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Knoxville Community School District Profile



Marion County, Iowa
Hazard Mitigation Plan

2023

Local Planning Team

The Knoxville Community School District's local planning team for the hazard mitigation plan are listed in the table below along with the meetings attended. All planning worksheets were filled out and returned by members of the local planning team.

Table KSD.1. Local Planning Team

NAME	TITLE	JURISDICTION
Cassi Pearson	Superintendent	Knoxville CSD
Craig Mobley	Business Manager	Knoxville CSD
Troy Pearson	Director of Facilities & Operations	Knoxville CSD
Jeff Anderson	Director	Marion County Emergency Management Agency

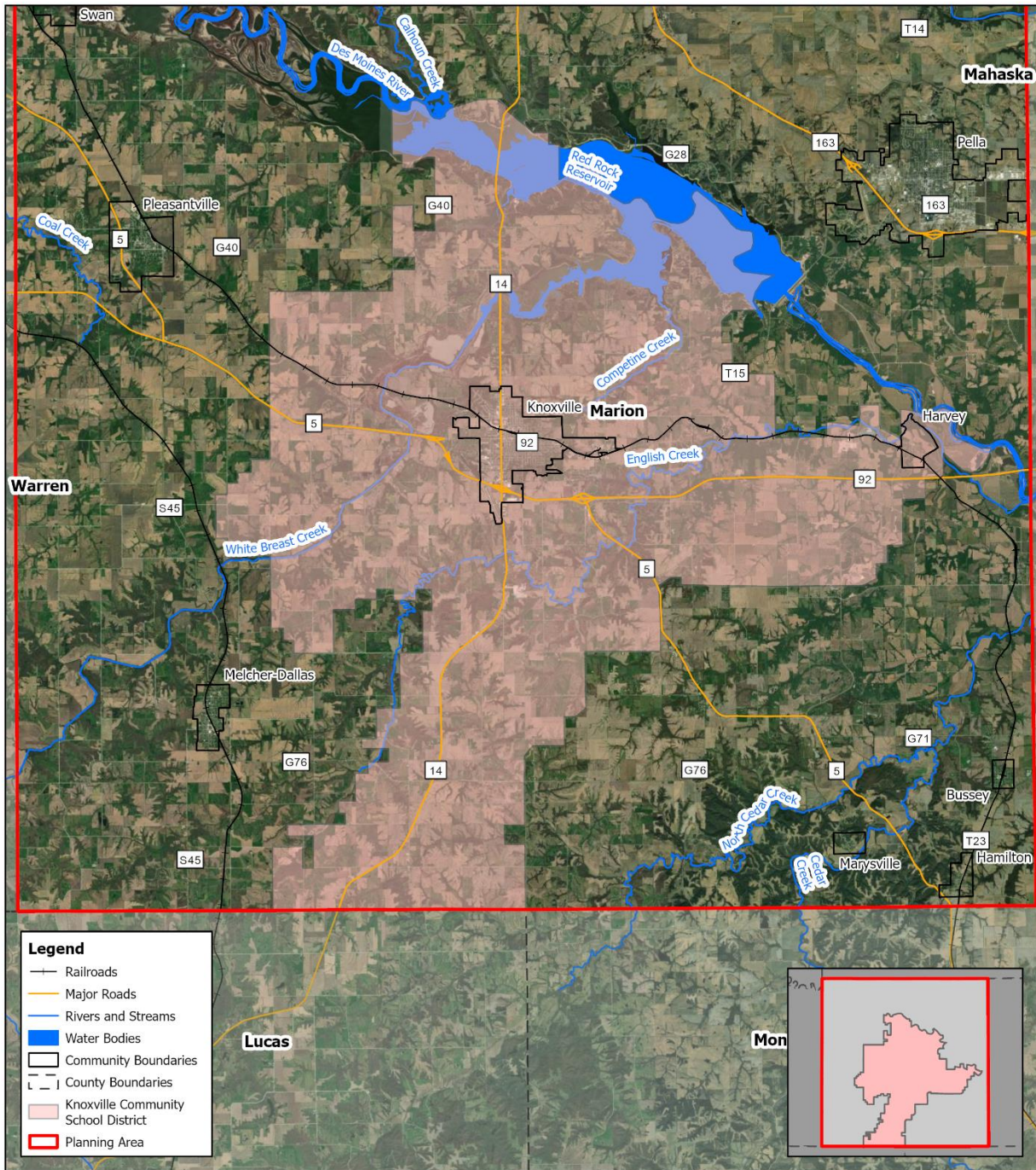
Location and Geography

The Knoxville Community School District is a rural school district located in the City of Knoxville, Marion County, in south central Iowa. Knoxville is located 37 miles southeast of Des Moines along State Highway 5, about five miles south of Lake Red Rock. The population of Knoxville, per the 2020 Decennial Census county, is 7,595.

The school district offices are located at 418 South Park Lane Dr., Knoxville, Iowa, 50138. The district is comprised of four schools: West Elementary, NorthStar Elementary, Knoxville Middle School, and Knoxville High School. West Elementary serves preschool through 1st grade and NorthStar Elementary serves 2nd through 5th grades. The district's website is <https://www.knoxville.k12.ia.us>.

Knoxville Schools provides service to all families in and around the City of Knoxville and Harvey. Students may open enroll in the school district from nearby communities of Bussey, Chariton, Columbia, Dallas, Hamilton, Leighton, Melcher, Milo, Melrose, Monroe, Newton, Pella, Pleasantville, Prairie City, Russel, and Tracy. Besides English, Spanish and Ukrainian are spoken within the school district.

Figure KSD.1: School District Boundary

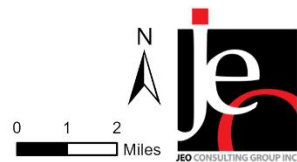


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Knoxville Community School District

Jurisdiction Boundary

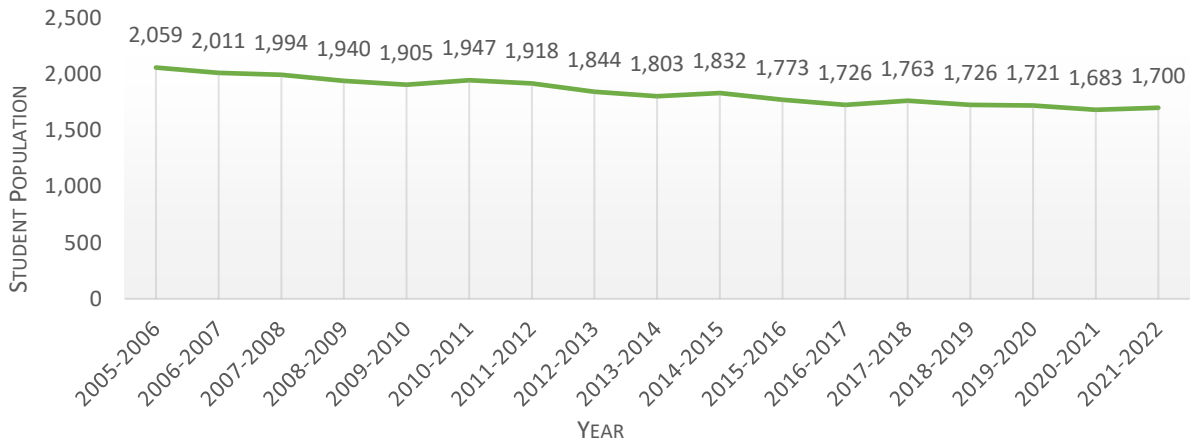
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Demographics

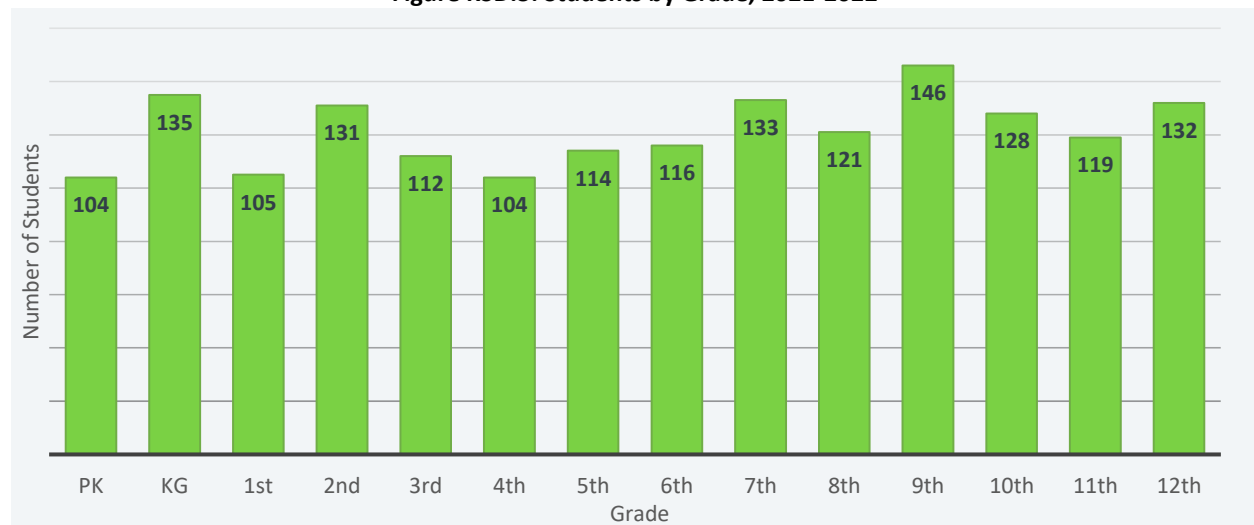
The following figure displays the historical student population trend starting with the 2005-06 school year and ending with the 2021-22 year. This data indicates that the student population has remained stable since 2015. There are currently 1,760 students enrolled in the Knoxville Community School District for the 2022-2023 school year. The below figure indicates the largest number of students in the 2021-2022 school year were in 9th grade, followed by Kindergarten and 6th grade. The lowest number of students were in Pre-Kindergarten and 4th grade.

Figure KSD.2: Student Population 2006-2022



Source: Iowa Department of Education

Figure KSD.3: Students by Grade, 2021-2022



Administration

The Knoxville School District is run by a superintendent, four principals, and two assistant principals. Additionally, the district employs 10 directors, 142 teachers, 123 staff, and 19 citizen coaches. The district also has relationships with various external departments that may be available to implement hazard mitigation initiatives including the District Emergency Operations Planning Committee and Marion County EOP Team.

Capabilities

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table KSD.2: Capability Assessment

SURVEY COMPONENTS		YES/NO
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	Yes
	Disaster Response Plan	Yes
	Other (if any)	
Administrative & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Staff who can assess jurisdictional vulnerability to hazards	No
	Grant Manager	No
	Mutual Aid Agreements	Yes
	Other (if any)	
Fiscal Capability	Applied for grants in the past	Yes
	Awarded grants in the past	Yes
	Authority to levy taxes or bonds for specific mitigation projects	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds in place	Yes
	Flood Insurance	No
	Other (if any)	
Education & Outreach	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.).	No
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	No
	StormReady Certification	No
	Other (if any)	
Drills	Fire	4/yr
	Tornado	4/yr
	Intruder	2/yr
	Bus Evacuation	2/yr
	School Evacuation	2/yr
	Other (if any)	

Table KSD.3: Overall Capability

OVERALL CAPABILITY	
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Moderate
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

School Drills and Staff Training

The school district uses Standard Response Protocols and conducts safety drills annually for staff and students, including:

- Hold Drills – twice a year
- Secure Drills – twice a year
- Lockdown Drills – twice a year
- Evacuation Drills – four per year
- Shelter Drills – four per year
- Bus Evacuation Drills – twice a year

Additionally, the district provides in-person trainings for all staff members. Students and families are educated on emergency procedures through direct instructions, parent letters, videos, and emails. In the event of an emergency, parents and staff are alerted through an alert notification system that utilizes text messages, phone calls, and email options that guardians can choose at their own preference. The alert system is ADA compliant and offers translations to other languages.

Plan Integration

The district has limited planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan or how it contains hazard mitigation principles. When the district updates these planning mechanisms, the local planning team will review the hazard mitigation plan for opportunities to incorporate the goals and objectives, risk and vulnerability data, and mitigation actions into the plan update.

Crisis Response Plan

Knoxville CSD maintains a Crisis Response Plan which was last updated in 2022. The plan outlines the chain of command for crisis situations, communication procedures during an emergency, crisis management procedures, safety precautions and emergency preparedness measures, and building security procedures. The crisis response section of this plan outlines the procedures for managing the following events:

- Evacuation/Relocation
- Location
- Reverse Evacuation
- Severe Weather Shelter
- Shelter In-Place
- Student Reunification/Release
- Assault
- Bomb Threat
- Demonstration/ Student Unrest
- Fire
- Hazardous Materials
- Hostage
- Intruder
- Media Inquiry

- Medical Emergency
- Severe Weather
- Sexual Assault
- Armed Assailant
- Suicide Threat/Attempt
- Suspicious Package
- Threat
- Weapons

The district’s superintendent is the main actor in overseeing the implementation of mitigation actions in school facilities. Mitigation actions will be incorporated into annual budgets as opportunities allow. Annual budgets allow for ongoing maintenance of infrastructure and maintaining critical assets.

Grants and Funding

According to the local planning team, the school district maintains a five-year capital project plan that designated funds for ongoing maintenance, equipment purchases, and/or for special projects. The team also reports that district funds have remained stable over recent years with most funds being limited to current projects and maintenance. Currently a large portion of district funds are dedicated to renovating the Randy Wilson Track and preparing for the construction of a new upper elementary school building. The school district applied for and received several small local grants for project such as musical instruments, playground equipment, and student projects and participates in the statewide school safety grant program that provides each school building with \$50,000 for school safety projects.

Future Development Trends

In the past five years, the Knoxville Community School District constructed a new middle school that is attached to the high school and includes the district offices. After the construction of this new school, the old middle school is no longer occupied, and the administration building is being prepared for sale. According to the local planning team, the new middle school building includes a storm shelter and solar panels have been installed at all district building locations. In the next five years there are plans to renovate or replace the NorthStar Elementary school building.

Community Lifelines

Community lifelines are vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction’s functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



Table KSD.4: Community Lifelines

CF#	CRITICAL FACILITY NAME	ADDRESS	# OF STUDENTS	# OF STAFF	GENERATOR (Y/N)	SHELTER LOCATION (Y/N)	HAZARD TYPE CONCERNS AND NOTES
1	West Elementary	306 S Park Lane Drive	426		N	N	
2	NorthStar Elementary	407 W Larson	330		N	N	
3	Knoxville Middle School	413 Willets Drive	370		Y	Y	
4	Knoxville High School	1811 W Madison	525		Y	N	
5	Bus Barn	102 N Lincoln	N/A	N/A	N	N	
6	Maintenance Shop	305 Panther Drive	N/A	N/A	N	N	
7	District Office	418 S Park Lane Drive			N	N	

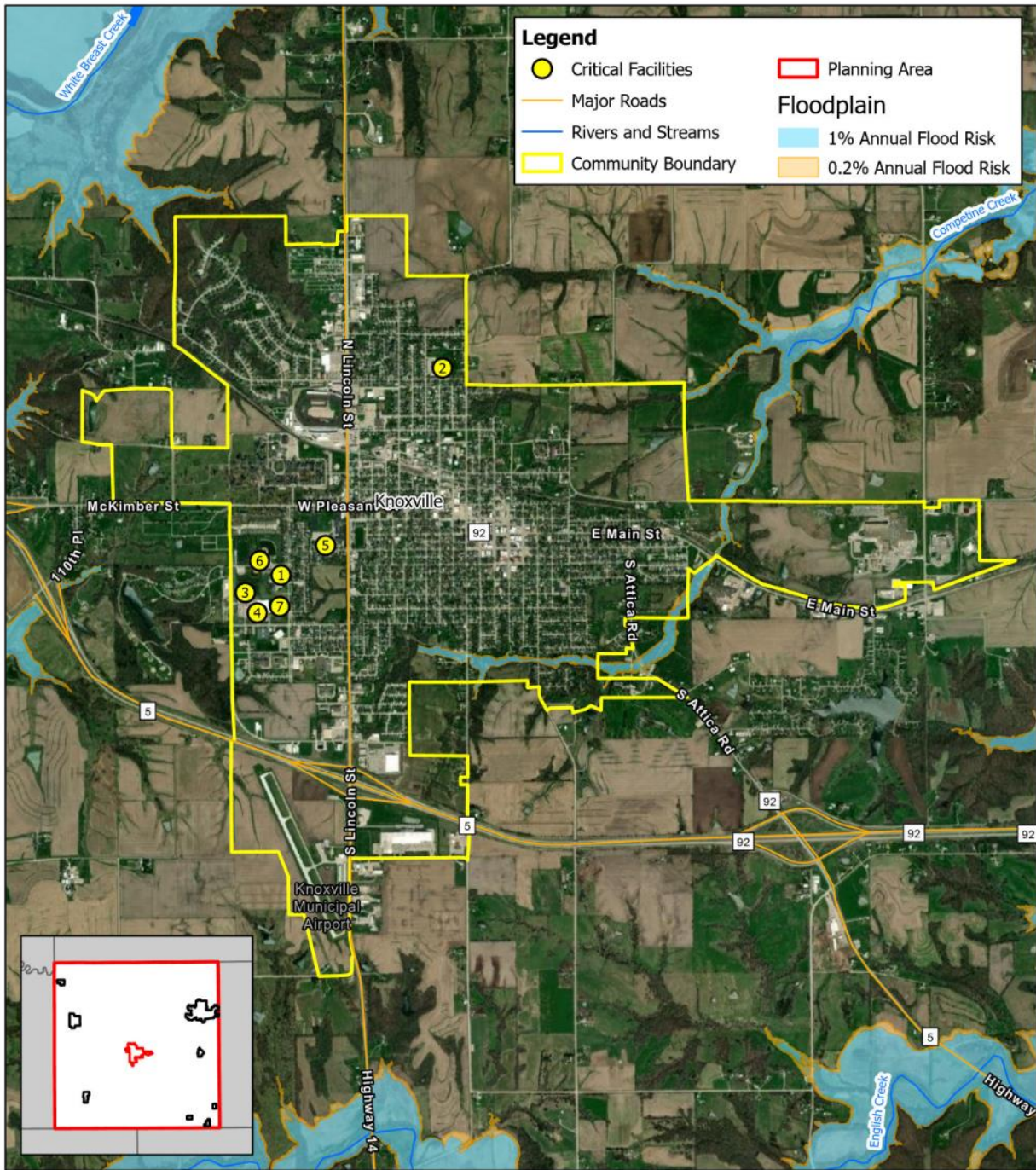
Transportation

The Knoxville Community Schools are located off Highway 14. According to the local planning team there are no specific transportation routes of concern, but the district's highest concerns are regarding bus routes. The districts bus routes are mostly gravel which poses potential problems during winter and turn soft in the spring. The district owns 18 buses and transports approximately 300 rural students and 150 town students to and from school.

Hazardous Materials – Chemical Storage Fixed Sites

According to the local planning team, there are no chemical storage facilities of concern in or near the school district buildings. According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are nine hazardous materials chemical sites within or near Knoxville, but none are near the Knoxville Community School buildings. The planning team reports no history of chemical spills occurring in the school district. If a chemical spill were to occur, the Knoxville Fire Department would be first to respond to the incident.

Figure KSD.2: Critical Facilities



Legend

- Critical Facilities
- Major Roads
- Rivers and Streams
- Community Boundary
- Planning Area

Floodplain

- 1% Annual Flood Risk
- 0.2% Annual Flood Risk

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Knoxville School District

Critical Facility Map

N

0 1,500 3,000 Feet

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Hazard Prioritization

The Marion County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Knoxville Schools which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Knoxville Community Schools. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Marion County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Agricultural Plant and Animal Disease	Animal Disease	Unknown	N/A	N/A
	Agricultural Plant Disease¹	18	N/A	\$705,024
Dam Failure³,¹¹		0	-	N/A
Drought⁴,⁷		489/1,532 months	\$12,650,000	\$22,863,238
Earthquake⁵		0	-	\$0
Expansive Soils		Unknown	N/A	N/A
Extreme Heat⁶	Heat (≥100°F)	Avg 2 day /year	\$135,000	\$190,811
Flooding⁷	Flash Flood	34	\$2,117,000	\$4,759,233
	Flood	99	\$5,037,070	
Grass and Wildland Fire⁸ 1 injury		39	209 Acres	-
Hazardous Materials Release	Fixed Site⁹ 3 injuries	25	\$200,000	N/A
	Transportation¹⁰	6	\$885,874	N/A
Human Infectious Diseases¹⁶		8,784 cases; fatalities	COVID 133 N/A	N/A
Infrastructure Failure		Unknown	N/A	N/A
Landslide		Unknown	N/A	N/A
Severe Thunderstorms⁷	Hail	144	\$755,000	\$22,844,644
	Heavy Rain	93	\$0	
	Lightning	6	\$117,000	
	Thunderstorm Wind 1 injury	185	\$3,503,000	
Blizzard		11	\$335,000	\$971,532

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Severe Winter Storms and Extreme Cold ⁷	Extreme Cold/ Wind Chill ($\leq 10^{\circ}\text{F}$) ⁶	310 days	N/A	
	Heavy Snow	24	\$861,560	
	Ice Storm	11	\$323,330	
	Winter Storm	25	\$564,900	
	Winter Weather	1	\$0	
Sinkhole		Unknown	N/A	N/A
Terrorism and Civil Disorder ¹²		0	-	N/A
Tornado and High Winds ⁷	Tornadoes: Average: EF1 Range: EF0-EF3 24 injuries	25	\$121,535,000	\$537,598
	High Winds: Average: 56 mph Range: 40-73 mph	31	\$879,110	\$144,633
Transportation Incident	Auto ¹³ 1,649 injuries, 38 deaths	5,640	\$34,979,475	N/A
	Aviation ¹⁴ 4 injuries, 4 deaths	22	N/A	N/A
	Rail ¹⁵ 18 injuries, 1 death	46	\$65,850	N/A
Total		13,068*	\$369,683,338	\$106,043,108

*does not include counts for Animal Disease, Drought, Expansive Soils, Extreme Heat, Human Infectious Diseases, Infrastructure Failure, Landslide, or Sinkholes

However, during the planning process, the local planning team identified specific hazards of top concern for the district which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Twin Cedars School District. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

Hazard: Severe Winter Storms and Extreme Cold

Due to geographical location, the school district is prone to experiencing severe winter storms. Severe winter storms can have a negative impact on the functioning of the school district causing transportation difficulties for both students and staff, power outages for district facilities, and possible roof/gutter damage from snow and ice. In the past, the school district has experienced roof damages, transportation difficulties, and the cancellation of various district activities due to severe winter storms. Plans are currently in place for notifications in the case of a school cancellation, which occurs at least once per year. The district has also noted a need to identify alternate bus routes to access children when roads are blocked or closed due to heavy snow.

Mitigation Actions

OBJECTIVE	ALTERNATE BUS ROUTES AND PLANS FOR ROAD CLOSURES
Description	Utilize <i>TransFinder</i> to develop safe routes for busses in the case of a road closure or in the case of using hard surface routes only. Problem: Busses can't reach students during heavy snowfall.
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, Transportation Incidents
Estimated Cost	\$12,000
Potential Funding	PPEL/SAVE Funds
Timeline	1 Year
Priority	High
Lead Agency	Knoxville CSD Superintendent's Office
Status	This mitigation action is currently in the works.

Hazard: Tornadoes and High Winds

Tornados are a top concern for the community based on how prone the area as a whole is to tornadic events. Presently, in areas of the school district, students seek refuge in safe places in different buildings. According to the local panning team, while no tornadoes passing through or near Knoxville, IA have directly impacted the schools to date, tornadoes are also a top concern due to the proximity of the high school, middle school, and West elementary and the risk of all buildings being impacted at once. During the 2020-2021 school year, the school district experienced minor roof damage at the high school building during derecho winds. However, the school district is currently working on obtaining funding for a safe room at the Knoxville High School. The school district has applied for grants for this objective. Any approved safe room would be a shared resource between the school district and the community.

Mitigation Actions:

OBJECTIVE	SHELTERS OR SAFE ROOMS
Description	Construct public safe rooms in/near schools to protect students and staff during high wind events or tornados. Problem: There is no safe room at the elementary school.
Hazard(s) Addressed	Severe Thunderstorm, Tornadoes and High Winds
Estimated Cost	\$500,000
Potential Funding	PPEL, SAVE, Bonds, HMA Grants
Timeline	2-5 Years
Priority	High
Lead Agency	Knoxville CSD Superintendent's Office, Fire Department Staff
Status	The school district has completed the construction of a safe room at KMS and is currently designing a safe room for the upper elementary building.

Hazard: Transportation Incidents

The top concern for a transportation incident is related to a school bus incident having profound impacts on many students and families within the district. Knoxville Community School District has experienced one previous transportation incident over 10 years ago on a gavel rural route. The incident resulted in the loss of the buss, but no deaths or serious injuries. The replacement bus cost the district approximately \$115,000. The route highest concern within the district is Highway 14.

To mitigate against lasting impacts of a transportation incident, bus drivers participate in annual training, and the school district works to improve roadway conditions. Also, bus drivers participate in evacuation drills on a rolling basis. The district is also implementing the TransFinder software system to assist in finding the safest routes.

Mitigation Actions

See the “Alternate Bus Routes and Plans for Road Closures” mitigation action to address this hazard.

Completed Mitigation Actions

OBJECTIVE		ADOPT/PROMOTE TERRORISM RESPONSE PLAN
Description	Develop a terrorism response plan to prepare for a potential terrorism threat.	
Hazard(s) Addressed	Terrorism and Civil Disorder	
Status Description	<i>This mitigation action has been completed.</i>	

OBJECTIVE		ALTERNATIVE ENERGY SOURCES
Description	Investigate the feasibility of using alternative energy sources to improve resiliency of the department.	
Hazard(s) Addressed	All Hazards	
Status Description	<i>This mitigation action has been completed.</i>	

OBJECTIVE		EMERGENCY RESPONSE GUIDEBOOKS AND EMERGENCY OPERATIONS PLAN
Description	Develop and distribute emergency response guides to assist with evacuation and other response protocols Work to include the school in an emergency operations plan.	
Hazard(s) Addressed	All Hazards	
Status Description	<i>This mitigation action has been completed.</i>	

OBJECTIVE		FORMALLY DESIGNATE AND STOCK SCHOOL BUILDINGS AS COMMUNITY SHELTERS
Description	Designate school buildings as community shelters to protect citizens in an impact and post-impact environment.	
Hazard(s) Addressed	All Hazards	
Status Description	<i>This mitigation action has been completed.</i>	

OBJECTIVE		HAZARD MITIGATION PLAN LEADERSHIP
Description	Develop a leadership awareness campaign for mitigation techniques to encourage lasting passion for mitigation.	
Hazard(s) Addressed	All Hazards	
Status Description	<i>This mitigation action has been completed.</i>	

OBJECTIVE		PUBLIC AWARENESS
Description	Dispense hazard materials to residents.	
Hazard(s) Addressed	All Hazards	
Status Description	<i>This mitigation action has been completed.</i>	

OBJECTIVE	TREE TRIMMING PROGRAM
Description	Trim trees in advance of hazard events to prevent damage to structures from trees during high wind events or winter storms.
Hazard(s) Addressed	Severe thunderstorms, Sever Winter Storms, Tornadoes and High Winds
Status	<i>This mitigation action has been completed.</i>

Removed Mitigation Actions

OBJECTIVE	FULL SPRINKLER SYSTEM
Description	Install a full sprinkler system in areas where vulnerable populations spend time.
Hazard(s) Addressed	Grass and Wildland Fires
Status Description	<i>Removed as this is not the responsibility of school district.</i>

OBJECTIVE	LIGHTNING PROTECTION
Description	Protect all tall buildings and towers with lightning rods.
Hazard(s) Addressed	Severe Thunderstorms
Status Description	<i>Removed by local planning team.</i>

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this profile as changes occur or after a major event. The local planning team will include the Superintendent, business Manager, and Director of Facilities and Operations. The plan will be reviewed and revised as needed annually and the district will notify the public of the plan review via a post on the schools website and discussing the review at school board meetings, which are open to the public.

Melcher-Dallas Community School District Profile



**Marion County, Iowa
Hazard Mitigation Plan**

2023

Local Planning Team

The Melcher-Dallas Community School District's local planning team for the hazard mitigation plan are listed in the table below along with the meetings attended. All planning worksheets were filled out and returned by members of the local planning team.

Table MDS.1: Local Planning Team

NAME	TITLE	JURISDICTION
Scott Bridges	Superintendent	Melcher-Dallas CSD
Deb Haselhuhn	SBO	Melcher-Dallas CSD

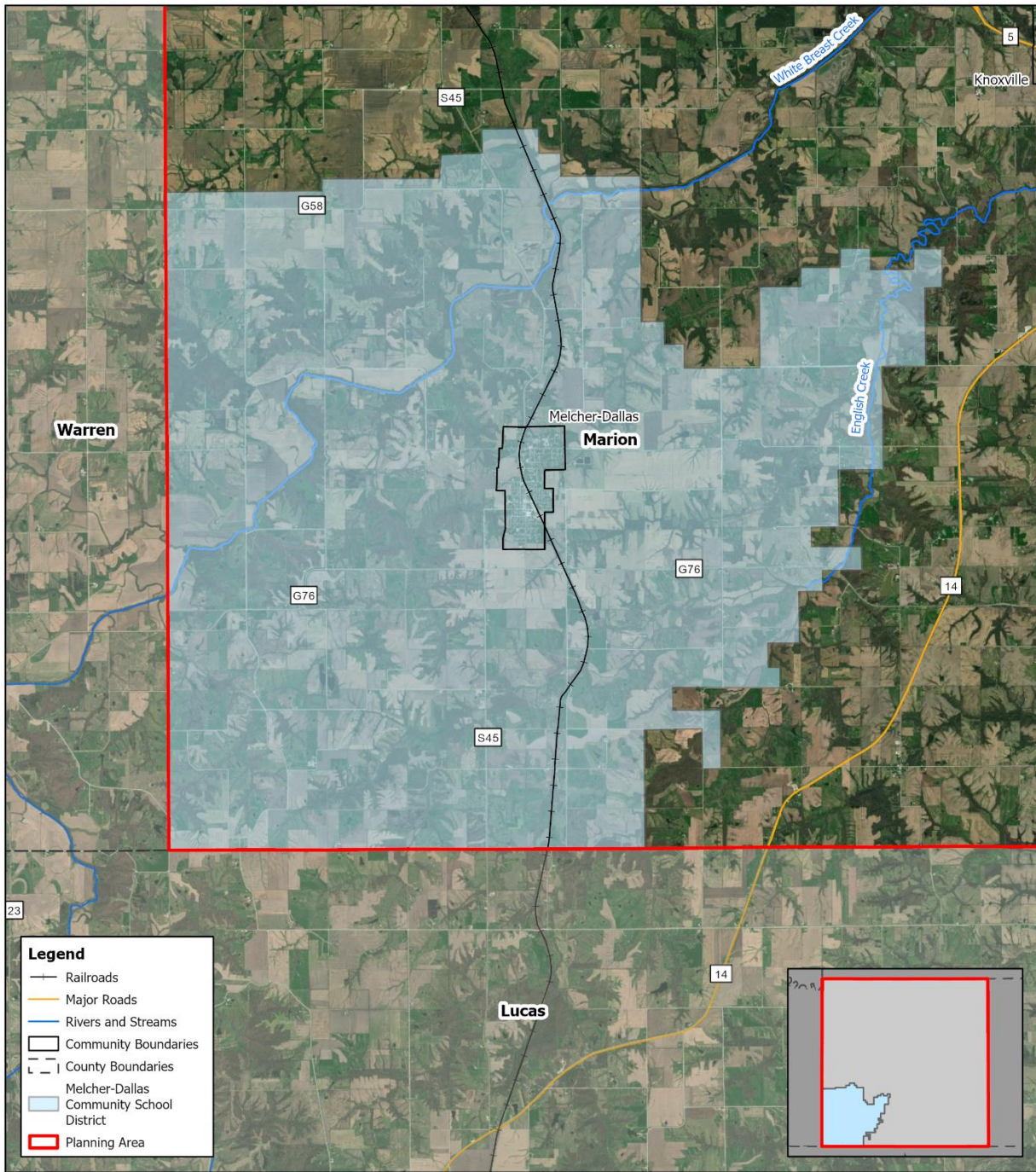
Location and Geography

The Melcher-Dallas Community Schools District is a rural school district located in the City of Melcher-Dallas, Marion County, in south central Iowa. Melcher-Dallas is located 40 miles southwest of Des Moines. The population of Melcher-Dallas, per a 2014 Census Bureau estimate, is 1,276.

The school district offices are located at 214 South Main, Melcher-Dallas, Iowa, 50163. The district is comprised of two schools: Melcher-Dallas Elementary School, and Melcher-Dallas Junior-Senior High School. The district's website is <http://mdcsd-ia.schoolloop.com/>.

Melcher-Dallas Schools provides service to all families in and around the City of Melcher-Dallas. Besides English, Spanish is also spoken in the district. Students may open enroll from Knoxville, Twin Cedars, Chariton, Southeast Warren, and Pleasantville.

Figure MDS.1: School District Boundary



Created By: AGL
 Date: 9/9/2022
 Software: ArcGIS Pro 3.0
 File: Marion County APRX.aprx

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Melcher-Dallas Community School District

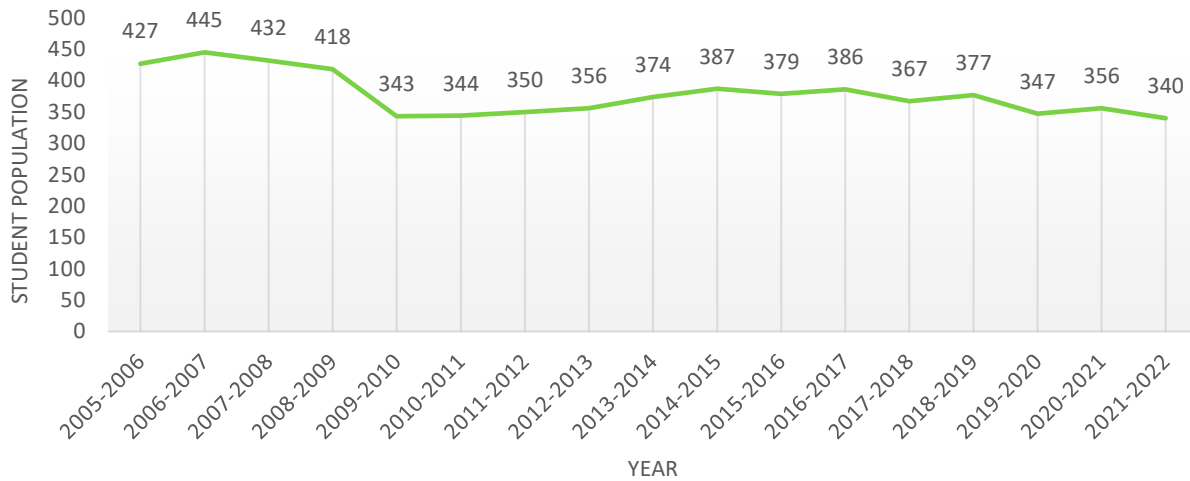
Jurisdiction Boundary



Demographics

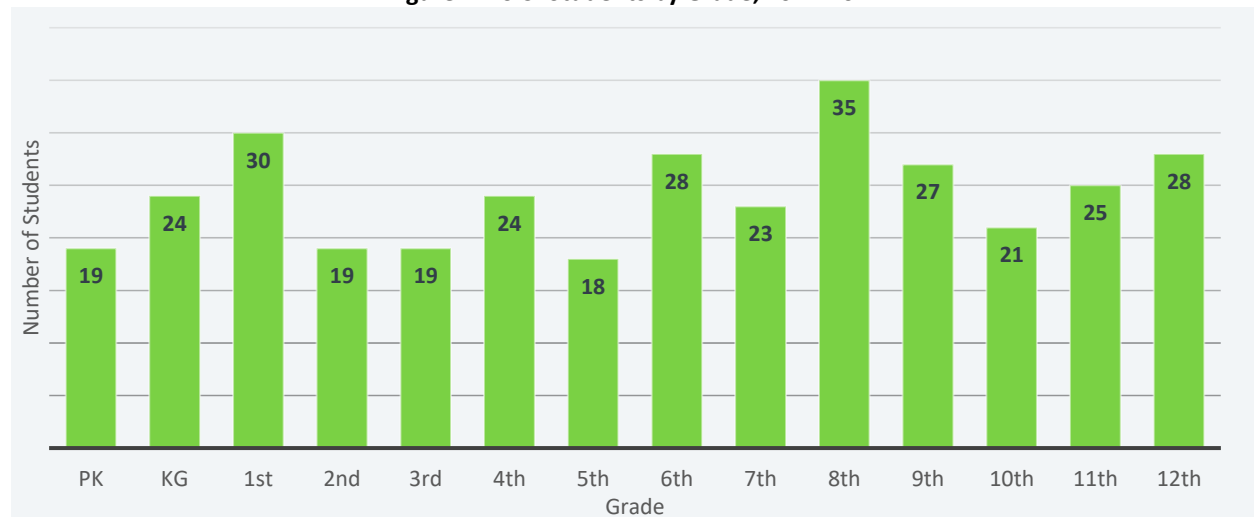
Approximately 320 students are currently enrolled in the school district, with 190 families being served. The student population has decreased in recent years, according to the local planning team. The following figure displays the historical student population trend starting with the 2005-2006 school year and ending with 2021-2022 year. Data was provided by the Iowa Department of Education.

Figure MDS.2: Student Population 2005-2022



Source: Iowa Department of Education

Figure MDS.3: Students by Grade, 2021-2022



Administration

The district shares a superintendent with Twin Cedars. There are two principals in the district, along with 31 teachers and 35 support staff. Other offices/departments that could assist with hazard mitigation related activities includes Melcher-Dallas Fire Department, Marion County EMS, and Marion County Sherriff's Department.

Capabilities

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table MDS.2: Capability Assessment

SURVEY COMPONENTS		Yes/No
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	Yes
	Disaster Response Plan	No
	Other (if any)	
Administrative & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Staff who can assess jurisdictional vulnerability to hazards	No
	Grant Manager	No
	Mutual Aid Agreements	No
	Other (if any)	
Fiscal Capability	Applied for grants in the past	No
	Awarded grants in the past	No
	Authority to levy taxes or bonds for specific mitigation projects	Yes (currently maxed out)
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds in place	Yes
	Flood Insurance	Yes
	Other (if any)	
Education & Outreach	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.).	No
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	No
	StormReady Certification	No
	Other (if any)	
Drills	Fire	4/Yr
	Tornado	4/Yr
	Intruder	2/Yr
	Bus Evacuation	2/Yr
	School Evacuation	2/Yr
	Other (if any)	

Table MDS.3: Overall Capability

OVERALL CAPABILITY	
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

School Drills and Staff Training

MDCS performs the following drills and training:

- 4 Fire/evacuation Drills per year
- 4 Tornado/shelter in place drills per year
- 2 Bus evacuation drills per year
- 2 Intruder Drills per year
- 1 Tabletop exercise per year
- Planned reunification drill with staff this year

Staff is trained about emergency procedures during professional development. A safety coordinator plans the drills, and the district collaborates with Marion County EMS and the Sheriff's Department in planning and completing drills. The district educates students and families about emergency procedures through drills with students and staff, and communication with parents via emails and letters. The district notifies parents and staff about emergency events via the student information messaging system. These notifications are available in all languages district students speak.

Plan Integration

MDCS maintains a Crisis Plan, which addresses all the hazards Melcher-Dallas Schools is prone to. The plan was most recently updated in 2022. Hazards addressed in the plan include terrorism threats, bomb threats, intruders, and active shooters. The school district intends to review and update the information annually. The school district also intends to work with the Marion County Sheriff's Department, to conduct regular ALICE (active shooter trainings).

Any future updates of the Crisis Plan should include goals and objectives outlined in this Hazard Mitigation Plan. Mitigation actions will be incorporated into annual budgets as opportunities allow. Annual budgets allow for ongoing maintenance of infrastructure and maintaining critical assets. The school district also has a Facilities Plan which was updated in 2022.

Grants and Funding

According to the local planning team, district funds are currently limited to maintaining current facilities, systems, and building projects and district funding amounts have remained consistent over recent years. A large portion of district funds are currently dedicated to the construction of a new gym edition that includes classrooms. The school district has applied for two grants in the last five years: the EPA Electric Bus Grant and the Iowa School Safety Grant. They were awarded the Iowa School Safety Grant.

Future Development Trends

The school district demolished a portion of its JH/HS building this year due to damage sustained. The district is currently in the process of building it back. The district also purchased a skid loader this year, as well as two new buses in the past two years. According to the local planning team, the student population is declining. This is due to migration out of the school district.

Community Lifelines

Community lifelines are vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communications; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



Table MDS.4: Community Lifelines

#	CRITICAL FACILITY NAME	ADDRESS	# OF STUDENTS	GENERATOR (Y/N)	SHELTER LOCATION (Y/N)	HAZARD TYPE CONCERNS AND NOTES
1	Melcher-Dallas JH/HS	210 SW Main St, Melcher-Dallas, IA 50163	159	N	Y	Five Rooms Used for Shelter in Place
2	Melcher-Dallas Elementary School	1003 Park St, Dallas, IA 50062	181	N	Y	Nine Rooms Used for Shelter in Place.

Although not listed in the table above, critical infrastructure also includes power substations, cell towers, and alert sirens which provide service to the district. These assets are typically owned and maintained by other agencies and are not the responsibility of the school district.

Transportation

The local planning team indicated no concerns regarding transportation routes in the district. The district owns eight buses and approximately 100 students are transported to and from school.

Hazardous Materials – Chemical Storage Fixed Sites

According to the local planning team, there is a large anhydrous ammonia storage tank near the Junior High/High School. It is owned by Smith’s Fertilizer and Grain. The planning team indicated that no chemical spill events have occurred locally. In the event of a chemical spill, the Melcher-Dallas Fire Department would be the first to respond.

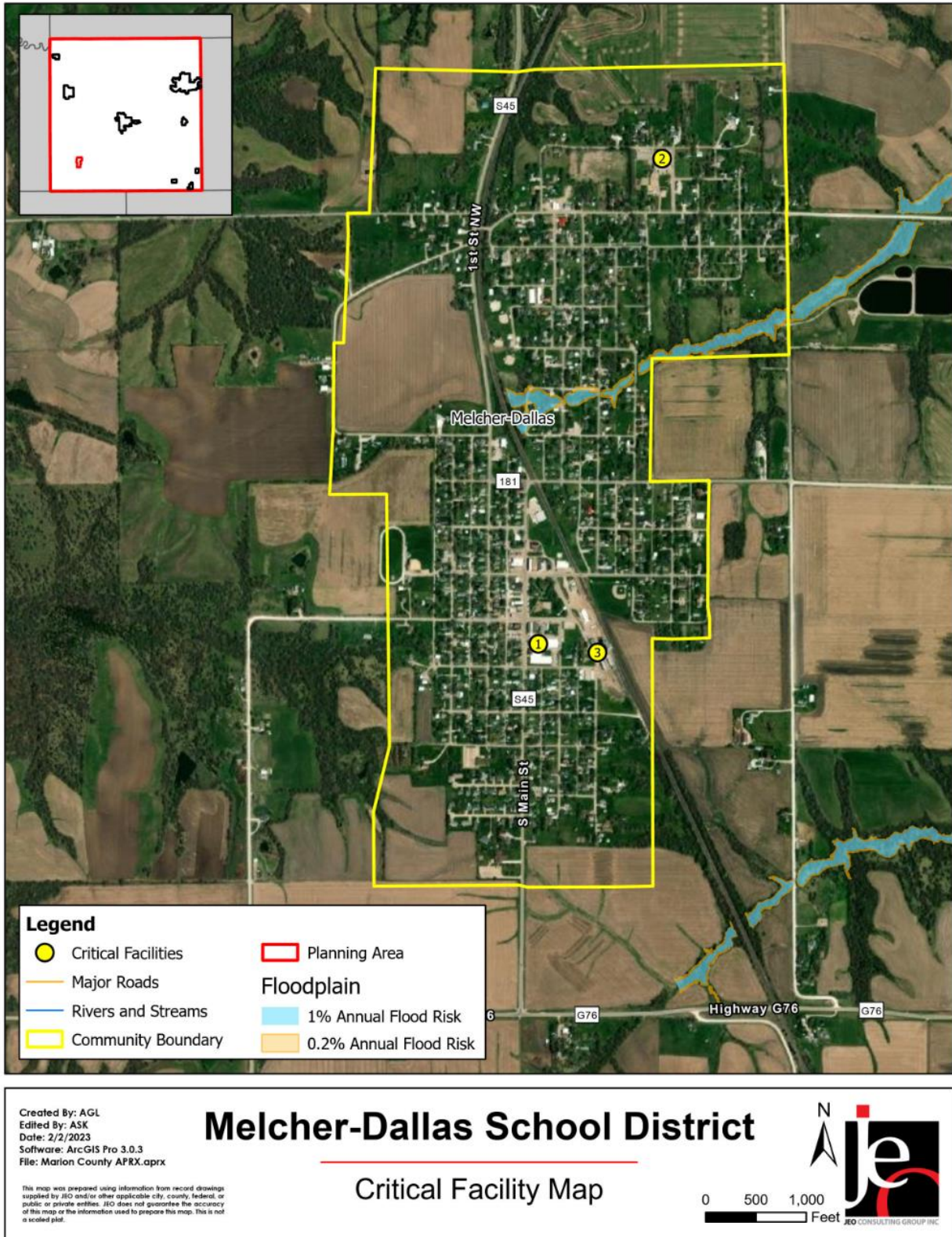
Table MDS.5: Hazardous Materials Lifelines

HAZARDOUS MATERIALS	#	CRITICAL FACILITY NAME	GENERATOR (Y/N)	HAZARD TYPE CONCERNS AND NOTES
	3	Melcher-SFG	N	-

Source: Iowa Department of Natural Resources¹

¹ Iowa Department of Natural Resources. 2022. "Emergency Response - Tier II Chemical Storage." [datafile]. <https://facilityexplorer.iowadnr.gov/facilityexplorer/>.

Figure MDS.2: Critical Facilities



Hazard Prioritization

The Marion County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Melcher-Dallas School which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Melcher-Dallas Community Schools. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Marion County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Agricultural Plant and Animal Disease	Animal Disease	Unknown	N/A	N/A
	Agricultural Plant Disease ¹	18	N/A	\$705,024
Dam Failure^{3,11}		0	-	N/A
Drought^{4,7}		489/1,532 months	\$12,650,000	\$22,863,238
Earthquake⁵		0	-	\$0
Expansive Soils		Unknown	N/A	N/A
Extreme Heat⁶	Heat (≥100°F)	Avg 2 day /year	\$135,000	\$190,811
Flooding⁷	Flash Flood	34	\$2,117,000	\$4,759,233
	Flood	99	\$5,037,070	
Grass and Wildland Fire⁸ 1 injury		39	209 Acres	-
Hazardous Materials Release	Fixed Site ⁹ 3 injuries	25	\$200,000	N/A
	Transportation ¹⁰	6	\$885,874	N/A
Human Infectious Diseases¹⁶		8,784 cases; fatalities	COVID 133 N/A	N/A
Infrastructure Failure		Unknown	N/A	N/A
Landslide		Unknown	N/A	N/A
Severe Thunderstorms⁷	Hail	144	\$755,000	\$22,844,644
	Heavy Rain	93	\$0	
	Lightning	6	\$117,000	
	Thunderstorm Wind 1 injury	185	\$3,503,000	
Blizzard		11	\$335,000	\$971,532

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Severe Winter Storms and Extreme Cold ⁷	Extreme Cold/ Wind Chill ($\leq 10^{\circ}\text{F}$) ⁶	310 days	N/A	
	Heavy Snow	24	\$861,560	
	Ice Storm	11	\$323,330	
	Winter Storm	25	\$564,900	
	Winter Weather	1	\$0	
Sinkhole		Unknown	N/A	N/A
Terrorism and Civil Disorder ¹²		0	-	N/A
Tornado and High Winds ⁷	Tornadoes: Average: EF1 Range: EF0-EF3 24 injuries	25	\$121,535,000	\$537,598
	High Winds: Average: 56 mph Range: 40-73 mph	31	\$879,110	\$144,633
Transportation Incident	Auto ¹³ 1,649 injuries, 38 deaths	5,640	\$34,979,475	N/A
	Aviation ¹⁴ 4 injuries, 4 deaths	22	N/A	N/A
	Rail ¹⁵ 18 injuries, 1 death	46	\$65,850	N/A
Total		13,068*	\$369,683,338	\$106,043,108

*does not include counts for Animal Disease, Drought, Expansive Soils, Extreme Heat, Human Infectious Diseases, Infrastructure Failure, Landslide, or Sinkholes

However, during the planning process, the local planning team identified specific hazards of top concern for the district which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Melcher-Dallas School District. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

Hazard: Hazardous Materials Release

Previously, no hazardous material events have occurred in Melcher-Dallas. However, many hazardous materials are transported by both highway and rail lines, which run near the schools. County highway G-76 runs just south of town, and County Highway S-45 bisects the center of town from north to south. Additionally, a Union Pacific railroad runs through the community, within two blocks of Melcher-Dallas High School and a large anhydrous ammonia storage tank is located within a block of the JH/HS building. This is a hazard of concern for the school district due to the large number of young students of all ages to account for should a hazardous materials release occur.

Should a hazardous materials event occur, the school would follow a shelter-in-place protocol and await further instructions from local responders. The school intends to mitigate the lasting impacts of these hazards by creating emergency response guidebooks for teachers.

Mitigation Actions

OBJECTIVE		JURISDICTIONAL PLANS
Description	Establish and implement plans for increase hazard mitigation including a Terrorism Response Plan, Emergency Response Guidebooks, a School Evacuation Plan, and a Power Failure Recovery Plan. Review policies, procedures, and codes related to hazards. Problem: Current plans don't account for hazardous material release.	
Hazard(s) Addressed	All Hazards, Hazardous Materials Release	
Estimated Cost	\$2,000	
Potential Funding	District Funds	
Timeline	1 year	
Priority	Medium	
Lead Agency	Superintendent's Office	
Status	District is currently in the process of updating guidebooks.	

Hazard: Severe Winter Storms and Extreme Cold

The Melcher-Dallas School District, and City of Melcher-Dallas identified severe winter storms as a top concern for the school district. The primary concern related to severe winter storm is transportation to and from the school, especially in icy conditions. Due to snow and ice accumulation on the roof of the gym, the facility was damaged beyond repair, resulting in the need to demolish and replace the building. Additionally, the school is concerned about school buses driving on roads in unsafe conditions and struggles with power outages during severe winter storms.

Mitigation Actions

OBJECTIVE		BACKUP GENERATORS
Description	Purchase/install backup power generators Problem: No backup generators are in place for periods of power outage.	
Hazard(s) Addressed	Severe Thunderstorm, Severe Winter Storms, Tornadoes and High Winds, Extreme Heat	
Estimated Cost	\$5,000	
Potential Funding	HMA grants, District Fund	
Timeline	5+ years	
Priority	Medium	
Lead Agency	Superintendent's Office	
Status	This mitigation action has not been started.	

Hazard: Tornadoes and High Winds

The Melcher-Dallas School District identified tornados as a top concern for the school district. While the school has not been directly impacted by a tornado previously, tornados are a concern in this region for any school, or other facility housing a vulnerable population. Student and staff safety is a concern, as well as potential for damaged structures.

To prepare for a tornado event, the school participates in four tornado drills per year, where students practice shelter-in-place protocol. The school district is currently building a safe-room to mitigate the lasting impacts of a tornado.

Mitigation Actions:

OBJECTIVE	SHELTERS OR SAFE ROOMS
Description	Construct public safe rooms in school and school property and integrate safe room retrofits into critical assets and facilities. Problem: There are safe rooms rated for tornado grade winds located in the school
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes and High Winds
Estimated Cost	\$250,000
Potential Funding	County and District Funds
Lead Agency	Superintendent, Elementary Principal, Elementary Secretary, Jr/Sr High Secretary
Timeline	1 year
Priority	High
Status	This project is located at the high school and anticipated to be completed in 2024.

Hazard: Terrorism and Civil Disorder

While the school district has not experienced any terrorism and civil disorder events in the past, it is a hazard of note due to the responsibility of the district to protect students and staff.

Mitigation Action:

OBJECTIVE	SECURITY UPGRADES
Description	Develop and maintain security at applicable assets (surveillance cameras and lighting) Problem: Current security system is out of date.
Hazard(s) Addressed	Terrorism and Civil Unrest
Estimated Cost	\$10,000
Potential Funding	District Funds
Lead Agency	Superintendent, Elementary Principal, Elementary Secretary, Jr/Sr High Secretary, Activities Director, Curriculum Director
Timeline	2-5 Years
Priority	Low
Status	The district is installing better security systems at the Elementary School and JH/HS Buildings.

Removed Mitigation Actions

OBJECTIVE	ALTERNATIVE ENERGY SOURCES
Description	Design and implement alternative energy sources
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, Infrastructure Failure
Status	<i>Removed by local planning team</i>

OBJECTIVE	DESIGNATION OF SHELTERS
Description	Formally designate and stock school buildings as community shelters
Hazard(s) Addressed	All Hazards
Status	<i>Removed by local planning team</i>

OBJECTIVE		EMERGENCY COMMUNICATIONS
Description	Purchase new, modernize, and/or harden existing mobile and personal communication equipment for EMS and the city fire department.	
Hazard(s) Addressed	All Hazards	
Status	<i>Removed by local planning team</i>	

OBJECTIVE		HARDEN BUILDINGS
Description	Harden school buildings.	
Hazard(s) Addressed	All Hazards	
Status	<i>Removed by local planning team</i>	

OBJECTIVE		HAZARD MITIGATION PLAN LEADERSHIP
Description	Develop annual leadership awareness campaign about hazard plan.	
Hazard(s) Addressed	All Hazards	
Status	<i>Removed by local planning team</i>	

OBJECTIVE		PUBLIC AWARENESS
Description	Dispense materials to promote public awareness of hazard risks	
Hazard(s) Addressed	All Hazards	
Status	<i>Removed by local planning team</i>	

OBJECTIVE		REDUNDANT UTILITIES
Description	Establish redundant water, sewer, electric, and gas systems	
Hazard(s) Addressed	Infrastructure Failure	
Status	<i>Removed by local planning team</i>	

OBJECTIVE		STANDBY PUMPS
Description	Purchase standby pumps	
Hazard(s) Addressed	Flash Flooding, River Flooding	
Status	<i>Removed by local planning team</i>	

OBJECTIVE		VOLUNTEER BASE
Description	Develop base of trained groups of standby volunteers	
Hazard(s) Addressed	All Hazards	
Reason for Removal	<i>Removed as this is not the school's responsibility.</i>	

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this profile as changes occur or after a major event. The local planning team will include the Superintendent, JH/HS Principal, and the Elementary Principal. The plan will be reviewed and revised as needed annually and the district will notify the public of the plan review by sharing information on the school website and discussing it at school board meetings.

Pella Christian Schools Profile

**Marion County, Iowa
Hazard Mitigation Plan**

2023

Local Planning Team

The Pella Christian Schools' local planning team for the hazard mitigation plan are listed in the table below along with the meetings attended. All planning worksheets were filled out and returned by members of the local planning team.

Table PCS.1. Local Planning Team

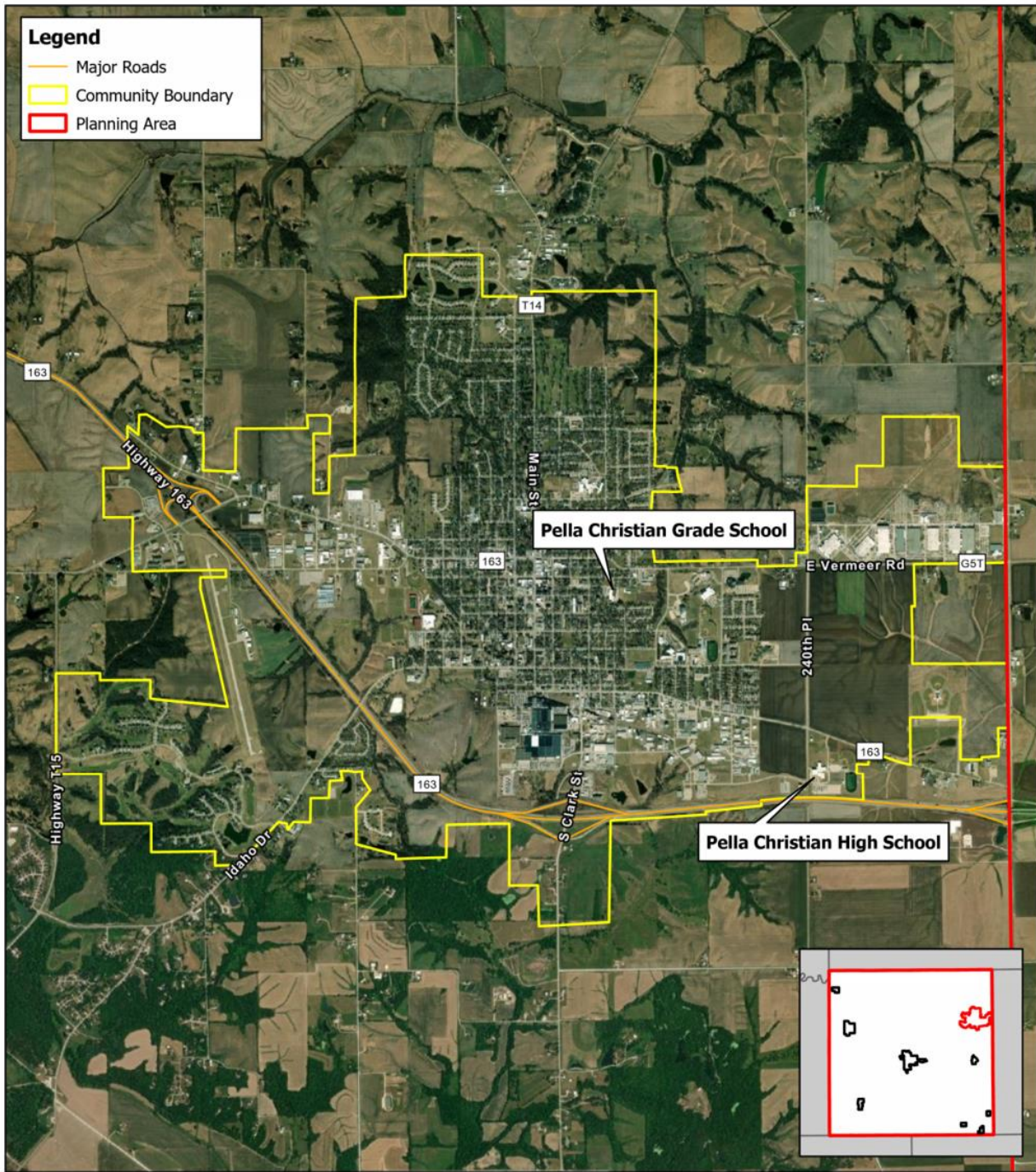
NAME	TITLE	JURISDICTION
Dan Zylstra	Head of Schools	Pella Christian High School and Grade School
Kevin Herdegen	9-12 Principal	Pella Christian High School

Location and Geography

Pella Christian Schools is a private, Christian institution located in the City of Pella, in Marion County, in south central Iowa. Pella Christian High School is located 42 miles southeast of Des Moines along Highway 163, about five miles east of Lake Red Rock. Pella Christian Grade School is in the midst of town on 216 Liberty Street. The school district offices are located at 300 Eagle Lane, Pella, Iowa, 50219. The school's website is <http://www.pceagles.org/>.

Pella Christian Grade School was founded in 1939 and the High School in 1939. The school is accredited by the State of Iowa Department of Education and serves grades Preschool-12. The school offers a liberal arts education and some Advanced Placement courses at the high school level. Pella Christian Schools provide services to families as far as Newton and Prairie City to the North and Ottumwa to the South. Besides English, Spanish is also spoken in the schools.

Figure PCS.1: School District Location Map

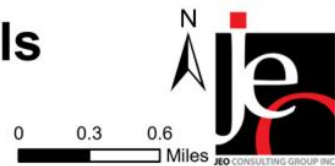


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Edited By: ASK
Date: 1/27/2023
Software: ArcGIS Pro 3.0.3
File: Marion County APRX.aprx

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Pella Christian Schools

Location Map



Demographics

Approximately 780 students are currently enrolled in the Pella Christian Grade School and High School, with 500 families being served. The student population has increased in recent years, according to the local planning team.

Administration

The Pella Christian Schools has one superintendent, the Head of Schools, with two principals, one for each school. The schools employ an athletic director, curriculum director, admissions director, and clerical staff. Additionally, the Grade School and High School's Building and Grounds departments could assist with hazard mitigation related activities.

Capabilities

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table PCS.2: Capability Assessment

SURVEY COMPONENTS		Yes/No
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	Yes
	Disaster Response Plan	Yes
	Other (if any)	
Administrative & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Staff who can assess jurisdictional vulnerability to hazards	Yes
	Grant Manager	No
	Mutual Aid Agreements	Yes
	Other (if any)	
Fiscal Capability	Applied for grants in the past	No
	Awarded grants in the past	No
	Authority to levy taxes or bonds for specific mitigation projects	No
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds in place	No
	Flood Insurance	No
	Other (if any)	
Education & Outreach	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.).	No
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	No
	StormReady Certification	No
	Other (if any)	
Drills	Fire	3/yr

SURVEY COMPONENTS		Yes/No
	Tornado	2/yr
	Intruder	2/yr
	Bus Evacuation	1/yr
	School Evacuation	0
	Other (if any)	

Overall Capability

OVERALL CAPABILITY	
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

School Drills and Staff Training

The school conducts safety drills annually for students and staff, including:

- Fire Drills – Three times per year
- Tornado Drills – Twice a year
- Intruder Drills – Twice a year
- Bus Evacuations - Annually

During these drills, teachers facilitate the safe movement of students throughout the building. In order to show directions to get to safety, and to maintain order, classrooms all have posted directions to evacuation areas. Additionally, the school staff is trained in emergency procedures through professional development as needed. Students and families are educated on emergency procedures through staff handbooks and communication with parents and guardians. To keep all parents aware of potential concerns at the school, parents are updated with the PC text club. This is an opt-in service which parents may be alerted about concerning weather conditions, cancelling school, or other time-sensitive information.

Plan Integration

Pella Christian High School maintains a Faculty Handbook, which outlines the protocol for fire drills, shelter in place exercises, and tornado drills. The Faculty Handbook also has additional information, should the teachers need it during an evacuation. Bomb threats are discussed in the annual teacher's meeting.

The school's principal would be the main actor in overseeing the implementation of mitigation actions in school facilities. The school's efforts to educate its staff, students, and the community about its preparedness plans and emergency procedures include. It is recommended that future updates of the Faculty Handbook contain goals and objectives outlined in this Hazard Mitigation Plan.

Mitigation actions will be incorporated into annual budgets as opportunities allow. The school’s annual budget is limited to maintaining current facilities and systems, allowing for ongoing maintenance of infrastructure, and maintaining critical assets. If a new capital project is needed, a capital improvement giving campaign would need to be initiated. A large portion of school funds are dedicated to maintaining ongoing operations. According to the local planning team, the school’s funds increase and decrease based on enrollment, which has reportedly increased in recent years. In the past five years, the school has applied for various small grants and been awarded grants from Rollscreen and other small grant givers.

Crisis Response Plan

The school’s Crisis Response Plan is reviewed annually. It addresses several natural hazards such as tornadoes, fires, nuclear, and manmade. The plan covers shelter in place protocols, identifies scenarios that would require evacuation and what routes to use during an evacuation. The plan also identifies sheltering locations, opportunities for mitigation following a natural hazard event, and any gaps in the school’s plan related to hazards.

Future Development Trends

In the past five years, the Pella Christian High School has experienced an increase of traffic due to a development on the east side of town. As the population of the City of Pella continues to grow, the school age population increases, thus lending to a growth in the Pella Christian Schools student population. According to the local planning team, new renovations are planned at the school in the next few years including renovations on the football field and some of the athletic fields.

Community Lifelines

Community lifelines are vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction’s functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



Table PCS.4: Community Lifelines

#	CRITICAL FACILITY NAME	ADDRESS	# OF STUDENTS	# OF STAFF	GENERATOR (Y/N)	SHELTER LOCATION (Y/N)	HAZARD TYPE CONCERNS AND NOTES
1	Pella Christian High School	300 Eagle Lane, Pella, IA 50219	270	35	N	Y	
2	Pella Christian Elementary School	216 Liberty St., Pella, IA 50219	410	55	N	Y	

Although not listed in the table above, critical infrastructure also includes power substations, cell towers, and alert sirens which provide service to the district. These assets are typically owned and maintained by other agencies and are not the responsibility of the school district.

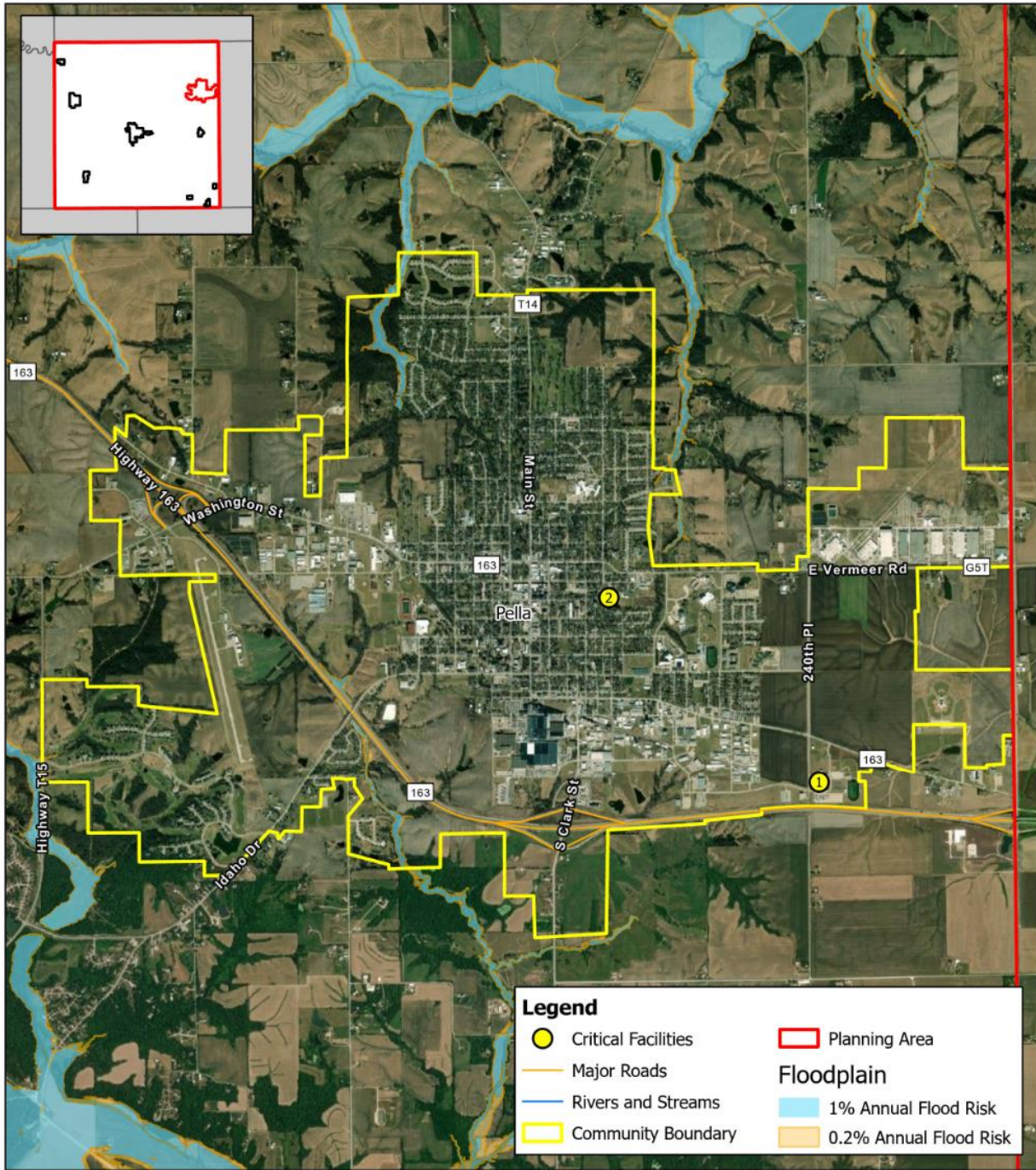
Transportation

The Pella Christian High School is located off the major transportation corridor Highway 163 however the local planning team indicated no concerns regarding transportation routes. The school runs eight buses and transports approximately 320 students to and from school.

Hazardous Materials – Chemical Storage Fixed Sites

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. The Tier II System reports submitted to the Iowa Department of Natural Resources list two chemical sites within or near Pella which house hazardous materials. According to the local planning team, there are no chemical storage sites of concern near either of the Pella Christian Schools. Additionally, the planning team indicated no chemical spill events have occurred locally. In the event of a chemical spill, the Pella Fire Department would be first to respond.

Figure PCS.2: Critical Facilities

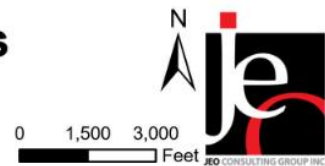


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Pella Christian Schools

Critical Facility Map



Hazard Prioritization

The Marion County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Pella Christian which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by Pella Christian Schools. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Marion County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

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*does not include counts for Animal Disease, Drought, Expansive Soils, Extreme Heat, Human Infectious Diseases, Infrastructure Failure, Landslide, or Sinkholes

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Hazard: Severe Thunderstorms

The Pella Christian local planning team identified severe thunderstorms and hail as a top priority for the school. The local planning team indicated that the community experiences between three and five severe thunderstorms per year, with the last significant event occurring on March 31, 2023 when school was released early in anticipation of a thunderstorm and hail. According to the local planning team, the area of biggest concern for the school is outdoor gym classes and after school practices, as well as having students on buses and outside during hail and high winds. The school administration utilizes internet and smart phone applications to be aware of any impending inclement weather. In the case of a severe thunderstorm, students will be called indoors to seek refuge.

The local planning team’s top concern for a hail event is the safety of students. Specifically, those who are outside, near windows, or on busses during a hail event. In the case of a hail event while students are outside, the local planning team indicated that an announcement would be made, instructing students to seek refuge inside the school. Additionally, the school’s athletic director would send a text message to all coaches, advising them of the current weather situation. Pella Christian has a fleet of busses which are kept outside and may be damaged if a hail event took place. The schools are primarily made up of flat rubber roofing, which would not be a significant concern during a hail event. The schools do not have any backup generators and loses power approximately once a year due to a severe thunderstorm. To prevent any potential lasting impacts, the school has buried power lines leading up to the high school, the school is currently working to bury all power lines leading to the grade school.

Mitigation Actions

OBJECTIVE	BACKUP GENERATORS
Description	Purchase/install backup power generators Problem: No backup generators are in place for periods of power outage.
Hazard(s) Addressed	Severe Thunderstorm, Severe Winter Storm, Tornadoes and High Winds
Estimated Cost	\$4,000
Potential Funding	HMA grants, School Budget
Timeline	5+ years
Priority	Medium
Lead Agency	Superintendent
Status	Not started. A backup generator will assist with providing power in the event of a power outage during a severe thunderstorm, winter storm, or wind storm.

Hazard: Severe Winter Storm

The Pella Christian local planning team identified severe winter storms as a top priority for the school. The planning team indicated that between eight and fifteen inches would denote a “severe” winter storm. The schools’ biggest concern for severe winter storm is the potential for incidents on roadways, especially due to drifts on gravel roads. On average, the school will close three times per year as a result of significant accumulation. While closings are typically due to accumulation, the local planning team indicated that schools have increasingly been closing due to freezing temperatures. The last school closure occurred on December 21, 2022, and was due to slick roadways. Often, Pella Christian will take its cues from the Pella Community School District regarding school closings. An additional concern is power outages due to ice on powerlines, the school does not have a backup generator and is solely reliant on electric infrastructure for power.

Snow removal is handled by a local contractor, who does a good job regardless of snow accumulation. Further, those who remove snow in Pella do a satisfactory job, making all roadways safe in a timely fashion.

Mitigation Actions

See the mitigation action “Backup Generators” to address this hazard.

Hazard: Tornadoes and High Winds

The Pella Christian local planning team identified tornadoes and high winds as a top priority for the school. While the city of Pella has never experienced a tornado event, these events are common for the county. For awareness, the school utilizes weather apps, and internet to keep them aware of a potential tornado

event. In the case of a tornado watch, all students are instructed to come inside, out of any potential tornado events. In the case of a tornado warning, all students are instructed to go to windowless, interior areas. At the high school, students are instructed to go into locker rooms and bathrooms, at the grade school, students are instructed to go into interior classrooms, bathrooms, and locker rooms. On March 31, 2023, the school was dismissed early and students sent home in anticipation of high winds, hail, and potential tornadoes.

While the local planning team was not able to provide an example for any past damages due to high winds, the local planning team did mention that certain school structures would be vulnerable to such a wind event and lives may be put at stake. Specifically, the football bleachers and powerlines near the school. Pella Christian schools do not have backup generators, and would be vulnerable to a power outage, should a power line go down. This is a potential concern, especially during winter months, where electricity is often required for running the HVAC system.

Should a severe storm event occur during after school activities, an announcement would be made and students would be instructed to seek refuge in interior locations within the school buildings, additionally, the school athletic director would text coaches, advising them to bring students inside as soon as possible

Mitigation Actions

See the mitigation action “Backup Generators” to address this hazard.

Removed Mitigation Actions

OBJECTIVE	SNOW FENCES
Description	Construct snow fences to protect main transportation routes and critical facilities from excessive snow drifting and road closure. Problem:
Hazard(s) Addressed	Severe Winter Storms
Reason for Removal	CURRENT NEEDS ARE BEING MET SATISFACTORILY.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible fore reviewing and updating this profile as changes occur or after a major event. The local planning team will include the Head of Schools, Grade School Principal, and High School Principal. The plan will be reviewed and revised as needed annually and the district will notify the public of the plan review by including it in board meeting minutes, mentioning it at parent committee member meetings, and in school updates.

Pella Community Schools Profile



Marion County, Iowa
Hazard Mitigation Plan

2023

Local Planning Team

The Pella Community Schools' local planning team for the hazard mitigation plan are listed in the table below along with the meetings attended. All planning worksheets were filled out and returned by members of the local planning team.

Table PLCS.1. Local Planning Team

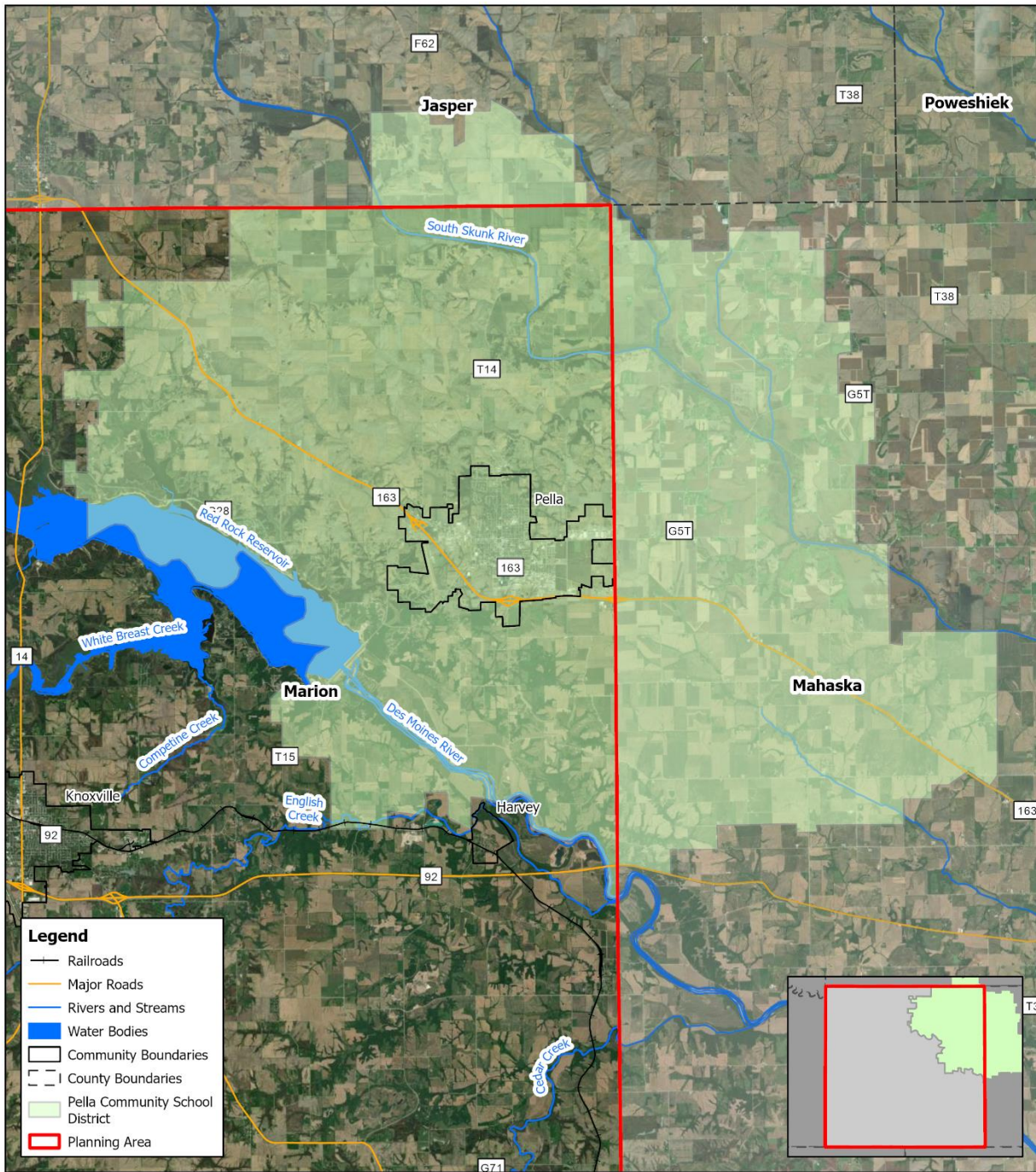
NAME	TITLE	JURISDICTION
John Steddom	Principal	Pella Community Schools
Greg Ebeling	Superintendent	Pella Community Schools

Location and Geography

Pella Community Schools is a suburban school district located in the City of Pella, Marion County, in south central Iowa. Pella is located 42 miles southeast of Des Moines along Highway 163, about five miles east of Lake Red Rock. The population of Pella, per a 2014 Census Bureau estimate, is 10,337.

The school district offices are located at 2013 East University Street, Pella, Iowa, 50219. The district is comprised of five schools: Lincoln Elementary, Madison Elementary, Jefferson Intermediate, Pella Middle School, Pella High School, and the new Pella Career Academy. The district services students in both Marion and Mahaska Counties in the communities of Pella, Leighton, and Otley. Open enrollment is available for students in surrounding communities including Oskaloosa, Knoxville, and New Sharon. Besides English, eight languages are represented within the district: Spanish, Portuguese, Hindi, Urdu, Chunkese, Vietnamese, Thai, and Moore'. The district's website is www.pellaschools.org.

Figure PLCS.1: School District Boundary



Legend

- Railroads
- Major Roads
- Rivers and Streams
- Water Bodies
- Community Boundaries
- County Boundaries
- Pella Community School District
- Planning Area

Created By: AGL
 Date: 9/9/2022
 Software: ArcGIS Pro 3.0
 File: Marion County APRX.aprx

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Pella Community School District

Jurisdiction Boundary

Demographics

The school district currently has 2580 students enrolled and according to the local planning team, the population of the district is slowly and steadily increasing. Overall, the district serves 1,597 families across the five schools.

Administration

The school district has a superintendent, five building principal, one assistant principal, two deans of students, and support staff. The district also has additional departments and staff that may be available to implement hazard mitigation initiatives, including 177 teachers, supervisors in Operations, IT, Transportation, and Food Services, and a Building Safety Team.

Capabilities

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table PLCS.2: Capability Assessment

SURVEY COMPONENTS		YES/NO
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	Yes
	Disaster Response Plan	Yes
	Other (if any)	
Administrative & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Staff who can assess jurisdictional vulnerability to hazards	No
	Grant Manager	No
	Mutual Aid Agreements	No
	Other (if any)	
Fiscal Capability	Applied for grants in the past	Yes
	Awarded grants in the past	Yes
	Authority to levy taxes or bonds for specific mitigation projects	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds in place	Yes
	Flood Insurance	No
	Other (if any)	
Education & Outreach	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.).	No
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	No
	StormReady Certification	No
	Other (if any)	

SURVEY COMPONENTS		Yes/No
Drills	Fire	4/yr
	Tornado	4/yr
	Intruder	2/yr
	Bus Evacuation	2/yr
	School Evacuation	4/yr
	Other (if any)	

Table PLCS.3: Overall Capability

OVERALL CAPABILITY	
Financial resources to implement mitigation projects	Moderate
Staff/expertise to implement projects	Moderate
Public support to implement projects	Moderate
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Moderate

School Drills and Staff Training

The school district conducts safety drills annually for staff and students, including:

- Fire Drills – four per year
- Tornado Drills – four per year
- Intruder Drills – two per year

School district staff are trained on emergency procedures during staff meetings, in service days, and through exercises and drills. The district provides information on emergency procedures on the district website for parents. Students are educated on the procedures by staff members directly and practice the skills during drills. In the event an emergency does occur, parents and staff are notified through emails, text messages, and phone calls. The emergency notifications are only sent out in English.

Plan Integration

The district has planning documents that discuss or relate to hazard mitigation. Each applicable planning mechanism is listed below along with a short description of how it is integrated with the hazard mitigation plan. Participating jurisdictions will seek out and evaluate any opportunities to integrate the results of the current hazard mitigation plan into other planning mechanisms and updates.

Crisis Response Plan

The district's Crisis Response Plan was last reviewed and updated in 2018. The plan outlines the chain of command for crisis situations, communications, safety precautions and emergency preparedness measures, and building security procedures.

Future Development Trends

The Pella School District has experienced significant improvements over the past five years at the Pella High School and Lincoln Elementary. The district is currently in the process of adding an early learning center for preschool students that will be opening in 2024. New buses were also purchased for the district recently. According to the local planning team, the student population is growing due to the high-quality school system offered by the district and the abundance of job opportunities in the surrounding communities.

Community Lifelines

Community lifelines are vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction's functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



Table PLCS.4: Community Lifelines

CF #	CRITICAL FACILITY NAME	ADDRESS	GENERATOR (Y/N)	SHELTER LOCATION (Y/N)	HAZARD TYPE CONCERNS AND NOTES
1	Pella Career Academy	410 East 8 th Street	N	N	
2	Pella Middle School	613 East 13 th Street, Pella, IA 50219	N	N	
3	Jefferson Intermediate	801 East 13 th Street, Pella, IA 50219	N	N	
4	Madison Elementary	950 East University, Pella, IA 50219	N	N	
5	Lincoln Elementary	1111 North Main Street, Pella, IA 50219	N	N	
6	Pella High School	212 East University, Pella, IA 50219	N	N	

Although not listed in the table above, critical infrastructure also includes power substations, cell towers, and alert sirens which provide service to the district. These assets are typically owned and maintained by other agencies and are not the responsibility of the school district.

Transportation

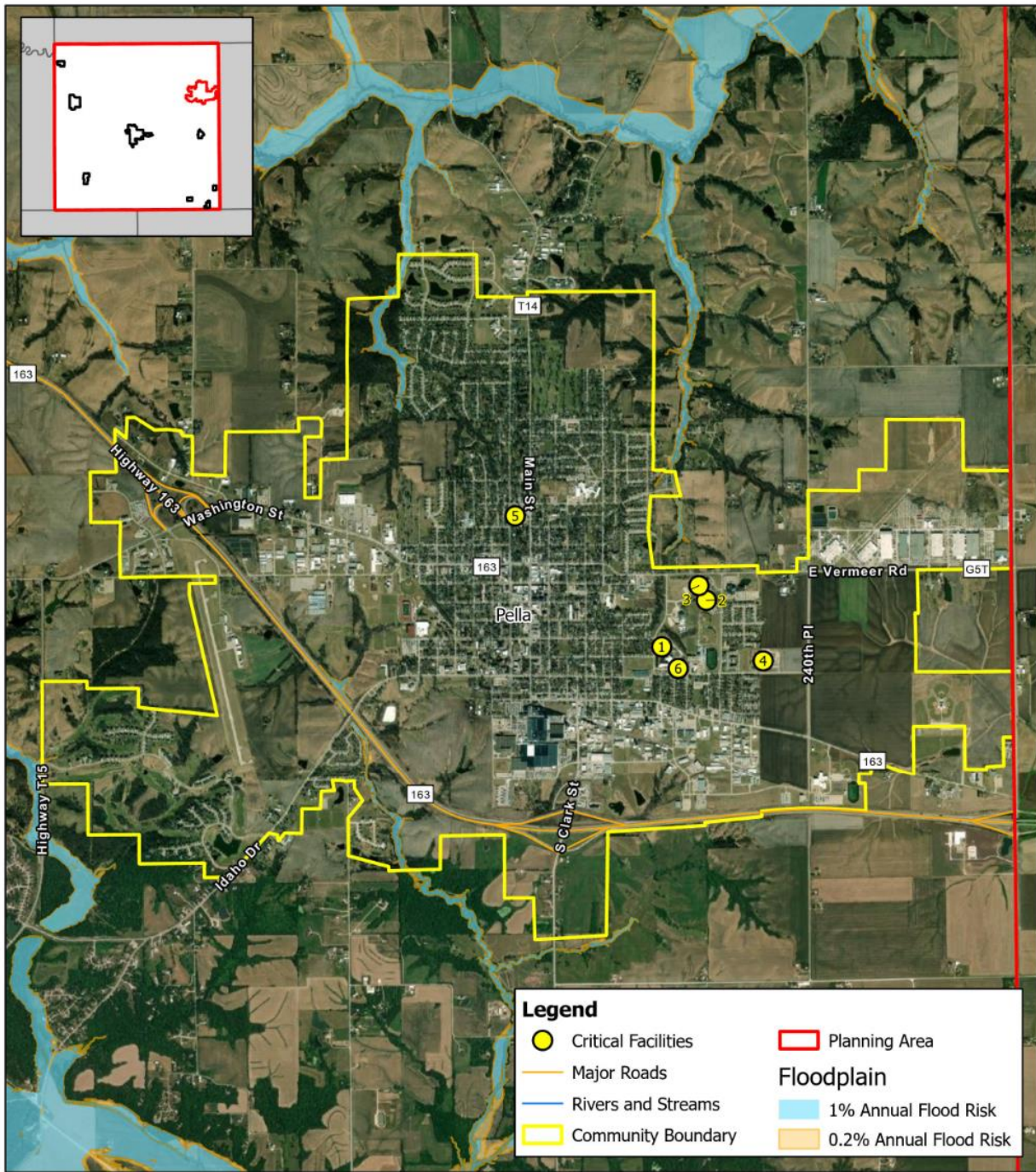
The district's major transportation corridors include Highway 163 and County Highway T14. According to the local planning team, the district's main concern regarding transportation routes is the gravel roads on the bus route that may be challenging during winter after ice or snow storms. The district owns 26 buses

and transports approximately 640 students to and from school each day. This information is important to hazard mitigation plans because it suggests possible evacuation corridors in the district, as well as areas more at risk of transportation incidents.

Hazardous Materials – Chemical Storage Fixed Sites

The Hazardous Materials Lifeline includes chemical storage facilities, pipelines, and transported chemical tanks. According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are two chemical sites within or near Pella which house hazardous materials. According to the local planning team, four of the six schools, Pella High School, Pella Middle School, Jefferson Intermediate, and Madison Elementary are located near chemical fixed sites. The local planning team is concerned about the large populations near or adjacent to chemical storage facilities and the susceptibility of main thoroughfares to spills and leaks depending on location and wind direction. The most notable spill to have occurred in the past 15 years, was an acid spill at Vermeer that was contained to the facility and had no significant impacts. When a chemical spill does occur, the Pella Fire Department will be the first to respond to the incident with sufficient resources.

Figure PLCS.2: Critical Facilities



Legend

Critical Facilities	Planning Area
Major Roads	Floodplain
Rivers and Streams	1% Annual Flood Risk
Community Boundary	0.2% Annual Flood Risk

Created By: AGL
 Edited By: ASK
 Date: 2/2/2023
 Software: ArcGIS Pro 3.0.3
 File: Marion County APRX.aprx

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Pella School District

Critical Facility Map

0 1,500 3,000
Feet

Hazard Prioritization

The Marion County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Pella School which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Pella Community School District. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Marion County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Agricultural Plant and Animal Disease	Animal Disease	Unknown	N/A	N/A
	Agricultural Plant Disease ¹	18	N/A	\$705,024
Dam Failure^{3,11}		0	-	N/A
Drought^{4,7}		489/1,532 months	\$12,650,000	\$22,863,238
Earthquake⁵		0	-	\$0
Expansive Soils		Unknown	N/A	N/A
Extreme Heat⁶	Heat (≥100°F)	Avg 2 day /year	\$135,000	\$190,811
Flooding⁷	Flash Flood	34	\$2,117,000	\$4,759,233
	Flood	99	\$5,037,070	
Grass and Wildland Fire⁸ 1 injury		39	209 Acres	-
Hazardous Materials Release	Fixed Site ⁹ 3 injuries	25	\$200,000	N/A
	Transportation ¹⁰	6	\$885,874	N/A
Human Infectious Diseases¹⁶		8,784 cases; fatalities	COVID 133 N/A	N/A
Infrastructure Failure		Unknown	N/A	N/A
Landslide		Unknown	N/A	N/A
Severe Thunderstorms⁷	Hail	144	\$755,000	\$22,844,644
	Heavy Rain	93	\$0	
	Lightning	6	\$117,000	
	Thunderstorm Wind 1 injury	185	\$3,503,000	
Blizzard		11	\$335,000	\$971,532

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Severe Winter Storms and Extreme Cold ⁷	Extreme Cold/ Wind Chill ($\leq 10^{\circ}\text{F}$) ⁶	310 days	N/A	
	Heavy Snow	24	\$861,560	
	Ice Storm	11	\$323,330	
	Winter Storm	25	\$564,900	
	Winter Weather	1	\$0	
Sinkhole		Unknown	N/A	N/A
Terrorism and Civil Disorder ¹²		0	-	N/A
Tornado and High Winds ⁷	Tornadoes: Average: EF1 Range: EF0-EF3 24 injuries	25	\$121,535,000	\$537,598
	High Winds: Average: 56 mph Range: 40-73 mph	31	\$879,110	\$144,633
Transportation Incident	Auto ¹³ 1,649 injuries, 38 deaths	5,640	\$34,979,475	N/A
	Aviation ¹⁴ 4 injuries, 4 deaths	22	N/A	N/A
	Rail ¹⁵ 18 injuries, 1 death	46	\$65,850	N/A
Total		13,068*	\$369,683,338	\$106,043,108

*does not include counts for Animal Disease, Drought, Expansive Soils, Extreme Heat, Human Infectious Diseases, Infrastructure Failure, Landslide, or Sinkholes

However, during the planning process, the local planning team identified specific hazards of top concern for the district which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Pella Schools District. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

Hazard: Severe Thunderstorms

Per the NCEI database, frequent storms with severe-criteria wind (58 mph or greater) or severe-criteria hail (one-inch diameter or greater) have been officially recorded as impacting Pella since 1996. Of note, on June 20, 2015, golf ball-sized hail caused \$10,000 worth of property damage in Pella. On July 11, 2011, a thunderstorm generating 99 mph straight-line winds blew a roof off a building and caused \$50,000 in property damage in the city and \$50,000 in crop damages. The second most destructive storm occurred on June 30, 2014, when storm winds of 74 mph caused at least one large tree limb to fall and damage a house with additional widespread damage to trees, power lines, and structures from the high winds and from hail damage. The third strongest storm occurred on June 26, 2011, storms producing winds up to 89 mph caused \$30,000 in property damage.

The district is concerned about the risk of lightning disabling electronic equipment, thereby rendering important communication systems inoperable. To address this hazard presently, the district uses surge protectors with its electronic devices, to protect critical records. None of the district's facilities have backup power generators, but school facilities do have weather radios. The construction of a safe room would provide a safe location for students and staff to shelter during severe thunderstorms.

Mitigation Actions

OBJECTIVE	BACKUP GENERATORS
Description	Purchase/install backup power generators Problem: No backup generators are in place for periods of power outage.
Hazard(s) Addressed	Severe Thunderstorm, Severe Winter Storms, Tornadoes and High Winds, Extreme Heat
Estimated Cost	\$5,000
Potential Funding	District Fund
Timeline	5+ years
Priority	Medium
Lead Agency	Superintendent's Office
Status	This mitigation action has not been started.

Hazard: Tornadoes and High Winds

Per the NCEI database, three tornado events have occurred within the Pella Community School District from 1996 to 2021. Two EF1 tornado have occurred within the community on September 30, 2007, and June 20, 2021. These tornadoes caused \$75,000 and \$10,000 respectively in property losses with no injuries or losses of life. The strongest tornado occurred on July 19, 2018, when an EF-3 tornado developed 3 miles north of Pella and moved southeast along the community and encountered the Vermeer facility damaging one of the buildings and causing 13 workers to be injured. Overall the tornado caused \$120,000,000 in property damages.

Pella Community Schools is concerned about the potential displacement of living and educational facilities for students, faculty, and staff due to tornado damage, and the potential for loss of life, due to a lack of reinforced shelter. None of the district's facilities have been damaged by tornadoes in the recent past. The district does not have safe rooms in its facilities. Marion County does offer text alerts to warn residents of severe weather. The district backs-up its critical records. It also educates students about how to be safe during tornadoes.

Mitigation Actions

OBJECTIVE	SHELTERS OR SAFE ROOMS
Description	Construct public safe rooms in school and school property and integrate safe room retrofits into critical assets and facilities. Provide safe room design instruction. Problem: There are safe rooms rated for tornado grade winds located in the school
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes and High Winds
Estimated Cost	\$250,000
Potential Funding	District Funds
Timeline	2-5 years
Priority	Medium

OBJECTIVE	SHELTERS OR SAFE ROOMS
Lead Agency	Superintendent's Office
Status	This mitigation action has not been started.

Hazard of Note: Flooding

While flooding was not identified as a hazard of top concern for the school district to address, it is worth noting the potential for Pella Community Schools to experience flash flooding, especially along streets that do not have storm sewers. Broadway Street has poor storm water drainage and is located on the west side of Lincoln Elementary School. Because Marion County has a history of damaging flooding, it is possible that other flash flooding events that aren't officially recorded may have occurred. Lake Red Rock and the Des Moines River do lie close to district facilities and pose additional flooding threats.

Mitigation Actions to Improve Overall Capabilities:

OBJECTIVE	Jurisdictional Plans
Description	Establish and implement plans for increase hazard mitigation including a School Continuity Plan, Recovery Plan, and Restricted Access Procedures. Problem: Existing plans do not incorporate hazard mitigation planning principles.
Hazard(s) Addressed	All Hazards
Estimated Cost	\$5,000
Potential Funding	District Funds
Timeline	2-5 years
Priority	Low
Lead Agency	Superintendent's Office
Status	This mitigation action has not been started.

Removed Mitigation Actions

OBJECTIVE	PUBLIC AWARENESS
Description	Improve public awareness of hazard risks – dispense print materials
Hazard(s) Addressed	All Hazards
Reason for Removal	This project has been removed as it is not currently a priority for the district.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this profile as changes occur or after a major event. The local planning team will include the Superintendent and principal of each school. The plan will be reviewed and revised as needed annually and the district will notify the public of the plan review by sharing information on the school website.

Twin Cedars Community School Profile



**Marion County, Iowa
Hazard Mitigation Plan**

2023

Local Planning Team

The Twin Cedars Community School District's local planning team for the hazard mitigation plan are listed in the table below along with the meetings attended. All planning worksheets were filled out and returned by members of the local planning team.

Table TCS.1. Local Planning Team

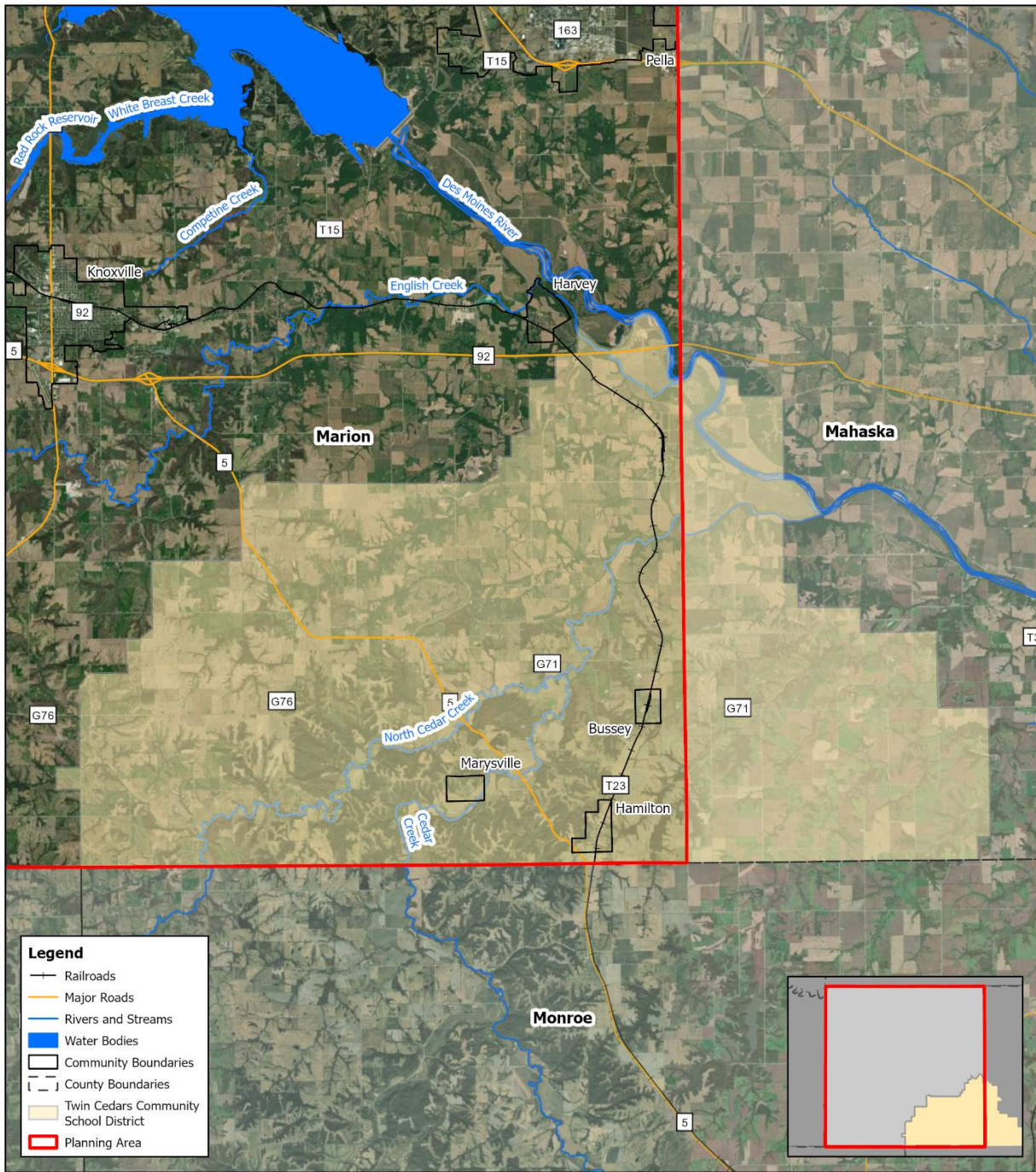
NAME	TITLE	JURISDICTION
Scott Bridges	Superintendent	Twin Cedars CSD

Location and Geography

Twin Cedars Community School District is a rural school district located in the City of Bussey within Marion County in south central Iowa. Bussey is located about 60 miles southeast of Des Moines. The population of Bussey, per the 2020 Bicentennial Census's estimate, is 387.

The district is comprised of two schools located on the same campus: Twin Cedars Elementary School and Twin Cedars Junior/Senior High School. The school district offices are located at 2204 Highway G71, Bussey, Iowa, 50044 within the elementary school building. The districts received students from the communities of Bussey, Pershing, Marysville, Hamilton, Tracy, and Attica within Marion and Mahaska Counties. Open enrollment is available to additional communities of Knoxville, Albia, Oskaloosa, Polla, and Melcher-Dallas. Besides English, Spanish is also spoken within the school district. The district's website is www.twincedars.k12.ia.us/.

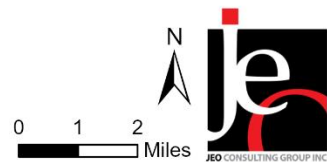
Figure TCS.1: School District Boundary



Created By: AGL
 Date: 9/13/2022
 Software: ArcGIS Pro 3.0
 File: Marion County APRX.aprx

Twin Cedars Community School District

Jurisdiction Boundary



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Demographics

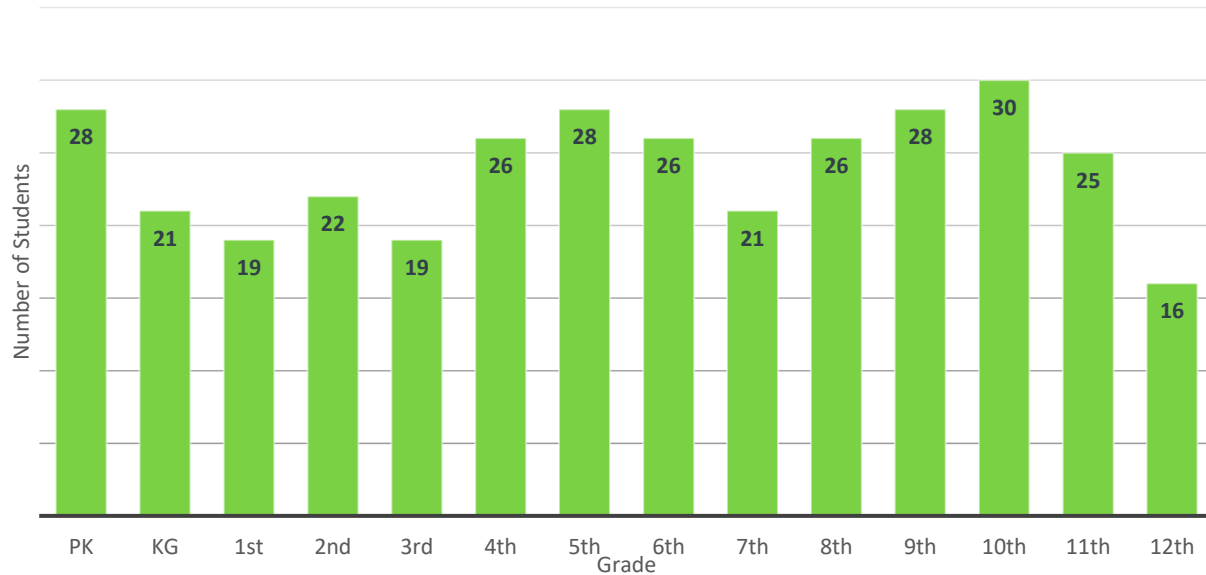
The following figure displays the historical student population trend starting with the 2005-06 school year and ending with the 2021-22 year. This data indicates that the student population has historically been decreasing but according to the local planning team, the student population has been increasing in recent year. There are currently 328 students enrolled in Twin Cedar Community Schools during the 2022-2023 school year. The district serves 188 different families for the 328 students enrolled. The below figure indicates the largest number of students in the 2021-2022 school year were in 10th grade, followed by Pre-Kindergarten and 5th grade. The lowest number of students were in 12th grade.

Figure TCS.2: Student Population 2006-2022



Source: Iowa Department of Education

Figure TCS.3: Students by Grade, 2021-2022



Administration

The district's superintendent is shared with Melcher-Dallas Community School District and oversees the implementation of mitigation actions in school facilities. The Twin Cedar Community School District has two building principals and employs 30 teachers and 41 support staff. The district also has relationships with various external departments that may be available to implement hazard mitigation initiatives including:

- Twin Cedars CSD Safety Committee
- Bussey Fire Department
- Marion County EMS
- Marion County Sheriff's Department

Capabilities

The capability assessment consisted of a review of local existing policies, regulations, plans, and programs with hazard mitigation capabilities. The following tables summarize the jurisdiction's planning and regulatory capability; administrative and technical capability; fiscal capability; educational and outreach capability; and overall capability to implement mitigation projects.

Table TCS.3: Capability Assessment

SURVEY COMPONENTS		YES/NO
Planning Capability	Capital Improvements Plan/Long-Term Budget	Yes
	Continuity of Operations Plan	Yes
	Disaster Response Plan	No
	Other (if any)	
Administrative & Technical Capability	GIS Capabilities	No
	Civil Engineering	No
	Staff who can assess jurisdictional vulnerability to hazards	No
	Grant Manager	No
	Mutual Aid Agreements	No
	Other (if any)	
Fiscal Capability	Applied for grants in the past	No
	Awarded grants in the past	No
	Authority to levy taxes or bonds for specific mitigation projects	Yes
	Development Impact Fees	No
	General Obligation Revenue or Special Tax Bonds in place	No
	Flood Insurance	No
	Other (if any)	
Education & Outreach	Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access, and functional needs populations, etc. (Ex. Parent groups, hazard mitigation boards, etc.).	No
	Ongoing public education or information program (Ex. Responsible water use, fire safety, household preparedness, environmental education, etc.)	No

SURVEY COMPONENTS		YES/NO
	StormReady Certification	No
	Other (if any)	
Drills	Fire	4/yr
	Tornado	4/yr
	Intruder	2/yr
	Bus Evacuation	2/yr
	School Evacuation	2/yr
	Other (if any)	

Table 2: Overall Capability

OVERALL CAPABILITY	
Financial resources to implement mitigation projects	Limited
Staff/expertise to implement projects	Limited
Public support to implement projects	Limited
Time to devote to hazard mitigation	Limited
Ability to expand and improve the identified capabilities to achieve mitigation	Limited

School Drills and Staff Training

The school district conducts safety drills annually for staff and students, including:

- Tornado Drills – four per year
- Shelter in Place Drills – four per year
- Bus Evacuation Drills – twice a year
- Intruder Drills – twice a year
- Tabletop Exercises – once a year
- Reunification Drills – once a year

Additionally, district staff are trained in emergency procedures through professional development. The school district employs a safety coordinator who plans the safety drills, and the district collaborates with Marion County EMS and the Sheriff’s Department to enhance the drills. The district’s efforts to educate its staff, students, and the community about its preparedness plans and emergency procedures include shelter in place, and evacuation processes which are shared via letters and emails. In the event of an emergency, parents and staff are alerted via the student information messaging system.

Plan Integration

Twin Cedars Schools has limited planning documents that discuss or relate to hazard mitigation. Each plan is listed below along with a short description of how it is integrated with the hazard mitigation plan or how it contains hazard mitigation principles. When the district updates these planning mechanisms, the local planning team will review the hazard mitigation plan for opportunities to incorporate the goals and objectives, risk and vulnerability data, and mitigation actions into the plan update.

Emergency Response Procedures

The school district maintains an Emergency Response Procedure document which is updated annually with the last update occurring in 2022. The plan outlines the chain of command for crisis situations, communication procedures during an emergency, crisis management procedures, safety precautions and emergency preparedness measures, and building security procedures. The crisis management section of this plan outlines the procedures for fires and tornadoes, emergency evacuations, bomb threats, suicide, death, serious injuries, kidnapping, terrorism, bus safety, hazardous materials, and emergency medical procedures such as first aid and blood borne pathogens.

Grants and Funding

According to the local planning team, district funds are limited to maintaining current facilities and systems and are not sufficient to support pursuit of new capital projects. The district's funding amount has remained the same over recent years. No portions of the district funds have been dedicated to a specific project. In the last five years, the district has applied for and been awarded the Federal Electric Bus Grant and the Iowa School Safety Improvement Grant.

Facilities Plan

The school district utilizes a Facilities Plan that is meant to help the district keep the school's facilities current and updated. The plan was last updated in 2022.

Future Development Trends

In the past five years, the Twin Cedars Community School District has installed new roofs on most buildings within the district and a new concession stand and maintenance garage was built in 2022. According to the local planning team, the student population is growing due to new families moving into the district. The district is experiencing more open enrollment students. Currently the planning team does not have plans for new construction or renovations to be occurring in the next five years.

Community Lifelines

Community lifelines are vital for disaster response, providing shelter to the public, and essential for returning the jurisdiction’s functions to normal during and after a disaster per the FEMA Community Lifelines guidance. The FEMA recognized lifelines include: Safety and Security; Food, Water, and Shelter; Health and Medical; Energy; Communication; Transportation; and Hazardous Material facilities. The following subsections list those community lifelines broken down by type, as identified by the local planning team.



Table TCS.4: Community Lifelines

#	CRITICAL FACILITY NAME	ADDRESS	# OF STUDENTS	GENERATOR (Y/N)	SHELTER LOCATION (Y/N)	HAZARD TYPE CONCERNS AND NOTES
1	Twin Cedars High School	2204 Highway G 71, Bussey, IA 50044	146	N	Y	
1	Twin Cedars Elementary School	2204 Highway G 71, Bussey, IA 50044	189	N	Y	

Transportation

The Twin Cedars Community School is located off a major transportation corridor County Highway G71, though according to the local planning team there is no concern regarding the transportation routes within the district. To date, no major accidents have impacted the school. Twin Cedars Community School owns eight buses and transports approximately 230 students to and from school.

Hazardous Materials – Chemical Storage Fixed Sites

According to the local planning team, there are no chemical storage facilities of concern in or near the school district. According to the Tier II System reports submitted to the Iowa Department of Natural Resources, there are no hazardous materials chemical sites within or near Bussey. The planning team reports no history of chemical spills occurring in the school district. If a chemical spill were to occur, the Bussey Fire Department would be first to respond to the incident.

Figure TCS.2: Critical Facilities



Hazard Prioritization

The Marion County Hazard Mitigation Plan evaluates a range of natural and human-caused hazards which pose a risk to the counties, communities, and other participants. However, during the planning process, the local planning team identified specific hazards of top concern for Twin Cedars Schools which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Twin Cedars Community School District. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. The table below shows hazard counts, property damages, crop damages, or other impacts for the entirety of Marion County. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Agricultural Plant and Animal Disease	Animal Disease	Unknown	N/A	N/A
	Agricultural Plant Disease ¹	18	N/A	\$705,024
Dam Failure^{3,11}		0	-	N/A
Drought^{4,7}		489/1,532 months	\$12,650,000	\$22,863,238
Earthquake⁵		0	-	\$0
Expansive Soils		Unknown	N/A	N/A
Extreme Heat⁶	Heat (≥100°F)	Avg 2 day /year	\$135,000	\$190,811
Flooding⁷	Flash Flood	34	\$2,117,000	\$4,759,233
	Flood	99	\$5,037,070	
Grass and Wildland Fire⁸ 1 injury		39	209 Acres	-
Hazardous Materials Release	Fixed Site ⁹ 3 injuries	25	\$200,000	N/A
	Transportation ¹⁰	6	\$885,874	N/A
Human Infectious Diseases¹⁶		8,784 cases; fatalities	COVID 133 N/A	N/A
Infrastructure Failure		Unknown	N/A	N/A
Landslide		Unknown	N/A	N/A
Severe Thunderstorms⁷	Hail	144	\$755,000	\$22,844,644
	Heavy Rain	93	\$0	
	Lightning	6	\$117,000	
	Thunderstorm Wind 1 injury	185	\$3,503,000	
Blizzard		11	\$335,000	\$971,532

HAZARD TYPE		COUNT	PROPERTY (\$)	CROP (\$)²
Severe Winter Storms and Extreme Cold ⁷	Extreme Cold/ Wind Chill ($\leq 10^{\circ}\text{F}$) ⁶	310 days	N/A	
	Heavy Snow	24	\$861,560	
	Ice Storm	11	\$323,330	
	Winter Storm	25	\$564,900	
	Winter Weather	1	\$0	
Sinkhole		Unknown	N/A	N/A
Terrorism and Civil Disorder ¹²		0	-	N/A
Tornado and High Winds ⁷	Tornadoes: Average: EF1 Range: EF0-EF3 24 injuries	25	\$121,535,000	\$537,598
	High Winds: Average: 56 mph Range: 40-73 mph	31	\$879,110	\$144,633
Transportation Incident	Auto ¹³ 1,649 injuries, 38 deaths	5,640	\$34,979,475	N/A
	Aviation ¹⁴ 4 injuries, 4 deaths	22	N/A	N/A
	Rail ¹⁵ 18 injuries, 1 death	46	\$65,850	N/A
Total		13,068*	\$369,683,338	\$106,043,108

*does not include counts for Animal Disease, Drought, Expansive Soils, Extreme Heat, Human Infectious Diseases, Infrastructure Failure, Landslide, or Sinkholes

However, during the planning process, the local planning team identified specific hazards of top concern for the district which required a more nuanced and in-depth discussion of past local events, potential impacts, capabilities, and vulnerabilities. The following section expands on the hazards of top concern identified by the Twin Cedars School District. Based on this analysis, the local planning team determined their vulnerability to all other hazards to be of low concern. For a review and analysis of other regional hazards, please see *Section Four: Risk Assessment*.

Hazard: Severe Thunderstorm

Marion County has a history of damaging severe thunderstorms, and the district is prone to them. Per the NCEI database, in recent years, several storms with severe-criteria wind (58 mph or greater) and/or severe-criteria hail (one-inch in diameter or greater) have impacted the school district. Of note, a storm on June 26, 2011, generated 66 mph winds that caused \$20,000 in property damage in Bussey. A hailstorm in Bussey on April 30, 2003, produced 1.75-inch hail. A storm in early 2023 caused \$1,000,000 in wind and hail damage to the school roofs. The school district replaced all roofs. The district is very concerned about lightning strikes, and the danger they present to students, staff, and district property and facilities. To address this hazard, the district uses surge protectors with its electronic devices. The district does not

have backup power generators, weather radios, or high hazard designated safe rooms. Few if any power lines in the district are buried. There are no known hazardous trees in the district that need to be removed.

Mitigation Actions

OBJECTIVE		SHELTERS OR SAFE ROOMS
Description	Construct public safe rooms in school and school property and integrate safe room retrofits into critical assets and facilities. Problem: There are no safe rooms rated for tornado grade winds located in the school	
Hazard(s) Addressed	Severe Thunderstorms, Tornado and High Winds	
Estimated Cost	\$250,000	
Potential Funding	Local Option Sales Tax	
Lead Agency	School Board	
Timeline	2-5 years	
Priority	High	
Status	This mitigation action has not been started yet.	

OBJECTIVE		HANDICAP ACCESSIBILITY
Description	Make all school facilities handicap accessible – including new or retrofitted shelter areas. Problem: Certain portions of school facilities are not handicap accessible.	
Hazard(s) Addressed	All Hazards	
Estimated Cost	\$20,000	
Potential Funding	General Funds	
Lead Agency	School Board	
Timeline	2-5 years	
Priority	High	
Status	This mitigation action has not been started yet.	

Hazard: Severe Winter Storms and Extreme Cold

Per the National Weather Service, a Blizzard Warning is issued when heavy snowfall with winds of at least 35 mph, and visibility of one-quarter mile or less, is expected for at least three hours. A Winter Storm Warning or a Heavy Snow Warning is issued for severe winter storms that fail to meet all three of those criteria. An Ice Storm Warning can also be issued for situations when ice accumulation of more than one-half inch or greater over an extended area is expected. Per the NCEI database, in recent years, Marion County has experienced frequent winter storms, featuring heavy snowfall, ice, or blizzard-criteria conditions.

The school district is concerned about power outages and the impact loss of power has on facility temperatures. The district is also concerned about children being stranded at schools or along bus routes during severe winter weather and avoiding highway accidents involving buses or other vehicles transporting students. The district incorporates many gravel roads in multiple counties, so road conditions during icy weather are a major concern. The districts’ buildings have not experienced structural damages from these storms. To mitigate this hazard presently, school buses have designated routes they follow when the roads are treacherous – mainly highways. Marion, Mahaska, and Monroe Counties all have roads in the district, and are responsible for clearing the county routes in their respective jurisdictions. Snow fences are used on district property. The district owns two snowplows and a skid loader, and believes these resources are sufficient for snow removal.

Mitigation Actions

OBJECTIVE	BACKUP GENERATORS
Description	Purchase/install backup power generators Problem: No backup generators are in place for periods of power outage.
Hazard(s) Addressed	Severe Thunderstorm, Severe Winter Storms, Tornadoes and High Winds, Extreme Heat
Estimated Cost	\$5,000
Potential Funding	HMA grants, District Fund
Timeline	5+ years
Priority	Medium
Lead Agency	Superintendent's Office
Status	This mitigation action has not been started.

Hazard: Tornadoes and High Winds

Per the National Climatic Data Center database, no tornadoes since 2000 have been officially recorded as impacting the City of Bussey, Twin Cedars Schools, or its immediate outskirts. However, Marion County has a history of damaging tornadoes, and damaging tornadoes up to EF-3 intensity have impacted areas outside of Marion County that are within 15 miles of the school's district's facilities in Bussey. While the district's facilities have not been damaged by tornadoes in past years, there is a risk of property damage and loss of life from these events. The district has experienced damage due to high winds from a derecho and second high windstorm. To address this hazard, the school has a detailed tornado plan, and designates areas for students to obtain shelter during tornadoes. However, these designated areas are not rated to withstand tornado level winds.

Mitigation Actions

See the "Shelters or Safe Rooms" mitigation action for this hazard.

Other Hazard of Concern: Flooding

Of note, the school district identified flooding as a concern; however, there are no specific mitigation actions identified to remediate the flooding issues experienced. The school district is concerned most about river flooding, being that flooding along Cedar Creek has closed roads leading to school. Therefore, there's a risk of students being stranded at the school during flooding events. Making improvements to transportation corridors is outside the responsibility of the school district; however, they may partner with the City of Bussey or Marion County to identify areas in need of flood mitigation work.

Marion County has a history of damaging flooding, though the school district has not suffered damage from a flood event. Per the NCEI database, in recent years, several storms producing damaging flooding have impacted Bussey or its immediate outskirts. Of note, on June 25, 2015, Cedar Creek flooded, causing \$100,000 in property damage near town. Cedar Creek also flooded near Bussey on April 19, 2013, submerging and forcing the closure of Highway G71. This event caused \$10,000 in property damage. The NCEI database records more than 20 additional reports of damaging flooding in or near Bussey since 2000.

Completed Mitigation Actions

OBJECTIVE	Wind Breaks
Description	Install wind breaks to prevent drifting on roadways
Hazard(s) Addressed	Severe Winter Storms, Severe Thunderstorms, High Winds
Status	This mitigation action has been completed.

SECTION SEVEN: TWIN CEDARS COMMUNITY SCHOOL DISTRICT PROFILE

OBJECTIVE	Weather Radio
Description	NOAA weather radios in schools and on school property
Hazard(s) Addressed	Severe Thunderstorms, Severe Winter Storms, Tornadoes and High Winds
Status	<i>This mitigation action was completed.</i>

OBJECTIVE	Electronic Directory
Description	Develop electronic directory of local and other resources
Hazard(s) Addressed	All Hazards
Status	This mitigation action has been completed.

OBJECTIVE	Hazard Mitigation Plan Leadership and Transportation Awareness
Description	Develop annual leadership awareness campaign for HMP and develop a rail and highway safety education program for students
Hazard(s) Addressed	All Hazards, Transportation Incidents
Status	This mitigation action has been completed.

Removed Mitigation Actions

OBJECTIVE	Harden Buildings
Description	Harden school buildings.
Hazard(s) Addressed	Tornadoes and High Winds
Status	Removed by local planning team.

OBJECTIVE	Warning Sirens
Description	Install warning sirens
Hazard(s) Addressed	Severe Thunderstorms, Tornadoes and High Winds
Status	Removed by local planning team.

OBJECTIVE	Jurisdictional Plans
Description	Assure local plans are in place and current and implement additional plans including School Continuity of Operations and Succession Plan, Mass Casualty Incident Plan, and Restricted Access Procedures. Fully review policies, procedures, and codes.
Hazard(s) Addressed	All Hazards
Status	Removed by local planning team.

OBJECTIVE	Emergency Communications
Description	Purchase new, modernize, and/or harden existing mobile and personal communications equipment.
Hazard(s) Addressed	All Hazards
Status	Removed by local planning team.

OBJECTIVE	Public Awareness
Description	Improve public awareness of hazard risks – dispense print materials or post an information sign or kiosk.
Hazard(s) Addressed	\$5,000
Status	Removed by local planning team.

Plan Maintenance

Hazard Mitigation Plans should be living documents and updated regularly to reflect changes in hazard events, priorities, and mitigation actions. These updates are encouraged to occur after every major disaster event, alongside community planning documents (i.e. annual budgets and Capital Improvement Plans), during the fall before the HMA grant cycle begins, and/or prior to other funding opportunity cycles begin including CDBG, Water Sustainability Fund, Revolving State Fund, or other identified funding mechanisms.

The local planning team is responsible for reviewing and updating this profile as changes occur or after a major event. The local planning team will include the Superintendent, Elementary Principal, and JH/HS Principal. The plan will be reviewed and revised as needed annually and the district will notify the public of the plan review by sharing information on the school website and discussing it at school board meetings.