

NATURAL HAZARDS MITIGATION PLAN

Defiance County, Ohio

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Note: Townships are considered political entities and their mitigation strategies are to be included with the Defiance County Jurisdiction

Section 1. Resources and Preparations for the Plan

PLAN ADOPTION AND PARTICIPATION

The Defiance County Natural Hazards Mitigation Plan was developed under a Multi-jurisdictional Adoption. Jurisdictions are defined as villages, cities, or the unincorporated areas of Defiance County. More specifically for this plan jurisdictions include Defiance County, Defiance City, Hicksville Village, Ney Village and Sherwood Village. Each jurisdiction has formally agreed to participate in the planning process by way of memorandum correspondence in January 2003 from the Defiance County Public Safety Office to all Defiance County township trustees, county commissioners, mayors, and administrators. All jurisdictions have participated in the planning process. After being accepted in final form by the Ohio Emergency Management Agency, all jurisdictions have formally adopted the components of the approved plan. Each jurisdiction meeting the requirements have formally approved this countywide plan by authorizing signatures in Appendix HH

A diverse core group has been utilized for the Defiance County Natural Hazards Mitigation Plan. This core group is the Local Emergency Planning Committee (LEPC) and represents a cross-section of people in the community including local government staff, the public, local industry leaders, law enforcement and fire and rescue personnel. The core group was utilized by involving them with planning procedures, development of natural hazards problem statements, and identifying barriers that exist that prevent the jurisdictions from reaching its "desired state" of mitigation planning. The core group also reviewed and approved the plan in December 2003. The roll call of the core group is:

Becky Wagner, County Operations Manager
Bill Wilkins, Def. City Fire
Brent Peterson, Jewell Grain Company
Carol Armitage, 911
Chuck Renn, General Motors
Tom Kime, County Commissioner
Otto Nicely, County Commissioner
Richard Cromwell, County Commissioner
Craig Richards, Health District
Dick Bonin, Johns Manville
Doug Engel, Multi Area Narcotics Unit
Ed Bohn, EMS Council President
Gina Pirani, Defiance Community TV
Greg Reinhart, Waste Water Operations
Jim Harris, Defiance Soil & Water Conservation District
John McCalla, Hicksville Grain
Julie Fowler, EMA Defiance County
Karen Weaver, Defiance Hospital
Kim Moss, Health Commissioner
Mark Hopper, EMA Defiance County

Mike Yurgec, Fire Chief at General Motors
Pam Franklin, Hicksville Hospital
Penny Wiseman, Red Cross
Pete Schlosser, City of Defiance Fire Department
Randy Weber, ANR Pipeline
Rich Lauffer, Ohio EMA
Richard Kipp, Defiance City Water Treatment Facility
Dr Gerald Wood, Defiance College
Cheryl Kehnast, Terrorism Planning at Health Dept.
Chief Norm Walker, Defiance Police Department
Chief Lorie Szabo, Hicksville Police Department
John Kaylor, Defiance County Board of Education
Bobby Olashuk, The Volunteer Connection
Jim Weber, National Guard Liaison

In January 2003, the political entities of Defiance County, which includes the jurisdictions defined previously in this plan plus all twelve townships, were surveyed by U.S. mail with an instrument designed to accomplish two goals. The first goal was to have an official response by each political jurisdiction as to their participation in the multi-jurisdiction Defiance County Natural Hazard Mitigation Plan. The second goal was to measure the political entity's risk to natural hazards that have been previously determined by the Defiance County Comprehensive Plan of 2000 and the current County Emergency Operations Plan. The results of the second goal will be discussed in Section 3.

All Defiance County political entities replied with official signatures indicating their participation in the 2003 Defiance County Natural Hazard Mitigation Plan. Table 1. summarizes the political entities participation in the Defiance County Natural Hazard Mitigation Plan 2003 as of March 7, 2003.

Table 1. Political Entities Participating in the Defiance County Natural Hazard Mitigation Plan 2003.

	Choosing to Participating	Choosing NOT to Participating
Adams Township	X	
Defiance, City of	X	
Defiance County	X	
Defiance Township	X	
Delaware Township	X	
Farmer Township	X	
Hicksville Township	X	
Hicksville, Village of	X	
Highland Township	X	
Mark Township	X	
Milford Township	X	
Ney, Village of	X	
Noble Township	X	
Richland Township	X	
Sherwood, Village of	X	
Tiffin Township	X	
Washington Township	X	

Section 2. Planning Process

The Defiance County office of Public Safety recruited OSU Extension to provide leadership for the Defiance County Natural Hazards Mitigation Plan research and development. The process selected and used was simple and effective to develop mitigation strategies for each jurisdiction.

Open Public Involvement

An open public involvement process was essential to develop an effective plan. The planning process included an opportunity for the public and their elected officials to comment on the plan during the drafting stage and prior to plan approval. Adjacent counties were notified of the plan development with an invitation for comment (Appendix Z).

During the planning and drafting stage of the plan, the Defiance County Public Safety Office hosted a weather spotter class (March 12, 2003) and two emergency preparedness meetings (May 13, 2003 and May 16, 2003) for area citizens. The audiences consisted of Defiance County residents and citizens from adjacent counties and communities. The participants were asked to complete a survey that measured their perceived risk to natural hazards. The survey also requested input on how the risk affects the citizen and requested the citizen to suggest possible projects pertaining to the risk.

Additional public involvement and comments was accepted following the planning stage when jurisdictions identify prioritized mitigation projects for each jurisdiction through

the stage when the final Defiance County Natural Hazards Mitigation plan is completed and adopted. A public meeting was hosted on November 3, 2003 (Appendix DD) and the Draft Mitigation Plan was available for comment. One Defiance County resident participated in the public meeting and did not submit written or oral comment pertaining to the draft plan. A 30-day open comment period began Oct 29, 2003 and ended November 28, 2003 was also made available for citizens to provide written and oral comments. No comments, written or oral, were received during the meeting or comment period.

Section 3. Risk Assessment

A. HAZARD IDENTIFICATION

1. Existing Documentation and Plans

- a. The Defiance County Emergency Operations Plan (EOP) in February 2002 identified natural hazards risking to Defiance County citizens and public and private physical property. The EOP plan identified natural hazards as a threat to Defiance County as: floods, severe storms including winter storms, droughts, tornadoes/high winds, and earthquakes. The EOP plan also provided an assessment that includes estimated population at risk as well as a scale indicating the perceived level of risk. The data is summarized in Table 2.

Table 2. Defiance County Emergency Operations Plan Risk Assessment 2002

Hazard	Population at Risk	High	Medium	Low
Floods	4,000	X		
Severe Storms including Winter Storms	39,000	X		
Droughts	39,000		X	
Tornadoes/High Winds	5,000		X	
Earthquakes	39,000			X

- b. The Flood Insurance Study (FIS), Defiance County, OH, Unincorporated Areas report was used to provide background information on the 100-year floodplain determination. The FIS document was completed August 1990 by Federal Emergency Management Agency in cooperation with, the Ohio Department of Natural Resources, and the U.S. Army Corps of Engineers. Information from the FIS will be discussed in Section 3 Profiling Hazard Events.
- c. The Defiance County Comprehensive Plan (CP) was used to provide background information for Defiance County demographics, historical data, infrastructure resources and future community planning objectives. Brae Birch Institute, Toledo, OH, completed the CP in January 2000 for the Defiance County Commissioners.

2. Jurisdiction (including all political entities)

In January 2003, all the political entities of Defiance County were surveyed by U.S. mail with an instrument designed to measure their risk to natural hazards. The natural hazards had been previously determined by the Defiance County Comprehensive Plan of 2000 and the current County Emergency Operations Plan. Each political entities also had opportunity to provide additional natural hazards and concerns.

Each participating political entity completed a rank-scale survey instrument (Appendix Y) that measured the elected officials relative concern of five natural hazards on how they directly relate to their jurisdiction. The individual responses were summarized (Table 3) but each response can and should be viewed independently to allow for localized or small community perspective. The political entities ranked the natural hazards on a scale of 1 (lowest concern) to 5 (most significant).

Table 3. Summary of Natural Hazards by Participating Political Entity (03/07/03)

	Winter Storm, Blizzard, Ice	Tornado	Flooding	Drought	Earthquake
Adams Twp.	5	3	4	2	1
Defiance, City of	4	4	5	2	1
Defiance, County of	4	5	3	3	1
Defiance Twp.	5	4	3	2	1
Delaware Twp.	5	5	3	5	2
Farmer Twp.	4	4	5	2	1
Hicksville Twp.	3	2	1	3	1
Hicksville, Village of	5	5	3	2	3
Highland Twp.	4	3	4	5	2
Mark Twp.	5	5	5	5	1
Milford Twp.					
Ney, Village of	4	4	4	not ranked	not ranked
Noble Twp.	5	5	4	4	2
Richland Twp.	3	3	2	1	1
Village of Sherwood	5	5	5	5	3
Tiffin Twp.	5	5	5	4	1
Washington Twp.	5	5	3	4	2
Average Ranking	4.4	4.2	3.7	3.3	1.5

1 = lowest concern 5 = most significant

3. Public Involvement

The Defiance County Public Safety Office hosted three separate meetings to gather public input to hazard identification. A weather spotter class (March 12, 2003) and two emergency preparedness meetings (May 13, 2003 and May 16, 2003) were held for area citizens. Public notice was given by newspaper (Appendix AA-CC) and radio interview to invite local and neighboring communities to provide input for hazard identification. The audiences consisted of Defiance County residents and citizens from adjacent counties and communities. The participants were given an overview of the mitigation planning process and were asked to complete a survey that measured their perceived risk to natural hazards. The survey also requested input on how the risk affects the citizen and requested the citizen to suggest possible projects pertaining to the risk. The participants ranked the natural hazards on a scale of 1 (lowest concern) to 5 (most significant) and the results are summarized in Table 4.

Table 4. Citizen Results Ranking Risk to Natural Hazards

Natural Hazard	Number of Responses	Average Ranking
Winter Storm / Blizzard / Ice	18	3.9
Tornado	18	3.6
Flooding	18	2.9
Drought	18	2.5
Earthquake	18	1.3

1 = lowest concern 5 = most significant

Summary of Hazard Identification

Two separate measurements of natural hazard ranking in Defiance County of two different groups produced results of similar ranking. The two groups were public officials elected to represent their political entity and self-selected Defiance County and neighboring citizens participating in a local weather spotter class or two emergency preparedness meetings offered by the Defiance County Public Safety Office. In both groups, the natural hazards of winter storm, tornado, flooding, drought and earthquake were rated “most significant” to “lowest concern” respectively. In both groups, the risk of earthquake ranked well below the other four natural hazards.

Within the responses of each political entity, the ranking was fairly consistent to the mean except for some political jurisdictions ranking flooding or drought above or equal to winter storm and/or tornado.

B. PROFILING DEFIANCE COUNTY'S NATURAL HAZARD EVENTS

The profile of Defiance County's natural hazards was completed by contacting governmental agencies, reviewing existing documentation and researching historical records. The top three natural hazards are profiled in the following section and include winter storms, tornados, and flooding. Drought and earthquake will be added based on the guidance of the local emergency planning committee.

1. Winter Storms

Winter storms will be profiled to include all jurisdictions in the plan because of the widely distributed nature of the hazard and the unpredictability of future events.

Precipitation in the form of snowfall, as expected, has a strong positive correlation with the temperature regime of Ohio. The five warm weather months of May through September are snow-free. Snowfall is a seasonal phenomenon associated with the seven cold weather months. Reported in the Defiance County Comprehensive Plan 2000, the total snowfall averages 24.4 inches annually. However, Kevin Barjenbruch, National Weather Service of Northern Indiana reports by e-mail to the authors (12/20/03) that Toledo averages 37.4 inches of snowfall a year, while Fort Wayne averages 35.1 inches, so the 24.4 inch amount, looks low and is likely the result of missing data. April and October, on the cusps of spring and winter respectively, have negligible amounts of snowfall (0.9 in. and 0.1 in. respectively). March and November, at the end and the beginning of winter respectively, have moderate amounts of snow (3.6 in. and 1.8 in. respectively). December, January, and February have appreciable amounts of snow (5.3 in., 6.7 in., and 6.0 in. respectively) and constitute the height of the snow season.

Viewing monthly extremes (Table 5) over several decades, however, reveals snowfall maximums over the years ranging from 1.5 in. in October to 26.0 in. in January, with double-digit snowfall amounts from November (13.0 in.), December (19.9 in.), February (19.0 in.), and April (14.0 in.). The record year for the most snowfall was 1977 in which 47.5 inches were received. Conversely, the record year for the least snowfall was 1949 in which only 4.7 inches were received.

Table 5. Average Monthly Snowfall at Defiance, OH (Source: Defiance County Comp Plan 2000) (1936-37, 1939-81, 1983-86, 1988, 1990-95)

Month	Monthly average (inches)	Maximum monthly average (inches)	Year	Minimum monthly average (inches)	Year
January	6.7	26.0	1978	0.0	1944
February	6.0	19.0	1982	0.0	1987
March	3.6	9.0	1965	0.0	1991
April	0.9	14.0	1957	0.0	1995
May	--	--	--	--	--
June	--	--	--	--	--
July	--	--	--	--	--
August	--	--	--	--	--
September	--	--	--	--	--
October	0.1	1.5	1962	0.0	1995
November	1.8	13.0	1966	0.0	1994
December	5.3	19.9	1944	0.0	1994
			Maximum Annual		
Annual Mean	24.4	47.5	1977	4.7	1949
			Minimum Annual		

The National Weather Service of Northern Indiana reports all-time records related to the winter season in Defiance County. They are reported for the period 1896-1999 in Table 6.

Table 6. All-time Winter Season Records (1896-1999). Nat'l Weather Service.

Minimum temperature	-26, January 13, 1912
Minimum max temperature	-10, December 25, 1983 and January 19, 1994
Most days in a row with lows < zero	13, February 1-12, 1978
Lowest daily average temp	-15, January 19, 1994 (high-10, low -20)
Maximum calendar day snowfall	12.0" December 20, 1973
Maximum snowdepth	21" February 5-9, 1978 and February 14-21, 1978
Most days in a row with measurable snowfall	6, December 11-16, 1950...January 24-29, 1951...December 30, 1980 - January 3, 1981
Most number of days in a row with measurable snowdepth	67, December 11, 1944 – February 14, 1945 and January 9 – March 16, 1978

The National Weather Service of Northern Indiana records significant winter storm events that cause hardship to human activity and property loss. Years with large snow accumulation did not always directly correlate to a significant winter storm event in the sense of a natural hazard. In the same regards, years with low snow accumulation sometimes in combination with ice and wind causes as much hardship to human activity and property loss.

The National Weather Service has provided data that includes winter storm records from 1993 – 2002. Table 7 summarizes the date and description of each winter storm as reported by the National Weather Service.

Table 7. National Weather Service Winter Storm Data 1993-2002 (Source: <http://www.ncdc.noaa.gov/oa/ncdc.html>)

Date	Description
2/22/93	Heavy Snow
3/4/93	Ice and Snow
3/13/93	Blizzard
12/26/93	Extreme Cold
2/25/94	Heavy Snow
4/6/94	Heavy Snow
1/21/95	Heavy Snow
2/11/95	Extreme Cold
4/4/95	Extreme Cold
4/10/95	Glaze (Ice)
9/11/95	Record Cold Frost
12/9/95	Extreme Cold
1/2/99	Heavy Snow
3/11/00	Heavy Snow
12/13/00	Heavy Snow
12/25/02	Heavy Snow
2/22/03	Heavy Snow

The Ohio Emergency Management Agency (OEMA) reported Presidential declarations of disasters in Ohio from 1964–2003. An example of a disaster declaration in Defiance County for a winter storm event was the blizzard of Jan 26, 1978. Although OEMA reported the costs of the disaster on a statewide basis, the blizzard of '78 cost Ohio an estimated \$3.5 Million.

WBGU-PBS, Bowling Green, OH - Summary of the Blizzard of '78

It was the worst storm to ever hit northwest Ohio. Between January 26 and 29 of 1978, 12 inches of snow fell overnight in northwest Ohio. But it wasn't the accumulation that was a problem. Winds gusted at 60 miles per hour, and the temperature dropped to around 11 degrees. Lives were disrupted and some were lost.

The storm caught residents off guard. The night before it started many people thought the incoming storm was just another winter disturbance – certainly nothing to worry about. But upon awaking the next morning, it was all too apparent, this was not a typical storm.

Gas, electric and telephone service was lost in many areas and the storm was preventing city and utility workers from getting service restored. People fought for anything and everything to stay warm; some even tore apart and burned furniture in their effort to have some heat. Some people suffered carbon monoxide poisoning from using outdoor grills indoors for heat.

Blizzard of '78: A Meteorological Review

This overview is reprinted from a report by United Press International's Jay Gibian. The report, entitled *Blizzard - An Ohio UPI Broadcast Special*, was issued February 17, 1978. The report was re-typed here in its original broadcast copy form.

A storm of unprecedented magnitude.... that's what the National Weather Service terms the blizzard that whipped Ohio last month. What occurred on January 26th, 1978 in Ohio was not a blizzard. What did occur was even rarer and even more dangerous: a severe blizzard.... the worst of winter storms.

The National Weather Service defines a "severe blizzard" as a storm with winds of 45 miles per hour or greater; a great density of falling or blowing snow; and temperatures of 10 degrees or less.

In fact, winds gusted to more than 100 miles per hour over much of the state, with sustained winds in the 45-60 mph range. Record snowfalls were recorded in many areas and an all-time low barometric pressure records were shattered as the intense storm whipped the state.

With the assistance of Ed Degan, a meteorologist at the Akron-Canton Airport's Weather Service Office, UPI has summarized the development of that storm-of-storms:

On January 24th, two seemingly unrelated low pressure areas, one in the western Gulf of Mexico and the other in northern North Dakota, began to develop. The North Dakota low was expected to pass north of Ohio, posing no great weather threat to the state. The gulf low was forecast to move gradually northeastward toward Ohio. Rain was expected to develop over the state, changing to snow, as colder air moved in behind the storm system.

On Wednesday, January 25th, all the weather patterns seemed to be occurring as forecast. The Gulf low moved into northern Louisiana during the morning, the other system was moving to the east. Then the first signs of something ominous began to appear.

The North Dakota low began tracking more to the southeast and atmospheric pressure, north of the Gulf low, began to fall rapidly. It became apparent to meteorologists that the two low pressure systems were on a collision course....and that collision would occur over, or very near, the state of Ohio. At 4:30 p.m., the Weather Service issued heavy snow warnings for northwestern Ohio and a winter storm warning for the remainder of the state.

By early Wednesday evening, the low from North Dakota was tracking directly toward Ohio. It then became obvious that a very dangerous weather situation faced Ohioans. Forecasters issued blizzard warnings for the entire state at 9 p.m., January 25th. The weather conditions at this time, however, were misleading....and those conditions are blamed for many being surprised by the storm.

Rain had spread over Ohio and temperatures were in the 40s across most of the state. The wind increased slightly as midnight approached, but conditions were more typical of an early spring rainstorm, than those preceding a disaster. Midnight passed, however, and wind speeds continued to increase. It swiftly became evident that a storm of unprecedented magnitude was imminent.

But then the two storms met and did something that even the meteorologists....who had expected a blizzard....did not foresee. The two low pressure centers twisted together....a very rare and dangerous occurrence. Warm air began to flow into Ohio from the north and colder air into the state from the south. The rain abruptly changed to snow, spreading northeastward and gaining in intensity. Wind speeds, by that time, had reached the 70 mile per hour range and gusts of more than 100 miles per hour downed power lines, billboards, mobile homes, and tree limbs. And then the snow....caught by the strong winds....began to form deep, deep drifts. An entire semi-trailer truck was buried in one snow bank near Mansfield. The driver was not rescued until nearly a week later.

Hundreds upon hundreds of motorists were stranded in their cars along nearly every highway in the state. The Ohio Turnpike, for the first time in history, was completely shut down. Interstate highways were, for the most part, impassable. Smaller roadways in nearly every county were invisible beneath the snow. Visibility was often reported at zero.

Electric service to thousands of homes across the state was disrupted. Many persons were forced to leave their frigid homes. Suffering, discomfort, and danger were, by then, commonplace. Deaths occurred. Officials urged all Ohioans to remain at home as temperatures dropped to near zero. Wind chill factors across the state plummeted to near 60 degrees below zero.

In all, 35 persons died during that storm. Officials, even today, say some bodies still may be buried in unmelted snowdrifts. The Blizzard of 1978 was, in fact, the worst storm to ever occur in Ohio.

Summary of Winter Storm Hazard Identification

Each jurisdiction will have equal risk of future winter storm damage from snow, ice, cold temperatures and wind. Although the database from the NCDC is not extensive, the snowfall records and accounts of the Blizzard of '78 show the magnitude of winter storms is high for all jurisdictions.

Number of Structures and Value at risk to Winter Storms

Defiance County has various structures and infrastructure that are potentially at risk to winter storms. Appendix EE summarizes the best available 2003 market value of structures and infrastructure that exist in Defiance County as of November 2003. The values were obtained from the Defiance County Auditors office. The exempt column

includes structures that carry a market value but are exempt from property taxes collect by the auditors office. Utility/Infrastructure includes electric, gas, communication, etc assets that serve the citizens of Defiance County. The values are considered replacement value of the structures and infrastructure. Appendix FF summarizes the best available number of land parcels that have building structures and/or utility/infrastructure. Each parcel may have multiply structures that combine into the total market value. This is the best available data that exist for the number of structures vulnerable to natural hazards in Defiance County.

a. ASSESSING VULNERABILITY – IDENTIFYING ASSETS

Winter storm risk will be shared equally among all jurisdictions in Defiance County. The assets at risk are all current buildings, infrastructure, facilities and human population located in Defiance County.

The infrastructure of Defiance County is extensive and includes utilities and transportation. Public sewer and water is extended to several communities of significant population while much of the rural area rely on private wells or ponds for a water supply and an on-site absorption field system for sewage treatment. Either Toledo Edison or Northwest Electric Cooperative distributes electricity to residence and business of Defiance County.

Total highway mileage in the State Highway System is 155 miles. Total highway mileage in the County Highway System 328 miles. The total number of bridges on Defiance County roads and Township roads, 10 feet long or longer is 249. Total highway mileage in the Township Highway System is 433 miles. Total miles of highway in Defiance County are 916 miles.

Facilities critical to government response and recovery activities include: 911 centers, emergency operations centers, police and fire stations, public works facilities, sewer and water facilities, hospitals, bridges and roads, and shelters. Natural hazards that cause damage to these facilities could cause serious secondary impacts to the communities.

Essential facilities are those facilities that are vital to the continued delivery of key government services or that may significantly impact the public's ability to recover from the natural hazard. These facilities may include: jails, law enforcement centers, public services buildings, and other public facilities, such as schools.

Map Critical Facilities – Appendix U

Map Essential Facilities – Appendix V

b. ASSESSING VULNERABILITY – ESTIMATING POTENTIAL LOSSES

Problem statements have been developed for winter storm events and prioritized by the core group. In the event of a severe winter storm, jurisdictions in Defiance County typically struggle with the following problems:

Transportation difficulties for emergency services, medical workforce and commuting needs for local labor force.

Communication barriers to the public and intra-agency

Utility failures (ie electricity, phone).

Lack of knowledge of available alternative emergency vehicles (all-terrain vehicles) in the community to provide essential supplies and medical transportation.

Increased risk of human loss of life because lack of communication and transportation for otherwise treatable medical situations.

Adequately resourced shelter facilities to accommodate people in times of widespread utility failure and severe cold temperatures.

The core group also discussed barriers to overcoming the problems associated with winter storm events. They are as follows:

Lack of communication equipment and training for all agencies

Lack of backup electrical generators for many shelter facilities

Lack of early warning systems that reach all residents

Lack of citizen preparedness for winter storm events

Lack of citizen heeding to winter storm event warnings

Lack of resources to clear roadways for transportation demands

c. ASSESSING VULNERABILITY – ANALYZING DEVELOPMENT TRENDS

Development trends are offered by the 2000 Defiance County Comprehensive Plan. The following are statements made in the Land Use Considerations for Future Planning section. These statements pertain to natural hazard mitigation planning for winter storms and should be used by jurisdictions to guide and prioritize natural hazard mitigation projects.

Disaster preparedness education can be taught in schools in a manner similar to fire drills, which have become a standard periodic procedure.

Residential development, optimally, is usually best directed only to those areas in which adequate infrastructure and cultural amenities already exist.

The Ohio Department of Natural Resources (ODNR) makes grants available for utilities enhancement.

High quality, modern, efficient, adequate, and professional police, fire, and emergency medical services are expected and deserved by the citizens of Defiance County.

Defiance County may want to consider as a goal the creation of a permanent emergency facility and shelter for people away, forced, or evacuated from their homes in times of large-scale disasters.

An emergency management plan should be in place in case of an unforeseen disruptive natural or cultural circumstance.

Coordination among the various emergency service providers and levels of government is critical.

2. Tornado and Thunderstorm Winds

a. Tornado

Tornados and thunderstorm winds will be profiled to include the description of all recorded events specific to the jurisdiction as it relates to known historical records and also profiled for all jurisdictions because of the unpredictability of future events. Figure 1 provides a national historic record of tornado activity per 1,000 square miles.

Figure 1.

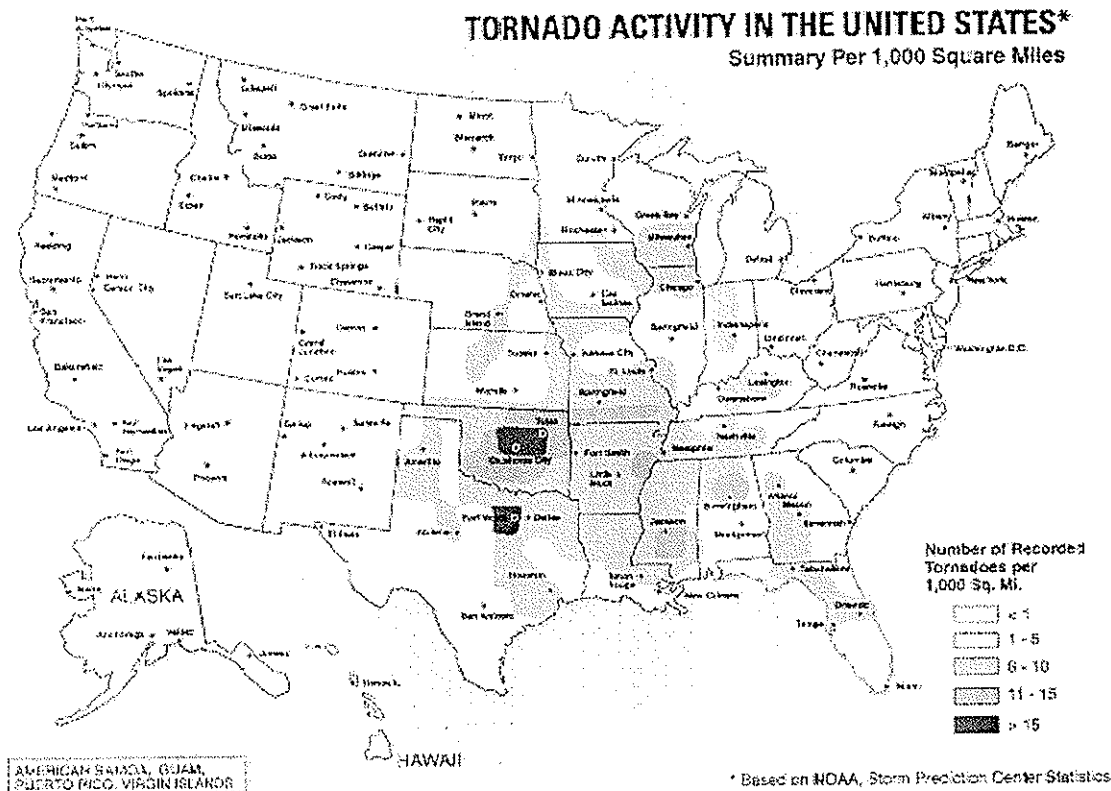


Figure 1.1 The number of tornadoes recorded per 1,000 square miles

The National Climatic Data Center (NCDC) reported Ohio statistics for tornado occurrences. They are included in this hazard identification because of the unpredictable nature of a tornado's path. The NCDC reported Ohio had an average fourteen (14) tornadoes annually in the years 1950-1995. The NCDC also reported Ohio had an average of 4 strong-violent (F2-F5) annually in the years 1950-1995. The NCDC also reported that Ohio ranked 21 in the number of tornadoes (648) in the years 1950-1995, while ranking eleventh (11th) in the number of fatalities (173), fourth (4th) in the number of injuries (4,156) and seventh (7th) in the consumer price index adjusted damage estimates (\$965,464,832). This data is summarized in Table 8.

Table 8. Tornado Numbers, Deaths, Injuries, and adjusted Damage, 1950-1994.
(Source: <http://www.ncdc.noaa.gov/oa/ncdc.html>)

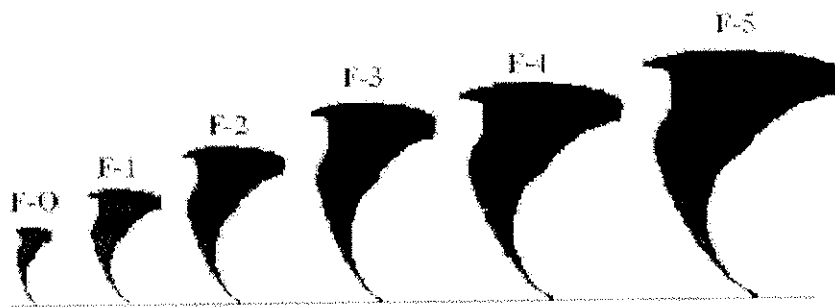
Tornados			Fatalities			Injuries			CPI Adjusted \$		
Rank	State	Number	Rank	State	Number	Rank	State	Number	Rank	State	\$
1	TX	5490	1	TX	475	1	TX	7452	1	TX	\$2 Billion
2	OK	2300	2	MS	386	2	MS	5344	2	IN	\$1.6 Billion
3	KS	2110	3	AR	279	3	AL	4483	3	KS	\$1.2 Billion
4	FL	2009	4	AL	275	4	OH	4156	4	GA	\$1.1 Billion
5	NE	1673	5	MI	237	5	AR	3697	5	OK	\$1.1 Billion
6	IA	1374	6	IN	218	6	IN	3641	6	MN	\$1.0 Billion
7	MO	1166	7	OK	217	7	IL	3599	7	OH	\$965 Million
8	SD	1139	8	KS	199	8	MI	3214	8	IL	\$824 Million
9	IL	1137	9	IL	182	9	OK	3184	9	MO	\$739 Million
10	CO	1113	10	TN	181	10	GA	2662	10	IA	\$709 Million
21	OH	648	11	OH	173	11	FL	2594	11	NE	\$632 Million

For the period 1916 - 98, Defiance County has experienced four tornado-related human deaths. For the period 1960 – 2002, Defiance County has experienced seven tornado events at various locations throughout the county. Table 9 summarizes the National Weather Service records for Defiance County tornado frequencies. Property damage estimates are provide by the National Weather Service for the date the damage estimated. On average, 16 % of the years between 1960 and 2002 had experiences with confirmed tornado events. Another words a confirmed tornado has occurred 1 in every 6.1 years in Defiance County.

Table 9. National Weather Service Tornado Records for Defiance County (Source: <http://www.ncdc.noaa.gov/oa/ncdc.html>) *Figure 2 describes the F (Fujita) Scale

Date	Beginning Location	Ending Location	Township/Community	Magnitude*	Length X Width	Property Damage	Converted to '04 \$
4/16/60	41° 06' N 83° 42' W	Unknown	Will be located	F0	1 mile X 77 yds	\$2,500	\$15,364
7/19/71	41° 23' N 84° 38' W	Unknown	Will be located	F0	0 mile X 200 yds	\$25,000	\$115,350
8/10/71	41° 18' N 84° 48' W	Unknown	Will be located	F2	1 mile X 100 yds	\$25,000	\$115,350
6/26/73	41° 18' N 84° 17' W	Unknown	Will be located	F0	0 mile X 33 yds	\$300	\$1,283
7/12/86	41° 14' N 84° 21' W	41° 13' N 84° 19' W	Will be located	F2	3 mile X 73 yds	\$2,500,000	\$4,153,592
7/5/87	41° 23' N 84° 32' W	Unknown	Will be located	F0	1 mile X 60 yds	\$25,000	\$40,760
11/10/02	41° 11' N 84° 13' W	41° 11' N 84° 14' W	Highland Twp.	F0	3 mile X 50 yds	Unknown	
Total Property Damage						\$2,577,800	\$4,441,699

Figure2. Fujita - Pearson Tornado Scale



F-0: 40-72 mph, chimney damage, tree branches broken
F-1: 73-112 mph, mobile homes pushed off foundation or overturned
F-2: 113-157 mph, considerable damage, mobile homes demolished, trees uprooted
F-3: 158-205 mph, roofs and walls torn down, trains overturned, cars thrown
F-4: 207-260 mph, well-constructed walls leveled
F-5: 261-318 mph, homes lifted off foundation and carried considerable distances, autos thrown as far as 100 meters

This set of records indicates that Ohio, Defiance County included, is very likely to experience tornadoes and when they occur, people are killed or injured and substantial property is damaged.

b. Thunderstorm wind

The National Weather Service has recorded incidences of significant thunderstorm winds. In the period of 1957 – 2003, Defiance County has experienced 63 reported thunderstorm wind events with wind speeds ranging from 70 – 90 mph. The frequency of such thunderstorm wind events has occurred 1.3 times per year. 17 of the 47 years had reported property losses per event averaging \$13,300 for a total of \$221,000 (\$263,320 2004).

The National Weather Service has recorded incidences of significant hail events. In the period of 1963 – 2003, Defiance County has experienced 25 reported hail events with hail accumulation ranging from 0.75 in. to 2.75 in. The frequency of the hail events has occurred 1 in 2.1 years. Two separate events in June and July of 1994 caused a reported estimate crop damage of \$50,000 and a reported estimate property damage of \$5,000, respectively.

c. Number of Structures and Value at risk to Tornado and Thunderstorm Winds

Defiance County has various structures and infrastructure that are potentially at risk to tornadoes and thunderstorm winds. Appendix EE summarizes the best available 2003 market value of structures and infrastructure that exist in Defiance County as of

November 2003. The values were obtained from the Defiance County Auditors office. The exempt column includes structures that carry a market value but are exempt from property taxes collect by the auditors office. Utility/Infrastructure includes electric, gas, communication, etc assets that serve the citizens of Defiance County. The values are considered replacement value of the structures and infrastructure. Appendix FF summarizes the best available number of land parcels that have building structures and/or utility/infrastructure. Each parcel may have multiply structures that combine into the total market value. This is the best available data that exist for the number of structures vulnerable to natural hazards in Defiance County.

d. ASSESSING VULNERABILITY – IDENTIFYING ASSETS

Map Critical Facilities – Appendix U

Map Essential Facilities – Appendix V

e. ASSESSING VULNERABILITY – ESTIMATING POTENTIAL LOSSES

Problem statements have been developed for tornado and thunderstorm wind events and prioritized by the core group. In the event of a severe tornado and/or thunderstorm wind events, jurisdictions in Defiance County typically struggle with the following problems:

Residents have limited options for an early warning message for approaching tornado or severe thunderstorm events.

Residences may not have safe rooms to protect occupants from tornado and/or thunderstorm events.

Communication barriers to the public and intra-agency

Utility failures (ie electricity, phone).

Adequately resourced shelter facilities to accommodate people in times of widespread utility failure and/or property damage.

The core group also discussed barriers to overcoming the problems associated with winter storm events. They are as follows:

Lack of adequate, multi-layered early warning system for all residence

Lack of evacuation shelters for vulnerable populations (ie mobile home trailer court)

Lack of communication equipment and training for all agencies

Lack of backup electrical generators for many shelter facilities

Lack of citizen heeding to tornado and thunderstorm event warnings

f. ASSESSING VULNERABILITY – ANALYZING DEVELOPMENT TRENDS

Development trends are offered by the 2000 Defiance County Comprehensive Plan. The following are statements made in the Land Use Considerations for Future Planning section. These statements pertain to natural hazard mitigation planning for tornado and thunderstorm events and should be used by jurisdictions to guide and prioritize natural hazard mitigation projects.

Disaster preparedness education can be taught in schools in a manner similar to fire drills, which have become a standard periodic procedure.

Due to the incidence of tornadoes, the creation of basements in dwellings may warrant serious consideration rather than slab construction or crawlspace construction.

The Ohio Department of Natural Resources (ODNR) makes grants available for utilities enhancement.

High quality, modern, efficient, adequate, and professional police, fire, and emergency medical services are expected and deserved by the citizens of Defiance County.

Defiance County may want to consider as a goal the creation of a permanent emergency facility and shelter for people away, forced, or evacuated from their homes in times of large-scale disasters.

An emergency management plan should be in place in case of an unforeseen disruptive natural or cultural circumstance.

Coordination among the various emergency service providers and levels of government is critical.

3. Flooding

In Defiance County, the United States Geological Survey and the Defiance County Water Treatment Facility maintains river gages records and daily river flow for the Maumee River. The gage at the Defiance Water Treatment Facility was used to determine the historical frequency of flood events impacting Defiance County. The National Weather Service has determined that 10 feet is the official flood state for the gage at the Defiance Water Treatment Facility.

Precipitation occurs year-round in Defiance County, as every month receives measurable amounts (Table 10). The annual mean is 35.6 in. representing the total precipitation received during the entire year. The average monthly precipitation range is from a high of 3.88 in. in June to a low of 1.82 in. in February. Although the range is significant from a percentage perspective, it does not represent a great change in absolute precipitation amounts. The wettest year was 1990 in which 48.63 inches of precipitation were received while the driest year was 1941 in which 21.54 in. of precipitation were received. Additional all-time records reported by the National Weather Service are maximum calendar day precipitation was 4.63" on September 18, 1907 and most days in a row with measurable precipitation was 14 days on April 2 – 15, 1983. These records are reported for the period 1896-1999.

Table 10. Average Monthly Precipitation at Defiance, OH (Source: 2000 Defiance County Comprehensive Plan)
(1936-37, 1939-85, 1988-95)

Month	Monthly average* (inches)	Maximum monthly average (inches)	Year	Minimum monthly average (inches)	Year
January	1.92	7.83	1950	0.21	1961
February	1.84	5.77	1990	0.07	1987
March	2.65	5.30	1945	0.31	1981
April	3.30	7.20	1970	0.81	1946
May	3.62	9.11	1943	0.83	1939
June	3.78	12.00	1981	0.53	1984
July	3.89	7.96	1943	0.80	1974
August	3.21	7.19	1977	0.71	1970
September	3.23	7.83	1972	0.58	1940
October	2.59	7.00	1991	0.00	1963
November	2.93	7.75	1982	0.41	1976
December	2.64	6.23	1990	0.16	1958
		Maximum Annual		Minimum Annual	
Annual Mean	35.60	48.63	1990	21.54	1941

*Source: http://www.crh.noaa.gov/iwx/program_areas/climate/defiance.htm (1971-2000)

Flooding in Defiance County typically is a combination of snowmelt and rainfall during the months of January, February and March. Over the course of 96 years and 42 flood events, January, February and March is the time period the Maumee River would typically exceed flood stage. Table 11 indicates the distribution of the 42 flood events by month over the period 1907-2003. However, flood stages have been exceeded by rainfall alone such as in June of 1981 when 12 inches of rain fell in Defiance County and the surrounding region.

Table 11. Average Monthly Events Exceeding Flood Stage in Defiance, OH (1907-2003)
(Source: 2000 Defiance County Comprehensive Plan)

January	9	May	3
February	10	June	3
March	9	November	1
April	4	December	3

a. Principal Flood Problem

Records of river stages and discharges on the Maumee River have been maintained since 1898. Significant floods (those with peak discharges over 50,000 cubic feet per second (cfs)) have occurred at least once in each decade since 1913. All of the highest known floods on the Maumee River have occurred during the winter or spring. However, intense local thunderstorms can occur in the summer and cause local flooding.

The greatest known flood to have occurred on the Maumee River was in March 1913. Records indicate that the 1913 flood discharge (138,500 cfs) was approximately 60-percent greater than the next highest known flood discharge. The event occurred as a result of two intense frontal storms that passed over Ohio from west to east between March 23 and 27. Rainfall averaged between 6 and 7 inches over the entire Maumee River Basin, with 6.5 inches recorded at Defiance.

Numerous major floods have occurred since the 1913 flood. The most recent flood (March 1982) was caused by rain and snowmelt in the upper Maumee River Basin. Unseasonably warm temperatures caused snowmelt and combined with precipitation maintained high water levels and extended the period of flooding. Three lives were lost and 876 people were evacuated from Defiance and Paulding Counties. Additional damage in the two counties included 9.5 percent of farmland flooded and damage to dwellings, commercial and public buildings, sewer systems, roads, and bridges.

During the period 1907 – 2003, the Maumee River exceeded flood stage 42 times in 96 years. That relates to 44% or 1 in every 2.3 years.

Table 12 summarizes the individual events in which the river level has exceeded the 10 foot flood stage as measured by the Defiance Water Treatment Facility gage. Although the river frequently exceeds the 10-foot flood stage, damage to the communities in Defiance County varies with the intensity and crest levels of the river.

Table 12. Flood Events on the Maumee River Above the 10-foot Flood State at the Defiance Water Treatment Facility. (Source: Defiance Water Treatment Facility)

1907, Jan	13.70	1981, Jun	15.40
1908, Mar	14.50	1982, Mar	20.50
1910, Jan	14.00	1985, Feb	18.50
1913, Mar	26.00	1989, Jun	11.20
1943, May	16.80	1990, Feb	13.20
1944, Apr	14.80	1991, Jan	17.40
1948, Feb	13.50	1992, Nov	11.30
1950, Feb	17.50	1992, Dec	16.20
1959, Feb	15.80	1993, Jan	13.90
1961, Apr	10.90	1994, Apr	12.60
1962, Mar	10.30	1996, Jan	10.30
1963, Mar	14.60	1996, May	10.50
1966, Dec	14.50	1997, Feb	13.90
1967, Jan	13.40	1997, Mar	11.11
1967, Dec	12.30	1997, May	10.35
1968, Jan	13.26	1997, Jun	12.47
1969, Feb	14.10	1999, Jan	15.10
1974, Jan	13.20	2001, Feb	10.67
1976, Feb	13.70	2002, Feb	11.99
1977, Apr	10.70	2002, Mar	10.77
1978, Mar	16.90	2003, Mar	10.14

Repetitive Loss Structures

Repetitive loss structure is a term that is usually associated with the National Flood Insurance Program (NFIP). For Flood Mitigation Assistance (FMA) program purposes, this is a structure, covered by a contract of flood insurance under the NFIP, that has suffered flood damage on two or more occasions over a 10-year period ending on the date when a second claim is made, in which the cost to repair the flood damage, on average, equals or exceeds 25% of the market-value of the structure at the time of each flood loss event. For the Community Rating System (CRS) of the NFIP, a repetitive loss property is any property, which the NFIP has paid two or more flood claims of \$1,000 or more in any, given 10-year period since 1978. A repetitive loss structure is important to the NFIP, since structures that flood frequently put a strain on the flood insurance fund. It should also be important to a community because residents' lives are disrupted and may be threatened by the continual flooding.

Twenty two repetitive loss structures have been identified in the City of Defiance. Thirteen are single family dwellings while nine are non-residential buildings. The record indicates a data set of claims in the period of 1978-1999. The claims totaled \$229,105 and \$218,486 for single family dwelling and non-residential buildings respectively. The dwellings/buildings had anywhere from two to eight claims in the time period averaging \$6,364 and \$7,290 respectively.

The National Flood Insurance Program (NFIP) insurance information about repetitive loss structures is legally privileged and confidential. Its use is protected under the Privacy Act of 1974, 5 U.S.C. section 552(a). Use of the information provided is restricted to the applicable routine use cited in the system notice published in 56 FR 26415. This information is being provided to the officials of the community/county for hazard mitigation purposes only. The names, addresses and insurance data listed are confidential and will only be used by local officials in the administration of their duties as they relate to the NFIP, hazard mitigation, and mitigation planning. It will be protected so an individual's identifier can not be used to locate an affected person or property, so care will be exercised if this information will be used to develop any map or table or list, on paper or electronically.

The properties are located on the following streets in Defiance, OH: Auglaize St., Clinton St., Front St., Kingsbury Lane, Ralston Ave., Riverside St., Seneca St., South Clinton St., and Summit St.

b. Flash Flooding

The National Weather Service also reported six events of flash flooding in Defiance County for the period 1950-2004. Table 13 provides locations, actual property and crop damage, and actual dollars converted dollars to 2004 dollars.

The Ohio Emergency Management Agency reports Presidential disaster declarations in Ohio from 1964 – 2003. Defiance County was part of a Presidential disaster declaration on March 26, 1982 for flooding. Six counties were included in this declaration and the reported total cost of the event was estimated at \$425,000 (2004 \$836,220).

Table 13. Flood and Flash Flood Occurrences.
(Query for 1950-2004 from <http://www4.ncdc.noaa.gov>)

Date	Location or County	Type	Property Damage	Crop Damage	Converted to '04 \$
1/4/1993	Defiance	Flood	\$50,000	Not reported	\$65,401
4/12/1994	Defiance	Flood	\$5,000	Not reported	\$6,349
4/11/1995	Defiance	Flood		Not reported	
7/26/1995	Defiance	Flash Flood	\$6,000	Not reported	\$7,426
8/17/1995	Defiance County North Half	Flash Flood	\$4,000	Not reported	\$4,950
8/17/1995	Defiance County West Half	Flash Flood	\$5,000	Not reported	\$6,188
7/8/1997	Defiance County	Flash Flood	\$5,000	\$5,000	\$11,689
8/16/1997	Hicksville	Flash Flood	\$5,000	Not reported	\$5,844
1/22/1999	Multi County	Flood	\$18,000	Not reported	\$20,244
6/17/2003	Sherwood	Flash Flood	\$100,000	Not reported	\$101,900
		Total	\$198,000	\$5,000	\$229,991

The Federal Emergency Management Agency, National Flood Insurance Program, reports flood loss statistics for Ohio by community/county for the period of 1978 to December 31, 2002. Table 14 provides the number of total losses by community or county and the total payments made for each community or county.

Table 14. FEMA, National Flood Insurance Program Flood Loss Statistics
Jan 1, 1978 – Dec 31, 2003 (Source: <http://www.fema.gov/>)

Community	Total Losses	Total Payments
Defiance County	12	\$73,557.46
City of Defiance	195	\$1,131,543.60
Village of Hicksville	4	\$3,693.96
Total of Defiance County	211	\$1,208,905.90
Total for Ohio	14,313	\$98,329,093.53

c. United States Geological Survey (USGS) 100-Year Flood Plain Study

The Flood Insurance Study (FIS), Defiance County, OH, Unincorporated Areas report was used to provide background information on the 100-year floodplain determination. The FIS document was completed August 1990 by Federal Emergency Management Agency in cooperation with, the Ohio Department of Natural Resources, and the U.S. Army Corps of Engineers.

The Flood Insurance Study covers the unincorporated areas of Defiance County. Flood caused by overflow of the Maumee River, the Auglaize River, the Tiffin River, and Preston Run was studied in detail.

The National Flood Insurance Program encourages local governments to adopt sound floodplain management programs. To provide a national standard without regional discrimination, the 1-percent annual chance (100-year) flood has been adopted by FEMA as the base flood for floodplain management purposes. The 0.2-percent annual chance (500-year) flood is employed to indicate additional areas of flood risk in the community. For each stream studied in FIS study, the 100- and 500-year floodplain boundaries have been delineated. The Defiance Countywide 100-year floodplain boundaries are shown in Appendix B. Floodplain Maps by Jurisdiction – Appendix A-T

Encroachment on floodplains, such as structures and fill, reduces the flood-carrying capacity, increased the flood heights and velocities, and increase flood hazards in areas beyond the encroachment itself. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of floodplain management. Under this concept, the area of the 100-year floodplain is divided into floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights.

Impacts on planning will be discussed in Section 3. Flooding Assessing vulnerability -- analyzing development trends.

d. Dam Failure Flood Hazard

Construction of dams in Ohio dates back to the early 1800's when reservoirs such as Buckeye Lake and Grand Lake St. Marys were built to supply water to the canal system, which provided a means of transportation for agricultural trade and commerce. Dam construction continued at a modest pace for about the next 100 years with relatively few dams built by private entities. In the early part of the 19th century, several large municipally owned dams and reservoirs were built for public water supply. Severe floods also prompted the formation of Conservancy Districts that constructed dams for flood control.

Defiance County is home to two river dams located on the Auglaize and Maumee Rivers near Defiance, Ohio. The Defiance Power Dam is located on approximately 6 river miles upstream from the confluence of the Auglaize and Maumee rivers. The Independence Dam is located approximately 4 river miles downstream from the confluence of the Auglaize and Maumee rivers.

According to the Ohio Department of Natural Resources, Division of Water, the Defiance Power Dam is classified as a Class I dam while the Independence Dam is classified as a Class II.

The classification system for dams in Ohio was modeled after the Federal Guidelines for Dam Safety established in 1979. The following parameters are the governing criteria for the classification: (See illustration on back)

1. Height of dam - defined as the vertical dimension as measured from the natural streambed at the downstream toe of a dam to the low point along the top of the dam.
2. Storage volume - defined as the total volume impounded when the pool level is at the top of the dam immediately before it is overtopped.
3. Potential downstream hazard - defined as the resultant downstream damage should the dam fail, including probable future development.

The classification criteria are outlined in OAC Rule 1501:21-13-01 and summarized in the following list:

Height of Dam

Class I - greater than 60 feet
Class II - greater than 40 feet
Class III - greater than 25 feet
Class IV - less than or equal to 25 feet

Storage Volume

Class I - greater than 5000 acre-feet
Class II - greater than 500 acre-feet
Class III - greater than 50 acre-feet
Class IV - less than or equal to 50 acre-feet

Potential Downstream Hazard

Class I - probable loss of life, serious hazard to health, structural damage to high value property (i.e., homes, industries, major public utilities)
Class II - flood water damage to homes, businesses, industrial structures (no loss of life envisioned), damage to state and interstate highways, railroads, only access to residential areas
Class III - damage to low value non-residential structures, local roads, agricultural crops and livestock
Class IV - losses restricted mainly to the dam

Probable Maximum Flood

Uncontrolled floodwaters are one of the most powerful and destructive forces in nature. Dams that are not designed to withstand major storms may be destroyed by them, increasing flood damage downstream. This damage is too often catastrophic. In order to protect lives and property downstream, the Ohio Administrative Code requires that dams be constructed to safely handle an appropriate percentage of the Probable Maximum Flood (PMF). This percentage varies according to the height of the dam, size of the impoundment, and extent and severity of damage possible upon failure. The requirements established in Ohio are similar to those used in other states, and historical records of significant storms and dam failures this century verify that the design criteria are reasonable.

Definitions

The Probable Maximum Precipitation (PMP) is the greatest depth (amount) of precipitation, for a given storm duration, that is theoretically possible for a particular area and geographic location.

The Probable Maximum Flood (PMF) is the flood that may be expected from the most severe combination of critical meteorological and hydrologic conditions that are reasonably possible in a particular drainage area.

Historical Storms in Ohio and Dam Failures

Storms that have caused severe flooding and included precipitation amounts that reached a significant percentage of the PMP have occurred in Ohio this century. Floodwaters from these storms caused the failure of dams and other structures. Many dam failures are considered disasters because they cause great harm, damage, or serious and sudden misfortune. Because of the rapid and unexpected manner in which dam failures can occur, they are judged to be as serious as earthquakes and tornadoes.

A storm approaching two thirds of the PMP struck north-central Ohio in the summer of 1969. Some small areas within the region were inundated with 14 inches of rain in 12 hours. Three large dams and many small farm-pond dams failed. Almost all the failures were caused by water overtopping the dams.

In 1990, severe flash floods destroyed eighty residences near the town of Shadyside in southeast Ohio. Twenty-six people died. In this instance, the amount of precipitation did not constitute a high percentage of the PMP, yet the floodwaters that resulted were deep and powerful.

The potential for damage due to dam failures is increasing along with the increase of residential and commercial development downstream of dams. In many cases, existing dams will need to be modified to keep downstream areas safe from disaster. Table 15 summarizes recent notable U.S. dam failures.

Table 15. Recent Notable U.S. Dam Failures (Source: <http://www.dnr.state.oh.us/>)

Year	Name	Location	Deaths	Damage	2002 Dollars
1972	Buffalo Creek Dam	West Virginia	125	\$400 Million	\$1.7 Billion
1972	Canyon Lake Dam	South Dakota	139	\$60 Million	\$256 Million
1976	Teton Dam	Idaho	11	\$400 Million	\$1.3 Billion
1977	Taccoa Falls Dam	Georgia	39	\$30 Million	\$91 Million
1982	Lawn Lake Dam	Colorado	3	\$21 Million	\$40 Million

Classification of Ohio Dams

Dams in Ohio are divided into four classes based on the storage volume of the impoundment, dam height and potential downstream hazard (how far downstream the residences are, etc.). These criteria were chosen because they affect the extent and severity of downstream damage possible upon failure. The percentage of the PMF that a dam must be designed to withstand depends upon its classification. Dams that could cause loss of human life if they fail must be designed to handle 100 percent of the PMF.

More details about the classification system can be found in the Ohio Administrative Code and Fact Sheet No. 94-29.

Development of the PMP

Scientists use both meteorological methods and historical records to determine the greatest amount of precipitation that is theoretically possible within a region. The historical data consists of point precipitation amounts measured at rain gages throughout the region being studied, or a region with very similar meteorologic and topographic characteristics. These rainfall data are subsequently maximized through "moisture maximization" and other numerical methods. Moisture maximization is a process in which the maximum possible atmospheric moisture for a region is applied to rainfall data from a historic storm. This process increases the rainfall depths, bringing them closer to their potential maximum.

Probable maximum precipitation amounts vary slightly throughout Ohio because of variations in topography and meteorology. The PMP is greatest in the southern portion of the state. Furthermore, not all storms have the same duration. Using the methods mentioned above, the PMP has been determined for different storm periods, generally ranging from six to seventy two hours.

Development of the PMF

The Probable Maximum Flood is the flood that is a direct result of the Probable Maximum Precipitation. However, drainage areas with the same PMP may have different PMFs. This is possible because the amount of flooding which results from a given rainfall amount depends upon the characteristics of the drainage basin. For this reason, the PMF, not the PMP, must be used as a design criterion for a dam. Some important characteristics include soil type, land use, size and shape of the watershed, and average watershed slope. Both the volume and rate of runoff are affected. For example, water will run off of steep slopes more quickly than gentle ones. More water will infiltrate sandy soils than clay.

e. Number of Structures and Value at risk to Floods and Flash Floods

Defiance County has various structures and infrastructure that are potentially at risk to Floods and Flash Floods. All county structures have some risk of damage to flash flooding. Therefore the number and value of all structures in Defiance County are presented in this plan. Appendix EE summarizes the best available 2003 market value of structures and infrastructure that exist in Defiance County as of November 2003. The values were obtained from the Defiance County Auditors office. The exempt column includes structures that carry a market value but are exempt from property taxes collect by the auditor's office. Utility/Infrastructure includes electric, gas, communication, etc assets that serve the citizens of Defiance County. The values are considered replacement value of the structures and infrastructure. Appendix FF summarizes the best available number of land parcels that have building structures and/or utility/infrastructure. Each

parcel may have multiply structures that combine into the total market value. This is the best available data that exist for the number of structures vulnerable to natural hazards in Defiance County.

f. ASSESSING VULNERABILITY – IDENTIFYING ASSETS

Map Critical Facilities – Appendix U

Map Essential Facilities – Appendix V

g. ASSESSING VULNERABILITY – ESTIMATING POTENTIAL LOSSES

According to Darlene M. Gagold, GIS Specialist, Floodplain Management Program, Ohio Department of Natural Resources, Division of Water has identified 380 building structures in the 100-year floodplain. A GIS shape file was provided to produce maps in Appendix A-T. The distribution of them by political entity is summarized in Table 16.

Additionally, Bruce Clevenger, OSU Extension Defiance County, has identified a total of 588 building structures with a value of \$40,662,603 in the 100-year floodplain. This was accomplished by utilizing GIS aerial photography, parcel numbers and Defiance County Auditor Office records.

Table 16 summarizes both sources of information regarding the number and value of building structures within the 100-year floodplain by political entity.

Table 16. Distribution of Number and Value of Building Structures within the 100-year Floodplain by Political Entity.

Name of Political Entity	Number of All Structures Source: ODNR	Number of All Structures Source: OSU Ext*	Value of All Structures Source: OSU Ext* <i>Average Per Structure</i>	25% Loss to Structures <i>Average Per Structure</i>	50% Loss to Structures <i>Average Per Structure</i>
Adams Township	0	0	\$0 <i>ave.\$0</i>	\$0 <i>ave.\$0</i>	\$0 <i>ave.\$0</i>
City of Defiance	100	199	\$14,628,640 <i>ave.\$73,510</i>	\$3,657,160 <i>ave.\$18,377</i>	\$7,314,320 <i>ave.\$36,755</i>
Defiance Township	50	182	\$13,158,298 <i>ave.\$72,298</i>	\$3,289,574 <i>ave.\$18,074</i>	\$6,579,149 <i>ave.\$36,149</i>
Delaware Township	23	25	\$1,895,840 <i>ave.\$75,833</i>	\$473,960 <i>ave.\$18,958</i>	\$947,920 <i>ave.\$37,916</i>
Farmer Township	5	6	\$354,460 <i>ave.\$59,076</i>	\$88,615 <i>ave.\$14,769</i>	\$177,230 <i>ave.\$29,538</i>
Hicksville Township	29	23	\$1,612,510 <i>ave.\$70,109</i>	\$403,127 <i>ave.\$17,527</i>	\$806,255 <i>ave.\$35,054</i>
Village of Hicksville	16	15	1,316,560 <i>ave.\$87,770</i>	\$329,140 <i>ave.\$21,942</i>	\$658,280 <i>ave.\$43,885</i>
Highland Township	12	9	\$561,485 <i>ave.\$62,387</i>	\$140,371 <i>ave.\$15,596</i>	\$280,742 <i>ave.\$31,193</i>
Mark Township	32	16	\$976,990 <i>ave.\$61,061</i>	\$244,247 <i>ave.\$15,265</i>	\$488,495 <i>ave.\$30,530</i>
Milford Township	18	16	\$974,930 <i>ave.\$60,933</i>	\$243,732 <i>ave.\$15,233</i>	\$487,465 <i>ave.\$30,466</i>
Village of Ney	7	11	\$681,960 <i>ave.\$61,996</i>	\$170,490 <i>ave.\$15,499</i>	\$340,980 <i>ave.\$30,998</i>
Noble Township	22	13	\$791,540 <i>ave.\$60,887</i>	\$197,885 <i>ave.\$15,221</i>	\$395,770 <i>ave.\$30,443</i>
Richland Township	24	20	\$1,163,420 <i>ave.\$58,171</i>	\$290,885 <i>ave.\$14,542</i>	\$581,710 <i>ave.\$29,085</i>
Village of Sherwood	0	0	\$0 <i>ave.\$0</i>	\$0 <i>ave.\$0</i>	\$0 <i>ave.\$0</i>
Tiffin Township	12	20	\$591,310 <i>ave.\$29,565</i>	\$147,827 <i>ave.\$7,391</i>	\$295,655 <i>ave.\$14,782</i>
Washington Township	30	33	\$1,954,660 <i>ave.\$59,232</i>	\$488,665 <i>ave.\$14,808</i>	\$977,330 <i>ave.\$29,616</i>
Total for Defiance County	380	588	\$40,662,603 <i>ave.\$69,154</i>	\$10,165,650 <i>ave.\$17,288</i>	\$20,331,300 <i>ave.\$34,577</i>

*Detailed information is available in Appendix HH

Floodplain Maps by Political Entity – Number of Structures – Appendix A-Q

Problem statements have been developed for tornado and thunderstorm wind events and prioritized by the core group. In the event of a severe tornado and/or thunderstorm wind events, jurisdictions in Defiance County typically struggle with the following problems:

- Increased health risk to human population due to contact with polluted floodwaters.

- Increased potential for damage to public infrastructure (ie roadways)

- Increased risk of property loss for the 380 building structures that fall within the Defiance County 100-year flood plain.

The core group also discussed barriers to overcoming the problems associated with winter storm events. They are as follows:

- Lack of evacuation shelters for vulnerable populations

- Lack of communication equipment and training for all agencies

- Lack of backup electrical generators for many shelter facilities

- Lack of citizen heeding to flood warnings

h. ASSESSING VULNERABILITY – ANALYZING DEVELOPMENT TRENDS

Development trends are offered by the 2000 Defiance County Comprehensive Plan. The following are statements made in the Land Use Considerations for Future Planning section. These statements pertain to natural hazard mitigation planning for tornado and thunderstorm events and should be used by jurisdictions to guide and prioritize natural hazard mitigation projects.

- Disaster preparedness education can be taught in schools in a manner similar to fire drills, which have become a standard periodic procedure.

- Information on the availability and utility of hail, drought, and flood insurance, can be disseminated to the public, especially farmers.

- Industrial, commercial, and especially residential development on floodplains should be avoided as much as possible.

- Building on the floodplain may exacerbate the number of flooding incidents and the resultant flood damage.

If floodplain development is to occur, building permanent structures upon piers should be encouraged along with consideration of flood insurance by the owners and renters.

The common practice of constructing floodwalls, dikes or levees around watercourses should not be undertaken without serious study and consideration of the potential negative consequences.

Stream channelization is another common practice of restricting stream flow that should not be undertaken without serious study and consideration of potential negative consequences.

Retention ponds are very effective and can be built as needed for new residential and commercial development.

Potential residential development is encouraged to avoid areas with poor soil drainage.

Soils analysis service is encouraged for both farmers and residential communities.

High quality, modern, efficient, adequate, and professional police, fire, and emergency medical services are expected and deserved by the citizens of Defiance County.

Defiance County may want to consider as a goal the creation of a permanent emergency facility and shelter for people away, forced, or evacuated from their homes in times of large-scale disasters.

An emergency management plan should be in place in case of an unforeseen disruptive natural or cultural circumstance.

Coordination among the various emergency service providers and levels of government is critical.

Defiance County also has additional development regulations pertaining to floodplain management in a local document titled Special Purpose Flood Damage Prevention Regulations. The Defiance County floodplain manager enforces these regulations for the development or improvement of properties within the Defiance County 100-year floodplain. A copy of these regulations is available from the Maumee Valley Planning Commission office located at 197-B Island Park Ave., Defiance, OH 43512.

4. Drought

Two gubernatorial declarations of emergency have been declared for Defiance County in the years reported by Ohio EMA 1987-2003. The declarations came in the years 1989 for Defiance County and 1991 a statewide declarations.

Drought Hazards and Statistics for Ohio

Jeffrey C. Rogers, State Climatologist for Ohio wrote in his notes from the Governor's Drought Assessment Committee Meetings some of the hydrologic, economic and agricultural impacts and concerns of the 1988 and 1991-1992 droughts in Ohio.

Water supplies

- a. Increase draw down in wells, pumping over larger underground areas, yielding potential for contaminants and unwanted minerals.
- b. Loss of public ground water supplies (drying up)
- c. Decline in quality of water supplies, shortages of potable water

Rivers

- a. Extreme low levels leading to abnormally warm water, low turbulence, low dissolved oxygen content, higher contaminant concentrations, and reduced ability to accept and dilute industrial discharges
- b. Susceptibility to local dumping of heated water by power plants and industrial sources, plant by-passes and spills
- c. Fertilizer flushed into rivers increasing the ammonia and nitrates which affect fish and human babies (respectively)

Human Health

- a. Heat stress on the elderly with no air conditioning
- b. Increased stress (financial, psychological) in farm families
- c. Increased illness from improperly developed water supplies

Economic/Financial

- a. Loss of income: migrant workers, businesses on lakes/reservoirs
- b. Water use restrictions and penalties
- c. Food price increases, especially wheat, corn products

Agricultural

- a. Failure of hay cuttings, decreases in corn, soybean, wheat production
- b. Increased slaughter of livestock due to feed shortages, lowered prices
- c. Increased insect activity and diseases in plants, crops
- d. Livestock heat stress

Wildlife (deer, wild turkey, rabbits)

- a. Failure in dry springs to produce seed and biomass
- b. Lack of insect supply (protein) for young birds

- c. Haying and grazing privileges granted on conservation reserve acreage, affecting game/non-game birds if permitted during peak nesting season, mowing of grasses in these areas

Timber/Forests

- a. Increased fire hazard
- b. Decline in tree growth potential during prolonged drought
- c. Failure of new plantings, weakened old growth by insects, disease

Recreation

- a. Low water levels lead to boating/canoeing restrictions, cessation
- b. Sports fishing affected by low water quality

Table 17 summarizes monthly and annually averaged statewide precipitation and precipitation extremes, for the period 1854-1990. Data primarily include cooperative weather state observations.

Tables 17. Statewide Average Precipitation and Extremes (Source: Drought Hazards and Statistics for Ohio, Jeffery C. Rogers, State Climatologist for Ohio).

MONTH	MEAN	STD DIAV	MAX	YEAR	% OF NORM	MIN	YEAR	% OF NORM
JAN	2.84"	1.48"	9.57"	1937	337%	0.63"	1981	22%
FEB	2.50"	1.22"	6.49"	1883	260%	0.44"	1978	18%
MAR	3.34"	1.41"	8.15"	1913	244%	0.26"	1910	8%
APR	3.28"	1.17"	6.37"	1893	194%	0.92"	1971	28%
MAY	3.78"	1.36"	7.69"	1858	203%	0.78"	1934	21%
JUN	3.96"	1.30"	8.57"	1855	216%	0.86"	1988	22%
JUL	3.96"	1.26"	8.88"	1992	224%	1.52"	1930	38%
AUG	3.39"	1.19"	6.78"	1980	200%	1.16"	1881	34%
SEP	3.02"	1.41"	9.67"	1866	320%	0.59"	1908	20%
OCT	2.56"	1.24"	6.30"	1919	246%	0.23"	1924	9%
NOV	2.89"	1.31"	9.17"	1985	317%	0.40"	1904	14%
DEC	2.81"	1.08"	7.64"	1990	272%	0.51"	1955	18%
ANNUAL	38.33"	4.75"	51.38"	1990	134%	26.50"	1963	69%

The National Weather Service of Northern Indiana reports all-time records related to the summer / drought conditions in Defiance County. They are reported for the period 1896-1999 in Table 18.

Table 18. All-time Summer / Drought Records (1896-1999). Nat'l Weather Service.

Maximum temperature	106, July 14, 1936
Maximum min temperature	78, June 25, 1898...July 15, 1995...July 31, 1999
Most 100 days in a row	7, July 9-15, 1936
Most 90 days in a row	14, August 3-16, 1988
Highest daily average temperature	90, July 14, 1936 (high 106, low 74)
Longest period without measurable precipitation	42 days, August 18 – September 28, 1908

a. ASSESSING VULNERABILITY – IDENTIFYING ASSETS

Map Critical Facilities – Appendix U

Map Essential Facilities – Appendix V

b. ASSESSING VULNERABILITY – ESTIMATING POTENTIAL LOSSES

Not required

c. ASSESSING VULNERABILITY – ANALYZING DEVELOPMENT TRENDS

Development trends are offered by the 2000 Defiance County Comprehensive Plan. The following are statements made in the Land Use Considerations for Future Planning section. These statements pertain to natural hazard mitigation planning for drought and should be used by jurisdictions to guide and prioritize natural hazard mitigation projects.

Disaster preparedness education can be taught in schools in a manner similar to fire drills, which have become a standard periodic procedure

Information on the availability and utility of hail, drought, and flood insurance, can be disseminated to the public, especially farmers.

Defiance County may wish to consider building a reservoir to store river water for the municipal water supplies during those periods when it is relatively free from pesticides.

An emergency management plan should be in place in case of an unforeseen disruptive natural or cultural circumstance.

Coordination among the various emergency service providers and levels of government is critical.

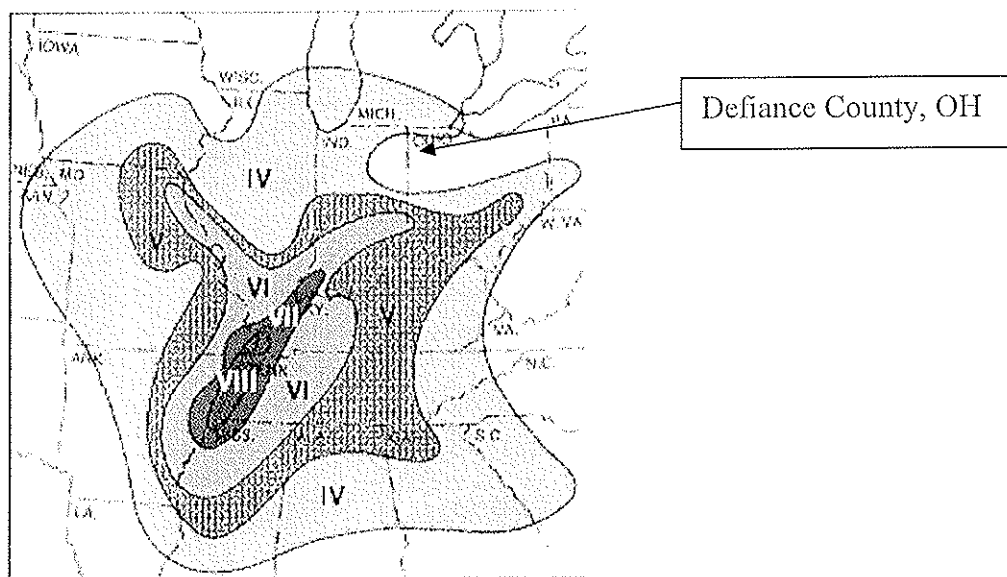
5. Earthquake

Earthquakes are a natural and inevitable consequence of the slow movement of the Earth's crustal plates. More than 100,000 earthquakes with magnitudes of 3.0 or greater

occur worldwide each year. Most earthquakes in the United States occur in California, the boundary of the Pacific and North American crustal plates.

Figure 3 shows the New Madrid Fault that extends from northeast Arkansas, through southeast Missouri, western Tennessee, western Kentucky to southern Illinois. Historically, this area has been the site of some of the largest earthquakes in North America.

Figure 3. The New Madrid Fault in Proximity to Defiance County, OH.



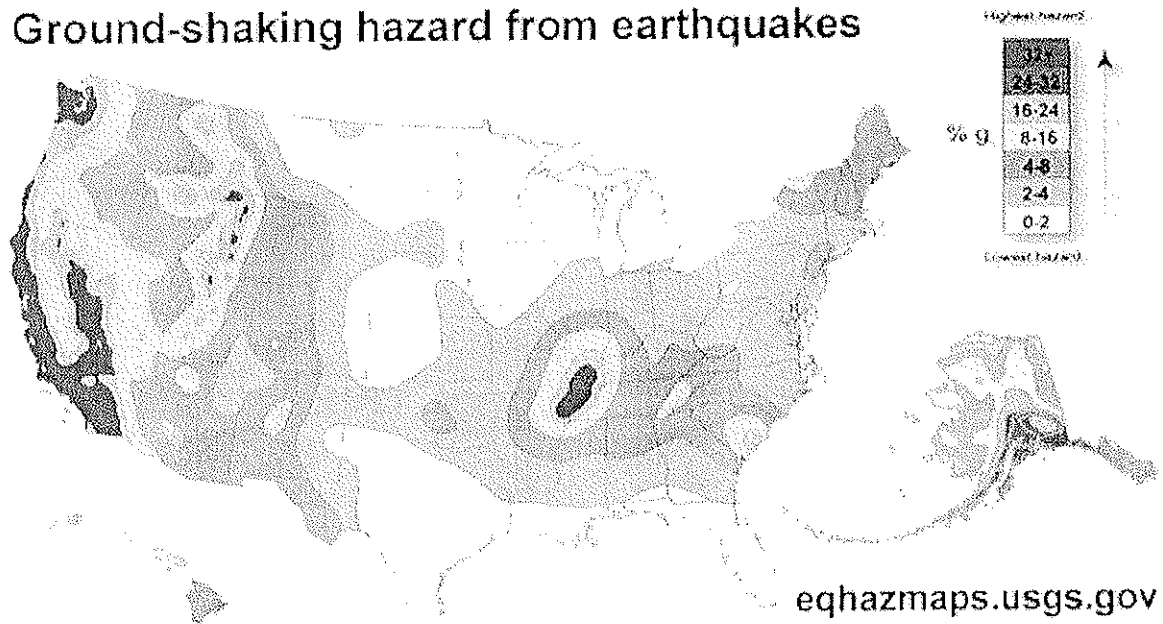
Between 1811 and 1812, four catastrophic earthquakes, with magnitude estimates greater than 7.0, occurred during a three-month period. Hundreds of aftershocks followed over a period of several years. The largest earthquakes to have occurred since then were on January 4, 1843 and October 31, 1895, with magnitude estimates of 6.0 and 6.2 respectively. On average one earthquake per year will be large enough to be felt in the area. The New Madrid seismic zone is so named because the town of New Madrid, Missouri was the closest settlement to the epicenters of the 1811-1812 quakes.

U. S. Geological Survey Earthquake Hazard Map for the United States showing earthquake ground accelerations (horizontal) having a 10 percent probability of being exceeded in the next 50 years for a firm rock site condition. Figure 4 is based on seismicity and fault-slip rates and takes into account the frequency of occurrence of earthquakes of various magnitudes. Locally, hazard may be greater than that shown, because site geology may amplify ground motions.

Figure 4. USGS Probability of Earthquake in the United States.

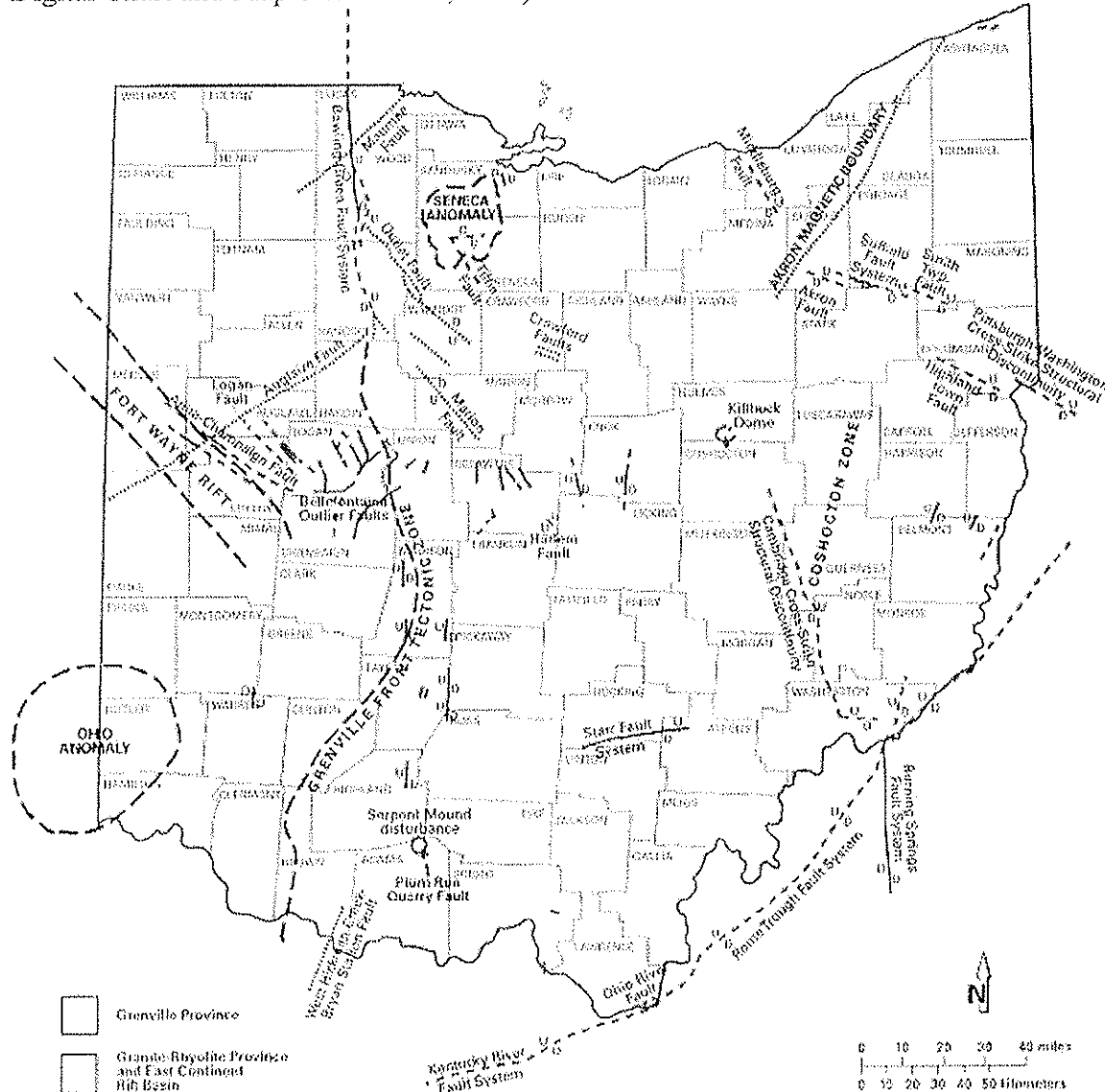


Ground-shaking hazard from earthquakes



Ohio is on the periphery of the New Madrid Seismic Zone, an area in Missouri and adjacent states that was the site of the largest earthquake sequence to occur in historical times in the continental United States. Figure 4 portrays a number of deep faults and other structures that have been identified by a variety of geologic studies.

Figure 4. Basement structures in Ohio (modified from Division of Geological Survey Digital Chart and Map Series No. 7, 1991).



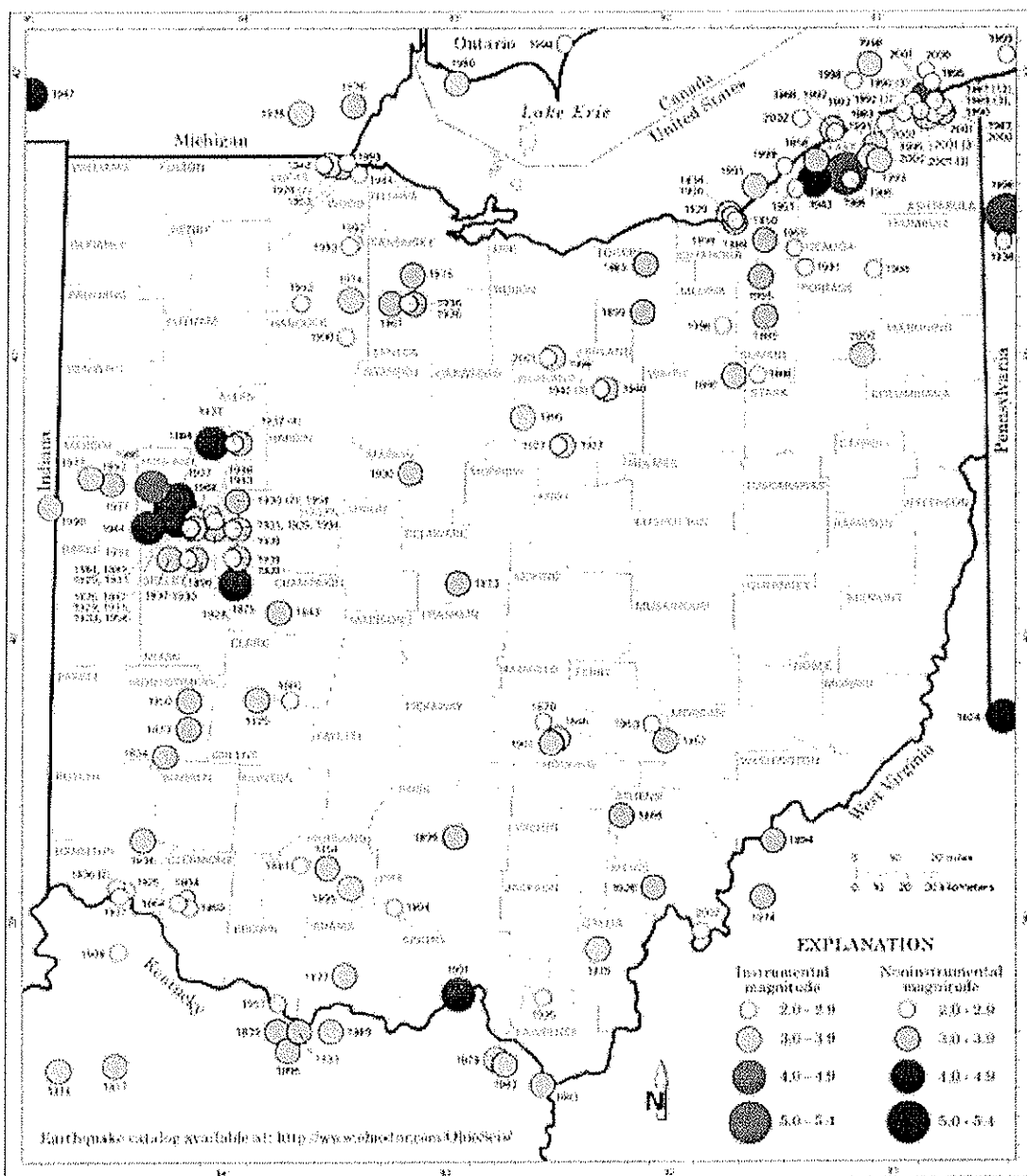
Some faults are well known, whereas others are speculative. Very few of them are visible at the surface. The Anna, or Fort Wayne, rift in western Ohio is the site of numerous historic earthquakes.

Although most people do not think of Ohio as an earthquake-prone state, at least 120 earthquakes with epicenters in Ohio have been felt since 1776. In addition, a number of earthquakes with origins outside Ohio have been felt in the state. Most of these earthquakes have been felt only locally and have caused no damage or injuries. The four great earthquakes were part of a series at New Madrid in 1811 and 1812. These events were felt throughout the eastern United States and were of sufficient intensity to topple

chimneys in Cincinnati. Some estimates suggest that these earthquakes were in the range of 8.0 on the Richter scale.

However, at least 14 moderate-size earthquakes have caused minor to moderate damage in Ohio. Fortunately, no deaths and only a few minor injuries have been recorded for these events. Three areas of the state appear to be particularly susceptible to seismic activity (see accompanying Figure 5).

Figure 5. Earthquake Epicenters in Ohio and Adjacent Areas



Seismic risk in Ohio, and the eastern United States in general, is difficult to evaluate because earthquakes are generally infrequent in comparison to plate-margin areas such as California. Also, active faults do not reach the surface in Ohio and therefore cannot be mapped without the aid of expensive subsurface techniques.

A great difficulty in predicting large earthquakes in the eastern United States is that the recurrence interval--the time between large earthquakes--is commonly very long, on the order of hundreds or even thousands of years. As the historic record in most areas, including Ohio, is only on the order of about 200 years--an instant, geologically speaking--it is nearly impossible to estimate either the maximum magnitude or the frequency of earthquakes at any particular site.

Earthquake risk in the eastern United States is further compounded by the fact that seismic waves tend to travel for very long distances. The relatively brittle and flat-lying sedimentary rocks of this region tend to carry these waves throughout an area of thousands of square miles for even a moderate-size earthquake. Such deposits are extensive in Ohio. Buildings constructed on bedrock tend to experience much less ground motion, and therefore less damage. Geologic maps, such as those prepared by the Ohio Division of Geological Survey, delineate and characterize these deposits. Geologic mapping programs in the state geological surveys and the U.S. Geological Survey are therefore critical to public health and safety. Damaging ground motion would occur in an area about 10 times larger than for a California earthquake of comparable intensity.

Number of Structures and Value at risk to Earthquakes

Defiance County has various structures and infrastructure that are potentially at risk to earthquakes. Appendix EE summarizes the best available 2003 market value of structures and infrastructure that exist in Defiance County as of November 2003. The values were obtained from the Defiance County Auditors office. The exempt column includes structures that carry a market value but are exempt from property taxes collect by the auditors office. Utility/Infrastructure includes electric, gas, communication, etc assets that serve the citizens of Defiance County. The values are considered replacement value of the structures and infrastructure. Appendix FF summarizes the best available number of land parcels that have building structures and/or utility/infrastructure. Each parcel may have multiply structures that combine into the total market value. This is the best available data that exist for the number of structures vulnerable to natural hazards in Defiance County.

ASSESSING VULNERABILITY – IDENTIFYING ASSETS

Map Critical Facilities – Appendix U

Map Essential Facilities – Appendix V

ASSESSING VULNERABILITY – ESTIMATING POTENTIAL LOSSES

Not required

ASSESSING VULNERABILITY – ANALYZING DEVELOPMENT TRENDS

Development trends are offered by the 2000 Defiance County Comprehensive Plan. The following are statements made in the Land Use Considerations for Future Planning section. These statements pertain to natural hazard mitigation planning for earthquake should be used by jurisdictions to guide and prioritize natural hazard mitigation projects.

Disaster preparedness education can be taught in schools in a manner similar to fire drills, which have become a standard periodic procedure

Although earthquakes are rare in Defiance County, earthquake insurance is available and this information can be made available to all residences, businesses, and industries.

An emergency management plan should be in place in case of an unforeseen disruptive natural or cultural circumstance.

Coordination among the various emergency service providers and levels of government is critical.

Section 4. Mitigation Strategy

This plan includes a mitigation strategy that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources.

The mitigation strategy considers projects to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure. The mitigation strategy has been prioritized by the jurisdiction on the extent to which the estimated benefits are maximized according to a review of the proposed projects and their associated costs.

Table 19 provides a summary of county jurisdictions that have submitted or have not submitted natural hazard mitigation action plans. The jurisdictions of Defiance County include the political entities of townships. Eight of the twelve townships and the county commissioners have provided mitigation action plans for the Defiance County jurisdiction.

Table 19. Political Jurisdiction Submitting Action Plans to be included in the Defiance County Natural Hazard Mitigation Plan 2003.

	Submitted Action Plans	Choosing NOT to Submit Action Plans
Defiance, City of	X	
Defiance County (including townships)	X	
Hicksville, Village of	X	
Ney, Village of	X	
Sherwood, Village of	X	

Project Prioritization

Table 3 and Table 4 of this plan will serve a means to prioritize the action plans of each political jurisdiction. The tables summarize the input from public officials and citizens of Defiance County and for the action plans of this document will serve as a guideline for prioritizing future mitigation projects.

Action Plans for Adams Township

Hazard: Winter Storm

Goal: Provide every resident and visitor the best available shelter in times of widespread utility failure.

Activity: Establish and equip heating centers or shelters for vulnerable populations, not only for residents, but also for stranded motorists/travelers.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Township trustees

Start Date: unidentified

Finish Date: unidentified

Task 1: Identify current facilities and equipment

Task 2: Identify current needs to accommodate a shelter population

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid project

Task 6: Construct and/or purchase

Hazard: Tornado and Thunderstorm Wind

Goal: Not submitted

Activity: Not submitted

Hazard: Flooding (floodplain and flash)

Goal: To reduce the risk of flooding on township property owners

Activity: Conduct site reviews by Defiance Soil and Water Conservation District

Cost Estimate: \$1,000 per year to conduct all building site reviews

Leadership: Zoning inspector

Start Date: 2003

Finish Date: ongoing

Task 1: Review all applications for new construction building permits for possible drainage problems.

Task 2: Recommend changes to landowner to mitigate flood potential

Hazard: Drought

Goal: To protect property from uncontrolled field fires caused by outdoor burning during drought conditions.

Activity: Promote awareness among residents of trash and residue burning

Cost Estimate: \$500

Leadership: Township trustees

Start Date: May 2004

Finish Date: July 2004

Task 1: Mail information to residents or newspaper advertisement

Hazard: Earthquake

Goal: Not submitted

Activity: Not submitted

Action Plans for Defiance, City of

Hazard: Winter Storm

Goal: Local governments need to establish heating centers or shelters for vulnerable, or special-needs populations not only for residents, but also for stranded motorists/travelers. Utilities failure can cause current shelter facilities to become useless for residence and travelers seeking shelter from snow and extreme cold temperatures.

Activity: Provide backup power generation options for current shelter facilities.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: City Administration and Defiance County EMA Director

Start Date: 2005

Finish Date: 2006

Task 1: Identify current backup power resources at current shelter facilities in the Defiance City area.

Task 2: Identify critical shelter facilities without reliable backup power resources.

Task 3: Prioritize facilities for updating backup power resources

Task 4: Identify funding sources

Task 5: Bid projects

Task 6: Install

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching the City of Defiance.

Activity: Install citywide early warning systems

Cost Estimate: 4 early warning sirens with backup battery system at \$15,000 each. Replace 5 existing sirens with new sirens equipped with backup battery system at \$15,000 each.

Leadership: City Administration and Defiance County EMA Director

Start Date: 2003

Finish Date: 2004

Task 1: Identify key locations and best available technology

Task 2: Get cost estimates

- Task 3: Identify funding sources
- Task 4: Bid projects (possibly county wide)
- Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To more completely understand the potential of a 100-year flood on the businesses and residence in the City of Defiance.

Activity: Conduct a study on the community economic development of 100 year flood on all current businesses and residence in the City of Defiance. Address the 22 repetitive loss structures with buyout or elevation project. Hire physical engineer consultant to evaluate the buyout and/or elevation project feasibility

Cost Estimate: \$10,000

Leadership: City Administration and Defiance Economic Development Office

Start Date: 2004

Finish Date: 2015

Task 1: Conduct a vulnerability study on the 100 structures in the Defiance's 100-year flood plain.

Task 2: Share the results with residence, businesses and community leaders.

Activity: Offer a voluntary buyout program for primarily but not limited to the 22 repetitive loss structures

Cost Estimate: Average of \$73,510 per structure on 199 structures

Leadership: City Administration and Defiance Economic Development Office

Start Date: 2004

Finish Date: 2015

Task 1: Obtain funding

Task 2: Offer program to willing floodplain residences and businesses

Task 3: Prioritize needs/funding

Task 4: Make purchases

Hazard: Drought

Goal: To protect the community's water supply for both quantity and quality during the Maumee River's low flow events.

Activity: Develop and maintain a community reservoir to provide quality water at need quantities during extended drought periods.

Cost Estimate: \$6,000,000

Lead: City Administration

Start Date: 2004

Finish Date: 2006

Task 1: Identify engineering details of the size and scope of reservoir need for the City of Defiance and surrounding communities.

Task 2: Identify infrastructure and technology need to utilize a reservoir system.

Task 3: Develop master use plan for a community reservoir

Task 4: Estimate project costs

Task 5: Identify funding source(s)

Task 6: Bid and award construction contract

Task 7: Construct reservoir

Hazard: Earthquake

Goal: To have all buildings and public structures capable of withstanding a best know estimated earthquake for northwest Ohio.

Activity: Examine existing building codes for inclusion of earthquake related issues by hiring a consultant. Incorporate recommendations in to current code and recommendations.

Cost Estimate: \$30,000-\$35,000

Lead: City Administration and Defiance County EMA

Start Date: 2005

Finish Date: 2006

Task 1: Conduct an examination of existing building codes for inclusion of earthquake related issues.

Task 2: Conduct local vulnerability analysis of structures.

Task 3: Identify corrective actions that could be completed to mitigate loss due to a earthquake occurrence.

Task 4: Identify funding sources

Task 5: Complete earthquake mitigation actions on cooperating structures.

Action Plans for Defiance, County of

Hazard: Winter Storm

Goal: To educate Defiance County travelers on safe winter driving skills and personal safety.

Activity: Offer a video education course to teach winter driving skills and personal safety issues.

Cost Estimate: \$5,000

Leadership: Defiance County EMA Director and Law Enforcement

Start Date: 2004

Finish Date: 2005

Task 1: Identify subject matter.

Task 2: Locate suppliers to make video.

Task 3: Identify cost of making a video

Task 4: Identify funding sources

Task 5: Make or purchase video

Task 6: Distribute video to public cable channels and local schools

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching the Defiance County.

Activity: Install countywide early warning systems including Reverse 911 and early warning sirens.

Cost Estimate: 10 early warning sirens with backup battery system at \$15,000 each.

Leadership: Defiance County EMA Director and 911

Start Date: 2003

Finish Date: 2005

Task 1: Identify key locations and best available technology

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Integrate the system to existing systems and agencies

Task 5: Develop a countywide support agreement

Task 6: Install systems

Task 7: Test systems regularly

Hazard: Flooding (floodplain and flash)

Goal: To protect the properties and infrastructure in Sherwood Village from flash flood events

Activity: Design, install and maintain storm drainage systems in Sherwood Village

Cost Estimate: \$338,000

Leadership: Defiance County Engineer

Start Date: 2003

Finish Date: 2005

Task 1: View drainage problem

Task 2: Hold a public meeting sharing preliminary report.

Task 3: Identify funding sources

Task 4: Choose options for construction

Task 5: Finalize plans and cost estimates

Task 6: Bid project

Task 7: Finalize Assessments

Hazard: Drought

Goal: To protect the community's water supply for both quantity and quality during the Maumee River's low flow events.

Activity: Develop and maintain a community reservoir to provide quality water at need quantities during extended drought periods.

Cost Estimate: \$6,000,000

Lead: Defiance City Administration

Start Date: 2003

Finish Date: 2006

Task 1: Preliminary planning – site location

Task 2: Preliminary cost estimates

Task 3: Develop plans and EPA approval

Task 4: Identify funding source(s)

Task 5: Bid and construct

Hazard: Earthquake

Goal: To be informed and aware of earthquake risk

Activity: Seismic hazard mapping. Information gained from mapping can be used to assess risk. Map users should be educated in the appropriate uses and limitations of maps.

Cost Estimate: 5,000-\$10,000

Leadership: Defiance Soil and Water Conservation District and Defiance County EMA

Start Date: 2004

Finish Date: 2006

Task 1: Needs assessment

Task 1: Collect geologic information.

Task 2: Prepare maps showing various hazards

Task 3: Distribute to appropriate agencies

Action Plans for Delaware Township

Hazard: Winter Storm

Goal: Local governments need to always plan for and maintain adequate road and debris clearing capabilities. Delaware Township hopes to see that people have heat, food and open roads soon after a winter storm.

Activity: Hire private contractors to assist with opening the roads.

Cost Estimate: \$5,000

Leadership: Township trustees

Start Date: unidentified

Finish Date: unidentified

Task 1: Identify key roads based on use

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects

Task 5: Remove snow and ice

Activity: Establish and equip heating centers or shelters for vulnerable populations, not only for residents, but also for stranded motorists/travelers.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Township trustees

Start Date: unidentified

Finish Date: unidentified

Task 1: Identify current facilities and equipment

Task 2: Identify current needs to accommodate a shelter population

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid project

Task 6: Construct and/or purchase

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching Delaware Township.

Activity: Install township-wide early warning sirens

Cost Estimate: 1 early warning siren with backup battery system at \$15,000 each.

Leadership: Township trustees and Defiance County EMA Director

Start Date: 2004

Finish Date: unidentified

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To install and maintain township drainage system infrastructure to handle 100-year storm events to reduce the flood potential to roads and structures in the township.

Activity: Evaluate and replace 3 culverts and/or bridges to handle a 100-year storm.

Cost Estimate: \$20,000-\$25,000 per replacement project

Leadership: Township trustees

Start Date: 2004

Finish Date: 2010

Task 1: Identify undersized drainage system infrastructure

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects

Task 5: Install

Hazard: Drought

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Establish a water delivery system for people and livestock

Cost Estimate: \$30,000-\$40,000 (truck and tank)

Leadership: Township trustees

Start Date: 2004

Finish Date: unidentified

- Task 1: Identify needs
- Task 2: Meet with county health officials
- Task 3: Propose plan
- Task 4: Implement plan

Hazard: Earthquake

Goal: To protect the township residences during natural disasters.

Activity: Establish and equip shelters for vulnerable populations.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Township trustees
Start Date: 2004
Finish Date: unidentified

- Task 1: Identify current facilities and equipment available in corporation with the Red Cross.
- Task 2: Identify current needs to accommodate a shelter population
- Task 3: Get cost estimates
- Task 4: Identify funding sources
- Task 5: Bid project
- Task 6: Construct and/or purchase

Action Plans for Farmer Township

Hazard: Winter Storm

Goal: Local governments need to always plan for and maintain adequate road and debris clearing capabilities. Snowdrift prone areas decrease the safety of travelers and cause the township added expense to open and maintain clear. Farmer Township hopes to see that people have heat, food and open roads soon after a winter storm.

Activity: Clear undesirable brush vegetation causing snowdrift prone areas and/or develop living snow fence on Farmer Township roads to provide snowdrift relief.

Cost Estimate: Trees, labor and equipment for 150 foot living snow fence: \$2,500

Leadership: Township trustees, county engineer and Defiance County EMA Director

Start Date: 2005

Finish Date: 2007

Task 1: Identify key roads and areas that use high percentages of township winter resources.

Task 2: Evaluate best practice for mitigating snow-drifting problem

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid projects

Task 6: Install

Activity: Establish and equip heating centers or shelters for vulnerable populations, not only for residents, but also for stranded motorists/travelers.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Township trustees

Start Date: 2005

Finish Date: 2007

Task 1: Identify current facilities and equipment

Task 2: Identify current needs to accommodate a shelter population

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid project

Task 6: Construct and/or purchase

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching Farmer Township.

Activity: Install a township-wide early warning system

Cost Estimate: 1 early warning siren with backup battery system at \$15,000 each.

Leadership: Township trustees and Defiance County EMA Director

Start Date: 2004

Finish Date: 2007

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To install and maintain township drainage system infrastructure to handle 100-year storm events to reduce the flood potential to roads and structures in the township.

Activity: Evaluate and replace 3 culverts and/or bridges to handle a 100-year storm.

Cost Estimate: \$20,000-\$25,000 per replacement project

Leadership: Township trustees

Start Date: 2004

Finish Date: 2007

Task 1: Identify undersized drainage system infrastructure

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects

Task 5: Install

Hazard: Drought

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Establish a water delivery system for people and livestock

Cost Estimate: \$30,000-\$40,000 (truck and tank)

Leadership: Township trustees

Start Date: unidentified

Finish Date: unidentified

Task 1: Identify needs for equipment and resources

Task 2: Meet with county health officials

Task 3: Propose plan

Task 4: Implement plan

Hazard: Earthquake

Goal: To protect the township residences during natural disasters.

Activity: Establish and equip shelters for vulnerable populations.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Township trustees

Start Date: 2005

Finish Date: 2008

Task 1: Identify current facilities and equipment available in corporation with the Red Cross.

Task 2: Identify current needs to accommodate a shelter population

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid project

Task 6: Construct and/or purchase

Action Plans for Hicksville Township

Hazard: Winter Storm

Goal: Local governments need to always plan for and maintain adequate road and debris clearing capabilities. Snowdrift prone areas decrease the safety of travelers and cause the township added expense to open and maintain clear.

Activity: Clear undesirable brush vegetation causing snowdrift prone areas and/or develop living snow fence on Hicksville Township roads to provide snowdrift relief.

Cost Estimate: Trees, labor and equipment for 150 foot living snow fence: \$2,500

Leadership: Township trustees, county engineer and Defiance County EMA Director

Start Date: 2004

Finish Date: 2006

Task 1: Identify key roads and areas that use high percentages of township winter resources.

Task 2: Evaluate best practice for mitigating snow-drifting problem

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid projects

Task 6: Install

Hazard: Tornado and Thunderstorm Wind

Goal: Inform the public of hazards from tornado and severe storms

Activity: Provide residences with severe weather information and potential hazards

Cost Estimate: \$1,000

Leadership: Township trustees and Defiance County EMA Director

Start Date: 2004

Finish Date: 2005

Task 1: Put advertisement in local paper

Task 2: Have flyers made up and mailed or handed out

Task 3: Be available to the public to help with questions and information

Goal: Provide every resident and visitor the best available warning of severe weather approaching Hicksville Township.

Activity: Install township-wide early warning systems

Cost Estimate: 2 early warning sirens with backup battery system at \$15,000 each.

Leadership: Township trustees and Defiance County EMA Director

Start Date: 2004

Finish Date: 2006

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To install and maintain township drainage system infrastructure to handle 100-year storm events to reduce the flood potential to roads and structures in the township.

Activity: Evaluate and replace 3 culverts and/or bridges to handle a 100-year storm.

Cost Estimate: \$20,000-\$25,000 per replacement project

Leadership: Township trustees and County Engineer

Start Date: 2003

Finish Date: 2010

Task 1: Identify undersized drainage system infrastructure

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects

Task 5: Install

Hazard: Drought

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Hire consultant to develop and implement a contingency plan

Cost Estimate: \$5,000

Leadership: Township trustees and Defiance County EMA director
Start Date: 2003
Finish Date: 2005

- Task 1: Identify needs
- Task 2: Meet with county officials
- Task 3: Propose plan
- Task 4: Implement plan

Hazard: Earthquake

Goal: To be informed and aware of earthquake risk

Activity: Seismic hazard mapping. Information gained from mapping can be used to assess risk. Map users should be educated in the appropriate uses and limitations of maps.

Cost Estimate: 5,000-\$10,000

Leadership: Defiance County EMA

Start Date: 2004

Finish Date: 2005

- Task 1: Collect geologic information, soil conditions, and related potential hazards.
- Task 2: Prepare map showing the approximate locations of various hazards
- Task 3: Educate users to use the maps appropriately.

Action Plans for Hicksville, Village of

Hazard: Winter Storm

Goal: To provide shelter facilities adequately equipped to provide protection from snow and extreme cold temperatures.

Activity: Conduct study to identify current facilities and evaluate resources available to protect and secure local residence.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Village Administration and Defiance County EMA Director

Start Date: 2004

Finish Date: 2005

Task 1: Conduct shelter and resources study

Task 2: Determine needed resources

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid projects

Task 6: Remove snow and ice

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching Hicksville Village. Provide at risk populations adequate shelter facilities.

Activity: Install early warning systems and provide adequate shelters

Cost Estimate: 2 early warning sirens with backup battery system at \$15,000 each.

Leadership: Village Administration and Defiance County EMA Director

Start Date: 2004

Finish Date: 2005

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To protect building structures from 100-year storm events. To install and maintain drainage system infrastructure to handle 100-year storm events to reduce the flood potential to roads and structures in the township.

Activity: Hire consultant to evaluate current buildings in the 100-year flood plain and determine where corrective action is required including but not limited to buyout or elevation projects.

Cost Estimate: \$10,000

Leadership: Village Administration and Defiance County EMA Director

Start Date: 2004

Finish Date: 2005

- Task 1: Identify structures in flood plain
- Task 2: Determine if corrective action is needed
- Task 3: Identify corrective action options
- Task 4: Identify funding sources
- Task 5: Make offers to owner
- Task 6: If accepted, complete corrective action

Activity: Evaluate and replace 3 culverts and/or bridges to handle a 100-year storm.

Cost Estimate: \$20,000-\$25,000 per replacement project

Leadership: Village Administration and Defiance County EMA Director

Start Date: 2004

Finish Date: 2005

- Task 1: Identify undersized drainage system infrastructure
- Task 2: Get cost estimates
- Task 3: Identify funding sources
- Task 4: Bid projects
- Task 5: Install

Hazard: Drought

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Review the existing contingencies plan.

Cost Estimate: \$5,000

Leadership: Village Administration and Defiance County EMA director

Start Date: 2004
Finish Date: 2005

- Task 1: Identify resources in the contingency plan that prevent its implementation
- Task 2: Get cost estimates
- Task 3: Identify funding sources
- Task 4: Bid project resources
- Task 5: Purchase and install

Hazard: Earthquake

Goal: To have all buildings and public structures capable of withstanding a best know estimated earthquake for northwest Ohio.

Activity: Examine existing building codes for inclusion of earthquake related issues by hiring a consultant. Incorporate recommendations in to current code and recommendations.

Cost Estimate: \$30,000-\$35,000

Leadership: Village Administration and Defiance County EMA
Start Date: 2004
Finish Date: 2006

- Task 1: Conduct an examination of existing building codes for inclusion of earthquake related issues.
- Task 2: Conduct local vulnerability analysis of structures.
- Task 3: Identify corrective actions that could be completed to mitigate loss due to an earthquake occurrence.
- Task 4: Identify funding sources
- Task 5: Complete earthquake mitigation actions on cooperating structures.

Action Plans for Highland Township

Hazard: Winter Storm

Goal: Local governments need to always plan for and maintain adequate road and debris clearing capabilities. Snowdrift prone areas decrease the safety of travelers and cause the township added expense to open and maintain clear.

Activity: Clear undesirable brush vegetation causing snowdrift prone areas and/or develop snow fence areas on Highland Township roads to provide snowdrift relief.

Cost Estimate: Trees, labor and equipment for 150 foot living snow fence: \$2,500

Leadership: Township trustees, county engineer and Defiance County EMA Director

Start Date: 2003

Finish Date: 2004

Task 1: Identify key roads and areas that use high percentages of township winter resources.

Task 2. Evaluate best practice for mitigating snow-drifting problem

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid projects

Task 6: Install

Hazard: Tornado and Thunderstorm Wind

Goal: Not submitted

Activity: Not submitted

Hazard: Flooding (floodplain and flash)

Goal: To install and maintain township drainage system infrastructure to handle 100-year storm events to reduce the flood potential to roads and structures in the township.

Activity: Evaluate and replace 3 culverts and/or bridges to handle a 100-year storm. Evaluate road elevations to raise road above flood prone areas.

Cost Estimate: \$20,000-\$25,000 per replacement project

Leadership: Township trustees and Defiance County Commissioners

Start Date: 2004
Finish Date: 2004

- Task 1: Identify flood risk areas and evaluate options of undersized drainage system infrastructure or raising the road elevation
- Task 2: Get cost estimates
- Task 3: Identify funding sources
- Task 4: Bid projects
- Task 5: Install

Hazard: Drought

Goal: Not submitted

Activity: Not submitted

Hazard: Earthquake

Goal: Not submitted

Activity: Not submitted

Action Plans for Milford Township

Hazard: Winter Storm

Goal: Local governments need to always plan for and maintain adequate road and debris clearing capabilities. Narrow township roads decrease the safety of travelers on roads during winter storms and snow events. The township's goal is to reduce the risk to traveler's personal property and personal injury on all township roads. Snowdrift prone areas also decrease the safety of travelers and cause the township added expense to open and maintain clear.

Activity: Widening the birm on 5 miles of township roads and/or developing living snow fence on Milford Township roads to allow for snow push back areas and/or snow drift relief.

Cost Estimate: Regrading: Widening and birm improvement \$40,000/mile. Trees, labor and equipment for 150 foot living snow fence: \$2,500

Leadership: Township trustees, county engineer and Defiance County EMA Director

Start Date: 2004

Finish Date: 2006

Task 1: Identify key roads and areas that use high percentages of township winter resources.

Task 2: Evaluate best practice for mitigating snow drifting problem

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid projects

Task 6: Install

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching Milford Township.

Activity: Install township-wide early warning systems

Cost Estimate: 1 early warning siren with backup battery system at \$15,000 each.

Leadership: Township trustees and Defiance County EMA Director

Start Date: 2004

Finish Date: 2006

Task 1: Identify key locations

Task 2: Get cost estimates

- Task 3: Identify funding sources
- Task 4: Bid projects (possibly county wide)
- Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To minimize the damage of floodwaters on township roads.

Activity: Repair or relocate 10 miles of township roads and 3 bridges near and frequently damaged by flooding on the St. Joe River.

Cost Estimate: \$175,000/ bridge, \$30,000/mile of road

Leadership: County engineer, township trustees and Defiance County EMA
 Start Date: 2004
 Finish Date: 2006

- Task 1: Identify damaged areas
- Task 2: Perform a cost/benefit analysis for each damaged area
- Task 3: Identify funding sources
- Task 4: Bid projects
- Task 5: Repair or relocate township road

Hazard: Drought

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Develop a contingency plan for a local public water sources for area residence and businesses.

Cost Estimate: \$5,000

Leadership: Township trustees and Defiance County EMA director
 Start Date: 2004
 Finish Date: 2005

- Task 1: Identify needs
- Task 2: Get cost estimates
- Task 3: Identify funding sources
- Task 4: Bid project
- Task 5: Complete project

Hazard: Earthquake

Goal: To be informed and aware of earthquake risk

Activity: Seismic hazard mapping. Information gained from mapping can be used to assess risk. Map users should be educated in the appropriate uses and limitations of maps.

Cost Estimate: 5,000-\$10,000

Leadership: Defiance County EMA

Start Date: 2004

Finish Date: 2005

Task 1: Collect geologic information, soil conditions, and related potential hazards.

Task 2: Prepare map showing the approximate locations of various hazards

Task 3: Educate users to use the maps appropriately.

Action Plans for Ney Village of

Hazard: Winter Storm

Goal: Provide every resident and visitor the best available shelter in times of widespread utility failure.

Activity: Establish and equip heating centers or shelters for vulnerable populations, not only for residents, but also for stranded motorists/travelers.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Village Administration

Start Date: 2004

Finish Date: 2006

Task 1: Identify current facilities and equipment

Task 2: Identify current needs to accommodate a shelter population

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid project

Task 6: Construct and/or purchase

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching Ney Village.

Activity: Install village-wide early warning systems

Cost Estimate: 1 early warning siren with backup battery system at \$15,000 each.

Leadership: Village Administrator and Defiance County EMA Director

Start Date: 2004

Finish Date: 2006

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To protect the residence and building structures in Ney Village from flood waters. To provide fire and rescue services during and after flood events.

Activity: Develop secondary fire and rescue locations if floodwaters rise and prevent movement in and out of Ney Village.

Cost Estimate: New fire department \$800,000. Add a safe room/shelter \$50,000.

Leadership: Village administration, Defiance County EMA Director and local fire and rescue department.

Start Date: 2004

Finish Date: 2005

Task 1: Identify a suitable secondary location

Task 2: Develop a memorandum of understanding (MOU) with location

Task 3: Review MOU with local fire and rescue department

Task 4: Update and/or review MOU annually

Activity: Develop a feasibility study to evaluate potential effected building structures in the 100-year flood plain. Potentially offer a buy-out program or structural elevation-raising program for repeatedly flooded structures.

Cost Estimate: \$10,000-\$15,000

Leadership: Village administration, Defiance County EMA Director.

Start Date: 2004

Finish Date: 2005

Task 1: Identify critical structures and details on damage risk

Task 2: Perform a cost/benefit analysis for each structure

Task 3: Identify interest in buy-outs or structural elevation-raising

Task 4: Make offers on structures

Task 5: Complete removal or complete structural elevation-raising

Hazard: Drought

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Establish a water delivery system for people and livestock

Cost Estimate: \$30,000-\$40,000 (truck and tank)

Leadership: Village Administration

Start Date: 2004

Finish Date: unidentified

Task 1: Identify needs

Task 2: Meet with county health officials

Task 3: Propose plan

Task 4: Implement plan

Hazard: Earthquake

Goal: To provide building standards that mitigate damages from earthquakes

Activity: Develop a plan to incorporate earthquake building codes into land use zoning for Ney Village. Work jointly with the local zoning inspector and statewide building code programs.

Cost Estimate: \$25,000

Leadership: Village Administration and Defiance County EMA Director

Start Date: 2004

Finish Date: 2005

Task 1: Collect geologic information, soil conditions, and related potential hazards.

Task 2: Identify current building regulations related to earthquake

Task 3: Identify additions or deletions to mitigate earthquake risk to village building structures.

Action Plans for Noble Township

Hazard: Winter Storm

Goal: Not submitted

Activity: Not submitted

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching Noble Township.

Activity: Install township-wide early warning systems

Cost Estimate: 1 early warning siren with backup battery system at \$15,000 each.

Leadership: Township trustees and Defiance County EMA Director

Start Date: January 1, 2004

Finish Date: May 1, 2004

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: Not submitted

Activity: Not submitted

Hazard: Drought

Goal: Not submitted

Activity: Not submitted

Hazard: Earthquake

Goal: Not submitted

Activity: Not submitted

Action Plans for Sherwood, Village of

Hazard: Winter Storm

Goal: To provide shelter facilities adequately equipped to provide protection from snow and extreme cold temperatures.

Activity: Establish and equip heating centers or shelters for vulnerable populations, not only for residents, but also for stranded motorists/travelers.

Cost Estimate: Manual switching unit, Labor, separation of building power grid, outside receptacle/hookup for auxiliary generator - \$15,000-\$20,000. Add site generator plus 3 year maintenance contract - \$25,000-\$35,000.

Leadership: Village Administration and Defiance County EMA Director

Start Date: 2004

Finish Date: 2006

Task 1: Identify current facilities and equipment

Task 2: Identify current needs to accommodate a shelter population

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid project

Task 6: Construct and/or purchase

Goal: Local governments need to always plan for and maintain adequate road and debris clearing capabilities. Snowdrift prone areas decrease the safety of travelers and cause the village added expense to open and maintain clear.

Activity: Clear undesirable brush vegetation causing snowdrift prone areas and/or develop living snow fence in the village to provide snowdrift relief.

Cost Estimate: Trees, labor and equipment for 150 foot living snow fence: \$2,500

Leadership: Village Administration, county engineer and Defiance County EMA Director

Start Date: 2004

Finish Date: 2006

Task 1: Identify key roads and areas that use high percentages of township winter resources.

Task 2. Evaluate best practice for mitigating snow-drifting problem

Task 3: Get cost estimates

Task 4: Identify funding sources

Task 5: Bid projects

Task 6: Install

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching the Village of Sherwood. Provide at risk populations adequate shelter facilities.

Activity: Install early warning systems and provide adequate shelters

Cost Estimate: 1 early warning siren with backup battery system at \$15,000 each.

Leadership: Village Administration and Defiance County EMA Director

Start Date: 2004

Finish Date: 2005

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To install and maintain village drainage system infrastructure to handle most flash flood storm events to reduce the flood potential to roads and structures in the village similar to events such as June 17, 2003.

Activity: Improve the drainage system in the village northside to reduce the impact of flash flooding.

Cost Estimate: \$338,000, Storm drain sewers, open ditch construction, culverts, engineering, inspection and restoration.

Leadership: Village Administration and County Engineer

Start Date: 2004

Finish Date: 2006

Task 1: Utilize existing design and plans

Task 2: Update cost estimates

Task 3: Identify funding sources

Task 4: Bid projects

Task 5: Install

Goal: To protect structures from floodwaters by implementing floodwater building regulations for new construction in the village.

Activity: Adopt or amend building codes to mitigate floodwater damage to new construction in the village. Conduct site reviews by Defiance Soil and Water Conservation District

Cost Estimate: \$1,000 per year to conduct all new building site reviews

Leadership: Village Administration, County Engineer, and Defiance SWCD

Start Date: 2004

Finish Date: 2006

Task 1: Identify current building codes pertaining to flood prevention.

Task 2: Review and modify to meet current prevention standards.

Task 3: Adopt

Task 4: Enforcement

Goal: To provide an opportunity for residences and business to participate in the National Flood Insurance Program to mitigate a property owner's financial exposure to loss from flood damage.

Activity: Join the National Flood Insurance Program administered by FEMA.

Cost Estimate: \$500

Leadership: Village Administration

Start Date: 2004

Finish Date: 2005

Task 1: Contact FEMA for information

Task 2: Be added to FEMA's participating communities

Task 3: Educate village residence of insurance opportunities

Hazard: Drought

Goal: To be able to limit village water use in times of emergency

Activity: Pass ordinances to prioritize or control water use during emergency situations and conduct public education.

Cost Estimate: \$1,000

Leadership: Village Administration and Defiance County EMA director

Start Date: 2004

Finish Date: 2005

Task 1: Review current village ordinances pertaining to water usage

Task 2: Identify needed ordinances giving the village authority to prioritize or control water use in the village.
Task 3: Adopt ordinances

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Develop a drought contingency plan.

Cost Estimate: 5,000-\$10,000

Leadership: Village Administration and Defiance County EMA director
Start Date: 2004
Finish Date: 2006

Task 1: Identify resources in the contingency plan that prevent its implementation
Task 2: Get cost estimates
Task 3: Identify funding sources
Task 4: Bid project resources
Task 5: Purchase and install

Hazard: Earthquake

Goal: To have all buildings and public structures capable of withstanding a best know estimated earthquake for northwest Ohio.

Activity: Examine existing building codes for inclusion of earthquake related issues by hiring a consultant. Incorporate recommendations in to current code and recommendations.

Cost Estimate: \$30,000-\$35,000

Leadership: Village Administration and Defiance County EMA
Start Date: 2004
Finish Date: 2006

Task 1: Conduct an examination of existing building codes for inclusion of earthquake related issues.
Task 2: Conduct local vulnerability analysis of structures.
Task 3: Identify corrective actions that could be completed to mitigate loss due to an earthquake occurrence.
Task 4: Identify funding sources
Task 5: Complete earthquake mitigation actions on cooperating structures.

Action Plans for Tiffin Township

Hazard: Winter Storm

Goal: Local governments need to always plan for and maintain adequate road and debris clearing capabilities. Narrow township roads decrease the safety of travelers on roads during winter storms and snow events. The township's goal is to reduce the risk to traveler's personal property and personal injury on all township roads.

Activity: Widening and blacktop 20 miles of Tiffin Township's roads.

Cost Estimate: \$130,000 per mile to widen to 24 ft and pave

Leadership: Township trustees and county engineer

Start Date: 2003

Finish Date: 2006

Task 1: Identify key roads based on use

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects

Task 5: Install

Hazard: Tornado and Thunderstorm Wind

Goal: Provide every resident and visitor the best available warning of severe weather approaching Tiffin Township.

Activity: Install township-wide early warning systems

Cost Estimate: 1 early warning siren with backup battery system at \$15,000 each.

Leadership: Township trustees and Defiance County EMA Director

Start Date: 2003

Finish Date: 2005

Task 1: Identify key locations

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects (possibly county wide)

Task 5: Install

Hazard: Flooding (floodplain and flash)

Goal: To install and maintain township drainage system infrastructure to handle 100-year storm events to reduce the flood potential to roads and structures in the township.

Activity: Evaluate and replace needed culverts and bridges to handle a 100-year storm.

Cost Estimate: \$20,000-\$25,000 per replacement project

Leadership: County engineer and township trustees

Start Date: 2003

Finish Date: 2010

Task 1: Identify undersized drainage system infrastructure

Task 2: Get cost estimates

Task 3: Identify funding sources

Task 4: Bid projects

Task 5: Install

Hazard: Drought

Goal: To be prepared for a drought to anticipate needs and actions

Activity: Develop a contingency plan

Cost Estimate \$5,000

Leadership: Township trustees and Defiance County EMA director

Start Date: 2003

Finish Date: 2005

Task 1: Identify needs

Task 2: Meet with county officials

Task 3: Propose plan

Task 4: Implement plan

Hazard: Earthquake

Goal: To be informed and aware of earthquake risk

Activity: Seismic hazard mapping. Information gained from mapping can be used to assess risk. Map users should be educated in the appropriate uses and limitations of maps.

Cost Estimate: 5,000-\$10,000

Leadership: Defiance County EMA
Start Date: 2004
Finish Date: 2005

Task 1: Collect geologic information, soil conditions, and related potential hazards.

Task 2: Prepare map showing the approximate locations of various hazards

Task 3: Educate users to use the maps appropriately.

Section 5. Plan Maintenance Procedures

The Defiance County Natural Hazards Mitigation Plan will be reviewed on an annual basis to determine the effectiveness of programs and to reflect changes in land development or programs that may affect mitigation priorities. The Defiance County Public Safety Office will provide leadership in presenting the plan for annual review to the Defiance County Local Emergency Planning Committee (LEPC).

The committee should review the goals and action items to determine relevance to Defiance County. The committee should review the risk assessment portion of the plan to determine if this information should be updated or modified, given any new available data or natural hazard occurrences. The committee can recommend the plan be updated for one or all jurisdictions. The Defiance County Public Safety Office will provide leadership to update the plan based on the committee's recommendations.

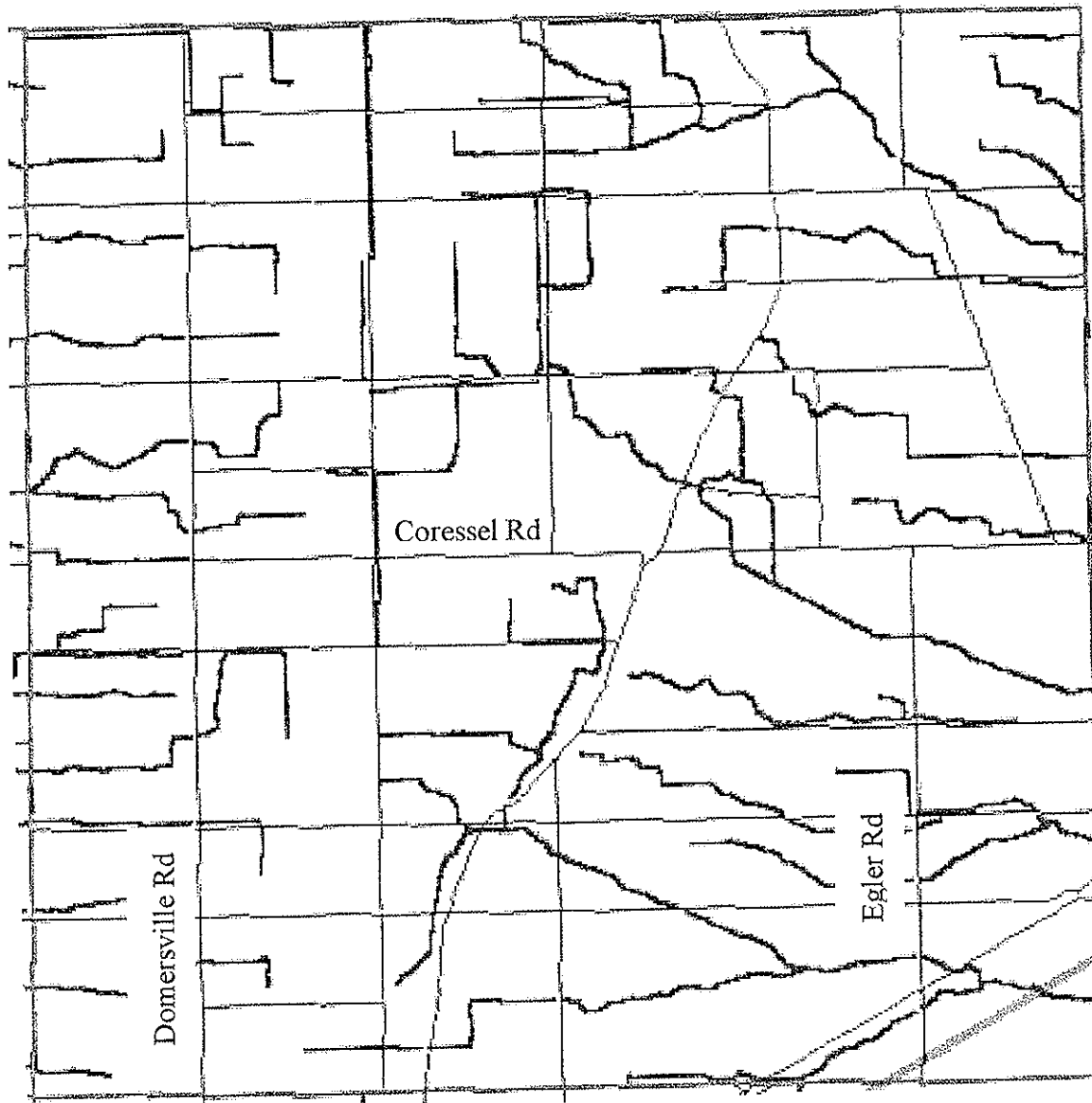
The LEPC meetings are open to the public and announced prior to the meeting in the local media. Upon recommending the plan be updated, the process will involve public involvement similar to the original writing of the plan.

The LEPC will promote all local governments to incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate. Annually revised copies will be provided to local governments that make public planning decisions. This will include but not limited to boards of control, city and village administration, village solicitors, county commissioners and county prosecuting attorneys office.

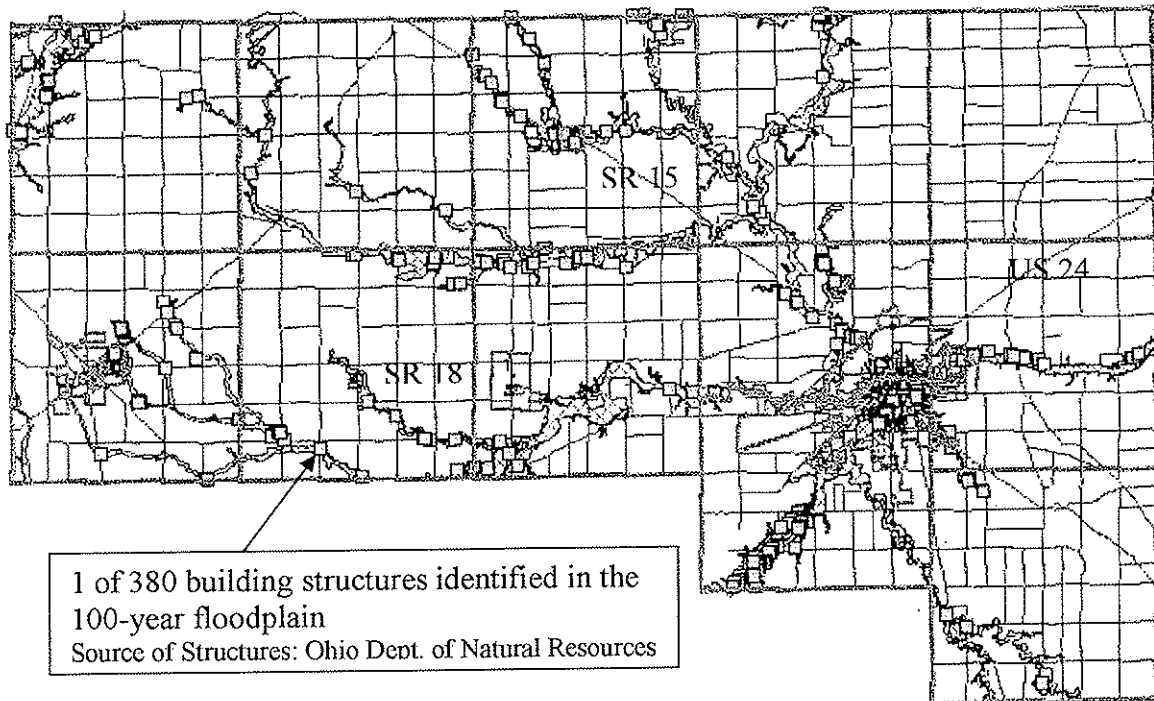
Appendix A

Adams Township 100-year Flood Plain Map

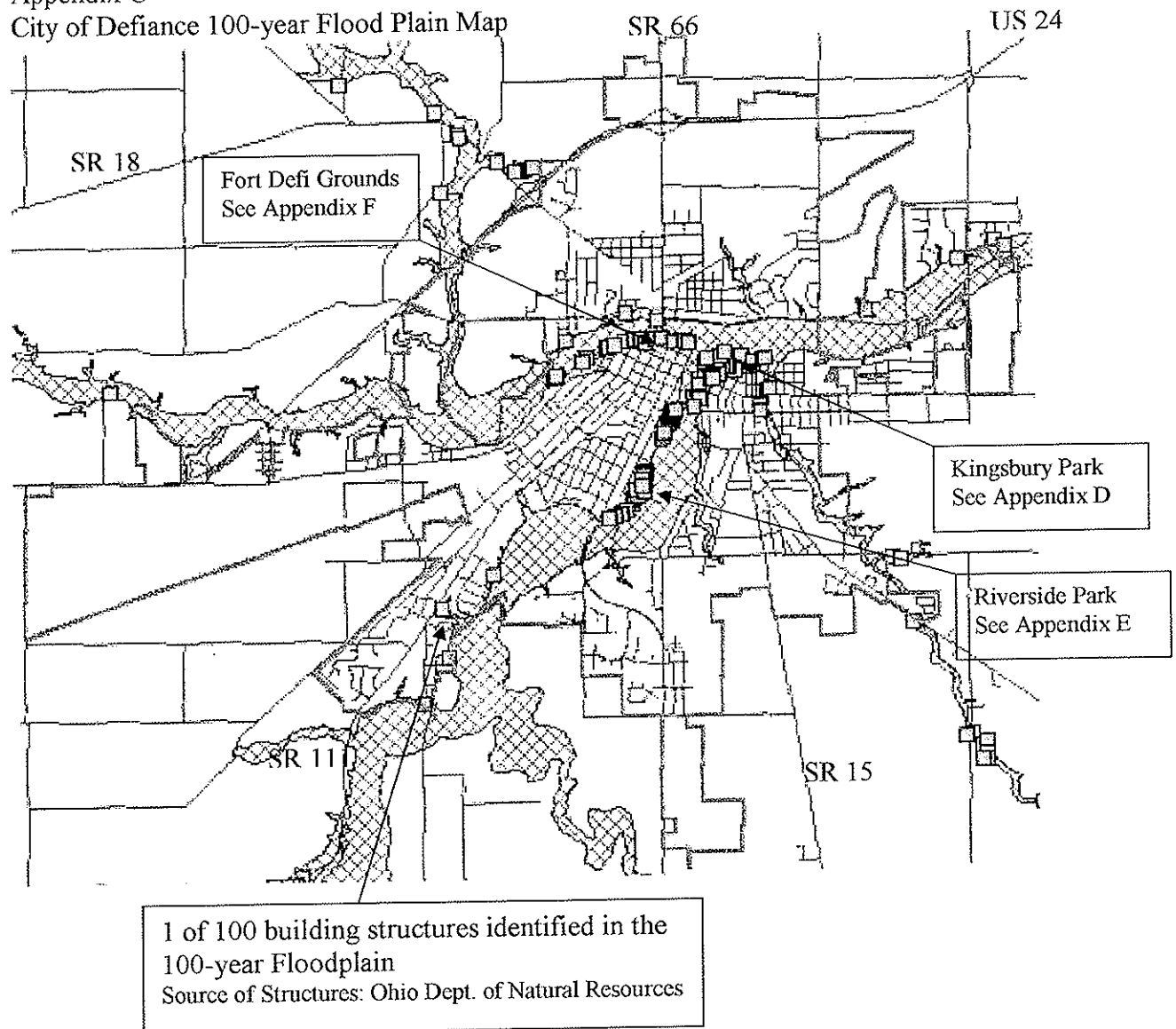
(No structures in the 100-year floodplain) Source of Structures: Ohio Dept. of Natural Resources



Appendix B
Defiance County (All) 100-year Flood Plain Map



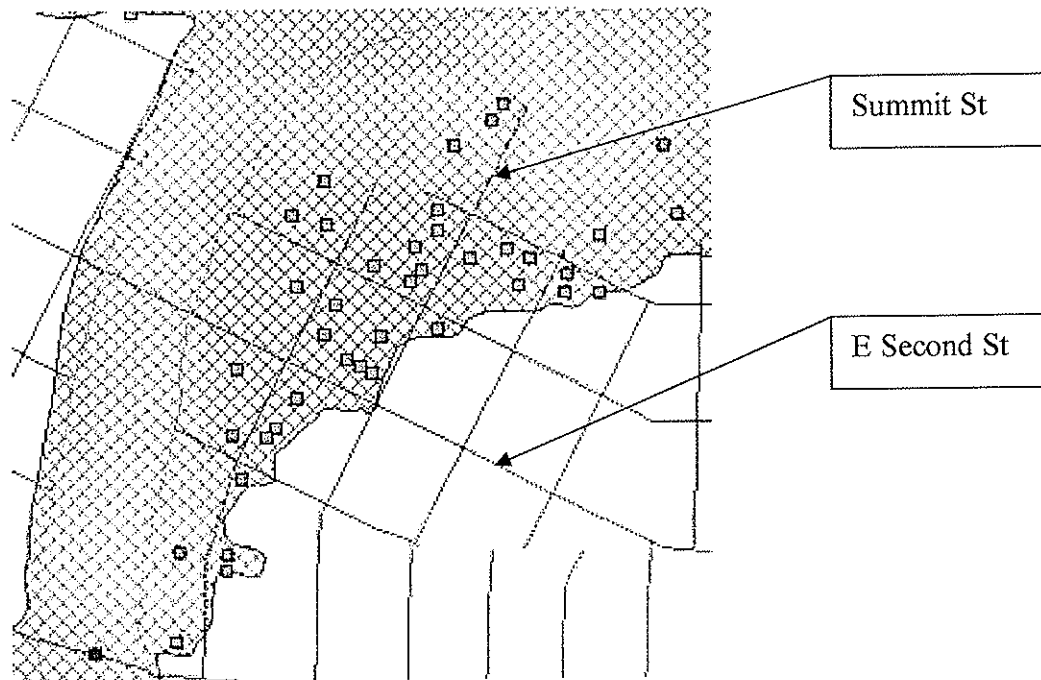
Appendix C
City of Defiance 100-year Flood Plain Map



Appendix D

City of Defiance (Kingsbury Park Zoom-In) 100-year Flood Plain Map

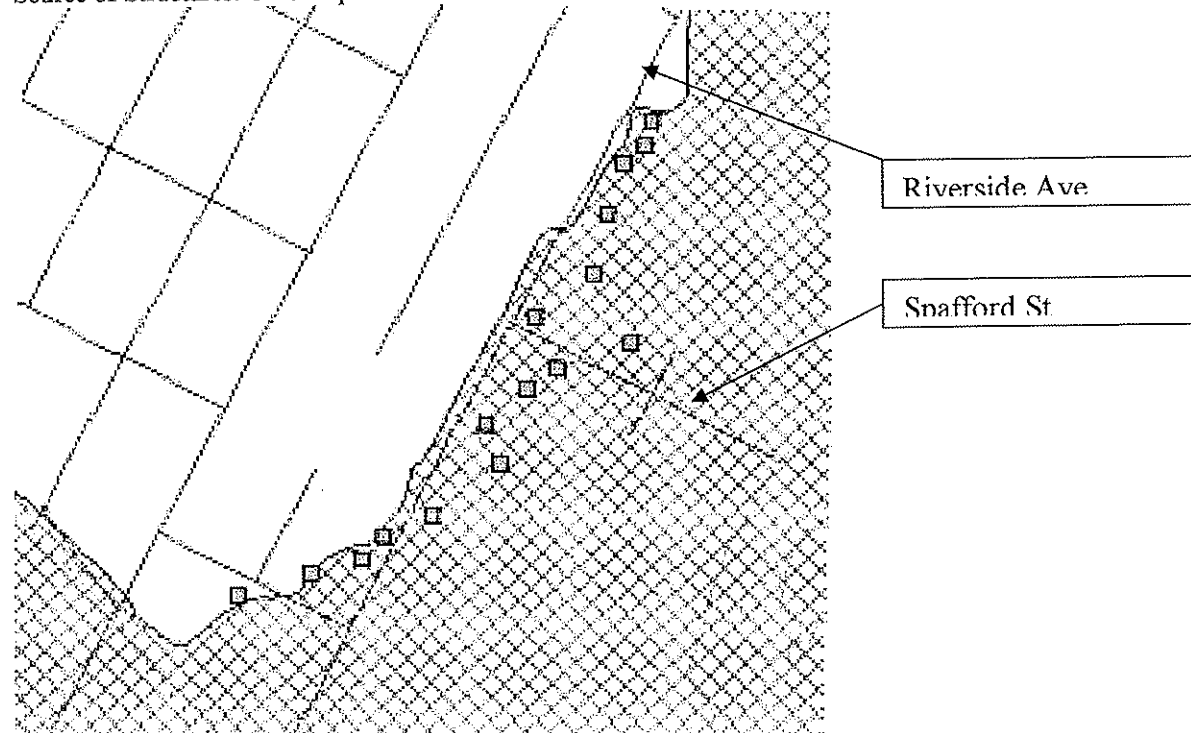
Source of Structures: Ohio Dept. of Natural Resources



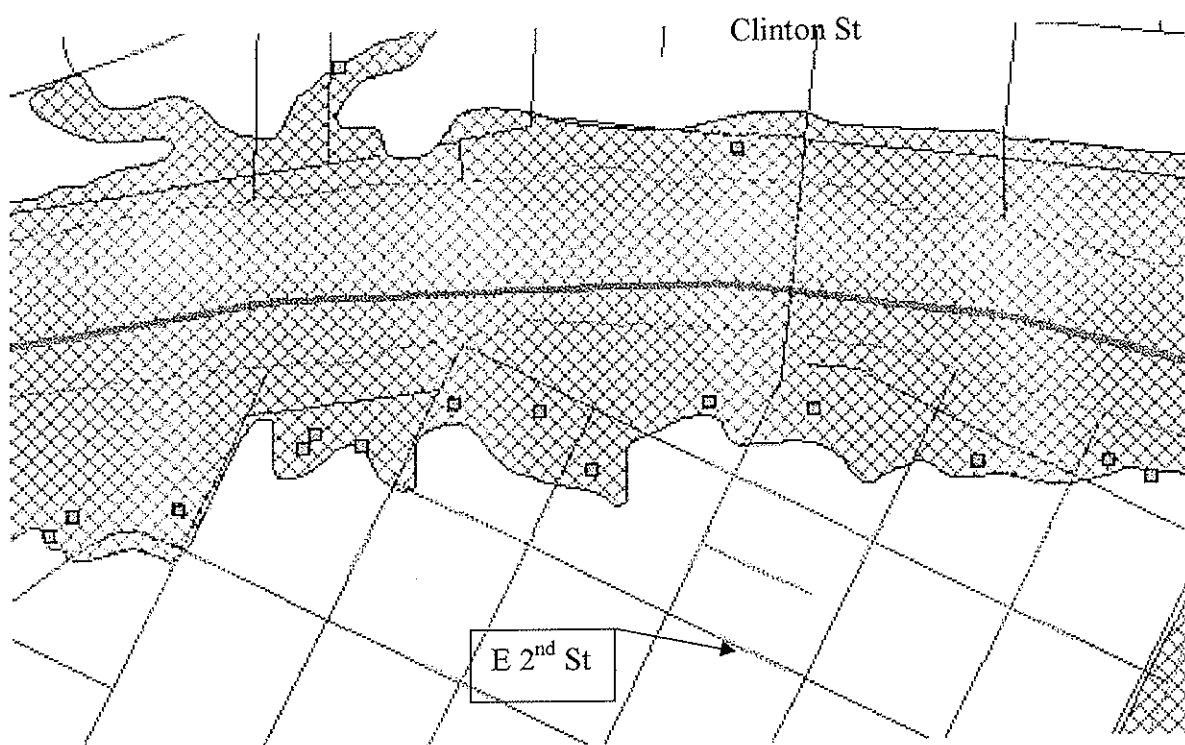
Appendix E

City of Defiance (Riverside Park Zoom-In) 100-year Flood Plain Map

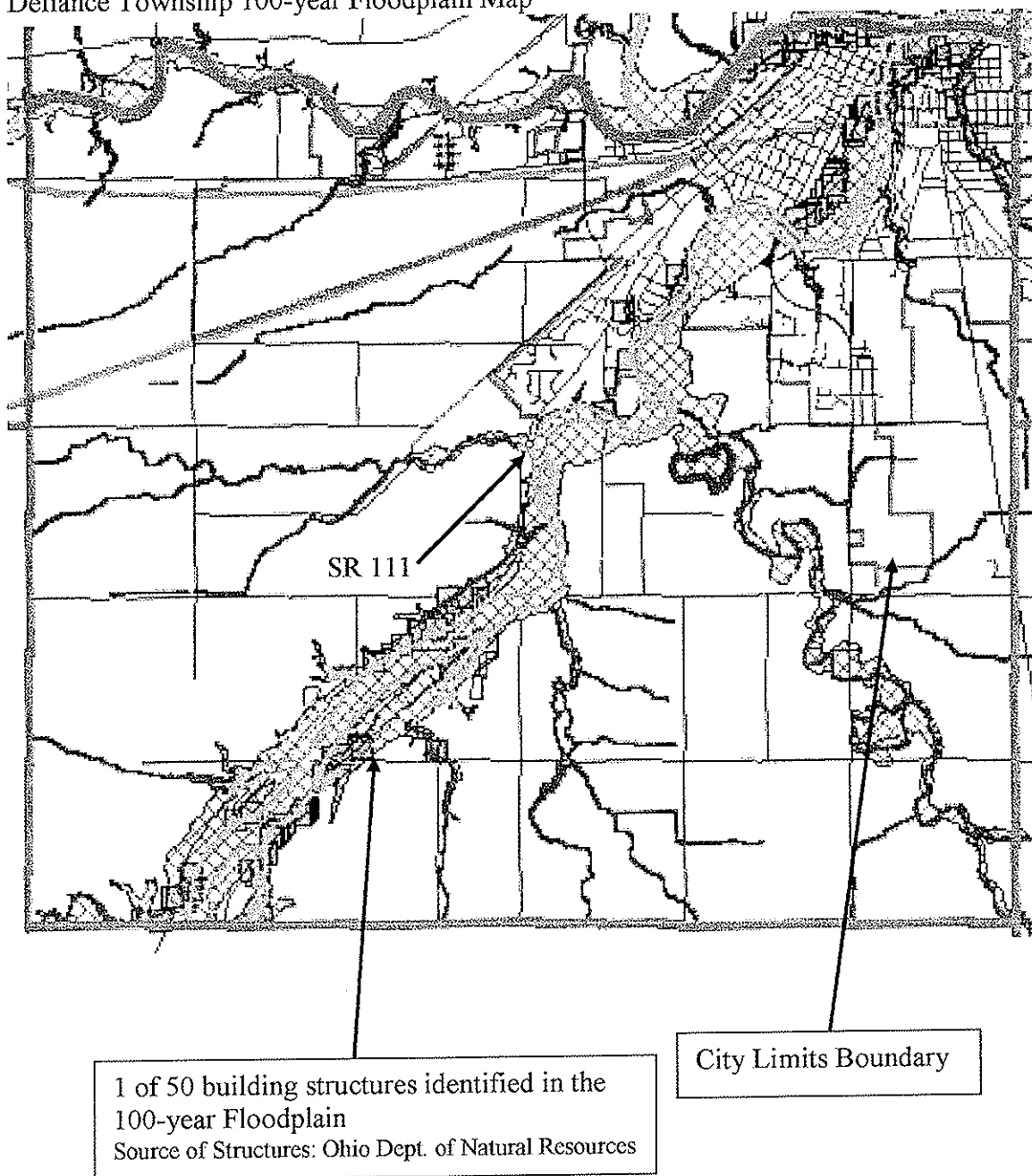
Source of Structures: Ohio Dept. of Natural Resources



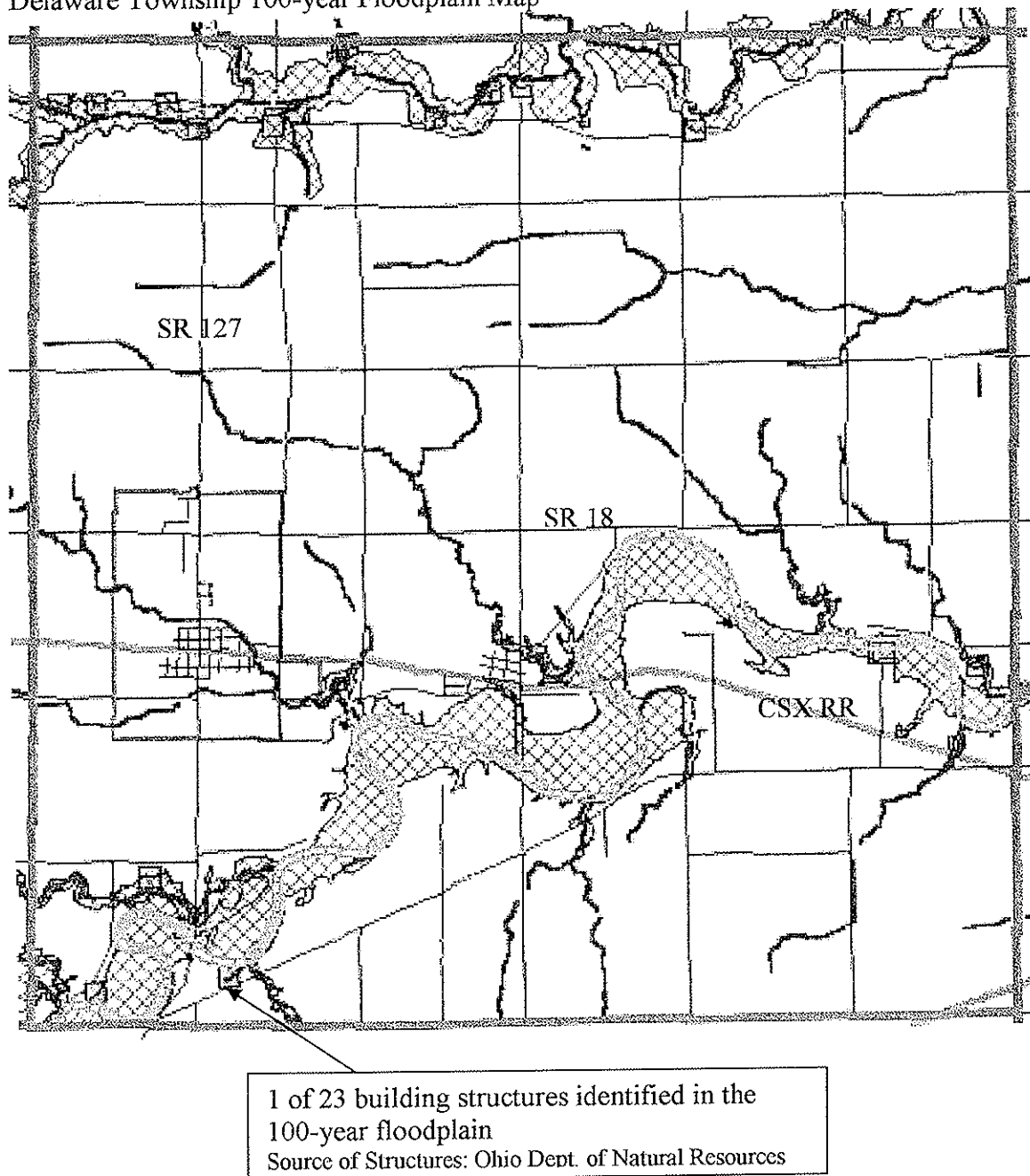
Appendix F
City of Defiance (Fort Defiance Grounds Zoom-In) 100-year Flood Plain Map
Source of Structures: Ohio Dept. of Natural Resources



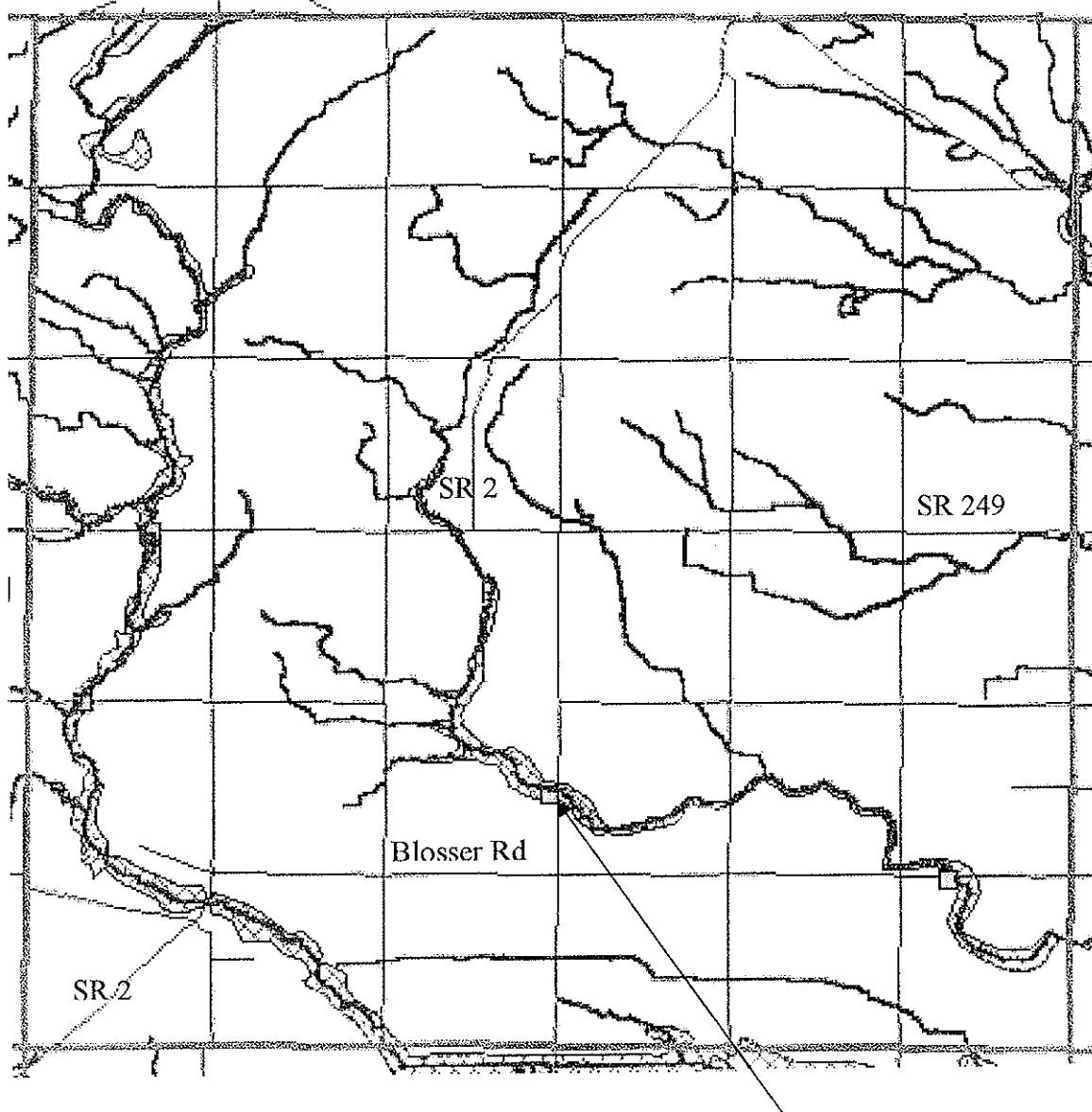
Appendix G
Defiance Township 100-year Floodplain Map



Appendix H
Delaware Township 100-year Floodplain Map

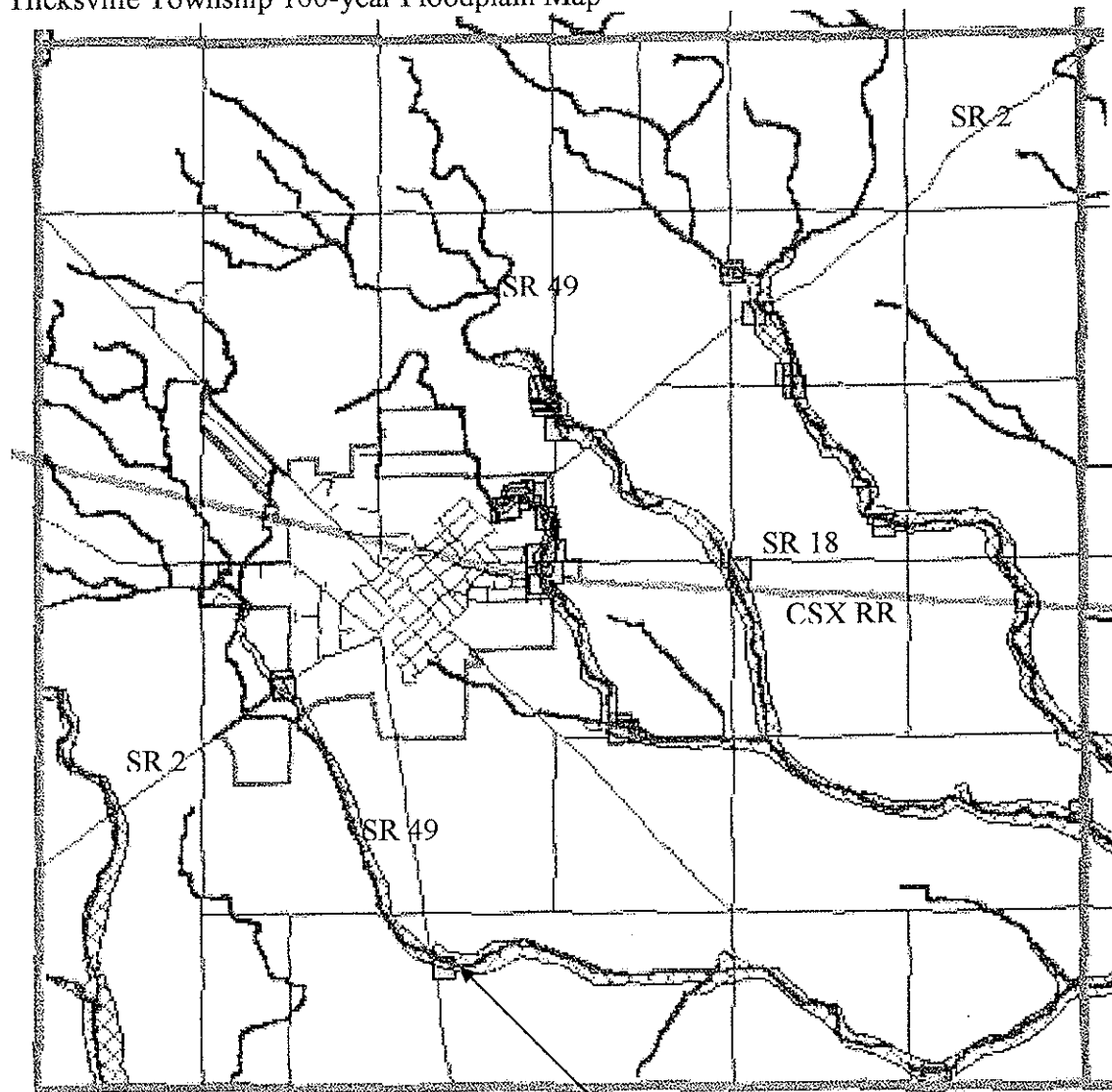


Appendix I
Farmer Township 100-year Floodplain Map



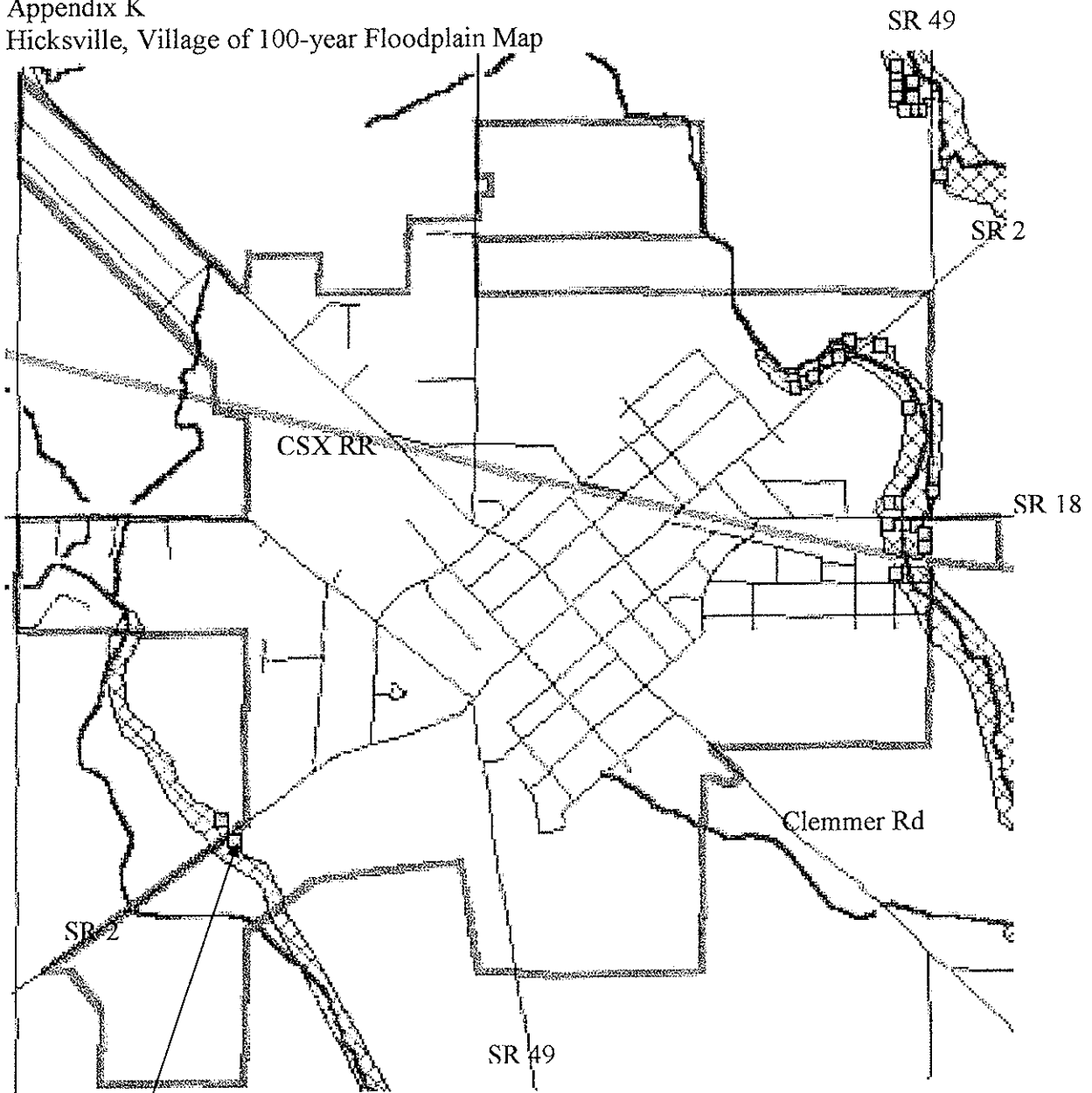
1 of 5 building structures identified in the
100-year floodplain
Source of Structures: Ohio Dept. of Natural Resources

Appendix J
Hicksville Township 100-year Floodplain Map

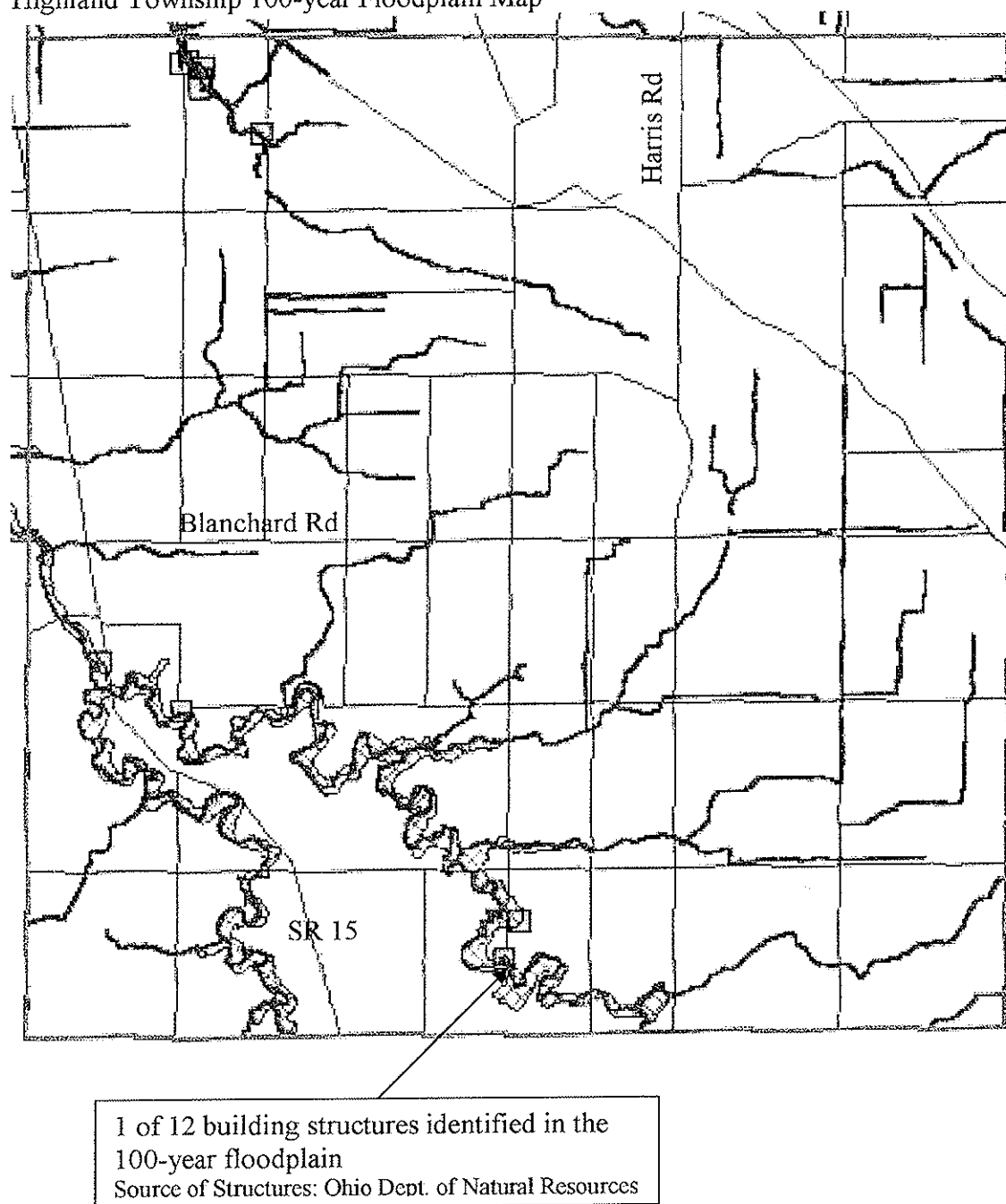


1 of 12 building structures identified in the
100-year floodplain
Source of Structures: Ohio Dept. of Natural Resources

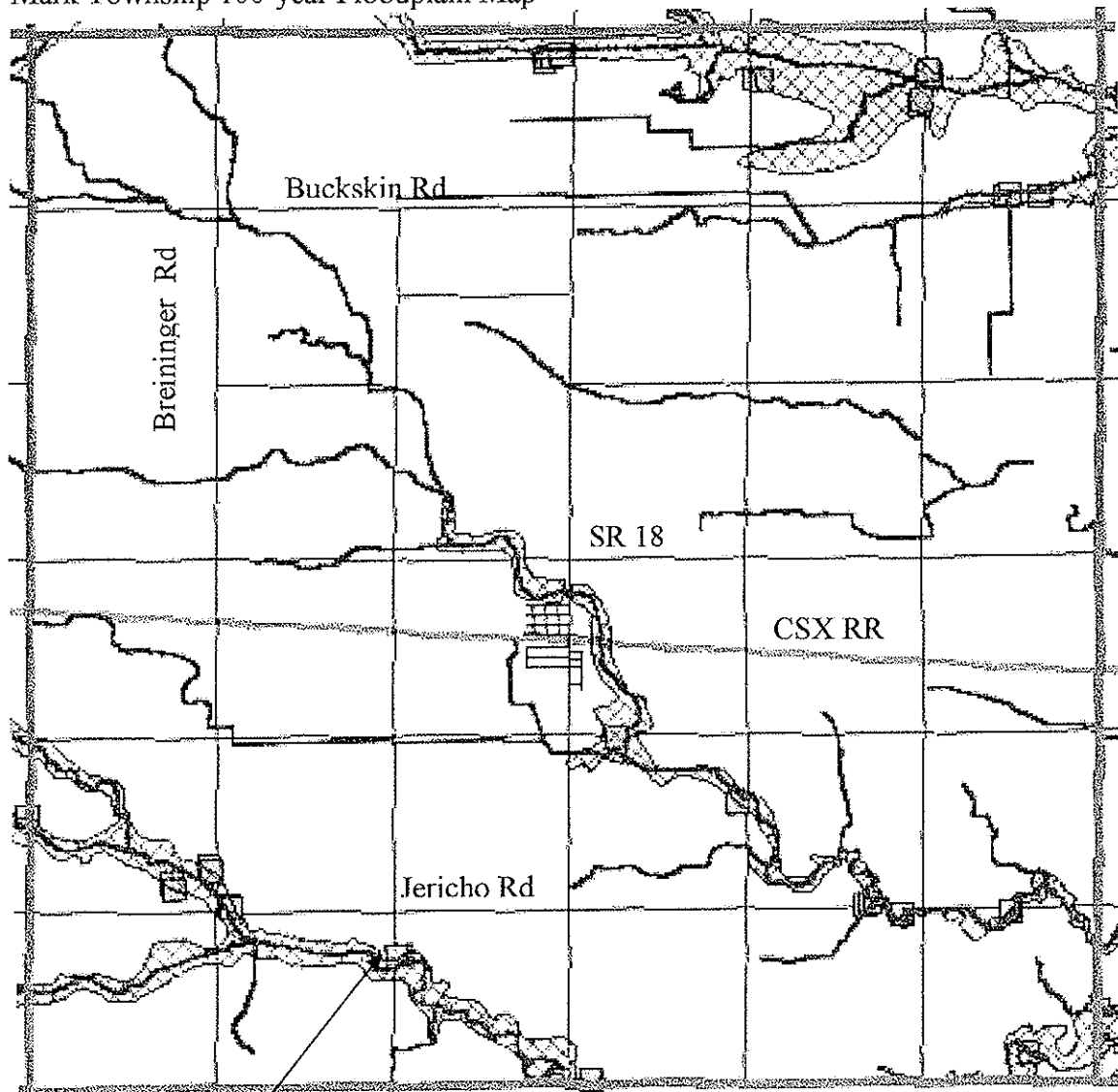
Appendix K
Hicksville, Village of 100-year Floodplain Map



Appendix L
Highland Township 100-year Floodplain Map

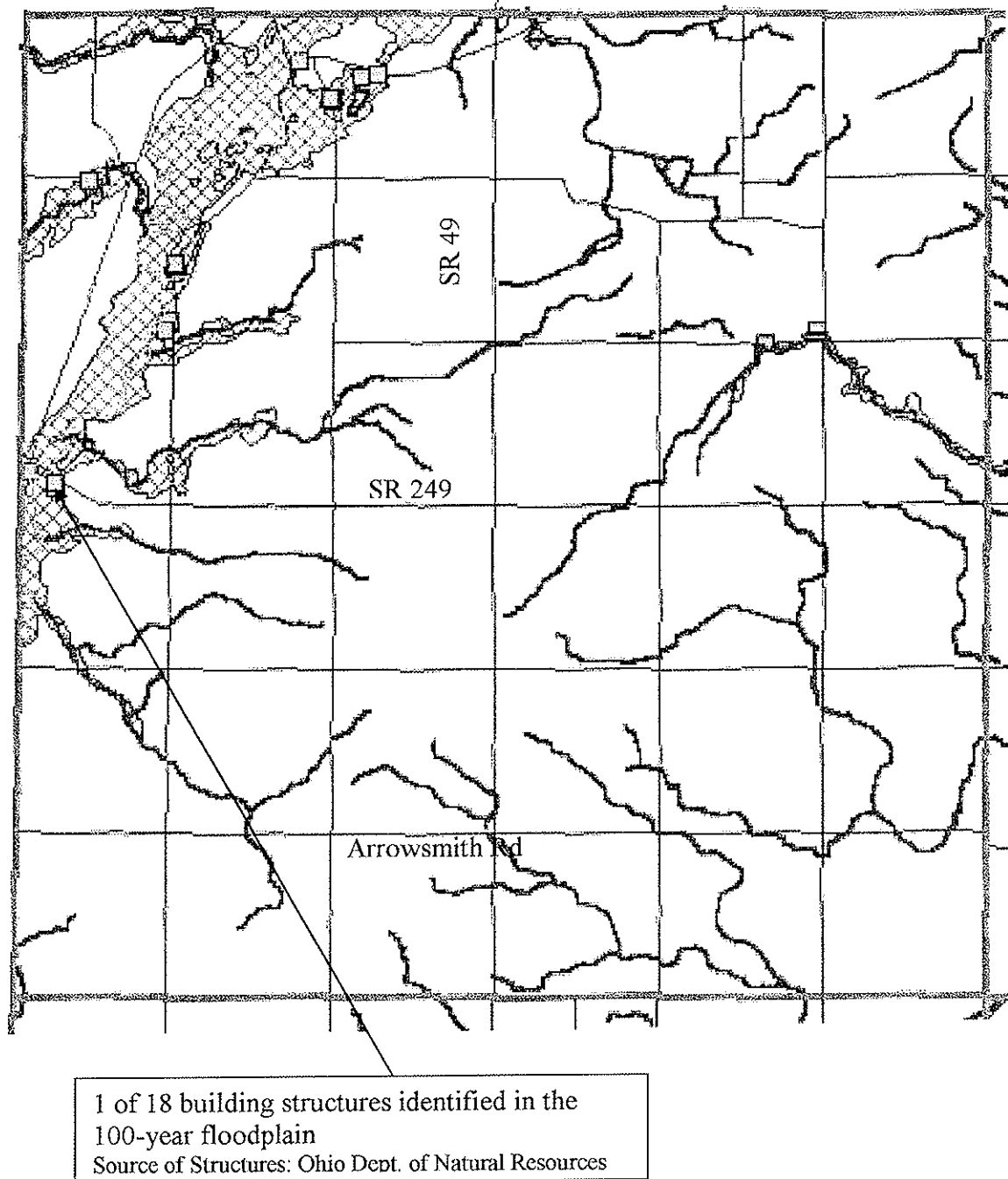


Appendix M
Mark Township 100-year Floodplain Map

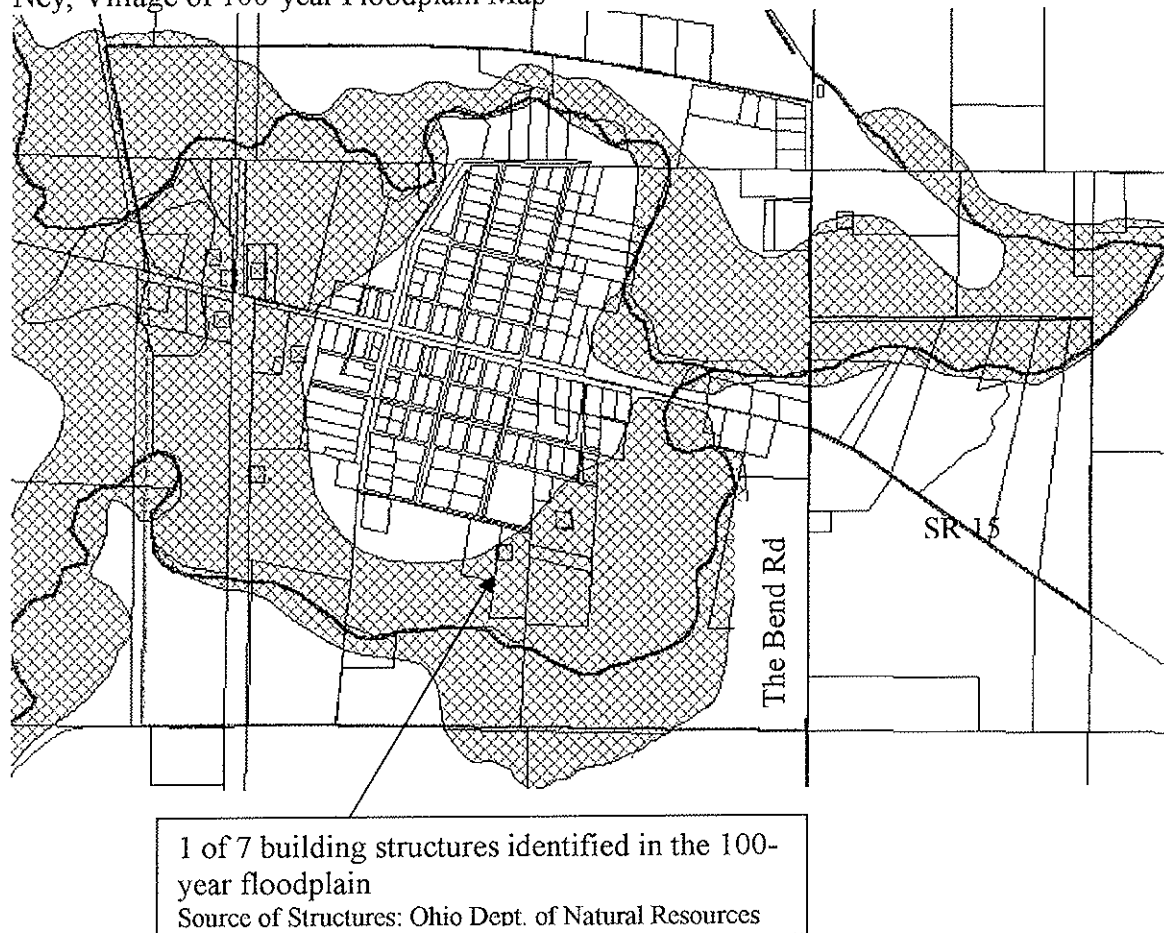


1 of 32 building structures identified in the
100-year floodplain
Source of Structures: Ohio Dept. of Natural Resources

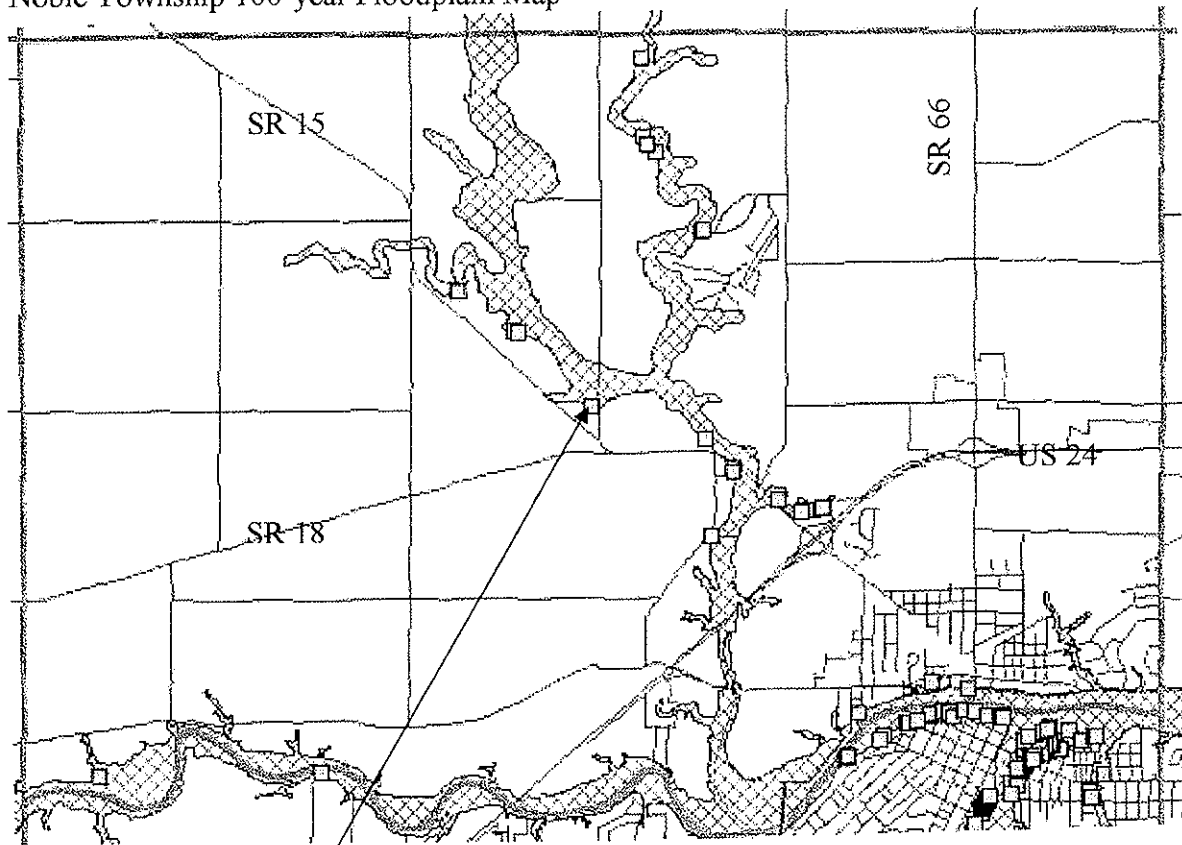
Appendix N
Milford Township 100-year Floodplain Map



Appendix O
Ney, Village of 100-year Floodplain Map

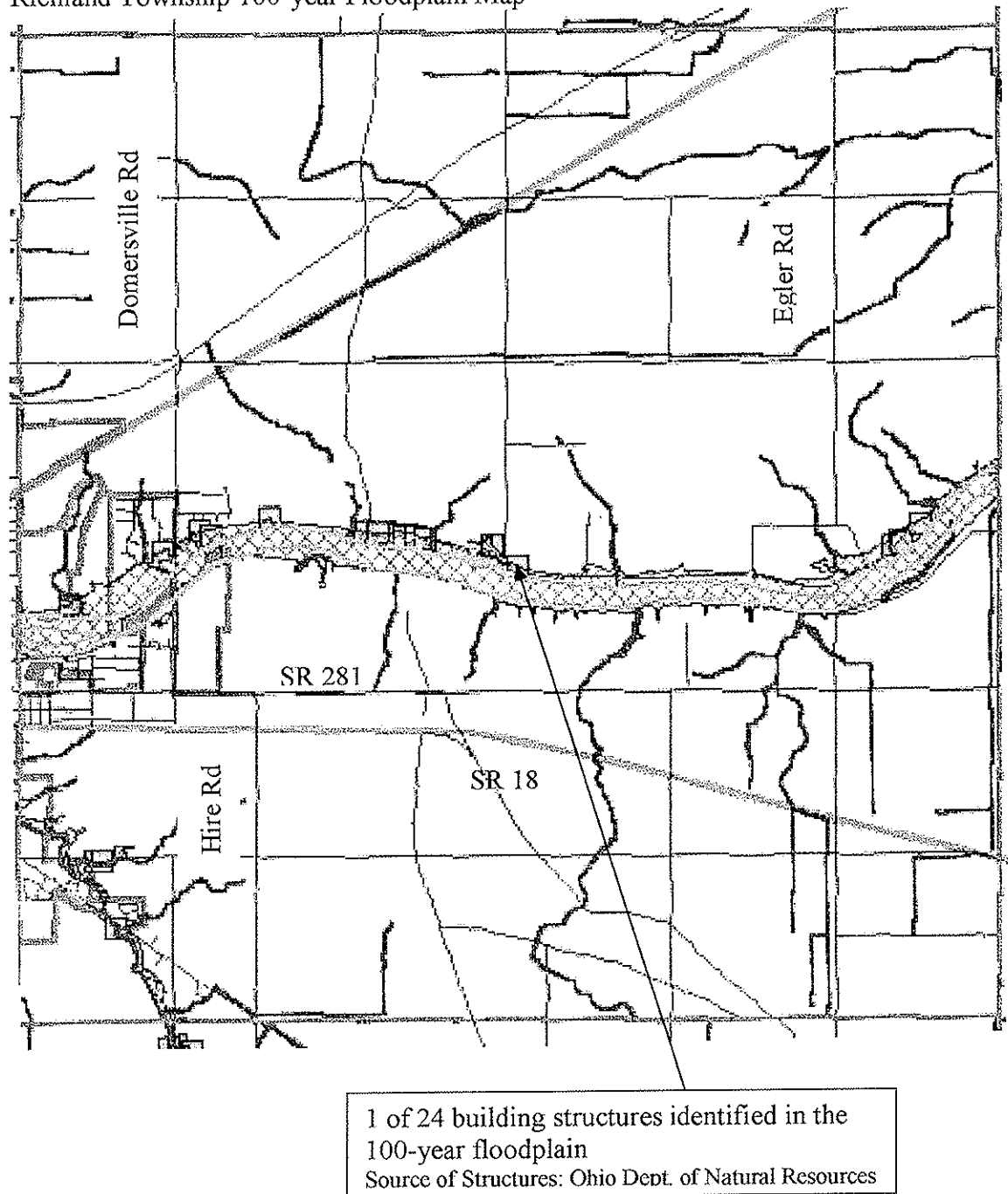


Appendix P
Noble Township 100-year Floodplain Map

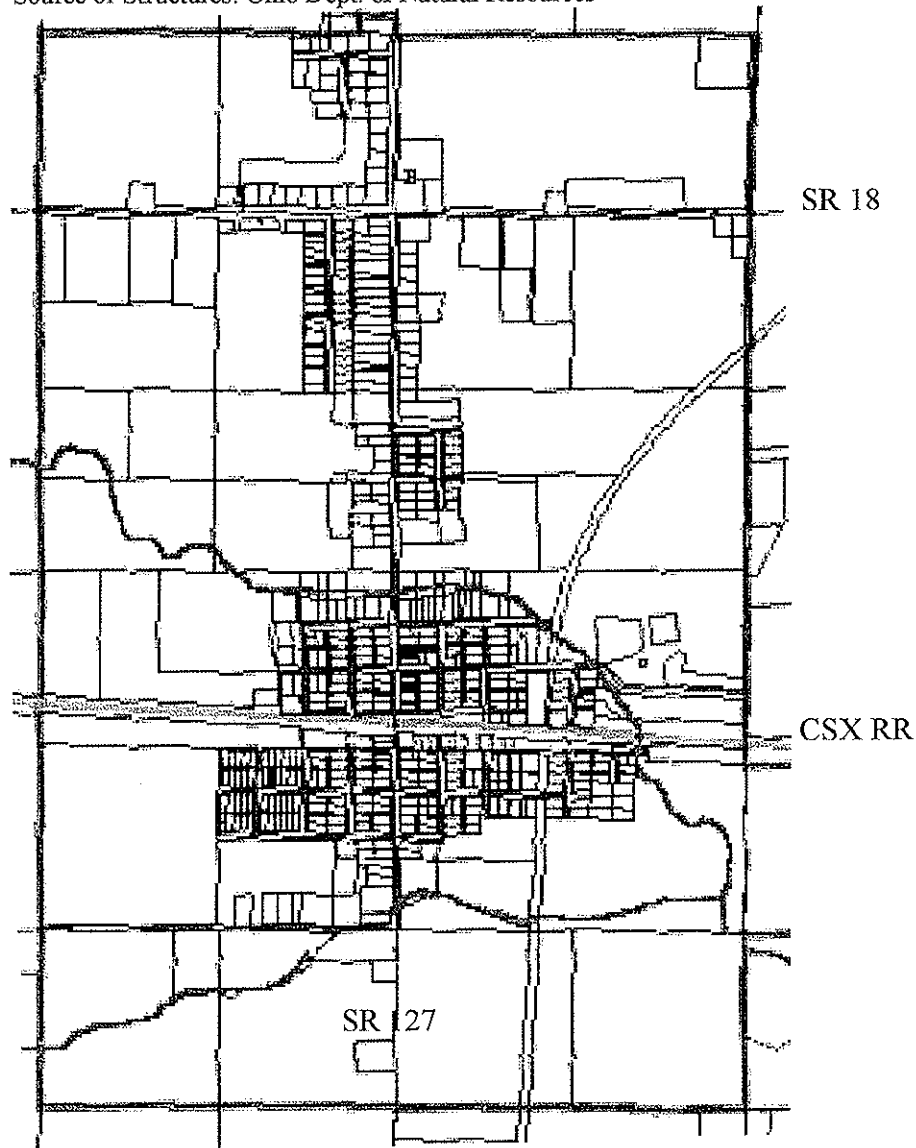


1 of 22 building structures identified in the
100-year floodplain
Source of Structures: Ohio Dept. of Natural Resources

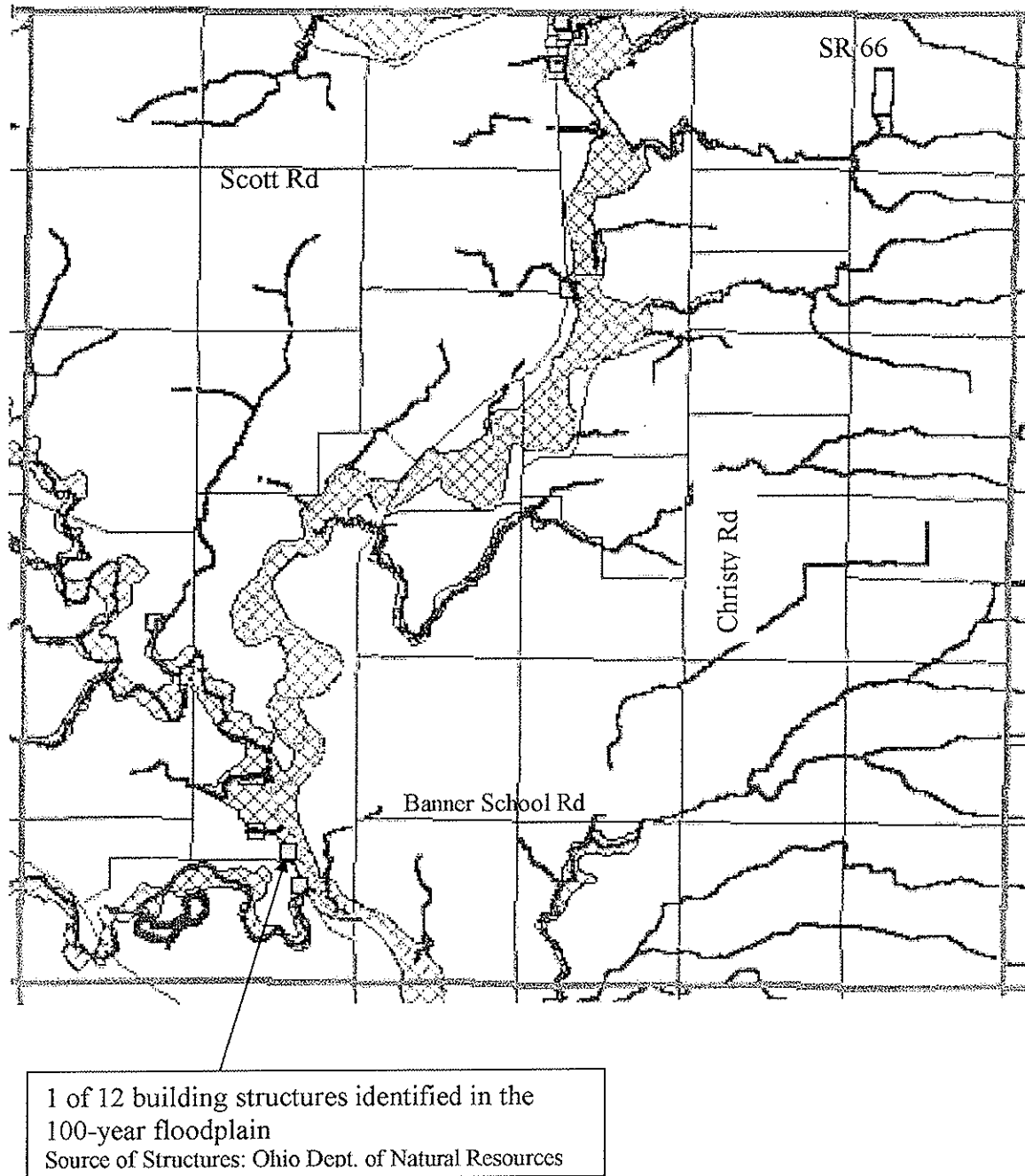
Appendix Q
Richland Township 100-year Floodplain Map



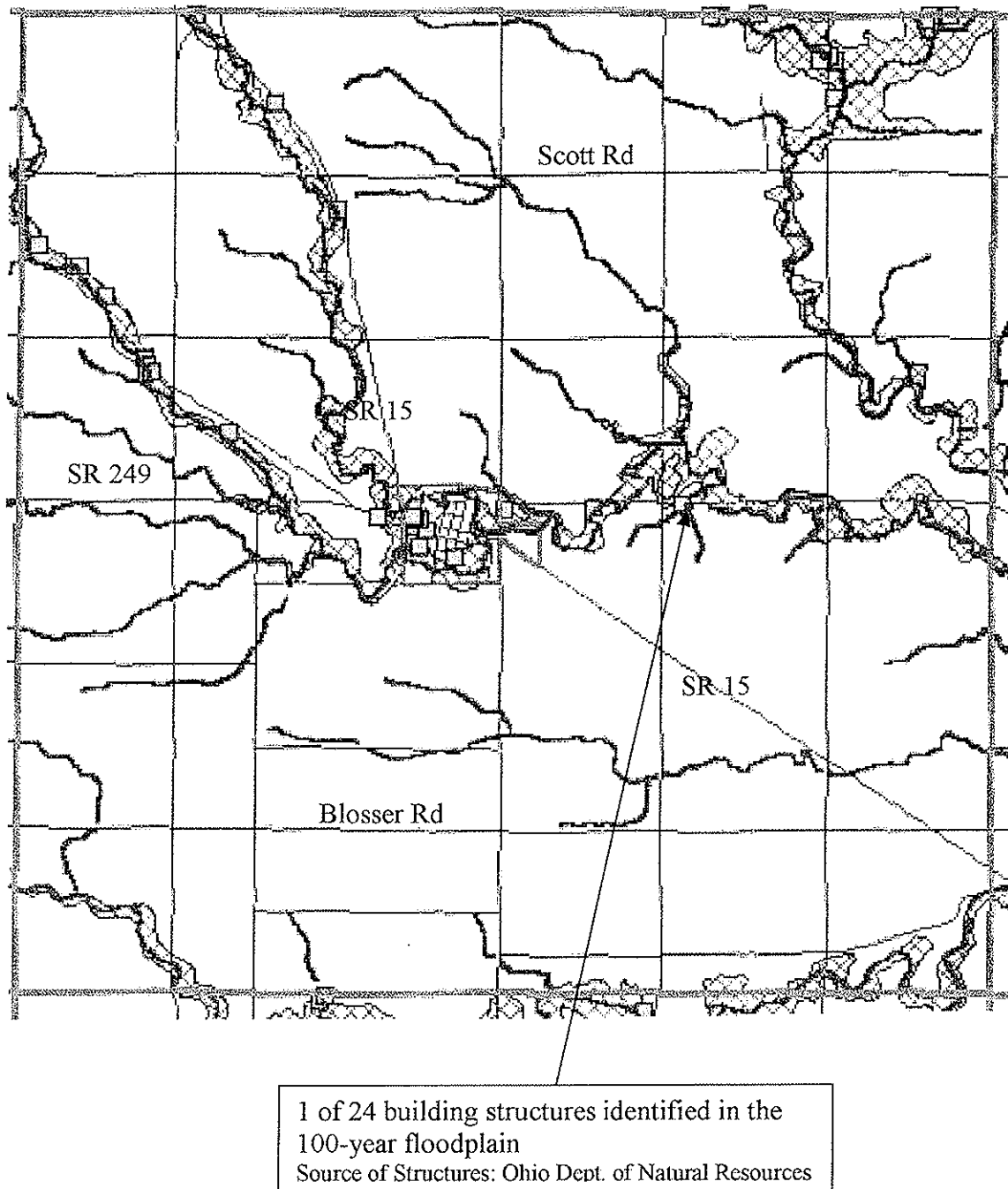
Appendix R
Sherwood, Village of 100-year Floodplain Map
(No structures in the 100-year floodplain)
Source of Structures: Ohio Dept. of Natural Resources



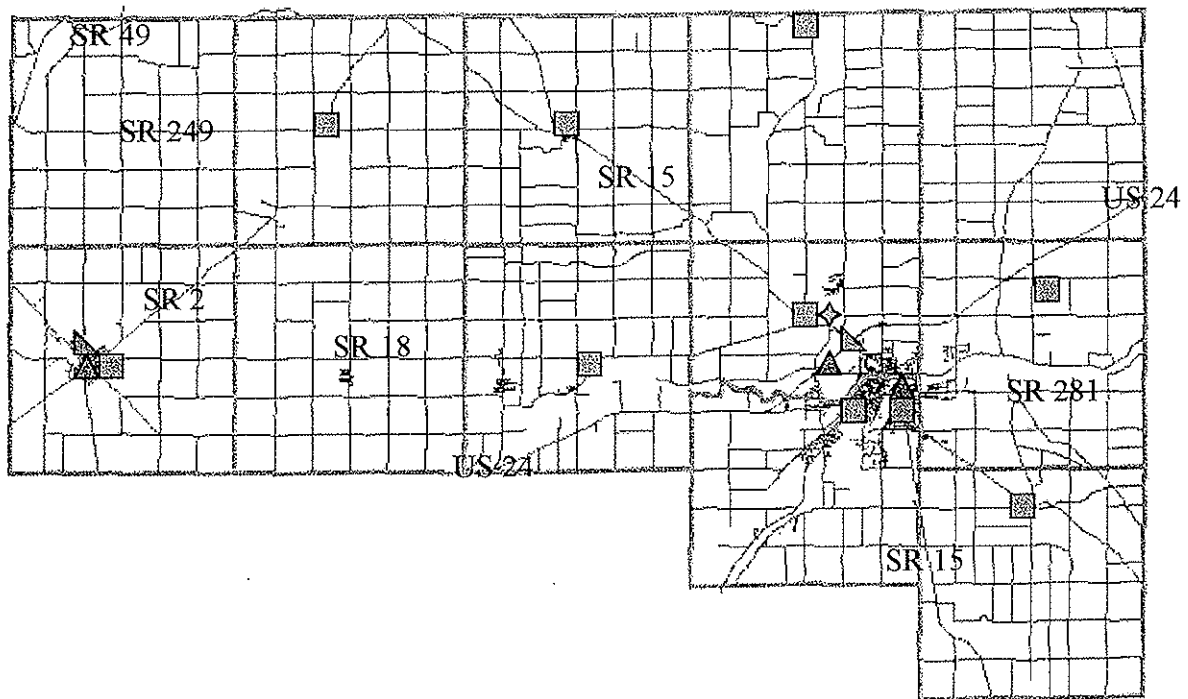
Appendix S
Tiffin Township 100-year Floodplain Map



Appendix T
Washington Township 100-year Floodplain Map

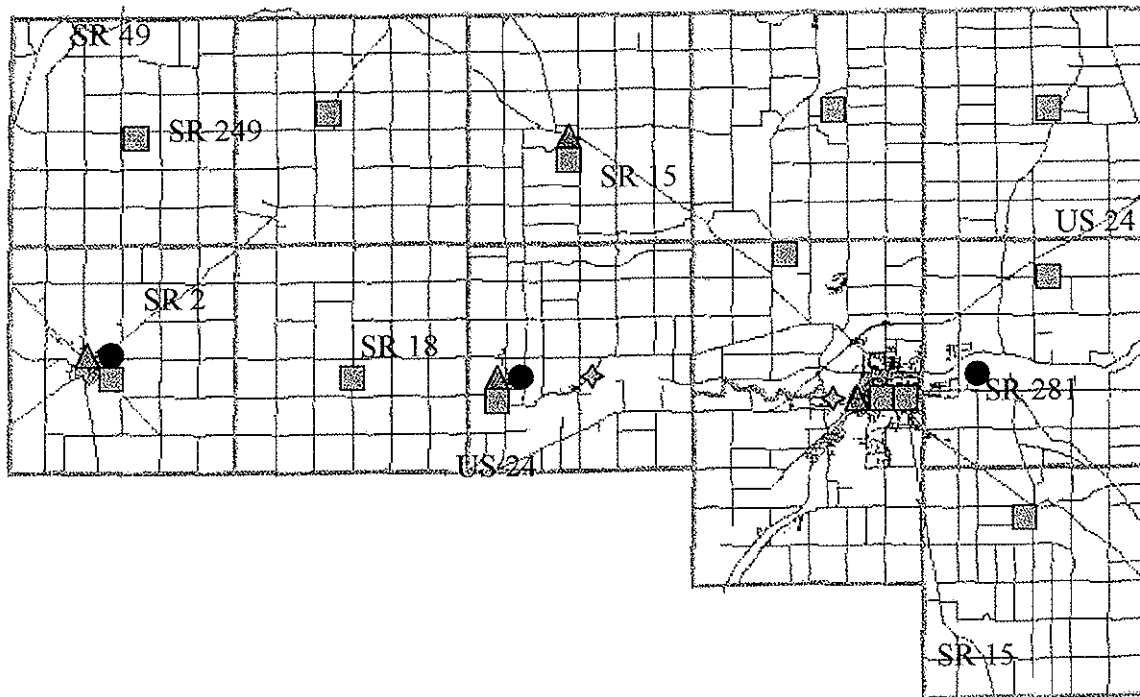


Appendix U
Critical Facilities of Defiance County



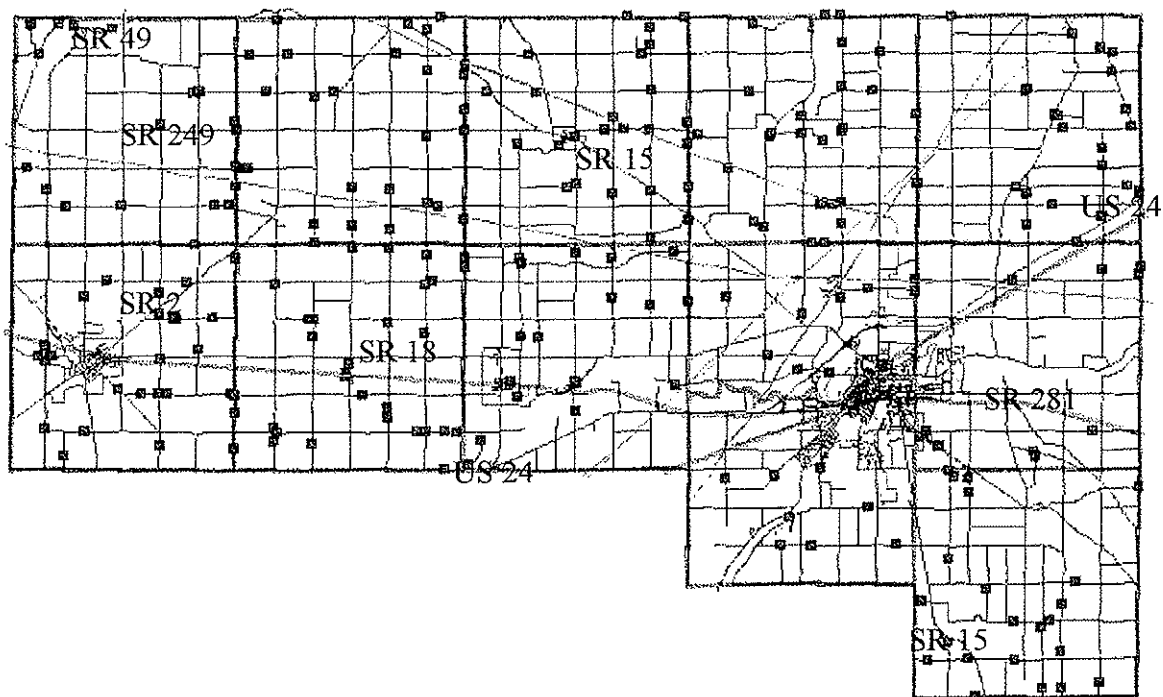
- Fire Department
- ▲ Law Enforcement Offices
- ▲ Hospitals
- ◆ Emergency Management Agency





Appendix V
Essential Facilities of Defiance County



- Local Government Buildings
- ▲ Public Water Works
- Waste Water Treatment Facility
- ◆ Local Radio Broadcast Towers

Appendix W
Infrastructure of Defiance County



-  Bridges
-  Natural Gas Pipelines
-  Railroad
-  Roads

SHELTERING AND FEEDING FACILITIES FOR DEFIANCE COUNTY EVACUEE SHELTERS

Shelter Facilities partnering with American Red Cross
Shelter Agreements on File-Disaster Office, Red Notebook at the Defiance American Red Cross.

Shelter Name, Location, & Phone Numbers

Capacity is for sleeping floor space (does not mean seating)

Schools

Anthony Wayne Elementary School

1745 S. Clinton

Defiance, OH 43512

419-782-9909

Head Maintenance- John Mayes 419-784-8115

Jim Shugars 419-263-2059

Capacity of 150

Ayersville Local Schools

Route #7

28046 Watson Rd.

Defiance, OH 43512

419-395-1111

Head Maintenance- Steve Brown

Charles Koch 419-782-8290

Capacity of 200-250

Brickell Elementary School

601 E. 2nd Street

Defiance, OH 43512

419-782-0145

Defiance High School

1755 Palmer Drive

Defiance, OH 43512

419-784-2777

Principal- Fred Boring 419-782-1935

Head Maintenance- John Mayes 419-784-8115

Neil Detter

Floor Space of Study Hall, Cafeteria, Balcony & Gym

Capacity of 700

Fairview Elementary School

14060 Blosser Rd
Ney, OH 43549
419-899-2108
Principal- Colleen Hill

Fairview High School

US N. 127
Sherwood, OH 43556
419-658-2808
Superintendent- Jim Fetzner, 419-630-0664
Custodian- Greg Guilford, 419-658-2074
Capacity of 500

Hicksville High School

South & Main Street
Hicksville, OH 43526
419-542-7636
Superintendent- Mr. Miller
Custodian- Rick Sabo 419-542-5722
Elementary- Capacity of 350
High School- Capacity of 200

Noble Elementary School

10553 Haller Road
Defiance, OH 43512
419-782-7941
Principal- Larry Acocks 419-784-1422
Custodian- Ken Sauber

Slocum Elementary School

620 Thurston
Defiance, OH 43512
419-782-2116
Principal- Sherri Steyer 419-782-3832
Custodian- Richard Batt

Spencer Elementary School

140 E. Broadway Ave.
Defiance, OH 43512
419-782-3866
Principal- Linda Brugler 419-782-5748
Dennis Parrish 419-782-6039

Tinora High School
059321 Domersville Road
Defiance, OH 43512
419-497-3461
Dick Neuwirth 419-497-3880

Churches

Ayersville United Methodist Church
RR 7 Ayersville Rd
Defiance (Ayersville), OH 43512
419-395-1742
419-395-1599 (Parsonage)
Pastor Henry Lee 419-395-1823
Mildred Limber (Key Holder) 419-395-1432

New 2003
Church of Christ
Attn: Ken Wellman
120 N. Main Street
Hicksville, OH 43526
419-542-8632

First Church Of God
561 Carter Road
Route 8
Defiance, OH 43512
419-782-0861

Grace United Methodist Church
121 W. High Street
Hicksville, OH 43526
419-542-7927

Second Baptist Church
1945 E. Second Street
Defiance, OH 43512
419-782-5141
Pastor Max Begley 419-782-4382
Associate Pastor Dave Gerken 419-395-1467

St. Paul Lutheran Church
Clinton & Arabella
Defiance, OH 43512
419-782-5771
Pastor Keith Hunsinger

Marsha Rhubaugh 419-782-4502
Jane Tuttle 419-395-2403
Capacity of 300

St. John Lutheran Church
812 E. High Street
Hicksville, OH 43526
419-542-6269
Pastor Judith Wascher 419-542-6456
Custodian- Ened Hartz 260-337-5544
Secretary- Linda Hood 419-899-3626
Capacity of 100

St Michaels Church
W. High Street
Hicksville, OH 43526-0052
419-542-8202
419-542-8714
Pastor Thomas Oedy 419-298-2932
Secretary- Martha Slattery 419—542-7148
David Kenner 419-542-7633
Cletus Vetter
Capacity of 400

St. Pauls United Methodist Church
400 Wayne
Defiance, OH 43512
419-782-3751

Trinity United Methodist Church
413 E. 2nd Street
Defiance, OH 43512
419-782-9781
Pastor Roger Braun 419-782-7601
Custodian- Russ Metz 419-782-9295
Capacity of 500 (has generator hookup of mobile)

Organizations

American Legion
229 E. High Street
Hicksville, OH 43526
419-542-7295

Herbert E. Anderson- Legion Post #117
648 Clinton Street
Defiance, OH 43512
419-782-2578 or 784-0376
Don Sanders 419-784-0376
Custodian- Robert Ellsworth 419-782-9128
Capacity of 125 (2 levels, 2 bathrooms)

Elks Lodge #147
1760 S. Jefferson Street
Defiance, OH 43512
419-782-1760 or 419-782-2389
Manager- Mary Baker 419-784-1756
Custodians- Kim & Joy Oelke 419-782-8348

Knights of Columbus
111 Elliott Lane
Defiance, OH 43512
419-782-3536
Virgil Willitzer

Northtowne Mall
1500 N. Clinton
Defiance, OH 43512
419-782-3189
Manager- Carol Maag 419-782-9194
Associate- Carolyn Mitchell 419-782-0309
Capacity of 500

Skylark Club
320 Jackson Ave.
Defiance, OH 43512
419-784-9408

Other

Defiance County Senior Services
Defiance County Senior Center
700 Jefferson
Defiance, OH 43512
419-782-3263 or 419-782-3233
Diane Mayer 419-782-1159
Tina Hiler 419-784-3506
DeLinda Chavez 419-393-2349

Alternate Sites (without shelter agreement)

Camp Lakota
Attention: Pat Bohn
2180 Ginter Rd.
Defiance, OH 43512

Camp Libbey
Attention: Christy Gustin
28325 St Route 281
Defiance, OH 43512

Church of the Brethren
6970 Domersville Rd
Defiance, OH 43512
419-497-3311

Defiance College
College of Physical Ed. Center
701 N Clinton
Defiance, OH 43512
419-784-4010

Eagles Hall
711 W. Second Street
Defiance, OH 43512
419-782-1761

First Assembly of God
500 Washington
Defiance, OH 43512
419-782-2391

First Baptist Church
1399 S. Jefferson
Defiance, OH 43512
419-784-4746

First Mennonite Church
1123 Ayersville Ave.
Defiance, OH 43512
419-784-4124

First Presbyterian Church
501 Washington Ave.
Defiance, OH 43512
419-782-2781

Grace Episcopal Church
308 2nd Street
Defiance, OH 43512
419-782-0766

Moose Hall
(Kitchen Facility Only, No Room For Shelter)
841 N. Clinton Street
Defiance, OH 43512
419-782-2526

St Mary's School
702 Washington Ave.
Defiance, OH 43512
419-782-2751

UAW
2120 Baltimore Rd
Defiance, OH 43512
419-782-2841

Zions Lutheran Church
1801 E. 2nd Street
Defiance, OH 43512
419-782-6719

Memorandum

To: All Defiance County Township Trustees, Mayors, and Administrators

From: Mark Hopper

Date: January 14, 2003

Re: Pre-Disaster Mitigation Plan Requirements Survey

To remain eligible for mitigation funding, the Disaster Mitigation Act of 2000 (DMA2K) requires all jurisdictions to have an adopted and approved all-natural hazard mitigation plan in place, by November 1, 2003. Defiance County has been awarded a Pre-Disaster Mitigation Planning Grant for the sole purpose of developing this plan.

What's in it for you: Eligibility for mitigation project dollars after November 1, 2003. Completed mitigation projects reduce the amount of property damage and the potential for loss of life from a natural disaster.

What happens without the plan: Failing to participate in the county-wide plan will render your jurisdiction ineligible for any mitigation project dollars, either before or after a natural disaster.

Please complete the following survey:

Are you interested in participating?

_____ Yes, we wish to participate in the plan *

_____ No, we wish to opt-out of participating in the plan **

* If you answered Yes, please proceed with the survey and sign on the signature line when completed.

** If you answered No, Please skip the remaining questions and sign on the signature line.

Please review the potential natural disasters that were previously identified in the County Emergency Operations Plan, as well as the 2000 County Comprehensive Plan. Rank the following disasters as they relate directly to the concerns in your jurisdiction. (5 being the most significant, 1 being the lowest concern)

FLOODING

_____ 5 _____ 4 _____ 3 _____ 2 _____ 1

TORNADO

_____ 5 _____ 4 _____ 3 _____ 2 _____ 1

WINTER STORM / BLIZZARD / ICE

_____ 5 _____ 4 _____ 3 _____ 2 _____ 1

EARTHQUAKE

_____ 5 _____ 4 _____ 3 _____ 2 _____ 1

DROUGHT

_____ 5 _____ 4 _____ 3 _____ 2 _____ 1

OTHER, Please explain

_____ 5 _____ 4 _____ 3 _____ 2 _____ 1

Other comments or suggestions:

We require two signatures from each jurisdiction. Please return this survey to Defiance County Public Safety Services via fax 419-782-3714 or mail to 22491 Mill Street Defiance, Ohio 43512

Signature required: _____, _____
(Mayor or Trustee) (Date)

Signature required: _____, _____
(Administrator or Trustee) (Date)

Questions may be directed to Mark Hopper at 419-782-1130 or protectr@defiance-county.com at Defiance County Public Safety Services, 22491 Mill Street, Defiance Ohio 43512

Appendix Z

DEFIANCE COUNTY PUBLIC SAFETY SERVICES
22491 Mill Street Defiance, OH 43512
Phone: 419-782-1130 Fax: 419-782-3714

To: Williams County EMA

From: Mark Hopper, Director

Re: Pre-Disaster Mitigation Plan

Cc: Fulton County EMA
Henry County EMA
Putnam County EMA
Paulding County EMA

This memo is to make you aware that Defiance County is in the development process of our Pre-Disaster Mitigation Plan. We have held several public meetings which were advertised on the radio and in the Crescent News. We welcome the participation of your jurisdiction in any future public meetings regarding our plan or its process.

DEFIANCE COUNTY EMPLOYEES SUPERVISORS & ELECTED OFFICIALS

Please Spread the Word

Defiance County Public Safety Services in Conjunction with the National Weather Service is hosting a "WEATHER SPOTTER" Course.

It is open to the Public!!!

You will learn weather terminology and tell tail signs of imminent weather conditions to help you protect your family, your self and your co-workers.

WHERE: Defiance Junior High Community Auditorium
629 Arabella Street
Defiance OH 43512

WHEN: March 12, 2003
7:00 p.m. Sharp

Please plan on attending. For any questions please call 419-782-1130.

Defiance County Public Safety and the National Weather Service would like to Thank the Defiance City Board of Education and Dr. Motuelle for allowing us to use their facility to bring this important training to the county and its residents.

Appendix BB:

DEFIANCE COUNTY PUBLIC SAFETY SERVICES
22491 Mill Street Defiance, OH 43512

Phone: 419-782-1130 Fax: 419-782-3714

February 24, 2003

Hicksville TV
Diane Collins
111 S. Main Street
Hicksville OH 43526

To Diane:

Enclosed please find one copy of the 2003 Severe Weather Awareness Campaign. As always we provide this to the media to allow for public awareness stories, etc, to get the word out. Each year we coordinate a "Weather Spotter" course with the National Weather Service, Northern Indiana division. We have always targeted law, fire and EMS. Turn out has been great. Due to space limitations, we have never had the opportunity to offer this course to the general public.

This year we are extremely excited in that the Defiance City Schools Board of Education has agreed to allow us to use the Community Auditorium located on Arabella Street in Defiance. Defiance County Public Safety Services, in conjunction with the National Weather Service, will be hosting a Severe Weather Spotters course on March 12, 2003 at 7:00 p.m. in the Community Auditorium. We are pleased to announce that the 2003 Weather Spotter class will be open all interested citizens in Defiance County. Our goal is to further educate people on weather situations to allow them to better plan and protect themselves as well as their loved ones.

We would like to establish an organized network of trained weather spotters. Our county has always had its emergency services people in this role. We would like to have trained private citizens to further enhance our existing network. The larger our network, the larger our pool of resources to contact when impending weather is imminent.

I would ask for your company's assistance in promoting this public service. I would make myself, or my Deputy Director Julie Fowler, available for interviews and / or story developments.

Sincerely,

Mark Hopper
Public Safety Coordinator

Julie Fowler
Deputy Director

Appendix CC

DEFIANCE COUNTY PUBLIC SAFETY SERVICES
22491 Mill Street Defiance, OH 43512

Phone: 419-782-1130 Fax: 419-782-3714

February 24, 2003

Defiance Crescent News
Wendy Bryant
Perry & 2nd Street, PO Box 249
Defiance OH 43512

To Wendy Bryant:

Enclosed please find one copy of the 2003 Severe Weather Awareness Campaign. As always we provide this to the media to allow for public awareness stories, etc, to get the word out. Each year we coordinate a "Weather Spotter" course with the National Weather Service, Northern Indiana division. We have always targeted law, fire and EMS. Turn out has been great. Due to space limitations, we have never had the opportunity to offer this course to the general public.

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Sincerely,

Mark Hopper
Public Safety Coordinator

DEFIANCE COUNTY PUBLIC SAFETY SERVICES
22491 Mill Street Defiance, OH 43512

Phone: 419-782-1130 Fax: 419-782-3714

NOTICE NOTICE NOTICE NOTICE NOTICE NOTICE

Defiance County Public Safety Services, in conjunction with the Ohio State University Extension Office, will host a Public Meeting on November 3, 2003 at 7:00 p.m. at the Public Safety Services facility located at 22491 Mill Street in Brunersburg. We will review potential natural disaster mitigation projects proposed by the political jurisdictions in Defiance County. All public input and suggestions will be addressed in the planning process. Public comment period will remain open until November 28, 2003. Written comments can be sent to:

OSU Extension Office
Attn: Bruce Clevenger
06879 Evansport Rd, Suite B
Defiance OH 43512

Public Safety Services
Attn: Mark Hopper
22491 Mill Street
Defiance OH 43512

Seating is limited. Please RSVP (419-782-1130) to reserve your seat and allow for materials.

To: Defiance Crescent New and Hicksville Tribunes:

We would like this ad ran twice before the meeting on November 3, 2003. Please confirm the dates these will run. If you have questions please call 419-782-1130

From: Julie Fowler, Defiance County Public Safety Services

Appendix EE Market Value of Structures and Utility/Infrastructure in Defiance County

Political Entity	Farm	Industrial	Commercial	Residential	Exempt	Utility/ Infrastructure	Total
Adams Township	\$10,962,100		\$489,500	\$21,933,300	\$9,355,700	\$10,885,350	\$53,625,950
Defiance Township	\$9,680,600		\$2,373,400	\$50,350,400	\$3,874,400	\$9,194,350	\$75,473,150
Delaware Township	\$13,305,000		\$437,000	\$21,005,000	\$358,000	\$9,197,390	\$44,302,390
Farmer Township	\$9,709,500	\$25,400	\$258,500	\$15,515,600	\$1,916,900	\$3,068,100	\$30,494,000
Hicksville Township	\$11,801,600	\$355,400	\$687,200	\$34,180,900	\$517,400	\$6,324,870	\$53,867,370
Highland Township	\$12,331,500		\$646,600	\$54,512,300	\$6,793,800	\$4,165,230	\$78,449,430
Mark Township	\$8,383,000		\$384,800	\$12,461,400	\$1,073,900	\$6,532,370	\$28,835,470
Milford Township	\$10,315,000	\$115,200	\$335,300	\$18,724,800	\$640,000	\$2,137,610	\$32,267,910
Noble Township	\$8,624,500	\$2,357,500	\$61,658,400	\$67,150,600	\$51,968,900	\$19,346,690	\$211,106,590
Richland Township	\$9,906,700	\$24,029,400	\$10,058,600	\$43,649,600	\$10,915,900	\$31,698,400	\$130,258,600
Tiffin Township	\$11,216,200	\$802,200	\$1,422,400	\$30,223,700	\$6,165,700	\$30,728,090	\$80,558,290
Washington Township	\$10,490,200	\$50,800	\$109,600	\$25,443,200	\$8,068,900	\$4,864,720	\$49,027,420
Defiance, City Of	\$59,900	\$19,496,800	\$70,587,100	\$359,510,500	\$83,555,500	\$23,123,120	\$556,332,920
Hicksville Village	\$72,900	\$8,097,900	\$10,811,600	\$70,029,100	\$16,604,500	\$5,826,800	\$111,442,800
Ney Village	\$113,300	\$82,500	\$906,600	\$7,161,900	\$346,500	\$675,410	\$9,286,210
Sherwood Village	\$60,300	\$929,500	\$2,169,600	\$15,181,500	\$1,033,800	\$1,807,490	\$21,182,190
Defiance County	\$127,032,300	\$56,342,600	\$163,336,200	\$847,033,800	\$203,189,800	\$169,575,990	\$1,566,510,690

Appendix FF Number of Parcels with Structures or Utility/Infrastructure

Political Entity	Farm	Industrial	Commercial	Residential	Exempt	Utility/ Infrastructure	Total
Adams Township	178	0	4	232	15	15	444
Defiance Township	145	0	25	631	11	18	830
Delaware Township	199	0	6	315	3	21	544
Farmer Township	146	1	10	233	8	10	408
Hicksville Township	153	2	10	402	7	11	585
Highland Township	211	0	15	734	12	11	983
Mark Township	139	0	10	235	5	12	401
Milford Township	172	1	3	235	5	18	434
Noble Township	130	6	109	710	27	19	1,001
Richland Township	168	7	100	607	29	23	934
Tiffin Township	190	2	22	436	15	9	674
Washington Township	178	1	4	322	5	10	520
Defiance, City Of	3	50	502	5,411	179	23	6,168
Hicksville Village	3	10	138	1,294	54	10	1,509
Ney Village	1	1	16	137	7	4	166
Sherwood Village	1	3	48	307	11	7	377
Defiance County	2,017	84	1,022	12,241	393	221	15,978

Appendix GG Multi-Jurisdiction Adoption of Approved Plan

The primary role of government is to provide for the welfare of its citizens. The welfare of Defiance County citizens is never more threatened than during natural disasters. The goal of the Natural Hazard Mitigation Plan is to be forward thinking and develop tangible plans to prevent loss of property and human life due the natural hazards.

This plan includes multiple jurisdictions that play important roles in mitigating natural hazards. Multiple jurisdictions have the opportunity to work cooperatively with other jurisdictions and agencies in the county and the surrounding region. Combining efforts to accomplish a goal is at the center of this mitigation plan.

Adoption of the approved plan will be asked of each participating jurisdiction. The following appendixes will document the official adoption of the Defiance County Natural Hazard Mitigation Plan at the jurisdiction level.

Defiance County Natural Hazard Mitigation Plan 2003

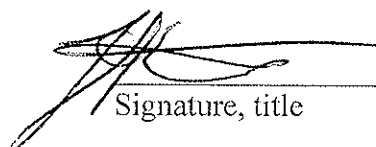
Promulgation


The primary role of government is to provide for the welfare of its citizens. The welfare of Defiance County citizens is never more threatened than during natural disasters. The goal of the Natural Hazard Mitigation Plan is to be forward thinking and develop tangible plans to prevent loss of property and human life due the natural hazards.

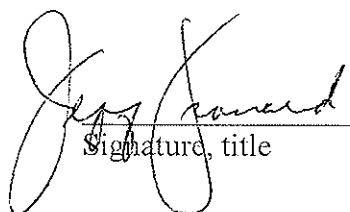
This plan includes multiple jurisdictions that plan important roles in mitigating natural hazards. Multiple jurisdictions have the opportunity to work cooperatively with other jurisdictions and agencies in the county and the surrounding region. Combining efforts to accomplish a goal is at the center of this mitigation plan.

Therefore, in recognition of our efforts to plan and implement mitigation action plans, we herby promulgate the Defiance County Natural Hazard Mitigation Plan 2003.

Jurisdiction: **Defiance City**

 City Council President - ~~Pro Tem~~ 6-15-04
Signature, title Pro Tem date

 Mayor 6-15-04
Signature, title date

 City Administrator 6-21-04
Signature, title date

Defiance County Natural Hazard Mitigation Plan 2004

Promulgation

The primary role of government is to provide for the welfare of its citizens. The welfare of Defiance County citizens is never more threatened than during natural disasters. The goal of the Natural Hazard Mitigation Plan is to be forward thinking and develop tangible plans to prevent loss of property and human life due the natural hazards.

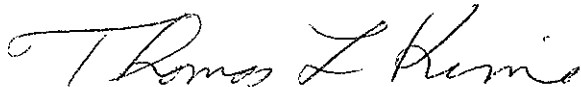
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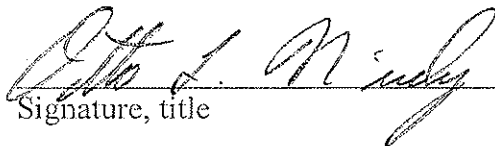
Jurisdiction: **Defiance County (including all unincorporated township areas)**


Signature, title

6-7-04
date


Signature, title

6-7-04
date


Signature, title

6-7-04
date

Defiance County Natural Hazard Mitigation Plan 2004

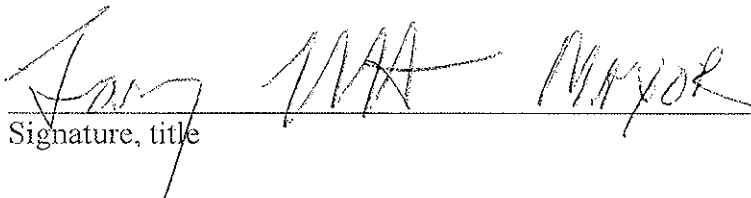
Promulgation

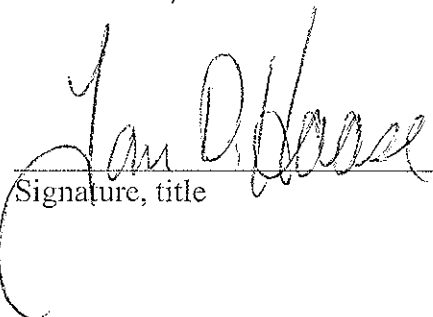
The primary role of government is to provide for the welfare of its citizens. The welfare of Defiance County citizens is never more threatened than during natural disasters. The goal of the Natural Hazard Mitigation Plan is to be forward thinking and develop tangible plans to prevent loss of property and human life due the natural hazards.

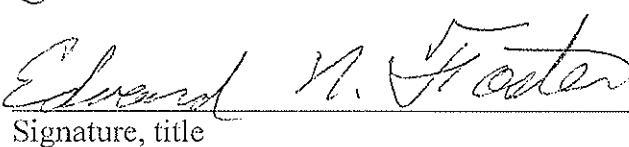
This plan includes multiple jurisdictions that plan important roles in mitigating natural hazards. Multiple jurisdictions have the opportunity to work cooperatively with other jurisdictions and agencies in the county and the surrounding region. Combining efforts to accomplish a goal is at the center of this mitigation plan.

Therefore, in recognition of our efforts to plan and implement mitigation action plans, we herby promulgate the Defiance County Natural Hazard Mitigation Plan 2004.

Jurisdiction: **Hicksville Village**

 6/7/04
Signature, title date

 6/7/04
Signature, title date

 6/7/04
Signature, title date

Defiance County Natural Hazard Mitigation Plan 2004

Promulgation

The primary role of government is to provide for the welfare of its citizens. The welfare of Defiance County citizens is never more threatened than during natural disasters. The goal of the Natural Hazard Mitigation Plan is to be forward thinking and develop tangible plans to prevent loss of property and human life due the natural hazards.

This plan includes multiple jurisdictions that plan important roles in mitigating natural hazards. Multiple jurisdictions have the opportunity to work cooperatively with other jurisdictions and agencies in the county and the surrounding region. Combining efforts to accomplish a goal is at the center of this mitigation plan.

Therefore, in recognition of our efforts to plan and implement mitigation action plans, we herby promulgate the Defiance County Natural Hazard Mitigation Plan 2004.

Jurisdiction: **Ney Village**

Larry E. McElow MAYOR 6-09-04
Signature, title date

Jim R. Bryman Clerk/Treasurer 6-09-04
Signature, title date

Harold O. Mills Council Pres. June 9/04
Signature, title date

Defiance County Natural Hazard Mitigation Plan 2004

Promulgation

The primary role of government is to provide for the welfare of its citizens. The welfare of Defiance County citizens is never more threatened than during natural disasters. The goal of the Natural Hazard Mitigation Plan is to be forward thinking and develop tangible plans to prevent loss of property and human life due the natural hazards.

This plan includes multiple jurisdictions that plan important roles in mitigating natural hazards. Multiple jurisdictions have the opportunity to work cooperatively with other jurisdictions and agencies in the county and the surrounding region. Combining efforts to accomplish a goal is at the center of this mitigation plan.

Therefore, in recognition of our efforts to plan and implement mitigation action plans, we hereby promulgate the Defiance County Natural Hazard Mitigation Plan 2004.

Jurisdiction: **Sherwood Village**

B. Clayton Miller Mayor 6-9-04
Signature, title date

Len Vance 6-9-04
Signature, title date

Kyle Vance 6-9-04
Signature, title date

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
1	Map ID	Owner	Parcel ID	Improvement Value
2	Defiance City			
3	1455595A	Donald Miller	B011002000100	\$110,120
4	1455595A	Kevin McDonald	B011002000200	\$232,600
5	1455595A	Gary Ries	B011002000300	\$105,730
6	1455595A	Keith Tustison	B011002001200	\$104,260
7	1455595A	McDonald Professional	B011003000100	\$1,246,700
8	1455595A	Harold Hahr	B011003000200	\$30,300
9	1455595A	Steven Walker	B011003000400	\$62,970
10	1455595A	Harold Hahr	B011003000700	\$4,380
11	1455595A	Defiance Publishing Co	B011014000100	\$83,830
12	1455595A	Chauncey Morse	B011015000100	\$75,600
13	1455595A	James Hitchcock	B011015000202	\$27,400
14	1455595A	Mark Haver	B011015000400	\$67,940
15	1455595A	Randy Boyd	B011015000500	\$47,080
16	1455595A	Mark Haver	B011015000600	\$70,190
17	1455595A	Mark Haver	B011015000700	\$206,650
18	1455595A	Mark Haver	B011015000800	\$16,230
19	1455595A	Defiance Co Library	B011016001100	\$402,500
20	1455595A	Thomas Plummer	B011017000100	\$79,990
21	1455595A	Robert Martinez	B011017000200	\$68,550
22	1455595A	John Steffel	B011017000300	\$70,090
23	1455595A	April Starr	B011017000400	\$34,980
24	1455595A	Nanette Mertz	B011017001600	\$107,360
25	1455595A	Nanette Mertz	B011017001700	\$70,720
26	1455595A	Terry Beilharz	B011017001701	\$81,490
27	1455595A	Harold Ruggles	B011024001400	\$72,250
28	1455595A	Donald Hasselschwert	B011024001600	\$40,790
29	1455595A	Marlene Hasch	B011024001700	\$78,090
30	1455595A	Walker Shank	B011024001800	\$52,900
31	1455595A	Morgan Peffley	B011024001900	\$20,480
32	1455595A	Alvin Warncke	B011024002000	\$12,140
33	1455595A	Donald Hasselschwert	B011024002100	\$11,180
34	1455593A	Caroline Wickley	B011029001800	\$46,670
35	1455593A	Kenneth Brown	B011029001900	\$45,020
36	1455593A	Raymond Krontz	B011029002900	\$15,370
37	1455593A	Curtis Aldrich	B011029003000	\$31,670
38	1455593A	Gregory Bennett	B011029003100	\$56,540
39	1455593A	Brian Engler	B011030000100	\$26,230
40	1455593A	Howard Case	B011030000400	\$11,750
41	1455593A	Ronald LaForce	B011030000500	\$14,000
42	1455593A	Nickolus Sheets	B011030000600	\$21,460
43	1455593A	Aubrey LaForce	B011030000700	\$26,940
44	1455593A	Christine Bruce	B011030000800	\$23,910
45	1455593A	Zofia Lasek	B011030000900	\$29,470
46	1455593A	Barbara Lasek	B011030001000	\$26,470
47	1455593A	Cynthia Kerr	B011030001100	\$29,100
48	1455593A	Mavis Coleman	B011030001200	\$19,210
49	1455593A	Lawrence Watson	B011030001300	\$28,920

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
50	1455593A	Michelle Lucas	B011030001400	\$31,430
51	1455593A	3-K Enterprises	B011030001500	\$24,380
52	1455593A	Nicholas Moss	B011030001600	\$22,540
53	1455593A	Edward Hohenbrink	B011030001700	\$28,400
54	1455590A	Sherry Muncey	B011031000600	\$19,300
55	1455590A	Victor Gutierrez	B011031000700	\$1,200
56	1455590A	Victor Gutierrez	B011031000800	\$53,580
57	1455590A	Francis Simonis	B011031000900	\$49,490
58	1455590A	Terrence Lawson	B011034000300	\$48,310
59	1455590A	Defiance City	B011034000400	\$34,200
60	1455590A	Terrence Lawson	B011034000500	\$111,760
61	1455590A	Paul Seimet	B011034001500	\$70,460
62	1455590A	Bernita Lulfs	B011034001501	\$43,060
63	1455590A	Thomas Coressel	B011034001600	\$97,910
64	1455590A	James Edwards	B011034001700	\$72,410
65	1455590A	Gilbert Lopez	B011034001900	\$27,840
66	1455590A	Constance Druhot	B011034002000	\$20,920
67	1455590A	Defiance City Bd of Ed	B011034002100	\$54,810
68	1453588A	Margaret Sabo	B011042001204	\$40,690
69	1453588A	Robert Deitrick	B011042003000	\$61,930
70	1453588A	Chas Sholl	B011042003100	\$57,260
71	1455588A	David Adkins	B011042003500	\$52,020
72	1455588A	Frederick Osborn	B011042003600	\$38,950
73	1455588A	Larry Hammon	B011042003700	\$37,410
74	1455588A	Michael Kelley	B011042003800	\$40,180
75	1455590A	Matthew Whittenberger	B011044000100	\$39,360
76	1455590A	Albert Frank	B011044000400	\$2,430
77	1455590A	Larry Frank	B011044000600	\$31,110
78	1455590A	Larry Frank	B011044000800	\$1,190
79	1455590A	Thomas Fugate	B011044003700	\$12,790
80	1455590A	Rose Frank	B011044004000	\$57,020
81	1455590A	Mark Lawson	B011044004100	\$45,660
82	1455590A	Rose Frank	B011044004300	\$42,030
83	1455590A	Steve Coressel	B011045000100	\$36,710
84	1455590A	Joseph Allomong	B011045000200	\$33,900
85	1455590A	Alan Howerton	B011045000300	\$63,130
86	1455590A	L & M Company	B011045000301	\$80,980
87	1455588A	Audus Runyan	B011045000400	\$27,690
88	1453588A	Rebecca Saxton	B011053000100	\$104,660
89	1455593A	Gregg Warner	B011055000300	\$26,310
90	1455593A	Wayne Buchanan	B011055000301	\$70,020
91	1455593A	Judith Ott	B011055000400	\$66,270
92	1455593A	TR Brethern Church	B011055000600	\$50,640
93	1455593A	Laurel Richardson	B011055000700	\$52,820
94	1450588A	Pamela Chase	B011063002800	\$108,200
95	1448585A	Lee Martinez	B011067002900	\$96,600
96	1448585A	Michael McCarty	B011067003000	\$125,900
97	1448583A	Jerry Yetter	B011067007600	\$87,130
98	1445583A	William Finerty	B011068001900	\$45,760
99	1448583A	Sandra Simon	B011069001600	\$82,090
100	1448583A	Hendrickson Partners	B011069001601	\$78,100

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
101	1448585A	Mark LeMaster	B011073000300	\$68,380
102	1448585A	Ronald Gerber	B011073001900	\$135,200
103	1448585A	Paul Sulpizio	B011073002000	\$142,450
104	1448585A	Stephen Miller	B011073002100	\$120,450
105	1453595A	Carl Bauer	B012095001200	\$125,800
106	1453595A	Christopher Hoover	B012095002400	\$75,200
107	1453595A	John Esarey	B012095002500	\$138,060
108	1453595A	Joann Bell	B012095002600	\$61,400
109	1453595A	Carolyn Fortman	B012095002800	\$12,420
110	1455595A	Delores Gamiere	B012095003000	\$98,310
111	1455595A	Dale Hammons	B012095003100	\$72,980
112	1455595A	William Sigg	B012095003200	\$70,850
113	1455595A	Steven Depew	B012095003300	\$23,530
114	1455595A	Scott Depew	B012095003400	\$48,010
115	1455595A	Hutchison Scott	B013124001800	\$800
116	1455595A	Hutchison Scott	B013124001900	\$15,460
117	1455595A	Christ Diehl Brewing Co	B013125002100	\$192,200
118	1458593A	Defiance City	B014142001000	\$1,000
119	1458593A	Defiance City	B014142001100	\$7,730
120	1458593A	Defiance City	B014142002300	\$3,610
121	1458593A	Defiance City	B014142002900	\$1,100
122	1458593A	Defiance City	B014142003000	\$7,640
123	1458593A	Richard Hanker	B014142003100	\$31,730
124	1458593A	Defiance City (Pool)	B014142003300	\$335,550
125	1458593A	Gloria Neff	B014142003400	\$27,380
126	1458593A	Defiance City	B014142003600	\$19,870
127	1458593A	Ronald Burk	B014142003700	\$14,970
128	1458593A	Elessa Phillips	B014142004100	\$41,520
129	1458593A	Dennis Fronk	B014142004200	\$31,050
130	1458593A	Jose Gonzalez	B014142004300	\$60,050
131	1458593A	Douglas White	B014142004400	\$50,600
132	1458593A	Rosa Gonzalez	B014142004500	\$36,120
133	1458593A	Theodore Shreve	B014142004600	\$42,360
134	1458593A	Susan Ankney	B014142004800	\$34,110
135	1458593A	Rebecca Ankney	B014142004900	\$38,490
136	1458593A	William Rupp	B014142005300	\$90,300
137	1458593A	Gregory Hull	B014142005400	\$32,820
138	1458593A	Todd Erman	B014142005500	\$49,840
139	1458593A	Fred Mansfield	B014142005600	\$41,930
140	1458593A	Phillip Lenhart	B014142005700	\$35,420
141	1458593A	Chuck Brandon	B014142005800	\$40,990
142	1458593A	James Mehring	B014142005900	\$31,550
143	1458593A	Corey Kiessling	B014142006000	\$36,320
144	1458593A	Ramiro Florez	B014142006100	\$42,960
145	1458593A	Charles Fronk	B014142006200	\$21,140
146	1458593A	Harrold Parrish	B014142006300	\$35,440
147	1458593A	Scott Heller	B014142006400	\$39,760
148	1458593A	James Swary	B014142006500	\$26,220
149	1458593A	Gale Meller	B014142006600	\$48,710
150	1458595A	Michelle Perez	B014142007100	\$21,640
151	1458595A	Adam Sorg	B014142007200	\$26,450

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
152	1458595A	John Nagley	B014142007300	\$50,000
153	1458595A	Defiance City	B014142007500	\$21,600
154	1458593A	Magdalena Mojica	B014142007900	\$42,150
155	1458593A	James Magoulas	B014142008000	\$26,460
156	1458593A	John Kusic	B014142008100	\$37,260
157	1458593A	Thomas Wallischeck	B014142008200	\$34,840
158	1458593A	Thomas Spacht	B014142008300	\$24,810
159	1458593A	Billy Spencer	B014142008400	\$33,320
160	1458593A	Michael Goff	B014142008500	\$55,640
161	1458593A	Richard Bechtol	B014142010000	\$62,550
162	1458593A	Angela Bidlack	B014142010100	\$24,560
163	1458593A	Ricardo Rodriguez	B014142010200	\$34,360
164	1458593A	Wilma Dodson Trustee	B014142010300	\$31,870
165	1458593A	Shallus Beatty	B014142010400	\$35,490
166	1458593A	Jack Kulwicki	B014142010500	\$15,120
167	1458593A	Charles Vance	B014142010600	\$32,480
168	1458593A	Diane Rosebrock	B014142010700	\$20,320
169	1458593A	Defiance Metal Products	B014142013800	\$111,870
170	1458593A	Defiance Metal Products	B014142013900	\$2,310,200
171	1458593A	Kingsbury Kourt LTD	B014142014000	\$68,160
172	460593A	Russell Seip	B014143001400	\$57,380
173	1458593A	Dennis Roehrig	B014143001500	\$59,760
174	1458593A	Debra Hastedt	B014143001600	\$55,980
175	1458593A	Gregory Bennett	B014144006700	\$49,490
176	460593A	June Hoffman	B014144008900	\$92,860
177	460593A	Wayne Roehrig	B014144010000	\$48,570
178	460593A	Defiance City	B014145018200	\$105,410
179	1458593	Zachrich Properties	B014146005100	\$145,050
180	1458593	Zachrich Properties	B014146005200	\$109,170
181	1458593	Ann Herder	B014146005300	\$40,900
182	1458593	Richard Corwin	B014146005500	\$25,290
183	1458593	Kenneth Ludwig	B014146005600	\$23,680
184	1458593	Richard Hughes	B014146005800	\$15,420
185	1458593	Mary Arps	B014146006100	\$22,480
186	1458593	Helen Wallischeck	B014146006200	\$23,850
187	1458593	Kenneth Vanstreade	B014146007800	\$12,520
188	1458593	Clarke Newman	B014146008200	\$3,240
189	1458593	Zachrich Properties LTD	B014146008300	\$136,490
190	1458593	Larry Bryant	B014146008700	\$2,000
191	1458593	Marvel Schultz	B014146008800	\$3,460
192	1458593	Marvel Schultz	B014146008900	\$10,140
193	1458593	Michael Petterson	B014146009000	\$5,000
194	1458593	Michael Petterson	B014146009100	\$109,640
195	1458593	Deborah Corwin	B014146009400	\$14,630
196	1458593	Christina Dominique	B014148002100	\$40,820
197	460593A	Edward Zeller	B014148003101	\$236,510
198	1458593	Christopher Thompson	B014148003400	\$52,130
199	1465598A	Thomas Callan	J050019A00800	\$263,200
200	1465598A	Employees Own Fed Cred	J050182A08900	\$182,780
201	1453595A	Doug Fickel	I020113A03000	\$42,700
202		Number of Parcels	199	\$14,628,640

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
203	Defiance Township			
204	1443578A	Steven Riehle	B110004001301	\$50,280
205	1438573A	Ruth Arthur	B110008000500	\$55,150
206	1438573A	Gregory Hahn	B110008000600	\$74,290
207	1438573A	Laura Cashman	B110008000602	\$53,350
208	1438573A	Paul Hawk	B110008001901	\$2,450
209	1440573A	Roger Kohout	B110008002000	\$48,420
210	1438573A	Harold Lewis	B110008002300	\$69,970
211	1438573A	Douglas Mayes	B110008A00100	\$73,810
212	1438573A	Rickie Miller	B110008A00200	\$94,800
213	1435873A	Paul Wiechart	B110008A00400	\$200,750
214	1438573A	Jeffery Hunt	B110008A00500	\$75,600
215	1438573A	David Rau	B110008A00600	\$95,540
216	1438573A	David Slocum	B110008A00700	\$89,460
217	1438573A	Jonny Eickenberg	B110008B00200	\$90,300
218	1438573A	Jason Brown	B110008B00300	\$89,300
219	1438573A	Margarett Bayliss	B110008B00500	\$96,810
220	1438573A	Patrick Dugan	B110008B00600	\$113,010
221	1438573A	Steven Wise	B110008B00700	\$90,860
222	1438573A	Matt Killion	B110008B00800	\$101,090
223	1438573A	Tim Schaffer	B110008B00900	\$87,060
224	1438573A	Gabriel Sulpizio	B110008B01000	\$97,100
225	1438573A	Robert Brink	B110008B01100	\$86,320
226	1438573A	Hazel Kleinhenn	B110008B01200	\$105,490
227	1438573A	Kevin Mast	B110008B01300	\$76,900
228	1438573A	Robert Williamson	B110008B01400	\$87,990
229	1438573A	John Miner	B110008B01500	\$110,300
230	1438573A	Robert Reinhart	B110008B01501	\$88,900
231	1438573A	Charles James	B110008B01600	\$117,190
232	1438573A	Dana Schwab	B110008B01700	\$67,130
233	1438573A	Donald Goldenetz	B110008B01800	\$79,910
234	1438573A	Danny Beauprez	B110008B02400	\$101,550
235	1438573A	Patrick Dugan	B110008B02500	\$11,500
236	1438573A	John Curl	B110008B02700	\$61,340
237	1438573A	Chris Davis	B110008B02800	\$47,210
238	1438573A	John Stelzer	B110008B02900	\$77,790
239	1438573A	James Wilde	B110008B03000	\$100,200
240	1438573A	Rickie Harmon	B110008B03100	\$74,570
241	1438573A	Gary Bowling	B110008B03200	\$60,680
242	1438573A	Thomas Kleinhenn	B110008B03300	\$82,430
243	1438573A	James Kleinhenn	B110008B03400	\$60,140
244	1438573A	Robert Cryer	B110008B03500	\$78,650
245	1438573A	Timmy Warncke	B110008C00100	\$87,600
246	1438573A	Bret Roehrig	B110008C00200	\$90,030
247	1438573A	Scott Taylor	B110008C00300	\$72,100
248	1438573A	Kenneth Frederick	B110008D00100	\$73,330
249	1438573A	Rosemary Swick	B110008D00200	\$38,790
250	1438573A	George Kruse	B110008D00400	\$65,960
251	1438573A	Carolyn Sines	B110008D00500	\$114,900
252	1438573A	Philip Sobota	B110008D00600	\$64,520

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
253	1438573A	Gregory Hahn	B110008D00700	\$70,160
254	1438573A	Hennesey Allen	B110008D00800	\$55,050
255	1443575A	Dean Culp	B110009000201	\$15,890
256	1443575A	Jean Davis	B110009000300	\$41,590
257	1443575A	Roger Kohout	B110009000500	\$42,700
258	1443575A	Marvin Kemp	B110009001300	\$12,400
259	1443575A	Edgar Smith	B110009001500	\$13,360
260	1443575A	Stephen Moss	B110009001600	\$36,000
261	1440573A	Michael Miller	B110009002800	\$36,370
262	1443573A	Gregory Nixon	B110009002803	\$152,670
263	1440573A	Nettie Childs	B110009002805	\$171,500
264	1440573A	Tim Tracy	B110009002808	\$78,940
265	1440573A	Corey Manley	B110009002810	\$62,990
266	1440573A	Kathleen Bates	B110009002811	\$7,338
267	1440573A	Charles Jewell	B110009002813	\$77,620
268	1440573A	Lee Bakle	B110009002814	\$53,530
269	1440573A	Wayne Newman	B110009002815	\$100,890
270	1440573A	Richard McDowell	B110009002816	\$79,900
271	1440573A	David Herod	B110009002817	\$113,190
272	1440575A	Gladys Wahl	B110009003100	\$17,420
273	1440575A	William Shock	B110009003300	\$56,150
274	1440575A	DAV Defi Chapter 31	B110009003401	\$123,200
275	1443575A	Dennis Scott	B110009003500	\$51,780
276	1443575A	Mary Reinke	B110009003700	\$48,600
277	1443575A	Faith Baptist Church	B110009003701	\$329,650
278	1443575A	Charles Reece	B110009003702	\$36,790
279	1443575A	John Marcellus	B110009003704	\$91,550
280	1443575A	Michelle Hardy	B110009003705	\$73,570
281	1443575A	Charles Reece	B110009004100	\$7,160
282	1443578A	Charles Reece	B110009004100	\$7,160
283	1443578A	Junior Starkey	B110009004200	\$24,660
284	1443575A	Dean Culp	B110009A00500	\$82,150
285	1443575A	Naomi Love	B110009A00700	\$3,500
286	1443575A	Naomi Love	B110009A00800	\$30,300
287	1443575A	Roger Ashbaugh	B110009A00900	\$30,800
288	1443575A	Betty Ruddy	B110009A04600	\$17,600
289	1443575A	Elberta Ours	B110009A06800	\$10,120
290	1443575A	Dan Grimes	B110009A08300	\$63,900
291	1443575A	Carl Feeney	B110009A10100	\$1,350
292	1443578A	Larry Moore	B110009C00200	\$30,400
293	1443578A	Joseph Morisy	B110009C00300	\$66,440
294	1443578A	Jack Rock	B110009C00500	\$66,600
295	1443578A	Michael Schlachter	B110009C00600	\$55,300
296	1443578A	Constance Stretker	B110009C00700	\$71,000
297	1443578A	Laura Coressel	B110009C00900	\$80,020
298	1443575A	Vivian Karnes	B110009D00200	\$23,830
299	1443575A	Jerry Shaffer	B110009D00400	\$23,940
300	1443575A	George Bradford	B110009D00500	\$14,290
301	1443575A	Tab Emahiser	B110009D00600	\$61,800
302	1443575A	Julie Kennedy	B110009D00900	\$61,000
303	1443575A	Gerald Birkhold	B110009D01200	\$125,100

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
304	1443575A	Douglas Steele	B110009D01300	\$10,450
305	1443575A	William Goodlive	B110009D01700	\$77,100
306	1443575A	William Goodlive	B110009D01800	\$5,300
307	1443575A	Leroy Klocke	B110009D01900	\$74,400
308	1443575A	Jack Colbert	B110009D02000	\$61,550
309	1440575A	County of Defiance	B110009E00100	\$1,130
310	1440575A	Neal Carpenter	B110009E00201	\$93,810
311	1440575A	James Kimey	B110009E00400	\$149,200
312	1440575A	Richard Smith	B110009E00600	\$89,400
313	1440575A	Ruth Ann Etal Blue	B110009E00700	\$74,900
314	1440575A	Robin Rodgers	B110009E00800	\$107,060
315	1443575A	Ruth Gray	B110009E01000	\$77,710
316	1440575A	Wilfred Temple	B110009E01200	\$59,630
317	1440575A	Angela Newman	B110009E01300	\$73,500
318	1440575A	Larry Font	B110009E01400	\$74,290
319	1440575A	Roger Shoemaker	B110009E01600	\$76,920
320	1440575A	Richard Desota	B110009E01700	\$84,090
321	1440573A	Barry Parsons	B110009E01800	\$93,960
322	1440573A	Randy McCoy	B110009E01900	\$38,540
323	1440573A	Shirley Holt	B110009E01903	\$81,360
324	1440573A	Barbara Stork	B110009E02000	\$61,260
325	1440575A	Larry Cameron	B110009F00100	\$75,360
326	1440573A	Paul Zimmerman	B110009F00101	\$94,460
327	1440573A	Karl Kissner	B110009F00300	\$77,880
328	1440573A	Daniel Offutt	B110009F00500	\$86,600
329	1440573A	Terrence LaFramboise	B110009F00600	\$60,240
330	1440573A	Paul Zimmerman	B110009F02800	\$4,400
331	1440573A	Lois Shoup	B110009F02900	\$59,830
332	1440573A	Hans Zipfel	B110009F03000	\$80,490
333	1440573A	Hope Holley	B110009F03100	\$87,300
334	1440573A	Kenneth Ott	B110009F03200	\$82,790
335	1440573A	Roger Burke	B110009F03300	\$72,860
336	1440573A	Kenneth Cantrell	B110009F03400	\$80,000
337	1440573A	Chris Bowers	B110009F03500	\$75,180
338	1440575A	Larry Sullivan	B110009F03700	\$21,500
339	1440573A	Dennis Batt	B110009G00300	\$189,600
340	1440573A	David Kilpatrick	B110009G00500	\$182,520
341	1445575A	Bryan City	B110010001701	\$231,270
342	1433568A	Elnora Vanvlerah	B110017000200	\$79,930
343	1435570A	John Webb	B110017000300	\$77,390
344	1435570A	David Bellaire	B110017000401	\$77,320
345	1435570A	Robert Keller	B110017000600	\$9,090
346	1433568A	Kenneth Nagel	B110017000800	\$11,290
347	1433568A	Bobby Tracy	B110017000900	\$26,360
348	1438570A	William Goller	B110017001200	\$11,430
349	1435570A	Michael Roessner	B110017001201	\$7,660
350	1438570A	William Goller	B110017001300	\$25,340
351	1438573A	David Bauer	B110017001302	\$76,850
352	1438570A	William Goller	B110017001305	\$159,730
353	1435568A	Lynn Bidlack	B110017001700	\$87,360
354	1435568A	Rick Stanford	B110017001800	\$22,210

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
355	1435568A	Denny Sparks	B110017001902	\$101,300
356	1435568A	Lynn Bidlack	B110017001903	\$86,900
357	1435568A	Bruce Stanley	B110017001904	\$142,360
358	1435568A	Stephen Clark	B110017001905	\$148,400
359	1435568A	Laura Sanford	B110017001906	\$188,800
360	1435568A	Bruce Sisco	B110017001907	\$155,330
361	1435568A	Robert Pasterz	B110017001908	\$156,450
362	1438570A	Dennis Mansfeld	B110017A01000	\$79,300
363	1438570A	Sandra Peterson	B110017A01100	\$74,500
364	1438570A	Barbara Guillian	B110017A01200	\$71,700
365	1438570A	Dave Young	B110017A01300	\$93,580
366	1435570A	Richard Wagner	B110017B00200	\$105,550
367	1438570A	Jeffery Weidenhamer	B110017B00300	\$82,700
368	1438570A	Raymond Mathews	B110017B00400	\$84,500
369	1438570A	Stephen Renn	B110017B00500	\$115,400
370	1438570A	Ed Harland	B110017B00600	\$80,900
371	1438570A	John F Berry	B110017B00700	\$21,200
372	1438570A	Jean Ann Cunningham	B110017B00800	\$102,800
373	1433568A	Richard S Rankin	B110017C00300	\$37,590
374	1433568A	Richard S Rankin	B110017C00500	\$2,950
375	1433568A	Justin J Marckel	B110017C02300	\$110,600
376	1433568A	Edward Steffel	B110017C03200	\$87,180
377	1433568A	Allen Killion	B110017C03600	\$89,260
378	1433568A	John C Webb	B110018001000	\$33,880
379	1433568A	John C Webb	B110018001100	\$18,220
380	1433568A	Lenorem Webb	B110018001300	\$85,640
381	1433568A	Leann Bohn	B110018001400	\$3,910
382	1433568A	Lenore Webb	B110018001500	\$42,400
383	1433568A	Patricia Keezer	B11001800800	\$19,690
384	1443593A	Richard Lano	B110028001701	\$28,940
385	1440573A	Christian Baden	B11008D00900	\$64,530
386		Number of Parcels	182	\$13,158,298
387	Delaware Township			
388	1420610	Dinah Henry	C170002000600	\$56,310
389	1418613	John Beattie	C170003000400	\$16,820
390	1413613	Daniel Volz	C170003000802	\$86,800
391	1410613	Rick Fuller	C170004000701	\$52,470
392	1413613	Albert Singer	C170004001000	\$51,720
393	1405613	Terry Ross	C170005000301	\$55,200
394	1405613	William Parker	C170005001100	\$3,260
395	1405613	Steven Wisecup	C170005001200	\$10,740
396	1405613	Robert Suffel	C170005001301	\$21,500
397	1408615	Gary Heater	C170005001402	\$80,450
398	1403613	Grace Johnson	C170006000300	\$20,490
399	1403613	Ronald Luderman	C170006000400	\$38,820
400	1400613	June Crosser	C170006000501	\$28,190
401	1398613	Jimmie Lawson	C170006000601	\$31,500
402	1415595	Rex Vogelsong	C170022000706	\$74,750
403	1428593A	Carl Fry	C170024001006	\$201,310
404	1425595	Larry Greenler	C170024001500	\$74,910
405	1413593	Mark Baden	C170027000300	\$126,960

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
406	1408593	Ronald Giesige	C170029000206	\$96,020
407	1403585	Audrey Walk	C170031000402	\$81,760
408	1403588	Donald Sprow	C170031000405	\$135,370
409	1400588	David Arens	C170031000406	\$145,120
410	1400588	Brian Core	C170031000408	\$120,000
411	1403588	John Potter	C170032000200	\$184,870
412	1403585	Tracy Voirol	C170032000208	\$100,500
413		Number of Parcels	25	\$1,895,840
414	Farmer Township			
415	1398640	Connie Purk	D240012000500	\$52,970
416	1370633	Rolland Wolfrum	D240018001201	\$218,200
417	1370630	Otis Lavon Wiles	D240019000200	\$100
418	1370630	Jerry Heffelfinger	D240019000205	\$11,330
419	1368625	Gary Vollmer	D240030000800	\$33,770
420	1395620	Charles Case	D240036000800	\$38,090
421		Number of Parcels	6	\$354,460
422	Hicksville Village			
423	1350603	David Battershell	E060008002200	\$28,980
424	1348603	Sandy Vogelsong	E060008003900	\$85,480
425	1348603	Richard Slattery	E060008004100	\$51,700
426	1348603	Ruth Schooley	E060008004200	\$47,440
427	1348603	Jonathan Mickelson	E060008004400	\$48,730
428	1348603	Richard Severance	E060008005300	\$20,180
429	1350600	Anderson Copper & Brass Co	E060009004500	\$415,670
430	1350600	Lavern Yoder	E060009004700	\$37,360
431	1350600	Terry Gilbert	E060009004900	\$28,640
432	1350600	Jason Myers	E060009005000	\$25,510
433	1350600	Daniel Thiel	E060009005200	\$79,890
434	1350600	First Baptist Church	E060009005301	\$165,980
435	1350600	Robert Helf	E060010002100	\$61,700
436	1343595	Catherine Delagrange (13 Mobile Homes)	E060020006202	\$130,000
437	1340595	Gerald Yoder	E060026000100	\$89,300
438		Number of Parcels	15	\$1,316,560
439	Hicksville Township			
440	1355608	Ernest Beck	E200011000600	\$66,380
441	1358605	William Cleland	E200011000800	\$247,490
442	1358605	Jeffrey Etchey	E200014001000	\$88,910
443	1350603	John Birkhold	E200015000600	\$17,890
444	1350600	Edward Tschanz	E200015000900	\$47,300
445	1350605	Richard Varner	E200015001902	\$12,600
446	1350605	Russel Cummins	E200016A00100	\$70,150
447	1350605	Iris Weber	E200016A00200	\$65,280
448	1350605	Donald Strubing	E200016A00300	\$70,080
449	1350605	James Diehl	E200016A01200	\$86,300
450	1350605	Gary Zimmerman	E200016A01300	\$64,450
451	1350605	Rodolfo Garza	E200016A01400	\$81,120
452	1350605	Margaret Sailer	E200016A01500	\$75,310
453	1350605	Jon Myer	E200016A01600	\$83,800
454	1350605	Robert Ramus	E200016A01700	\$96,710
455	1350605	Timothy Greutman	E200016A01900	\$77,880

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
456	1350605	Defiance County	E200016A01901	\$7,920
457	1340598	Trailer Park (4 trailers)	E200020000900	\$40,000
458	1355600	William Knight	E200022000800	\$49,390
459	1350595	Danie Vetter	E200022001400	\$128,390
460	1365593	Scott Hutchison Properties	E200025000401	\$40,160
461	1345588	Eldon Siebenaler	E200033000207	\$37,360
462	1360585	Kenneth Thiel	E200036000200	\$57,640
463		Number of Parcels	23	\$1,612,510
464	Highland Township			
465	1468578A	Dalas Johnson	F120005000301	\$10,000
466	1465580A	Belmar Reliford	F120005D00300	\$55,920
467	1465580A	Robert Allen	F120005D04900	\$33,030
468	1465580A	John Odum	F120005D05100	\$32,710
469	1465580A	William Rufner	F120005D05101	\$26,060
470	1463563A	Michael Debarba	F120019000702	\$114,710
471	1463563A	James R Phipps, 26024 Hoffman	F120029001302	\$73,760
472	1465560A	David Engel	F120033001401	\$80,725
473	1465560A	James R Eldridge Jr	F120034000501	\$134,570
474		Number of Parcels	9	\$561,485
475	Mark Township			
476	1393613	Dennis Michael	G190001000401	\$50,750
477	1395610	Robby Miller	G190001000600	\$3,900
478	1395610	Edgar Rosebrock	G190001000700	\$31,580
479	1388613	Darwin Schroeder	G190002000300	\$53,030
480	1393613	Judith English	G190002000700	\$102,450
481	1383615	Windmill Swine Farms	G190004000601	\$166,500
482	1388590	Rodney Durham	G190026000601	\$140,620
483	1390588	Kenneth Buell	G190026001200	\$18,860
484	1383593	Deborah Marchal	G190027000400	\$33,080
485	1370590	Daniel Custer	G190029000600	\$7,000
486	1370590	Michael Wolfrum	G190030001100	\$72,900
487	1370590	Mark Neilson	G190030001201	\$101,290
488	1383583	Charles Dunderman	G190034000400	\$36,070
489	1390588	Max Haver	G190035000100	\$63,240
490	1395588	Alfred Marchal	G190036000300	\$61,470
491	1395585	Gerald Edds	G190036001201	\$34,250
492		Number of Parcels	16	\$976,990
493	Milford Township			
494	1353648	Patricia Suffel	H210003000700	\$7,300
495	1345645	Ronald Blair	H210004000601	\$44,230
496	1345645	Ubald Dietsch	H210004A00100	\$95,300
497	1345645	Randy Herman	H210004A00905	\$102,300
498	1343643	Sand Weber	H210004A01601	\$102,900
499	1338643	Gene Asher	H210007000102	\$87,020
500	1340638	Mark Hohler	H210007000800	\$70,370
501	1340638	Steve Sebastian	H210007000801	\$81,020
502	1340640	Barton Rowe	H210008000901	\$37,100
503	1360638	Chelmer Appel	H210011001200	\$46,270
504	1360638	Jeffrey Patrick	H210011001300	\$91,650
505	1358638	Willard Peters	H210014000200	\$33,400

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
506	1340633	John Abbruzzese	H210017000402	\$12,260
507	1335633	David Cape	H210018000401	\$95,600
508	1335633	Corey Sholl	H210018000500	\$34,830
509	1335633	Charles Yockum	H210018000601	\$33,380
510		Number of Parcels	16	\$974,930
511	Noble Township			
512	1450600	Debera Newman	I1300015A01500	\$115,050
513	1448613	Charles Hardy	I130003000900	\$42,720
514	1445613	Shari Fitzsimmons	I130003001001	\$51,570
515	1440608	Soni Bussing	I130009000800	\$50,000
516	1443605	Derrow Propertys	I130009001000	\$15,100
517	1450600	Michael Cook (7 Mobile Homes)	I130014000700	\$70,000
518	1448610	Tom Sanders	I130014000700	\$151,100
519	1450600	Debera Newman	I130015A01400	\$63,200
520	1448610	Doris Heilman	I130015A01500	\$7,280
521	1450603	Richard Beiswenger	I130015B08400	\$40,830
522	1448603	Dora Carr	I130015B08700	\$49,860
523	1430593A	Joe Clemens	I130019000800	\$8,600
524	1448595	Mark Snyder	I130022000801	\$126,230
525		Number of Parcels	13	\$791,540
526	Richland Township			
527	1470598A	Lorraine Keber	J080017001901	\$83,700
528	1468598A	Leon Jones	J080017A04000	\$76,130
529	1463595A	Lawrence Woods	J080019000300	\$200,500
530	1473598A	State of Ohio	J080021002500	\$78,020
531	1473598A	State of Ohio	J080021002600	\$27,550
532	1473598A	Gregory Watson	J080021003000	\$80,850
533	1473598A	Edward Swatek	J080021003200	\$26,000
534	1473598A	Vernon Sweinhagen	J080021003300	\$22,010
535	1473598A	Leonard Miller	J080021003500	\$1,630
536	1473598A	Patricia Cameron	J080021003700	\$54,640
537	1473598A	Marianne Berry	J080021003800	\$52,200
538	1473598A	Lynn Fitzenrider	J080021004000	\$56,200
539	1473598A	Rome Shepherd	J080021004500	\$42,640
540	1478595A	Madonna Hammons	J080022000700	\$54,930
541	1478595A	State of Ohio	J080022000900	\$13,830
542	1490598A	Gladys Becker	J080024000200	\$66,700
543	1490598A	Larry Becker	J080024000201	\$83,810
544	1463588A	Thomas Wolfrum	J090031001000	\$56,400
545	1463585A	Shirley Keller	J090031002300	\$78,770
546	1448645	Richard Warnimont	K140003000400	\$6,910
547		Number of Parcels	20	\$1,163,420
548	Tiffin Township			
549	1448645	General Tele Co of OH	K140003A01401	\$12,960
550	1448645	Oren Imthurn	K140003A09900	\$11,560
551	1448645	Albert Roggeman	K140003A10000	\$17,860
552	1448645	Albert Roggeman	K140003A10100	\$2,580
553	1448645	Deanna Nally	K140003A10200	\$31,900
554	1448645	Joseph Willitzer	K140003A10300	\$55,580
555	1448645	Thomas Hancock	K140003A10600	\$20,200

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
556	1448643	Leonard Nafziger	K140003A12600	\$46,650
557	1448645	Donna Sigg	K140003A16400	\$2,120
558	1448645	Chad Ackerman	K140003A16500	\$37,420
559	1448645	David Imthurn	K140003A16900	\$510
560	1448645	Joseph Willitzer	K140003A17000	\$540
561	1448645	Richard Wisda	K140003A17300	\$410
562	1448645	Richard Wisda	K140003A17500	\$43,010
563	1448645	Richard Wisda	K140003A17800	\$3,970
564	1448638	Keith Rabe	K140010000500	\$116,440
565	1443630	Karen Elders	K140016000400	\$15,720
566	1433625	Maurice Hanock	K140019000100	\$54,300
567	1438620	Charlotte Pollock	K140032000229	\$78,470
568	1438618	Martha Wolfrum	K140032001000	\$39,110
569		Number of Parcels	20	\$591,310
570	Washington Township			
571	1428645	Darlene Pessefall	L150001000600	\$31,050
572	1428645	Penny Musser	L150001000601	\$970
573	1428645	Kenneth Kuhn	L150001000802	\$86,900
574	1425645	Ricky Bany	L150001001001	\$31,600
575	1425643	Jeanette Bray	L150001001101	\$41,800
576	1425645	Ellen Owen	L150002000203	\$8,500
577	1425645	JD Miller	L150002000204	\$51,830
578	1423645	Russell Stambaugh	L150002000300	\$13,520
579	1420645	Ruby Hall	L150002000400	\$62,800
580	1420645	Janice Baden	L150002000401	\$127,660
581	1405645	Mary Sowers	L150005001001	\$196,140
582	1405645	Gary Arnos	L150005001201	\$88,860
583	1408643	Carl Mosier	L150005A00100	\$59,680
584	1398640	Joseph Jerger	L150006000503	\$151,310
585	1398638	Duane Struble	L150007000400	\$57,450
586	1400638	Sharon Reed	L150007000700	\$34,770
587	1400638	Larry Sonner	L150007001100	\$1,660
588	1400638	Stephen Sims	L150007001101	\$35,100
589	1408640	James McCague	L150008000201	\$63,400
590	1408640	Frederick Hill	L150009000500	\$80,180
591	1408640	Mark Wolfrum	L150009000600	\$76,260
592	1420630	Donna Bost	L150014000500	\$40,740
593	1418630	Gerald Hanna	L150015000800	\$14,060
594	1403635	Cheryl Wonderly	L150018001000	\$67,000
595	1405630	Christopher Overholt	L1500200001303	\$72,680
596	1408630	Cruz Jimenez	L150020001302	\$71,430
597	1410630	Amy Graber	L150021000300	\$47,360
598	1410630	Glenn Geren	L150021000303	\$4,440
599	1410630	Mary Jerger	L150021C01300	\$64,750
600	1418630	James Icenhour	L150022000500	\$9,880
601	1415630	Penny Miller	L150022000800	\$46,020
602	1420630	Dennis Hines	L150023000401	\$131,670
603	1425630	Ann Borland	L150024000701	\$83,190
604		Number of Parcels	33	\$1,954,660
605	Ney Village			

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
556	1448643	Leonard Nafziger	K140003A12600	\$46,650
557	1448645	Donna Sigg	K140003A16400	\$2,120
558	1448645	Chad Ackerman	K140003A16500	\$37,420
559	1448645	David Imthurn	K140003A16900	\$510
560	1448645	Joseph Willitzer	K140003A17000	\$540
561	1448645	Richard Wisda	K140003A17300	\$410
562	1448645	Richard Wisda	K140003A17500	\$43,010
563	1448645	Richard Wisda	K140003A17800	\$3,970
564	1448638	Keith Rabe	K140010000500	\$116,440
565	1443630	Karen Elders	K140016000400	\$15,720
566	1433625	Maurice Hanock	K140019000100	\$54,300
567	1438620	Charlotte Pollock	K140032000229	\$78,470
568	1438618	Martha Wolfrum	K140032001000	\$39,110
569		Number of Parcels	20	\$591,310
570	Washington Township			
571	1428645	Darlene Pessefall	L150001000600	\$31,050
572	1428645	Penny Musser	L150001000601	\$970
573	1428645	Kenneth Kuhn	L150001000802	\$86,900
574	1425645	Ricky Bany	L150001001001	\$31,600
575	1425643	Jeanette Bray	L150001001101	\$41,800
576	1425645	Ellen Owen	L150002000203	\$8,500
577	1425645	JD Miller	L150002000204	\$51,830
578	1423645	Russell Stambaugh	L150002000300	\$13,520
579	1420645	Ruby Hall	L150002000400	\$62,800
580	1420645	Janice Baden	L150002000401	\$127,660
581	1405645	Mary Sowers	L150005001001	\$196,140
582	1405645	Gary Arnos	L150005001201	\$88,860
583	1408643	Carl Mosier	L150005A00100	\$59,680
584	1398640	Joseph Jerger	L150006000503	\$151,310
585	1398638	Duane Struble	L150007000400	\$57,450
586	1400638	Sharon Reed	L150007000700	\$34,770
587	1400638	Larry Sonner	L150007001100	\$1,660
588	1400638	Stephen Sims	L150007001101	\$35,100
589	1408640	James McCague	L150008000201	\$63,400
590	1408640	Frederick Hill	L150009000500	\$80,180
591	1408640	Mark Wolfrum	L150009000600	\$76,260
592	1420630	Donna Bost	L150014000500	\$40,740
593	1418630	Gerald Hanna	L150015000800	\$14,060
594	1403635	Cheryl Wonderly	L150018001000	\$67,000
595	1405630	Christopher Overholt	L1500200001303	\$72,680
596	1408630	Cruz Jimenez	L150020001302	\$71,430
597	1410630	Amy Graber	L150021000300	\$47,360
598	1410630	Glenn Geren	L150021000303	\$4,440
599	1410630	Mary Jerger	L150021C01300	\$64,750
600	1418630	James Icenhour	L150022000500	\$9,880
601	1415630	Penny Miller	L150022000800	\$46,020
602	1420630	Dennis Hines	L150023000401	\$131,670
603	1425630	Ann Borland	L150024000701	\$83,190
604		Number of Parcels	33	\$1,954,660
605	Ney Village			

Defiance County Parcels in the 100-Year Floodplain

	A	B	C	D
606	1410630	Arrowhead Development	L160021A00800	\$268,560
607	1413630	Jacquelyn Beverly	L160021A08800	\$56,830
608	1413628	Roy Dixon	L160021B00601	\$47,010
609	1413628	Roy Dixon (building)	L160021B00700	\$0
610	1410630	Defiance Co Met Park Bd (buildings)	L160021B09001	\$0
611	1410630	Carol Singer	L160021B09600	\$67,360
612	1410630	Floyd Layman	L160021B09700	\$90,010
613	1410630	Sharon Wilson	L160021B09800	\$44,050
614	1410630	Jewell Grain Co	L160021B10000	\$82,530
615	1410630	Ney Village (a building)	L160021B10001	\$0
616	1410630	Defiance Co Met Park Bd	L160021B10100	\$25,610
617		Number of Parcels	11	\$681,960
618				
619		Defiance County Totals	588	\$40,662,603