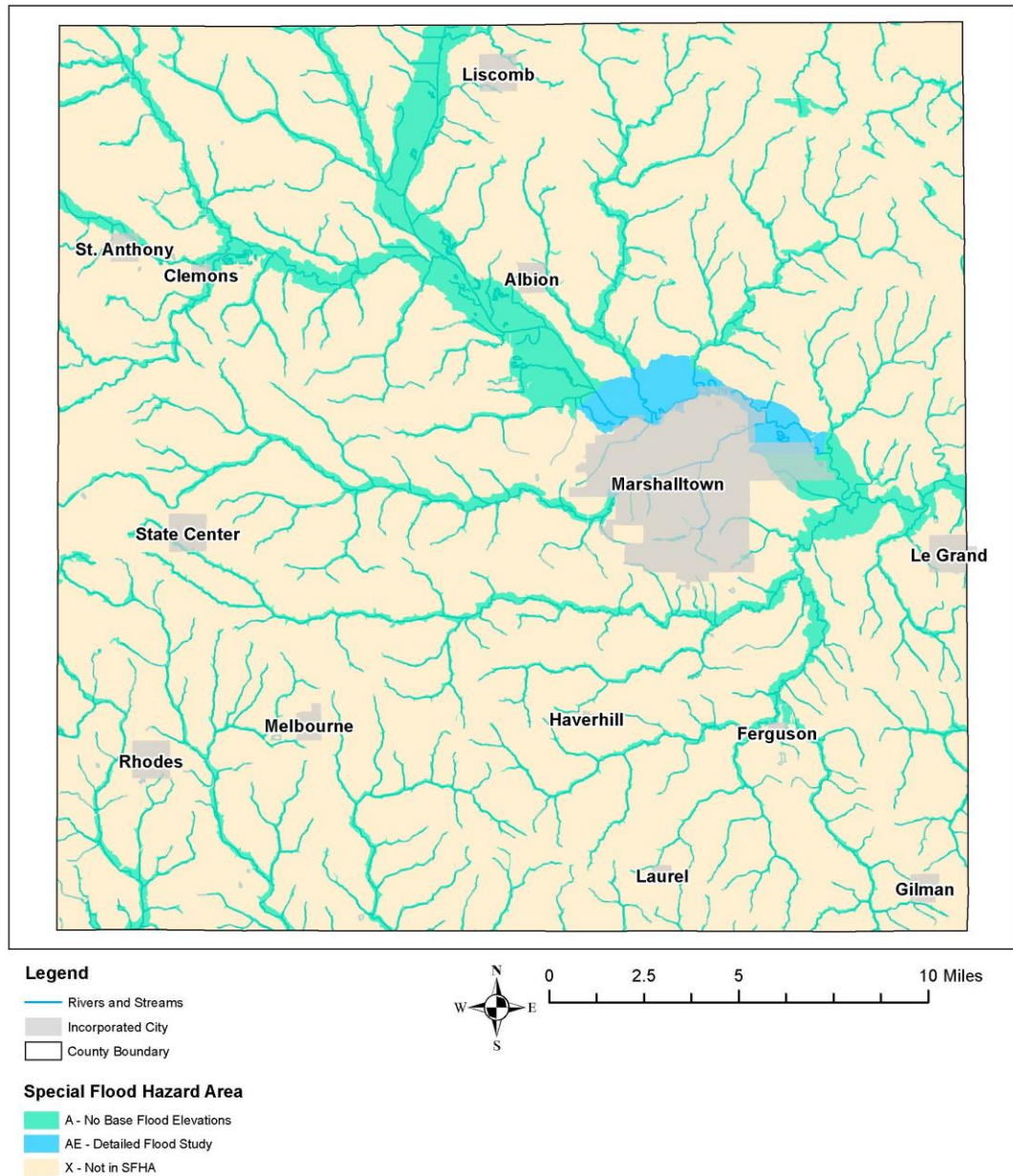


T-R PHOTO BY GARRY BRANDENBURG

This rural Marshall County bridge has its south approach washed away from flood waters of Honey Creek, a tributary to the Iowa River. The bridge is on Ingram Avenue about three-fourths of a mile north of 148th Street, not too far from the Royal Ranch.

The following map shows the Special Flood Hazard Areas of Marshall County. According to the news article, roads in and around the cities of Marshalltown and Albion were affected by flooding in 2013. Closed roads in Marshall and Tama County required all travelers to use alternate routes.

Special Flood Hazard Areas of Marshall County



Appendix G. Marshall County Historic Weather and Hazardous Materials Data

Historic Weather Data

Data from the earliest available records through December 2014 was obtained from the National Climatic Data Center (NCDC) Storm Event Database at <http://www.ncdc.noaa.gov/stormevents/>. The cutoff date of December 2014 was chosen in order to present a complete year of data. Data collection for the planning process began in Winter of 2015 in order to prepare for the first meeting in Spring of 2015. This is not a comprehensive list of all storms or events that may have affected Marshall County as all damage or storms may not have been recorded. Many of the events include a hyperlink to the NCDC website which provides a more detailed description of events (applied to digital copies of this plan only). This information can be accessed by clicking the hyperlinks in the "Location" column of the tables.

The following tables are organized alphabetically by hazard.

Mag = Magnitude Dth = Death Inj = Injury PrD = Property Damage CrD = Crop Damage

DROUGHT								
Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
MARSHALL (ZONE)	8/14/2000	0:00	Drought	N/A	0	0	0.00K	4.690M
MARSHALL (ZONE)	9/1/2000	0:00	Drought		0	0	0.00K	5.030M
MARSHALL (ZONE)	8/1/2001	0:00	Drought		0	0	0.00K	11.350M
MARSHALL (ZONE)	8/1/2003	0:00	Drought		0	0	12.650M	0.00K
MARSHALL (ZONE)	7/1/2012	0:00	Drought		0	0	0.00K	90.000M
MARSHALL (ZONE)	8/1/2012	0:00	Drought		0	0	0.00K	6.000M
MARSHALL (ZONE)	9/1/2012	0:00	Drought		0	0	0.00K	0.00K
MARSHALL (ZONE)	10/1/2012	0:00	Drought		0	0	0.00K	0.00K
MARSHALL (ZONE)	8/1/2013	0:00	Drought		0	0	0.00K	21.000M

FLASH FLOODING								
Location	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
CLEMONS	5/26/2013	14:35	Flash Flood	N/A	0	0	25.00K	0.00K
COUNTYWIDE	6/18/2002	2:00	Flash Flood		0	0	75.00K	50.00K
COUNTYWIDE	5/22/2004	20:30	Flash Flood		0	0	250.00K	50.00K
HAVERHILL	5/26/2013	17:10	Flash Flood		0	0	100.00K	0.00K
LURAY	6/11/2008	23:42	Flash Flood		0	0	50.00K	5.00K
LURAY	5/26/2013	15:30	Flash Flood		0	0	250.00K	0.00K
LURAY	5/29/2013	15:22	Flash Flood		0	0	200.00K	0.00K
MARIETTA	3/14/2008	4:00	Flash Flood		0	0	15.00K	0.00K
MARSHALLTOWN	6/22/2007	17:15	Flash Flood		0	0	150.00K	250.00K
MARSHALLTOWN	6/8/2008	18:00	Flash Flood		0	0	50.00K	0.00K

MARSHALLTOWN	4/26/2009	17:42	Flash Flood		0	0	15.00K	0.00K
MARSHALLTOWN	4/26/2009	19:03	Flash Flood		0	0	10.00K	0.00K
MARSHALLTOWN	4/26/2009	19:03	Flash Flood		0	0	10.00K	0.00K
MARSHALLTOWN ARPT	4/26/2009	17:42	Flash Flood		0	0	10.00K	0.00K
MARSHALLTOWN ARPT	5/26/2013	10:00	Flash Flood		0	0	20.00K	0.00K
QUARRY	6/30/2014	17:14	Flash Flood		0	0	50.00K	0.00K
RHODES	5/25/2013	9:01	Flash Flood		0	0	5.00K	0.00K
ST ANTHONY	5/26/2013	10:25	Flash Flood		0	0	25.00K	0.00K
STATE CENTER	3/2/2008	16:00	Flash Flood		0	0	25.00K	0.00K
STATE CENTER	3/2/2008	18:22	Flash Flood		0	0	25.00K	0.00K

RIVER FLOODING								
<u>Location</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Ini</u>	<u>PrD</u>	<u>CrD</u>
MARSHALL (ZONE)	2/9/1996	6:00	Flood	N/A	0	0	0.00K	0.00K
MARSHALL (ZONE)	6/17/1996	3:00	Flood		0	0	0.00K	0.00K
MARSHALL (ZONE)	2/18/1997	18:00	Flood		0	0	0.00K	0.00K
MARSHALL (ZONE)	3/9/1997	6:00	Flood		0	0	0.00K	0.00K
MARSHALL (ZONE)	3/19/1997	12:00	Flood		0	0	0.00K	0.00K
MARSHALL (ZONE)	5/1/1997	0:00	Flood		0	0	5.00K	0.00K
MARSHALL (ZONE)	6/21/1997	15:00	Flood		0	0	0.00K	0.00K
MARSHALL (ZONE)	6/8/1998	18:00	Flood		0	0	50.00K	10.00K
MARSHALL (ZONE)	6/14/1998	9:00	Flood		0	0	100.00K	20.00K
MARSHALL (ZONE)	6/18/1998	2:00	Flood		0	0	100.00K	20.00K
MARSHALL (ZONE)	6/21/1998	6:00	Flood		0	0	100.00K	20.00K
MARSHALL (ZONE)	6/24/1998	3:00	Flood		0	0	75.00K	20.00K
MARSHALL (ZONE)	6/28/1998	6:00	Flood		0	0	75.00K	20.00K
MARSHALL (ZONE)	7/6/1998	3:00	Flood		0	0	50.00K	100.00K
MARSHALL (ZONE)	4/6/1999	18:00	Flood		0	0	7.00K	0.00K
MARSHALL (ZONE)	4/22/1999	6:00	Flood		0	0	10.00K	0.00K
MARSHALL (ZONE)	5/16/1999	21:00	Flood		0	0	200.00K	25.00K
MARSHALL (ZONE)	5/21/1999	15:00	Flood		0	0	50.00K	10.00K
MARSHALL (ZONE)	6/9/1999	6:00	Flood		0	0	50.00K	75.00K
MARSHALL (ZONE)	6/9/2000	18:00	Flood		0	0	25.00K	25.00K
MARSHALL (ZONE)	6/13/2000	15:00	Flood		0	0	20.00K	50.00K
MARSHALL (ZONE)	7/10/2000	6:00	Flood		0	0	50.00K	25.00K
MARSHALL (ZONE)	3/15/2001	15:00	Flood		0	0	5.00K	0.00K
MARSHALL (ZONE)	3/23/2001	18:00	Flood		0	0	7.50K	0.00K
MARSHALL (ZONE)	4/7/2001	21:00	Flood		0	0	150.00K	0.00K
MARSHALL (ZONE)	5/1/2001	0:00	Flood		0	0	75.00K	0.00K

MARSHALL (ZONE)	6/12/2001	15:00	Flood		0	0	25.00K	50.00K
MARSHALL (ZONE)	5/4/2003	12:00	Flood		0	0	5.00K	0.00K
MARSHALL (ZONE)	5/9/2003	6:00	Flood		0	0	5.00K	0.00K
MARSHALL (ZONE)	7/5/2003	12:00	Flood		0	0	10.00K	25.00K
MARSHALL (ZONE)	5/22/2004	18:00	Flood		0	0	100.00K	298.04K
MARSHALL (ZONE)	6/26/2005	0:00	Flood		0	0	74.07K	50.00K
MARSHALL (ZONE)	7/26/2005	21:00	Flood		0	0	10.00K	30.00K
MARSHALLTOWN	6/14/1998	11:00	Flood		0	0	100.00K	75.00K
MARSHALLTOWN	6/24/1998	1:00	Flood		0	0	30.00K	3.00K
MARSHALLTOWN	6/29/1998	13:00	Flood		0	0	50.00K	10.00K
MARSHALLTOWN	3/12/2007	2:15	Flood		0	0	50.00K	0.00K
MARSHALLTOWN	4/25/2007	14:45	Flood		0	0	100.00K	0.00K
MARSHALLTOWN	5/8/2007	0:15	Flood		0	0	25.00K	0.00K
MARSHALLTOWN	5/24/2007	13:45	Flood		0	0	25.00K	25.00K
MARSHALLTOWN	6/1/2007	0:00	Flood		0	0	0.00K	10.00K
MARSHALLTOWN	6/22/2007	16:45	Flood		0	0	0.00K	25.00K
MINERVA	3/14/2008	17:00	Flood		0	0	20.00K	0.00K
MINERVA	4/25/2008	17:30	Flood		0	0	20.00K	0.00K
MINERVA	5/30/2008	8:05	Flood		0	0	5.00K	25.00K
MINERVA	6/1/2008	0:00	Flood		0	0	100.00K	250.000 M
MINERVA	6/6/2008	11:07	Flood		0	0	100.00K	500.00K
MINERVA	4/27/2009	5:50	Flood		0	0	5.00K	0.00K
MINERVA	3/11/2010	12:16	Flood		0	0	50.00K	0.00K
MINERVA	6/27/2010	10:30	Flood		0	0	250.00K	2.000M
MINERVA	7/1/2010	0:00	Flood		0	0	10.00K	25.00K
MINERVA	8/11/2010	23:30	Flood		0	0	25.00K	10.00K
MINERVA	5/26/2013	15:00	Flood		0	0	250.00K	0.00K
MINERVA	6/1/2013	0:00	Flood		0	0	0.00K	0.00K
ST ANTHONY	6/12/2010	12:00	Flood		0	0	0.00K	20.000M

SEVERE WINTER STORMS								
<u>Location</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Ini</u>	<u>PrD</u>	<u>CrD</u>
MARSHALL (ZONE)	1/18/1996	9:00	Blizzard	N/A	0	0	0.00K	0.00K
MARSHALL (ZONE)	1/26/1996	12:00	Blizzard		0	0	0.00K	0.00K
MARSHALL (ZONE)	1/26/1996	0:00	Heavy Snow		0	0	0.00K	0.00K
MARSHALL (ZONE)	1/28/1996	20:00	Blizzard		0	0	0.00K	0.00K
MARSHALL (ZONE)	3/24/1996	22:00	Blizzard		0	0	0.00K	0.00K
MARSHALL (ZONE)	11/14/1996	16:00	Ice Storm		0	0	0.00K	0.00K
MARSHALL (ZONE)	2/3/1997	14:00	Heavy Snow		0	0	0.00K	0.00K
MARSHALL (ZONE)	10/26/1997	3:00	Heavy Snow		0	0	640.00K	2.600M
MARSHALL (ZONE)	12/21/1997	14:00	Ice Storm		0	0	2.05K	0.00K

MARSHALL (ZONE)	1/4/1998	6:30	Ice Storm		0	0	20.40K	0.00K
MARSHALL (ZONE)	1/20/1998	18:00	Heavy Snow		0	0	10.45K	0.00K
MARSHALL (ZONE)	3/7/1998	21:00	Heavy Snow		0	0	50.00K	0.00K
MARSHALL (ZONE)	3/17/1998	2:00	Ice Storm		0	0	5.88K	0.00K
MARSHALL (ZONE)	1/1/1999	15:00	Winter Storm		0	0	10.00K	0.00K
MARSHALL (ZONE)	2/11/1999	9:00	Ice Storm		0	0	5.00K	0.00K
MARSHALL (ZONE)	3/8/1999	0:00	Winter Storm		0	0	10.00K	0.00K
MARSHALL (ZONE)	1/19/2000	7:00	Winter Storm		0	0	1.00K	0.00K
MARSHALL (ZONE)	2/17/2000	23:00	Winter Storm		0	0	10.00K	0.00K
MARSHALL (ZONE)	12/10/2000	21:00	Winter Storm		0	0	24.90K	0.00K
MARSHALL (ZONE)	12/18/2000	9:00	Blizzard		0	0	25.00K	0.00K
MARSHALL (ZONE)	12/21/2000	12:00	Blizzard		0	0	20.00K	0.00K
MARSHALL (ZONE)	2/8/2001	16:00	Ice Storm		0	0	75.00K	0.00K
MARSHALL (ZONE)	2/8/2001	23:00	Winter Storm		0	0	50.00K	0.00K
MARSHALL (ZONE)	3/1/2002	17:00	Heavy Snow		0	0	5.00K	0.00K
MARSHALL (ZONE)	1/28/2003	5:00	Winter Weather		0	0	0.00K	0.00K
MARSHALL (ZONE)	2/14/2003	11:00	Winter Storm		0	0	5.00K	0.00K
MARSHALL (ZONE)	3/15/2004	7:00	Heavy Snow		0	0	10.00K	0.00K
MARSHALL (ZONE)	1/4/2005	17:00	Heavy Snow		0	0	10.00K	0.00K
MARSHALL (ZONE)	1/22/2005	1:00	Blizzard		0	0	5.00K	0.00K
MARSHALL (ZONE)	1/20/2007	23:00	Heavy Snow		0	0	0.00K	0.00K
MARSHALL (ZONE)	2/24/2007	3:00	Winter Storm		0	0	1.000M	0.00K
MARSHALL (ZONE)	12/1/2007	7:00	Ice Storm		0	0	10.00K	0.00K
MARSHALL (ZONE)	12/11/2007	1:00	Ice Storm		0	0	75.00K	0.00K
MARSHALL (ZONE)	2/5/2008	12:00	Winter Storm		0	0	10.00K	0.00K
MARSHALL (ZONE)	12/18/2008	20:00	Winter Storm		0	0	5.00K	0.00K
MARSHALL (ZONE)	12/27/2008	6:00	Ice Storm		0	0	5.00K	0.00K
MARSHALL (ZONE)	1/9/2009	17:00	Heavy Snow		0	0	0.00K	0.00K
MARSHALL (ZONE)	4/5/2009	9:00	Winter Storm		0	0	10.00K	0.00K
MARSHALL (ZONE)	12/8/2009	2:00	Heavy Snow		0	0	10.00K	0.00K
MARSHALL (ZONE)	12/9/2009	3:00	Blizzard		0	0	50.00K	0.00K

MARSHALL (ZONE)	1/6/2010	16:00	Winter Storm		0	0	25.00K	0.00K
MARSHALL (ZONE)	1/20/2010	6:00	Ice Storm		0	0	100.00K	0.00K
MARSHALL (ZONE)	1/25/2010	14:00	Blizzard		0	0	75.00K	0.00K
MARSHALL (ZONE)	12/11/2010	19:00	Blizzard		0	0	75.00K	0.00K
MARSHALL (ZONE)	2/1/2011	19:00	Blizzard		0	0	25.00K	0.00K
MARSHALL (ZONE)	12/19/2012	19:00	Winter Storm		0	0	25.00K	0.00K
MARSHALL (ZONE)	12/20/2012	2:00	Blizzard		0	0	100.00K	0.00K
MARSHALL (ZONE)	1/27/2013	6:00	Ice Storm		0	0	25.00K	0.00K
MARSHALL (ZONE)	1/30/2013	0:00	Winter Storm		0	0	25.00K	0.00K
MARSHALL (ZONE)	2/26/2013	8:00	Heavy Snow		0	0	5.00K	0.00K
MARSHALL (ZONE)	5/2/2013	17:00	Heavy Snow		0	0	100.00K	0.00K
MARSHALL (ZONE)	12/22/2013	0:00	Heavy Snow		0	0	0.00K	0.00K
MARSHALL (ZONE)	2/4/2014	16:00	Winter Storm		0	0	0.00K	0.00K

THUNDERSTORMS, LIGHTNING, AND HAIL								
<u>Location</u>	<u>Date</u>	<u>Time</u>	<u>Type</u>	<u>Mag</u>	<u>Dth</u>	<u>Inj</u>	<u>PrD</u>	<u>CrD</u>
ALBION	5/18/2000	9:35	Hail	1.25 in.	0	0	5.00K	5.00K
ALBION	6/18/2001	21:38	Hail	0.88 in.	0	0	2.00K	5.00K
ALBION	7/18/2003	3:50	Hail	1.00 in.	0	0	5.00K	10.00K
ALBION	3/21/2007	10:49	Hail	0.75 in.	0	0	0.00K	0.00K
ALBION	8/3/2004	16:30	Tstorm Wind	52 kts. EG	0	0	10.00K	0.00K
ALBION	8/3/2004	16:40	Tstorm Wind	61 kts. EG	0	0	25.00K	5.00K
ALBION	7/11/2011	3:23	Tstorm Wind	75 kts. EG	0	0	50.00K	100.00K
ALBION	7/22/2013	18:52	Tstorm Wind	56 kts. EG	0	0	10.00K	0.00K
BANGOR	5/20/2013	19:11	Tstorm Wind	52 kts. EG	0	0	3.00K	0.00K
BEAMAN	4/26/2009	17:13	Tstorm Wind	56 kts. EG	0	0	25.00K	0.00K
Bolton	7/4/1995	17:55	Tstorm Wind	50 kts.	0	0	1.00K	0.00K
CLEMONS	8/25/2003	18:35	Tstorm Wind	52 kts. EG	0	0	2.00K	0.00K

CLEMONS	3/30/2006	19:10	Tstorm Wind	57 kts. EG	0	0	5.00K	0.00K
CLEMONS	8/25/2003	18:45	Hail	1.50 in.	0	0	5.00K	20.00K
CLEMONS	8/16/2004	21:44	Hail	1.00 in.	0	0	3.00K	5.00K
DILLON	5/19/2013	19:36	Tstorm Wind	55 kts. EG	0	0	2.00K	0.00K
Dunbar	4/8/1995	21:50	Hail	1.00 in.	0	0	2.00K	0.00K
DUNBAR	5/29/2013	15:30	Hail	1.00 in.	0	0	0.00K	5.00K
FERGUSON	3/9/2002	0:30	Tstorm Wind	56 kts. E	0	0	5.00K	0.00K
FERGUSON	8/26/2004	20:52	Tstorm Wind	52 kts. EG	0	0	2.00K	0.00K
FERGUSON	6/5/1997	13:48	Hail	0.75 in.	0	0	1.00K	5.00K
FERGUSON	6/24/2006	15:45	Hail	0.75 in.	0	0	0.00K	5.00K
GILMAN	4/20/2005	2:00	Lightning		0	0	3.00K	0.00K
GILMAN	7/24/2009	19:41	Hail	1.00 in.	0	0	2.00K	10.00K
GILMAN	5/29/2013	15:03	Hail	1.25 in.	0	0	5.00K	25.00K
GILMAN	5/29/2013	15:50	Hail	1.00 in.	0	0	0.00K	5.00K
GILMAN	6/25/2013	6:00	Heavy Rain		0	0	0.00K	0.00K
GILMAN	6/12/2001	4:20	Tstorm Wind	52 kts. E	0	0	5.00K	0.00K
GILMAN	8/26/2004	20:02	Tstorm Wind	50 kts. EG	0	0	1.00K	0.00K
GILMAN	8/26/2004	20:30	Tstorm Wind	57 kts. EG	0	0	5.00K	0.00K
GILMAN	6/6/2008	0:05	Tstorm Wind	61 kts. EG	0	0	15.00K	0.00K
GILMAN	5/29/2013	15:03	Tstorm Wind	52 kts. EG	0	0	0.00K	0.00K
GILMAN ARPT	5/29/2013	15:00	Hail	1.00 in.	0	0	0.00K	5.00K
GREEN MTN	7/26/2000	8:30	Hail	1.75 in.	0	0	10.00K	10.00K
GREEN MTN	5/10/2001	16:04	Hail	2.00 in.	0	0	10.00K	0.00K
GREEN MTN	8/2/2001	11:32	Hail	0.88 in.	0	0	1.00K	5.00K
GREEN MTN	6/14/2008	13:38	Hail	0.88 in.	0	0	1.00K	5.00K
HAVERHILL	5/19/1998	16:47	Hail	1.00 in.	0	0	1.00K	5.00K
HAVERHILL	10/14/1998	15:20	Hail	0.75 in.	0	0	0.00K	20.00K
Haverhill	7/4/1995	17:45	Tstorm Wind	50 kts.	0	0	3.00K	1.00K
HAVERHILL	4/5/1997	14:20	Tstorm Wind	55 kts.	0	0	50.00K	0.00K
HAVERHILL	7/25/2012	19:37	Tstorm Wind	56 kts. MG	0	0	5.00K	10.00K
LA MOILLE	5/24/2011	15:14	Tstorm Wind	52 kts. EG	0	0	0.00K	0.00K
LA MOILLE	7/11/2011	3:04	Tstorm Wind	70 kts. EG	0	0	50.00K	50.00K

LAUREL	6/4/2005	21:13	Tstorm Wind	52 kts. EG	0	0	5.00K	0.00K
LAUREL	6/29/2005	21:36	Tstorm Wind	57 kts. EG	0	0	5.00K	0.00K
LAUREL	9/7/2012	1:00	Tstorm Wind	52 kts. EG	0	0	10.00K	0.00K
LAUREL	6/12/2001	8:55	Hail	1.75 in.	0	0	25.00K	10.00K
LAUREL	3/8/2006	17:20	Hail	0.75 in.	0	0	0.00K	0.00K
LAUREL	6/8/2011	18:48	Hail	1.75 in.	0	0	5.00K	10.00K
LAUREL	6/8/2011	18:50	Hail	0.75 in.	0	0	0.00K	20.00K
LE GRAND	3/9/2002	0:35	Tstorm Wind	70 kts. E	0	0	50.00K	0.00K
LE GRAND	5/22/2004	20:35	Tstorm Wind	61 kts. EG	0	0	10.00K	0.00K
LE GRAND	10/14/1998	16:02	Hail	0.88 in.	0	0	0.50K	3.00K
LE GRAND	8/16/1987	15:00	Hail	2.00 in.	0	0	0.00K	0.00K
LISCOMB	5/9/2001	21:29	Hail	1.00 in.	0	0	5.00K	0.00K
LISCOMB	4/18/2002	18:10	Hail	0.75 in.	0	0	0.00K	0.00K
LISCOMB	8/25/2003	19:07	Hail	0.88 in.	0	0	2.00K	5.00K
LISCOMB	4/13/2006	18:00	Hail	0.88 in.	0	0	3.00K	0.00K
LISCOMB	8/3/2004	16:30	Tstorm Wind	57 kts. EG	0	0	25.00K	5.00K
LISCOMB	6/17/2009	23:45	Tstorm Wind	57 kts. EG	0	0	15.00K	0.00K
LISCOMB	6/30/2014	12:20	Tstorm Wind	65 kts. EG	0	0	100.00K	5.00K
LURAY	5/8/2009	16:08	Tstorm Wind	56 kts. MG	0	0	0.00K	0.00K
LURAY	6/19/2009	5:30	Tstorm Wind	52 kts. EG	0	0	3.00K	0.00K
LURAY	6/19/2009	5:30	Tstorm Wind	52 kts. EG	0	0	3.00K	0.00K
LURAY	7/11/2011	3:05	Tstorm Wind	75 kts. EG	0	0	150.00K	250.00K
LURAY	5/20/2013	20:23	Tstorm Wind	61 kts. MG	0	0	2.00K	0.00K
MARSHALL CO.	4/16/1960	14:00	Hail	0.75 in.	0	0	0.00K	0.00K
MARSHALL CO.	4/23/1961	10:15	Tstorm Wind	87 kts.	0	0	0.00K	0.00K
MARSHALL CO.	5/11/1962	14:00	Hail	2.00 in.	0	0	0.00K	0.00K
MARSHALL CO.	4/30/1967	16:30	Hail	2.50 in.	0	0	0.00K	0.00K
MARSHALL CO.	6/11/1969	20:20	Hail	2.00 in.	0	0	0.00K	0.00K
MARSHALL CO.	7/8/1971	2:00	Tstorm Wind	69 kts.	0	0	0.00K	0.00K

MARSHALL CO.	6/19/1974	23:35	Hail	1.75 in.	0	0	0.00K	0.00K
MARSHALL CO.	4/14/1976	20:50	Hail	1.75 in.	0	0	0.00K	0.00K
MARSHALL CO.	8/15/1977	17:20	Hail	1.75 in.	0	0	0.00K	0.00K
MARSHALL CO.	6/14/1985	23:25	Hail	0.88 in.	0	0	0.00K	0.00K
MARSHALL CO.	8/6/1985	17:40	Hail	1.00 in.	0	0	0.00K	0.00K
MARSHALL CO.	4/29/1986	16:09	Hail	1.75 in.	0	0	0.00K	0.00K
MARSHALL CO.	5/8/1986	16:25	Tstorm Wind	52 kts.	0	0	0.00K	0.00K
MARSHALL CO.	7/24/1986	22:15	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	7/28/1986	22:00	Tstorm Wind	52 kts.	0	0	0.00K	0.00K
MARSHALL CO.	5/8/1988	11:55	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	7/10/1989	19:10	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	8/5/1989	8:55	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	8/5/1989	9:15	Tstorm Wind	61 kts.	0	0	0.00K	0.00K
MARSHALL CO.	6/2/1990	11:10	Tstorm Wind	60 kts.	0	0	0.00K	0.00K
MARSHALL CO.	6/12/1990	16:12	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	6/19/1990	5:15	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	5/14/1991	9:38	Hail	1.50 in.	0	0	0.00K	0.00K
MARSHALL CO.	7/6/1991	4:46	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	9/12/1991	14:47	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALL CO.	5/16/1992	23:10	Tstorm Wind	70 kts.	0	0	0.00K	0.00K
MARSHALL CO.	6/17/1992	2:36	Tstorm Wind	50 kts.	0	0	0.00K	0.00K
MARSHALLTOWN	7/10/1989	18:47	Hail	1.00 in.	0	0	0.00K	0.00K
MARSHALLTOWN	3/22/1991	17:00	Hail	1.75 in.	0	0	0.00K	0.00K
MARSHALLTOWN	3/27/1991	0:08	Hail	1.75 in.	0	0	0.00K	0.00K
Marshalltown	4/14/1994	20:25	Hail	1.75 in.	0	0	50.00K	0.00K
Marshalltown	6/6/1994	20:12	Tstorm Wind	50 kts.	0	0	5.00K	0.00K
Marshalltown	7/4/1995	17:56	Tstorm Wind	50 kts.	0	0	10.00K	1.00K
MARSHALLTOWN	4/18/1996	12:10	Hail	0.75 in.	0	0	10.00K	0.00K
MARSHALLTOWN	6/5/1997	13:38	Hail	0.75 in.	0	0	1.00K	5.00K
MARSHALLTOWN	6/5/1997	13:40	Hail	1.75 in.	0	0	25.00K	10.00K

MARSHALLTOWN	6/11/1998	13:10	Tstorm Wind	50 kts.	0	0	5.00K	0.00K
MARSHALLTOWN	6/29/1998	12:35	Tstorm Wind	56 kts.	0	0	20.00K	1.00K
MARSHALLTOWN	6/29/1998	12:45	Tstorm Wind	69 kts.	0	0	75.00K	10.00K
MARSHALLTOWN	6/29/1998	12:53	Tstorm Wind	61 kts.	0	0	50.00K	1.00K
MARSHALLTOWN	5/16/1999	20:30	Tstorm Wind	56 kts.	0	0	10.00K	0.00K
MARSHALLTOWN	6/4/1999	10:45	Hail	0.88 in.	0	0	1.00K	5.00K
MARSHALLTOWN	6/8/1999	20:00	Hail	0.88 in.	0	0	2.00K	3.00K
MARSHALLTOWN	6/13/2000	13:05	Tstorm Wind	56 kts. E	0	0	25.00K	1.00K
MARSHALLTOWN	7/26/2000	8:20	Hail	1.75 in.	0	0	25.00K	10.00K
MARSHALLTOWN	7/26/2000	8:30	Hail	1.25 in.	0	0	10.00K	5.00K
MARSHALLTOWN	9/14/2000	1:00	Tstorm Wind	69 kts. E	0	0	100.00K	75.00K
MARSHALLTOWN	4/8/2001	20:27	Hail	0.88 in.	0	0	1.00K	0.00K
MARSHALLTOWN	6/12/2001	4:34	Hail	0.75 in.	0	0	0.00K	5.00K
MARSHALLTOWN	6/12/2001	4:55	Hail	0.75 in.	0	0	0.00K	2.00K
MARSHALLTOWN	7/8/2001	9:35	Tstorm Wind	61 kts. E	0	0	10.00K	3.00K
MARSHALLTOWN	7/8/2001	9:40	Tstorm Wind	65 kts. E	0	0	15.00K	5.00K
MARSHALLTOWN	9/7/2001	14:15	Tstorm Wind	52 kts. E	0	0	5.00K	0.00K
MARSHALLTOWN	3/9/2002	0:26	Tstorm Wind	61 kts. E	0	0	30.00K	0.00K
MARSHALLTOWN	6/17/2002	22:52	Hail	1.00 in.	0	0	5.00K	5.00K
MARSHALLTOWN	6/25/2003	11:30	Tstorm Wind	50 kts. EG	0	0	3.00K	0.00K
MARSHALLTOWN	8/17/2002	3:55	Tstorm Wind	54 kts. E	0	0	10.00K	5.00K
MARSHALLTOWN	5/14/2003	13:44	Hail	1.00 in.	0	0	5.00K	0.00K
MARSHALLTOWN	7/18/2003	3:45	Hail	3.00 in.	0	0	50.00K	25.00K
MARSHALLTOWN	3/24/2004	3:50	Hail	0.75 in.	0	0	0.00K	0.00K
MARSHALLTOWN	8/3/2004	16:27	Tstorm Wind	57 kts. EG	0	0	50.00K	5.00K
MARSHALLTOWN	8/3/2004	16:30	Tstorm Wind	57 kts. EG	0	0	100.00K	5.00K
MARSHALLTOWN	8/26/2004	20:06	Tstorm Wind	50 kts. EG	0	0	1.00K	0.00K
MARSHALLTOWN	8/26/2004	20:10	Tstorm Wind	65 kts. EG	0	0	20.00K	3.00K
MARSHALLTOWN	9/8/2005	12:10	Tstorm Wind	52 kts. EG	0	0	10.00K	0.00K

MARSHALLTOWN	3/8/2006	17:34	Hail	0.88 in.	0	0	2.00K	0.00K
MARSHALLTOWN	3/8/2006	17:35	Hail	0.88 in.	0	0	3.00K	0.00K
MARSHALLTOWN	3/13/2006	0:10	Hail	1.25 in.	0	0	5.00K	0.00K
MARSHALLTOWN	3/21/2007	10:31	Hail	0.75 in.	0	0	0.00K	0.00K
MARSHALLTOWN	3/31/2007	14:45	Tstorm Wind	55 kts. EG	0	0	3.00K	0.00K
MARSHALLTOWN	7/18/2007	17:07	Tstorm Wind	52 kts. EG	0	0	10.00K	0.00K
MARSHALLTOWN	7/18/2007	17:18	Tstorm Wind	52 kts. MG	0	0	3.00K	50.00K
MARSHALLTOWN	7/18/2007	21:05	Hail	0.75 in.	0	0	0.00K	10.00K
MARSHALLTOWN	8/19/2007	19:29	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	8/21/2007	23:08	Tstorm Wind	51 kts. MG	0	0	2.00K	0.00K
MARSHALLTOWN	6/5/2008	0:48	Tstorm Wind	59 kts. MG	0	0	2.00K	0.00K
MARSHALLTOWN	6/5/2008	0:51	Tstorm Wind	67 kts. EG	0	0	20.00K	0.00K
MARSHALLTOWN	6/14/2008	13:31	Tstorm Wind	51 kts. MG	0	0	0.00K	0.00K
MARSHALLTOWN	4/26/2009	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	4/26/2009	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	6/7/2009	19:28	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	6/19/2009	5:35	Tstorm Wind	82 kts. MG	0	0	25.00K	100.00K
MARSHALLTOWN	6/23/2009	15:10	Tstorm Wind	52 kts. EG	0	0	2.00K	0.00K
MARSHALLTOWN	8/9/2009	17:44	Tstorm Wind	65 kts. MG	0	0	10.00K	25.00K
MARSHALLTOWN	8/8/2010	21:38	Tstorm Wind	52 kts. EG	0	0	2.00K	0.00K
MARSHALLTOWN	8/8/2010	21:49	Tstorm Wind	56 kts. EG	0	0	25.00K	0.00K
MARSHALLTOWN	3/22/2011	18:55	Hail	0.88 in.	0	0	0.00K	0.00K
MARSHALLTOWN	7/11/2011	3:09	Tstorm Wind	85 kts. EG	0	0	500.00K	50.00K
MARSHALLTOWN	7/11/2011	3:20	Tstorm Wind	70 kts. MG	0	0	50.00K	50.00K
MARSHALLTOWN	10/12/2011	15:05	Lightning		0	0	10.00K	0.00K
MARSHALLTOWN	4/15/2012	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	6/29/2012	7:09	Hail	0.88 in.	0	0	0.00K	5.00K
MARSHALLTOWN	7/14/2012	13:23	Hail	1.00 in.	0	0	0.00K	5.00K
MARSHALLTOWN	7/14/2012	13:27	Hail	0.88 in.	0	0	0.00K	3.00K
MARSHALLTOWN	7/25/2012	19:43	Tstorm Wind	55 kts. MG	0	0	0.00K	0.00K
MARSHALLTOWN	5/26/2013	6:00	Heavy Rain		0	0	0.00K	0.00K

MARSHALLTOWN	5/29/2013	14:53	Tstorm Wind	59 kts. MG	0	0	5.00K	0.00K
MARSHALLTOWN	6/25/2013	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	7/22/2013	18:45	Tstorm Wind	56 kts. EG	0	0	15.00K	0.00K
MARSHALLTOWN	4/3/2014	18:14	Hail	0.88 in.	0	0	0.00K	0.00K
MARSHALLTOWN	4/3/2014	18:15	Hail	1.00 in.	0	0	0.00K	0.00K
MARSHALLTOWN	4/12/2014	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	6/27/2014	12:15	Tstorm Wind	65 kts. EG	0	0	200.00K	0.00K
MARSHALLTOWN	8/23/2014	4:42	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	8/23/2014	5:17	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	8/23/2014	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	8/23/2014	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	9/1/2014	6:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN	9/1/2014	7:00	Heavy Rain		0	0	0.00K	0.00K
MARSHALLTOWN ARPT	6/15/1997	16:46	Tstorm Wind	55 kts.	0	0	10.00K	0.00K
MARSHALLTOWN ARPT	6/29/1998	12:33	Tstorm Wind	57 kts.	0	0	10.00K	1.00K
MARSHALLTOWN ARPT	7/11/2004	9:53	Tstorm Wind	50 kts. MG	0	0	0.00K	0.00K
MARSHALLTOWN ARPT	8/26/2004	20:06	Tstorm Wind	54 kts. MG	0	0	1.00K	0.00K
MARSHALLTOWN ARPT	6/14/2008	13:30	Tstorm Wind	51 kts. MG	0	0	0.00K	0.00K
MARSHALLTOWN ARPT	7/12/2008	0:29	Tstorm Wind	52 kts. MG	0	0	1.00K	0.00K
MARSHALLTOWN ARPT	6/23/2009	15:12	Tstorm Wind	50 kts. MG	0	0	2.00K	0.00K
MARSHALLTOWN ARPT	5/2/2010	14:08	Tstorm Wind	62 kts. MG	0	0	5.00K	0.00K
MARSHALLTOWN ARPT	5/19/2013	19:12	Tstorm Wind	52 kts. MG	0	0	0.00K	0.00K
MARSHALLTOWN ARPT	6/24/2013	12:11	Tstorm Wind	55 kts. MG	0	0	5.00K	0.00K
MARSHALLTOWN ARPT	5/19/1998	16:50	Hail	1.50 in.	0	0	10.00K	5.00K
MARSHALLTOWN ARPT	6/14/2008	13:25	Hail	0.75 in.	0	0	0.00K	5.00K
MARSHALLTOWN ARPT	5/12/2010	17:52	Hail	1.00 in.	0	0	3.00K	0.00K
MARSHALLTOWN ARPT	5/12/2010	17:55	Hail	0.88 in.	0	0	1.00K	0.00K
MARSHALLTOWN ARPT	6/25/2013	6:00	Heavy Rain		0	0	0.00K	0.00K
MELBOURNE	10/14/1998	15:30	Hail	1.00 in.	0	0	10.00K	100.00K

MELBOURNE	4/8/1999	11:54	Hail	0.88 in.	0	0	2.00K	0.00K
MELBOURNE	4/8/1999	12:02	Hail	0.88 in.	0	0	4.00K	0.00K
MELBOURNE	7/26/2000	5:40	Hail	0.75 in.	0	0	2.00K	10.00K
MELBOURNE	5/10/2001	17:32	Hail	0.88 in.	0	0	3.00K	0.00K
MELBOURNE	5/10/2001	17:36	Hail	0.88 in.	0	0	3.00K	0.00K
MELBOURNE	6/8/2011	17:45	Hail	1.00 in.	0	0	2.00K	10.00K
Melborne	7/4/1995	17:09	Tstorm Wind	52 kts.	0	0	5.00K	1.00K
Melbourne	4/14/1994	22:21	Tstorm Wind	61 kts.	0	0	50.00K	0.00K
MELBOURNE	5/22/2004	19:15	Tstorm Wind	80 kts. EG	0	0	25.00K	0.00K
MELBOURNE	4/18/2006	21:00	Tstorm Wind	52 kts. EG	0	0	2.00K	0.00K
MELBOURNE	6/5/2008	0:23	Tstorm Wind	57 kts. EG	0	0	15.00K	0.00K
QUARRY	7/11/2011	3:13	Tstorm Wind	65 kts. EG	0	0	40.00K	50.00K
RHODES	5/22/2004	19:19	Tstorm Wind	69 kts. EG	0	0	10.00K	0.00K
RHODES	6/26/2011	21:15	Tstorm Wind	52 kts. EG	0	0	5.00K	0.00K
RHODES	10/14/1998	14:45	Hail	0.75 in.	0	0	0.00K	20.00K
RHODES	5/10/2001	17:15	Hail	1.75 in.	0	0	15.00K	0.00K
RHODES	5/10/2001	17:28	Hail	1.50 in.	0	0	15.00K	0.00K
RHODES	8/16/2004	22:49	Hail	0.75 in.	0	0	0.00K	2.00K
ST ANTHONY	5/14/1991	8:53	Hail	0.88 in.	0	0	0.00K	0.00K
ST ANTHONY	5/18/2000	9:33	Hail	1.00 in.	0	0	3.00K	5.00K
ST ANTHONY	8/25/2003	18:52	Hail	0.88 in.	0	0	2.00K	5.00K
ST ANTHONY	8/25/2003	18:54	Hail	1.00 in.	0	0	5.00K	5.00K
ST ANTHONY	8/25/2003	18:57	Hail	1.25 in.	0	0	5.00K	5.00K
ST ANTHONY	6/22/2007	5:30	Lightning		0	0	350.00K	0.00K
ST ANTHONY	6/25/2008	18:33	Hail	1.75 in.	0	0	5.00K	10.00K
STATE CENTER	4/29/1986	16:02	Hail	1.75 in.	0	0	0.00K	0.00K
State Center	4/14/1994	22:25	Hail	1.75 in.	0	0	50.00K	0.00K
STATE CENTER	4/18/1996	12:03	Hail	0.75 in.	0	0	5.00K	0.00K
STATE CENTER	5/30/1998	13:25	Hail	1.75 in.	0	0	10.00K	10.00K
STATE CENTER	5/30/1998	13:35	Hail	2.75 in.	0	0	100.00K	5.00K
STATE CENTER	5/30/1998	13:38	Hail	1.75 in.	0	0	10.00K	10.00K
STATE CENTER	5/30/1998	13:39	Hail	2.75 in.	0	0	50.00K	5.00K
STATE CENTER	6/13/2000	12:35	Hail	1.00 in.	0	0	5.00K	5.00K
STATE CENTER	5/10/2001	17:12	Hail	2.75 in.	0	0	30.00K	0.00K
STATE CENTER	6/12/2001	9:35	Hail	0.75 in.	0	0	0.00K	5.00K
STATE CENTER	6/12/2001	9:52	Hail	1.75 in.	0	0	10.00K	10.00K

STATE CENTER	7/7/2003	18:43	Hail	1.00 in.	0	0	5.00K	10.00K
STATE CENTER	7/7/2003	18:55	Hail	0.88 in.	0	0	3.00K	5.00K
STATE CENTER	3/6/2005	22:04	Hail	0.88 in.	0	0	1.00K	0.00K
STATE CENTER	7/12/2008	0:13	Hail	0.88 in.	0	0	1.00K	10.00K
STATE CENTER	4/2/2010	10:50	Hail	0.88 in.	0	0	0.00K	0.00K
STATE CENTER	4/2/2010	10:55	Hail	0.88 in.	0	0	0.00K	0.00K
STATE CENTER	5/12/2010	13:15	Hail	1.25 in.	0	0	10.00K	0.00K
STATE CENTER	6/8/2011	17:19	Hail	0.88 in.	0	0	0.00K	0.00K
STATE CENTER	6/9/2011	20:10	Hail	1.75 in.	0	0	15.00K	0.00K
STATE CENTER	6/9/2011	20:11	Hail	1.75 in.	0	0	15.00K	0.00K
STATE CENTER	5/25/2013	11:07	Heavy Rain		0	0	0.00K	0.00K
STATE CENTER	5/25/2013	11:46	Heavy Rain		0	0	0.00K	0.00K
STATE CENTER	4/12/2014	20:17	Hail	1.00 in.	0	0	2.00K	0.00K
State Center	8/14/1993	14:25	Tstorm Wind	50 kts.	0	0	5.00K	0.50K
State Center	4/14/1994	22:15	Tstorm Wind	60 kts.	0	0	50.00K	0.00K
STATE CENTER	5/19/1996	17:16	Tstorm Wind	52 kts.	0	0	2.00K	0.00K
STATE CENTER	6/18/1998	13:45	Tstorm Wind	56 kts.	0	0	20.00K	3.00K
STATE CENTER	6/27/1998	22:45	Tstorm Wind	56 kts.	0	0	5.00K	0.50K
STATE CENTER	6/27/1998	22:45	Tstorm Wind	56 kts.	0	0	3.00K	0.00K
STATE CENTER	6/13/2000	17:55	Tstorm Wind	69 kts. E	0	0	75.00K	5.00K
STATE CENTER	4/11/2001	14:53	Tstorm Wind	53 kts. M	0	0	2.00K	0.00K
STATE CENTER	4/11/2001	14:53	Tstorm Wind	53 kts. E	0	0	5.00K	0.00K
STATE CENTER	7/8/2001	9:15	Tstorm Wind	61 kts. E	0	0	10.00K	2.00K
STATE CENTER	7/8/2001	9:25	Tstorm Wind	61 kts. E	0	0	10.00K	2.00K
STATE CENTER	9/7/2001	20:33	Tstorm Wind	57 kts. E	0	0	10.00K	3.00K
STATE CENTER	8/3/2004	16:05	Tstorm Wind	54 kts. EG	0	0	5.00K	0.00K
STATE CENTER	6/20/2005	19:00	Tstorm Wind	52 kts. EG	0	0	3.00K	0.00K
STATE CENTER	6/20/2005	19:10	Tstorm Wind	61 kts. EG	0	0	25.00K	0.00K
STATE CENTER	3/31/2007	14:30	Tstorm Wind	56 kts. EG	0	0	10.00K	0.00K

STATE CENTER	3/31/2007	14:33	Tstorm Wind	56 kts. EG	0	0	10.00K	0.00K
STATE CENTER	7/18/2007	17:06	Tstorm Wind	65 kts. EG	0	0	30.00K	50.00K
STATE CENTER	5/2/2012	1:19	Tstorm Wind	61 kts. EG	0	0	15.00K	0.00K
STATE CENTER	6/20/2012	19:57	Tstorm Wind	61 kts. EG	0	0	15.00K	0.00K
STATE CENTER	5/19/2013	19:18	Tstorm Wind	52 kts. EG	0	0	3.00K	0.00K
STATE CENTER	5/20/2013	19:15	Tstorm Wind	52 kts. EG	0	0	5.00K	0.00K
STATE CENTER	7/22/2013	18:30	Tstorm Wind	52 kts. EG	0	0	5.00K	0.00K
VAN CLEVE	5/20/2014	19:42	Hail	0.88 in.	0	0	0.00K	0.00K

TORNADO								
Location	Date	Time	Type	Mag	Dth	Ini	PrD	CrD
ALBION	8/3/2004	16:20	Tornado	F1	0	0	100.00K	10.00K
BANGOR	06/30/2014	12:15	Tornado	EF0	0	0	50.00K	5.00K
FERGUSON	5/22/2004	19:19	Tornado	F0	0	0	0.00K	1.00K
GILMAN	6/6/1969	22:50	Tornado	F1	0	0	25.00K	0.00K
LE GRAND	5/19/1996	17:30	Tornado	F0	0	0	0.00K	0.00K
MARSHALL CO.	6/1/1951	21:15	Tornado	F3	0	7	0.00K	0.00K
MARSHALL CO.	5/28/1962	21:00	Tornado	F2	0	5	250.00K	0.00K
MARSHALL CO.	6/11/1966	19:45	Tornado	F1	0	0	0.00K	0.00K
MARSHALL CO.	6/11/1969	20:15	Tornado	F2	0	0	25.00K	0.00K
MARSHALL CO.	9/16/1978	19:25	Tornado	F3	0	0	0.00K	0.00K
MARSHALL CO.	4/10/1981	17:55	Tornado	F2	0	9	2.500M	0.00K
MARSHALL CO.	7/11/1987	22:46	Tornado	F0	0	0	2.50K	0.00K
MARSHALL CO.	5/24/1989	18:42	Tornado	F4	0	0	25.000M	0.00K
MARSHALL CO.	5/24/1989	19:40	Tornado	F0	0	0	2.50K	0.00K
MARSHALLTOWN	4/23/1961	10:15	Tornado	F3	0	6	2.500M	0.00K
MARSHALLTOWN	6/6/1969	18:30	Tornado	F2	0	0	25.00K	0.00K
MARSHALLTOWN	6/22/1969	16:25	Tornado	F0	0	0	25.00K	0.00K
MARSHALLTOWN	6/18/1974	20:01	Tornado	F0	0	0	2.50K	0.00K
MARSHALLTOWN	9/12/1991	14:30	Tornado	F1	0	0	25.00K	0.00K
MARSHALLTOWN	6/29/1998	12:50	Tornado	F1	0	0	20.00K	5.00K
MARSHALLTOWN	7/19/2008	19:10	Tornado	EF0	0	0	0.00K	0.00K
MELBOURNE	5/22/2004	19:40	Tornado	F1	0	0	10.00K	5.00K
MELBOURNE	8/26/2004	19:40	Tornado	F1	0	0	50.00K	10.00K

PICKERING	6/8/2008	15:10	Tornado	EF1	0	0	30.00K	2.00K
RHODES	5/30/1998	13:30	Tornado	F1	0	0	2.00K	0.50K
RHODES	4/11/2001	14:51	Tornado	F0	0	0	1.00K	0.00K
ST ANTHONY	06/30/2014	12:05	Tornado	EF1	0	0	150.00K	20.00K
State Center	4/14/1994	22:21	Tornado	F1	0	0	500.00K	0.00K
STATE CENTER	6/13/2000	17:44	Tornado	F1	0	0	150.00K	5.00K
STATE CENTER	9/5/2004	20:17	Tornado	F1	0	0	10.00K	2.00K
STATE CENTER	9/5/2004	20:17	Tornado	F0	0	0	20.00K	5.00K

WINDSTORM								
Location	Date	Time	Type	Mag	Dth	Ini	PrD	CrD
MARSHALL (ZONE)	1/17/1996	21:00	High Wind	55 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	2/10/1996	12:00	High Wind	56 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	3/24/1996	17:00	High Wind	54 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	4/25/1996	9:30	High Wind	52 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	10/29/1996	11:00	High Wind	57 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	4/6/1997	9:00	High Wind	55 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	4/30/1997	12:00	High Wind	52 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	5/5/1997	12:30	High Wind	52 kts.	0	0	0.00K	0.00K
MARSHALL (ZONE)	11/10/1998	2:00	High Wind	61 kts.	0	0	300.00K	5.10K
MARSHALL (ZONE)	3/17/1999	12:00	High Wind	50 kts.	0	0	30.00K	0.00K
MARSHALL (ZONE)	5/10/1999	17:00	High Wind	50 kts.	0	0	25.00K	0.00K
MARSHALL (ZONE)	3/8/2000	11:00	High Wind	50 kts. E	0	0	10.00K	0.00K
MARSHALL (ZONE)	4/7/2001	4:00	High Wind	50 kts. M	0	0	50.00K	0.00K
MARSHALL (ZONE)	11/12/2003	9:00	High Wind	50 kts. EG	0	0	50.00K	0.00K
MARSHALL (ZONE)	1/22/2005	0:15	High Wind	52 kts. MG	0	0	10.00K	0.00K
MARSHALL (ZONE)	5/12/2005	9:30	High Wind	62 kts. MG	0	0	10.00K	0.00K
MARSHALL (ZONE)	6/8/2005	9:00	High Wind	50 kts. EG	0	0	20.00K	0.00K
MARSHALL (ZONE)	1/24/2006	9:30	High Wind	54 kts. MG	0	0	10.00K	0.00K
MARSHALL (ZONE)	5/27/2006	11:30	High Wind	70 kts. EG	0	0	50.00K	0.00K
MARSHALL (ZONE)	10/26/2008	10:30	High Wind	54 kts. MG	0	0	25.00K	25.00K
MARSHALL (ZONE)	10/27/2010	9:00	High Wind	51 kts. MG	0	0	25.00K	0.00K
MARSHALL (ZONE)	1/1/2012	3:00	High Wind	51 kts. MG	0	0	25.00K	0.00K
MARSHALL (ZONE)	3/29/2012	23:30	High Wind	50 kts. MG	0	0	0.00K	0.00K
MARSHALL (ZONE)	5/27/2013	7:30	High Wind	52 kts. MG	0	0	5.00K	0.00K
MARSHALL (ZONE)	1/26/2014	15:00	High Wind	53 kts. MG	0	0	25.00K	0.00K

Extreme Heat Data

Extreme Heat data was obtained from the NCDC Climate Data Online Search at

<http://www.ncdc.noaa.gov/cdo-web/search>. Data was obtained from 1980 to December of 2013.

Data collection stopped at 1993 because 21 years of data gives us adequate information on the occurrence of extreme heat events in Marshall County.

EXTREME HEAT				
<u>Location</u>	<u>Type</u>	<u>Year</u>	<u># of Occurrences</u>	<u>Dates</u>
MARSHALL	Extreme Heat	1993	0	None
MARSHALL	Extreme Heat	1994	0	None
MARSHALL	Extreme Heat	1995	5	6/20 – 6/23, 7/10 – 7/15, 7/27 – 7/30, 8/11 – 8/13, 8/26 – 8/30
MARSHALL	Extreme Heat	1996	1	6/27 – 6/29
MARSHALL	Extreme Heat	1997	2	6/20 – 6/23, 7/15 – 7/20
MARSHALL	Extreme Heat	1998	2	6/25 – 6/28, 7/19 – 7/21
MARSHALL	Extreme Heat	1999	3	7/4 – 7/6, 7/19 – 7/26, 7/29 – 7/31
MARSHALL	Extreme Heat	2000	0	None
MARSHALL	Extreme Heat	2001	2	7/31 – 8/3, 8/5 – 8/10
MARSHALL	Extreme Heat	2002	3	6/30 – 7/2, 7/18 – 7/22, 9/8 – 9/10
MARSHALL	Extreme Heat	2003	2	8/16 – 8/19, 8/25 – 8/28
MARSHALL	Extreme Heat	2004	0	None
MARSHALL	Extreme Heat	2005	3	6/23 – 6/25, 7/15 – 7/18, 7/23 – 7/26
MARSHALL	Extreme Heat	2006	2	7/16 – 7/18, 7/29 – 8/2
MARSHALL	Extreme Heat	2007	0	None
MARSHALL	Extreme Heat	2008	0	None
MARSHALL	Extreme Heat	2009	0	None
MARSHALL	Extreme Heat	2010	1	8/11 – 8/13
MARSHALL	Extreme Heat	2011	3	6/7 – 6/9, 7/17 – 7/21, 8/1 – 8/3
MARSHALL	Extreme Heat	2012	8	6/19 – 6/21, 7/1 – 7/8, 7/16 – 7/19, 7/23, 7/24, 7/26, 8/2 – 8/4, 8/30 – 9/1
MARSHALL	Extreme Heat	2013	2	7/17 – 7/20, 8/26 – 8/31
MARSHALL	Extreme Heat	2014	0	None

Hazardous Materials Data

Data on hazardous materials spills was collected from the Iowa DNR's Hazardous Spills Summary Report database at <https://programs.iowadnr.gov/hazardousspills/Reports/SpillSummary.aspx>. Data from the earliest available records (1995) through December 2013 was obtained.

Hazardous Materials



Iowa Department Of Natural Resources Hazardous Spill Summary Report

Spill Number	Reported Date	County	Responsible Party	Mode	Type	Land	Air	Ground water	Srvc Water	Material Name	Amount	Unit
010795-KL-1221	1/7/1995 12:21	Marshall	TRANSPORTATION CO.,C.N.W.	Railroad	Petroleum	x	-	-	-	Diesel Fuel		Unknown
032295-KL-1410	3/22/1995 14:10	Marshall	UTILITIES,IES	Handling Storage Process	Acids/Bases	-	-	-	-	SULFURIC ACID		Unknown
041895-SG-1205	4/18/1995 00:00	Marshall	IES,	Motor Carrier	Acids/Bases	x	-	-	-	ETHELENE GLYCOL		Unknown
050795-SM-2005	5/7/1995 20:05	Marshall	CO. R.E.C.,GRUNDY	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
051695-KL-1645	5/16/1995 16:45	Marshall	TRANSPORTATION,RUAN	Motor Carrier	Acids/Bases	x	-	-	-	MAGNESIUM BISULFITE		Unknown
060895-KL-2255	6/8/1995 20:55	Marshall	RIVER FS,IOWA	Motor Carrier	Acids/Bases	x	-	-	-	SENCOR; GRAMOXONE		Unknown
061895-SM-2334	6/18/1995 23:34	Marshall	UTILITIES,IES	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
070795-RK-1453	7/7/1995 14:53	Marshall	BACCAM,QUINN	Motor Carrier	Petroleum	-	-	x	-	Waste Oil		Unknown
071495-KL-1547	7/14/1995 15:47	Marshall	UTILITIES,IES	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
082095-SM-2125	8/20/1995 21:25	Marshall	RIVER FS,IOWA	Handling Storage Process	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia		Unknown
082495-KL-1545	8/24/1995 15:45	Marshall	UTILITIES,IES	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
082895-RK-1610	8/28/1995 16:10	Marshall	UTILITIES,IES	Transformer	Acids/Bases	x	-	-	-	TRANSFORMER		Unknown
082995-SM-0841	8/29/1995 08:41	Marshall	RIVER FS,IOWA	Handling Storage Process	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia		Unknown
082995-KL-1235	8/29/1995 12:35	Marshall	UNKNOWN,	Motor Carrier	Acids/Bases	x	-	-	-	UNKNOWN - POSSIBLE DRIED ASPHALT		Unknown

090595-KL-0935	9/5/1995 09:35	Marshall	RIVER F.S.,IOWA	Handling Storage Process	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia		Unknown
101295-SM-1158	10/12/1995 11:58	Marshall	UTILITIES,IES	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
121395-KL-0630	12/13/1995 06:30	Marshall	PACKING - STEVE STODDEN (EXT 292),SWIFT	Handling Storage Process	Acids/Bases	x	x	-	-	ANHYDROUS AMMONIA; OIL		Unknown
122095-SM-1010	12/20/1995 10:10	Marshall	& GO,KUM	Handling Storage Process	Petroleum	x	-	-	-	Gasoline		Unknown
122895-JC-1130	12/28/1995 11:30	Marshall	& GO,KUM	Handling Storage Process	Petroleum	x	-	-	-	Diesel Fuel		Unknown
020596-SM-0217	2/5/1996 02:17	Marshall	SWIFT,	Handling Storage Process	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia		Unknown
022096-SM-1218	2/20/1996 12:18	Marshall	Unknown	Motor Carrier	Petroleum	x	-	-	-	Diesel Fuel		Unknown
022696-SM-0815	2/26/1996 08:15	Marshall	RIVER FS,IOWA	Handling Storage Process	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia		Unknown
042696-RK-2055	4/26/1996 20:55	Marshall	REIMERS,JOHN	Handling Storage Process	Acids/Bases	x	-	-	-	Concrete sealer		Unknown
053196-KL-1427	5/31/1996 14:27	Marshall	CONTROLS,FISCHER	Handling Storage Process	Petroleum	x	-	-	-	#2 Fuel Oil		Unknown
061496-KL-2222	6/14/1996 22:22	Marshall	UTILITIES,IES	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
071996-SM-1025	7/19/1996 10:25	Marshall	RIVER FS,IOWA	Motor Carrier	Petroleum	x	-	-	-	Diesel Fuel		Unknown
012397-RK-1000	1/23/1997 10:00	Marshall	MENARDS,	Handling Storage Process	Acids/Bases	x	-	-	-	ORTHO WEED-B-GONE		Unknown
051397-KL-1800	5/13/1997 18:00	Marshall	CENTURY FS,NEW	Motor Carrier	Acids/Bases	x	-	-	-	PROWL - CONCENTRATED		Unknown
071797-KL-1520	7/17/1997 15:20	Marshall	UTILITIES,IES	Handling Storage Process	Petroleum	x	-	-	-	Diesel Fuel		Unknown
072697-RK-0932	7/26/1997 09:32	Marshall	PACIFIC RAILROAD,UNION	Railroad	Petroleum	x	-	-	-	Diesel Fuel		Unknown
072897-SD-0955	7/28/1997 09:55	Marshall	VETERANS HOSPITAL,IOWA	Handling Storage Process	Acids/Bases	x	-	-	-	HYDROCHLORIC ACID, 20% SOLUTION		Unknown
100297-SD-1157	10/2/1997 11:57	Marshall	CHEMLAWN,TRUGREEN	Motor Carrier	Acids/Bases	x	-	-	-	DILUTED FERTILIZER & BROADLEAF WEED CONTROL		Unknown
101697-KL-1731	10/16/1997 17:31	Marshall	COOP,GILMAN	Handling Storage Process	Petroleum	-	-	-	-	Heating Oil		Unknown

111497-RK-0900	11/14/1997 09:00	Marshall	MART, COASTAL	Handling Storage Process	Petroleum	x	-	-	-	Gasoline		Unknown
120597-RK-1115	12/5/1997 11:15	Marshall	PACIFIC, UNION	Railroad	Acids/Bases	x	-	-	-	AMMONIUM NITRATE PELLETS		Unknown
012798-RK-1630	1/27/1998 16:30	Marshall	UTILITIES, IES	Handling Storage Process	Acids/Bases	x	-	-	-	#1 AND FUEL OIL (WASTE OIL)		Unknown
022598-SD-0910	2/25/1998 09:10	Marshall	YOUNG, ROYAL	Handling Storage Process	Petroleum	x	-	-	-	Diesel Fuel		Unknown
062998-RK-1751	6/29/1998 17:51	Marshall	ALLIANT,	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
071098-KL-1552	7/10/1998 15:52	Marshall	Unknown	Handling Storage Process	Other Chemical	-	x	-	-	Nox		Unknown
102198-KL-0830	10/21/1998 08:30	Marshall	SYSTEMS, NUTRIJECT	Motor Carrier	Animal/Vegetable Product	x	-	x	-	Biosolids		Unknown
102498-KL-1924	10/24/1998 19:24	Marshall	HAULING, SPECIALIZED	Motor Carrier	Acids/Bases	x	-	-	-	RENDERING PARTS		Unknown
102898-KL-1346	10/28/1998 13:46	Marshall	INDUSTRIES, LENNOX	Handling Storage Process	Other Chemical	x	x	-	-	Nox		Unknown
111398-KL-1340	11/13/1998 13:40	Marshall	G & E, ALLIANT	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil		Unknown
112298-RK-0933	11/22/1998 09:33	Marshall	UNKNOWN,	Motor Carrier	Acids/Bases	x	-	x	-	GASOLINE AND HYDRAULIC OIL		Unknown
041500-CWO-1318	4/15/2000 13:18	Marshall	Cenex	Handling And Storage	Inorganic Chemical	-	-	x	-	Ammonium lignosulphonate	5000	gal
052200-DLP-2137	5/22/2000 21:37	Marshall	Alliant Energy	Transformer	Acids/Bases	x	-	-	-	Transformer oil PCB	10	gal
101000-CWO-0845	10/10/2000 08:45	Marshall	Presto-X	Handling And Storage	Inorganic Chemical	-	x	x	-	Aluminum phosphide	1	unk
112100-DLP-0840	11/21/2000 08:40	Marshall	Unknown	Transformer	Petroleum	x	-	-	-	Hydraulic Oil	1	gal
123000-KAL-1326	12/30/2000 13:26	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	Transformer mineral oil	1	gal
011201-CWO-1105	1/12/2001 11:05	Marshall	Central Counties Cooperative	Theft	Fertilizer/Pesticide	x	x	-	-	Ammonia (anhydrous) - Agricultural	2500	lbs
020701-CWO-2210	2/7/2001 22:10	Marshall	Union Pacific Railroad	RR Incident	Petroleum	x	-	-	-	Diesel Fuel	100	gal
022801-KAL-0825	2/28/2001 08:25	Marshall	Unknown	Handling And Storage	Petroleum	x	-	-	-	Diesel Fuel	100	gal
033001-DLP-0755	3/30/2001 07:55	Marshall	Unknown	Handling And Storage	Animal/Vegetable Product	x	-	-	-	Emulsion Oil	100	gal
040301-DLP-1105	4/3/2001 11:05	Marshall	Koch Fertilizer Storage and Terminal	Handling And Storage	Fertilizer/Pesticide	-	x	-	-	Ammonia (anhydrous) - Agricultural	5770	lbs
042101-DLP-1758	4/21/2001 17:58	Marshall	Richard Roston	Transportation	Fertilizer/Pesticide	-	x	-	-	Ammonia (anhydrous) - Agricultural	2000	lbs

062101-DLP-1330	6/21/2001 13:30	Marshall	Allamakee County	Handling And Storage	Fertilizer Pesticide	-	x	-	-	Tetramethrin	1	lbs
071001-WCG-1420	7/10/2001 14:20	Marshall	Unknown	Transportation	Transformer oil/PCB	x	-	-	-	Non-PCB Transformer Oil	1	gal
072701-KAL-1259	7/27/2001 12:59	Marshall	Unknown	Transformer	Acids/Bases	x	-	-	-	Transformer oil PCB	1	gal
090501-KAL-0935	9/5/2001 09:35	Marshall	Unknown	Handling And Storage	Fertilizer/ Pesticide	x	-	-	-	Tri-Power	1	gal
122401-DLP-1030	12/24/2001 10:30	Marshall	Bee Rite Tire Service	Fire	Inorganic Chemical	-	x	-	-	Tires	1000	Unknown
011602-KAL-1019	1/16/2002 10:19	Marshall	New Century FS	Handling And Storage	Petroleum	x	-	-	-	Unleaded gasoline	1	unk
030402-DLP-1933	3/4/2002 19:33	Marshall	Union Pacific Railroad	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil	4	gal
032602-DLP-2029	3/26/2002 20:29	Marshall	Central Counties Cooperative	Handling And Storage	Fertilizer/ Pesticide	-	x	-	-	Ammonia (anhydrous) - Agricultural	55	lbs
032702-WCG-1340	3/27/2002 13:40	Marshall	Customer Coop	Handling And Storage	Petroleum	x	-	-	-	Diesel Fuel	3	gal
040102-DLP-0855	4/1/2002 08:55	Marshall	Martin Brothers Distributing	Transportation	Petroleum	x	-	-	-	Diesel Fuel	50	gal
041002-DLP-1200	4/10/2002 12:00	Marshall	Unknown	Handling And Storage	Fertilizer Pesticide	x	-	-	-	MCPA Ester		unk
										Pendimethalin		unk
					Fertilizer/ Pesticide					Fertilizer-NPK	1	qt
										Tri-Power	1	unk
052802-DLP-1225	5/28/2002 12:25	Marshall	Unknown	Handling And Storage	Petroleum	x	-	-	-	Mineral oil	1	pt
062802-CWO-1145	6/28/2002 11:45	Marshall	Bill Smith	Transportation	Petroleum	x	-	-	-	Diesel Fuel	50	gal
071402-KAL-1035	7/14/2002 10:35	Marshall	Janet Hopkins Residence	Handling And Storage	Petroleum	x	-	-	-	Heating Oil	1	unk
071502-CWO-0910	7/15/2002 09:10	Marshall	Alliant Energy	Transformer	Acids/Bases	x	-	-	-	Transformer oil PCB	7	gal
082102-CWO-1450	8/21/2002 14:50	Marshall	JMT Trucking	Transportation	Petroleum	x	-	-	-	Diesel Fuel	20	gal
082502-CWO-1418	8/25/2002 14:18	Marshall	Unknown	Transformer	Acids/Bases	x	-	-	-	Transformer oil PCB	5	gal
090202-KAL-2051	9/2/2002 20:51	Marshall	Unknown	Transportation	Petroleum	x	-	-	-	Diesel Fuel	1200	gal
102902-DLP-1430	10/29/2002 14:30	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil	1	gal
022503-JS1-1740	2/25/2003 17:40	Marshall	Lennox Industries	Other	Propane/ LPG/Natural Gas	x	x	-	-	Liquid Propane	1	unk
022703-DLP-1802	2/27/2003 18:02	Marshall	Lennox Industries	Handling And Storage	Propane/ LPG/Natural Gas	-	x	-	-	Propane	1	lbs
062603-AHB-1147	6/26/2003 11:47	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil	17	gal
082603-RLT-1440	8/26/2003 14:40	Marshall	Casey's General Stores, Inc.	Transportation	Petroleum	x	-	-	-	Gasoline	8500	gal

091503-RLT-1037	9/15/2003 10:37	Marshall	Sheets Excavating	Transportation	Petroleum	x	-	-	-	Diesel Fuel	30	gal
111403-AHB-0950	11/14/2003 09:50	Marshall	Lieboeich/PDM Steel & Aluminum	Transportation	Petroleum	x	-	-	-	Diesel Fuel	70	gal
031804-AHB-1102	3/18/2004 11:02	Marshall	Mann Trucking Co	Transportation	Petroleum	x	-	-	-	Motor oil	5	qt
										Soybeans	0	unk
040604-AHB-0847	4/6/2004 08:47	Marshall	New Century FS	Transportation	Ammonia (anhydrous)	x	x	-	-	Anhydrous ammonia	4000	lbs
072404-DJA-1743	7/24/2004 17:43	Marshall	Alliant Energy	Handling And Storage	Transformer oil/PCB	x	-	-	-	Transformer oil - PCB	10	gal
080304-JEL-1940	8/3/2004 19:40	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia /Ag-related	x	-	-	-	Ammonia	0	Unknown
080604-DLP-1830	8/6/2004 18:30	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil	10	gal
091304-AHB-0803	9/13/2004 08:03	Marshall	Mid-Iowa Cooperative	Theft	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	875	lbs
100704-RLT-1028	10/7/2004 10:28	Marshall	Tru-Green (formerly Tru-Green Chemlawn)	Handling And Storage	Fertilizer/Pesticide	x	-	-	-	Fertilizer Solution	10	gal
100704-AHB-1221	10/7/2004 12:21	Marshall	Lennox Industries	Handling And Storage	Propane/LPG/Natural Gas	x	-	-	-	Liquid Propane	1	unk
102804-RLT-1700	10/28/2004 17:00	Marshall	Koch Nitrogen Company	Pipeline	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	1550	lbs
013105-AHB-1616	1/31/2005 16:16	Marshall	Mid-Iowa Cooperative	Theft	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	100	lbs
020705-DLP-0415	2/7/2005 04:15	Marshall	Union Pacific Railroad			-	-	-	-			
022205-RLT-0840	2/22/2005 08:40	Marshall	Central Counties Cooperative	Theft	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	100	lbs
040705-AHB-0805	4/7/2005 08:05	Marshall	New Century Coop	Handling And Storage	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	99	lbs
040705-DLP-2241	4/7/2005 22:41	Marshall	New Century Farms	Handling And Storage	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	1	lbs
041405-WCG-0740	4/14/2005 07:40	Marshall	New Century Coop	Theft	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia vapor	1	unk
041405-AHB-1031	4/14/2005 10:31	Marshall	K & R Express	Transportation	Petroleum	x	-	-	-	Motor oil	44	qt
051305-CEC-1653	5/13/2005 16:53	Marshall	Des Moines HazMat	Other	Inorganic Chemical	-	x	-	-	Lithium metal	1	lbs
052605-AHB-0910	5/26/2005 09:10	Marshall	A & K Enterprises	Transportation	Petroleum	x	-	-	-	Diesel Fuel	90	gal
072405-DLP-1852	7/24/2005 18:52	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia /Ag-related	-	x	-	-	Ammonia	1	lbs
080605-DJA-1937	8/6/2005 19:37	Marshall	Dusty's Spraying Service	Transportation	Fertilizer Pesticide	x	-	-	-	Lorsban	2	gal
082205-TAP-1300	8/22/2005 13:00	Marshall	Git-N-Go	Handling And Storage	Petroleum	x	-	-	-	#2 Diesel Fuel	30	gal
092105-DJA-1240	9/21/2005 12:40	Marshall	Alliant Energy	Handling And Storage	Petroleum	x	-	-	-	#2 Diesel Fuel	0	gal

092205-DJA-0247	9/22/2005 02:47	Marshall	Alliant Energy	Handling And Storage	Transformer oil/PCB	x	-	-	-	transformer oil-low PCB (< 2 ppm)	1	gal
110305-JAT-1210	11/3/2005 12:10	Marshall	Ruan Leasing Co.	Handling And Storage	Animal/Vegetable Product	x	-	-	-	Liquid egg	53000	lbs
110905-AHB-0916	11/9/2005 09:16	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia /Ag-related	-	x	-	-	Ammonia	20	lbs
013106-DLP-0631	1/31/2006 06:31	Marshall	Mace Trucking	Transportation	Petroleum	x	-	-	-	Diesel Fuel	75	gal
020906-RLT-1445	2/9/2006 14:45	Marshall	Ruan Transportation	Handling And Storage	Petroleum	x	-	-	-	Diesel Fuel	30	gal
042706-JAT-1830	4/27/2006 18:30	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	PCB oil	30	gal
081006-AHB-0838	8/10/2006 08:38	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	1	unk
081006-WCG-0910	8/10/2006 09:10	Marshall	Koch Pipeline Company	Pipeline	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	30	lbs
081506-AHB-1359	8/15/2006 13:59	Marshall	Eggers Farms	Manure	Manure	x	-	-	-	Liquid hog manure	6000	gal
082206-CWF-1650	8/22/2006 16:50	Marshall	Martin Marietta Aggregates	Fire	Petroleum	x	-	-	-	Engine oil	9	gal
091806-RLT-0932	9/18/2006 09:32	Marshall	JBS (Swift & Co.)	Transportation	Petroleum	x	-	-	-	Diesel Fuel	3	gal
102706-RLT-1224	10/27/2006 12:24	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia /Ag-related	-	x	-	-	Ammonia	1	unk
103006-AHB-1139	10/30/2006 11:39	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia /Ag-related	-	x	-	-	Ammonia	118	lbs
					Inorganic Chemical					NO x	32	lbs
110706-TAP-2323	11/7/2006 23:23	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia /Ag-related	-	x	-	-	Ammonia	0	Unknown
022407-WCG-1435	2/24/2007 14:35	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	0	Unknown
022507-WCG-0235	2/25/2007 02:35	Marshall	Koch Nitrogen Company			-	-	-	-			
032607-RLT-0906	3/26/2007 09:06	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	transformer oil-low PCB (< 2 ppm)	1	unk
043007-KAL-1018	4/30/2007 10:18	Marshall	Consumers Energy	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil	1	gal
043007-TAP-1715	4/30/2007 17:15	Marshall	Koch Nitrogen Company	Handling And Storage	Fertilizer/Pesticide	-	x	-	-	Ammonia (anhydrous) - Agricultural	0	Unknown
050807-RLT-1018	5/8/2007 10:18	Marshall	Koch Nitrogen Company	Handling And Storage	Ammonia (anhydrous)	-	x	-	-	Anhydrous ammonia	900	lbs
051607-AHB-1256	5/16/2007 12:56	Marshall	Consumers Energy	Transformer	Transformer oil/PCB	x	-	-	-	transformer non PCB	62	gal
053007-RLT-1238	5/30/2007 12:38	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil	25	gal
053107-RLT-1317	5/31/2007 13:17	Marshall	Corkery, inc.	Transportation	Petroleum	x	-	-	-	Hydraulic Fluid	30	gal
060107-JS1-0029	6/1/2007 00:29	Marshall	Alliant Energy	Transformer	Transformer oil/PCB	x	-	-	-	Transformer Oil	1	unk