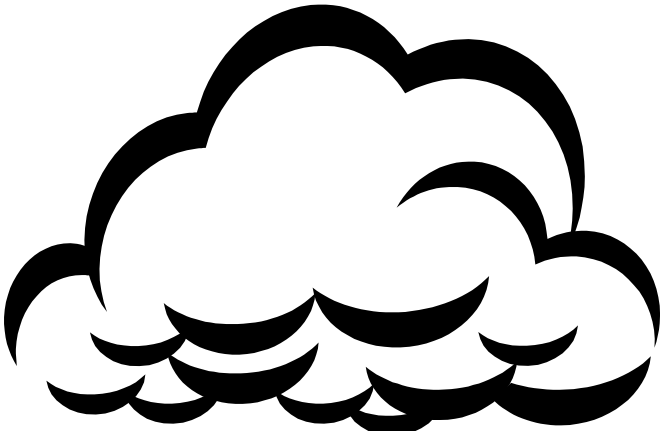

Seneca County Ohio Multi-Jurisdictional Natural Hazard Mitigation Plan

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2014

Seneca County Natural Hazard Mitigation Plan

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INTRODUCTION

Seneca County, Ohio supports disaster mitigation efforts through creation of a multi-jurisdictional Hazard Mitigation Plan that will engage wise land use planning, disaster resistant building construction and environmentally friendly economic development across Seneca County. It is the intent of Seneca County to enlist projects that will help minimize property loss and casualties due to the effects of natural disasters. Through use of the Hazard Mitigation Grant Program, Seneca County has convened a community-wide task force to examine the hazards, vulnerabilities, and mitigation measures relevant in 2012 and has developed a revised Hazard Mitigation Plan to guide their upcoming efforts.

Through work with all cities and villages in the county, Seneca County EMA has used the mitigation planning process to better determine how to reduce or eliminate the loss of life and property damage resulting from natural disasters. Seneca County, as a whole, will become more resilient through the implementation of projects that foster sustainable solutions to potential loss. Local governments will be able to integrate actions recommended in the plan into their building and development regulations for daily enforcement in designated hazard areas. Most importantly, mitigation projects were prioritized in each village and city so that as funding dollars become available and are secured through application for these pre-determined priorities, projects will be completed on a timetable that has been accepted by all entities through their resolutions of adoption. These projects will become realistic answers to losses in a pro-active course of action that develops resiliency and sustainability in the county

Note: This plan is a completely new plan, replacing the document originally created in 2003 and updated in 2007. Due to changes in mitigation plan requirements between 2003 when the original plan was written and 2013 when the update draft was created, the changes in requirements were extensive. The update process began in May 2012, and between that time and the submission of this plan in January 2014, mitigation plan standards have changed significantly. It was determined in April 2013 that the current plan was considerably noncompliant with current plan standards, and therefore documents written at that time were abandoned, and a completely new plan was written so that the document would contain the information necessary to meet new standards.

THE PLANNING PROCESS

Introduction of the Planning Process

Seneca County followed the FEMA plan revision process identified in the Local Mitigation Plan Review Guide with the intent to meet the regulation outlines in 44 CFR 201.6. The Regulation Checklist, Plan Assessment, and Multi-jurisdiction Summary Sheet were used in the process to guide and document compliance with this requirement. The Local Mitigation Plan Review Tool is attached as Attachment A.

Initial Efforts to Plan the Process

Planning for the Seneca County Hazard Mitigation Plan Update began in September 2011 with EMA Director Stahl and Contractor Waggoner-Hovest developing the grant application for federal funds to support the update process. They worked to develop the Core Committee target list, which included county, municipal, and township officials, private business, higher education and education, utilities and infrastructure, development officials and planners, construction officials, and general public representatives. The large community group whom had participated in updating the Seneca County Emergency Operations Plan in 2011 served as the master list of officials, and contained just fewer than 200 names of key community leaders from all areas of the county.

Upon approval of the Hazard Mitigation Grant Program application in March 2012, Stahl and Waggoner-Hovest attended a mitigation planning meeting in Columbus with State Mitigation Planner Dean Ervin on March 31, 2012. They completed all necessary forms and documents for the program. They reviewed the requirements for the update process and plan completion with Mr. Ervin.

Stahl and Waggoner-Hovest began process planning the community-wide effort to be conducted under the supervision of Seneca County EMA Director Dan Stahl and facilitated by Sandy Waggoner-Hovest of Resource Solutions Associates, LLC. Waggoner-Hovest, an independent contractor, would guide completion through the process established by the Federal Emergency Management Agency and required by the State of Ohio Emergency Management Agency Mitigation Branch.

The process began as Stahl and Waggoner-Hovest established the overall Core Committee meeting schedule and project outline. This work took place in April and May 2012 at the Seneca County EMA office. Goals of these initial coordination efforts included establishment of a Core Committee that reflected the community interests in a comprehensive manner, establishment of a schedule of input and review meetings that would be convenient and well attended by the stakeholders, and creation of alternate methods to involve key community leaders in case they were not able to attend meetings on a regular basis. They planned to achieve input from the general public throughout the process to ensure that all community perspectives would be included in the process.

Stahl and Waggoner-Hovest recognized that several barriers existed to achieving these goals, and planned alternatives to reduce their impact. They identified barriers that included lack of sufficient staff at many agencies that would hamper meeting attendance; variations in times of

availability due to work status as paid or volunteer officials; work related priorities driven by supervisors and administrators that would supersede mitigation planning priorities; and simply insufficient staff to add a project of this size to current duties.

Communication with the public was seen as a challenge by Stahl and Waggoner-Hovest. With widespread availability of Internet, the circulation of local print media has decreased significantly and local newspapers are no longer an effective way to reach the public in Seneca County. Satellite radio has breached the market of local radio and news stations, decreasing the effectiveness of local broadcast news media. The downturn in the economy took many residents to out-of-town jobs and this diminished their ability to connect with local resources in general through participation in local organizations and activities during free time. Many individuals' only contact with local issues is rooted in Internet access to information.

Stahl and Waggoner-Hovest devised several alternative actions to address these barriers by using technology. While face-to-face Core Committee meetings would be held, the use of electronic mail and telephone calls to supplement the face-to-face meetings would be very effective. The implementation of electronic communication could allow for widespread distribution of draft documents, concerns, and suggestions. Participants could react to an issue by replying to everyone in electronic mail, keeping the whole committee in the loop of development without consuming extraordinary hours of work time.

Timing and location of meetings was considered. To enhance attendance at face-to-face meeting, those meetings would need to be held both during the work day and repeated in the evenings to allow for varied work schedules and availability of not only the Core Committee but also the general public. As a result, every meeting was held in the early afternoon and then repeated that same evening at 7:00 p.m. (late enough for commuters to have returned home) to capture the largest attendance.

The meetings would be held at the county EMA so as to be centrally located, have widespread availability to the space, and to have the meeting room features that included media use, work group space and supplies, and sufficient parking at a handicapped-accessible facility.

Because print media is no longer a mainstream way to circulate information, consideration was placed in person-to-person information sharing. Sharing information from meetings through electronic mail would facilitate enhanced input because parties could forward questions, forms, and draft sections of the plan with ease to colleagues and residents, adding to the participant list. Through this method, the contractor would be available to all who participated in any form of electronic mail communication. An added advantage was that this limited the need to produce thousands and thousands of pages of hard copy.

Once the revised plan was drafted, it would be placed online in an open portal for any person to access, and at the EMA office in hard copy format. Residents could also request an e-mailed copy that would be sent in sections due to the size of the document. An article in local print media would be published with the availability of this plan electronically, requesting public input for a two-week period. Hard copies of the draft would be available to anyone upon request to the EMA.

Stahl and Waggoner then established a meeting schedule for the Core Committee. The series of large group work sessions of key community leaders and others to review and reassess the current plan, and to develop data and content for the revision would begin in June, and continue for several months. After input was obtained, the contractor would draft the plan using the input garnered from the meetings. The Core Committee would meet to consider the mitigation strategies and priorities, and the contractor would then complete the draft of the plan. The Core Committee meetings were to be held the last Wednesday of the month in June, August, September, October, November, and January. The contractor would then draft the revised plan, and a March meeting would consider the mitigation strategies at additional core committee meetings. The final draft was anticipated by June with submission to the Ohio EMA by late 2013.

The Process Implemented

After Stahl and Waggoner-Hovest planned the process, an email was sent to all persons who had been involved in the Emergency Operations Plan update in 2011, asking for their participation. Added to that list were changes in personnel and elected officials, and others who were deemed appropriate. The resulting Core Committee was established by May 30, and the first Core Committee meeting was held on June 27, 2012. (A copy of the Core Committee Roster appears in the next part of this section, as well as Attachment B. The attachment also includes a roster of non-Core Committee individuals who were electronically mailed the draft plan for comment as Attachment C.)

Meetings continued on August 29, September 26, October 24, December 12 (change due to local issues), and March 13, 2013. The March date was an "extra" meeting because attendance at the October meeting where strategies were developed was low, and when strategies were released in draft form in December, there was a lack of consensus among the group. The contractor added a March meeting to ensure full consideration and consensus of the group because the mitigation strategies are so critical to the plan. (Minutes of meetings are included as Attachment D.)

Meetings were conducted and input occurred in a variety of ways, including group meetings open to the public, work sessions open to the public, review sessions open to the public, electronic communication, telephone calls, and other face-to-face conversations. All activities were open to anyone who wanted to attend and attendees were continually encouraged to spread the word about the meetings. They were encouraged to invite or bring to the contractors' attention anyone who had an interest in the subject and might want to participate.

In the time between the December and March meetings, individual work was completed to give every participant the opportunity to present questions, topics for concern, and mitigation strategies. After considerable discussion at the December meeting, the Core Committee developed a better understanding of community-wide collaboration and involvement in disaster mitigation through review of documents and federal program review provided by the contractor. The contractor presented a review of mitigation planning and strategies to the newly elected and currently serving public officials on January 29, 2013 at the Seneca County EMA.

On March 13, a well-attended meeting was held to establish mitigation strategies. At this meeting, the number of strategies more than doubled from the previous meeting, the consideration of other plans and documents was completed, and ideas were presented that reflected a great deal of agency or organization-wide discussion and thought outside the context of Core Committee meetings.

The Core Committee meetings took place at the Seneca County EMA conference room, a central location well known to the public with a large meeting space and projection capacity. Make-up and clarification meetings took place in individual offices at various agencies, or by telephone, when key officials were diverted to other duties and the results were reported at the group meetings for consideration. This was an effort to be accommodating to the needs of key leaders as they juggled many work demands.

Each meeting focused on a specific set of topics. At the meeting on May 27, 2012 the focus was identification of the hazard mitigation plan update process and exchange of personal information for plan discussion purposes during the process. Element A of the crosswalk review was used as a guide. At the meeting in August, the participants discussed hazard identification, risk assessment, hazard profiles and analysis, using Element B as a guide. In October and November, Element C was used to guide discussions of mitigation strategies, old and new, and to develop an action plan. In December, the mitigation strategies were reviewed, and the plan maintenance in Element D was considered. The March 2013 meeting was a review of Elements C and D with additional content suggested and approved. At all of these meetings, the participants completed worksheets in small groups assisted by the contractor and EMA director, and the contractor conducted whole group discussions after the small group work.

Notes were kept of each meeting, and the contractor spoke individually with many of the participants between meetings to clarify points, ask questions, or confirm outcomes. Documents were transferred using electronic mail, and meeting notices were exchanged that way.

Seneca County officials and workers participated by attending meetings, engaging in phone conversations and individual meetings, and by helping with research. EMA Director Stahl helped with every phase of planning and execution. Others, as listed on sign in sheets and in minutes, attended the meetings and participated in all activities. Especially helpful and involved were Tia Rice, Jill Griffin, Don Kelbley, and Mike Klais. The county engineer, Mark Zimmerman, participated through individual conversations and meetings because of highway maintenance and construction demands on his time. Others such as Jonathon Ketter and Amy Drummer supplied other planning documents in the county such as the Economic Development Plan and the Solid Waste Plan.

Seneca County representatives were also the ones to speak with township officials who meet very infrequently as a body. The EMA Director made sure that information was relayed to the township officials, and the contractor assisted him during the draft plan review period to make sure they all had the opportunity to review the draft.

Most village representative and administrators attended the meetings regularly, and conversed by phone with ideas and corrections. The villages of Attica, Republic, and Bloomville worked

together between meetings to review materials and discuss issues because of their proximity to one another. New Riegel council members and mayor discussed items at and between meetings, and brought feedback into the Core Committee meetings. The Green Springs representative attended some of the meetings, and facilitated discussion with Sandusky County because the village lies on the county line.

Representatives from the City of Fostoria held many meetings among themselves to discuss mitigation issues brought up at meetings. They came into Core Committee meetings with thoughts and concerns from other officials, and expressed ideas over projects that should be conducted in their city.

The City of Tiffin had a difficult time attending meetings due to schedule conflicts; however, discussions between Administrator Reamer and the contractor, and discussions with Fire Chief Ennis resulted in significant input and projects from the City of Tiffin. While their official attendance at Core Committee meetings was a challenge, their overall participation was robust and more than adequate.

All jurisdictions covered by the plan – county, city, and village – considered the hazards and risk assessment for their jurisdiction through review of past incidents and loss estimates at the Core Committee meetings. They participated in small group activities and whole group conversations. They looked at incident type, severity, frequency, possibility and probability to determine the mitigation projects that would be most valuable to their jurisdiction. They assessed past mitigation projects for completion status, and they determine the priority ranking of new projects.

The county GIS Coordinator and Floodplain Manager supplied loss estimate information and property information used to assess loss estimates. The Seneca County Auditor provided property value information, and the Seneca County Engineer helped with critical infrastructure inventory. The EMA director helped review, research, and identify past disasters, loss estimates, assistance figures, and magnitude of the disasters.

Throughout the process, telephone conversations and electronic mail exchanges assured that every person was able to examine, review, comment on, and approve the re-written hazard mitigation plan for Seneca County and its sub-jurisdictions. For the few persons who did not have access to electronic mail, copies were sent via postal service mail so they had the same opportunity for input as the others.

In March, a meeting was held in Columbus with the State Mitigation Officer to clarify the specific requirements of the process and to comply with grant management guidelines. Stahl and Waggoner-Hovest met with Dean Ervin to review the mitigation plan update, the requirements for contents and considerations, and the development process requirements. It was determined that Waggoner-Hovest should maintain the current facilitation plan to obtain the needed information from a wide scope of local individuals and agencies.

The crosswalk for the new plan was reviewed by Stahl, Waggoner-Hovest, and Ervin. In consideration of the current Seneca County Hazard Mitigation Plan structure and contents, it was

determined that a completely new plan should replace this document even though that would require Waggoner-Hovest to rewrite the plan entirely and replace all writing done to date. A new document could more closely follow FEMA's requirements, and would result in a more user-friendly plan that would be a resource to the community rather than a cumbersome and repetitive document. At that time, Stahl and Ervin approved Waggoner-Hovest to create a completely new replacement Seneca County Hazard Mitigation Plan.

After this entire series of meetings beginning in May and completing in March, the contractor drafted sections of the plan and sent them section-by-section to the Core Committee members for review in process. This took from April until December to create the new document under new guidance and standards for detail. The Core Committee reviewed the HIRA in May 2013; Mitigation Projects and Strategies in June; Loss Estimates in November; and the Comprehensive Plan in December. Public review took place in late December from 12/13/13 through 12/27/13, and then the open period was extended until 01/06/14 due to extreme weather conditions that may have interfered with the resident's review of the plan.

As the new plan was developed, the requirements of FEMA expressed in the plan review crosswalk were used as guidance. Each section of the new plan was reviewed, modified, and completed in final draft format. Copies of the previous plan were available to all participants to use in comparing one to the other, as was a crosswalk and plan guidance criteria. After a final draft was written section by section, the plan was then assembled into a single document and posted online and at the Seneca County EMA office for open review by the general public.

Public review was facilitated by publishing availability of the draft plan to all area broadcast and print media. News releases asked for public input and comment for a two week period from December 13 through December 27. The plan review was then extended until January 6, 2014 to insure the public had adequate time to review it because extreme weather conditions had caused business and government closures during the review period.

The plan was placed on the Resource Solutions Associates LLC website at www.consultrsa with no access controls whatsoever. Anyone who wanted to see the plan could access the website and click on a link to the document on the home page. The Seneca County EMA posted a link on their website that took visitors directly to the plan as well. Hard printed copies and electronic copies were available by request through the Seneca County EMA or Resource Solutions Associates, LLC. It was available for all Seneca County residents and surrounding, nearby, and adjacent county leaders and planners. It was available in print or electronic format. Anyone who wanted to make comments was asked to email them to Waggoner-Hovest or Stahl, send a written letter to Waggoner-Hovest or Stahl, or to call one of them to discuss their input.
Links to electronic copies of the draft mitigation plan were sent to all adjacent county Emergency Management Agency directors for comment and open distribution. They were asked to return comments to Waggoner-Hovest by the deadline for comments date.

Only two comments were received from December 13, 2013 through January 6, 2014. Tiffin Fire Chief Bill Ennis pointed out an inconsistency in number of mitigation projects for the City of Tiffin. Donna Siebenaler asked a question about loss she incurred at her property in 2011 that was not listed in the plan. Her question was referred to Dan Stahl (Seneca County EMA) and

Dean Ervin (Ohio Emergency Management Agency), and answered to her satisfaction. The loss in question was private property insured loss during a flood event in 2011, and was not associated with a flood plain property or FEMA flood insurance.

After the review period was complete, those suggestions were collected and assembled for Core Committee consideration. Changes suggested in that review process were incorporated as determined appropriate by the Core Committee.

In anticipation of FEMA conditional approval, the following statement will outline the final process for the plan development:

After final proofreading and review of the publically reviewed draft Hazard Mitigation Plan, the plan was sent to the State Mitigation Officer at Ohio Emergency Management Agency for review. Changes and modifications were made as necessitated by that state level review, and upon completion the final plan was sent to FEMA Region V for their approval.

Changes as required by FEMA Region V were made. The plan was resubmitted to them. The plan was approved conditionally. At that point, Seneca County and the villages and cities in the county each passed a resolution or ordinance of approval for the plan. Those pieces of legislation were submitted to FEMA Region V, and final FEMA approval was granted.

The approved plan was then uploaded into the SHARPP by the contractor, and all revision/plan requirements were complete.

Community Involvement and the Hazard Mitigation Core Committee

As part of the process to update the Seneca County Hazard Mitigation Plan, Stahl and Waggoner-Hovest worked to develop the Core Committee target list which included county, municipal, and township officials, private business, higher education and education, utilities and infrastructure, development officials and planners, construction and building code officials, and general public representatives. The group included public safety, public health, healthcare, public works, utility companies, and social organizations. Meeting notices were sent to them electronically or by phone call.

The county was included as the lead jurisdiction, acting on behalf of the townships and unincorporated settlements in the county. All incorporated villages and cities were represented. In addition to Seneca County, representatives from the City of Fostoria, the City of Tiffin, the Village of Attica, the Village of Bettsville, the Village of Bloomville, the Village of Green Springs, the Village of New Riegel, and the Village of Republic were on the Core Committee. Their particular representatives appear on the roster in Attachment A. Various jurisdiction employees represented various departments, including water, streets and highways, utilities, commerce, and other services.

Some individuals on the Core Committee fill dual roles in their daily jobs. Tia Rice is the Program Administrator of the Seneca County Soil and Water Conservation District, and is also the Seneca County Floodplain Manager. Jill Griffin is the Director of Seneca Regional Planning, and is also the GIS Coordinator and Revolving Loan Coordinator. Don Kelbley serves as the

Director of Seneca County EMS, and communicates with the other EMS squads in the county. Allyson Murray, City Manager from Fostoria, and Deb Reamer, City Manager from Tiffin, communicated with the police chiefs from their cities as a part of the plan due to one being out on extended surgical recovery and other position being temporary and then a new hire. The fire chiefs assisted in working information through the city ranks, and in communicating with volunteer chiefs who were unable to attend meetings.

Other organizations being represented on the Core Committee included the fire departments in Tiffin and Fostoria who communicated with the rest of the county fire departments through their countywide organization. ProMedica and Mercy Hospitals in Fostoria and Tiffin were represented by their Emergency Planning coordinators. The Seneca County Health Commissioner and her assistant participated in the Core Committee. American Red Cross was represented by the local executive. Utility companies and public works departments were represented by their personnel; both the electric and water providers are private industries. The regional solid waste district was represented by two individuals, and filled a dual role as adjacent county representatives since the waste district covers a three-county area. See Attachments A and B for all participants.

Stahl and Waggoner-Hovest worked with a countywide listing of key officials and community leaders to develop an invitation to the initial core committee meeting which was held in May 2012. Upon initial email contact with potential members, they found that not all individuals would be able to participate in update meetings due to workload, schedule conflicts, and other business priorities, but were willing to give input and feedback through an alternate means. Some key officials or leaders were simply too busy to add this process to a pre-determined schedule, but were willing to lend their expertise and input regardless, as a participant through electronic communication and phone calls. These individuals were placed on a list of individuals with whom to maintain contact throughout the process, and to utilize extensively in the review process.

The Hazard Mitigation Core Committee included the following participants:

Individual	Agency, Organization, or Jurisdiction
Brentlinger, Dustin	Heidelberg University, Dean of Student Affairs
Boullion, Larry	Village of New Riegel Mayor
Broadhead, Marjorie	Seneca County General Health District Commissioner
Brown, Darrin	Village of Bloomville Administrator
Darr, Jesse Lee	Village of Green Springs Mayor
Drummer, Amy	OSS Solid Waste District Assistant Director
Ennis, William	City of Tiffin Fire Chief
Faeth, Betsy	Fostoria Community Hospital Emergency Planner
Griffin, Jill	Seneca County GIS Coordinator, Regional Planning Director, Revolving Loan Fund Coordinator
Harrison, Joyce	Village of Bettsville Councilperson
Herdlick, Mike	Tiffin University Administrator
Hoffman, Mike	City of Tiffin Public Works/Engineering Dept. Supt.
Kelbley, Don	Seneca County EMS Coordinator
Kennedy, Tom	EMP Utility Co-operative director

Ketter, Jonathon	Seneca County Prosecutor's Office Asst. Prosecutor
Klais, Mike	Seneca County Emergency Management Agency Deputy Director
Lambert, Bruce	Village of Republic Administrator
Loreno, Keith	City of Fostoria Fire Chief
Martin, Greg	Village of Attica Administrator
Mazzone, Terry	North Central Electric Company District Representative
McGuire, John	City of Fostoria Police Chief
Murray, Allyson	City of Fostoria City Manager
Nellson, Tom	Tiffin University Director of Student Affairs
Predmore, Susan	Mercy Hospital – Tiffin, Emergency Planner
Reamer, Deborah	City of Tiffin Administrator
Rice, Tia	Seneca SWCD and Seneca County Floodplain Manager
Rooker, Ronald	American Red Cross – Seneca/Hancock/Wyandot Co. Executive Director
Samoriski, Jan	Tiffin University Professor; EMS worker; nurse
Stahl, Daniel	Seneca County Emergency Management Agency Director
Staib, Lester	Village of New Riegel Councilman
Waggoner-Hovest, Sandy	Resource Solutions Associates - Contractor
Wallrabenstein, Laura	Seneca County General Health District Environmental Director – Asst. Commissioner
Wasserman, Tim	OSS Solid Waste District Director
Weasner, Joyce	Village of Bloomville Councilperson
Wilson, Stacy	Seneca County Administrator/County Commissioners

Additional feedback from the community and from adjacent communities was critical even beyond including the community members who could not attend meetings. Stahl and Waggoner-Hovest worked with the Core Committee to develop a process by which the committee would meet and consider items, go back to their constituencies and coworkers for additional input, and contact Waggoner-Hovest with the additional information prior to the next committee meeting. The following table shows individuals who were contacted during the process of updating the plan, but were not members of the Core Committee, however, their input and feedback was solicited to serve the greater community.

This group of additional leaders provided a double check to insure changes in development in Seneca County were correctly included, interpreted, and expressed. This group allowed for additional input into prioritization that will be necessary for community growth in the future.

Consideration was given to future housing, retail, and manufacturing as outlined in the Economic Development Plan written by Seneca Regional Planning Commission. Consideration was given to flood priorities of the Sandusky River Watershed group as well as Seneca County Agricultural Stabilization and Conservation Service and Soil and Water Conservation District.

The Hazard Mitigation Core Committee and the Contractor reached out to various businesses and industries as well as other government offices and organizations in the process of conducting meetings to garner input and feedback from other community partners to use in committee meetings

The additional outreach was directed to the following list of community leaders who were unable to attend meetings for work-related or staffing reasons:

Individual	Organization or Agency
Demonte, Pat	Tiffin/Seneca County United Way
Eckelberry, Bill	Seneca County Sheriff
Fitch, Garland	Seneca County Community Emergency Response Team
Flock, Tim	Crawford County Emergency Management Agency
Gilbert, Brad	Wood County Emergency Management Agency
Gross, David	Seneca County LEPC
Hughes, Kevin	Water Pollution Specialist, City of Tiffin
Lahoski, Dr. David	Superintendent North Central OH Education Center
Mock, Christine	Sandusky County Emergency Management Agency
Newman, Brad	Seneca County Airport Authority
Nutter, Benjamin	Seneca County Commissioners
Risley, Dale	Wyandot County Emergency Management Agency
Roblin, Jason	Huron County Emergency Management Agency
Stelser, P.B.	Salvation Army
Position Open	Tiffin Police Chief
Swisher, Lee	Hancock County Emergency Management Agency
Welty, Jim	American Water
Zimmerman, Mark	Seneca County Engineer

Several existing planning documents were collected and presented for consideration to the Core Committee as the update process developed. These documents included the Seneca County Comprehensive Economic Development Strategy published in December 2011 by the Seneca County Commissioners; the Sandusky River – Tiffin Watershed Action Plan published in August 2006 by the Sandusky River Watershed Coalition and Heidelberg College in Tiffin; the Seneca County Emergency Operations Plan published in June 2011 by the Seneca County Emergency Management Agency; the Ottawa-Sandusky-Seneca County Solid Waste Plan developed in 2012 by the OSS Solid Waste District; the Seneca County Public Health Plan in process by the Seneca County Health Department, and the Seneca County Comprehensive Plan Update published in 2001 by Seneca Regional Planning Commission, Tiffin, Ohio.

Planning activities were also discussed that included information from the Seneca County Soil and Water Conservation District, the Agricultural Stabilization and Conservation Service, the Seneca County Engineer, Seneca County Auditor (including newly adopted FEMA flood plain maps), and various utility company crisis plans. Flood mitigation activities taking place in Hancock County, immediately to the west of Seneca County, were monitored. The Hancock County mitigation efforts cover the Blanchard River Watershed, mostly irrelevant to Seneca County except for a small piece of property located in the extreme southwest corner of the county.

The economic development plan shared eight goals for business development, and those goals were underlying in conversation about the future of building codes and zoning. The economic goals include the following, per the Seneca County Economic Development Plan:

> GOAL 1: Retain existing businesses and help them expand
> GOAL 2: Attract new, diversified business activity to Seneca County
> GOAL 3: Facilitate workforce employability and training
> GOAL 4: Provide infrastructure to support business locations, relocations, and expansions throughout Seneca County
> GOAL 5: Market and brand Seneca County and its communities, internally and externally
> GOAL 6: Provide an atmosphere in which entrepreneurs can flourish
> GOAL 7: Enhance Seneca County's quality of life for business leaders, employees, and residents
> GOAL 8: Organize for maximum effectiveness in achieving successful economic development

The Core Committee members very involved in consideration of these plans included Terry Mazzone, Marjorie Broadhead, Amy Drummer, Ron Rooker, Jill Griffin, Tia Rice, Allyson Murray, Keith Loreno, and Deb Reamer. Julie Adkins, Mark Zimmerman, and Bill Ennis provided information and participation outside the structured meetings.

In these documents, consideration was given to whether or not disaster consequences were addressed in awareness, prevention, or mitigation context. They were examined to see if the Emergency Management Agency was included as a participant in the development of the plan, whether EMA objectives or mitigation strategies were a part of the plan, and whether the update process for the plan took mitigation or emergency management incidents into account. These plans developed by other segments of the business community were examined closely for any ties to emergency management and mitigation in any way, through people, actions, or evaluations.

As these plans were examined, it was discovered that little written evidence of mitigation consideration was included. While members of the Core Committee were involved in development of many of these plans, there were obvious gaps in the inclusion of emergency management considerations in economic development and community planning. Discussions led to placement of greater emphasis upon community wide disaster management inclusion in general and regional planning. This discussion contributed significantly to the Core Committee approval of re-writing and re-formatting the new Seneca County Hazard Mitigation Plan so it would be easier and more effective for other groups to use in their planning, and to include members of the Core Committee as disaster management representatives.

Discussion emphasized the need for disaster mitigation consideration in the future before houses were built and businesses located. While past mitigation projects had focused on warnings, notification, and communications, future action need to include involvement in the greater

community leadership and planning in a broader sense. By accomplishing this change in culture, growth will not enhance problems but will prevent them.

Barriers to changing this perspective includes a general lack of adequate staff in many organizations as they have reduced to bare-bones capacity; a culture of informal communication through familiarity that impedes formal communication; and lack of an overall inclusive process by many organization that impedes change.

By establishing a clear process for updates and modifications on an annual basis, the Core Committee felt they could tackle these barriers and facilitate change in the next review cycle.

The Core Committee began meeting late in May 2012, and met again in August, September, October, November, and March to consider the current plan and update topics such as mitigation strategies completed and new, loss estimates, hazard assessment and risk analysis, and prioritization of projects. For the convenience of members, and to assure that both paid and volunteer committee members would be able to attend, each meeting was held during the daytime work hours, and then repeated again in the evening for representatives who worked alternate jobs during the daytime. The evening meetings were especially relevant for elected officials who volunteer their time and for those who had schedule conflicts during the daytimes. This option was a key factor in being able to obtain significant input from a county with widely diverse work culture and conditions for its leaders.

The first meeting of the Core Committee in May 2012 dealt with the process of the update and distribution of the current plan and resources to be used during the process, Element A in the crosswalk. The second meeting, held in July, introduced and considered hazard identification and risk assessment as a primary topic as Element B in the crosswalk; the third meeting in September continued to consider the HIRA (Element B) and introduced the status of current mitigation projects and consideration of developing new projects (Element C) ; the fourth meeting in October continued mitigation project development as Element C; the December meeting considered the plan update, evaluation, and implementation as Element D.

A preliminary listing of mitigation projects was developed from early input and presented to the Core Committee in December 2012. Resulting feedback that caused members to feel an expansion of projects was necessary caused the Contractor to revise the project list and include a much larger number of potential mitigation strategies in the updated plan. This work was done between December and June. The Core Committee met once more in March to tentatively approve and prioritize those projects, and further review was done electronically and through phone conversations. This work resulted in at least three projects for each jurisdiction, and the larger jurisdictions ended up with up to nine project areas.

The Hazard Mitigation Core Committee work provided two major accomplishments to the plan review and revision process: the Core Committee members participated in various meetings, both face to face and as small groups, to consider the current plan, the changes to the plan, and the updated plan content; and the Core Committee members also went back to their agencies, organizations, and communities to discuss and consider the plan in its current state, to discuss the need for continuation of current mitigation projects, to consider what new projects were

appropriate to them, to gain input into the plan revisions, and to get feedback on the revisions and additions. Each meeting began with a review of the past meeting and its outcomes, a call for additional information and a review of the additional information submitted prior to the meeting. The meeting then went on to discuss the new agenda item and element of the crosswalk review tool.

Methods of Participation

There were various methods used to gain involvement of countywide participants. These included face-to-face meetings, electronic communications, surveys, virtual sharing of documents, and phone calls/conference calls.

First, the meetings were established at times and locations to maximize convenience for the attendees. Since the City of Tiffin in centrally located and the EMA Conference Room is easily accessible, ADA equipped, and easily used for formal presentations as well as group work, the meetings were help there. This location was easy to find, had secure and adequate parking, and met the needs of the activities as the planning process was implemented.

Meeting times were established at a regular time, and scheduled for six months at once so participants could plan ahead and increase the likelihood of attending. Departments and agencies are often at minimum staffing levels, so it was anticipated that emergencies and work demands could negatively impact attendance, and that such conditions could not be predicted to any degree. Therefore, it was established that input and feedback would be accepted in a variety of ways, including that at meetings and between meetings. The contractor shared an email and telephone contact point, and welcomed input at any time.

Early in the identification of Core Committee members, it was found that several key people did not have adequate time to attend meetings, and that there was virtually no regular time when all villages, cities, and county officials and leaders were available at the same time to meet, especially since the meetings would involve rather deep discussions and considerations as the project progressed. Therefore, each meeting was scheduled for a daytime session and then an identical evening session. Participants were able to attend one or both, as their input required. Marker board and easel sheets with input were kept for the later meetings so all participants could see what was discussed in the daytime meeting, and evening input was included in the next session for daytime attendees to complete that leg in the communication loop.

Handouts and work sheets were provided for each session that included things like the current hazard mitigation plan, risk assessment information, hazard specific data, and loss estimate information. These allowed for comprehensive collection of data even if it wasn't brought up in discussion. Data such as losses incurred and critical facilities was included on handouts, and online or other non-copied data was provided via projection as appropriate. A common agenda was used for daytime and evening meetings, and this helped keep the conduct of each meeting consistent with the other. Results were summarized into a single set of minutes that were distributed to all Core Committee members so everyone had full information from both sessions. (See Appendix D for handout and worksheet copies)

Meetings involved a short presentation by the contractor of the purpose of each session, a summary of the past session, a list of objectives for the current session, and a summary of communication received between the present session and the past session. Group discussions were held as one group for county-wide issues. For jurisdictional issues, the groups broke up by jurisdiction representative. At times, the small villages grouped geographically under the assumption that due to proximity they would generally be required to work together to handle any disaster. Therefore, Bloomville, Republic, and Attica, for example, worked together to consider hazards, risks, losses, and mitigation strategies.

As hazard analysis and risk assessment were covered, the small groups considered specific incidents that occurred in the jurisdictions they represented. When the small groups were finished with discussion, each group presented information to the whole group. Sometimes additional information was added by another person, and made the findings more complete and comprehensive. At the end of these reports, the contractor gave a summary from notes to make sure everything was included properly from the discussions and comments.

When individuals were unable to attend these work sessions, electronic and telephone communications took the place of the meeting. Documents were exchanged via emails, and phone calls facilitated conversations at times convenient to the individuals. Virtual document sharing allowed members to view draft documents without problems associated with email inboxes and security issues

PUBLIC INVOLVEMENT

The public was involved in the entire process of developing the updated Seneca County Hazard Mitigation Plan.

Early in the process, a news release was sent out to announce the updating of the Hazard Mitigation Plan and asking for input. When the meetings began with the Core Committee, the contractor and EMA director asked for additional suggestions of participants, and advised the members that meetings were entirely open to the public at all times, with or without notice that a member of the general public could attend. The meeting room was large enough to accommodate walk-in attendees, and was centrally located so it was easy to find. The location was ADA compliant, and had adequate parking for any number of attendees. The meetings were held both during the day and in the evening, allowing for participation in spite of varied work hours or other obligations. Several times there were members who brought comments from other colleagues into the meetings, or gave the contractor's email address to others who were interested in dialogue about the revisions.

When the plan was drafted and approved by the Core Committee, it was posted in a virtual file, advertised, and opened for comments. The posting allowed anyone with access to the Internet to view the plan and submit comments; there were no passwords or codes needed to do that. That location was widely published for anyone to view the draft plan. The plan was also available at the EMA and through any Core Committee member. Flyers advertising the posting were distributed to the county libraries, colleges, and city managers for posting. Hard copies of the draft were offered to anyone who lacked Internet access or expertise, and comments were received by the Contractor via email address. The availability was published in the local newspapers and radio stations listed below.

News Outlet	Address
Advertiser-Tribune	320 Nelson Street Tiffin, OH 44883
Attica Hub	26 N. Main Street Attica, OH 44807
Review Times	113 E. Center Street Fostoria, OH 44830
WTTF 1600 Am/WCKY 103.7 FM	167 Main Street Tiffin, OH 44883
WFOB	101 N. Main Street Fostoria, OH 44830

As the Seneca County community considers its hazard mitigation plan each year, the public will be invited to comment through posting the current plan with any revision notes to the Seneca County EMA. In the future, there will be an annual meeting, advertised to the public through Internet and print/broadcast media that invites the public to the review meetings. Additionally, the EMA Director will receive and file for later use any mitigation suggestions that are proposed at meetings of other organizations, by community members, or by jurisdictions during the

interim between annual reviews. The EMA Director will present these thoughts at the annual review meeting.

If Seneca County determines that a mitigation project should be implemented, the EMA Director will hold a public meeting to announce the project, and the public will be invited. Any applications for mitigation project funding will be advertised to the public and the public's input regarding the project will be received either in writing by electronic mail or postal mail, or through participation in the public meeting.

Annually on or about the FEMA approval anniversary date for the Seneca County Hazard Mitigation Plan, the Seneca County EMA Director will schedule and conduct a mitigation plan review meeting for all persons in Seneca County, and for adjacent communities and counties. The EMA Director will assure that proper and detailed minutes are kept of this meeting for use the following year, and in the 5 year update cycle at the next planning process under FEMA requirements.

At this annual meeting, the EMA Director will assure that each jurisdiction with projects outlined in the plan is notified to attend, that each jurisdiction reports on the current status of each project in its jurisdiction, and that each jurisdiction identifies and describes any mitigation projects or needs that exist in the jurisdiction at that time. If a jurisdiction cannot attend the meeting, it will be their responsibility to submit the above information to the EMA Director prior to the meeting for the purpose of public review and community input and feedback.

Project need and feasibility will be monitored and evaluated by the specific jurisdiction under the guidance of the municipality's mayor. Each jurisdiction, prior to the annual review meeting, should make an effort to review each mitigation strategy for need, status of completion, barriers to completion, action plans for implementation, and relevance to current response and recovery needs. They should monitor the projects by tracking the implementation of plan over the past year. They should evaluate the project for effectiveness of the plan at achieving its stated purpose and goals. The information found in this meeting should be what is presented at the countywide annual mitigation review.

These annual countywide meetings will be recorded and minutes kept for the purpose of including any potential mitigation project ideas or feedback from current mitigation actions by the community in general. The Core Committee will be invited to this meeting as well, and their comments will be filed as part of the official record of the annual mitigation plan review process.

When the five-year cycle is in its fourth year, the EMA Director will begin planning for the five year update per FEMA requirements by adding to the annual project review meeting a time to consider developing the update plans. The EMA Director should include on the agenda development issues for the revised Core Committee members, methods of public participation, hazard identification and risk analysis methodology, and mitigation project development. A list of the last four years' progress for projects should be prepared, along with a wish list of new projects for the upcoming review. This information will provide a strong basis for the next update to move effectively and efficiently through the FEMA mitigation plan update steps, resulting in a new and revised Hazard Mitigation Plan.

The Seneca County EMA Director and the Mayors of the cities and villages will each be responsible for their jurisdiction's update and revision process implementation in the coming five year update cycle. This includes the Seneca County EMA Director serving the Seneca County Board of County Commissioners, the Mayor of the City of Tiffin, the Mayor of the City of Fostoria, the Mayor of the Village of Attica, the Mayor of the Village of Bloomville, the Mayor of the Village of Bettsville, the Mayor of the Village of Green Springs, the Mayor of the Village of New Riegel, and the Mayor of the Village of Republic. Should any other areas incorporate in this time frame, the Mayor of that incorporated jurisdiction will be added to this list.

Several areas were identified where there appeared to be a lack of mitigation communication as community counterparts develop other planning documents in Seneca County. There was no written evidence of consideration of disaster management issues, specifically mitigation issues, in regional planning documents, economic development plans, or watershed district plans. The Core Committee agreed that disaster mitigation and emergency management representatives should be included in the development of any plan that affects business and industry, utilities, economic conditions, or other areas that bring people and business to Seneca County. They agreed that controversial issues like adoption of residential building codes, zoning of unregulated jurisdictions, and land use standards are all ways to improve the quality of life through disaster mitigation efforts; they realize that these issues, when addressed, will improve the resiliency of Seneca County and will enable the development of sustainable solutions to loss and casualty incidents.

Therefore, as part of the plan maintenance, the Core Committee agreed to begin building bridges between organizations for this purpose, and to begin a practice of becoming champions for emergency management issues in other organizations to which they belong

PLAN MAINTENANCE

Plan maintenance is a critical component to any document. The community leaders must engage in the plan by adopting the plan of action identified and continuously comparing achievements to goals, assessing the current environment for necessary modifications, additions, and deletions.

It became apparent in the Core Committee meetings that Seneca County leaders are well acquainted with one another, and informal relationships allow them to work together during response to disaster in an environment of trust and familiarity. However, it was also discovered that those informal and assuming relationships established a barrier to the creation of more formal relationships that facilitate whole community planning. Whereas Seneca County has in place a variety of planning documents, disaster mitigation was not an integral part of those plans. While the individuals involved in community development, for example, were well aware of the need to manage storm water in commercial development, that information was assumed rather than explicitly stated in development documents. When public health plans were written, little was mentioned about mitigation from the perspective of the EMA, and, for example, biological hazard and pandemic information was not duplicated or referenced between their document and emergency management. In both cases cited, all individuals involved knew the other parties and their goals, and in an actual incident the collaboration would have very likely taken place; however, it was not documented in one another's plans. Therefore, the informal and familiar small town relationships both help and hinder mitigation planning. The challenge to Seneca County is to more fully document their interagency cooperation and whole community planning.

The status quo of business and industry does not allow Seneca County to take on new projects. Therefore, the local commitment for mitigation projects is difficult to identify. The funding for new initiatives and projects is dependent upon special grants and benevolent community members to establish and sustain mitigation efforts that are beyond what is absolutely critical.

As Seneca County endures a no-growth environment, public employees are performing more work for less pay, and fewer workers are responsible for more assignments. Because this expansion of responsibilities hit the EMA as well as other agencies, Seneca County was unable to review and assess its mitigation plan during the past plan cycle. The EMA staff was responsible for so many things that taking the time to review the mitigation plan and assess strategies did not happen. The plan update was dependent upon a grant to pay for the work, and had a grant not been available, the update would likely have moved to a back burner of jobs that did not get done. Clearly providing the attention needed to the mitigation plan, as well as other plans, is a challenge for Seneca County and the financial conditions are a barrier to success.

Finances will continue to be a barrier to mitigation projects and actions. Seneca County will aggressively look for grant funding to use as the basis for project applications, and will attempt to identify ways to leverage other funds to make projects happen. They will work to establish time frames for the strategies that convert to a work plan, putting in front of them a check list of what the Core Committee intends to happen in the coming five years. By keeping the plan open on many desks and consciously trying to find the funding to complete projects, the spirit of mitigation will remain fresh and tempting.

Development positions in Seneca County are vacant at the time this plan is being written. The EMA staff is well aware that upon filling these positions with new workers, there must be a connection made between development officials and emergency management. They must work with together and include one another in planning efforts and community activities.

It is also necessary that Seneca County leaders realize the difference between personal relationships in small communities and professional relationships related to specific job duties and positions of authority. They must formalize relationships in some areas by expanding membership on committees, opening planning to a wider scope of individuals, and considering participation in planning efforts by position as opposed to individual. When a punch list of positions is listed for certain activities, it is much more likely accidental omissions will occur. Full community planning across disciplines and agencies will be more likely.

The EMA Director will take the lead role in searching out ways to involve mitigation potential in other organizations. Shortly after approval of the plan, the Director will establish a list of agencies, organizations, and institutions that are likely partners in mitigation efforts. A letter will be sent to each organization to make them aware of the Seneca County Hazard Mitigation Plan and the need for inclusion of mitigation considerations in their planning efforts. The Director will notify all jurisdictions of the adoption, and will ask them to search out ways to enhance and further mitigation efforts in the county as well.

The lead role in mitigation planning falls on the director of the Emergency Management Agency. That director will, upon approval of the plan by FEMA, establish a work list that identifies annual review by all jurisdictions, and updated hazard information documentation to be used in the next cycle of the plan. At least annually, and possibly after any incident of significant magnitude, the EMA Director will initiate formal mitigation plan review. This review can take place through an in-person meeting of the Core Committee and others or it can be achieved through electronic collection of data. Because workers oftentimes are unable to leave their workplace for meetings, or there is difficulty establishing a time for many people to meet, electronic collection of data and feedback may be more successful. The review should be published in the local newspaper, posted on the EMA website, and promoted by other key agencies and institutions through their websites and social media. The EMA Director will collect, assemble, and compile the documentation of this review, and will assure that the documents are available for the mitigation plan update in five years.

As described, the Seneca County Hazard Mitigation Plan review meeting will include consideration of the following topics:

- Discussion of disaster incidents that have taken place in the past twelve months, and the losses and casualties associated with each incident;
- Discussion of any potential mitigation efforts that were related to the incident, and the effectiveness of those strategies;
- Discussion of any mitigation projects that are in process or anticipated;
- Discussion of the mitigation strategies included in the Hazard Mitigation Plan and current status of each of those projects;

- Inclusion of disaster mitigation in other county or municipal planning efforts, including but not limited to economic development, watershed planning, regional planning, land use planning, or similar planning in adjacent or nearby communities or counties;
- Additional mitigation strategies that are appropriate to the plan;
- Input from stakeholders and others during the past twelve months;
- Any other topic introduced by appropriate parties.

The Seneca County EMA Director will coordinate these meetings, and will insure proper documentation of the outcomes. He will announce the meetings to the general public in a way that effectively establishes transparency, and invites input by any interested party. He will maintain a list of invitees and attendees.

In the fourth year of the plan, the Seneca County EMA Director will establish and coordinate a process to update the Seneca County Hazard Mitigation Plan according to FEMA's requirements. He will see that proper grant applications and program plans are made so that Seneca County remains complaint, to the best extent possible, with FEMA requirements.

SENECA COUNTY PROFILE

Seneca County is a small, rural county located in north central Ohio. The county was established on April 1, 1820 and is named for the Seneca Native American Tribe. It occupies 551 square miles, or 352,640 acres, and has a population density of 103 persons per square mile. The county is situated between Wood, Sandusky, Huron, Crawford, Wyandot and Hancock counties. Columbus, the state capitol, is 80 miles to the southwest. Toledo is the closest major city and lies 50 miles to the northwest.

Population and Housing

The population of Seneca County is 56,745 according to 2010 U.S. Census figures. This represents a decrease of 4% from the 2000 census. The decline in population is projected to continue over the next several decades, having begun to decline at the time of the 1990 census and maintaining a one to three-plus percent decrease each decade since.

The median age of a Seneca County resident is 38; 51.2% are males and 48.8% are females. The average household consists of two people. 91.2% of the population is white non-Hispanic.

Within Seneca County, there are 24,149 housing units. Of these, 91.2% are occupied, leaving 8.8% vacant. 72.8% of the occupied housing units are owner-occupied and 27.2% are renter-occupied. Multi-unit housing structures account for 13.7% of all housing units in the county. Approximately 210 persons are housed in correctional facilities, on average.

Congregate living facilities are present throughout Seneca County. These include seven licensed nursing homes with a total of 591 beds and six licensed residential facilities with a total of 259 beds. These facilities house not only elderly and ill, but also mentally challenged, developmentally disabled, and addicted populations.

There are two hospitals in Seneca County. Mercy Hospital is located in Tiffin and has a capacity of 50 beds. Fostoria Community Hospital is located in Fostoria and holds 25 beds. Both are acute care hospitals.

Tiffin University and Heidelberg University, both private universities, are located in Tiffin. Both schools provide on-campus housing for approximately 1384 post-secondary students. The remaining students, approximately 8,400 between the two universities, live in other housing in Seneca County and the surrounding area.

Cities and Incorporated Villages

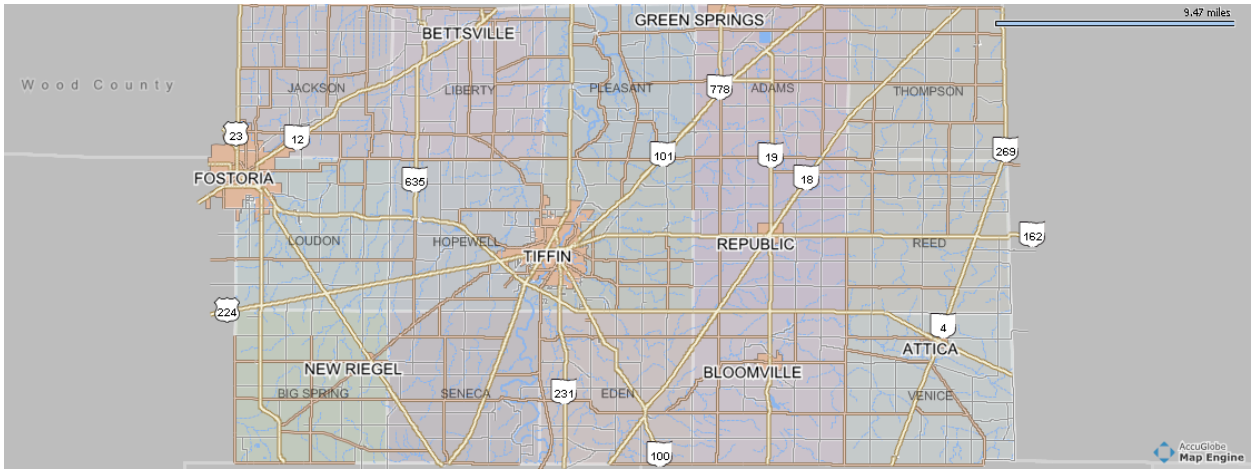
Seneca County is comprised of two cities, six incorporated villages, fifteen townships and several unincorporated neighborhoods. Tiffin is the largest city in Seneca County with a population of 17,963. It is located in the center of the county and serves as the county seat. The city occupies a land area of 6.76 square miles and has a population density of 2,655.7 persons per square mile. Tiffin is home to two colleges, Tiffin University and Heidelberg University, and one hospital, Mercy Hospital of Tiffin, one of two hospitals located in Seneca County.

Fostoria, with a population of 13,441, is the other city in Seneca County. It is located on the western border of the county and occupies a land area of 7.55 square miles. The population density is 1,781.4 persons per square mile. Fostoria is situated on the border of Seneca, Wood and Hancock counties. The majority of the city lies within Seneca County, but small portions fall within Wood and Hancock. Fostoria Community Hospital, the second Seneca County hospital, is located in Fostoria.

Six incorporated villages fall within the boundaries of Seneca County. The largest village is Green Springs, with a population of 1,368. Green Springs is northeast of Tiffin and sits on the border of Seneca and Sandusky counties with portions of the village situated in each county.

Bloomville is located in the southeast portion of Seneca County approximately 12 miles from Tiffin. It has a population of 956. Attica, also in the southeast quadrant, has a population of 899 and is approximately 17 miles from the center of the county.

Bettsville is situated 13 miles northwest of Tiffin and has a population of 661. Republic, with a population of 549, is located 9 miles east of the county center. New Riegel is the smallest incorporated area of Seneca County with 249 residents. It is located 13 miles southwest of Tiffin.



Climate

The climate of Seneca County is consistent with most of Ohio. The humid continental climate zone features cold winters and hot summers. The average annual high temperature is 59.8 F and the average annual low is 40.1 F. July is the warmest month with an average high of 84 F. January is the coldest month with an average low of 17 F. Average annual precipitation is 37 inches. The most precipitation falls in June, with an average of 4.17 inches. February is the driest month with an average precipitation of 2.01 inches.

Geology and Land Cover

Seneca County lies in a transition zone between the differing geological features of Central Ohio and Northwest Ohio. Central Ohio, which is southeast of Seneca County, is considered Till Plains. Till Plains feature flat to gently rolling plains and heavy till soils. The area northwest of

Seneca County is considered Lake Plains. Glaciers formed this area, which features extremely flat lands scattered with ancient beach ridges.

This same transition zone impacts soil types in Seneca County. The soils in the southeastern part of the county, the Till Plains, are level, gently sloping, somewhat poorly drained and formed in fine textured glacial till. The soils in the Lake Plains area to the northwest are mostly level, well drained and formed in medium textured alluvium.

Erosion is a hazard in the gently sloping areas, while poor natural drainage is a significant limitation in the flat areas. With adequate artificial drainage, erosion control and other appropriate measures, most of the soil is highly productive.

Seneca County is part of the Sandusky River Watershed, along with portions of Sandusky, Erie, Wyandot, Crawford and Marion counties. One major waterway, the Sandusky River, flows through the county. The Sandusky River is 133 miles long and originates in Crawford County. The river flows north through central Seneca County and the city of Tiffin, continuing north into Sandusky County and flowing into Lake Erie through Sandusky Bay. Approximately 1,420 additional miles of ditch, stream, and river flow through the county and into the drainage basin

These tributaries include several significant streams that cross portions of Seneca County, including Honey Creek, Wolfe Creek, and Rock Creek. Honey Creek crosses the southeast side of the county. Wolfe Creek and the East Branch of Wolfe Creek cross the eastern side and Rock Creek flows through the east central portion of the county.

Most of the county's water drains into the Sandusky River, with two exceptions. A small area in the northwest corner of the county drains into the Huron River and the extreme southwest corner drains into the Blanchard River. Neither the Huron nor the Blanchard River crosses Seneca County, nor is there any flooding that comes from either the Blanchard or Huron rivers in these areas.

All waterways in the county flow north and eventually drain into Lake Erie. The highest elevation in Seneca County sits at 978 feet near the village of Attica in the southeastern quarter of the county. The entire area is fairly flat, with a 337-foot range in elevation, 978 feet at the highest point and 641 feet at the lowest (which is a point in the Sandusky River north of Tiffin). As the natural watershed falls to the north and Lake Erie, the counties south and east of Seneca have higher elevations, and those to the north side are lower, facilitating drainage to Lake Erie.

There are 239 acres of bodies of water in Seneca County. These include Garlo Lake, Greenwich Reservoir, Grassy Pond, Attica Upground Reservoir, Morrison Lake, and Mohawk Lake. There are 810 ponds, 366 linear miles of small streams, and 219 miles of county-maintained ditches. Privately maintained ditches have not been quantified.

The primary land use in Seneca County is cropland. 80% of the 551 square miles are used for agriculture and livestock farming. Corn, soybeans, wheat, oats and hay are the primary crops grown throughout the county. Specialty crops, including tomatoes, sugar beets, cabbage and cucumbers are grown in some areas. Livestock includes dairy and beef cattle, swine, alpacas and

sheep, goats, and poultry. These crops and livestock contribute significantly to Seneca County's economy. In recent years, the agriculture industry has trended towards more cash grain farming and less livestock farming.

Forested land accounts for 10% of Seneca County's land area. This includes 990 acres of state parks, forests, nature preserves and wildlife areas. Some of these areas are woodlands on steep slopes, primarily along the Sandusky River and in un-drained areas where the soil is shallow over bedrock.

Infrastructure and Improvements

Seneca County is traversed by more than 1,350 miles of roadways. Of these, 407 miles are federal and state routes, including U.S. 23 and U.S. 224 and State Routes 4, 12, 18, 19, 53 and 101. Across the county, the road system includes 108 bridges, which are located on various federal, state and local roadways. All roadways, even the intrastate highways, are two-lane highways. There are no four or six lane highways in any of Seneca County.

The majority of sewer and water facilities in Seneca County are private systems. Municipal systems provide service within and slightly beyond the borders of the larger municipalities, including Tiffin, and Fostoria. Northern Ohio Rural Water, American Water, First Energy, and AEP provide most of the utility service in the county. Those are all privately owned companies.

Zoning regulations and flood plains are administered by each jurisdiction. The Seneca Regional Planning Commission administers subdivision and flood plain regulation in the non-incorporated areas of the county. An estimated 420 residences, 12 commercial structures and 4 essential service facilities are located within the floodplain, equating to approximately $26,000,000 dollars of property. There are eleven repetitive loss structures in Seneca County including nine residential and two non-residential structures.

Industry

The top industries in Seneca County include construction, machinery production/sales, transportation, nonmetallic metal production, education, metal/metal product production, and electrical equipment production/sales.

Manufacturing is the largest employment sector in the county, accounting for 26% of total employment. Fabricated metal manufacturing is the top employer within this sector, followed by machinery manufacturing and transportation equipment manufacturing. Three of the nine top employers in Seneca County represent manufacturing.

Healthcare is the second largest employment sector, with 17.9%. Employees in this sector work in social services, ambulatory healthcare services, nursing homes, residential care facilities, and hospitals. Mercy Hospital of Tiffin is one of the top nine employers in the county.

With two private universities and multiple public and private school districts, education is the third largest employment sector in the county. Fostoria City Schools, Heidelberg University, Tiffin City Schools, and Tiffin University are among the top nine employers in the county.

Agriculture is a significant employer in Seneca County. Most farms are family farms that have been handed down from generation to generation. Census figures from 2012 indicate the presence of 37,033 acres of wheat; 460 acres of orchards; 69,441 acres of corn; 119,829 acres of soybeans; 1,161 acres of vegetables. The average family farm consists of 237 acres.

Livestock production includes beef and dairy cattle, swine, poultry, alpacas, sheep, rabbits, and poultry. A portion of the crop production is used to feed livestock and provide seed products for grain production. One breeding facility located near Tiffin specializes in genetic production and research.

Development Trends

Seneca County was severely impacted by the downturn in Ohio's economy in 2008 affected. Growth in business and industry has not yet, in 2014, recovered to pre-2008 levels. There are few new businesses opening or existing establishments expanding commercial ventures. The manufacturing industry is struggling to maintain levels of production and employment to keep Seneca County residents on the job and financially secure because new factories and additional buyers are not happening. In the period from 2009 to 2013, business and job growth was stagnant, as demonstrated by the figures below:

Business Establishments				
Category (# Employees)	**2009**	**2013**	**Change**	**Percentage**
Total	*3,510*	*3,532*	*+22*	*+0.2%*
Self-Employed (1)	1,200	1,011	-189	-3.9%
Stage 1 (2-9)	1,858	2,032	+174	+2.3%
Stage 2 (10-99)	417	455	+38	+2.3%
Stage 3 (100-499)	34	33	-1	-0.7%
Stage 4 (500+)	1	1	0	0.0%

As the chart above indicates, the greatest gains in business establishments occurred in State 1 and 2 establishments. These are relatively small businesses that employ fewer than 100 people. The category that experienced the greatest loss is self-employed, with a loss of 189 jobs over the previous five-year period. Large businesses experienced near zero growth, with no gains and a loss of one business classified as Stage 3. As a whole, business establishments increased only 0.2% over the five-year period.

Employment				
Category (# Employees)	**2009**	**2013**	**Change**	**Percentage**
Total	*25,640*	*26,291*	*+651*	*+0.6%*
Self-Employed (1)	1,200	1,011	-189	-3.9%
Stage 1 (2-9)	5,983	6,544	+561	+2.3%
Stage 2 (10-99)	11,211	11,869	+658	+1.5%
Stage 3 (100-499)	6,346	5,967	-379	-1.5%
Stage 4 (500+)	900	900	0	0.0%

Employment trends over the last five years closely mirror the trends in business establishments. Stage 2 and 3 business added the most employees, while job losses were greatest among those

who are self-employed. Among all employers, Seneca County experienced a very slight increase of 0.6% over the five-year period.

Development in 2014 includes a few re-occupancies of previously closed businesses. For example, Rural King, a farm store and home retail outlet, now occupies a former Wal-Mart building that sat empty for several years after a new Wal-Mart super-store was built. As an agricultural county, production is stagnant, neither growing nor shrinking. The farm community continues to raise some livestock and mostly grain crops, but this does not help the local economy grow. Retail businesses are staying open, but are not expanding.

As with economic development, residential development has been relatively flat across Seneca County. Because many areas of Seneca County do not have building codes, these numbers may not be inclusive of every new residential property developed during this time frame but they are indicative of overall trends in residential development. Between 2007 and 2013, only 192 new home construction permits were issued, an average of 27 per year. The most permits were issued in 2009, although those homes had the lowest average cost over the past seven years. Figures from 2012 indicate that fewer permits were issued that year than any other but the average cost of those properties was significantly higher than any other recent year.

Year	Permits	Average Construction Cost
2007	41	$159,000
2008	33	$143,000
2009	53	$101,600
2010	14	$187,000
2011	18	$176,000
2012	13	$206,000
2013	20	$199,000

In general, this information indicates that residential development is equally stagnant to economic development in Seneca County.

SENECA COUNTY HAZARD IDENTIFICATION AND RISK ASSESSMENT

The Seneca County Hazard Mitigation Core Committee completed a hazard analysis and risk assessment on the following natural hazards: flood, winter storm, tornado, severe thunderstorm, windstorm, drought, earthquake, wildfire, hurricane, landslide/mudslide, tsunami/sieche wave, and volcano.

There is no geological presence of a volcano or a body of water that could/would cause a tsunami/sieche wave or hurricane; Seneca County does not have enough variance in in elevation to create a landslide/mudslide or enough widespread forestation to lead to wildfires. Therefore, wildfire, hurricane, landslide/mudslide, tsunami/sieche, and volcano are not considered risks for Seneca County, Ohio. The Committee identified the following hazards, ranked from highest to lowest, as risks for Seneca County: flood, winter storm, tornado, severe thunderstorm, windstorm, drought, and earthquake.

In reviewing historical hazard data, the committee determined that most hazards do not occur as single entities. Hazards are much more likely to occur simultaneously, such as a thunderstorm with high winds, hail, heavy rain and tornados. Winter storms also occur this way, typically presenting as a combination of strong winds, heavy snowfall, ice and extreme cold.

The Committee identified the hazards that present the most risk for Seneca County. These hazards, ranked from highest to lowest risk, are summarized in the table below.

The chart below profiles each hazard by population and property affected as well as probability of occurrence:

Hazard	Population at Risk	Property Value at Risk	Probability
Flood	1,428	$642,680,000	High
Winter Storm	56,745	$593,808,870	High
Tornado	56,745	$593,808,870	Significant
Severe Thunderstorm	56,745	$593,808,870	High
Windstorm	56,745	$593,808,870	Significant
Drought	56,745	$593,808,870	Low
Earthquake	56,745	$593,808,870	Very Low

Flood

Floods and flash floods are the most common and costly disasters for property loss and loss of life worldwide as well as in Seneca County. Floods are the result of a meteorological event such as heavy rainfall or severe thunderstorms with significant precipitation. The flood typically occurs because the ground is too saturated, flat, or impervious to drain the amount of rainfall into waterways at the same rate and quantity as the precipitation is falling. When rain falls very quickly at rates of two to three inches per hour or more, the water simply cannot drain fast enough. Storm sewers lack the capacity to carry away that much water that quickly. This type of flooding is referred to as flash flooding.

Flooding also occurs when waterways are not able to carry away the amount of precipitation that falls. In Seneca County, the lack of elevation change makes gravitational drainage less effective, and causes areas to retain and collect standing water where nearly flat surfaces exist. River and streams breech their banks as the water flows downstream towards Lake Erie. The overflow ends up inside homes, buildings, and occupied spaces. This type of flood incident is called riverine flooding.

The impact of flooding includes roadway breeches, such as bridge washouts, roadway wash away, and water covered roadways. As the water moves quickly and aggressively, it washes away the surface and sub-surface of the road, causing holes, ruts, and other problems for vehicles. If the water reaches a depth of one foot, and sometimes less depending on the forces present, the floodwater is strong enough to carry vehicles away with occupants inside. Rescuers are powerless against rapid, rising water because they are unable to exert enough strength to counteract the physics of moving water.

Floodwaters will seep into and occupy structures as they seek the path of least resistance on the way to lower ground. Basements and lower levels of buildings can be inundated with standing water. To some degree, sandbagging the exterior of a building will help keep the water outside the structure, but this is a temporary and limited capacity stopgap measure.

The aftermath of flooding is just as dangerous as the source, making clean up a long, protracted activity. As floodwaters rise, power outages cause a lack of refrigeration and sanitation. Sewers filled with water are unable to function properly. Aeration ponds, landfills, and other waste sites fill the flowing water with contaminants and standing water causes spoilage and deterioration of materials. Floodwaters can cause chemicals stored in garages, substances used in manufacturing processes, and fuels overflowing from flooded tanks to combine, making a murky and contaminated liquid that covers everything. All floodwater is considered contaminated, whether with germs and disease or hazardous materials.

Riverine flooding occurs near waterways and in the lower levels of a watershed. Depending on the amount of rainfall, rivers can breech their banks by significant distance, but do not impact the entire county. In Seneca County, most riverine flooding occurs in proximity to the Sandusky River or one of the creeks or streams flowing into the river. The watershed patterns that cause water to flow to Lake Erie begin 30 to 40 miles south of Tiffin, so the area of watershed upriver from Seneca County is relatively small. Thus, during heavy rainfall and riverine flooding, Seneca County is one of the first areas to enjoy relief.

Flash flooding can be severe, particularly in low lying and poorly drained areas. It can cause to standing water in areas where concrete has replaced soil, roadways break the natural fall of land, and development has placed structures in the way of normal gravitational drainage. This flooding can persist for several days. Where soils are poor and drainage is slow due to soil conditions, water can stand for much longer. This contributes to flash flooding when rapid rainfall causes water to back up instead of drain away. In Seneca County, this closes rural roads and washes away bridges and culverts.

Flash flooding does not always occur close to waterways; it sometimes occurs a significant distance from any of the rivers or streams where development has interrupted the natural runoff of surface water. Sometimes it is related to development and the installation of large areas of impervious materials like concrete in shopping center parking lots and other developed centers.

Seneca County has a history rich with flood incidents. It is the only hazard event in Seneca County that has a scope of impact, largely limited by geographic proximity to waterways. Specifically, the areas most likely to experience flooding are within the FEMA designated area of the Flood Plain (see township flood maps in Attachments). New floodplain maps were adopted on May 3, 2011as released by FEMA. The county's most recent 100-year flood occurred on March 23, 1913. During that event, 19 lives were lost; 6 bridges, 46 barns, 46 homes and 69 businesses were destroyed; 564 homes were damaged and 500 people were left homeless. The total 1913 loss of $1 million would equate to $23 million in 2012 figures.

More recently, flooding events in 2007 and 2011 affected Tiffin and other isolated areas near Republic, Attica, Bettsville and Bloomville. In August 2007, moisture from the remnants of Tropical Storm Erin interacted with a stationary front to cause heavy rain-producing thunderstorms over northern Ohio. The thunderstorm moved across Wyandot, Hancock, Crawford, and Richland Counties in the early morning hours of August 21. Catastrophic flooding occurred in all of these counties. Seneca County was impacted by heavy thunderstorm precipitation on August 19 – 21. Widespread flooding occurred across the county; the worst conditions were reported in northern Seneca County. A spotter in the northwest part of the county reported 6.30 inches of rain between 8:00am on the 19th and 3:00pm on the 20th. Another observer in Tiffin reported a three-day total of 4.45 inches. Significant flooding occurred along all of the major rivers and streams in the county. The Sandusky River left its banks in Tiffin, flooding portions of 5th and 6th Avenues and damaging many homes. In Bettsville, Wolf Creek left its banks and caused significant damage. At least two homes had to be evacuated due to flooding. State Route 12 was closed because of floodwaters that were at least three feet deep. On August 21, a nursing home north of McCutchenville was partially evacuated due to rising floodwaters. During this event, one home was declared destroyed because of significant damage and seven others were declared uninhabitable. Hundreds of additional homes sustained lesser damage, primarily from basement flooding. Dozens of streets and highways were closed because of flooding. Erosion and standing water caused considerable damage in agricultural areas of the county. As result of this event, Seneca County received $5,421,576.31 in public assistance funds.

On July 22, 2011, the combination of a surface boundary and a surge of warm, moist air helped to initiate convective thunderstorms during the early afternoon hours. Widespread activity fired up across the area and persisted through the afternoon and early evening. Recent heavy rainfall and saturated ground across the area set the stage for flash flooding. Thunderstorms with heavy rainfall moved slowly across the area. Some locations received as much as three to four inches of rainfall in less than 90 minutes. As areal coverage of the thunderstorm increased in the afternoon, a second round of thunderstorms hit some locations, resulting in rapid runoff and more flash flooding. More than six inches of rain fell in Tiffin during the overnight hours. This resulted in numerous road closures, abandoned cars, and the evacuation of the Clinton Estates mobile home park. The YMCA building was flooding with significant damage. Most roads around Tiffin were closed for several hours.

Research conducted by the Committee reveals this historical data about floods occurring in Seneca County.

Type	Location	Date	Time	Deaths	Injuries	Property Damage	Crop Damage
Flash Flood	Seneca County	03/04/1964		0.06	0.11	57K	0
Flood	Seneca County	03/09/1964		0	0	57K	0
Flood	Seneca County	01/28/1968		0	0	<1K	0
Flood	Seneca County	01/28/1969		0	0.01	0	0
Flash Flood	Seneca County	05/17/1969		0	0	8K	0
Flood	Seneca County	07/04/1969		1.08	14.71	131K	5M
Flood	Seneca County	03/12/1972		0	0	<1K	0
Flood	Seneca County	04/06/1972		0	0	<1K	0
Flood	Seneca County	04/12/1972		0	0	6K	0
Flood	Seneca County	04/14/1972		0	0	<1K	0
Flood	Seneca County	04/19/1972		0	0	<1K	0
Flood	Seneca County	06/09/1972		0	0	<1K	0
Flood	Seneca County	03/14/1973		0	0	<1K	0
Flood	Seneca County	03/16/1973		0	0	6K	<1K
Flood	Seneca County	08/20/1973		0	0	<1K	0
Flood	Seneca County	02/23/1975		0	0	<1K	0
Flood	Seneca County	01/25/1976		0	0	<1K	0
Flood	Seneca County	02/16/1976		0	0	<1K	0
Flood	Seneca County	12/13/1977		0	0	2.3K	0
Flood	Seneca County	03/21/1984		0	0	6K	0
Flood	Seneca County	02/08/1987		0	0	2K	0
Flood	Seneca County	04/04/1987		0	0	6K	0
Flood	Seneca County	05/26/1989		0	0	88K	0
Flood	Seneca County	11/15/1989		0	0	3K	0
Flood	Seneca County	12/18/1990		0	0	6K	0
Flood	Seneca County	12/29/1990		0	0	455K	0
Flood	Seneca County	12/30/1990		0	0	5K	0
Flash Flood	Seneca County	09/09/1992		0	0	5K	0
Flash Flood	Seneca County	12/31/1992		0	0	50K	0
Flash Flood	Seneca County	02/28/1994		0	0	5K	0
Flood	Tiffin	04/13/1994	1245	0	0	5K	0
Flood	Seneca County	08/08/1995		0	0	15K	0
Flash Flood	Tiffin (south)	04/29/1996	1720	0	0	0	0
Flash Flood	Seneca County	05/16/1996	2005	0	0	0	0
Flash Flood	Seneca County	07/29/1996	1540	0	0	0	0
Flash Flood	Seneca County	05/25/1997	1610	0	0	0	0

Type	Location	Date	Time	Deaths	Injuries	Property Damage	Crop Damage
Flood	Seneca County	06/01/1997	0710	0	0	70K	40K
Flood	Seneca County	06/01/1997	1100	0	0	100K	0
Flood	Seneca County	01/08/1998	1845	0	0	0	0
Flood	Seneca County	01/08/1998	0038	0	0	0	0
Flood	Seneca County	06/28/1998	1800	0	0	10K	0
Flood	Seneca County	08/25/1998	1045	0	0	100K	0
Flood	Bettsville	08/26/1998	0500	0	0	50K	0
Flash Flood	Seneca County	08/23/2000	2000	0	0	0	0
Flash Flood	Seneca County	07/08/2003	1545	0	0	100K	500K
Flood	Seneca County	08/04/2003	1800	0	0	100K	0
Flash Flood	Seneca County	05/21/2004	0300	0	0	400K	0
Flood	Seneca County	01/01/2005	1800	0	0	375K	0
Flash Flood	Seneca County	07/16/2005	1600	0	0	100K	0
Flash Flood	Seneca County	06/21/2006	2330	0	0	450K	750K
Flash Flood	Bettsville	08/20/2007	0700	0	0	75K	0
Flood	Bettsville	08/20/2007	1135	0	0	1.5M	2K
Flood	Tiffin	08/21/2007	1550	0	0	0	0
Flash Flood	Tiffin	02/28/2011	0700	0	0	1.5M	0
Flash Flood	Bascom	05/14/2011	1700	0	0	15K	0
Flash Flood	Tiffin	07/23/2011	0600	0	0	100K	0

The following chart shows the mapped flood plain over Seneca County aerials from the GIS system and the number of structures currently affected. The best available data indicates that more then 420 residential structures fall within the mapped Flood Plain. According to the FEMA database, only one of the inventoried structures below is classified as a repetitive loss structure. That structure is located on Front Street in Tiffin. A repetitive loss structure is one that suffers a reportable loss of more than $1,000 on two or more occasions over a 10-year period.

Residential Structures within Flood Plain

Jurisdiction	Structures
City of Tiffin	290
City of Fostoria	17
Village of Attica	0
Village of Bettsville	20
Village of Bloomville	0
Village of Green Springs	0
Village of Republic	0
Village of New Riegel	0
Unincorporated Areas	93

Winter Storm

Ohio is prone to winter storms that bring heavy snow, high winds, and ice. Many storms begin with temperatures above freezing and, as precipitation begins to fall, the temperature drops and precipitation arrives as sleet and freezing rain. When the precipitation turns to snow, falling ice freezes on roadways, power lines, and vegetation. The weight of the ice then causes lines to fall, trees to topple, and roofs to give way. If several inches of snow follow, the damages can be extensive and power outages can be lengthy.

At other times, the precipitation is simply heavy snow. As weather fronts move through the area, wind speeds pick up and accumulated snow blows and drifts across roads and fields in the flat terrain in northwest Ohio. With Seneca County's slightly rolling countryside and rural roadways, snow can easily blanket the area, closing business and schools. Roads frequently drift closed; keeping them cleared and safe for travel becomes a continuous effort.

Typical snowstorms deliver one to three inches of snow. Blizzard conditions can accompany this minimal snow accumulation if wind speeds are high and/or constant. It is not uncommon for Seneca County to receive four to eight inches of snow at one time. If the winds or temperatures are not extreme, this precipitation has little effect on the county's ability to function. When snowfall exceeds eight inches, substructures and services are challenged and a short-term shutdown is typical. Rarely is there enough snow to cause a significant disruption of services beyond a few days.

Extreme snowfall is rare, but minor to moderate snowfall is relatively common. The majority of the snowfall in Seneca County occurs in January and February. The highest snowfall on record for the month of January, 24.31 inches, occurred in 1937. February's highest recorded snowfall, 16.48 inches, occurred in 1883. The lowest monthly snowfall amounts on record took place in January 1981 at 1.6 inches, and in February 1978 with 1.12 inches of snow. In general, January and February precipitation is all snow due to constant sub-freezing temperatures; other winter months bring a combination of snow, sleet, freezing rain, and rain.

The greatest risk associated with winter storms is the loss of utilities. The elderly and small children are most at risk; when health equipment and food supplies cannot reach destinations, those populations endure excessive inconvenience. Although winter storms may make Seneca County residents uncomfortable, it is extremely rare for casualties to occur as a result, with the exception of traffic accidents that transpire as a result of dangerous road conditions.

Winter weather hazards were evaluated collectively because the mitigation efforts for blizzard, snow, ice and other winter weather hazards would be very similar. As with tornados, the entire county is susceptible to these hazards. Unlike tornados, however, it is very common for this hazard to simultaneously impact the entire county during the same event.

The most significant blizzard event in Seneca County's history occurred in 1978. On January 27, 1978 the "Blizzard of '78" dropped more than eighteen inches of snow, high winds, and plummeting temperatures on Seneca County and much of northwest Ohio. Businesses closed for multiple days, some up to a week, and opening roads to maintain transportation was a major challenge. The National Guard was deployed to assist with clearing roads from the heavy

snowfall and delivering critical supplies, such as heating fuel, food and medicine. At the time, local media reported at least nine fatalities. These occurred primarily when individuals attempted to walk to shelters and were overcome by cold. One resident was found severely frostbitten in his unheated home.

On March 6, 2008, a heavy snowstorm impacted the county, depositing eight inches of snow and slowing down activities for five days. Heavy rain and ice were followed by twelve to twenty inches of snow on March 6, making travel hazardous and commerce limited. While much less intense than the 1978 event, this snowstorm caused significant impact on the county and its residents.

On February 1, 2011, Seneca County was impacted by a significant winter weather event that affected much of Northern Ohio. In the early morning hours of February 1, a period of moderate to heavy snowfall caused accumulations of three to five inches across the county. A second wave of precipitation, which began as a mixture of sleet and snow before changing to all snow, started in the late afternoon and lasted until early on February 2, when the precipitation transitioned to freezing rain. After the mixture of snow, sleet, and freezing rain ended, travel was hazardous around the county, causing many schools and businesses to close. In the afternoon of the second, the remnants of the storm system dropped another one to three inches of snow on the region. In total, Seneca County received four to eight inches of snow.

Since 1995, Seneca County has sustained $18 million in property damage with 66 reported injuries and no deaths. No storm has reached the same intensity as the 1978 blizzard.

Type	Location	Date	Time	Deaths	Injuries	Property Damage	Crop Damage
Glaze	Seneca County	02/25/1961		0	0	21K	0
Ice Storm	Seneca County	03/09/1964		0	0	1K	0
Winter Weather	Seneca County	05/09/1966		0	0	0	57K
Winter Weather	Seneca County	11/02/1966		0	0	107K	0
Winter Weather	Seneca County	11/28/1966		0.19	0	0	0
Winter Weather	Seneca County	03/12/1968		0	0.57	6K	0
Winter Weather	Seneca County	03/22/1968		0	0.23	<1K	0
Winter Weather	Seneca County	05/06/1968		0	0	0	6K
Winter Weather	Seneca County	01/29/1969		1	0	0	0
Winter Weather	Seneca County	01/13/1971		0.08	7.12	1K	0
Winter Weather	Seneca County	01/26/1971		0	0.72	6K	0
Winter Weather	Seneca County	01/29/1971		0	0.16	1K	0
Winter Weather	Seneca County	02/08/1971		0.16	0	0	0
Winter Weather	Seneca County	03/04/1971		0	0.09	6K	0
Winter Weather	Seneca County	03/16/1973		0	0	6K	<1K
Winter Weather	Seneca County	01/09/1974		0	0	<1K	0
Winter Weather	Seneca County	11/20/1974		0	0.11	0	0

Type	Location	Date	Time	Deaths	Injuries	Property Damage	Crop Damage
Winter Weather	Seneca County	12/01/1974		0	0	6K	0
Winter Weather	Seneca County	03/14/1975		0	0	<1K	0
Winter Weather	Seneca County	01/09/1977		0	0	<1K	0
Extreme Cold	Seneca County	01/13/1977		0	0	<1K	0
Extreme Cold	Seneca County	01/16/1977		0	0	<1K	0
Blizzard	Seneca County	01/28/1977		5	0	<1K	0
Winter Weather	Seneca County	12/05/1977		0.05	0.2	<1K	0
Winter Weather	Seneca County	12/06/1977		0.02	0.06	<1K	0
Extreme Cold	Seneca County	12/31/1977		0	0	<1K	0
Winter Weather	Seneca County	01/08/1978		0	0.28	6K	0
Winter Weather	Seneca County	01/20/1978		0	0.06	6K	0
Blizzard	Seneca County	01/26/1978		0.58	0	5.7M	570K
Extreme Cold	Seneca County	02/17/1979		0	0	<1K	0
Winter Weather	Seneca County	12/24/1980		0	0	<1K	0
Extreme Cold	Seneca County	01/11/1982		0	0.11	<1K	0
Ice Storm	Seneca County	02/17/1982		0	0	<1K	0
Winter Weather	Seneca County	04/06/1982		0	0	<1K	0
Extreme Cold	Seneca County	01/19/1984		0.01	0	<1K	0
Winter Weather	Seneca County	02/27/1984		0	0	<1K	0
Extreme Cold	Seneca County	03/08/1984		0	0	<1K	0
Extreme Cold	Seneca County	01/19/1985		0	0	<1K	<1K
Winter Storm	Seneca County	01/19/1985		0	0	<1K	<1K
Winter Storm	Seneca County	01/25/1985		0.02	0	<1K	<1K
Winter Weather	Seneca County	02/12/1985		0	0	<1K	<1K
Winter Weather	Seneca County	12/15/1989		0	0	8K	0
Ice Storm	Seneca County	02/14/1990		0	0	12K	0
Blizzard	Seneca County	02/24/1990		0	0	16K	0
Winter Weather	Seneca County	12/23/1990		0	0	<1K	0
Winter Weather	Seneca County	01/20/1991		0	0	<1K	0
Winter Weather	Seneca County	01/29/1991		0	0	<1K	0
Ice Storm	Seneca County	03/03/1991		0	0	10K	0
Winter Weather	Seneca County	01/14/1992		0	0	<1K	0
Winter Weather	Seneca County	01/15/1992		0	0	<1K	0
Winter Weather	Seneca County	03/22/1992		0	0	2K	0
Ice Storm	Seneca County	02/11/1993		0	0	21K	0
Ice Storm	Seneca County	02/15/1993		0.01	0	6K	0
Winter Weather	Seneca County	02/22/1993		0	0	2.5K	0
Winter Weather	Seneca County	03/04/1993		0	0	17K	0
Winter Weather	Seneca County	03/10/1993		0	0	2.5K	0
Extreme Cold	Seneca County	12/26/1993		0	0	1K	0

Type	Location	Date	Time	Deaths	Injuries	Property Damage	Crop Damage
Ice Storm	Seneca County	02/08/1994		0	0.24	2K	2K
Extreme Cold	Seneca County	02/08/1994		0	0	<1K	0
Extreme Cold	Seneca County	02/14/1994		0	0.05	<1K	0
Extreme Cold	Seneca County	02/17/1994		0	0.27	57K	5.7K
Winter Weather	Seneca County	02/21/1994		0	0	<1K	0
Ice Storm	Seneca County	02/26/1994		0	0	<1K	0
Heavy Snow	Seneca County	01/20/1995	0800	0	8	1M	0
Extreme Cold	Seneca County	02/11/1995		0	0	1K	0
Glaze	Seneca County	04/10/1995	0600	0	0	150K	0
Extreme Cold	Seneca County	12/09/1995		0	0	7K	0
Extreme Cold	Seneca County	12/09/1995		0	0.01	<1K	0
Ice Storm	Seneca County	12/13/1995	0700	0	0	60K	0
Blizzard	Seneca County	12/19/1995		0	0	32K	0
Extreme Cold	Seneca County	02/02/1996		0.03	0	113K	0
Heavy Snow	Seneca County	03/19/1996	1600	0	0	352K	0
Extreme Cold	Seneca County	01/10/1997		0	0	6K	0
Glaze	Seneca County	01/13/1998	0000	0	2	0	0
Winter Storm	Seneca County	01/02/1999	0400	0	56	600K	0
Winter Storm	Seneca County	01/08/1999	0400	0	0	46K	0
Winter Storm	Seneca County	01/13/1999	0130	0	0	58K	0
Heavy Snow	Seneca County	03/09/1999	0015	0	0	0	0
Winter Storm	Seneca County	03/16/2000	0600	0	0	45K	0
Winter Storm	Seneca County	03/24/2000	2000	0	0	1.6M	0
Winter Storm	Seneca County	12/13/2000	1400	0	0	2.5M	0
Winter Weather	Seneca County	03/24/2002		0	0	57K	0
Winter Storm	Seneca County	03/26/2002	0100	0	0	3.6M	0
Heavy Snow	Seneca County	12/24/2002	2100	0	0	3.1M	0
Heavy Snow	Seneca County	02/22/2003	1500	0	0	5.1M	0
Winter Weather	Seneca County	01/04/2004		0	0	157K	0
Winter Storm	Seneca County	12/22/2004	0700	0	0	2.8M	0
Ice Storm	Seneca County	01/05/2005	0200	0	0	7.1M	0
Winter Storm	Seneca County	01/22/2005	0130	0	0	175K	0
Winter Storm	Seneca County	02/13/2007	0300	0	0	50K	0
Winter Storm	Seneca County	12/15/2007	1400	0	0	100K	0
Winter Storm	Seneca County	02/25/2008	2300	0	0	80K	0
Winter Storm	Seneca County	03/04/2008	1300	0	0	300K	0
Winter Storm	Seneca County	03/07/2008	1500	0	0	350K	0
Winter Storm	Seneca County	12/19/2008	0215	0	0	30K	0
Winter Storm	Seneca County	01/09/2009	1000	0	0	75K	0
Winter Storm	Seneca County	01/27/2009	0500	0	0	150K	0

Type	Location	Date	Time	Deaths	Injuries	Property Damage	Crop Damage
Winter Weather	Seneca County	02/09/2010		0	0	150K	0
Winter Storm	Seneca County	02/01/2011		0	0	250K	0
Extreme Cold	Seneca County	02/12/2011		0	0	<1K	0

Tornado

A tornado is an intense, rotating column of air that protrudes from a cumulonimbus cloud in the shape of a funnel or a rope whose circulation is present on the ground. If the column of air does not touch the ground, it is referred to as a funnel cloud. This column of air blows around an area of intense low pressure, almost always in a counterclockwise direction. Tornados usually range from 300 to 2,000 feet wide and form ahead of advancing cold fronts. They tend to move from southwest to northeast because they are most often driven by southwest winds. A tornado's life progresses through stages described as dust-whirl, organizing, mature, shrinking, and decay. Once in the mature stage, the tornado generally stays in contact with the ground for the duration of its life cycle. When one storm system produces more than one, and sometimes as many as six, distinct funnel clouds, this is referred to as a tornado family or outbreak.

Doppler radar detection is extremely accurate in identifying tornado locations and pathways. In today's world of warnings and notifications, the wind speed and forward movement of a tornado is tracked by radar and warnings are issued for specific locations through the National Weather Service.

Tornado magnitude is measured using the Enhanced Fujita scale, abbreviated as EF. The rankings range from EF-0 (65-85 mph winds) to EF-5 (>200 mph winds) and are based on damages caused by the tornado. Prior to 2012, the Fujita scale was used to measure tornado damage and was abbreviated F-1 and so on depending on the level of impact.

Tornados are a possible hazard for all of Seneca County. While tornados can affect any location within the county, the primary area of impact falls directly in the storm's path and the immediately surrounding area. Since 1960, Seneca County has experienced more than $18 million of property damage, 6 deaths, and 32 injuries from tornado events. In 2002, the county sustained $13.9 million in property damage when two separate tornadoes moved across the county on the same day. In contrast, an EF-0 tornado swept through Kansas and Bettsville on July 8, 2013 and caused little damage to property except for a farm shed and several trees. In general, tornadoes are possible and probable (Seneca County has a 2.8% greater risk of a tornado than the rest of the United States), but weak (EF-0 and EF-1) and infrequent.

While the incidence of tornados is low, the probability of very damaging accompanying straight-line winds is higher because tornadoes are part of a weather system. They do not occur as independent, separate phenomena. Coming out of a storm front or super cell, these winds, especially when accompanied by heavy rain, lightening and hail can be extremely damaging. Trees can be uprooted, buildings torn apart, and vehicles carried away. Twisting and flying

debris becomes projectile weapons, which can cause injuries and fatalities. The surrounding straight-line (non-rotating) winds can topple trees, rip buildings and roofs apart, and render vehicles and other small items forcefully airborne.

Historical data related to tornado occurrences in Seneca County is provided in the chart below.

Type	Location	Date	Time	Magnitude	Deaths	Injuries	Property Damage	Crop Damage
Tornado	Seneca County	06/13/1960	1630	F1	0	0	0	0
Tornado	Seneca County	02/18/1961	1945	F2	0	0	250K	0
Tornado	Seneca County	05/19/1964	1700	F1	0	0	25K	0
Tornado	Seneca County	08/22/1964			0	0	5K	0
Tornado	Seneca County	04/11/1965	2115	F3	4	30	250K	0
Tornado	Seneca County	11/16/1965	1657	F2	0	0	250K	0
Tornado	Seneca County	09/1/1971	0056	F1	0	0	25K	0
Tornado	Seneca County	05/10/1973	1540	F3	1	0	2.5M	0
Tornado	Seneca County	06/26/1973	1712	F0	0	0	3K	0
Tornado	Seneca County	05/11/1974	1550	F1	0	0	25K	0
Tornado	Seneca County	09/05/1975			0	0	2.5K	0
Tornado	Seneca County	04/17/1981	2100	F1	0	0	25K	0
Tornado	Seneca County	06/14/1989	1700	F0	0	0	250K	0
Tornado	Seneca County	05/31/1991	1900	F1	0	0	250K	0
Tornado	Seneca County	06/15/1991	1920	F0	0	0	25K	0
Tornado	Seneca County	07/13/1992	1532	F2	0	0	250K	0
Funnel Cloud	New Riegel	05/07/2001	2010	N/A	0	0	0	0
Tornado	Fostoria	11/10/2002	1702	F1	0	0	1.1M	0
Tornado	Tiffin	11/10/2002	1715	F3	1	2	12.8M	0
Tornado	Bettsville	08/05/2007	1850	F0	0	0	60K	0
Tornado	Fostoria	05/31/2008	0041	F1	0	1	750K	0
Tornado	Kansas/Bettsville	07/08/2013	1924	EF0	0	0	Undet.	0

Additional research uncovered the following events that occurred prior to historical data collection by the National Climactic Data Center. Information was found online in media and other historical data sources and anecdotal references, and is not verified by any official source.

Date	Location	Details
June 1918	Venice Township	No fatalities
August 1926	Liberty and Pleasant Township	Heavy damage
November 1927	City of Tiffin	None available
April 1937	City of Tiffin, New Riegel	Unknown
May 1937	Loudon and Seneca Township	Unknown

April 1943	Thompson Township	Unknown
June 1953	Loudon, Hopewell, Reed Townships	Unknown

Severe Thunderstorm

Severe thunderstorms are rain and windstorms characterized by the presence of multiple hazards, including heavy precipitation, high winds, hail, thunder, and lightning. These storms are capable of producing flash floods, tornadoes, and damaging straight-line winds even if the system does not spawn tornados or funnel clouds. Lightning strikes occur frequently with severe thunderstorms, which can cause fires and fatalities. These storms typically develop as part of a larger storm front and are often preceded and followed by regular thunderstorms.

Damage from severe thunderstorms can be significant, causing substantial damage to crops and agricultural resources. This was the case in July 2013 when pollinating corn stalks were flattened during a severe thunderstorm in Huron and Erie counties, which are adjacent to Seneca County. Straight-line winds can cause severe damage to roofs, siding, and trees. Cars can be uplifted and trains, tractor-trailers, and other large vehicles can be toppled by strong winds in the flat terrain of northwest Ohio.

Seneca County experienced significant impacts from a severe thunderstorm on May 25, 2011. A warm front moved across Tennessee, Kentucky, and Ohio, dropping significant rainfall across the region. Much of Seneca County received heavy amounts of hail and high winds. Nickel size hail was reported in Fostoria and Bettsville. In Tiffin and Alvada, weather spotters and residents reported pea and golf ball size hail, which caused damage to a number of vehicles and buildings. In all, the county suffered $350,000 in damage from hail alone.

Another strong thunderstorm impacted the county on October 31, 2013. A strong line of storms moved across the region late in the evening. Weather spotters reported wind gusts as high as 60 mph. Damage was most severe in the Tiffin area where at least one mobile home was knocked off the foundation. Several utility poles and trees were downed leading to significant power outages.

Below is the historical data for severe thunderstorms incidents occurring in Seneca County.

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	08/08/1962	0	1	50K	50K
Severe Storm	Seneca County	03/09/1964	0	0	57K	0
Severe Storm	Seneca County	06/09/1966	0	0	1.3K	0
Severe Storm	Seneca County	07/04/1966	0	0	<1K	0
Severe Storm	Seneca County	07/09/1966	0.01	0.09	5.7K	0
Severe Storm	Seneca County	07/12/1966	0	0	0	11K
Severe Storm	Seneca County	07/14/1966	0	0	0	5.7K
Severe Storm	Seneca County	08/08/1966	0	0.02	<1K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	08/09/1966	0	0.05	<1K	0
Severe Storm	Seneca County	08/10/1966	0	0.07	8.8K	0
Severe Storm	Seneca County	02/15/1967	0	0.27	57K	0
Severe Storm	Seneca County	03/23/1967	0	0	<1K	0
Severe Storm	Seneca County	06/16/1967	0	0	1.3K	>1K
Severe Storm	Seneca County	06/21/1967	0.01	0	<1K	0
Severe Storm	Seneca County	07/18/1967	0	0	0	1K
Severe Storm	Seneca County	07/30/1967	0	0.04	1K	1K
Severe Storm	Seneca County	08/02/1967	0	0	<1K	0
Severe Storm	Seneca County	01/28/1968	0	0	<1K	0
Severe Storm	Seneca County	03/22/1968	0	0.23	<1K	0
Severe Storm	Seneca County	04/14/1968	0	0	5.7K	0
Severe Storm	Seneca County	04/23/1968	0	0.05	<1K	0
Severe Storm	Seneca County	05/03/1968	0	0	<1K	0
Severe Storm	Seneca County	05/15/1968	0	0.13	1.3K	0
Severe Storm	Seneca County	06/10/1968	0	0	<1K	0
Severe Storm	Seneca County	06/11/1968	0	0	1K	0
Severe Storm	Seneca County	07/16/1968	0	0.1	<1K	0
Severe Storm	Seneca County	07/22/1968	0	0	<1K	0
Severe Storm	Seneca County	08/07/1968	0	0.02	<1K	0
Severe Storm	Seneca County	08/08/1968	0	0	<1K	0
Severe Storm	Seneca County	01/28/1969	0	0.1	0	0
Severe Storm	Seneca County	03/20/1969	0	0	<1K	0
Severe Storm	Seneca County	05/08/1969	0	0	5.7K	0
Severe Storm	Seneca County	05/10/1969	0	1	<1K	0
Severe Storm	Seneca County	05/17/1969	0	0	8K	0
Severe Storm	Seneca County	06/01/1969	0	0	1K	0
Severe Storm	Seneca County	06/12/1969	0	0.1	<1K	0
Severe Storm	Seneca County	06/27/1969	0	0	1K	0
Severe Storm	Seneca County	06/30/1969	0	0	0	<1K
Severe Storm	Seneca County	07/02/1969	0	0	<1K	0
Severe Storm	Seneca County	07/04/1969	1.08	14.71	132K	5M
Severe Storm	Seneca County	07/11/1969	0	0	<1K	0
Severe Storm	Seneca County	07/27/1969	0	0	<1K	0
Severe Storm	Seneca County	09/06/1969	0	0	<1K	0
Severe Storm	Seneca County	04/01/1970	0	0.09	6K	0
Severe Storm	Seneca County	05/11/1970	1	0	<1K	0
Severe Storm	Seneca County	05/12/1970	0	0	1K	0
Severe Storm	Seneca County	05/13/1970	0	0	6K	0
Severe Storm	Seneca County	05/24/1970	0	0.05	<1K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	05/25/1970	0	0	<1K	0
Severe Storm	Seneca County	06/14/1970	0	0	<1K	0
Severe Storm	Seneca County	06/17/1970	0	0.03	<1K	0
Severe Storm	Seneca County	07/02/1970	0	0	<1K	0
Severe Storm	Seneca County	07/08/1970	0	0	<1K	0
Severe Storm	Seneca County	07/28/1970	0	0	<1K	1K
Severe Storm	Seneca County	07/29/1970	0	0.02	<1K	0
Severe Storm	Seneca County	08/19/1970	0	0	<1K	0
Severe Storm	Seneca County	09/08/1970	0	0.01	<1K	0
Severe Storm	Seneca County	09/22/1970	0	0.03	0	0
Severe Storm	Seneca County	09/23/1970	0	0	<1K	0
Severe Storm	Seneca County	11/20/1970	0	0	<1K	0
Severe Storm	Seneca County	12/03/1970	0	0	<1K	0
Severe Storm	Seneca County	02/05/1971	0	0	<1K	0
Severe Storm	Seneca County	02/22/1971	0	0	<1K	0
Severe Storm	Seneca County	05/16/1971	0	0.02	<1K	0
Severe Storm	Seneca County	05/19/1971	0	0	<1K	0
Severe Storm	Seneca County	05/24/1971	0	0	6K	0
Severe Storm	Seneca County	06/02/1971	0	0	<1K	0
Severe Storm	Seneca County	06/06/1971	0	0	6K	0
Severe Storm	Seneca County	06/07/1971	0	0	1K	0
Severe Storm	Seneca County	06/13/1971	0	0	<1K	0
Severe Storm	Seneca County	06/20/1971	0	0.01	1K	0
Severe Storm	Seneca County	06/18/1971	0	0	<1K	0
Severe Storm	Seneca County	07/09/1971	0	0	<1K	0
Severe Storm	Seneca County	07/15/1971	0	0	1K	0
Severe Storm	Seneca County	07/19/1971	0	0	<1K	0
Severe Storm	Seneca County	08/10/1971	0	0.11	1K	0
Severe Storm	Seneca County	08/20/1971	0	0	5K	0
Severe Storm	Seneca County	08/22/1971	1	0.26	1K	0
Severe Storm	Seneca County	09/06/1971	0	0.08	<1K	0
Severe Storm	Seneca County	10/13/1971	0	1	0	0
Severe Storm	Seneca County	12/10/1971	0.01	0.15	6K	0
Severe Storm	Seneca County	12/15/1971	0.01	0.4	6K	0
Severe Storm	Seneca County	12/30/1971	0	0.05	<1K	0
Severe Storm	Seneca County	03/12/1972	0	0	<1K	0
Severe Storm	Seneca County	03/21/1971	0	0	<1K	0
Severe Storm	Seneca County	04/06/1972	0	0	<1K	0
Severe Storm	Seneca County	04/12/1972	0	0	6K	0
Severe Storm	Seneca County	04/14/1972	0	0	<1K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	04/19/1972	0	0	<1K	0
Severe Storm	Seneca County	05/08/1972	0	0	<1K	0
Severe Storm	Seneca County	05/14/1972	0	0	<1K	0
Severe Storm	Seneca County	06/09/1972	0	0	<1K	0
Severe Storm	Seneca County	06/15/1972	0	0	<1K	0
Severe Storm	Seneca County	06/29/1972	0	0	<1K	0
Severe Storm	Seneca County	07/09/1972	0	0	<1K	0
Severe Storm	Seneca County	07/12/1972	0	0	<1K	<1K
Severe Storm	Seneca County	07/15/1972	0	0	<1K	0
Severe Storm	Seneca County	07/18/1972	0	0	<1K	0
Severe Storm	Seneca County	08/02/1972	0	0	<1K	<1K
Severe Storm	Seneca County	08/14/1972	0	0	<1K	0
Severe Storm	Seneca County	08/18/1972	0	0	<1K	0
Severe Storm	Seneca County	08/26/1972	0	0	<1K	0
Severe Storm	Seneca County	09/13/1972	0	0	1K	<1K
Severe Storm	Seneca County	09/17/1972	0	0	1K	<1K
Severe Storm	Seneca County	03/14/1973	0	0	<1K	0
Severe Storm	Seneca County	06/03/1973	0	0	<1K	<1K
Severe Storm	Seneca County	06/12/1972	0	0	<1K	<1K
Severe Storm	Seneca County	06/16/1973	0	0	<1K	<1K
Severe Storm	Seneca County	06/26/1973	0	0	<1K	<1K
Severe Storm	Seneca County	06/28/1973	0	0	<1K	0
Severe Storm	Seneca County	07/05/1973	0	0	<1K	<1K
Severe Storm	Seneca County	08/20/1973	0	0	<1K	0
Severe Storm	Seneca County	05/11/1974	0	0	17K	0
Severe Storm	Seneca County	05/29/1974	0	0	<1K	0
Severe Storm	Seneca County	06/30/1974	0	0.02	<1K	0
Severe Storm	Seneca County	07/04/1974	0	0	1K	0
Severe Storm	Seneca County	07/29/1974	0	0.03	<1K	0
Severe Storm	Seneca County	08/07/1974	0	0	<1K	0
Severe Storm	Seneca County	08/13/1974	0	0.1	1K	<1K
Severe Storm	Seneca County	08/27/1974	0	0	<1K	0
Severe Storm	Seneca County	09/11/1974	0	0.05	<1K	0
Severe Storm	Seneca County	05/21/1975	0	0	1K	0
Severe Storm	Seneca County	07/03/1975	0	0	<1K	0
Severe Storm	Seneca County	07/07/1975	0	0	<1K	0
Severe Storm	Seneca County	07/10/1975	0	0	<1K	0
Severe Storm	Seneca County	07/13/1975	0	0	<1K	0
Severe Storm	Seneca County	08/13/1975	0	0	<1K	0
Severe Storm	Seneca County	09/03/1975	0	0	<1K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	10/17/1975	0	0	<1K	0
Severe Storm	Seneca County	01/25/1976	0	0	<1K	0
Severe Storm	Seneca County	03/03/1976	0	0	<1K	0
Severe Storm	Seneca County	03/12/1976	0	0	<1K	0
Severe Storm	Seneca County	03/20/1975	0	0	<1K	0
Severe Storm	Seneca County	05/02/1976	0	0	<1K	0
Severe Storm	Seneca County	07/15/1976	0	0	6K	0
Severe Storm	Seneca County	08/13/1976	0	0	<1K	0
Severe Storm	Seneca County	05/31/1977	0	0	<1K	<1K
Severe Storm	Seneca County	06/30/1977	0	0	10K	0
Severe Storm	Seneca County	07/04/1977	0	0	30K	0
Severe Storm	Seneca County	12/13/1977	0	0	2.5K	0
Severe Storm	Seneca County	01/08/1978	0	0.28	5.6K	0
Severe Storm	Seneca County	06/26/1978	0	0	29K	0
Severe Storm	Seneca County	06/27/1978	0	0.02	<1K	0
Severe Storm	Seneca County	08/09/1978	0	0	<1K	0
Severe Storm	Seneca County	08/19/1978	0	0	<1K	0
Severe Storm	Seneca County	06/10/1978	0	0.29	<1K	0
Severe Storm	Seneca County	06/20/1979	0	0.04	10K	0
Severe Storm	Seneca County	07/23/1979	0	0	<1K	0
Severe Storm	Seneca County	08/05/1979	0	0.06	10K	0
Severe Storm	Seneca County	08/08/1979	0	0.72	20K	0
Severe Storm	Seneca County	09/13/1979	0	0	926K	0
Severe Storm	Seneca County	06/07/1980	0	3	250K	0
Severe Storm	Seneca County	07/01/1980	0	0	341K	0
Severe Storm	Seneca County	05/01/1981	0	0	568K	568K
Severe Storm	Seneca County	06/13/1981	0.02	0	1.1M	0
Severe Storm	Seneca County	03/16/1982	0	0	1.6K	0
Severe Storm	Seneca County	05/27/1982	0	0	50K	0
Severe Storm	Seneca County	05/27/1982	0	0	<1K	0
Severe Storm	Seneca County	05/02/1983	0	0	5K	0
Severe Storm	Seneca County	06/19/1983	0	0	<1K	0
Severe Storm	Seneca County	07/01/1983	0	0	2.5K	0
Severe Storm	Seneca County	08/10/1983	0	0	50K	0
Severe Storm	Seneca County	08/10/1984	0	0	17K	0
Severe Storm	Seneca County	03/10/1986	0	0	50K	0
Severe Storm	Seneca County	06/02/1987	0	0	50K	<1K
Severe Storm	Seneca County	09/14/1990	0	0	50K	0
Severe Storm	Seneca County	06/15/1991	0	2	50K	0
Severe Storm	Seneca County	08/02/1993	0	0	<1K	500K

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	04/11/1995	0	0	20K	0
Severe Storm	Seneca County	05/10/1995	0	0	40K	0
Severe Storm	Seneca County	05/28/1995	0	0	30K	0
Severe Storm	Seneca County	06/26/1995	0	0	3K	0
Severe Storm	Seneca County	07/13/1995	0	0	80K	10K
Severe Storm	Seneca County	07/29/1995	0	0	0	2K
Severe Storm	Seneca County	10/20/1996	0	0	075K	0
Severe Storm	Seneca County	11/07/1996	0	0	15K	0
Severe Storm	Seneca County	05/01/1997	0	0	0	35K
Severe Storm	Seneca County	05/18/1997	0	0	70K	0
Severe Storm	Seneca County	06/21/1997	0	0	10K	0
Severe Storm	Seneca County	06/29/1997	0	0	5K	0
Severe Storm	Seneca County	07/14/1997	0	0	5K	0
Severe Storm	Seneca County	08/04/1997	0	0	15K	0
Severe Storm	Seneca County	08/12/1997	0	0	5K	0
Severe Storm	Seneca County	09/19/1997	0	0	50K	0
Severe Storm	Seneca County	03/28/1998	0	0	10K	0
Severe Storm	Seneca County	05/31/1998	0	0	1K	0
Severe Storm	Seneca County	06/12/1998	0	0	4K	0
Severe Storm	Seneca County	06/27/1998	0	0	50K	0
Severe Storm	Seneca County	06/28/1998	0	0	50K	0
Severe Storm	Seneca County	08/24/1998	0	0	0	20K
Severe Storm	Seneca County	08/25/1998	0	0	10K	0
Severe Storm	Seneca County	09/07/1998	0	0	0	5K
Severe Storm	Seneca County	12/06/1998	0	0	2K	0
Severe Storm	Seneca County	06/10/1999	0	0	125K	0
Severe Storm	Seneca County	07/06/1999	0	0	10K	0
Severe Storm	Seneca County	07/06/1999	0	1	0	0
Severe Storm	Seneca County	07/09/1999	0	0	100K	0
Severe Storm	Seneca County	10/13/1999	0	0	25K	0
Severe Storm	Seneca County	04/20/2000	0	0	50K	0
Severe Storm	Seneca County	06/14/2000	0	0	5K	0
Severe Storm	Seneca County	07/29/2000	0	0	5K	0
Severe Storm	Seneca County	08/06/2000	0	0	20K	0
Severe Storm	Seneca County	09/23/2000	0	0	2K	0
Severe Storm	Seneca County	08/08/2001	0	0	15K	0
Severe Storm	Seneca County	02/20/2002	0	0	15K	0
Severe Storm	Seneca County	05/29/2002	0	0	5K	0
Severe Storm	Seneca County	06/04/2002	0	0	75K	0
Severe Storm	Seneca County	06/04/2002	0	0	25K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	06/04/2002	0	0	20K	0
Severe Storm	Seneca County	06/04/2002	0	0	10K	0
Severe Storm	Seneca County	06/04/2002	0	0	5K	0
Severe Storm	Seneca County	07/04/2002	0	0	10K	0
Severe Storm	Seneca County	07/19/2002	0	0	2K	0
Severe Storm	Seneca County	07/19/2002	0	0	2K	0
Severe Storm	Seneca County	07/29/2002	0	0	10K	0
Severe Storm	Seneca County	08/23/2002	0	0	5K	0
Severe Storm	Seneca County	11/10/2002	0	0	20K	0
Severe Storm	Seneca County	11/10/2002	0	0	5K	0
Severe Storm	Seneca County	03/20/2003	0	0	2K	0
Severe Storm	Seneca County	04/04/2003	0	0	10K	0
Severe Storm	Seneca County	04/04/2003	0	0	5K	0
Severe Storm	Seneca County	04/04/2003	0	0	5K	0
Severe Storm	Seneca County	04/04/2003	0	0	2K	0
Severe Storm	Seneca County	04/20/2003	0	0	150K	0
Severe Storm	Seneca County	04/20/2003	0	0	2K	0
Severe Storm	Seneca County	07/04/2003	0	0	15K	0
Severe Storm	Seneca County	07/04/2003	0	0	5K	0
Severe Storm	Seneca County	07/07/2003	0	0	15K	0
Severe Storm	Seneca County	07/08/2003	0	0	500K	0
Severe Storm	Seneca County	07/08/2003	0	0	35K	0
Severe Storm	Seneca County	07/27/2003	0	0	15K	0
Severe Storm	Seneca County	08/26/2003	0	0	3K	0
Severe Storm	Seneca County	11/12/2003	0	0	5K	0
Severe Storm	Seneca County	04/17/2004	0	0	5K	0
Severe Storm	Seneca County	04/17/2004	0	0	1K	0
Severe Storm	Seneca County	05/17/2004	0	0	3K	0
Severe Storm	Seneca County	05/21/2004	0	0	75K	0
Severe Storm	Seneca County	05/21/2004	0	0	2K	0
Severe Storm	Seneca County	05/30/2004	0	0	2K	0
Severe Storm	Seneca County	05/30/2004	0	0	2K	0
Severe Storm	Seneca County	06/13/2004	0	0	5K	0
Severe Storm	Seneca County	06/14/2004	0	0	8K	0
Severe Storm	Seneca County	08/18/2004	0	0	15K	0
Severe Storm	Seneca County	08/18/2004	0	0	10K	0
Severe Storm	Seneca County	05/13/2005	0	0	10K	0
Severe Storm	Seneca County	05/23/2005	0	0	150K	0
Severe Storm	Seneca County	06/05/2005	0	0	2K	0
Severe Storm	Seneca County	06/30/2005	0	0	4K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	07/25/2005	0	0	8K	0
Severe Storm	Seneca County	07/26/2005	0	0	2K	0
Severe Storm	Seneca County	07/26/2005	0	0	2K	0
Severe Storm	Seneca County	07/26/2005	0	0	1K	0
Severe Storm	Seneca County	11/06/2005	0	0	1K	0
Severe Storm	Seneca County	11/06/2005	0	0	1K	0
Severe Storm	Seneca County	04/07/2006	0	0	5K	0
Severe Storm	Seneca County	06/08/2006	0	0	<1K	0
Severe Storm	Seneca County	06/22/2006	0	0	8K	0
Severe Storm	Seneca County	06/22/2006	0	0	6K	0
Severe Storm	Seneca County	07/26/2006	0	0	75K	0
Severe Storm	Seneca County	04/26/2007	0	0	100K	0
Severe Storm	Seneca County	05/01/2007	0	0	40K	0
Severe Storm	Seneca County	05/01/2007	0	0	25K	0
Severe Storm	Seneca County	05/01/2007	0	0	25K	0
Severe Storm	Seneca County	05/01/2007	0	0	20K	0
Severe Storm	Seneca County	06/02/2007	0	0	10K	25K
Severe Storm	Seneca County	06/02/2007	0	0	5K	0
Severe Storm	Seneca County	05/31/2008	0	0	3K	0
Severe Storm	Seneca County	06/09/2008	0	0	20K	0
Severe Storm	Seneca County	06/09/2008	0	0	6K	0
Severe Storm	Seneca County	06/15/2008	0	0	2K	0
Severe Storm	Seneca County	06/25/2008	0	0	1K	0
Severe Storm	Seneca County	06/26/2008	0	0	4K	0
Severe Storm	Seneca County	06/26/2008	0	0	4K	0
Severe Storm	Seneca County	06/26/2008	0	0	1K	0
Severe Storm	Seneca County	08/20/2009	0	0	3K	0
Severe Storm	Seneca County	08/28/2009	0	0	1K	0
Severe Storm	Seneca County	05/05/2010	0	0	2K	0
Severe Storm	Seneca County	05/30/2010	0	0	5K	0
Severe Storm	Seneca County	05/31/2010	0	0	5K	0
Severe Storm	Seneca County	06/23/2010	0	0	2K	0
Severe Storm	Seneca County	06/23/2010	0	0	1K	0
Severe Storm	Seneca County	06/23/2010	0	0	1K	0
Severe Storm	Seneca County	06/27/2010	0	0	25K	0
Severe Storm	Seneca County	06/27/2010	0	0	15K	0
Severe Storm	Seneca County	06/27/2010	0	0	2K	0
Severe Storm	Seneca County	08/04/2010	0	0	12K	0
Severe Storm	Seneca County	10/26/2010	0	0	10K	0
Severe Storm	Seneca County	10/26/2010	0	0	1K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	10/26/2010	0	0	1K	0
Severe Storm	Seneca County	05/25/2011	0	0	100K	0
Severe Storm	Seneca County	05/25/2011	0	0	0	0
Severe Storm	Seneca County	05/25/2011	0	0	0	0
Severe Storm	Seneca County	05/25/2011	0	0	10K	0
Severe Storm	Seneca County	05/25/2011	0	0	0	0
Severe Storm	Seneca County	05/25/2011	0	0	0	0
Severe Storm	Seneca County	05/25/2011	0	0	50K	0
Severe Storm	Seneca County	05/25/2011	0	0	0	0
Severe Storm	Seneca County	05/25/2011	0	0	200K	0
Severe Storm	Seneca County	06/17/2011	0	0	0	0
Severe Storm	Seneca County	06/17/2011	0	0	1K	0
Severe Storm	Seneca County	07/18/2011	0	0	0	0
Severe Storm	Seneca County	07/22/2011	0	0	1K	0
Severe Storm	Seneca County	07/23/2011	0	0	3K	0
Severe Storm	Seneca County	08/01/2011	0	0	0	0
Severe Storm	Seneca County	08/01/2011	0	0	0	0
Severe Storm	Seneca County	08/01/2011	0	0	0	0
Severe Storm	Seneca County	08/01/2011	0	0	0	0
Severe Storm	Seneca County	08/09/2011	0	0	0	0
Severe Storm	Seneca County	08/09/2011	0	0	0	0
Severe Storm	Seneca County	08/09/2011	0	0	0	0
Severe Storm	Seneca County	08/24/2011	0	0	50K	0
Severe Storm	Seneca County	08/24/2011	0	0	20K	0
Severe Storm	Seneca County	08/24/2011	0	0	20K	0
Severe Storm	Seneca County	09/03/2011	0	0	50K	0
Severe Storm	Seneca County	03/15/2012	0	0	0	0
Severe Storm	Seneca County	05/09/2012	0	0	0	0
Severe Storm	Seneca County	06/18/2012	0	0	2K	0
Severe Storm	Seneca County	06/29/2012	0	0	300K	0
Severe Storm	Seneca County	07/01/2012	0	0	15K	0
Severe Storm	Seneca County	07/03/2012	0	0	0	0
Severe Storm	Seneca County	08/04/2012	0	0	2K	0
Severe Storm	Seneca County	09/06/2012	0	0	0	0
Severe Storm	Seneca County	09/06/2012	0	0	0	0
Severe Storm	Seneca County	09/06/2012	0	0	0	0
Severe Storm	Seneca County	06/12/2013	0	0	0	0
Severe Storm	Seneca County	06/12/2013	0	0	100K	0
Severe Storm	Seneca County	06/12/2013	0	0	8K	0
Severe Storm	Seneca County	06/12/2013	0	0	75K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Severe Storm	Seneca County	06/12/2013	0	0	35K	0
Severe Storm	Seneca County	07/08/2013	0	0	10K	0
Severe Storm	Seneca County	07/10/2013	0	0	800K	0
Severe Storm	Seneca County	08/07/2013	0	0	0	0
Severe Storm	Seneca County	08/07/2013	0	0	1K	0
Severe Storm	Seneca County	08/07/2013	0	0	1K	0
Severe Storm	Seneca County	08/31/2013	0	0	0	0
Severe Storm	Seneca County	08/31/2013	0	0	10K	0
Severe Storm	Seneca County	10/31/2013	0	0	1K	0
Severe Storm	Seneca County	10/31/2013	0	0	250K	0
Severe Storm	Seneca County	11/17/2013	0	0	25K	0
Severe Storm	Seneca County	05/07/2014	0	0	1K	0
Severe Storm	Seneca County	05/07/2014	0	0	0	0

Windstorm

The flat to slightly rolling topography of northwest Ohio can be vulnerable to damages from high winds unaccompanied by any kind of precipitation. In Seneca County, the mostly flat terrain provides little to interfere with wind and facilitates damages to buildings, vehicles, and farm crops. Erosion control in the form of windbreaks and sod strips helps limit the amount of topsoil taken away with high winds, but there is little change in elevation or extensive wooded cover area to break up the effects of strong windstorms.

Although winds in excess of 50 miles per hour can occur independently, it is uncommon. Most of the time, severe winds are part of a larger storm system. The wind occurs as precipitation and unstable air moves into the area. High winds are frequently accompanied by heavy rain, hail, ice, snow, or thunderstorms.

A derecho is a specific type of windstorm that is widespread and fast moving. These storms can produce damaging straight-line winds over extremely large areas, sometimes spanning hundreds of miles long and more than 100 miles wide. To be defined as a derecho, the storm must produce damage over at least 240 miles, have wind gusts of at least 58 mph across most of the storm's length, and multiple gusts of 75 mph or greater. The destruction produced by a derecho can be very similar to that from a tornado. However, the damage from this type of storm generally occurs in one direction along a straight path.

The most significant wind-only event occurred in September 2008. On September 14, 2008, the remnants of Hurricane Ike moved into Ohio, causing massive power outages across much of the state, including Seneca County and the surrounding area. When Ike arrived in Ohio, it was no longer classified as a hurricane but did bring sustained winds of over 75 mph, equivalent to the strength of a category 1 hurricane. The storm was unable to maintain the warm water source of heat as it crossed land to sustain hurricane strength, and without that replenishment of

magnitude, became less violent. The storm system, unable to pick up water from the Gulf of Mexico no longer included heavy precipitation, so the rainfall in Seneca County was minimal but damage from the high winds was severe. Seneca County suffered property damage of $6 million and crop damage of $550,000 as a result of this windstorm.

In June 2012, much of Ohio was impacted by a derecho that moved across the central portion of the state as it traveled from Chicago towards Virginia and the Atlantic Ocean. On the afternoon of June 29, a line of intense thunderstorms that were part of the derecho system moved across the southern portion of Seneca County and caused some damage in the area. Near Tiffin, a wind gust of 65 mph was measured. The Springville area on southwest Seneca County was the hardest hit area, experiencing dozens of toppled trees, damage to a few buildings and homes, and scattered power outages. Overall, the damage this storm inflicted in Seneca County was minimal compared to other areas of Ohio.

On June 12, 2013, a stationary system in the Upper Ohio Valley caused a series of scattered showers and thunderstorms to develop across northern Ohio. The system developed in the early evening and storms increased as the evening progressed. A second round of thunderstorms occurred in the early morning hours of June 13, causing wind gusts as high as 60 to 70 mph. These winds caused dozens of downed trees and scatter power outages across northern Seneca County.

On July 10, 2013, a line of thunderstorms producing winds in excess of 70 mph moved east across Seneca County. The county experienced significant damage from this storm, including hundreds of snapped or toppled trees and significant damage to buildings and homes. Most of the property damage was from lost siding and roofing, although several buildings were flattened. Significant tree damage was reported on the south side of Fostoria. Northeast of Republic, fifteen utility poles were knocked down by the storm. In the northwest corner of the county, a heavy area of damage was reported between Reedtown and Flat Rock. It took several days for power to be restored after widespread outages, particularly in the northwestern portion of the county. Many roads were temporarily closed due to downed trees and power lines. While hail and other storm hazards caused damage in other northwest Ohio counties, the damage this storm caused in Seneca County was caused by high winds.

The historical data regarding windstorms includes only events that are considered wind only. Instances of severe wind occurring along with other hazards, such as winter weather or severe thunderstorms, are identified with the primary hazard.

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Wind	Seneca County	04/10/1968	1	0	<1K	0
Wind	Seneca County	03/26/1970	0	0.08	6K	0
Wind	Seneca County	02/27/1971	0	0.01	<1K	0
Wind	Seneca County	01/25/1972	0	0	<1K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Wind	Seneca County	06/04/1973	0	0.08	<1K	<1K
Wind	Seneca County	01/27/1974	0	0.08	<1K	0
Wind	Seneca County	02/22/1974	0	0	<1K	0
Wind	Seneca County	01/11/1975	0	0	<1K	0
Wind	Seneca County	03/05/1976	0	0.07	<1K	0
Wind	Seneca County	05/05/1976	0	0	0	<1K
Wind	Seneca County	07/16/1976	0	0	1.2K	0
Wind	Seneca County	07/31/1976	0	0	<1K	0
Wind	Seneca County	12/01/1977	0.01	0	<1K	0
Wind	Seneca County	04/06/1979	0	0.03	1.5K	0
Wind	Seneca County	01/11/1980	0	0	1.2K	0
Wind	Seneca County	04/08/1980	0	0	167K	0
Wind	Seneca County	01/04/1982	0	0.03	6K	0
Wind	Seneca County	04/03/1982	0	0	6K	0
Wind	Seneca County	06/15/1982	0	0.33	17K	0
Wind	Seneca County	12/28/1982	0	0	<1K	0
Wind	Seneca County	07/04/1983	0	0	2.5K	0
Wind	Seneca County	09/06/1983	0	0	50K	0
Wind	Seneca County	04/30/1984	0.01	0	6K	0
Wind	Seneca County	03/05/1985	0	0	<1K	0
Wind	Seneca County	03/12/1985	0	0	<1K	0
Wind	Seneca County	12/15/1987	0	0.11	14K	0
Wind	Seneca County	02/22/1988	0	0	<1K	0
Wind	Seneca County	10/18/1988	0	0	2K	0
Wind	Seneca County	11/10/1988	0	0	<1K	0
Wind	Seneca County	11/20/1989	0	0	<1K	0
Wind	Seneca County	11/27/1989	0	0	<1K	0
Wind	Seneca County	01/11/1990	0	0	1.2K	0
Wind	Seneca County	01/25/1990	0.01	0.22	57K	0
Wind	Seneca County	05/10/1990	0	0	<1K	0
Wind	Seneca County	05/17/1990	0	0	2.5K	0
Wind	Seneca County	03/28/1991	0	0	8K	0
Wind	Seneca County	12/15/1991	0	0	<1K	0
Wind	Seneca County	11/12/1992	0	0.01	6K	0
Wind	Seneca County	04/16/1994	0	0.02	<1K	0
Wind	Seneca County	11/21/1994	0	0	1.2K	0
Wind	Seneca County	11/28/1994	0	0	1.2K	0
Wind	Seneca County	10/05/1995	0	0	2.5K	0
Wind	Seneca County	10/24/1995	0	0	<1K	0
Wind	Seneca County	11/11/1995	0	0	8K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Wind	Seneca County	02/10/1996	0	0	2.4K	0
Wind	Seneca County	03/25/1996	0	0	23K	0
Wind	Seneca County	04/25/1996	0	0	2K	0
Wind	Seneca County	10/30/1996	0	0	177K	77K
Wind	Seneca County	02/27/1997	0	0	6K	0
Wind	Seneca County	11/10/1998	0	0	103K	0
Wind	Seneca County	05/06/1999	0	0	33K	5K
Wind	Seneca County	12/12/2000	0	0	163K	0
Wind	Seneca County	02/01/2001	0	0	13K	0
Wind	Seneca County	02/25/2001	0	0	20K	0
Wind	Seneca County	04/12/2001	0.04	0	33K	0
Wind	Seneca County	10/26/2001	0	0	28K	0
Wind	Seneca County	02/01/2002	0	0	43K	0
Wind	Seneca County	03/10/2002	0.07	0.29	315K	0
Wind	Seneca County	10/04/2002	0	0	35K	0
Wind	Seneca County	05/11/2003	0	0	43K	0
Wind	Seneca County	11/13/2003	0	0	82K	0
Wind	Seneca County	03/05/2004	0	0	86K	0
Wind	Seneca County	11/27/2004	0	0	6K	0
Wind	Seneca County	12/07/2004	0	0	12K	0
Wind	Seneca County	11/06/2005	0	0	25K	0
Wind	Seneca County	03/10/2006	0	0	14K	0
Wind	Seneca County	12/01/2006	0	0	12K	0
Wind	Seneca County	12/23/2007	0	0	<1K	0
Wind	Seneca County	12/23/2007	0	0	<1K	0
Wind	Seneca County	09/14/2008	0.07	0.25	6.1M	550K
Wind	Seneca County	02/11/2009	0	0.05	553K	0
Wind	Seneca County	12/09/2009	0	0	340K	0
Wind	Seneca County	05/05/2010	0	0	2K	0
Wind	Seneca County	06/23/2010	0	0	2K	0
Wind	Seneca County	06/23/2010	0	0	1K	0
Wind	Seneca County	06/23/2010	0	0	1K	0
Wind	Seneca County	06/27/2010	0	0	2K	0
Wind	Seneca County	06/27/2010	0	0	15K	0
Wind	Seneca County	06/27/2010	0	0	25K	0
Wind	Seneca County	08/04/2010	0	0	12K	0
Wind	Seneca County	10/26/2010	0	0	1K	0
Wind	Seneca County	10/26/2010	0	0	10K	0
Wind	Seneca County	10/26/2010	0	0	1K	0
Wind	Seneca County	05/25/2011	0	0	10K	0

Type	Location	Date	Deaths	Injuries	Property Damage	Crop Damage
Wind	Seneca County	05/25/2011	0	0	0	0
Wind	Seneca County	06/17/2011	0	0	1K	0
Wind	Seneca County	07/18/2011	0	0	0	0
Wind	Seneca County	07/22/2011	0	0	1K	0
Wind	Seneca County	07/23/2011	0	0	3K	0
Wind	Seneca County	08/24/2011	0	0	50K	0
Wind	Seneca County	08/24/2011	0	0	20K	0
Wind	Seneca County	08/24/2011	0	0	20K	0
Wind	Seneca County	09/03/2011	0	0	50K	0
Wind	Seneca County	06/18/2012	0	0	2K	0
Wind	Seneca County	06/29/2012	0	0	300K	0
Wind	Seneca County	07/01/2012	0	0	15K	0
Wind	Seneca County	08/04/2012	0	0	2K	0
Wind	Seneca County	06/12/2013	0	0	0	0
Wind	Seneca County	06/12/2013	0	0	100K	0
Wind	Seneca County	06/12/2013	0	0	8K	0
Wind	Seneca County	06/12/2013	0	0	75K	0
Wind	Seneca County	06/12/2013	0	0	35K	0
Wind	Seneca County	07/08/2013	0	0	10K	0
Wind	Seneca County	07/10/2013	0	0	800K	0
Wind	Seneca County	08/31/2013	0	0	10K	0
Wind	Seneca County	10/31/2013	0	0	1K	0
Wind	Seneca County	10/31/2013	0	0	250K	0
Wind	Seneca County	11/17/2013	0	0	25K	0

Drought

Extreme heat and drought can occur in Seneca County and all of northwest Ohio, but the frequency and severity are low. Extreme temperatures are considered to be anything above 90 degrees Fahrenheit. In the humid climate of northwest Ohio, these temperatures can be accompanied by high humidity. Temperatures rarely exceed the mid-90s, although the region does sometimes experience temperatures of 100 degrees or slightly higher. These brief heat waves are not uncommon, but rarely last more than a few days or a week.

Drought is not common in Seneca County. Dry spells can last for several weeks, but most months come with sufficient rainfall to support crop growth and human sustenance. It is extremely rare for the environment to become so dry that accidental wildfires occur.

Between 1854 and 1992, the ten driest years on record, precipitation ranged from 21.93 inches (April 1930 – March 1931) to 29.97 inches (May 1991 – April 1992). These annual amounts are significantly below the annual average precipitation of 37 inches.

Average temperatures and rainfall for Tiffin, Ohio:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. High	31°	34°	46°	58°	70°	78°	84°	81°	74°	62°	48°	36°
Avg. Low	15°	17°	27°	37°	48°	57°	62°	58°	54°	41°	32°	22°
Mean	24°	26°	37°	48°	60°	68°	74°	70°	64°	52°	41°	28°
Avg. Precip.	2.0 in	1.9 in	2.9 in	3.3 in	3.9 in	3.7 in	3.6 in	3.6 in	3.3 in	2.3 in	3.0 in	3.0 in

Average temperatures and rainfall for Fostoria, Ohio:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Avg. High	31°	34°	46°	58°	70°	78°	84°	81°	74°	62°	48°	36°
Avg. Low	15°	17°	27°	37°	48°	57°	62°	58°	54°	41°	32°	22°
Mean	24°	26°	37°	48°	60°	68°	74°	70°	64°	52°	41°	28°
Avg. Precip.	2.0 in	1.9 in	2.9 in	3.3 in	3.9 in	3.7 in	3.6 in	3.6 in	3.3 in	2.3 in	3.0 in	3.0 in

Drought and extreme heat have had limited impact on lives and property in Seneca County. As noted in the County Profile, agriculture plays a critical economic role within Seneca County. Therefore, losses from crops and livestock can be devastating.

Seneca County has been severely impacted by several droughts over the past few decades. The 1988-1989 North American Drought followed a milder drought in the Southeastern United States and California the year before. This drought spread from the Mid-Atlantic, Southeast, Midwest, Northern Great Plains, and Western United States. It was widespread, unusually intense, and accompanied by heat waves that killed 4,800 to 17,000 people across the country as well as livestock. One particular reason the Drought of 1989 became very damaging was that farmers likely farmed on land that was marginally arable. Another reason was the pumping of groundwater near the depletion mark. The Drought of 1989 destroyed crops almost nationwide, lawns went brown, and many cities and jurisdictions enacted water restrictions. This drought was catastrophic for many reasons and continued to impact the Midwest and Northern Plains states during 1989. The drought was not declared over until 1990.

The most recent drought to impact Seneca County occurred in the summer of 2012. This incident, referred to as the 2012 North American Drought, was an expansion of the 2010-2012 United States drought that began in the spring of 2012. Lack of snowfall in the United States caused very little melt water to absorb into the soil. The drought included most of the United States and all of Ohio. Among many counties, Seneca County was designated with moderate drought conditions by mid-June of 2012. This drought has been compared to similar droughts in the 1930s and 1950s but was not in place as long. The drought caused catastrophic economic ramifications. According to most measures, this drought exceeded the 1988-1989 North American Drought, which is the most recent comparable drought.

On July 30, 2012, the Governor of Ohio sent a memorandum to the USDA Ohio State Executive Director requesting primary county natural disaster declarations for eligible counties due to

agricultural losses caused by the drought and other natural disasters during the 2012 crop year. The USDA reviewed the Loss Assessment Reports and determined that there were significant production losses in 85 counties to warrant a Secretarial disaster designation. On September 5, 2012, Seneca County was included as one of the designated counties.

Historical data for instances of extreme heat and drought in Seneca County are listed below:

Type	Location	Date	Time	Deaths	Injuries	Property Damage	Crop Damage
Extreme Heat	Seneca County	09/01/1983	0000	0	0	0	568K
Extreme Heat	Seneca County	06/13/1994	0000	0	0	0	6K
Extreme Heat	Seneca County	07/12/1995	0000	0	0	19K	0
Extreme Heat	Seneca County	08/08/1995	0000	0	0	16K	0
Drought	Northern Ohio	09/01/1995	0000	0	0	0	0
Drought	Seneca County	08/01/1996	0000	0	0	0	0
Drought	Seneca County	06/01/1999	0000	0	0	0	0
Drought	Seneca County	07/01/1999	0000	0	0	0	0
Drought	Seneca County	08/01/1999	0000	0	0	0	0
Drought	Seneca County	09/01/1999	0000	0	0	0	200M
Drought	Seneca County	04/10/2012	0000	0	0	0	Undet.

Earthquake

An earthquake occurs when the tectonic plates far beneath the earth's surface shift or move. The movement causes rattling foundations, falling debris, and, in the most severe cases, toppling buildings, bridges, and culverts. Earthquake movement is measured on the Richter scale, as illustrated below.

Magnitude	Description	Average earthquake effects
Less than 2.0	Micro	Micro-earthquakes, not felt, or felt rarely by sensitive people. Recorded by seismographs.[16]
2.0–2.9	Minor	Felt slightly by some people. No damage to buildings.
3.0–3.9		Often felt by people, but very rarely causes damage. Shaking of indoor objects can be noticeable.
4.0–4.9	Light	Noticeable shaking of indoor objects and rattling noises. Felt by most people in the affected area. Slightly felt outside. Generally causes none to minimal damage. Moderate to significant damage very unlikely. Some objects may fall off shelves or be knocked over.
5.0–5.9	Moderate	Can cause damage of varying severity to poorly constructed buildings. At most, none to slight damage to all other buildings. Felt by everyone. Casualties range from none to a few.
6.0–6.9	Strong	Damage to a moderate number of well built structures in populated areas. Earthquake-resistant structures survive with slight to moderate damage. Poorly-designed structures receive moderate to severe damage. Felt in wider areas; up to hundreds of miles/kilometers from the epicenter. Damage can be caused far from the epicenter.

		Strong to violent shaking in epicentral area. Death toll ranges from none to 25,000.
7.0–7.9	Major	Causes damage to most buildings, some to partially or completely collapse or receive severe damage. Well-designed structures are likely to receive damage. Felt across great distances with major damage mostly limited to 250 km from epicenter. Death toll ranges from none to 250,000.
8.0–8.9	Great	Major damage to buildings, structures likely to be destroyed. Will cause moderate to heavy damage to sturdy or earthquake-resistant buildings. Damaging in large areas up to 500 kilometers from epicenter, some structures totally destroyed. Felt in extremely large regions. Death toll ranges from 1,000 to 1 million.
9.0 and greater		Near or at total destruction - severe damage or collapse to all buildings. Heavy damage and shaking extends to distant locations over a thousand kilometers from epicenter. Permanent changes in ground topography. Death toll usually over 50,000.

Research of earthquake occurrences in Seneca County identified few documented incidents. The incidents were recorded in 1930, 1931, and 1936 and registered below a 4.0 on the Richter Scale. The second event occurred in 1961 and was measured at 3.7. Each of these incidents occurred in the northwest quadrant of Seneca County in an area currently identified as the Seneca Anomaly.

The Seneca Anomaly is a depression in the surface almost 900 meters in diameter and 100 meters deep. It was discovered during an attempt to drill a well in 1998. Believed to be a "hole" created by a meteor hit at an unknown time, the anomaly is commonly known as "Liberty Crater" because its characteristics match those of known meteor hits on Mars. It is not believed to be a weather related characteristic. It is not believed to be associated with an earthquake although it is in an area of limestone where underground voids and caverns exist. This inconsistent density of the sub-terrain in this area may contribute to sinkholes and other depressions forming without apparent cause.

Minor earthquakes have occurred in other areas of Ohio. The Lima area experienced earthquake activity in 1875 and 1884. The Pomeroy area felt an earthquake in 1926, and Anna (near Lima) experienced minor quakes in 1930, 1931, and 1937. None of these earthquakes caused widespread damage or devastation. Most resulted in shaking buildings, crumbling mortar, and some limited property damage. The impacts were only felt locally; no statewide damages were reported.

According to the Ohio Seismic Network, part of the Ohio Department of Natural Resources, seismic risk in Ohio is difficult to evaluate because earthquakes are infrequent. The recurrence interval is generally very long, sometimes spanning hundreds or thousands of years. In geologic terms, this classifies Ohio's historic record as an instant.

Another factor in earthquake risk is the nature of the geologic materials upon which a structure is built. ODNR states "ground motion from seismic waves tends to be magnified by unconsolidated sediments such as thick deposits of clay or sand and gravel." Seneca County is known for its clay, sand, and gravel, as well as cavities and caverns below the surface, but seismic activity is rarely detected.

Research data indicates that the current risk of earthquake in Seneca County is very low, with less than a 1% chance of a damaging earthquake occurring within 50 miles, but not within

Seneca County. Seismic activity has been recorded within 50 miles of Seneca County only three times in the past five years. Each recorded occurrence fell below measurable Richter activity.

- February 25, 2010, approximately 9.31 miles from Seneca County
- May 14, 2010, approximately 20.05 miles from the county
- May 14, 2010, approximately 25.8 miles from the county.

A map included in the Attachment Section identifies the Deep Structures in Ohio and includes the above referenced Seneca Anomaly.

Wildfire

Wildfires are not common in Seneca County. Small field fires are possible during periods of extreme drought and low humidity, but are rare. Most summers include a week or ten days of moderate to high wildfire risk, but these fires, if they occur, are confined to several hundred acres or less. Seneca County lacks the forestation and uninterrupted vegetation required to fuel a large-scale wildfire. Fire service in Ohio is also relatively sophisticated and readily available to extinguish small field fires before they develop into large-scale wildfires.

Hurricane

Seneca County does not experience hurricanes. Due to the absence of proximity to a large body of warm water and tropical forces of that water, a true hurricane is not possible in Seneca County. The effects of a strong hurricane in the south can be felt as a wind storm, heavy rain and precipitation, and thunderstorms or tornados. However, a true hurricane is possible.

Landslide/Mudslide

A landslide or mudslide occurs when topography creates significant differences in elevation and masses of soil, rock, or debris slide, no down the slope. Excessive precipitation, volcanic eruptions, or earthquakes initiate this movement, causing the mass of debris to destroy anything in its path.

Seneca County is not at risk for these disasters. The difference in elevation between the highest point in the county and the lowest point, which is located at the bottom of the Sandusky River, is only 337 feet. This decline occurs over a wide area stretching from Attica in the extreme southeast portion of the county to the northernmost side of the City of Tiffin, a distance of over 20 miles. The slope of the declining elevation is not sufficient to allow for landslides or mudslides.

The banks of the Sandusky River, in some places, will allow for limited sliding of mud from the banks, resulting in silt deposit into the riverbed. There is no property or human life at risk in these areas. Therefore, landslides, mudslides, and avalanches are not a risk in Seneca County Ohio.

Tsunami/Sieche

Seneca County is land-locked area and does not lie in proximity to any large body of water. Lake Erie is too far away, and the inland lakes and reservoirs are not large enough to constitute a seiche wave risk.

Volcano
There are no volcanos in Seneca County. Volcanos in North American are all on the west side of the Mississippi River, and near the Pacific coast or the Rocky Mountains.

Hazard Assessment and Risk Identification Summary
Seneca County is vulnerable to a variety of natural hazards. These hazards often present as combinations of multiple hazards, making the county's vulnerability higher and more severe. The following table represents the HIRA conclusions for Seneca County.

Hazard	Possibility	Probability	Magnitude	Frequency
Earthquake	Yes	Low	Very Low	Low
Extreme Cold/Winter Storm/Blizzard	Yes	Moderate	Moderate	Moderately High
Extreme Heat/Drought	Yes	Moderate	Very Low	Moderately Low
Flood (See jurisdictional table for more information)	Yes	High	Moderate	Moderately High
Hurricane/Severe Windstorm/Derecho	Yes	Moderate	Moderate	Moderate
Landslide/Mudslide	No	None	Not Applicable	Not Applicable
Severe Thunderstorm	Yes	Moderate	Moderate	High
Tornado	Yes	Moderate	Moderate	Moderate
Tsunami/Seiche Wave	No	None	Not Applicable	Not Applicable
Volcano	No	None	Not Applicable	Not Applicable
Wildfire	Yes	Low	Low	Very Low

Possibility: Expressed as "Yes" or "No".

Probability: Expressed as High (More likely to happen each year than less likely), Moderate (50-50 chance of happening), or Low (Less than 10% chance of happening.)

Magnitude:	Severe:	Losses would be sufficient for a Presidential disaster declaration
	Moderate:	Losses would be significant but not sufficient for a Presidential disaster declaration
	Low:	Losses would be sporadic and incidental

Frequency:	High:	>1/year
	Moderately High:	<1/year but >1/3 years
	Moderate:	<1/3years but >1/10 years
	Moderately Low	<1/10 years but > 1/50 years
	Low	<1/50 years

Note: For hazards that were identified as not possible or probable, the magnitude and frequency are listed as "Not Applicable".

Flood Hazard Identification and Risk Assessment by Jurisdiction

Jurisdiction	Flood Possibility	Flood Probability	Flood Magnitude	Flood Frequency
City of Fostoria	Yes	Low	Low	Low
City of Tiffin	Yes	Moderate	High	Moderate
Village of Attica	Yes	Low	Low	Moderate
Village of Bettsville	Yes	Moderate	Low	Moderate
Village of Bloomville	Yes	Moderate	Low	Moderate
Village of Green Springs	Yes	Moderate	Low	Moderate
Village of New Reigel	Yes	Low	Low	Low
Village of Republic	Yes	Moderate	Low	Moderate

LOSS ESTIMATES AND PROFILES

The Core Committee developed loss estimates as part of the mitigation plan update process. They took into account what the HIRA established as viable hazards for Seneca County, and then prioritized those hazards based upon possibility, probability, frequency, and magnitude.

In summary, it was determined that the vulnerability to most hazards was not regionalized within the county with one exception: flooding. While tornadoes, thunderstorms, winter storms, wind storms, and all other hazards that posed a significant risk were not more or less likely to strike any given properties, those properties prone to flooding were, in fact, able to be singled out. HAZUS software was used to determine the loss estimates for flooding based upon property location and proximity to waterways and low elevations. The rest of the hazards were considered of equal risk to all areas of the county. Furthermore, repetitive loss and severe repetitive loss properties were identified, and the losses associated with those properties were documented.

As hazards were ranked one against the other, floods became the most-dangerous and costly risk. Following were winter storms, tornadoes, severe thunderstorms, windstorms, drought, and earthquakes. Hurricanes, volcanoes, tsunamis, landslides and mudslides, and wildfires were not rated as far as loss estimates since the risks associated with these, based on possibility, probability, frequency and magnitude did not warrant it.

This loss estimate section first identified the damages that would occur in flooding incidents. The loss estimates for floods follows. The damages likely from all other viable risks are described with a single section of loss estimates to compliment the descriptions. The loss estimates are expressed once to cover all non-flood incidents because the damage risk is spread equally across all jurisdictions, and no one area is more prone to damage than another. Thus there is a flood section and a non-flood section within Loss Estimates.

The taxable property valuations in Seneca County, and thus the loss vulnerabilities, are summarized in the following table. These valuations are generally considered to be 35% of the market value of properties; however, due to economic conditions in Seneca County, market values are changing on a quarterly basis as the county recovers from the 2008 recession. Market values at this point are estimated, in general, to be approximately 2.5 times the tax valuation. Replacement values can be as high as 1.3 times the market value, or 3.25% of taxable value. At this point in time, tax valuations are the most consistent marker, and thus were used for the purpose of this plan.

Tax Valuations for Seneca County Properties (a jurisdiction by jurisdiction table is included as Appendix f.1).

Residential	Agricultural	Commercial/Industrial	Exempt Properties	Total
$588,911,420	$226,395,450	$182,319,320	$373,817,320	$593,808,870

FLOOD INCIDENTS AND LOSSES

Seneca County is vulnerable to significant damage from floods, although typical recurring damage is limited to the areas in proximity to waterways. The almost flat topography from the county's south to north borders slopes down ever so slightly, but facilitates natural runoff to the north whereby water eventually reaches Lake Erie through the Sandusky River. In cases of very rapid and heavy rainfall areas not included in floodplains and areas adjacent to waterways could experience significant temporary flooding.

Seneca County flooding is caused by one of two situations: First, significantly heavy, rapid, or extended duration rainfall causes riverine flooding and low elevation collection of water. As waterways and tributaries are overwhelmed and unable to carry the water away as fast as it comes, as well as carrying away upstream runoff, flooding occurs. This flooding is in proximity to the Sandusky River and its major tributaries. Residential, agricultural, and business properties are vulnerable to this kind of flooding at the onset, but only those properties close to the flood plains are vulnerable to extended flooding. These properties fall within the floodplains and immediate adjacent areas in Seneca County.

The second flooding situation is caused when rainfall is accompanied by snowmelt and heavy runoff while the ground is still frozen or is extremely saturated, mostly an incident that takes place in late winter and early spring. Flooding is exacerbated when development has resulted in conversion of porous absorbent soil to concrete and asphalt, causing flooding of parking areas and streets as well as residential and commercial properties. Due to the inability of the ground to absorb the water in a given time frame, flooding occurs in parking lots, streets, driveways and yards, as well as in low lying areas and floodplains too. The duration of this kind of flooding is dependent upon whether or not the Sandusky River develops ice jams that impede drainage along the way, or if the water is able to readily flow into Lake Erie.

Flood Damage Profile

Flood damage in Seneca County would potentially include structural damage, infrastructure damage and destruction, and crop damage. Estimates were developed through use of HAZUS projections for a 25-year flood event and a 100-year flood event. Valuations were estimated based upon 2006 valuations, and may in fact be slightly lower due to decreases in property valuations over the past twelve months of 2013.

Residential structural damages would include damage to single and multiple family homes, congregate living facilities, and multi-family housing complexes. Commercial and industrial structural damages would include buildings used for manufacturing, product handling, transportation, warehousing, retail, business, and industrial, and the capital equipment associated with those uses. Agricultural structures would include barns used for livestock, equipment storage, and commodity storage, as well as the contents of those buildings that constitute business assets such as production animals, equipment, and machinery. Government, nonprofit organizations, and educational institutions would include critical structures like fire stations, police stations, hospitals, offices, schools, and special facilities like garages and maintenance buildings, and the capital contents of those structures.

Actual structural damage could include flooding of basements and ground level floors, destroying the contents of those properties. In the aftermath, the combination of substances results in development of hazardous chemical exposures for rescuers, responders, and victims. Many roads can flood for short periods of time in Seneca County, closing businesses and institutions and crippling commerce for a short period of time. This period of business shut-down generally is confined to the floodplain areas, and lasts for only a day or two once the rain stops.

This damage would result in large amounts of debris to manage, including finish, structural, and foundation materials in the debris.

It is estimated using HAZUS technology, and confirmed through research of current property data at the Seneca County Auditor's Office that there are approximately 26,956 buildings in the region with an aggregate total replacement value of $4,245M. (2006 dollars) Distribution of that property is detailed in the tables below, for 25 and 100 year flood events.

Building Exposure by Occupancy Type for 25-Year Flood Scenario

Occupancy	*Exposure ($1000)*	*Percent of Total*
Residential	642,680	74.7%
Commercial	105,834	12.3%
Industrial	51,831	6.0%
Agricultural	19,282	2.2%
Religious	23,096	2.7%
Government	3,810	0.4%
Education	13,987	1.6%
Total	860,520	100.00%

Building Exposure by Occupancy Type for 100-Year Flood Scenario

Occupancy	*Exposure ($1000)*	*Percent of Total*
Residential	719,234	77.3%
Commercial	101,737	10.9%
Industrial	51,737	5.6%
Agricultural	19,426	2.1%
Religious	22,041	2.4%
Government	2,574	0.3%
Education	13,427	1.4%
Total	930,186	100.00%

Critical infrastructure includes ten fire stations, nine law enforcement departments, two hospitals with a combined capacity of 75 beds, and one emergency operations center.

Estimated Flood Damages

HAZUS calculations and projections take into account the areas considered flood plain and the occupancy of such properties. The floodplains in Seneca County follow the Sandusky River, and include a few areas along tributaries such as Honey Creek, East Branch Wolf Creek, and Wolfe Creek where these tributaries carry significant amounts of runoff water. Much of the county is

not prone to flooding at all. All floodplain area that falls within a municipality is either in Tiffin or Bettsville, or a small southeast corner of Republic. There is no floodplain in New Riegel, Attica, Bloomville, Green Springs, or Fostoria. Some sections of Clinton and Hopewell Townships that are adjacent to the City of Tiffin have floodplains where Honey Creek and the East Branch Wolf Creek approach junction with the Sandusky River. Much of the floodplain outside the municipalities consists of agricultural land used for grazing. Some of the floodplain is unfarmed and unoccupied.

In a 25-year flood event, it is estimated that 108 buildings would be at least moderately damaged. HAZUS estimations indicate that 20 buildings would be destroyed completely. This estimate is detailed as follows: approximately 20 residential structures destroyed; 25 with significant damages; 28 with severe damages; 22 with moderately high damages; and 13 with moderate damages. The most vulnerable structural material is wood construction, with 84 of 108 projected residences with damages being wood construction. The remaining damage projection involves masonry construction. Manufactured housing projections equaled a single residence, and steel or concrete residences were not projected as affected.

In a 100-year flood event, the estimates rise. HAZUS estimates that 141 buildings will be at least moderately affected. HAZUS estimates that 29 residences would be completely destroyed 32 would incur significant damages; 42 with severe damages; 27 with moderately high damages; and 11 with moderate damages. Again, the most vulnerable structural material is a wood constructed home; masonry and manufactured homes are vulnerable to a lesser degree. Steel and concrete structures are not anticipated to be severely affected.

In both estimations, it is expected that schools would incur significant damages with a projected 5 structures affected in either the 25 or 100 year flood scenarios.

It is estimated that 802 households (1,295 residents) would be displaced and sheltered in a 25-year flood incident. The numbers increase to 878 households and 1,387 residents respectively for a 100-year flood incident.

25-Year Flood Scenario Vulnerability Analysis

Building Type	*Number of Buildings*	*Exposure*
Residential	4,076	$642,680,000
Non-Residential	1,124	$176,947,000
Critical Facilities	261	$40,893,000
Totals	***5,460***	***$860,520,000***

100-Year Flood Scenario Vulnerability Analysis

Building Type	*Number of Buildings*	*Exposure*
Residential	4,561	$719,234,000
Non-Residential	1.098	$172,900,000
Critical Facilities	1,865	$292,922,000
Totals	***7,524***	***$1,185,056,000***

EARTHQUAKE INCIDENTS AND LOSSES

Earthquakes are not common to Seneca County, and there is little historical data to support commitment of extensive resources to earthquake-proofing buildings and other structures. It is geographically possible to experience an event. The HMCC decided to not include earthquake in primary mitigation efforts due to low risk and high cost of implementing strategies, but loss profiles were obtained through use of the HAZUS software to give the committee the greatest amount of information possible in making their final determinations. Loss estimates, assumptions, and situational conditions follow. The simulated earthquake epicenter was assumed to be inside the City of Tiffin, the county's most populous city, for a worst-case scenario with an earthquake magnitude of 5.4.

Structure Profile

The geographical area in the HAZUS Earthquake projection was 551.49 square miles with 22,000 households and a population of 58,682 (per the 2000 census database). An estimated 26,000 buildings in the region would cause a replacement cost of $4,244M. Residential housing makes up 92% of the buildings. Transportation and utility lifeline system replacement is estimated at $1,136M and $350M respectively.

Critical Facility Inventory

HAZUS separates critical facilities into essential facilities and high potential loss structures. Essential facilities are healthcare facilities like hospitals and clinics, fire and EMS stations, police stations, and operations and dispatch centers. Schools are included in essential facilities.

High potential loss structures include 7 dams, with one classified as "high hazard". There are also 29 hazardous material sites. There are no military installations and no nuclear power stations.

Seneca County has one hospital with 115 beds; 3 airports; 3 additional heliports at hospitals; 10 fire and EMS stations; 9 police stations; 1 emergency operations facility, and 35 schools. There are 7 transportation systems that include highways, railways, and airports. Utility systems include 6 systems, including water treatment and potable water plants, wastewater treatment plants, natural gas suppliers, crude and refined oil refineries, electrical power plants, and communications hubs. There are 175 Kilometers of highway, 312 bridges and 4,979 kilometers of pipelines. A table with this data follows.

System Type	Components	Quantity	Replacement Value
Highways	Bridges	312	83.5M
	Segments	49	$659.2M
Railways	Bridges	8	$0.6M
	Facilities	0	$0.0M
	Segments	152	$198.8M
Airport	Facilities	4	$42.6M
	Runways	4	$151.9M
TOTAL			$1,136.6M

Utility System Inventory

System	Component	Quantity	Replacement Value
Potable Water	Distribution Lines	N/A	$49.8M
Waste Water	Distribution Lines	N/A	$29.9M
	Facilities	5	$349.7M
Natural Gas	Distribution Lines	N/A	$19.9M
Oil Systems	Facilities	1	$0.1M
Communication	Facilities	5	$0.5M
TOTAL			$449.9M

HAZUS estimates of building damages are extensive. The estimated number of buildings damaged to some degree, at least moderately, is 3,690. This amounts to over 14% of all buildings in the county. An estimated 139 buildings would be destroyed. A table of anticipated building damage follows.

Category/Damage Amount	None	Slight	Moderate	Extensive	Complete
Agriculture	236	64	52	17	2
Commercial	738	241	183	61	11
Education	28	9	8	2	1
Government	29	8	7	2	0
Industrial	271	78	62	20	3
Other Residential	3,708	1,308	764	166	28
Religious	89	28	20	71	5
Single Family Residential	12,440	3,990	1,767	414	93
TOTAL	*17,539*	*5,726*	*2,862*	*689*	*140*

Dependent upon the type construction of a building, the damages from an earthquake can be less or more. Based upon typical types of construction, the same scenario is extrapolated into damage according to construction type in the chart below.

Type/Damage Amount	None	Slight	Moderate	Extensive	Complete
Wood Construction	12,834	3,882	1,249	140	8
Steel Construction	442	112	112	36	3
Concrete	129	34	26	6	0
Precast	119	29	37	17	1
Reinforced Masonry	86	17	21	9	0
Unreinforced Masonry	3,188	1,337	1,117	428	123
Manufactured Housing	740	315	302	53	4
TOTAL	*17,539*	*5,726*	*2,862*	*689*	*140*

Of the essential facilities (schools, hospitals, dispatch centers, and public safety stations), it is estimated that 36% of the115 (41 beds) hospital beds would be available and functional on the day of the earthquake. These would be needed by patients already hospitalized at the time of the quake and individuals injured and requiring hospitalization after the quake. By one week later, it

is estimated that 52% of the beds (60 beds) would be functional. By 30 days post-event, an estimated 80%, or 106 beds, would be functional.

It is estimated that on Day #1 of the event, 7 OF 9 police stations would experience some sort of functional impairment. Of 10 fire and EMS stations, 5 would be impaired. Of the 35 educational facilities, approximately 16 of the facilities would experience some degree of damage and loss of function.

HAZUS predicts a less grim picture for infrastructure resiliency. It predicts that all roadways, bridges, railways, rail bridges, rail facilities, and airports will experience greater than 50% functionality after Day #1, and will continue over 50% functionality 7 days after an earthquake, and thereon.

All wastewater treatment plants are anticipated to incur moderate damage, but to function beyond 50% levels after one week. One oil distribution system is expected to have more than 50% functionality after the first day, and 5 communication centers are expected to have at least moderate damage, after one week, it is anticipated that all 7 will be running at greater than 50% capacity.

In this scenario, it is anticipated that utility services would be interrupted following an incident. For water, wastewater, and natural gas, the following leaks and line breaks are predicted:

Utility	Anticipated Leaks	Anticipated Line Breaks
Water	58	14
Wastewater	46	11
Natural Gas	49	12
Oil Wells	0	0

It is not anticipated that households would be without water. Electrical service is more challenging to restore. The following chart outlines the number of customers anticipated to be without electric service following the incident:

Days Post-Event	Customers Without Electric Service
Initial Impact	11,507
3 Days	6,942
7 Days	2,538
30 Days	407
90 Days	15

HAZUS estimates the number of fires that would occur based upon the prospect of water not being available to fight fires and an abundance of spontaneous ignition. The program estimates 4 ignitions that would burn 0.17 squares miles of the area. It is estimated that as many as 136 people could be displaced by these fires and ruin close to $9M in property because of the fires.

Debris generation could top 3,960 truckloads of brick, wood, steel, and concrete.

HAZUS estimates that 204 households would be displaced, resulting in 130 persons in shelters.

Casualty estimates follow, with assigned times of the incident and modified projections. The lowest serious and least injuries overall would occur at 5 PM, and the highest and most serious at 2AM.

Time	Location	Level 1: Injured but not hospitalized	Level II: Hospitalized with non-life threatening	Level III: Hospitalized with Critical	Level IV: Dead
2 AM	Commercial	0	0	0	0
	Commuting	0	0	0	0
	Educational	0	0	0	0
	Hotels	0	0	0	0
	Industrial	0	1	0	0
	Other Residential	19	4	0	1
	Single Family	64	13	2	3
	TOTAL	***84***	***17***	***2***	***4***
2 PM	Commercial	25	5	1	1
	Commuting	0	0	0	0
	Educational	16	4	0	1
	Hotels	0	0	0	0
	Industrial	4	1	0	0
	Other-Residential	4	1	0	0
	Single Family	13	3	0	1
	TOTAL	***62***	***13***	***2***	***3***
5 PM	Commercial	23	5	1	1
	Commuting	0	0	0	0
	Educational	2	1	0	0
	Hotels	0	0	0	0
	Industrial	2	0	0	0
	Other-Residential	8	2	0	0
	Single Family	25	5	1	1
	TOTAL	***60***	***13***	***2***	***3***

Building-Related Losses

Business losses were divided into two anticipated categories of loss: direct building loss and business interruption loss. Direct building losses include structural damage and damage to contents. Business interruption losses include the costs associated with not being able to conduct normal business, displaced workers, and lost opportunities. Following is a summary of those anticipated losses.

Total estimated building losses were $320.97M. 16% of the losses were related to business interruption in the region; the largest loss projection was sustained by residential, which is 59% of the total. The table below summarizes the estimations.

Area	Single-Family	Other Residential	Commercial	Industrial	Other	Total
Building Loss (Expressed in millions of dollars)						
Structural	17.36	4.31	6.04	2.55	3.17	34.33
Non-Structural	77.48	26.27	25.48	12.97	9.53	151.74
Content	35.71	9.31	18.68	10.58	7.23	81.51
Inventory	0.00	0.00	0.59	2.73	0.25	3.57
Sub-total	130.54	39.89	51.70	28.84	20.18	271.16
Business Interruption (Expressed in millions of dollars)						
Wage	0.00	0.64	7.72	0.65	0.68	9.68
Capital-Related	0.00	0.27	6.32	0.39	0.19	7.17
Rental	3.09	2.58	3.70	0.23	0.27	9.87
Relocation	11.43	2.04	6.06	0.98	2.60	23.10
Sub-Total	14.52	5.54	23.79	2.25	3.73	49.81
TOTAL	*145.06*	*45.43*	*75.48*	*31.09*	*23.91*	*320.97*

Transportation and Utility Lifeline Losses

Earthquakes damage infrastructure extensively. The following chart depicts the potential damage Seneca County could expect in an earthquake scenario to its highways, airports, ports, and other transportation systems. Numbers are expressed in millions of dollars.

System	Component	Inventory Value	Economic Loss	Loss Ratio %
Highway	Segments	659.18	$0.00	0.00
	Bridges	83.52	$0.12	0.14
	Sub-total	***742.70***	***$0.10***	
Railways	Segments	198.81	$0.00	0.00
	Bridges	0.57	$0.00	0.02
	Sub-total	***199.40***	***$0.00***	
Airport	Facilities	42.60	$10.99	25.81
	Runways	151.86	$0.00	0.00
	Sub-Total	***194.50***	***$11.00***	
TOTAL		***1136.60***	***$11.10***	

Following are the anticipated damages to utility systems.

System	Component	Inventory Value	Economic Loss	Loss Ratio %
Potable Water	Pipelines	0.00	0.00	0.00
	Facilities	0.00	0.00	0.00
	Distribution Lines	49.80	$0.26	0.52
	Sub-total	***49.79***	***$0.26***	
Waste Water	Pipelines	0.00	0.00	0.00
	Facilities	349.70	$105.14	30.07
	Distribution Lines	29.90	$0.21	0.69
	Sub-total	***379.53***	***$105.34***	

Natural Gas	Pipelines	0.00	0.00	0.00
	Facilities	0.00	0.00	0.00
	Distribution Lines	19.90	$0.22	1.11
	Sub-total	***19.92***	***$0.22***	
Oil Systems	Pipelines	0.00	0.00	0.00
	Facilities	0.10	0.01	7.81
	Sub-total	***0.11***	***$0.01***	
Communication	Facilities	0.50	$0.12	23.22
	Sub-total	***0.53***	***$0.12***	
	TOTAL	***449.87***	***$105.95***	

Indirect Economic Impact

A disaster is felt long after the appearance of recovery is present. Employment tends to fluctuate, and the economy moves up and down as it reaches long-term recovery. Incomes follow employment, and company profits, government budgetary stability, and nonprofit operations take years to return to a stable sense of normal. Some community preparedness statistics indicate that one in four businesses never re-opens after a significant disaster. The following information attempts to project the intermediate and long-term employment and income numbers. Numbers expressed in the employment impact row are expressed in numbers of people; the income impact row is expressed in millions of dollars.

	Loss	**Total**	**%**
First Year	Employment Impact	0	0.00
	Income Impact	(2)	-0.36
Second Year	Employment Impact	0	0.00
	Income Impact	(7)	-1.09
Third Year	Employment Impact	0	0.00
	Income Impact	(9)	- 1.41
Fourth Year	Employment Impact	0	0.00
	Income Impact	(9)	- 1.41
Fifth Year	Employment Impact	0	0.00
	Income Impact	(9)	- 1.41
Years 6 – 15	Employment Impact	0	0.00
	Income Impact	(9)	- 1.41

Earthquake Scenario Vulnerability Analysis

Building Type	*Number of Buildings*	*Exposure*
Residential	2,274	$372,029,512.40
Non-Residential	1,369	$196,424,624.33
Critical Facilities	48	$6,887,057.68
Totals	***3,691***	***$575,341,194.42***

NON-FLOOD INCIDENTS AND LOSSES

Buildings and Structures at Risk

Seneca County has approximately 24,055 homes. Of those homes, approximately 81% are single-family homes, 14% are multi-family homes, and 5% are mobile homes. The population density is roughly 102.3 persons per square mile.

Summary of structures and properties in Seneca County

Type of Property	Number of Properties	Valuation
Residential	23,566	$558,911,420.00
Agricultural	6,916	$226,395,450.00
Commercial/Industrial	2,322	$182,319,320.00
Exempt Properties	1,783	$373,817,320.00
Critical Facilities	97	(Included above)

Winter Storm Damage Profile

Winter storm damages can potentially affect virtually every home, business, or property in Seneca County indirectly. There is no area that is more or less vulnerable to snowfall because there are no hills and valleys that interrupt or redirect precipitation. The flat terrain and consistent elevations allow drifting and blowing snow to cause low visibility at any location in the county.

Power outages occur across the entire county during blizzards or during snow storms that include significant ice fall, wind, or heavy amounts of snow. Residential electric lines are mostly above ground and vulnerable to wind and ice. Only some of the more recent housing developments have buried electric lines. Major supply lines are above ground as they enter Seneca County from the generation plants, and therefore power to the substations is vulnerable to wind and heavy snow and ice even if the residential lines are not. Therefore power outages are likely, frequent, and widespread.

The loss estimates for winter storms is relatively low. There is no identifiable history of property loss due to snow pack, avalanche, or other winter storm related cause. The reasonably anticipated loss from a winter storm would be content loss due to power interruptions, such as food and perishables. The losses in anything but an unusual, unpredictable incident would not include structures or infrastructure.

Winter Storm Scenario Vulnerability Analysis

Building Type	*Number of Buildings*	*Exposure*
Residential	8	$1,288,642
Non-Residential	3	$414,960
Critical Facilities	1	$83,793
Totals	***11***	***$1,787,395***

Tornado Damage Profile

Seneca County is universally vulnerable to tornado damage. Although old Indian lore claims that the City of Fostoria is a sacred burial ground and will not be damaged by Mother Nature, there is

no physical evidence that immunity exists! Therefore, the entire county with its flat topography is equally vulnerable to damage from tornado.

Mobile homes comprise 5% of Seneca County's residential structures with a tax valuation of approximately $***18,000,000.00 in value for 1203 mobile homes***. These homes are more vulnerable to wind damage because they are less secured to the ground than a building with a foundation, have no sub-terrain level such as a basement, and are lighter weight and made of less wind resistant material than a constructed home. These homes are scattered throughout the county, and are individually located or within a mobile home park. The vulnerability does not change dependent upon the location.

Other homes are generally constructed using wood, concrete, brick, and stone. These homes are built on traditional foundations with basements or crawl spaces; some new homes are concrete slab construction without basements or crawl spaces. These homes are most prone to superficial damage, roof damage, and trees falling on them during tornadoes and severe windstorms.

Commercial buildings are made of concrete, brick, concrete block, stone, and wood. They are generally built on concrete slabs with structural support trusses and pitched roof construction to facilitate snow and ice melt and runoff. Flat roof buildings like the shopping mall in Tiffin are susceptible to heavy snow in blizzard conditions; there is no identifiable history of roof collapse incidents due to snow or ice.

The incidence of tornadoes in Seneca County is frequent, with tornado warnings issued several times each year as cold and warm fronts clash, creating turbulent weather. Most tornadoes occur in the spring and early summer, but there have been incidents of tornadoes in fall such as November 2002. Tornadoes that strike Seneca County, Ohio have been measured as EF-0, EF-1, and EF-2 tornadoes; therefore damage

Property damage from tornadoes in Seneca County is generally limited to roof damage, gutter and downspout damage, fallen trees, and an occasional building collapse. Mobile homes are damaged or destroyed in the most serious outbreaks. Outbuildings, barns, and storage buildings are frequently damaged because these structures are less resistant to wind damage and are frequently built on concrete slabs and dirt foundations. The following table was taken from FEMA's website, and indicates the type of damages done per Enhanced Fujita Scale tornado classification. The tornadoes in Seneca County have historically been limited to EF-0, EF-1, and EF-2, and those categories are italicized.

EF-Scale:	**Typical Damage:**
EF-0 (65-85 mph)	*Light damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.*
EF-1 (86-110 mph)	*Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass*

EF-Scale:	Typical Damage:
	broken.
EF-2(111-135 mph)	*Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.*
EF-3 (136-165 mph)	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some distance.
EF-4 (166-200 mph)	Devastating damage. Whole frame houses Well-constructed houses and whole frame houses completely leveled; cars thrown and small missiles generated.
EF-5 (>200 mph)	Incredible damage. Strong frame houses leveled off foundations and swept away; automobile-sized missiles fly through the air in excess of 100 m (109 yd); high-rise buildings have significant structural deformation; incredible phenomena will occur.
EF No rating	Inconceivable damage. Should a tornado with the maximum wind speed in excess of EF-5 occur, the extent and types of damage may not be conceived. A number of missiles such as iceboxes, water heaters, storage tanks, automobiles, etc. Will create serious secondary damage on structures.

EF-5 Tornado Scenario Vulnerability Analysis

Building Type	*Number of Buildings*	*Exposure*
Residential	327	$51,532,507
Non-Residential	105	$16,594,176
Critical Facilities	21	$3,350,875
Totals	***454***	***$71,477,558***

Severe Thunderstorm Damage Profile

Severe thunderstorms are frequent in Seneca County. However, the storms are more inconveniencing than damaging. A rare lightning strike may destroy an electrical transformer,

strike a building and cause a fire, or hit a tree and cause damage to something it touches. More severe damage including loss of property and life is certainly possible, but statistics indicate the frequency with which that happens is extremely low.

When thunderstorms are accompanied by tornadoes, the damages due to tornadoes can be more significant, as described previously. Straight-line winds can be the result of downbursts and microbursts, and can be just as destructive as a tornado. The damages are similar to that of the tornado EFS listed previously.

Thunderstorm Scenario Vulnerability Analysis

Building Type	*Number of Buildings*	*Exposure*
Residential	4	$576,745
Non-Residential	1	$185,720
Critical Facilities	0	$35.503
Totals	***5***	***$799,968***

Wind Storm Damage Profile

In recent years, Seneca County has experienced two windstorms that were, at the time, considered an anomaly. In September 2008, Hurricane Ike reached Ohio sans the precipitation as a windstorm. Power lines were felled, and utility outages occurred although in far lower numbers than further south in central Ohio. Again in June 2012, a derecho formed in the northern Illinois area and swept across the Midwest and out into the Atlantic Ocean through Virginia and New York. Seneca County was on the very edge of this wind event, and experienced only slight wind damage. However, a wind incident could occur, and Seneca County could potentially be in the impact zone. Damages would be similar to that of a tornado incident, as quantified previously.

Wind Storm Scenario Vulnerability Analysis

Building Type	*Number of Buildings*	*Exposure*
Residential	18	$2,852,397
Non-Residential	6	$918,511
Critical Facilities	1	$185,476
Totals	***25***	***$3,956,384***

Drought Damage Profile

Seneca County can experience drought, and regularly experiences periods of decreased precipitation during the growing season for area farms. There is no history of an extended drought that would cause more casualty or property damage than the reduction in crop yields for a single year. The climate is moderate, and does not turn arid at any time. There is no history of extended drought conditions that would affect crops for any longer than a single growing season.

For the purpose of loss estimates, only the major cash grain crops were considered because those crops constitute the majority of production in Seneca County, and are consistently produced in the expressed acreages from year to year. Production livestock could be sold in spite of drought; other cash crops such as cucumbers, tomatoes, and vegetables are heavily insured. While most

farmers purchase crop insurance, it is undeterminable whether or not cash grain is typically insured in Seneca County.

Based upon 2011 acreage reports from the US Agricultural Service and current grain prices on NASDAQ, Seneca County could expect the following loss amounts under total crop loss conditions for corn, soybeans, and red wheat:

Commodity	Average Yield/Acre (Ag Services)	Average Acres in Seneca County (Ag Services)	Current Cash Price (NASDAQ)	Total Value
Corn	150 bu/acre	69,441	$4.27	$44,476,960.50
Soybeans	52 bu/acre	119,829	$13.43	$83,683,780.44
Wheat	50 bu/acre	37,033	$6.66	$12,331,989.00
Total Grain				**$140,492,729.94**

Seneca County Commodity Loss Statistics – 2012 Drought

Commodity	*2011*	*2012*	*Units*	*Change*	*Amount*
Corn – Planted	84,900	103,000	Acres	Up	18,100
Corn, gran – Harvested	80,500	99,500	Acres	Up	19,000
Yield	94.82%	96.60%		Up	1.78%
Corn, grain – Production	13,294,000	11,679,000	Bushels	Down	1,615,000
Corn, grain – Yield	165.1	117.4	Bushels/Acre	Down	47.7
Hay, alfalfa – Harvested	2,400	2,300	Acres	Down	100
Hay, alfalfa – Production	10,300	7,200	Tons	Down	3,100
Hay, alfalfa – Yield	4.30	3.15	Tons/Acre	Down	1.15
Soybeans – Planted	123,000	131,000	Acres	Up	8,000
Soybeans – Harvested	122,800	130,900	Acres	Up	8,100
Yield	99.84%	99.92%		Up	0.09%
Soybeans – Production	6,085,000	5,007,000	Bushels	Down	1,078,000
Soybeans – Yield	49.6	38.3	Bushels/Acre	Down	11.3

Wildfire Damage Profile

There is no history of wildfire in Seneca County. Therefore, no damage estimations were established. There is no identifiable history of wildfire in Seneca County, and no historical data to support losses incurred due to wildfire.

Landslide/Mudslide Damage Profile

Due to the lack of sloping topography, Seneca County is not vulnerable to landslides and mudslides. There is less than 400 feet variation in elevation across the entire county, and there is very limited riverbank where a landslide could feasibly occur. In those areas, the riverbank is left to its natural habitat. Therefore, it was assessed that Seneca County is not vulnerable to landslide or mudslide, and no damage estimations were developed.

Hurricane Damage Profile
Seneca County is not vulnerable to hurricanes. The massive storms are unable to retain enough heat to sustain itself, and therefore a hurricane cannot reach Seneca County, Ohio. Should a strong storm from the south or east reach Seneca County, it would become a wind or thunderstorm event, as described above.

Tsunami/Sieche Wave Damage Profile
Seneca County is not in proximity to any large body of water; therefore, a tsunami or sieche wave is not possible in Seneca County. There was no damage estimations developed.

Volcano Damage Profile
There are no volcanoes in Seneca County, Ohio and therefore no damage estimations were established.

Estimated Non-Flood Losses
In consideration of all previously stated data and projections, Seneca County is at risk for damages from a variety of disasters. The following list of weather events was evaluated as a part of this update to the Hazard Mitigation Plan: tornado, severe thunderstorm, wind storm, winter storm, floods, earthquake, landslide and mudslide, volcano, tsunami/sieche wave, drought, and hurricane.

Not possible in Seneca County due to geological characteristics are volcano, landslide/mudslide, hurricane, and tsunami/seiche wave. Hurricane is not reasonably possible due to lack of proximity to a large body of tropical water; risk of a dry hurricane is included as a part of wind storm and severe thunderstorm findings because by the time a hurricane gets to Seneca County, it is without the warmth of tropical waters, but is instead a wind/rain incident. As potential disasters were evaluated in terms of risk and damages, the following table summarizes that analysis and ranking of potential loss. The legend explaining values follows the table with full descriptions.

Disaster Type	Frequency	Magnitude	Feasibility	Final Value	Rank
Flood	5	2	5	12	1
Winter Storm	5	3	3	11	2
Tornado	4	2	3	9	3
Severe thunderstorms	5	0	3	8	4
Wind storm	4	1	2	7	5
Drought	2	1	3	6	6
Earthquake	1	0	2	3	7
Wildfire	*0*	*0*	*0*	*0*	*Not rated*
Hurricane	*0*	*0*	*0*	*0*	*Not rated*
Landslide/Mudslide	*0*	*0*	*0*	*0*	*Not rated*
Tsunami/Sieche	*0*	*0*	*0*	*0*	*Not rated*
Volcano	*0*	*0*	*0*	*0*	*Not rated*

Each of the above hazards was rated in comparison with the others to arrive at a determination of greatest risk to the population and property in Seneca County. The focus was placed upon loss

of life, property casualty, and disruption of normal daily activities such as going to work, school, or church and being able to enjoy one's home and activities. School and business closure, lack of passable roadways and disruption of transportation, and presence of utilities in normal functioning capacity was a part of the determination for each rating. The least damaging events were those that did not cause the closure of business and schools, and during which the roads and bridges remained open.

Frequency
Weather events that occur regularly are rated as a higher risk than those that occur on a sporadic basis.

One or more annually	5
At least one per three year period	4
At least one per ten year period	3
At least one per twenty-five year period	2
At least one per fifty year period	1
Less than one per 50 year period	0

Magnitude
Magnitude is rated using standard damage scales such as the Enhanced Fujita Scale, or through the development of a local comparative scales that is comparable in damages at like levels using the established damage scales. Some scales from other geographic regions, such as the North East Snow Index Scale was used as models to develop a comparative tool in Seneca County.

The Enhanced Fujita Scale was used for tornado ratings. The Windstorm scale was derived from a combination of tornado, hurricane, and derecho damage data, and extrapolated into a locally developed comparative rating. The Saffir-Simpson Scale was used for hurricane, and the National Weather Service descriptions of flooding were used, tempered with localized detail. The Richter Scale was used for earthquake, and the U.S. National Drought Mitigation Center scale was used for drought. The winter storm scale is an adaptation of the North East Snow Index System, or NECIS, based upon comparative local impact criteria. All scales are based upon damage to structures and disruption of normal services.

Plan Rate	Tornado	Windstorm	Hurricane	Flood	Earthquake	Drought	Winter Storm
5	EF-5	>100 mph	>157 mph	Catastrophic	> 9.0	Famine	> 24 " snow
4	EF-4	86-99mph	130-156 mph	Major	8.0 – 8.9	D-4 Exceptional	16-24" snow
3	EF-3	76-85 mph	111-129 mph	Significant	7.0 – 7.9	D-3 Extreme	12-16" snow
2	EF-2	68–75 mph	96-110 mph	Moderate	6.0 – 6.9	D-2 Severe	8-12" snow
1	EF-1	58-65 mph	74-95 mph	Minor	5.0 – 5.9	D- 1 Moderate	4-8" snow
0	EF-0	< 58 mph	<74 mph	Temporary	< 5.0	D-0 Very Dry	< 4 "snow

Feasibility
Feasibility indicates to the geographic or meteorological possibility for the hazard to exist in Seneca County, Ohio. If there is no presence of the geographical or meteorological characteristics of the hazard, or if there is no recorded incidence of the event in experiential data found, then the hazard is rated as a "1". For example, there are no volcanoes in the county. There are no possibilities for a landslide due to the extremely flat topography, with an elevation difference from the highest point to the lowest point in the county measuring only 337 feet over twenty-five miles, or a slope of only 0.002 feet per foot. Those hazards that would occur only in a specific location within the county are rated a "2". Those hazards that occur seasonally only are rated a "3", and those that only occur during specific conditions that can occur year-round are rated a "4". Those events that can occur on any day during any season in any part of the county are rated a "5".

5	All conditions are present for this threat to occur at any time during the year
4	Conditions for this to occur are present all year, but not on all days of the year
3	All conditions are present for this threat to occur seasonally only
2	Only under special conditions is this threat viable, or only in specific geographic areas of the county
1	This threat is generally not a viable threat
0	The conditions for this hazard do not exist in Seneca County Ohio

Disaster Declarations and Recovery Assistance
Seneca County, Ohio has experienced few disasters of declaration magnitude. According to FEMA, the disaster declaration summary follows with the declaration identifier, the declaration name, time of incident, and the type assistance that was rendered through FEMA funding. Blizzards and snowstorms have rendered the need for most public assistance to clear roadways and restore utilities. Individual assistance has not been rendered to Seneca County for disaster relief in more than fifty years, dating back to 1969 when flooding covered most of the State of Ohio. Funding allocated directly to Seneca County can be identified only for DR-1580 ($7,228,768.41) and EM-3198 ($131,608.28). While the others are listed on FEMA's website as Seneca County received assistance, the amounts cannot be verified due to unavailability of federal workers at this time.

Declaration	Disaster Type	Date	Assistance Rendered
EM-3346	Ohio Severe Storms	June/July 2012	Public Assistance
EM-3250	Hurricane Katrina Evacuation	August-October 2005	Public Assistance
DR-1580*	Ohio Severe Winter Storms, Flooding, and Mudslides	December 2004 – February 2005	Public Assistance
EM-3198*	Ohio Snow Storm	December 2004	Public Assistance
DR-1444	Ohio Severe Storms and Tornadoes	November 2002	Individual Assistance
EM-3055	Ohio Blizzards and Snowstorms	January 1978	Public Assistance
EM-3029	Ohio Snowstorms	February 1977	Public Assistance
DR-266	Tornadoes, Severe Storms,	July 1969	Individual Assistance

	Flooding		Public Assistance
DR-191	Ohio Tornadoes, Severe Storms	April 1965	Individual Assistance Public Assistance

Property Valuations and Total Loss Estimates
Seneca County land use includes residential homes and multi-family homes; agricultural land for production; commercial property for manufacturing and business; and public properties such as county, municipal, and special jurisdiction structures.

A table indicating property values for loss estimation follows. The information was obtained from and developed using 2013 land valuations from the Seneca County Auditor's Office. It shows the value of residential, agricultural, commercial/industrial, and exempt properties by township and municipality as well as a comprehensive valuation of the entire county.

The severe economic downturn that affected Seneca County from 2008 through 2012 led to fluctuating property values in the county. These fluctuating values are evidenced by what appear to be inconsistent or illogical damage estimates throughout the time period. This economic downturn led to an increase in abandoned and unoccupied structures, leading to deteriorating building conditions. In general, the damage to properties was more significant and immobilizing during this period, although the financial cost does not realistically represent the true recovery potential. *See Attachment A: Property Valuations*

Repetitive Loss and Severe Repetitive Loss Properties
Seneca County, as of November 2013, has nine residential and two non-residential Repetitive Loss structures. Seven of those are within the City of Tiffin, and the remaining four are in the county. There are no Severe Repetitive Loss properties in Seneca County.

Residential payments for these repetitive loss structures are summarized in the following table. Payments included both building and content loss.

Property Type	**Number**	**Location**	**Number of Losses**	**Total Payments**
Residential	3	Seneca County	8	$1,040,740.23
Residential	6	City of Tiffin	14	$159,622.06
Non-Residential	1	Seneca County	2	25,155.46
Non-Residential	1	City of Tiffin	2	$566,967.97
Total	***11***		***26***	***$1,792,485.72***

Loss Estimate Summary
Seneca County is vulnerable to a variety of hazards. The Core Committee used frequency, severity, and loss estimates as a way to prioritize mitigation efforts. Based upon that information, they have determined the order of mitigation efforts, from highest to lowest, should be floods, winter storms, tornado, severe thunderstorm, windstorm, drought, and earthquake. They determined that the possibility and probability of wildfire, hurricane, landslide/mudslide, tsunami/siechwave, and volcano were not sufficient to commit mitigation efforts.

MITIGATION STRATEGIES

Status of Previous Projects

The mitigation strategies in the current/expiring Seneca County Mitigation Plan focused on public outreach and education. They established a starting point for Seneca County to begin forward thinking about lessening the negative effects of disasters, and to bring thoughts of mitigation to the forefront for the county's businesses, residents, and institutions.

The previous goals established strategies that would inform county residents about the need for weather radios in their homes, the presence of outdoor warning sirens and the expectations for action based upon activation of those sirens; and protective actions such as procedures for evacuation and sheltering. The goals included development of informational material such as hazard descriptions and protective actions to be placed on a county website, and delivery of presentations and drills in community locations such as schools and institutions. Placement of Public Service Announcements (PSA) on local radios and cable television was part of the previous plan.

Those goals were, for the most part, achieved; however, public outreach and education must be a continuous and never-ending project. These goals have been included in the plan update, oftentimes written in a different manner and combined with the next steps in mitigation growth and action.

Some important achievements include the placement of weather radios in all schools and colleges in Seneca County, as well as placement of two-way radios that allow for direct communication between the institutions and the EMA during emergencies. A dedicated emergency channel enables key resource leaders to communicate directly with emergency responders through the EMA, facilitating coordination and whole-community response. The county combined the resources of several funding sources to improve and expand their communications capability by adding equipment and distributing it across the county to important resources and institutions.

The county's website has been expanded to include a great amount of emergency information. The EMA web page includes information on specific hazards and protective actions; Seneca Regional Planning web page includes information about disaster preparedness and commercial growth; fire, EMS, and police departments have developed web pages that include warning and notification information as well as identification of shelters and other key facilities. Village and city webpages now include similar information and all are there for residents to access at their convenience.

The strategies in the revised plan exemplify next steps in mitigation planning. They focus on maintaining what has been completed, and moving forward to achieve community-wide planning by engaging in engineered projects such as acquisition and demolition of repetitive loss structures and flood prevention devices. They intend to improve inter-agency and cross-discipline collaboration to make Seneca County's prevention and mitigation efforts even stronger than in the past.

2007 Plan Mitigation Strategy Status

Priority	Activity	Targeted Year	Lead Agency	Status
1	Education on NOAA Radios	2005	Public Safety	Ongoing
2	Public Service Announcements (PSA's) (Tornado)	2005	PIO	Ongoing
3	Disaster Plan Training	Ongoing	County/State EMA	Ongoing
4	Have a Warning Plan in Place	2005	EMA and Sheriff	Ongoing
5	Community Drills	Ongoing	Entity based, coordinated by EMA	Ongoing
6	PSA's (Winter Storm)	2005	PIO	Ongoing
7	Education on "Safe Room" Construction	2005	Local entities, mobile home and condo associations	N/A
8	County Web Site for information dissemination (Tornado)	2005	SRPC	Ongoing
9	Uniform plan and criteria for Debris Clean-up	2006	OSS Solid Waste District	Complete
10	Web Page Development (Winter Storm)	2005	SRPC	Ongoing
11	Community "shelter-in-place" training	2005	Entity based, coordinated by EMA	Ongoing
12	Web Page Design (Earthquake)	2005	SRPC	Ongoing
13	Personal Protection Education (Winter Storm)	2005	Public Safety	Ongoing
14	PSA's (Flood)	2005	PIO	Ongoing
15	Community Sirens	2006	Public Safety	Complete
16	Personal Survival Kit Promotion (Winter Storm)		Public Safety	Ongoing
17	Define high risk areas (Flood)	2004	FEMA	Ongoing
18	FEMA funding for safe room construction	2005	Local entities, Mobile home park owners	N/A
19	Evacuation plan for staff and clients from critical facilities	2005	Critical Facility Administration	Ongoing
20	Secure sites and procedures to manage and distribute donations	2004	Red Cross, Salvation Army	Complete
21	PSA's (extreme heat)	2005	PIO	Ongoing
22	Identify "at risk" populations	2006	Individual Entities	Ongoing
23	Reverse 911	2007	Public Safety	Complete
24	Critical infrastructure backup	2006	Individual Entities	Ongoing
25	Purchase and distribution of NOAA radios	2006	Public Safety	Ongoing
26	Plan for water distribution	2007	Individual Entities, Public Safety	Ongoing
27	Web Page Development (Flood)	2005	SCRP	Ongoing

Priority	Activity	Targeted Year	Lead Agency	Status
28	Adopt commercial and industrial building codes for residential use	2008	Zoned Townships, Cities, and Villages	N/A
29	Supplemental disaster funding	2008	Local Entities	Ongoing
30	Budget for overtime crews	2008	Local Entities	Ongoing
31	Restrict development through regulations	2008	Cities and Villages within Flood Plain	Ongoing
32	Plan for restricted water use	2008	Cities and Villages with public water	Ongoing
33	PSA's (earthquake)	2007	PIO	Ongoing
34	Locate points of isolation for utilities and contact persons	2008	Local Entities	Complete
35	State legislation requiring safe rooms for trailer parks	2009	CCAO, Municipal League, OTA	N/A
36	Elevate and increase capacity of culvert/bridge structures when replacing	Ongoing	City, Village and County Engineers	Ongoing
37	Identify "at risk" populations	2008	Individual Entities	Ongoing
38	Develop website (extreme heat)	2005	SCRP	Ongoing
39	Inventory of deep wells, quarries, water sources	2009	Local Entities, Public Safety	Complete
40	Education on crop insurance	2008	PIO	Ongoing
41	County wide evacuation plan	2009	Entities with flood prone areas	Complete
42	Critical infrastructure backup during brown/blackouts	2009	Individual entities	
43	Community education program	2009	Public Safety	Complete
44	Automated river monitoring	2009	Public Safety	Complete
45	Retention/detention requirements when developing	2008	Local Zoning and Subdivision Regulations	Ongoing
46	Flood walls around critical structures	2009	Entities with critical structures in flood plain	Ongoing
47	Warning sirens	2006	Public Safety	Complete
48	Purchase seismic detectors	2009	Public Safety	N/A
49	Earthquake building code regulations to include residential	2008	Entities with Zoning, Subdivision regulations	N/A

N/A: Strategy determined to be not feasible and completion NOT ASSESSED due to deletion
Complete: Strategy is completed and if continued, will be written in a significantly different way.
Ongoing: Strategy will be continued as part of a new strategy.
Deleted: The decision was made to omit this strategy for a specific reason.

New Mitigation Strategies

The following mitigation projects have been developed from the hazard identification and risk assessment completed by the Hazard Mitigation Core Committee. The HCC has have taken into consideration the loss projections and risk assessments identified in the mitigation plan update process. They considered the impact upon the community when the identified hazards strike, and what efforts might be conducted to lessen those damages, prevent loss of life or property, or otherwise successfully mitigate the effects of the risk incidents.

The first column identifies the jurisdiction. Later in this document, the projects are described in detail in terms of goals, objectives, and strategies, per jurisdiction. The later documentation classifies each project as structural or non-structural, and assigns to each overall project a "type" from a selection of structurally engineered project, prevention, property protection, natural resource protection, or public information.

The table includes a prioritization of the projects in the third column. Projects were prioritized according to a cost benefit review. Included in this review were considerations as follows:

- Is this project helpful and feasible for the entire area?
- Will this project have a positive effect on not only the jurisdiction at hand, but also the adjoining and adjacent jurisdictions and the entire county?
- Does this project enhance and synergize the current achievements of hazard mitigation and preparedness in Seneca County?
- Do the funds exist to cover the cost of this project? In whole or in part?
- Is this a fundable hazard mitigation project under federal mitigation programs?
- Can part of the cost of this project be covered by a non-governmental source?
- Is this project low in cost but high in benefit?
- Will the benefits of this project last for a long or short period of time?
- Will the monetary benefit of completing this project exceed the cost in dollars of completing the project?
- How frequently is this issue a community problem?
- How many persons will benefit from this project?
- How much loss can be lessened or prevented by completing this project?
- How does this project enhance or support the efforts of other projects?
- Have there been attempts, successful or unsuccessful, to complete a similar project before this time?
- Does the leadership exist to coordinate and conduct this project?
- Can jurisdictions work together to achieve this goal?
- Are there any case histories of this project in another jurisdiction in the county? What can be learned from that case study?
- Will the work product of this project actually be used after the project is completed?
- Can more than one jurisdiction conduct this project and enhance and extend the benefits beyond the single jurisdiction by sharing resources and outcomes?
- Will this project, by completion, make Seneca County a better and safer place to live, and will it mitigate the effects of disaster on the residents and visitors to the county?

Comprehensive Project List

Jurisdiction	Project Description	Priority
Seneca County Goal #1	Acquisition and Relocation	1
Seneca County Goal #2	Utility Hardening	2
Seneca County Goal #3	Roadways and Transportation	3
Seneca County Goal #4	Evacuation and Sheltering	4
Seneca County Goal #5	Warning and Notification	5
Seneca County Goal #6	Drainage and Resource Preservation	6
Seneca County Goal #7	Natural Resource Protection	7
Seneca County Goal #8	Public Safety and Welfare	8
Seneca County Goal #9	Social Support for Victims of Disaster	9
City of Fostoria Goal #1	Safe Room Project	1
City of Fostoria Goal #2	Reservoir Preservation	2
City of Fostoria Goal #3	Acquisition and Relocation	3
City of Fostoria Goal #4	Infrastructure Protection - Utilities	4
City of Fostoria Goal #5	Residential Building Codes	5
City of Fostoria Goal #6	Evacuation and Sheltering	6
City of Fostoria Goal #7	Warning and Notification Systems	7
City of Fostoria Goal #8	Transportation Resources	8
City of Tiffin Goal #1	Flood Walls	1
City of Tiffin Goal #2	Acquisition and Relocation	2
City of Tiffin Goal #3	Residential Building Codes	3
City of Tiffin Goal #4	Evacuation and Sheltering	4
City of Tiffin Goal #5	Public Safety Services	5
City of Tiffin Goal #6	Warning and Notification Systems	6
City of Tiffin Goal #7	Social Support Systems for Victims	7
Village of Attica Goal #1	Evacuation and Sheltering	1
Village of Attica Goal #2	Infrastructure Protection - Utilities	2
Village of Attica Goal #3	Natural Resources Protection	3
Village of Bettsville Goal #1	Acquisition and Relocation	1
Village of Bettsville Goal #2	Diversion Project	2
Village of Bettsville Goal #3	Infrastructure Protection – Utilities	3
Village of Bettsville Goal #4	Natural Resource Protection	4
Village of Bettsville Goal #5	Evacuation and Sheltering	5
Village of Bloomville Goal #1	Evacuation and Sheltering	1
Village of Bloomville Goal #2	Infrastructure Protection – Utilities	2
Village of Bloomville Goal #3	Natural Resources Protection	3
Village of Green Springs Goal #1	Infrastructure Protection – Utilities	1
Village of Green Springs Goal #2	Evacuation and Sheltering	2

Village of Green Springs Goal #3	Natural Resource Protection	3

Village of New Riegel Goal #1	Evacuation and Sheltering	1
Village of New Riegel Goal #2	Infrastructure Protection – Utilities	2
Village of New Riegel Goal #3	Natural Resource Protection	3

Village of Republic Goal #1	Evacuation and Sheltering	1
Village of Republic Goal #2	Natural Resource Protection	2
Village of Republic Goal #3	Infrastructure Protection - Utilities	3

A detailed description of each project, by jurisdiction beginning with Seneca County, follows. Each project is described in terms of the goal, objectives, and strategies. The project is then assigned to a lead agency that will be responsible for making sure the project is presented, supported, and coordinated. Many other agencies and departments may participate, and may have significant responsibility in conducting and completing the project; however, the lead agency will be responsible for keeping the project on track throughout the next five year mitigation cycle.

The projects are classified as structural or non-structural. They are then typed into engineered projects, prevention projects, property protection, natural resource protection, or public information. Some projects may meet the criteria in both structural and non-structural, and may be typed as meeting more than one type of project.

A summary table follows the narrative information.

SENECA COUNTY GOALS, OBJECTIVES, STRATEGIES

Goal #1: Seneca County will lessen the effects of flooding by decreasing the number of structures in flood plains and areas that are prone to riverine, flash, or karst flooding.

Objective 1.1 Seneca County will support acquisition and demolition of repetitive loss and severe repetitive loss structures from areas prone to flooding.

Strategy 1.1.1 Seneca County will support disaster mitigation efforts through buy-out and relocation programs for properties that are repetitive or severe repetitive loss properties.

Strategy 1.1.2 Seneca County will adopt and maintain floodplain management standards that support NFIP and require flood prone landowners to carry flood insurance.

Strategy 1.1.3 Seneca County will support zoning and building codes that prevent construction in flood zones, and that support construction practices that mitigate damage due to floods for structures built in vulnerable areas.

Strategy 1.1.4 Seneca County will work to identify funding and apply for funding to support removal of blighted structures from flood prone areas.

Objective 1.2 Seneca County will work to educate builders and contractors about flood risk in flood vulnerable areas to decrease the structures built or renovated in those areas.

Strategy 1.2.1 Seneca County will provide information to contractors and builders regarding flood risk and floodplain properties.

Strategy 1.2.2 Seneca County will investigate land use planning standards that prevent the construction or renovation of structures in flood prone areas, and that designate construction standards for disaster resistant buildings when built or renovated in flood vulnerable areas.

Strategy 1.2.3 Seneca County will study the concept of residential and commercial building codes whereby implementation may reduce flood loss by improving the quality of construction and decreasing the number of buildings constructed in flood prone areas.

Strategy 1.2.4 Seneca County will implement residential building codes to protect landowners from construction of buildings that fail to meet reasonable construction standards that include disaster-resistant building techniques and use of building materials that resist damage during disasters common to Seneca County.

Goal #2: Seneca County will work to lessen the effects of power outages on county residents and visitors, and businesses in the county.

Objective 2.1 Seneca County will work with utility providers to harden power supply to the county.

Strategy 2.1.1 Seneca County will work with utility companies to advocate for buried and otherwise hardened utility service delivery.

Strategy 2.1.2 Seneca County will advocate for full availability of all utilities to all parts of the county, and for enhancement of utility service to all areas.

Strategy 2.2.3 Seneca County will work with utility companies to discover and identify funding that supports the hardening of utility services.

Strategy 2.2.4 Seneca County will work to obtain fiber-optic communication lines from all telephone service providers in the county.

Objective 2.2 Seneca County will work to provide alternatives to residents for use during utility outages.

Strategy 2.2.1 Seneca County will work to identify and make available financial assistance programs or resources for homeowners and renters to obtain generators

and sump pumps to decrease property damage during severe storms and power outages.

Strategy 2.2.2 Seneca County will work to develop a list of sources of generators and sump pumps to be used to assist residents and businesses during a disaster, preventing escalating prices and outlandish charges for these items during a time of need.

Goal #3: Seneca County will elevate roadways and otherwise change the structures to eliminate flooding in areas that flood on a regular basis and therefore suffer deteriorating roadway conditions and are in need of significant maintenance.

Objective 3.1 Seneca County will assess and interpret the condition of roadways in the county as it relates to flooding, and will take initiatives to elevate sections of roads that repeatedly have floodwater cover, rendering them impassible.

Strategy 3.1.1 The Seneca County Engineer will work with the Ohio Department of Transportation to complete elevation and other engineered improvements on sections of state highway in Seneca County to prevent roadway flooding.

Strategy 3.1.2 The Seneca County Engineer will complete elevations and other engineered improvements to county and township roadways that suffer repeated severe flooding during periods of heavy rain and runoff.

Objective 3.2 Seneca County will assess and interpret the condition of bridges and culverts in the county as it relates to flooding and will take initiatives to reinforce and repair those structures that are at risk of damage and/or failure due to heavy rainfall, runoff, or flooding or flash flooding.

Strategy 3.2 Seneca County Engineer will assess the condition of bridges and culverts in Seneca County, and will determine which ones need reinforcement and/or repair to remain functional and safe during floods and flash floods.

Strategy 3.3 The Seneca County Engineer will conduct an infrastructure improvement project to repair/reinforce these structures, using mitigation funding identified for this purpose.

Goal #4: Seneca County will improve and enhance shelter-in-place and evacuation-sheltering options for all residents and visitors to Seneca County during severe storms and short-term utility outages.

Objective 4.1 Seneca County will establish a plan to develop sites for and to build safe rooms for residents and guests who reside either permanently or temporarily in facilities without basements or existing safe rooms.

Strategy 4.1.1 Seneca County will identify residential areas where large numbers of homes exist that do not have basements or existing safe rooms for residents to use as shelter during tornadoes and severe wind incidents.

Strategy 4.1.2 Seneca County will identify grant funding and other sources of funding to pay for the construction of safe rooms to house populations at risk due to lack of basements and/or existing safe rooms.

Strategy 4.1.3 Seneca County will utilize identified funding to construct safe rooms in areas where significant numbers of residents and others are at risk during tornadoes and severe windstorms due to a lack of basements and /or existing safe rooms.

Strategy 4.1.4 Seneca County will continue to evaluate the need for and the use of safe rooms constructed under this project, and will determine the need for changes to the program based upon cost and benefit of the construction.

Objective 4.2 Seneca County will identify locations to use for shelters and community gathering facilities for residents and visitors to occupy during severe storms, tornadoes, and short-term utility outages, and equip them with generators.

Strategy 4.2.1 Seneca County will identify the shelters in the county that are available and equipped to serve as a 24-hour shelter, including for sleeping overnight, for evacuees and others displaced due to disaster.

Strategy 4.2.2 Seneca County will identify community gathering rooms that can be used for gathering of community members during disasters for the purpose of information exchange, socialization, and comfort for periods of less than 24 hours without sleeping purposes.

Strategy 4.2.3 Seneca County will develop signage and post it, either through shelter operators, other jurisdictions, or the EMA, to identify shelters and community gathering rooms so residents and visitors can easily identify the shelters or safe rooms.

Strategy 4.2.4 Seneca County will develop a listing of safe rooms, shelters, and other areas that are pre-identified for occupancy during severe wind storms and tornadoes

Strategy 4.2.5 Seneca County will identify funding to purchase generators for as many shelters and community gathering rooms as possible, with shelters a priority, and will then purchase and install those generators at the sites.

Goal #5: Seneca County will continue to work to warn and notify residents, visitors, and workers in Seneca County of an impending or approaching disaster, or to notify them an

incident has taken place quickly and effectively to achieve their cooperation in following emergency plans.

Objective 5.1 Seneca County will maintain its 9-1-1 system of communication.

Objective 5.2 Seneca County will maintain its Emergency Operations Center.

Objective 5.3 Seneca County will maintain its capacity to manage disasters and emergencies quickly and efficiently.

Strategy 5.3.1 Seneca County will continue to advocate for and provide information to enhance family and individual preparedness in the county.

Strategy 5.3.2 Seneca County will work to educate the public on evacuation and shelter-in-place procedures, and will provide opportunities for the public to practice what to do when an order is issued.

Strategy 5.3.3 Seneca County will maintain its website (EMA) to disseminate information to the public in times of disaster and on normal days.

Objective 5.4 Seneca County will maintain its response resources such as EMS, fire departments, and police departments, and will support them with education and training to respond effectively and efficiently.

Objective 5.5 Seneca County will maintain its communication system with emergency responders to continue to be able to respond effectively and efficiently.

Objective 5.6 Seneca County will continue to educate the public in emergency notification and initial response, sheltering in place and evacuation, and other areas of disaster management that require participation or following orders on the part of the public.

Strategy 5.6.1 Seneca County will continue to advocate and support use of NOAA weather radios in homes, businesses, and institutions through a public education program of disaster warnings and notification and protective action.

Strategy 5.6.2 Seneca County will work to identify funding for and to construct/install additional outdoor warning sirens to warn residents of impending dangers.

Strategy 5.6.3 Seneca County will place additional outdoor warning sirens in locations that lack adequate coverage by sirens, including but not limited to Flat Rock, Kromers, Tiffin, and Fostoria.

Goal #6: Seneca County will work to improve drainage from all areas of the county that pose flood risk due to poor drainage conditions and structural or physical impediments to drainage.

Objective 6.1 Seneca County will advocate for ditch cleaning and maintenance by landowners to improve drainage capabilities.

Strategy 6.1.1 Seneca County will support ASCS, Farm Bureau, OSU Extension Service, and SWCD and other efforts to work with landowners in cleaning ditches by supporting grant applications and other means of obtaining funds to support this project.

Objective 6.2 Seneca County will assess and develop an improvement plan for infrastructure (storm sewers, retention ponds, wetlands, etc.) that improves drainage of inhabited land by serving to collect or carry storm water away.

Strategy 6.2.1 Seneca County will maintain storm sewers by establishing a plan of maintenance and replacement.

Strategy 6.2.3 Seneca County will plan and construct retention ponds and wetlands where floodwaters repeatedly collect with the purpose of reducing flooding at the same time an ecologically friendly environment is created.

Strategy 6.2.4 Seneca County will investigate and plan for water diversion programs where such a program can diminish flooding and decrease damages to structures and property.

Objective 6.2 Seneca County will adequately maintain the ditches it is responsible for under the county ditch maintenance program.

Strategy 6.2.1 Seneca County will support ditch cleaning as a part of maintaining county owned property.

Objective 6.3 Seneca County will support conservation and soil management organizations in their efforts to clear, clean, and improve ditch maintenance.

Strategy 6.3.1 Seneca County will support educational efforts in the creation of wetlands and set aside land in areas highly vulnerable to flooding

Goal #7: Seneca County will lessen the effects of severe thunderstorms and tornadoes by performing maintenance on trees and shrubs that become debris and fallen limbs in severe thunderstorms and tornadoes.

Objective 7.1 Seneca County will encourage landowners to minimize damage from fallen limbs and other debris during storms to their property through proper maintenance of trees and shrubs.

Strategy 7.1.1: Seneca County will release information encouraging landowners to trim trees on their property so they do not come down during storms.

Strategy 7.1 2: Seneca County will sponsor educational efforts to help teach landowners how to care for trees and shrubs on their property so that damages are minimized in wind storms.

Strategy 7.1.3 Seneca County will search for funds to assist landowners in covering the cost of tree maintenance, and will assist them in obtaining funding when feasible, and will incorporate information about what should be planted on ditch banks and wastelands to facilitate proper runoff of storm waters.

Strategy 7.1.4 Seneca County will advocate for and encourage landowners to properly maintain the right-of-ways on their properties and will properly maintain right-of-ways on public property to facilitate the proper runoff of storms waters

Objective 7.2 Seneca County will encourage owners to maintain trees and shrubs on publically owned property to minimize damages in wind and thunderstorms. An emphasis will be placed upon proper maintenance of right-of-ways for utilities and other infrastructure.

Strategy 7.2.1 Seneca County will trim trees and shrubs on county-owned property.

Strategy 7.2.2 Seneca County will encourage other public property owners, including business and industry, organizations, and other jurisdictions to trim trees and shrubs on their property.

Strategy 7.2.3 Seneca County will search for funds to assist in the maintenance of public property for the purpose of maintaining trees and shrubs as a mitigation effort, and will assist in obtaining and administering the funds whenever feasible.

Strategy 7.2.4 Seneca County will increase the public awareness of the Ottawa-Sandusky-Seneca Solid Waste District plan, services, and programs for the purposes of solid waste disposal before, during, and after storms as it applies to property maintenance.

Objective 7.3 Seneca County will encourage volunteers to assist in maintaining trees and shrubs to lessen damages from fallen debris during windstorms and thunderstorms.

Strategy 7.2.1 Seneca County will work with volunteer groups to remove debris and loose limbs from trees and shrubs in public areas not maintained by regular crews.

Strategy 7.2.2 Seneca County will support safety training for tree and limb removal volunteers to create a safe, effective volunteer workforce.

Goal #8: Seneca County will maintain the public safety services provided to residents, workers, and guests through fire service, emergency medical services, law enforcement, emergency management, and public health services.

Objective 8.1 Seneca County will work to identify needs, gap areas, and resources available to respond to emergencies and disasters.

Objective 8.2 Seneca County will work to identify sources of funding to support the necessary disaster and emergency services in Seneca County to the extent that they reasonably fulfill the need for response to anticipated threats.

Goal #9: Seneca County will work to improve disaster conditions for families and individuals during the typical course of a natural disaster.

Objective 9.1 Seneca County will work with utility companies to advocate for cost assistance programs for families and individuals in need during extreme heat and cold snaps.

Objective 9.2 Seneca County will develop community gathering places to serve as temporary cooling or warming centers during times of excessive heat or cold and when utilities are overburdened to keep up with need.

Strategy 9.2.1 Seneca County will develop volunteers who can assist with community gathering places that are used on a temporary basis during times of disaster.

Strategy 9.2.2 Seneca County will work with cities, villages, and unincorporated towns and townships to develop and identify community gathering places for neighborhood gathering during disaster.

Strategy 9.2.3 Seneca County will work with American Red Cross and other sheltering providers to assure and harden the availability of 24-hour shelters for housing during evacuations and other more long-term disasters.

Strategy 9.2.4 Seneca County will work with the hospitals, public health, and other healthcare providers to insure the availability of functional needs shelters and resources to be used during evacuations and shelter-in-place incidents.

Objective 9.3 Seneca County will work to provide assistance to needy families and individuals during evacuations to decrease the financial burden on them during a disaster.

Strategy 9.3.1 Seneca County will support transportation services to help with evacuation of individuals and families who do not have a vehicle to the nearest available shelter.

Strategy 9.3.2 Seneca County will work with schools and other providers with the capacity to transport special needs and disabled individuals to shelters, community gathering places, and hospitals or alternate health care centers during disaster.

Strategy 9.3.3 Seneca County will work to develop an enhanced volunteer workforce to assist families and individuals during times of disaster with activities such as evacuation, mass care, and family assistance.

CITY OF FOSTORIA GOALS, OBJECTIVES, AND STRATEGIES

Goal #1: The City of Fostoria will work to facilitate the construction of safe rooms in areas where single and multiple family homes lack basements to use for protection in tornadoes and severe wind storms.

Objective 1.1 The City of Fostoria will work with property owners to identify funding sources for landowners to be used to construct safe rooms for residences without basements or other underground protection areas.

Objective 1.2 The City of Fostoria will work with employers and other private businesses to identify funding sources for the construction of public safe rooms to be used by local guests and workers during tornadoes and severe windstorms.

Goal #2: The City of Fostoria will work to decrease the risk of reservoir breach in the City of Fostoria due to heavy rain or perimeter failure.

Objective 2.1 The City of Fostoria will monitor and maintain the structural components of the reservoir in an effort to prevent the failure of the structure that would result in significant flooding and damage to near-lying properties.

Objective 2.2 The City of Fostoria will monitor and update the quantities of water flowing into and out of the reservoir on a regular basis so overflow and overload circumstances can be anticipated and breaches be prevented on a regular basis, preventing property damage from such an event if inflow or outflow rates become abnormal and /or excessive.

Goal #3: The City of Fostoria will work to eliminate abandoned and blighted structures that are likely to become heavily damaged during disasters.

Objective 3.1The City of Fostoria will identify and obtain funding to buy-out, relocate, and demolish abandoned, at risk, and blighted properties.

Strategy 3.1.1 The City of Fostoria will examine the HMGP, CDBG, and other funding sources to identify funds that can be used to eliminate disaster repetitive loss properties and relocate inhabitants of those structures.

Goal #4: The City of Fostoria will work to harden city infrastructure against natural disasters.

Objective 4.1 The City of Fostoria will work to monitor and maintain the working condition of bridges, underpasses, and culverts so they withstand the stress of inclement and excessive precipitation, wind, and other natural stresses.

Objective 4.2 The City of Fostoria will work to maintain bridges, underpasses, culverts, and roadways so that public safety and public health services can preserve emergency access to all locations within the city during disasters and emergencies.

Goal #5: The City of Fostoria will develop and implement residential building codes that mitigate the effects of disasters on private and personal property through improved construction practices for residential structures.

Objective 5.1 The City of Fostoria will research examples of residential building code programs in communities similar to Fostoria, and will establish a plan to develop and implement a local residential building code.

Objective 5.2 The City of Fostoria will develop a residential building code for the new construction and significant renovation projects that will lessen the effects of the most frequent and destructive natural hazard incidents on the properties.

Objective 5.3 The City of Fostoria will involve residents, contractors, elected and appointed officials, and other appropriate parties in the process of establishing a local residential building code.

Goal #6: The City of Fostoria will establish community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 6.1 The City of Fostoria will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters and to identify funding to support these facilities.

Strategy 6.1.1 The City of Fostoria will work with these facilities to find or purchase with identified funding generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 6.1.2 The City of Fostoria will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 6.1.3 The City of Fostoria will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated.

Strategy 6.1.4 The City of Fostoria will search for and identify funding sources to support the development and equipping of community gathering places for disaster relief purposes with at least sump pumps (as appropriate) and generators.

Goal #7: The City of Fostoria will improve the public warning systems in place within the city limits.

Objective 7.1 The City of Fostoria will install additional outdoor warning sirens within the city to increase penetration of warning delivery to city residents, workers, and guests.

Goal #8: The City of Fostoria will work to harden transportation industry resources and response capabilities/capacities against disasters that will cause harm to residents or businesses.

Objective 8.1 The City of Fostoria will work with first responders and hazardous materials teams to prepare for response to a train derailment or truck/trailer accident that releases a hazardous substance into the environment and causes danger to residents and others

Strategy 8.1.1 The City of Fostoria will work with its first responders to provide high quality training in response to rail accidents including and not including hazardous and extremely hazardous substances

Strategy 8.1.2 The City of Fostoria will work with its first responders to provide high quality training in response to fires and explosions involving fuels and hazardous or extremely hazardous substances that are being hauled as cargo on trains and trucks travelling through the city.

Strategy 8.1.3 The City of Fostoria will work with first responders to identify funding for the purchase of specialty equipment needed to respond to and/or mitigate incidents involving transportation accidents.

Objective 8.2 The City of Fostoria will work with the railroad companies to decrease the city's vulnerability to a train crash within the city.

Strategy 8.2.1 The City of Fostoria will work with the railroad to decrease crash likelihood through the city through enforcement of rail speed limits, warning sounds, and notification of extremely hazardous cargo.

Strategy 8.2.2 The City of Fostoria will work to educate its citizens and workers about rail safety, and crossing safety to diminish the incidence of car-train accidents in city limits.

Strategy 8.2.3 The City of Fostoria will work with the railroads to find methods of risk management and reduction for damages to homes that are located close to railroad tracks or are located near high-risk derailment zones where track turns and curves present additional derailment risk.

CITY OF TIFFIN GOALS, OBJECTIVES, AND STRATEGIES

Goal #4: The City of Tiffin will work to identify community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 4.1 The City of Tiffin will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters.

Strategy 4.1.1 The City of Tiffin will work with these facilities to find generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 4.1.2 The City of Tiffin will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 4.1.3 The City of Tiffin will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated.

Strategy 4.1.4 The City of Fostoria will search for and identify funding sources to support the development and equipping of community gathering places for disaster relief purposes with at least sump pumps (as appropriate) and generators.

Goal #7: The City of Tiffin will work to enhance the ability to serve residents with functional needs during disaster through acute care centers, special needs shelters, and capacity building at regular shelters.

Objective 7.1: The City of Tiffin will identify populations that will need additional assistance during disasters, and will create a resource to serve those populations with sheltering, reception centers, mass care, tracing and family services, and transportation.

Strategy 7.1.1 The City of Tiffin will work with institutions and organizations that serve functional needs clients to determine their plans of emergency action with

the purpose of identifying gaps in capabilities and resources for functional needs and others who will need additional assistance.

Strategy 7.1.2 The City of Tiffin will develop a volunteer workforce to provide additional assistance to elderly, single parents, and others who are not considered functional needs clients but will need additional help during disaster.

Strategy 7.1.3 The City of Tiffin will develop a communications process to reach these individuals during disasters to advise them of available help and resources

Goal #2: The City of Tiffin will work to eliminate abandoned and blighted structures that are likely to become heavily damaged during disasters, or that suffer repeated damages during disasters.

Objective 2.1 The City of Tiffin will identify funding sources and apply for funding to relocate inhabitants, demolish blighted/abandoned buildings, and move at risk populations out of harm's way through buy-outs and relocations.

Strategy 2.1.1 The City of Tiffin will work to identify funding and to develop applications to demolish repetitive loss and severe repetitive loss structures, and will work to identify local match funding as needed to apply for and utilize the mitigation programs identified.

Strategy 2.1.2 The City of Tiffin will work with landowners to engage in a relocation project for inhabitants of identified repetitive loss and severe repetitive loss and blighted structures to be demolished as part of mitigation projects.

Strategy 3.1.3 The City of Tiffin will demolish structures that are identified as repetitive loss, severe repetitive loss, and/or blighted/abandoned as a mitigation project.

Goal #3: The City of Tiffin will work to develop and implement residential building codes for new construction and significant renovations for single, double, and triple family structures.

Objective 3.1 The City of Tiffin will create the process by which full residential building codes will be developed to include construction, electrical, and plumbing codes.

Objective 3.2 The City of Tiffin will write and adopt residential building codes as a means to achieve mitigation goals of reducing damages due to disasters.

Objective 3.3 The City of Tiffin will educate the construction industry and the general public about newly adopted residential building codes.

Goal #1: The City of Tiffin will maintain and repair the flood walls and storm sewers in the city to adequately handle heavy rain and prevent flooding of otherwise flood prone areas of the city.

Objective 1.1 The City of Tiffin will assess the status of floodwalls to better prevent flooding.

Strategy 1.1.1 The City of Tiffin will rebuild the floodwalls that are deteriorated and unable to withstand the stress of heavy rainwaters.

Strategy 1.1.2 The City of Tiffin will repair the floodwalls that show signs of wear and tear, but are structurally sound and effective.

Objective 1.2 The City of Tiffin will examine storm sewers in the city to assess the status of operability.

Strategy 1.2.1 The City of Tiffin will increase the size of storm sewers in the downtown area to more adequately handle heavy rain and runoff.

Strategy 1.2.2 The City of Tiffin will install check valves in storm sewer in low-lying areas to prevent backflow into the system during heavy rains and runoff in those areas.

Goal #6: The City of Tiffin will install additional outdoor warning sirens inside the city to warn residents and others of emergency and disaster conditions.

Objective 6.1 The City of Tiffin will identify locations where additional sirens should be placed.

Strategy 6.1.1 The City will assess the location of existing sirens and develop a plan that includes locations and numbers of additional sirens to be installed.

Strategy 6.1.2 The City of Tiffin will work with the Seneca County EMA to secure a funding source to pay for additional sirens, and to maintain them once installed.

Strategy 6.1.3 The City of Tiffin will install additional outdoor warning sirens in the City of Tiffin.

Goal #5: The City of Tiffin will continue to adequately support public safety services, safety forces, and public heath services to insure sufficient response to disasters and emergencies within the city limits.

Objective 5.1 The City of Tiffin will continue to support and operate a fire department, police department, public health initiatives, and other safety forces to protect and

preserve the city's resources and residents in a safe environment during disasters and large scale emergencies.

Objective 5.2 The City of Tiffin will supply these forces with reasonable and appropriate training and equipment to achieve the goals of their departments during disaster and emergencies.

Strategy 5.2.1 The City of Tiffin will utilize special grant programs and other external funding to support internal sources of funds to achieve this goal.

Objective 5.3 The City of Tiffin will search for additional sources of funding to support additional preparedness and response-ability for these departments.

Strategy 5.3.1 The City of Tiffin will examine and evaluate public and private sources for support funding for safety force initiatives.

VILLAGE OF ATTICA GOALS, OBJECTIVES, AND STRATEGIES

Goal #1: The Village of Attica will work to identify community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 1.1 The Village of Attica will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters.

Strategy 1.1.1 The Village of Attica will work with these facilities to find generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 1.1.2 The Village of Attica will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 1.1.3 The Village of Attica will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated

Strategy 1.1.4 The Village of Attica will search for and identify funding sources to support the development and equipping of community gathering places for disaster relief purposes with at least sump pumps (as appropriate) and generators

Goal #2: The Village of Attica will work to properly maintain right of ways, boulevards, and other utility right of way areas for the purpose of decreasing the likelihood of power outages due to fallen debris.

Objective 2.1 The Village of Attica will engage in a public education campaign to educate landowners about proper maintenance of right-of-way and boulevard areas.

Strategy 2.1.1 The Village of Attica will place information in letters and other pieces of written information sent to residents about right-of-way responsibilities of landowners.

Strategy 2.1.2 The Village of Attica will use the media to convey information to residents and landowners about right of way responsibilities and maintenance.

Objective 2.2 The Village of Attica will engage landowners to properly trim trees and vegetation to insure open right of ways and boulevards after severe storms.

Strategy 2.2.1 The Village of Attica will provide written information to property owners about the proper way to trim trees and shrubs to be disaster resistant.

Strategy 2.2.2 The Village of Attica will work with landowners to facilitate cleaning of ditches to remove debris and vegetation that impedes the flow of runoff water

Objective 2.3 The Village of Attica will encourage landowners to take down old trees in poor health, and to replace them with strong and hardy species of replacement trees.

Strategy 2.3.1 The Village of Attica will provide information to property owners about the best species of trees and shrubs to plant to be disaster resistant.

Goal #3: The Village of Attica will examine means to harden utility services within the village.

Objective 3.1 The Village of Attica will encourage the use of underground utility lines whenever possible.

Strategy 3.1.1 The Village of Attica will encourage utility companies to bury existing overhead utility supply lines to make them resistant to disaster.

Strategy 3.1.2 The Village of Attica will consider zoning rules and requirements that mandate utility lines to be underground for new construction and new subdivisions.

VILLAGE OF BETTSVILLE GOALS, OBJECTIVES, AND STRATEGIES

Goal #1: The Village of Bettsville will acquire and demolish three homes that suffer repetitive flood loss.

Objective 1.1 The Village of Bettsville will facilitate identify funding to support the acquisition and demolition of three homes that flood repeatedly, and will search for relocation funding for the property owner as a part of the project.

Strategy 1.1.1 The Village of Bettsville will utilize mitigation program funding to acquire, demolish, and relocate three residences that flood repeatedly via Wolfe Creek.

Strategy 1.1.2 The Village of Bettsville will acquire, demolish, and relocate three homes and families that occupy them and suffer repeated flooding of Wolfe Creek.

Goal #2: The Village of Bettsville will conduct a project to divert the flow of water via Wolfe Creek that goes through the center of the village to a less destructive pathway.

Objective 2.1 The Village of Bettsville will develop through engineering an alternate pathway for Wolfe Creek to follow as it passes through the village.

Strategy 2.1.1 The Village of Bettsville will use engineering assistance to develop a diversion plan for Wolfe Creek in the village to avoid riverine flooding as the creek flows through town during and after heavy rainfall.

Strategy 2.1.2 The Village of Bettsville will identify means to finance a creek diversion program to mitigate flooding in the village through Wolfe Creek.

Strategy 2.1.3 The Village of Bettsville will engage in conducting a project to divert Wolfe Creek away from residences as it flows through the village.

Goal #3: The Village of Bettsville will examine means to harden utility services within the village.

Objective 3.1 The Village of Bettsville will encourage the use of underground utility lines whenever possible.

Strategy 3.1.1 The Village of Bettsville will encourage utility companies to bury existing overhead utility supply lines to make them resistant to disaster.

Strategy 3.1.2 The Village of Bettsville will consider zoning rules and requirements that mandate utility lines to be underground for new construction and new subdivisions.

Goal #4: The Village of Bettsville will work to properly maintain right of ways, boulevards, and other utility right of way areas for the purpose of decreasing the likelihood of power outages due to fallen debris.

Objective 4.1 The Village of Bettsville will engage in a public education campaign to educate landowners about proper maintenance of right-of-way and boulevard areas.

Strategy 4.1.1 The Village of Bettsville will place information in letters and other pieces of written information sent to residents about right-of-way responsibilities of landowners.

Strategy 4.1.2 The Village of Bettsville will use the media to convey information to residents and landowners about right of way responsibilities and maintenance.

Objective 4.2 The Village of Bettsville will engage landowners to properly trim trees and vegetation to insure open right of ways and boulevards after severe storms.

Strategy 4.2.1 The Village of Bettsville will provide written information to property owners about the proper way to trim trees and shrubs to be disaster resistant.

Strategy 4.2.2 The Village of Bettsville will work with landowners to facilitate cleaning of ditches to remove debris and vegetation that impedes the flow of runoff water

Objective 4.3 The Village of Bettsville will encourage landowners to take down old trees in poor health, and to replace them with strong and hardy species of replacement trees.

Strategy 4.3.1 The Village of Bettsville will provide information to property owners about the best species of trees and shrubs to plant to be disaster resistant.

Goal #5: The Village of Bettsville will work to identify community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 5.1 The Village of Bettsville will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters.

Strategy 5.1.1 The Village of Bettsville will work with these facilities to find generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 5.1.2 The Village of Bettsville will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 5.1.3 The Village of Bettsville will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated.

Strategy 5.1.4 The Village of Bettsville will search for and identify funding sources to support the development and equipping of community gathering places for disaster relief purposes with at least sump pumps (as appropriate) and generators.

VILLAGE OF BLOOMVILLE GOALS, OBJECTIVES, AND STRATEGIES

Goal #1: The Village of Bloomville will work to identify community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 1.1 The Village of Bloomville will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters.

Strategy 1.1.1 The Village of Bloomville will work with these facilities to find generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 1.1.2 The Village of Bloomville will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 1.1.3 The Village of Bloomville will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated.

Goal #2: The Village of Bloomville will examine means to harden utility services within the village.

Objective 2.1 The Village of Bloomville will encourage the use of underground utility lines whenever possible.

Strategy 2.1.1 The Village of Bloomville will encourage utility companies to bury existing overhead utility supply lines to make them resistant to disaster.

Strategy 2.1.2 The Village of Bloomville will consider zoning rules and requirements that mandate utility lines to be underground for new construction and new subdivisions.

Goal #3: The Village of Bloomville will work to properly maintain right of ways, boulevards, and other utility right of way areas for the purpose of decreasing the likelihood of power outages due to fallen debris.

Objective 3.1 The Village of Bloomville will engage in a public education campaign to educate landowners about proper maintenance of right-of-way and boulevard areas.

Strategy 3.1.1 The Village of Bloomville will place information in letters and other pieces of written information sent to residents about right-of-way responsibilities of landowners.

Strategy 3.1.2 The Village of Bloomville will use the media to convey information to residents and landowners about right of way responsibilities and maintenance.

Objective 3.2 The Village of Bloomville will engage landowners to properly trim trees and vegetation to insure open right of ways and boulevards after severe storms.

Strategy 3.2.1 The Village of Bloomville will provide written information to property owners about the proper way to trim trees and shrubs to be disaster resistant.

Strategy 3.2.2 The Village of Bloomville will work with landowners to facilitate cleaning of ditches to remove debris and vegetation that impedes the flow of runoff water

Objective 3.3 The Village of Bloomville will encourage landowners to take down old trees in poor health, and to replace them with strong and hardy species of replacement trees.

Strategy 3.3.1 The Village of Bloomville will provide information to property owners about the best species of trees and shrubs to plant to be disaster resistant.

VILLAGE OF GREEN SPRINGS GOALS, OBJECTIVES, AND STRATEGIES

Goal #1: The Village of Green Springs will examine means to harden utility services within the village.

Objective 1.1 The Village of Green Springs will encourage the use of underground utility lines whenever possible.

Strategy 1.1.1 The Village of Green Springs will encourage utility companies to bury existing overhead utility supply lines to make them resistant to disaster.

Strategy 1.1.2 The Village of Green Springs will consider zoning rules and requirements that mandate utility lines to be underground for new construction and new subdivisions.

Goal #2: The Village of Green Springs will work to identify community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 2.1 The Village of Green Springs will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters.

Strategy 2.1.1 The Village of Green Springs will work with these facilities to find generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 2.1.2 The Village of Green Springs will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 2.1.3 The Village of Green Springs will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated

Strategy 2.1.4 The Village of Green Springs will search for and identify funding sources to support the development and equipping of community gathering places for disaster relief purposes with at least sump pumps (as appropriate) and generators.

Goal #3: The Village of Green Springs will work to properly maintain right of ways, boulevards, and other utility right of way areas for the purpose of decreasing the likelihood of power outages due to fallen debris.

Objective 3.1 The Village of Green Springs will engage in a public education campaign to educate landowners about proper maintenance of right-of-way and boulevard areas.

Strategy 3.1.1 The Village of Green Springs will place information in letters and other pieces of written information sent to residents about right-of-way responsibilities of landowners.

Strategy 3.1.2 The Village of Green Springs will use the media to convey information to residents and landowners about right of way responsibilities and maintenance.

Objective 3.2 The Village of Green Springs will engage landowners to properly trim trees and vegetation to insure open right of ways and boulevards after severe storms.

Strategy 3.2.1 The Village of Green Springs will provide written information to property owners about the proper way to trim trees and shrubs to be disaster resistant.

Strategy 3.2.2 The Village of Green Springs will work with landowners to facilitate cleaning of ditches to remove debris and vegetation that impedes the flow of runoff water

Objective 3.3 The Village of Green Springs will encourage landowners to take down old trees in poor health, and to replace them with strong and hardy species of replacement trees.

Strategy 3.3.1 The Village of Green Springs will provide information to property owners about the best species of trees and shrubs to plant to be disaster resistant.

VILLAGE OF NEW RIEGEL GOALS, OBJECTIVES, AND STRATEGIES

Goal #1: The Village of New Riegel will work to identify community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 1.1 The Village of New Riegel will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters.

Strategy 1.1.1 The Village of New Riegel will work with these facilities to find generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 1.1.2 The Village of New Riegel will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 1.1.3 The Village of New Riegel will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated

Strategy 1.1.4 The Village of New Riegel will search for and identify funding sources to support the development and equipping of community gathering places for disaster relief purposes with at least sump pumps (as appropriate) and generators

Goal #2: The Village of New Riegel will examine means to harden utility services within the village.

Objective 2.1 The Village of New Riegel will encourage the use of underground utility lines whenever possible.

Strategy 2.1.1 The Village of New Riegel will encourage utility companies to bury existing overhead utility supply lines to make them resistant to disaster.

Strategy 2.1.2 The Village of New Riegel will consider zoning rules and requirements that mandate utility lines to be underground for new construction and new subdivisions.

Goal #3: The Village of New Riegel will work to properly maintain right of ways, boulevards, and other utility right of way areas for the purpose of decreasing the likelihood of power outages due to fallen debris.

Objective 3.1 The Village of New Riegel will engage in a public education campaign to educate landowners about proper maintenance of right-of-way and boulevard areas.

Strategy 3.1.1 The Village of New Riegel will place information in letters and other pieces of written information sent to residents about right-of-way responsibilities of landowners.

Strategy 3.1.2 The Village of New Riegel will use the media to convey information to residents and landowners about right of way responsibilities and maintenance.

Objective 3.2 The Village of New Riegel will engage landowners to properly trim trees and vegetation to insure open right of ways and boulevards after severe storms.

Strategy 3.2.1 The Village of New Riegel will provide written information to property owners about the proper way to trim trees and shrubs to be disaster resistant.

Strategy 3.2.2 The Village of New Riegel will work with landowners to facilitate cleaning of ditches to remove debris and vegetation that impedes the flow of runoff water

Objective 3.3 The Village of New Riegel will encourage landowners to take down old trees in poor health, and to replace them with strong and hardy species of replacement trees.

Strategy 3.3.1 The Village of New Riegel will provide information to property owners about the best species of trees and shrubs to plant to be disaster resistant.

VILLAGE OF REPUBLIC GOALS, OBJECTIVES, AND STRATEGIES

Goal #1: The Village of Republic will work to identify community gathering centers to serve when residents and others need a temporary place to go for environmental or social needs related to disasters.

Objective 1.1 The Village of Republic will work with churches, schools, and other institutions and businesses to identify neighborhood facilities that can be used as temporary gathering places during disasters.

Strategy 1.1.1 The Village of Republic will work with these facilities to find generators and sump pumps when needed so they can provide the highest amount of comfort for residents as possible during disasters.

Strategy 1.1.2 The Village of Republic will identify and train a group of volunteers or workers to manage the community gathering place as needed and when offered or occupied by residents.

Strategy 1.1.3 The Village of Republic will work with the Seneca County EMA to establish the operating procedures for the community gathering places, and to determine how and when they will be activated

Strategy 1.1.4 The Village of Republic will search for and identify funding sources to support the development and equipping of community gathering places for disaster relief purposes with at least sump pumps (as appropriate) and generators

Goal #2: The Village of Republic will work to properly maintain right of ways, boulevards, and other utility right of way areas for the purpose of decreasing the likelihood of power outages due to fallen debris.

Objective 2.1 The Village of Republic will engage in a public education campaign to educate landowners about proper maintenance of right-of-way and boulevard areas.

Strategy 2.1.1 The Village of Republic will place information in letters and other pieces of written information sent to residents about right-of-way responsibilities of landowners.

Strategy 2.1.2 The Village of Republic will use the media to convey information to residents and landowners about right of way responsibilities and maintenance.

Objective 2.2 The Village of Republic will engage landowners to properly trim trees and vegetation to insure open right of ways and boulevards after severe storms.

Strategy 2.2.1 The Village of Republic will provide written information to property owners about the proper way to trim trees and shrubs to be disaster resistant.

Strategy 2.2.2 The Village of Republic will work with landowners to facilitate cleaning of ditches to remove debris and vegetation that impedes the flow of runoff water.

Objective 2.3 The Village of Republic will encourage landowners to take down old trees in poor health, and to replace them with strong and hardy species of replacement trees.

Strategy 2.3.1 The Village of Republic will provide information to property owners about the best species of trees and shrubs to plant to be disaster resistant.

Goal #3: The Village of Republic will examine means to harden utility services within the village.

Objective 3.1 The Village of Republic will encourage the use of underground utility lines whenever possible.

Strategy 3.1.1 The Village of Republic will encourage utility companies to bury existing overhead utility supply lines to make them resistant to disaster.

Strategy 3.1.2 The Village of Republic will consider zoning rules and requirements that mandate utility lines to be underground for new construction and new subdivisions.

Summary of Projects

The project summary chart below identifies the strategies for each jurisdiction and assigns a priority, anticipated start date, anticipated end date, potential funding source, and lead agency who would be involved with the project.

Description	Priority	Start Date	End Date	Funding Source	Lead Agencies
SENECA COUNTY					
Decrease number of structures in flood plain areas	1	01-01-15	12-31-20	PDM General Budget Private Funding	Regional Planning, EMA
Lessen effects of power outages on county residents	2	01-01-15	12-31-18	Private Funding	Regional Planning, Engineer
Elevate roadways in flood-prone areas	3	01-01-16	12-31-20	PDM, FMA General Budget	Engineer, Regional Planning
Improve shelter-in-place and evacuation options for residents	4	01-01-15	12-31-16	General Budget	EMA, ARC, HD
Improve warning and notification systems	5	01-01-15	12-31-17	HSPG General Budget	EMA
Improve drainage in flood prone areas	6	01-01-15	12-31-17	General Budget Private Funding	SWCD
Maintain trees and shrubs to reduce debris from high wind, thunderstorms and tornadoes	7	01-01-15	12-31-18	General Budget	SWCD, OSU Extension, OSS Solid Waste, Ag Conservation

Description	Priority	Start Date	End Date	Funding Source	Lead Agencies
Maintain public safety services	8	01-01-15	12-31-20	General Budget FIRE Grant	County Commissioners
Improve disaster social services for families and individuals recovering from disasters	9	01-01-15	12-31-17	General Budget Private Funding	DJFS, ARC, EMA

CITY OF FOSTORIA					
Build safe rooms in structures that lack basements	1	01-01-15	12-31-20	PDM Private Funding	City Manager, Fire Chief
Decrease risk of reservoir breach	2	01-01-15	12-31-18	General Budget PDM	City Manager, Water Superintendent
Eliminate abandoned and blighted structures	3	01-01-15	12-31-20	PDM CDBG Private Funding	City Manager
Harden city infrastructure	4	01-01-15	12-31-17	General Budget CDBG Private Funding	City Manager, County Engineer
Develop and implement residential building codes	5	01-01-16	12-31-16	General Budget	City Manager, Regional Planning
Establish temporary community gathering centers during disasters	6	01-01-15	12-31-15	General Budget	City Manager
Improve public warning systems	7	01-01-15	12-31-17	General Budget HSGP	City Manager, County EMA
Harden transportation resource and response capabilities	8	01-01-15	12-31-16	General Budget	Fire Chief, City Manager
CITY OF TIFFIN					
Maintain and repair flood walls and storm sewers	1	01-01-15	12-31-20	PDM CDBG General Budget	City Manager, Street Superintendent
Eliminate abandoned and blighted structures	2	01-01-15	12-31-20	PDM Private Funding	City Manager
Develop and implement residential building codes	3	01-01-15	12-31-16	General Budget	City Manager, Fire Chief
Establish temporary community gathering centers during disasters	4	01-01-15	12-31-15	General Budget	City Manager
Maintain public safety services	5	01-01-15	12-31-20	General Budget FIRE Grant	City Manager

Install outdoor warning sirens	6	01-01-15	12-31-17	General Budget HSGP	City Manager, County EMA
Enhance services to residents with functional needs during disasters	7	01-01-15	12-31-16	General Budget ODH/ASPR	City Manager

VILLAGE OF ATTICA					
Establish temporary community gathering centers during disasters	1	01-01-15	12-31-15	General Budget Private Funding	Mayor
Maintain right of ways and boulevards to decrease debris	2	01-01-15	12-31-20	General Budget	Village Administrator
Harden utility services	3	01-01-15	12-31-17	General Budget Private Funding	Village Administrator, Village Council
VILLAGE OF BETTSVILLE					
Acquire and demolish three repetitive loss structures	1	01-01-15	12-31-20	PDM	Village Council
Divert flow of water from Wolfe Creek through the village	2	01-01-15	12-31-17	PDM	Village Council
Harden utility services	3	01-01-15	12-31-17	Private Funding General Budget	Village Council
Maintain right of ways and boulevards to decrease debris	4	01-01-15	12-31-20	General Budget	Village Council
Establish temporary community gathering centers during disasters	5	01-01-15	12-31-15	General Budget Private Funding	Village Council
VILLAGE OF BLOOMVILLE					
Establish temporary community gathering centers during disasters	1	01-01-15	12-31-15	General Budget Private Funding	Village Council
Maintain right of ways and boulevards to decrease debris	2	01-01-15	12-31-20	General Budget	Village Council
Harden utility services	3	01-01-15	12-31-17	Private Funding General Budget	Village Council
VILLAGE OF GREEN SPRINGS					
Establish temporary community gathering centers during disasters	1	01-01-15	12-31-15	General Budget Private Funding	Village Council

Maintain right of ways and boulevards to decrease debris	2	01-01-15	12-31-20	General Budget	Village Council
Harden utility services	3	01-01-15	12-31-17	Private Funding General Budget	Village Council

VILLAGE OF NEW RIEGEL					
Establish temporary community gathering centers during disasters	1	01-01-15	12-31-15	Private Funding General Budget	Village Council
Maintain right of ways and boulevards to decrease debris	2	01-01-15	12-31-20	General Budget	Village Council
Harden utility services	3	01-01-15	12-31-17	Private Funding General Budget	Village Council
VILLAGE OF REPUBLIC					
Establish temporary community gathering centers during disasters	1	01-01-15	12-31-15	General Budget Private Funding	Village Council
Maintain right of ways and boulevards to decrease debris	2	01-01-15	12-31-20	General Budget	Village Council
Harden utility services	3	01-01-15	12-31-17	General Budget Private Funding	Village Council

Existing Authorities
Seneca County has minimal existing authorities regarding development standards and codes. The following chart lists the authorities in place.

Authority	**Jurisdiction**	**Enforcement**
Commercial Building Codes (OBBC)	All	Ohio Dept. of Commerce and Local Fire AHJ
Residential Building Codes	None in place	DNA
Zoning	Townships: Adams, Clinton, Eden, Hopewell, Jackson, Pleasant, and Scipio	Township Zoning Inspector and Board of Zoning Appeals
NFIP and Floodplain Standards	Seneca County and all municipalities and townships	Seneca County Regional Planning, commercial lending institutions comply by policy

Seneca County began their floodplain map modernization with ODNR in Fiscal Year 2008. This process began with a scoping meeting held on May 11, 2008 and culminated with revised maps becoming effective on May 3, 2011 when the County formally adopted them. Under the County Regional Planning Commission, Floodplain Regulations are currently in effect. Section 3.0

designates a Floodplain Administrator and duties of that Office, to include updating regulations and enforcement of such regulations under Section 6.0. Additionally, the Floodplain Administrator routinely monitors flood hazard areas to enforce regulations and provide community assistance such as encouraging owners to maintain flood insurance policies.

Obviously, Seneca County has minimal standards and controls on development. This is typical of rural, agricultural areas where commercial development has not been widespread, and housing development was very limited. The areas that have zoning standards and local fire prevention assistance are the municipalities of Fostoria and Tiffin, and the adjacent highly developed townships such as Clinton. The unregulated areas are the rural, agricultural townships where few industries and residents occupy the area, which is dedicated mostly to farming, either in crops or livestock.

While residential building codes are a controversial issue, the Core Committee reached consensus that such codes would be beneficial to the residents of the county, and that work to establish standards should be pursued by the proper authorities. Although Big Springs, Louden, Seneca, Venice, Bloom, Liberty, Thompson, and Reed Townships are not zoned, work should be directed toward passing zoning ordinances and standards in those areas to provide guidance and direction in land use planning and development. Fire codes and the Ohio Basic Building Code is enforced and adopted regarding commercial development, and has been beneficial in eliminating unsafe and hazardous buildings, forcing the repair and maintenance of the properties and achieving some disaster recovery benefit.

Adopting new or additional standards and regulation will take cooperation between many parties, but the Core Committee felt if the work began now, it was a feasible undertaking. This will be accomplished through specific efforts to introduce and develop land use plans that include residential building codes, overall zoning, and additional floodplain guidance.

Integration and Implementation

Seneca County will work to improve integration and implementation of mitigation strategies into other county and regional planning efforts. The Core Committee found that communication between various regulators and planners and emergency management in the past has been informal. While committee members and others in the community recognized that they talk to each other frequently, and that they work together on projects regularly, there was little documentation of that in written plans and procedures examined during the course of preparing mitigation strategies.

This plan was written taking into consideration the status of current economic development. Seneca County has been hit hard by the economic downturn in northern Ohio and the nation. Therefore, there has been very little addition of business and industry for the past few years. There have been more closures and downsizing than addition of jobs, and it is anticipated that blighted and abandoned buildings might become an issue in the future. For the time being, there are few private homes and virtually no additional industry facilities being built. New businesses are locating in vacant structures and facilities, and are making efforts to bring them up to current standards.

The focus of efforts to include mitigation planning will concentrate on the following regulatory bodies within Seneca County. While the EMA Director is a key individual in leading the charge for collaboration, elected and appointed officials must do their part to support and advocate for emergency management in their individual capacities. While this collaboration development is not a "mitigation strategy" per se, the concept and outcomes will be identified and assessed during the annual mitigation strategy review.

Document or Procedures	Organization	Purpose
Seneca County Economic Development Plan	Seneca Regional Planning	To foster consideration of identified hazards and mitigation strategies as business and industry development goals are established and implemented To foster communication about commercial development plans and projects prior to implementation so that mitigation strategies can be incorporated as a part of an original plan of action To facilitate and foster communication and action regarding residential building code development and implementation in Seneca County
Sandusky River – Tiffin Watershed Action Plan	Sandusky River Watershed Coalition	To foster information sharing and communication as watershed and drainage solutions are developed
Utility Company Development Plans (AEP, American Water, etc.)	Individual private companies	To offer information to privately held utility companies so that mitigation strategies can be included in their development of infrastructure and services
Seneca County Fire Protection and Prevention by fire departments	Fire Departments	To foster collabortion with departments with the purpose of sharing information from emergency management regarding county-wide risks and hazards, resources, and plans
Townships, Village, and City Plans	Incorporated villages, municipalities, and townships	To enhance communication from emergency managers to jurisdictions so that mitigation strategies are considered regularly as other development and projects take place in the jurisdictions To share emergency management concerns about potential losses, and to present solutions and alternatives that might include actions such as building codes, zoning, and other development standards for the betterment of the jurisdiction
Public Health	Seneca County Health Department	To enhance the inclusiveness of mitigation strategies into public health planning as it relates to natural disasters

In addition to formal inclusion in plans and documents, the core committee members will work together to include one another in planning efforts each of them leads during the coming years. Examples may include scenarios such as American Red Cross including fire and law enforcement in sheltering considerations so that the evacuation process is implemented with full understanding of the shelter capacity in Seneca County; or Emergency Management might want to include business leaders in meetings regarding weather alert systems so that new and

upcoming businesses might develop emergency procedures in concert with county warning and communication procedures.

Core committee members and Emergency Managers will enhance these efforts by remaining acutely aware of county-wide planning efforts, and will work to continuously identify places were collaboration and inclusion are needed. This is a radical change in how many organizations tend to operate, and will take a long time to achieve completely. However, the efforts will formally begin with adoption of this plan, and will continue as needed. As more organizations and jurisdictions adopt formal planning processes, the need for inclusiveness will expand. The Core Committee members will search for ways to collaborate and work together more formally to implement mitigation strategies that foster resiliency and sustainability.

The Seneca County Hazard Mitigation Plan will be posted in Ohio's SHARRP online portal. The EMA Director will provide that link to organizations, jurisdictions, and departments in the process of developing capital improvement, response, development, and other relevant documents in the course of the coming five years.

SUMMARY

The Seneca County Hazard Mitigation Plan update was prepared with the input of a wide variety of county parties with the intent that it serve as a leading tool in further development and management in Seneca County. With the most current data available regarding disaster risk and vulnerability, the document establishes community-wide needs and goals that will enable business and industry to partner with government, individuals, and organizations to improve the quality of life in Seneca County.

The process followed the procedures established and set forth by FEMA for hazard mitigation planning in local communities by utilizing the guidance presented by FEMA in March 2013. The Core Committee that served as the leading entity for development of this update met in session several times, opening their meetings to any party interested in attendance. At the end of the document drafting process, the draft was put out for public review for over three weeks to obtain public input on the final document.

In the planning, local documents, authorities, and actions were examined to determine the effectiveness of prior mitigation efforts, and to establish future actions that would help Seneca County implement sustainable solutions to disaster challenges. Through these projects, the Core Committee intends to provide a template for action that governance and regulatory bodies can use to guide the coming five years. It is also intended that this document serve as a reference for other planning efforts that will benefit the residents and businesses in Seneca County.

This document represents the county's best efforts to make tomorrow a better day for Seneca County residents, helping them make choices and take actions that will facilitate a successful and high quality life in northwest Ohio.

APPENDIX A:
LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA's evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan's strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: **Seneca County, Ohio**	**Title of Plan: Seneca County Natural Hazard Mitigation Plan**	**Date of Plan:** **October 2014**
Local Point of Contact: **Mr. Dan Stahl**		**Address:**
Title: **Director**		**126 Hopewell Avenue** **Tiffin, Ohio 44883**
Agency: **Seneca County Emergency Management Agency**		
Phone Number: **419.447.0266**		**E-Mail:** **dstahl@senecadps.org**

State Reviewer:	**Title:**	**Date:**
Dean W. Ervin, Sr.	**State Mitigation Planner**	**November 13, 2014**

FEMA Reviewer:	**Title:**	**Date:**
Date Received in FEMA Region ***(insert #)***		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

SECTION 1:
REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan** (section and/or page number)	**Met**	**Not Met**
ELEMENT A. PLANNING PROCESS			
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	pp. 4-15, Appendices B to E pp. 127-157 describe the local methodology and planning process. pp. 9-11, p. 126 list the participating jurisdictions, the representatives names, titles and organizations.	X	
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	pp. 9-11, p. 126 list local agencies involved in hazard mitigation activities, agencies that have authority to regulate development.	X	
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	pp. 4-11, states that group meetings were open to the public and the public had opportunity to comment on the plan. Pg. C-9 exhibits a press release. Pp. C-10 & 12 show that local newspapers picked up the story. Pg. C-11 is the public notice.	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan** (section and/or page number)	**Met**	**Not Met**
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	pp. 11-12	X	
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	pp. 17- 18	X	
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	pp. 16-21	X	
ELEMENT A: REQUIRED REVISIONS **There are no required revisions for this Element.**			
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT			
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	pp. 28-77	X	
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	pp. 28-77	X	
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	pp. 28-77		X
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	p. 76	X	
ELEMENT B: REQUIRED REVISIONS **Element B3.a and b: Except for flood hazards, there are some numbers and values per types of structures for loss estimates, however, it will be difficult to place these estimates into SHARPP. For flood hazards, insert the blue and white tables from Attachments 01 and 02 before the earthquake section on page 62. For tornadoes, insert the table from Attachment 04 on page 71 after the EF Scale narrative. For thunderstorms, insert the table from Attachment 05 on page 71. For wind storms, insert the table from Attachment 06 on page 71. For drought, insert the NASS table from Attachment 07 on page 71. For earthquakes, insert the table from Attachment 08 on page 68 before the "Non-Flood Incidents and Losses" section. For winter storms, insert the table from Attachment 03 on page 69 before the section on tornado damage.** ***All changes complete*.** **Element B4.a: State that there are no Severe Repetitive Loss properties in the County.**			
ELEMENT C. MITIGATION STRATEGY			
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	pp. 115-118	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan** (section and/or page number)	**Met**	**Not Met**
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))	pp. 115	X	
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))	pp. 81-83	X	
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	pp. 81-112	X	
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	Prioritization and economic consideration p. 81; implementation, funding and timeframes pp. 112-115 (See required revisions below.)	X	
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	pp. 99-101	X	
ELEMENT C: REQUIRED REVISIONS **Element C5.c: page 112, priority action 3, change funding "FMP" to "FMA."** ***All changes complete.***			
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)			
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	pp. 22-27	X	
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	pp. 78-80	X	
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	pp. 78-80	X	
ELEMENT D: REQUIRED REVISIONS **There are no required revisions for this Element.**			
ELEMENT E. PLAN ADOPTION			
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	Pending;	X	

1. REGULATION CHECKLIST **Regulation** (44 CFR 201.6 Local Mitigation Plans)	**Location in Plan** (section and/or page number)	**Met**	**Not Met**
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	Pending;	X	
ELEMENT E: REQUIRED REVISIONS **There are no required revisions for this Element.**			
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)			
F1. **There are no additional state requirements.**			
F2.			
ELEMENT F: REQUIRED REVISIONS			

SECTION 2:
PLAN ASSESSMENT

A. Plan Opportunities for Improvement

1. Page 75, change “DM-1580” to “DR-1580”.
2. Pages 112 to 115, “Special Funding” may not be acceptable to Federal reviewers. When in doubt, PDM and HMGP can be identified as potential funding sources. If there are other identified sources, then specify them by name or acronym. EMPG, HSGP are also EMA-related funding sources.

All changes complete.

B. Resources for Implementing Your Approved Plan

The plan includes a list of mitigation actions that appear realistic and feasible. The county should pursue funding for the projects under the different mitigation grant programs. These grant programs include the following:

HMGP

The Hazard Mitigation Grant Program (HMGP) is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Act, as amended. The key purpose of HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. HMGP is available, when authorized under the Presidential major disaster declaration, in areas of the State requested by the Governor.

PDM

The Pre-Disaster Mitigation (PDM) program is authorized by Section 203 of the Stafford Act, 42 USC 5133. The PDM program is designed to assist States and local communities to implement a sustained pre-disaster natural hazard mitigation program to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on Federal funding from future major disaster declarations.

FMA

The Flood Mitigation Assistance (FMA) program is authorized by Section 1366 of the National Flood Insurance Act (NFIA) of 1968, as amended with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP).

SHARPP

The State Hazard Analysis Resource and Planning Portal (SHARPP) has additional resources listed in the Grants section under Other Mitigation Grants. Go to http://ohiosharpp.ema.state.oh.us/OhioSHARPP/Grants.aspx#otherMitigationGrants for more information.

APPENDIX B - HAZARD MITIGATION CORE COMMITTEE

Jurisdiction, Organization, or Agency Represented	Last Name	First Name	E-mail Address	Telephone	Position
Village of New Riegel	Boullion	Larry	PO Box 223 New Riegel, OH 44853	419-595-2724	Mayor
Agricultural Stabilization/Conservation Service	Brion	Tina			Director
Seneca County General Health District	Broadhead	Marjorie	marjorie.broadhead@odh.ohio.gov	419-447-3091	Commissioner
Village of Bloomville	Brown	Darrin	vob@wavelinc.com	419-983-4745	City Administrator
Village of Green Springs	Darr	Jesse Lee	120 Catherine Street Green Springs OH 44836	*419-639-2123*	Mayor
Village of Bloomville	Dedinger	Rick	vob@wavelinc.com	*419-983-4745*	City Administrator
Ottawa/Seneca/Sandusky Solid Waste District	Drummer	Amy	ad@recycleoss.org	419-334-7222	Asst. Director
City of Tiffin	Ennis	Bill	firechief@tiffinohio.gov	419-448-5444	Fire Chief
Fostoria Community Hospital	Faeth	Betsy	betsy.faeth@promedica.org	419-436-6853	Heath/Safety Director
Seneca Regional Planning	Griffin	Jill	jill.griffin@senecarpc.org	419-443-7936	Director/GIS Coordinator
Village of Bettsville	Harrison	Joyce	235 State Street or PO Box 195 Bettsville 44815	419-986-5717	Council Representative
Tiffin University	Herdlick	Mike	herdlickm@tiffin.edu	419-448-3582	Dean of Students
City of Tiffin	Hoffman	Mike	cityadministrator@tiffinohio.gov	419-448-5402	City Street Superintendent
Seneca County EMS	Kelbley	Don	ems1@senecadps.org	419-447-0266	Director
North Central Electric	Kennedy	Tim	tmazzone@fesco-oh.org	419-426-3072	Safety Staff
Seneca County Prosecutor's Office	Ketter	Jonation	jketter@senecapros.org	419-448-4444	Assistant Prosecutor
Seneca County EMA	Klais	Mike	mklais@senecadps.org	419-447-0266 Ext. 10	Deputy Director
Village of Republic	Lambert	Bruce	fiscalofficer@republicohio.com	419-585-5981	City Administrator
City of Fostoria	Loreno	Keith	firechief@ci.fostoria.oh.us	419-435-3206	Fire Chief
Village of Attica	Martin	Greg	voagmartin@gmail.com	567-227-0649	City Administrator
North Central Electric	Mazzone	Terry	tmazzone@fesco-oh.org	419-426-3072	Safety Staff
City of Fostoria	McGuire	John	policechief@ci.fostoria.oh.us	419-435-8513	Police Chief
City of Fostoria	Murray	Allyson	ssd@ci.fostoria.oh.us	419-435-2561	Safety Service Director
Tiffin University	Nellson	Tom	nellsont@tiffin.edu	419-448-3422	Residence Life Director
Mercy Tiffin Hospital	Predmore	Susan	susan_predmore@mhsnr.org	419-455-7043	Emergency Planning Coordinator
City of Tiffin	Reamer	Deb	cityadministrator@tiffinohio.gov	419-448-5402	City Administrator
Seneca Soil and Water Conservation District	Rice	Tia	trice@senecaswcd.com	419-447-7073	Floodplain Manager and Director
American Red Cross	Rooker	Ron	ronald.rooker@redcross.org	419-422-9322 x1503	Emergency Director
Heidelburg University	Samoroski	Jan	samorowskijg@tiffin.edu	419-448-3291	Professor/First Responder
Seneca County Emergency Management	Stahl	Daniel	dstahl@senecadps.org	419-447-0266 X10	Director
Village of New Riegel	Staib	Lester	PO Box 223 New Reigel OH 44853	419-595-2724	Council Representative
Seneca County General Health District	Wallrobenstein	Linda	marjorie.broadhead@odh.ohio.gov	419-447-3091	Assistant Commissioner
OSS Waste and Recycling District	Wasserman	Tim	tw@recycleoss.org	419-334-7222	Director
Village of Bloomville	Weasner	Janis	vob@wavelinc.com	419-983-4745	Council Representative
Seneca County Commissioners	Wilson	Stacy	swilson@seneca-county.com	419-447-4550 Ext. 103	County Administrator
Village of Bettsville	Woessner	Joyce		419-986-5717	Council Representative

APPENDIX C - NOTICES

Following are notices that were distributed regarding the mitigation update process and the Core Committee meetings.

Page C-1: This notice was sent to over 100 officials, administrators, and leaders in Seneca County to recruit people for the Core Committee. The initial meeting was held on June 27, 2012.

Page C - 2: Email notice for the second meeting on Wednesday, August 29, 2012, and to relay further meeting dates for planning purposes.

Page C – 3: Email reminder notice for the third meeting on Wednesday, September 26, 2012

Page C - 4: Email reminder notice for the fourth meeting on Wednesday, October 24, 2012

Page C – 5: Reminder for October meeting and emphasis of importance of project development

Page C – 6: Notification of meeting on December 12, 2013

Page C – 7: Notification of meeting on March 11 and/or 13, 2013

Page C – 8: Details about March 13 meeting and review process

Page C – 9: Notice to news media regarding Publication of Draft Plan and review period

Page C – 10: Print out of above notification in the Tiffin Advertiser Tribune

Page C – 11: Flyer posted at EMA and sites in Seneca County to notify public of review period

Page C – 12: Receipt of Draft Review Period news submission (unprintable from website) for Fostoria Times Review

For each meeting of the Core Committee, telephone calls were made to any member without email access to remind them of the meeting. Members who have email were called three days prior to the meeting if they had not responded with an RSVP or regrets for the meeting. Several members were sent printed copies of the email in addition to the phone call for the purpose of distributing the notice to others from their jurisdiction.

At every meeting, all Core Committee participants were asked to and encouraged to bring colleagues and associates to the meeting. Every meeting opened with distribution of minutes from the prior meeting, and a reminder to share those minutes with any and all colleagues who may have an interest in the Hazard Mitigation Plan Update.

SENECA COUNTY EMERGENCY MANAGEMENT AGENCY

EMA

May 17, 2012

FROM: DAN STAHL

REF: HAZARD-MITIGATION PLAN UPDATE

Seneca County Emergency Management Agency will begin updating its Hazard Mitigation Plan next month. This is a process that we complete every 5 years to satisfy a federal requirement to have a FEMA-approved Mitigation Plan. The plan allows Seneca County to qualify for federal aid should a large-scale disaster happen here, and the financial resources needed to respond and recover are overwhelming to us as a county. Without an approved and updated plan, we risk our qualification for federal support and possibly other funding. Therefore, we will begin the process in June.

I would like to ask that you participate in this process as a member of the Core Mitigation Planning Committee. As a member, you will be asked to contribute your thoughts and expertise to the process of determining how Seneca County should work to make our communities disaster resistant. We will develop projects for each municipality and the county to each do their part to help lessen the effects disasters will have on all of us.

This process will involve several meeting over the coming months, organized by a mitigation planner, and facilitated to bring out information in an organized, time efficient manner. Our planner will record input, construct the projects we have outlined, and put together the revised mitigation plan that portrays our thoughts of what Seneca County should work to achieve in the next 5 years. There will be approximately 4 to 6 meetings of a couple hours each between now and the end of 2012.

The first meeting is scheduled for Wednesday, June 27 at 1:00 p.m. in the Seneca County Public Safety Building. Would you please confirm your attendance?

Thanks you for your time and assistance.

Daniel L Stahl, Director
126 Hopewell Ave. Tiffin, Ohio 44883
Office: 419-447-0266 X10 Fax: 419-448-5064
E-Mail: dstahl@senecadps.org

Emergency Management ■ 9-1-1 ■ Public Safety Communications

C-1

Sandy Waggoner-Hovest

From: Sandy Waggoner <sandy@rsassociatesllc.com>
Sent: Wednesday, August 08, 2012 2:58 PM
To: 'ssd@ci.fostoria.oh.us'; 'firechief@ci.fostoria.oh.us'; 'policechief@ci.fostoria.oh.us'; 'ronald.rooker@redcross.org'; 'betsy.faeth@promediac.org'; 'ad@recycleoss.org'; 'dstahl@senecadps.org'; 'jketter@senecapros.org'; 'ems1@senecadps.org'; 'susan_predmore@mhsnr.org'; 'marjorie.broadhead@odh.ohio.gov'; 'nellsont@tiffin.edu'; 'herdlickm@tiffin.edu'; 'tw@recycleoss.org'; 'cityadministrator@tiffinohio.gov'; 'voagmartin@gmail.com'; 'vob@wavelinc.com'; 'fiscalofficer@republicohio.com'; 'jill.griffin@senecarpc.org'; 'trice@senecaswcd.com'; 'samorowskijg@tiffin.edu'; 'firechief@tiffinohio.gov'; 'swilson@seneca-county.com'
Subject: Hazard Mitigation Meetings - New Information
Attachments: Seneca Mitigation Plan 2007.doc

Good afternoon Committee Members,

This has taken a little longer than I anticipated, but I'd like to share some initial information with you about the Seneca County Natural Hazard Mitigation Plan Update process.

First, our meeting dates have been changed to accommodate a couple organizations who had conflicts with our initial thought of meeting the morning of the Homeland Security Committee meetings. We will meet on the FOURTH WEDNESDAY from 1:00 until 3:00 PM, and I will then repeat the meeting the same day from 7;00 – 9:00 for those who need an evening meeting. We will have the same agenda at both of those sessions, but you only come to one of them. **All meetings will be held at the Seneca County Public Safety Building** unless I tell you differently. These are the meeting dates:

- Meeting #2: Wednesday, August 29 1:00 – 3:00 pm OR 7:00 – 9:00 pm
- Meeting #3: Wednesday, September 26 1:00 – 3:00 pm OR 7:00 – 9:00 pm
- Meeting #4: Wednesday, October 24 1:00 – 3:00 pm OR 7:00 – 9:00 pm
- Meeting #5: Wednesday, November 28 1:00 – 3:00 OR 7:00 – 9:00 pm

At this point, we hope to be submitting for State of Ohio approval; therefore, we will not meet in December but will tentatively plan to meet about the end of January when we should get the draft plan back with changes required by Ohio EMA. I'm estimating that we will meet on January 23, 2013 from 1 – 3 or 7 – 9.

Given the above schedule is kept, we estimate that we will meet in April for prior to the federal approval. That would estimate a meeting approximately April 24.

Please understand that State and Federal approvals are dependent upon us getting submissions back according to estimated time frames; this is NOT under our control and may change, so I ask for your patience in these later dates.

Please recall that we are using the time and efforts of local paid officials to constitute the Seneca County match (25%) for this program. If your wage plus benefit cost exceeds $25.00/hour, ***please share your wage, benefit, and fringe with me so I can adjust the local contribution schedule***. A $25.00 combined rate is approximately equal to a $17.00 per hour wage. I will keep those rates confidential and only share them if I am required upon audit to do so. Since you are public employees, that information is accessible through proper channels, as you know, but I only use the numbers for my reporting purposes. If you don't send me something different, I will use a $25.00 per hour combined rate.

C-2

I will give you a work plan at the first meeting. Please bring the copy of the 2007 plan with you if you were at the first meeting; I have attached that to this email in case you do not have it.

I look forward to working with you. Please RSVP to let me know about our next meeting on Wednesday, August 29.

Thank you!
Sandy

Sandy Waggoner
Resource Solutions Associates
12306 State Route 13
Milan, Ohio 44846

sandy@rsassociatesllc.com
Office 419.602.0758
Cell 419.602.7488
Fax 567.401.6016

Sandy Waggoner-Hovest

From: Sandy Waggoner <sandy@rsassociatesllc.com>
Sent: Thursday, September 20, 2012 6:06 PM
To: Allyson Murray; Amy Drummer; Betsy Faeth; Bill Ennis (firechief@tiffinohio.gov); Bruce Lambert; Chief Loreno; Chief McGuire; Dan Stahl; Deb Reamer; Don Kelbley; Greg Martin; Jan Samorowski; Jill Griffin; Jonathon Ketter; Marjorie Broadhead; Mike Herdlick; Ronald Rooker; Sandy Waggoner; Stacy Wilson; Susan Predmore; Terry Mazzone ; Tia Rice; Tim Wasserman; Tom Nellson; Village of Bloomville
Subject: Reminder for meeting

Importance: High

Good afternoon Everyone,

I hope you're enjoying this fall weather. It's sure a change from the 100 degrees of July and August, isn't it?

I want to remind you of the Mitigation Committee meeting next Wednesday from 1 – 3 in the afternoon, or the evening session from 7 – 9, at the Public Safety Building. We'll be talking about vulnerability and losses when disaster takes place now that we've established what we think is our highest hazards. I'll be using the data from the last meeting as a basis for our discussion. We will also begin discussion about mitigation projects for the counties and village/municipalities.

This meeting and the one next month are really important parts of the plan because we'll be talking about what we can really DO to make disasters less destructive.

Please let me know your intentions for attendance. Thanks much, and I look forward to seeing you again.

Sandy

Sandy Waggoner
Resource Solutions Associates
12306 State Route 13
Milan, Ohio 44846

sandy@rsassociatesllc.com
Office 419.602.0758
Cell 419.602.7488
Fax 567.401.6016

C-3

Sandy Waggoner-Hovest

From: Sandy Waggoner <sandy@rsassociatesllc.com>
Sent: Monday, October 15, 2012 1:34 PM
To: Allyson Murray; Amy Drummer; Betsy Faeth; Bill Ennis (firechief@tiffinohio.gov); Bruce Lambert; Chief Loreno; Chief McGuire; Dan Stahl; Deb Reamer; Don Kelbley; Greg Martin; Jan Samorowski; Jill Griffin; Jonathon Ketter; Marjorie Broadhead; Mike Herdlick; Ronald Rooker; Sandy Waggoner; Stacy Wilson; Susan Predmore; Terry Mazzone ; Tia Rice; Tim Wasserman; Tom Nellson; Village of Bloomville
Subject: Meeting Oct. 24

Good afternoon Mitigation Committee Members!

It's almost time for our next meeting on Wednesday, October 24 at 1:00 or 7:00, whichever meeting works best for you.

We will be working to develop the projects we will put in the proposed mitigation plan, so this is probably THE most important meeting of the process. I'll bring examples and suggestions, but this is where we can really custom fit a mitigation plan to specific jurisdictions, and make some real headway in preventing the negative effects of disasters in the future. So for next week, bring your creativity and critical thought with you, and we'll see what kind of a work out we can give you!

Please feel free to bring others with you, just let me know who and how many are coming so I can be set up to accommodate the numbers.

If you cannot attend, please let me know.

Thanks for all your involvement – we couldn't do it without you!

Have a great day,
Sandy

Sandy Waggoner
Resource Solutions Associates
12306 State Route 13
Milan, Ohio 44846

sandy@rsassociatesllc.com
Office 419.602.0758
Cell 419.602.7488
Fax 567.401.6016

C-4

Sandy Waggoner-Hovest

From: Sandy Waggoner <sandy@rsassociatesllc.com>
Sent: Tuesday, October 23, 2012 3:36 PM
To: Allyson Murray; Amy Drummer; Betsy Faeth; Bill Ennis (firechief@tiffinohio.gov); Bruce Lambert; Chief Loreno; Chief McGuire; Dan Stahl; Deb Reamer; Don Kelbley; Greg Martin; Jan Samorowski; Jill Griffin; Jonathon Ketter; Marjorie Broadhead; Mike Herdlick; Ronald Rooker; Sandy Waggoner; Stacy Wilson; Susan Predmore; Terry Mazzone ; Tia Rice; Tim Wasserman; Tom Nellson; Village of Bloomville
Subject: Agenda
Attachments: Meeting #4 Agenda.doc

Good afternoon Committee Members,

Our next meeting is scheduled for tomorrow at 1:00 (or 7:00 for some). Attached is the agenda for the day.

We will be working on mitigation projects for the jurisdictions which include the following:

- Seneca County
- City of Fostoria
- City of Tiffin
- Village of Attica
- Village of Bettsville
- Village of Bloomville
- Village of Green Springs
- Village of New Riegel
- Village of Republic

I may need to meet individually with each city or village to customize the projects in their jurisdiction because we may not have time to do that tomorrow. Please come to the meeting with two suggested meeting times please so I can get those on my calendar at a time that works for all of you.

See you tomorrow, but please let me know if you are unable to attend.

Thanks!
Sandy

Sandy Waggoner
Resource Solutions Associates
12306 State Route 13
Milan, Ohio 44846

sandy@rsassociatesllc.com
Office 419.602.0758
Cell 419.602.7488
Fax 567.401.6016

C-5

Sandy Waggoner

From: Sandy Waggoner <sandy@consultrsa.com>
Sent: Wednesday, November 28, 2012 4:12 PM
To: Allyson Murray; Amy Drummer; Betsy Faeth; Bill Ennis; Bruce Lambert; Chief Loreno; Chief McGuire; Dan Stahl; Deb Reamer; Don Kelbley; Greg Martin; Jan Samorowski; Jill Griffin; Jonathon Ketter; Marjorie Broadhead; Mike Herdlick; Ronald Rooker; Sandy Waggoner; Stacy Wilson; 'Susan Predmore'; Terry Mazzone ; Tia Rice; Tim Wasserman; Tom Nellson; Village of Bloomville
Subject: December 12th meeting

Good afternoon Mitigation Committee Members:

I just wanted to let you all know that we have rescheduled the mitigation meeting to Wednesday, December 12th at 1:00 and 7:00. I will send another email for you to remind you, but if you know at this point that you cannot attend that day, please let me know.

I am working to have a draft plan that day.

Also, please note that my email is now sandy@consultrsa.com . Please make a change and add me to your address books. Thanks much!
Sandy

Sandy Waggoner-Hovest
President
12306 State Route 13
Milan, OH 44846
419-602-0758 Office
419-602-7488 Cellular
567-401-6016 Fax

Resource Solutions ASSOCIATES

C-6

Sandy Waggoner

From: Sandy Waggoner <sandy@consultrsa.com>
Sent: Monday, March 04, 2013 1:57 PM
To: Allyson Murray; Amy Drummer; Betsy Faeth; Bill Ennis; Bruce Lambert; Chief Loreno; Chief McGuire; Dan Stahl; Deb Reamer; Don Kelbley; Greg Martin; Jan Samorowski; Jill Griffin; Jonathon Ketter; Marjorie Broadhead; Mike Herdlick; Ronald Rooker; Sandy Waggoner-Hovest ; Stacy Wilson; 'Susan Predmore'; Terry Mazzone ; Tia Rice; Tim Wasserman; Tom Nellson; Village of Bloomville
Subject: Additional meeting option

Good afternoon,

It's come to my attention that a few people cannot attend the Core Mitigation Committee meeting on March 13th, so I've set up an alternate date on March 11 at 1 pm at the Seneca County EMA building. You can attend *either* the 11th or the 13th. There are two meeting options on the 13th – 1 pm or 7 pm. Any meeting is fine, you only need to attend one.

If you cannot attend any of these, please let me know.

Thanks, all. See you next week!

Sandy Waggoner-Hovest
President
12306 State Route 13
Milan, OH 44846
419-602-0758 Office
419-602-7488 Cellular
567-401-6016 Fax

C-7

Sandy Waggoner

From: Sandy Waggoner <sandy@consultrsa.com>
Sent: Wednesday, March 13, 2013 10:44 AM
To: Allyson Murray; Amy Drummer; Betsy Faeth; Bill Ennis; Bruce Lambert; Chief Loreno; Chief McGuire; Dan Stahl; Deb Reamer; Don Kelbley; Greg Martin; Jan Samorowski; Jill Griffin; Jonathon Ketter; Marjorie Broadhead; Mike Herdlick; Ronald Rooker; Sandy Waggoner-Hovest ; Stacy Wilson; 'Susan Predmore'; Terry Mazzone ; Tia Rice; Tim Wasserman; Tom Nellson; Village of Bloomville
Cc: mklaiss@senecadps.org; Sandy Waggoner-Hovest
Subject: Meeting information

Good morning Mitigation Core Committee Members:

I want to remind all of you about the meeting this afternoon at 1:00 pm. This is a critical meeting, and I hope all of you can attend (except those of you who came to the special session Monday – no need to come again!) We will be reviewing the mitigation projects which is basically the "guts" of the Hazard Mitigation Plan. There will be NO MEETING TONIGHT AT 7 pm because I have no responses that anyone was going to attend; therefore, we have cancelled the 7 pm meeting. I have a handful of responses for this afternoon, but do not have a response at all from many of you.

I held a special meeting on Monday afternoon for those who could not attend today, as per my earlier email to all of you. We had an excellent work session to review projects, and were able to add lots of clarity to the plan. I hope this afternoon is equally productive. Those of you who came Monday were fantastic, and I couldn't have asked for better quality input. Thank you!

Once we get through this meeting today, I will begin to complete drafting of the revised plan. Due to changes with the plan review process, we will be completely replacing the old plan with a new version. It is very critical that I have your feedback on the plan thus far *before* I begin writing again.

After I see what the attendance is today, I may set up one more meeting to go over the projects because I am hearing that several key people are not going to attend today. However, this will be the third meeting to go over the same material, so I will only do that if I have committed attendance. I will notify those who do not attend either Monday's meeting or today's individually with that option, and will attempt to schedule one more option for input.

Once the plan is drafted in entirety, we will have another meeting to go over the plan, including the risk assessment and the projects. At that time, the plan will go out for public review for two weeks. IF there is input, the committee will be asked to review the requested changes and/or additions, and I will make any changes the committee approves. We will at that point send the revised plan to the State of Ohio for approval. The State Mitigation Officer and I will make any clarifications or format changes necessary, and then the plan will be submitted for FEMA approval. FEMA will either ask for more changes or grant conditional approval. AT THAT TIME, THE CITIES, VILLAGES, AND COUNTY WILL BE REQUIRED TO ADOPT THE PLAN AS IT IS APPROVED BY ORDINANCE OR RESOLUTION. NO CHANGES WILL BE ALLOWED! Therefore, the input phase of the project is NOW, not later. Thus the importance of your attendance at these meetings.

I apologize for the length of this email; however, it is imperative that you all understand the importance of the work at this point, and the value and consequences of your participation or lack thereof. By accepting the grant to produce this plan, the county committed to working through the process as long as it takes to get a FEMA approved plan.

Thanks for your hard work and dedication!

Sandy Waggoner-Hovest

C-8

For Immediate Release 12/10/2013

Dan Stahl, Director
Seneca County Emergency Management Agency
(419) 447-0266
danstahl.ema@gmail.com

Seneca County Hazard Mitigation Plan Available for Review and Comment

Residents encouraged to review plan and provide comment by December 27.

Tiffin, Ohio. Seneca County is currently updating the existing Seneca County Hazard Mitigation Plan. This work is being performed by the Seneca County Emergency Management Agency and Resource Solutions Associates utilizing funds from the Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation Grant Program. With adoption of the revised plan, participating jurisdictions will maintain eligibility to apply for federal funding to support hazard mitigation projects. The local planning process includes a wide range of representatives from municipal and county government, emergency management, and community agencies.

The hazard mitigation plan provides Seneca County communities with goals, actions, and resources to reduce the risks from future natural disasters. Engaging in mitigation planning provides jurisdictions with many benefits, such as reduced loss of life and property, reduced short- and long-term recovery time, improved cooperation and communication within the community, and increased opportunities for state and federal funding for reconstruction projects.

To comment on the hazard mitigation plan, go to www.consultrsa.com and select 'Seneca County Hazard Mitigation'. A draft version of the plan will be available for formal public comment from December 10, 2013 through December 27, 2013.

If you have any questions about the hazard mitigation planning process or would prefer to view a written copy of the plan, contact the Seneca County EMA at (419) 447-0266.

###

County to update plan

December 12, 2013
The Advertiser-Tribune

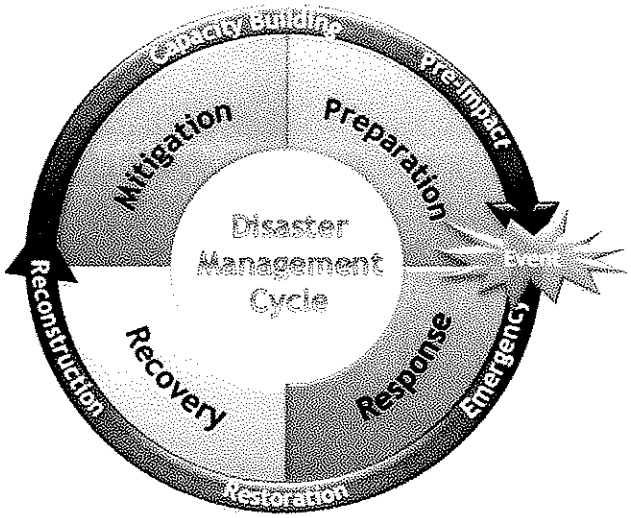
Seneca County is to update its existing Hazard Mitigation Plan. The plan provides Seneca County communities with goals, actions and resources to reduce the risks from future natural disasters.

By engaging in the planning, communities will have benefits such as reduced loss of life and property, reduced short- and long-term recovery time, improved cooperation and communication and increased opportunities for funding in reconstruction.

To comment on the plan, visit www.consultrsa.com and select Seneca County Hazard Mitigation by Dec. 27.

For questions about the process or a written copy of the plan, contact the Seneca County EMA at (419) 447-0266.

2013 Seneca County Hazard Mitigation Plan
Public Review Period



Natural disasters can impact everyone in Seneca County.

The Hazard Mitigation Plan presents strategies for reducing our vulnerability to floods, tornados, thunderstorms, blizzards, and other natural hazards. Seneca County residents are invited to review a draft of the updated Seneca County Hazard Mitigation Plan and provide comments for consideration.

How and Where to Review

View plan at www.consultrsa.com; click Seneca County Hazard Mitigation. Submit comments via online form, email, or fax.

Public Review Period

December 10 – December 27, 2013

Contact Information

Seneca County Emergency Management Agency
Dan Stahl, Director
(419) 447-2066 or danstahl.ema@gmail.com

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Fostoria REVIEWTIMES.COM special section

Contact Department

Attn: Newsroom

Thank you, Sandy!

We have received your information.

We will contact you if necessary.

Return to the Staff Directory

C-12

APPENDIX D - CORE COMMITTEE MEETINGS

Following are the minutes of meetings held with the Hazard Mitigation Core Committee. The meetings were open to the public, and the location was convenient and handicapped accessible so anyone who was interested could attend. Copies of the current Seneca County Hazard Mitigation Plan were available at all meetings, and could be electronically mailed to anyone who requested a copy for review. Each Core Committee member received a copy of the current plan and was asked to bring it to each meeting for reference.

Between meetings, conversations took place via telephone calls, personal contact, and electronic mail. A great deal of work and communication was done without formal documentation because it was an exchange of thoughts and ideas between committee members related to a specific topic of research. The information and suggestions developed from those conversations were then brought into Core Committee Meetings for the whole group to share.

The minutes summarize meetings held on June 27, August 29, September 26, October 24, and December 12, 2012 and on March 13, 2013.

Seneca County Hazard Mitigation Core Committee Meeting Minutes
Planning Meeting #1

Date/Time: June 27, 2012

Location: Public Safety Building, 126 Hopewell Avenue, Tiffin, Ohio 44883

Attendance: Stahl, Ketter, Kelbley, Predmore, Broadhead, Nellson, Herdlick, Wasserman, Murray, Lorend, Rooker, Mazzote, McGuire, Faeth, Waggoner, Morrison

Meeting Start: 1:00 pm. Meeting End: 3:00 pm. Minutes by D. Morrison

Dan Stahl convened the meeting at 1:00 p.m. on June 27, 2012. He explained that the purpose of the meeting is to initiate a process to update the Seneca County Hazard Mitigation Plan as part of the mandatory five-year update cycle. The revision will require approval by the State of Ohio and FEMA Region V. The last plan was approved in 2007. The update is due during the fourth quarter of this year. Dan explained that the process of community input and approvals does take time and involvement. He further explained that this required update could affect FEMA funding if not completed; counties are required to have an approved plan to receive funding for declared disasters and mitigation projects.

Dan stated that he applied for and received a grant to complete the project. He has chosen to hire a contractor to manage with the necessary work. He introduced Sandy Waggoner of Resource Solutions Associates, LLC as the contractor. He stated that Sandy would do 99.9% of the work needed and would be considered the project leader.

The grant, Dan continued, is a 75/25 cost sharing grant between the federal government and the county. The county must contribute 25% of the amount, or $5,000.00. The federal funds cover $15,000.00. The county's share can be made up of expenses that include the salaries of appointed officials and employees, including fringes and benefit costs. Elected officials' wages and associated costs are *not* eligible to be considered part of the county match, per the federal grant guidance.

Dan explained that according to the work plan, there will be five or six meetings. He explained that the Homeland Security Committee meets on the third Tuesday of every month and suggested that the HMCC (Hazard Mitigation Core Committee) meet in the morning prior to that meeting for convenience. The meetings will be from 9:30 to 11:30 on the third Tuesday of each month from August through January, excepting December. It is anticipated that we can complete the necessary work in that time frame, but if not, the meetings may need to be extended. We anticipate a meeting in about April for final approval issues with the revised plan.

Dan said Sandy would send out an email to committee members regarding time and dates. There would be no meeting in July, but August, September, October, November, he would like to have meetings at 9:30 am. There will be a final meeting in January, pending the project and approvals happen according to the project schedule.

Dan stated that a few committee members were unable to attend this first meeting. Dan expressed his appreciation to everyone there and expressed the importance of the meeting. Dan turned the meeting over to Sandy Waggoner.

Sandy thanked the attendees for coming, and told them that every county is required to have an approved mitigation plan. Approval comes from FEMA Region V offices. Ohio is fortunate to have Dean Ervin at the Ohio EMA who works with the counties to help with the approval process.

Sandy explained the purpose of a mitigation plan. She explained that the plan identifies hazards ahead of time and take steps to reduce loss should that hazard strike the county.

She further explained concepts of mitigation as the following:

1. Its purpose is to try to lessen or minimize loss from natural disasters.
2. Mitigation is the process by which we are able to diminish losses through planning and preparing before the impact of an incident.
3. We want to reach for what is called "sustainability" – in other words, we don't want to create "things" that cause bigger problems later on.
4. Our ultimate goal is to establish disaster resistant communities in Seneca County, ending up with cities, villages, and townships that can withstand naturally occurring incidents without incurring extensive losses and casualties.

Sandy told the committee that to assist in proper mitigation project development, several factors can be considered.

1. Building Codes that regulate where and how structures can be built and prevent actions such as building in the middle of flood plains.
2. Construction methods that will withstand the natural occurrences such as wind, rain, and snow that are particular to the Seneca County area.
3. Construction of natural habitat areas where floods occur along waterways and low areas.
4. Construction of retention ponds that help redirect water away from homes or businesses, cleaning ditches to facilitate water flow, and removing debris and trees from waterways to facilitate water flow.

Some of the issues the Core Committee will address include the following:

1. What hazards actually pose a risk to Seneca County?
2. What damages might actually occur if these hazards take place?
3. What factors are under our control and what can we do to diminish losses?

Sandy explained that the FEMA process is very different than it was in 2007. Prevention of loss is more important as budgets are tighter, and cost-benefit analysis is applied to mitigation and recovery costs.

FEMA outlines a very definitive process for the hazard mitigation update. It requires participation of every incorporated municipality or village, as well as the county. Special districts are to be included in the input phase, as well as higher education, business and industry,

non-profit organizations, and the general public. This provides the basis for the size of the Hazard Mitigation Core Committee; without widespread involvement and public input, the county cannot meet the requirements of the update process. Sandy explained that while she can serve as the project leader, she cannot do all of the work for the committee. The input received from the members is what the plan will consist of, and what will be justified and completed to the benefit of the residents and businesses in the coming five years.

Sandy further explained that the role of a Core Committee is to look realistically at resources to establish do-able mitigation projects under this plan revision. Realizing that each jurisdiction has a budget, and that resources are finite, the local input is critical to establishing projects that can actually be accomplished. When a project is actually accomplished, it will benefit the entire community if and when a disaster happens by reducing the costs and casualty outcomes.

Members were asked to look at the handouts which were placed at each seat prior to the meeting. This gives a brief summary of the FEMA process to revise and update a Hazard Mitigation Plan. Under FEMA requirements, every city or village and the county must have defined projects. Projects must be based on risk assessment, and therefore address a method or action to reduce losses from a specific incident.

The prior plan defined tornado, flood, winter storms, extreme heat, drought and earthquakes. The list may include some multi-faceted incidents, such as thunderstorm that causes wind damage and a power outage.

Sandy explained that the process of loss estimation will involve many individuals as we look at Seneca County and what might happen in a real disaster. The number of structures, including both residential homes and businesses, will be reviewed to formulate a loss estimate. For this information, Sandy will work with Regional Planning and GIS personnel to determine that information, and the Core Committee will help review the findings.

Sandy stated that once we have established a loss estimate, we will develop projects to less the losses. Projects may include, on the simple less costly side, public information and outreach and working with the community on warning and notification knowledge. It may include cleaning ditches and creating retention areas. It may also include revising building codes and standards or fire codes.

Every municipality and county must have at least one project for the plan to be approved. We must reach out to each village and city to participate in the process, redefine their risks and loss estimates, and formulate at least one project to address those considerations.

As this process unfolds, Sandy will write the revised plan. As it is completed, the Core Committee will review and suggest changes or additions. The proposed revision will be posted for public input for at least two weeks as the final draft is developed.

Sandy would like for the meetings to be working meetings and may ask many members to gather needed information to bring to a meeting. Members must keep track of their hours working on the project. She noted that hourly wage plus fringe/benefit rate would be counted towards

Seneca's County's contribution to the plan cost. Sandy stated that in the absence of individual wage and benefit numbers, she would use $25 per hour as the cost of each committee member. If members would share their cost with her, she would use the actual cost as the county share.

Sandy discussed privacy concerning wage information shared with her by committee members. She stated that she would not divulge personal information but those amounts would be part of the public record due to it being grant money.

Sandy asked committee for questions. No questions were asked.

Dan asked the committee members introduce themselves along with their job description.

Sandy asked each member to contact her if they had any questions. She then spoke on the importance of the quality of the plan. Disasters can take years and years to recover from on many levels, and she reminded them that the more loss that is prevented, the better off the community is after an incident.

Sandy told the committee that she will communicate with them on a regular basis and asked each member to respond to insure communication is as needed. Sandy stated that she wanted to be sensitive to member's time. Sandy asked the committee to keep her informed of related community events and actions that might be relevant to the Hazard Mitigation Plan.

Sandy told the attendees that the meeting in August will address hazard identification and risk assessment. We will profile and analyze those hazards and loss estimates, problem identification, goals and action plans.

Sandy stated that she may ask members questions between meetings so she can have work prepared to address at the meetings. Most input from members will be from the August to October time frame. It would be reasonable, if things go according to schedule to expect the draft plan by November. Once that is submitted for public input and approved by the committee and Dan, it will be submitted to the Ohio EMA for state approval. Than can take sixty days.

Given that schedule, the Committee will meet in January to go over the feedback and make changes. The final plan will again be published for the public, perhaps placed in libraries and universities. A notice may also be placed in a newspaper to let residents know where they can get a copy of the plan.

FEMA has ninety days to approve the plan. FEMA may come back with changes. New guidance documents are being released soon. FEMA may come back with suggestions based upon new guidelines. Once FEMA gives tentative approval all municipalities and the county will have to pass legislation to adopt the plan.

The new plan may not be approved before the old plan expires. At some point in the future, an approved mitigation plan may be criteria for receiving other grant funding such as CDBG funding.

Sandy asked members to record and plan for the meeting dates. Sandy said if a member cannot make the meeting then she would meet with them individually. She discussed SHARRP Portal completion. It is a new requirement that plans be uploaded so all emergency management officials may have access to it. That then becomes a resource for other counties as well. Sandy is hoping to have FEMA approval by April, assuming all work progresses as planned.

Sandy asked if there were any questions, and was asked if township approval needed? She stated that the county acts on behalf of the townships regarding mitigation plans so no, it is not necessary.

Question – Do we have all of the necessary representation on this committee?
Sandy answered that there were a few people who didn't make the meeting, and that she would be monitoring the participation continually. She would work with Dan to recruit the right people to fill any vacancies. Sandy has checklist from the grant guidance that she works from regarding Core Committee participation. If member's suggestions of local people Sandy should contact, please let her know name and contact information.

Question – Has FEMA added any specific disaster to the list?
Sandy said she would send them a list of considerations.

Sandy thanked Core Committee members for their time and efforts, and shared her contact information with them. She then reminded them to ask questions at any point in time through phone calls or emails.

Meeting ended.
Time: 2:15 pm.

Seneca County Hazard Mitigation Core Committee Meeting Minutes

Planning Meeting 2, Session #1

Date: August 29, 2012

Location: Public Safety Building, 126 Hopewell Avenue, Tiffin, Ohio 44883

Afternoon Attendance:	Dan Stahl, Joyce Harrison, Greg Martin, Lori (?) , Tricia Brian, Don Kelbley, Terry Mozzone, Stacy Wilson, Jonathon Ketter, Susan Predmore, Allyson Murray, Deith Loreno, Michael Herdlick, Marjorie Broadhead, Diane Morrison,
Evening Attendance:	Lester Strait, Jesse Darr, and Sandy Waggoner.

Afternoon Meeting	Start: 1:00 pm.	Meeting End: 3:30 pm.	Minutes by D. Morrison
Evening Meeting	Start: 7:00 pm	Meeting End: 9:30 p.m.	Minutes by D. Morrison

Sandy Waggoner convened the second meeting. Afternoon session #1 on August 29, 2012. Sandy introduced herself and Resource Solutions, LLC as the company that Dan Stahl hired as contractor to manage the mitigation process for Seneca County.

Sandy Waggoner explained that there would be two meetings per scheduled meeting day. The first meeting will be from 1:00 pm until 3:30 pm. The second meeting will be from 7:00 pm to 9:30 pm. For those who are unable to attend during business hours.

She advised committee members to call or email her with any questions between monthly sessions.

A handout was given to attendees which lists all of the committee members needed information. Members were asked to let Sandy know of any corrections.

Sandy stated that FEMA realizes the value of committee member's time. Also, that the community has to contribute time and materials equal to 25% of the total cost of the plan, and the grant program provides the rest of the funding through the State of Ohio. FEMA allows $25.00 per hour if members do not give their actual wage and fringe rate. Elected officials are not allowed to submit their time for reimbursement. Sandy also explained that she will not disclose individuals pay rate, but that it will appear in a document that Dan Stahl turns in on a report for reimbursement. Public wages are public information anyhow if someone submits the proper paperwork to obtain the information.

Handouts were distributed to members.

Sandy said that the 2nd, 3rd and 4th sessions will be work sessions, and directed participants to the abbreviated crosswalk handout. Element B will be the focus today. The next meetings in September and October will cover Element C, D, and E. These items must be in the plan for FEMA approval; the crosswalk provides very specific guidance for the content of the updated plan.

Sandy insured all committee members had a copy of the current mitigation plan, explaining that the new plan requirements are more detailed.

Goals for this meeting:

- Identify natural disasters and hazardous materials incidents within Seneca County from January 1, 2007 to date.
- Characteristics relevant to natural disasters in terms of social, economic, health and demographics.
- Social, cultures, ethics and lifestyles – inability to educate the Amish through television.
- Economics - challenged areas that may not have warning devices, cars. Some may be too poor to have a vehicle.
- Specific disasters.
- Hazardous material incident exposure.
- Risks relevant to specific jurisdiction - low lying areas, manufacturer of hazardous materials.
- Structure and infrastructure - utilities, water line, power lines, roadways, bridges.
- Where do we have key loss potential?
- Severe repetitive loss structures – Sandy commented on privacy concerning addresses. It would devalue the property.
- Critical resources within the community – water supplies, food supplies, health care supplies, hospital and critical services.

Sandy explained that meetings will be on the fourth Wednesday of the month in September, October, and November. Additional meetings will be scheduled as needed.

Sandy briefed members on worksheet B1. Goal: Identify natural hazards that pose a risk to Seneca County, including severe thunder storms, hail storms, severe winter storms, high winds, utility outages, tornadoes, earthquakes and all weather related events. She asked that they consider what might happen in the county, covering the vulnerability considerations of *possibility only*.

Committee members broke into four groups to discuss worksheet for approximately 20 minutes. Feedback was shared by each work group and recorded on handouts that were then collected for summation by Sandy as she writes the updated plan.

Sandy explained B2. Identify the natural disasters and hazardous materials incidents that have occurred between January 1, 2007 and today. This considers not what might happen, but what has happened, thus addressing vulnerability considerations of *probability and frequency*.

Sandy further explained the different categories on worksheets and what to consider. She identified social aspects as those things that have to do with our culture and how we do things. Examples might be things like how we attend school, or how we congregate when something bad happens. Social issues have to do with welfare and the ability to be independent and care for oneself. When talking about social aspects, consider cultural issues, religion and beliefs that cause us to respond in a particular way.

Economic issues deal with money and financial resources. The unemployed or special needs individuals don't have the resources that many others have. There is a belief among emergency managers that it costs a family $400 to evacuate. Some people, for example, may not have the money to support their own evacuation. Some may not have cars. Health issues and the disabled or those in hospitals, these issues need to be considered.

Members were given time to work on B3 a. – Identify the county's characteristics that are relevant to natural disaster in terms of social, economic, health and demographics. Groups spent half an hour, and then presented answers to the whole group for discussion. Responses were collected to be tabulated and used for the plan development.

The next group discussion collected information about the impact of an incident on the community. Sandy asked the groups to consider each municipality and the county as a whole for this unit of discussion.

B3 b. – Describe each hazard's impact upon your specific community or jurisdiction. Include any impact specific to a certain jurisdiction and identify that impact, why it takes place, how it happens, and how the jurisdiction responds to it.

Sandy continued to give examples in different categories and asked if there were any questions. She said this might have to do with a low-lying area that floods all the time, and used the City of Shelby in Richland County as an example. She talked about how Shelby has taken specific actions to mitigate the flooding problems unique to its area. She talked about communities on the shores of Lake Erie, and how they take actions to minimize storm damages based upon coastal issues. The City of Findlay to the immediate west was discussed, and examples of what is being done there were identified. The groups met for half an hour and then shared their findings with the whole group; Sandy will use the findings in the final mitigation plan.

Task, B4– For this activity, participants were asked to identify structures and infrastructure that are vulnerable to the identified hazards and may experience damage. They were asked to estimate that degree and amount of damage for each hazard. Sandy explained that structures are buildings, both commercial and industrial, and include residential homes, apartments, and group homes. Infrastructure includes water and sewer lines, power lines, bridges and culverts, and roads – those things that are inherent to a functioning society and are generally owned by and maintained by a government body.

Sandy also asked that participants identify any structures or infrastructures that incur repetitive or severe repetitive losses due to disaster. She asked that addresses and other specific identifiers not be included, but that it was necessary to indicate any repetitive loss structures that are in the county.

Sandy asked that groups identify any critical resources or response mechanisms that are vulnerable to disaster and describe the impact of the vulnerability. This would include fire and EMS departments, police stations and equipment, and water plants, utility plants, etc.

Sandy monitored each groups' discussions and answered questions. At the end of discussions, ideas were shared with the group, and information was turned in to be used in the plan development.

Sandy stated she would compile the information and share the findings with the group in the draft plan later in the project timeline. She told members she may call them to clarify or expound upon points they included in their feedback.

She asked if there were any questions and thanked the committee for their participation.

Meeting closed at 3:30 pm.

Seneca County Hazard Mitigation Core Committee Meeting Minutes

Core Committee Meeting 3

Date: September 26, 2012

Location: Public Safety Building, 126 Hopewell Avenue, Tiffin Ohio, 44883

Attendance: Dan Stahl, Amy Drummer, Greg Martin, Joyce Harrison, Betsy Faeth, Terry Mazzone, Ron Rooker, Mike Hoffman, Deb Reamer, Marjorie Broadhead, Jonathon Ketter, Susan Predmore, Diane Morrison, Allyson Murray, Sandy Waggoner, Jan Sanoriski, Les Staib Jr.

Meeting Start: 1:00pm Meeting End: 4:15pm

Sandy Waggoner convened the meeting on September 26th, 2012 welcoming then and thanking them for their time. A brief review of progress thus far updated everyone on the status of the mitigation plan update. Committee members then were asked to refer to their agenda and handouts covering Authorities, Policies, Programs and Resources already existing within the county.

Discussion ensued to gather input regarding the regulatory and oversight agencies with authority to enforce policies, procedures, and laws relevant to disaster mitigation. She explained that authorities might include bodies such as Zoning Boards and Inspectors who determine whether an intended land use is consistent with current land use standards. It might include a Board of Building Standards and a Certified Building Official who enforce construction standards for commercial or residential property construction and renovation with the purpose of mitigating disaster damages to property in the event of storms or incidents. She cited the Ottawa County Building Inspection Department as an example. She also talked about flood plain management and where buildings can be instructed, and how the insurance industry and the financial industry work together to help avoid investments in construction that will likely be destroyed by floods.

Sandy stressed the importance of building upon what already exists in the regulatory arena rather than to create new or re-invent existing plans and projects. The purpose of a mitigation plan is not to create more agencies or bureaucracy to make development more cumbersome, but instead is intended to prevent development expenditures that will likely result in disaster-ravaged properties. She suggested that the committee look at what the county already has in place, and therefore updating, expanding and revamping where needed would be the most effective way to update the mitigation plan. Sandy asked committee members to reference the existing plan, and to use it as the basis for their group discussions.

Sandy asked the group to consider the agencies, boards, and other entities that could be considered regulatory authorities and note them on the handouts. She then moved to the policies and programs that are part of mitigation plans and activities.

Jurisdictional participation in the National Flood Insurance Program (NFIP) was discussed and included information about the updated flood maps. Dan indicated that Seneca County has adopted the new flood maps from FEMA, and Sandy indicated that she has confirmed that via information online with Ohio EMA. She also suggested that the committee look at pre-disaster mitigation programs like what is

happening in Findlay right now regarding flood prone properties. Groups such as watershed coalitions, conservancy groups, and other land use special interest groups are a part of this section of questions. The Soil and Water Conservation District, the Agricultural Stabilization and Conservation Service, and the Seneca County Regional Planning Commission are examples for this discussion.

The group spent time discussing in small groups and then reporting back findings which are documented on activity sheets.

Sandy referred committee members to the current HMP pages 19 – 21 for specific projects in place. Sandy then indicated that the purpose of the next activity is to provide FEMA with specifics about how Seneca County can lessen the negative impact of disasters within the next five years by developing new projects and actions. She reminded committee members that plans are revisited regularly every five years. She asked them to consider the projects defined on pages 19 – 21 of the current plan, and to indicate the status of those projects as completed, ongoing, or deleted for the plan revision.

Project goals need to be very specific, measurable, action oriented, realistic and time oriented. Sandy used and explained the "SMART" acronym for development of objectives, and asked the group to complete the next activity with that in mind.

At the end of the discussion period, groups reported back to the entire committee, and results are recorded on handout activity feedback sheets to be assembled as part of the revised plan and update.

Sandy previewed the October meeting for committee members. The next month's committee meeting will focus on the creation of projects for the update. Some of the projects may be a continuation of those in the current plan, but they may also include other additional projects. In order to meet FEMA standards, each city or village must have at least one project, and the countywide projects must be agreed upon by all city and village councils too. If a specific village has a unique idea or situation to manage, that is a perfect opportunity for a jurisdictional project. Sandy asked committee members to review the current plan and give some thought to the creation of the new projects before next month's meeting.

Sandy reminded the group that identification of a project does not imply allocation of funds to that project. The specific jurisdictions will handle the aloocation of funding for projects after the plan, or intent, is developed. If a project is defined by in the end is not funded, during the next review we will determine why it was unable to be completed. There is not penalty for not being able to accomplish a project. She asked members to be proactive.

Sandy reminded members of the next meeting on October 24th, 2012 at 1:00, the forth Wednesday of the month. She also asked members to let her know if they are not receiving emails and gave the dates to which they were sent. She then gave her email address and phone number.

Meeting was adjourned at 4:15.

Seneca County Hazard Mitigation Core Committee Meeting Minutes

Planning Meeting #4

Date: October 24, 2012

Location: Seneca County Public Safety Building, 126 Hopewell Avenue, Tiffin, OH 44883

Attendance: Woessner, Kelbley, Martin, Kennedy, Griffin, Stahl, Klais, Mazzone, Wallrobenstien, Ketter, Predmore, Loreno, Murray, Rooker, Wasserman, Harrison, Waggoner

Meeting Start: 1:00 p.m. Meeting End: 3:30 p.m. Minutes by S. Waggoner

The purpose of this Core Committee meeting was to accomplish the following:

- To identify goals to reduce and or avoid long-term vulnerabilities to the identified jurisdictions
- To identify an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction.
- To describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate.

Ms. Waggoner opened the meeting with a review of the last meeting's minutes and request for questions. There being no questions, the minutes were considered an accurate reflection of the September meeting.

Ms. Waggoner opened the floor for questions regarding the mitigation projects in the current plan, and said that the meeting would begin with a review and assessment of completion of those projects. Dan Stahl offered to answer any questions about the scope of any listed project or the status of any. Attendees were given a work sheet that listed each project, and asked to break into small groups to assess the status of each project on the list (taken directly from the current plan).

After working on this for 20 minutes, each group had one person present any questions about the list, and Dan Stahl provided answers. Ms. Waggoner collected the worksheets, and recorded the committee members' feedback on the status of each project listed. This information would be transferred into a completion summary sheet included in the new mitigation plan.

Step #2 for the meeting included a review of the HIRA and the prioritization of hazards based upon possibility, probability, magnitude, and frequency. The ranking of hazards was, in order from worst to least, the following: Floods, Winter Storms, Tornado, Severe Thunderstorm, Windstorm, Drought, Earthquake. Wildfire, Hurricane, Landslide/mudslide, Tsunami, and Volcano were not assessed to be viable hazards, so no projects would be identified to address associated risks.

It was noted that since 1965 when recordings began, federal and state assistance has been rendered in Seneca County for wind damage, snowstorms, floods, and tornadoes. Participants were referred to their copy of the loss estimates documents. A lengthy discussion ensued regarding what damages each of the committee members had seen or experienced, and how these damages were considered in the mitigation planning.

Ms. Waggoner and Mr. Stahl reviewed for the committee that the mitigation plan intends to identify losses that would be incurred and paid for by public dollars, and that the goal is to reduce those damages so that public assistance dollars eventually are not needed. While a storm or incident may case a personal property to be damaged, most residents and property owners carry property and casualty insurance. Those are personal losses paid for by "personal mitigation", i.e. insurance. Those are private matters and not considered a part of the mitigation research because there is no way to identify a majority of the personal losses. On the other hand, those losses not covered by personal insurance or that are uninsured become part of the public funding of loss recovery. When uninsured loss reaches an identified threshold, then federal and state dollars kick in after a tiered declaration, and state and federal resources (including funds) become available.

Ms. Waggoner reviewed the process for mitigation projects by reviewing the types of projects and distributed a list of possible projects associated with the identified hazards. (See handout). Extensive discussion ensured to gain a full understanding of these potential project types.

The meeting ended at 3:30 after much discussion laid the foundation for specific project suggestions for the coming meeting scheduled for December 12 (note date change!).

Core committee members were asked to again review the projects in their copy of the current plan, and to come in to the next meeting with suggestions of new projects for the update plan. Ms Waggoner reminded them that every jurisdiction (county, city and village) would have to have at least one project and preferably three for the new update. They were encouraged to discuss this with other officials and residents in their jurisdictions and work and at home. Dan would have copies of current projects and new ideas available, and by emailing Ms. Waggoner, copies of meeting handouts could be sent to anyone who requested one.

The meeting adjourned at 3:30.

Seneca County Hazard Mitigation Core Committee Meeting Minutes

Planning Meeting #5

Date: December 12, 2012

Location: Public Safety Building, 126 Hopewell Avenue, Tiffin, Ohio 44883

Attendance: Loreno, Murray, Bouillion, Ennis, Harrison, Ketter, Rooker, Griffin, Samoriski, Broadhead, Kelbley, Stahl, Klais, Waggoner

Meeting Start: 12:00 p.m. Meeting End: 5:00 p.m.

The meeting began with a review of the minutes of the past meeting, and a review of the task of developing new mitigation strategies. She told the group that since most of the projects listed in the 2007 plan were completed, that new projects must be developed. Each jurisdiction must have at least one project to be a part of the multi-jurisdictional plan.

Participants in the meeting were grouped into jurisdictional work groups. Some villages were grouped together, such as Attica, Republic, and Bloomville, because they are in close proximity to one another and share many common HIRA findings. Many of the villages have similar concerns, so by working on similar projects, would be able to develop local capabilities more effectively if they placed mitigation efforts in similar projects. The cities worked individually, as did a county-wide group.

Groups worked for two hours to develop projects within their jurisdictional groups. After a break, the group came together as a whole and discussed the projects listed on worksheets. Projects suggestions included the following:

- Handling of natural debris such as tree trimming, ditch cleaning, and waterway maintenance
- Rerouting of ditches inside villages such as Bettsville
- Handling of runoff water from industrial and developed sites such as factories and shopping centers
- Sheltering and care of evacuees during utility outages, severe storms, and temperature extremes
- Sharing of resources between jurisdictions to better utilize what is available so there is less damage to homes and buildings
- Notification of the public prior to storms and weather incidents
- Public education to make residents in general more disaster-wise and to make them understand the value of personal preparedness and responsibility for one's own property maintenance
- Expand warning systems to use social media and more electronic methods of notification like text messages
- Train volunteers to teach the public about preparedness
- Obtain funding for development of community centers as gathering and information locations, not necessarily 24-hour shelters
- Develop and implement a reverse 911 system of notification
- Initiate a community awareness campaign for roadway issues during disasters to convey information about closures, flooding, and damages
- Identify and map areas prone to flash flooding that do not fall in flood plains
- Maintain flood plain mapping and flood insurance programs (FEMA)
- Identify special needs populations and maintain this list on an onging basis

- Consider the economic impact of diasters as businesses close and commerce is interrupted
- Consider the effects of disaster on seniors and disabled people, and work to establish resources for them
- Identify quick set up evacuation centers to be used for less-than-overnight housing of disaster victims and community members.

The last hour of the meeting was spent on the ongoing maintenance of the mitigation plan. While it was discussed that emergency managers were part of discussion when other plans were developed, it was recognized that mitigation efforts were not frequently cited in other planning documents. Therefore, it was felt that efforts need to focus on inclusion of emergency management perspectives into community wide planning. The members felt there would be some difficulty in accomplishing that just because everyone is so limited on work time, and all seem to be doing more with less nowadays.

A concern expressed was that the mitigation plan is not used in the community after efforts are spent to create it. Some core committee members felt that most emergency planning documents were not actually used, and that when something happens, responders "do what they do" regardless of what is said in plans. A rather heated discussion ensued about the actual citing of disaster concerns in economic development, land use, regulation development, and other comprehensive studies and plans in Seneca County.

After discussion, it was decided to schedule one more face-to-face meeting for the committee after Sandy and Dan could meet with Dean in Columbus to clarify the need for projects and detailed plan maintenance measures. That meeting will occur sometime late winter. In the meantime, Ms. Waggoner will take the project information from the meeting and begin drafting new projects. At the coming meeting, the projects will be prioritized and proofed. Electronic communication will take place between meetings to discuss ideas so that the next meeting can wrap up the input process and allow for completion of a draft plan.

Seneca County Hazard Mitigation Core Committee Meeting Minutes

Meeting #6

Date: March 13, 2014

Location: Seneca County Public Safety Building, 126 Hopewell Avenue, Tiffin, OH 44883

Attendees: Harrison, Martin, Klais, Mazzone, Rooker, Loreno, Kelbley, Broadhead, Ketter, Drummer, Waggoner (Stahl excused on medical leave)

Meeting Start: 12:00 p.m. Meeting End: 4:30 p.m.

The meeting was opened with a review of the December meeting, and a review of Ms. Waggoner and Mr. Stahl's conversations with Dean Ervin at the Ohio EMA. Sandy reviewed with them that the previous directives for projects was accurate, and that every jurisdiction needed to have at least one project that adequately addressed a risk or hazard posed to that jurisdiction. She also restated that the plan maintenance project should attempt to enhance comprehensive planning in Seneca County.

The first item of business was a review of the drafted projects for the update. Copies of those projects, established from notes of previous meetings, comments made by committee members, and input between committee meetings, were distributed. Members met in small groups by jurisdiction, and reviewed, prioritized, and made changes as necessary.

Ms. Waggoner was tasked with revising the list of projects and distributing it to the Core Committee for approval. She estimated that it would take until June to have the completed plan done and sent to them for their approval. The next step would be putting the plan out for public review and comment.

Discussion ensued regarding formalized collaboration and documentation of emergency management goals in other planning efforts in Seneca County. After much discussion, it was determined that emergency management input should be a part of the process when other plans are developed, and that committee members should play a role in assuring that input is documented in the future. By achieving that goal, Seneca County could have some assurance that mitigation strategies were a part of community wide discussions, and that property would not be developed in a way that facilitated damages in cases of disasters.

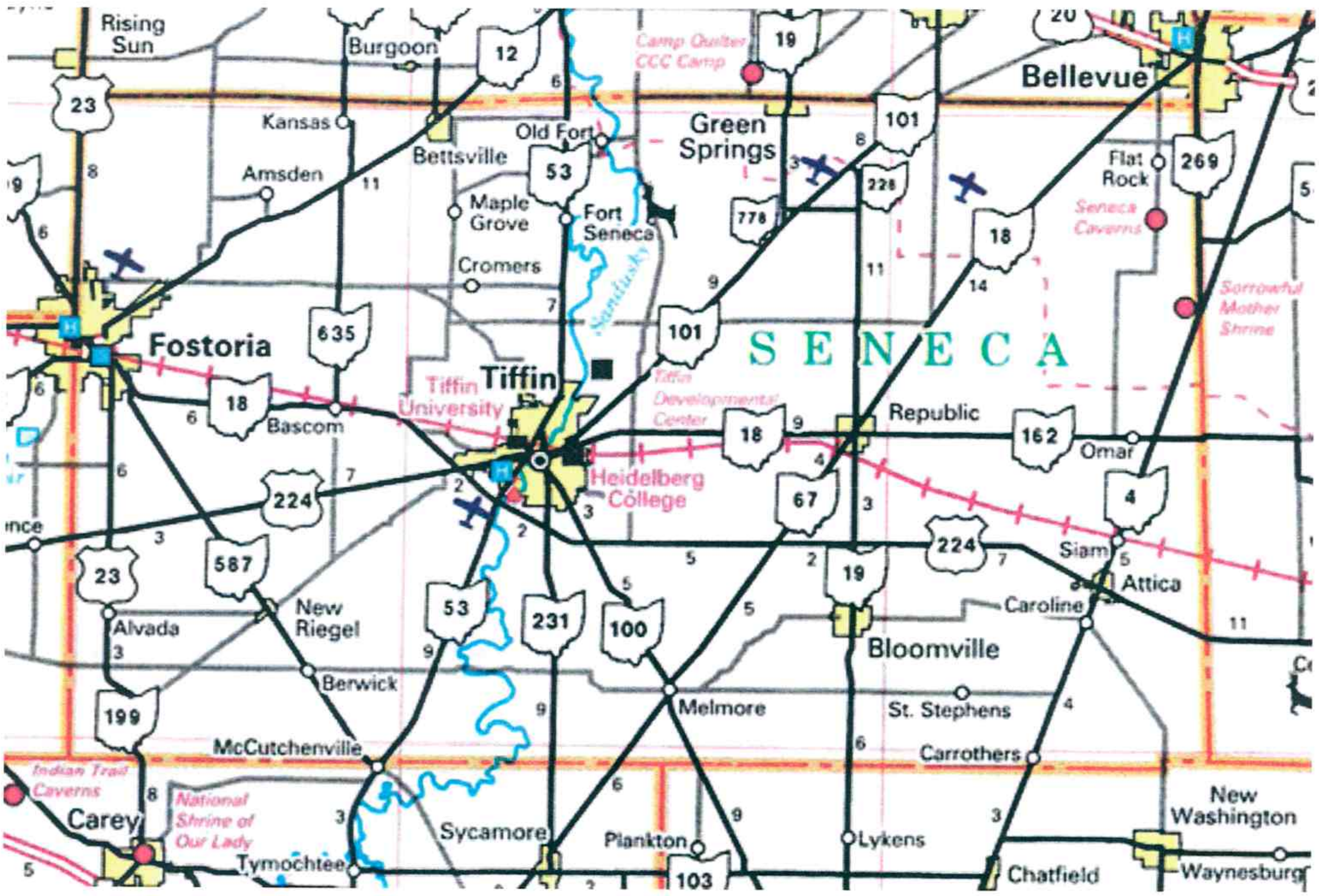
The Core Committee decided after much discussion that regular review of the Hazard Mitigation Plan should occur. The EMA Director should complete an annual review meeting. To make sure the meeting is scheduled and held, the EMA Director was the person who should take on the update responsibility, but others are necessary for a realistic and actual review to take place. This review should happen annually, and on the fourth year should focus on beginning the process of a five year update.

Ms. Waggoner was tasked with writing the process for this as a section of the plan.

The Core Committee will review the upcoming draft documents and send comments and questions to Ms. Waggoner. Dan Stahl will work with Ms. Waggoner to complete the final draft plan for review with the State of Ohio and FEMA. Any further Core Committee meetings will be held as needed, but email and telephone conversations should be expected as the plan is completed.

APPENDIX E - MAPS

The following maps give a pictorial idea of how Seneca County fits into the State of Ohio, and how the jurisdictions are located inside the county.


Rising Sun
Burgoon
Camp Quilter CCC Camp
Bellevue
Kansas
Bettsville
Old Fort
Green Springs
Amsden
Maple Grove
Fort Seneca
Flat Rock
Seneca Caverns
Cromers
Sandusky
Sorrowful Mother Shrine
Fostoria
Tiffin
Tiffin University
Tiffin Developmental Center
SENECA
Bascom
Republic
Omar
Heidelberg College
Siam
Attica
Caroline
Alvada
New Riegel
Bloomville
Berwick
Melmore
St. Stephens
McCutchenville
Carrothers
Indian Trail Caverns
Carey
National Shrine of Our Lady
Sycamore
Plankton
Lykens
New Washington
Tymochtee
Chatfield
Waynesburg

E - 1

Map Showing Seneca County Ohio

Get more Seneca County Ohio information on the Seneca County Ohio page.

Home Page State Pages

AdChoices ▶ County Map ▶ Plat Maps ▶ State Map ▶ Georgia

See our maps for adjacent jurisdictions:

Crawford Hancock Huron Sandusky Wood Wyandot

E - 2

Ohio's County Seats

E-3

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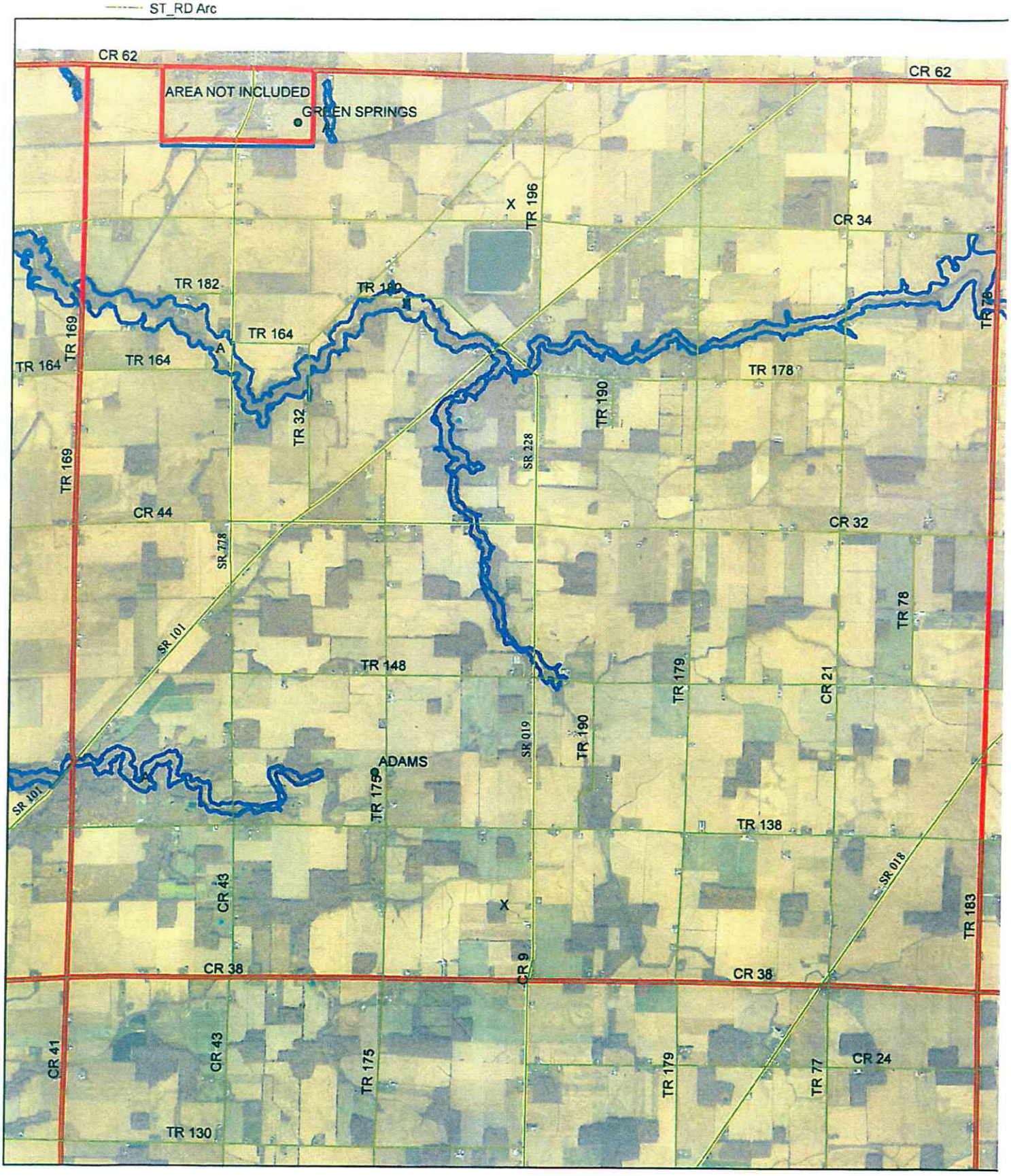
- ST_RD Arc

Special Floodplain Hazard Area
Adams Township
Seneca County, Ohio



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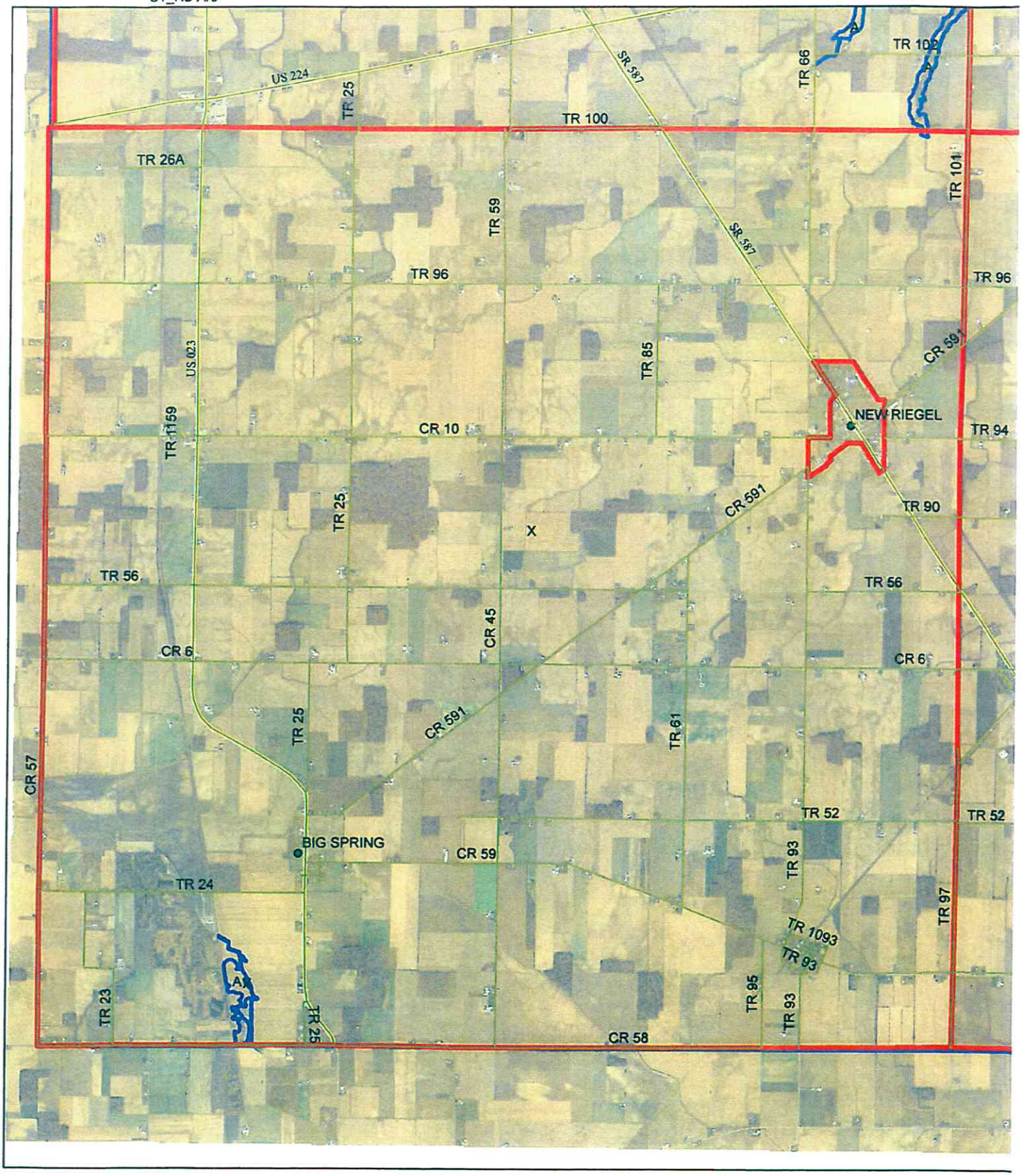
Special Floodplain Hazard Area
Big Springs Township
Seneca County, Ohio



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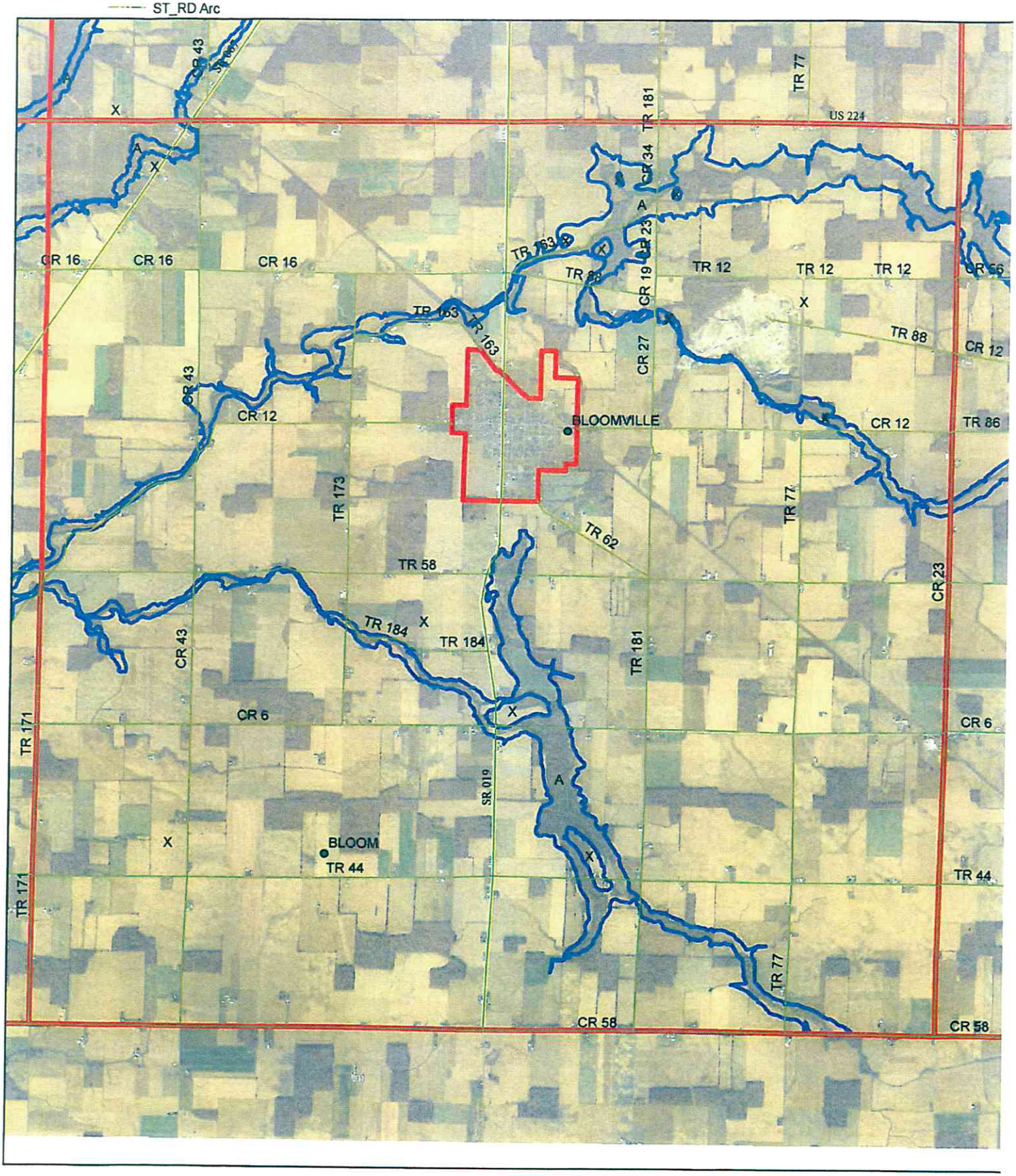
Special Floodplain Hazard Area
Bloom Township
Seneca County, Ohio



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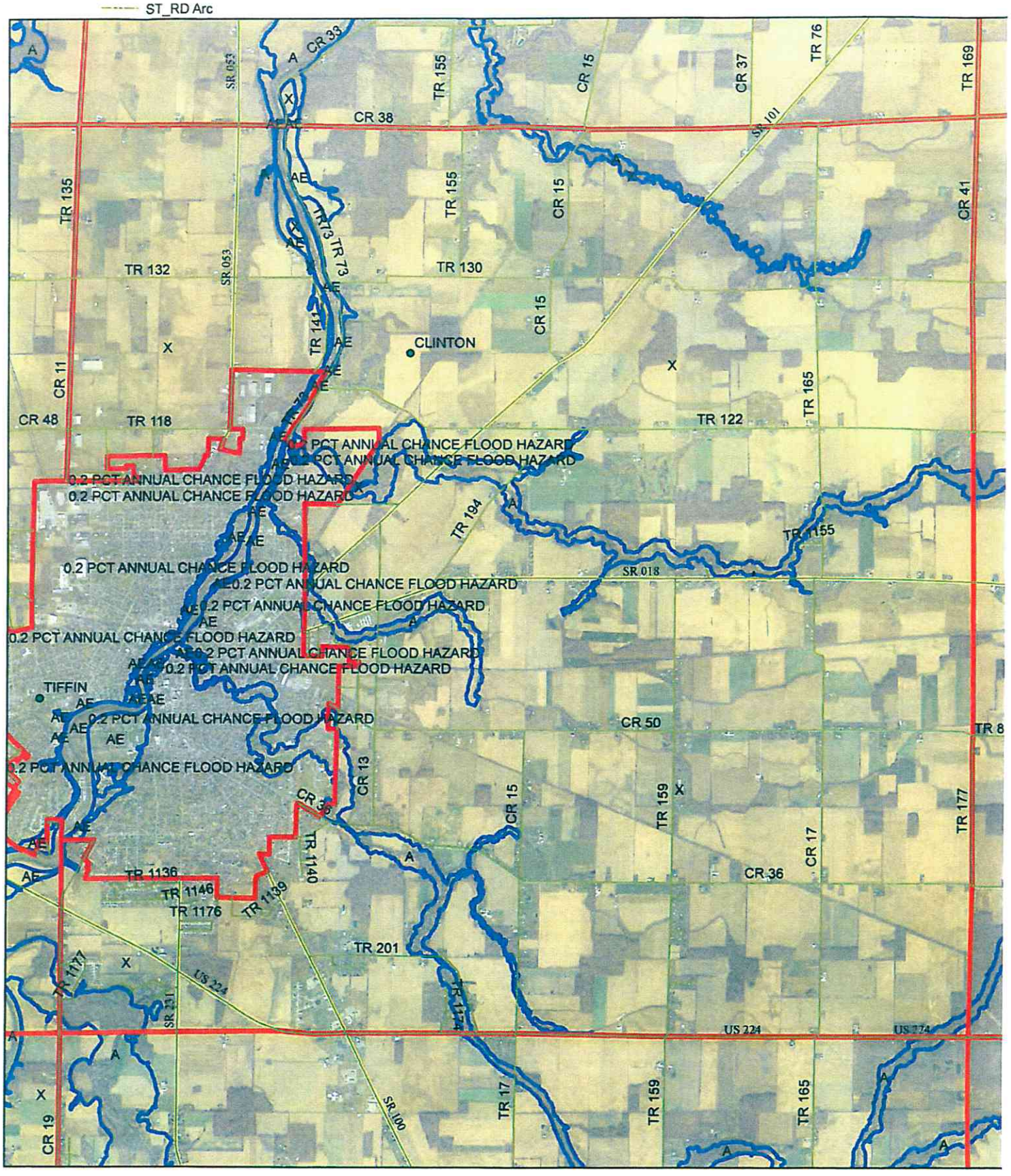
Special Floodplain Hazard Area
Clinton Township
Seneca County, Ohio



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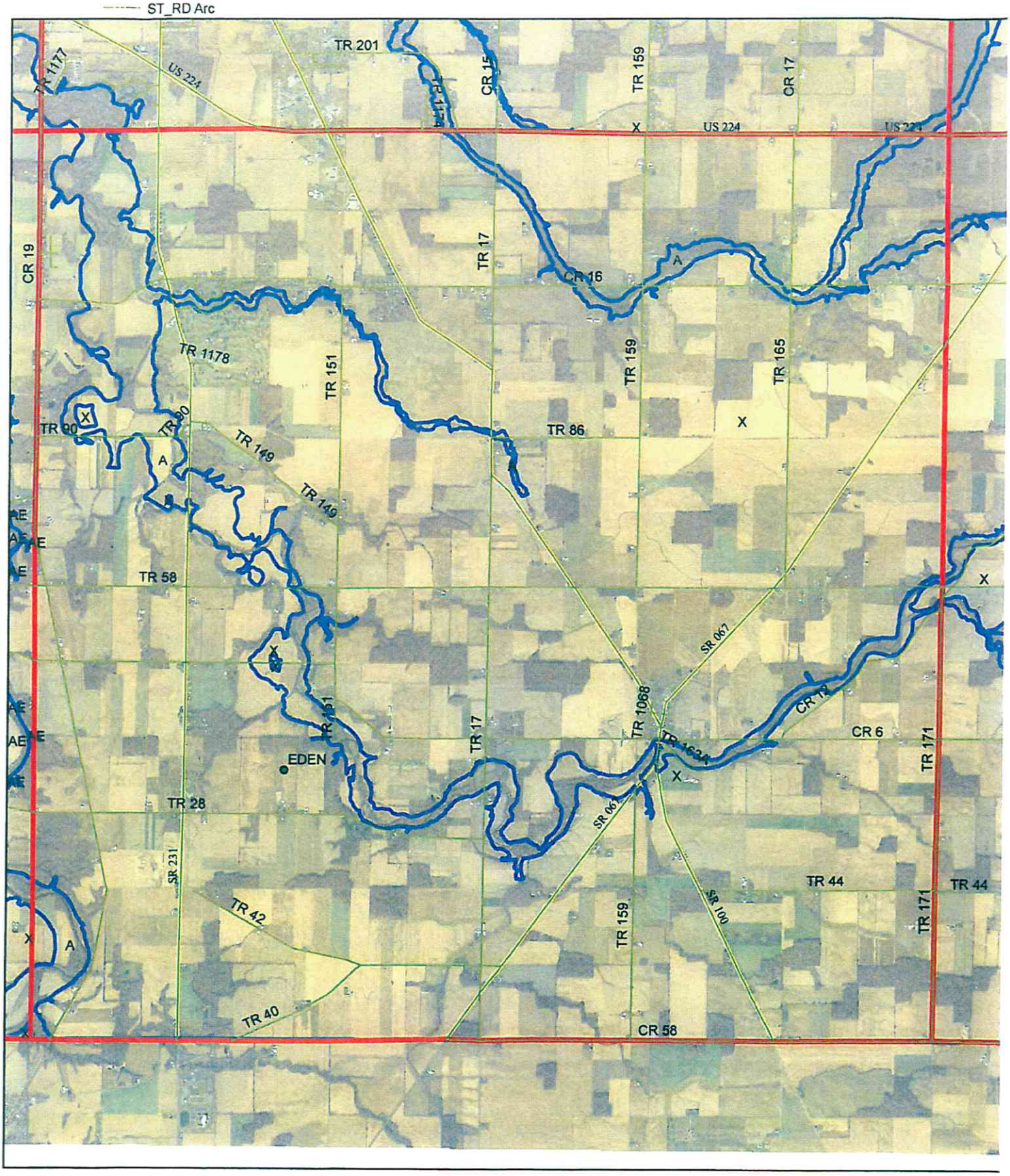
Special Floodplain Hazard Area
Eden Township
Seneca County, Ohio



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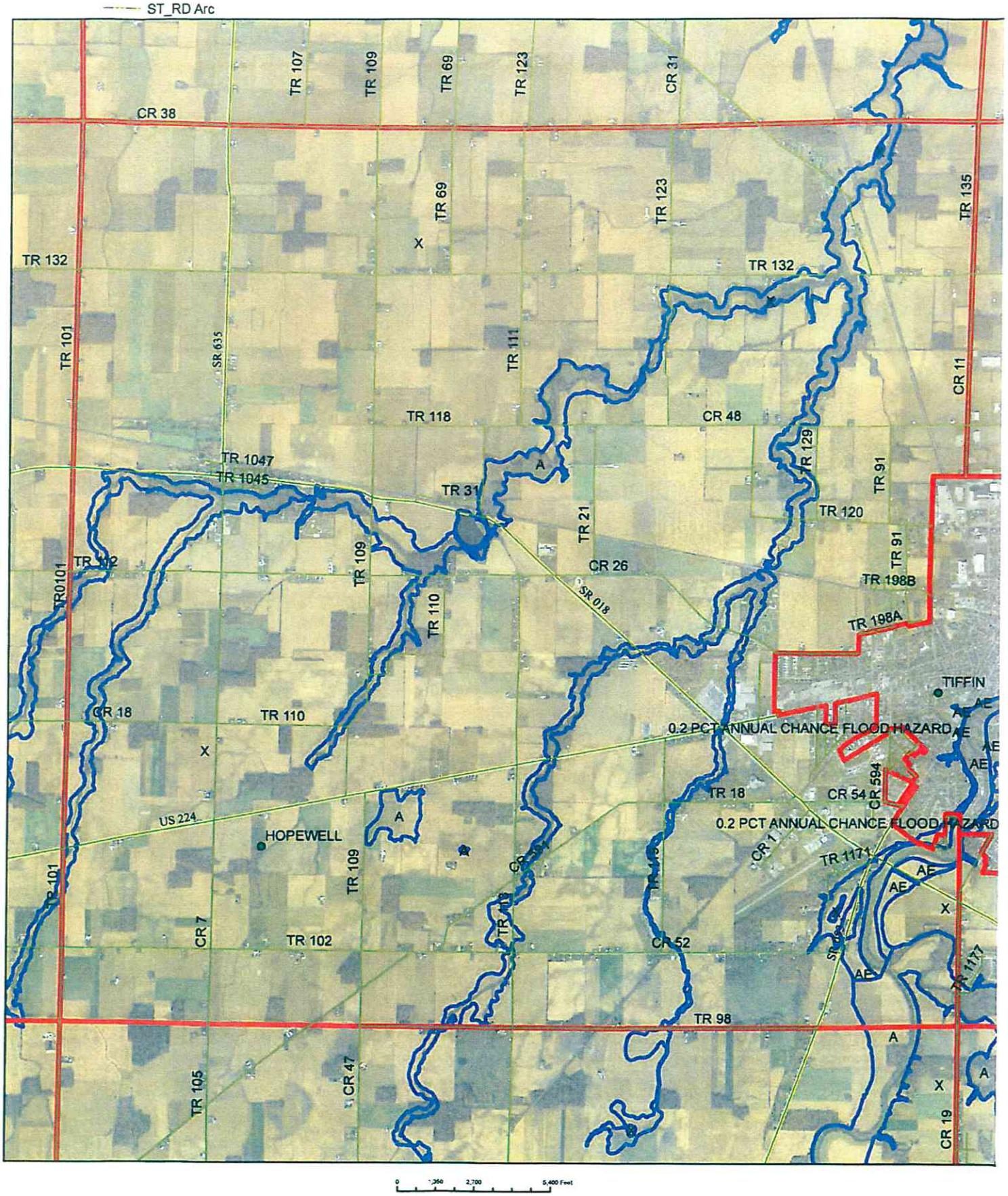
Special Floodplain Hazard Area
Hopewell Township
Seneca County, Ohio



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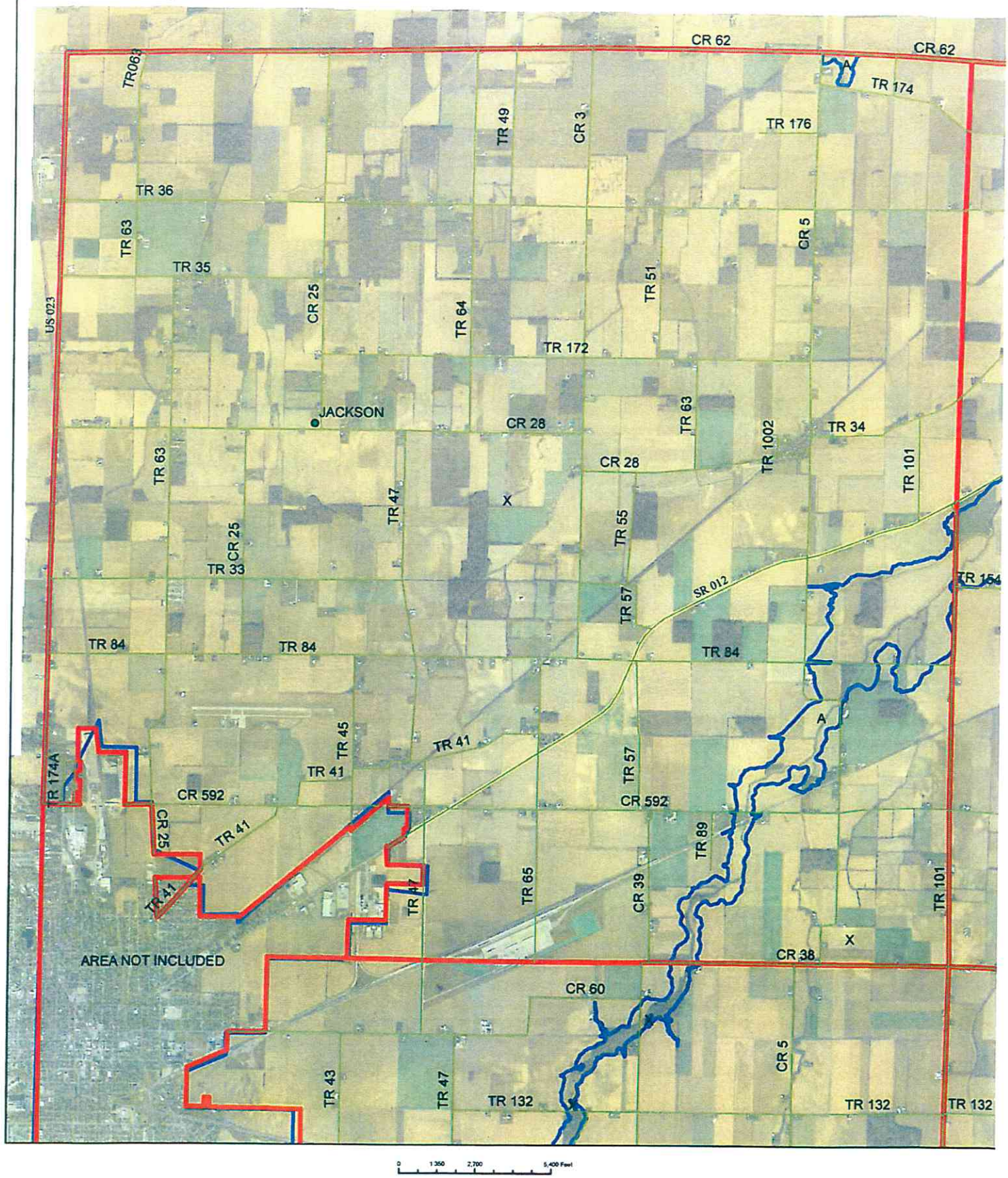
Special Floodplain Hazard Area
Jackson Township
Seneca County, Ohio



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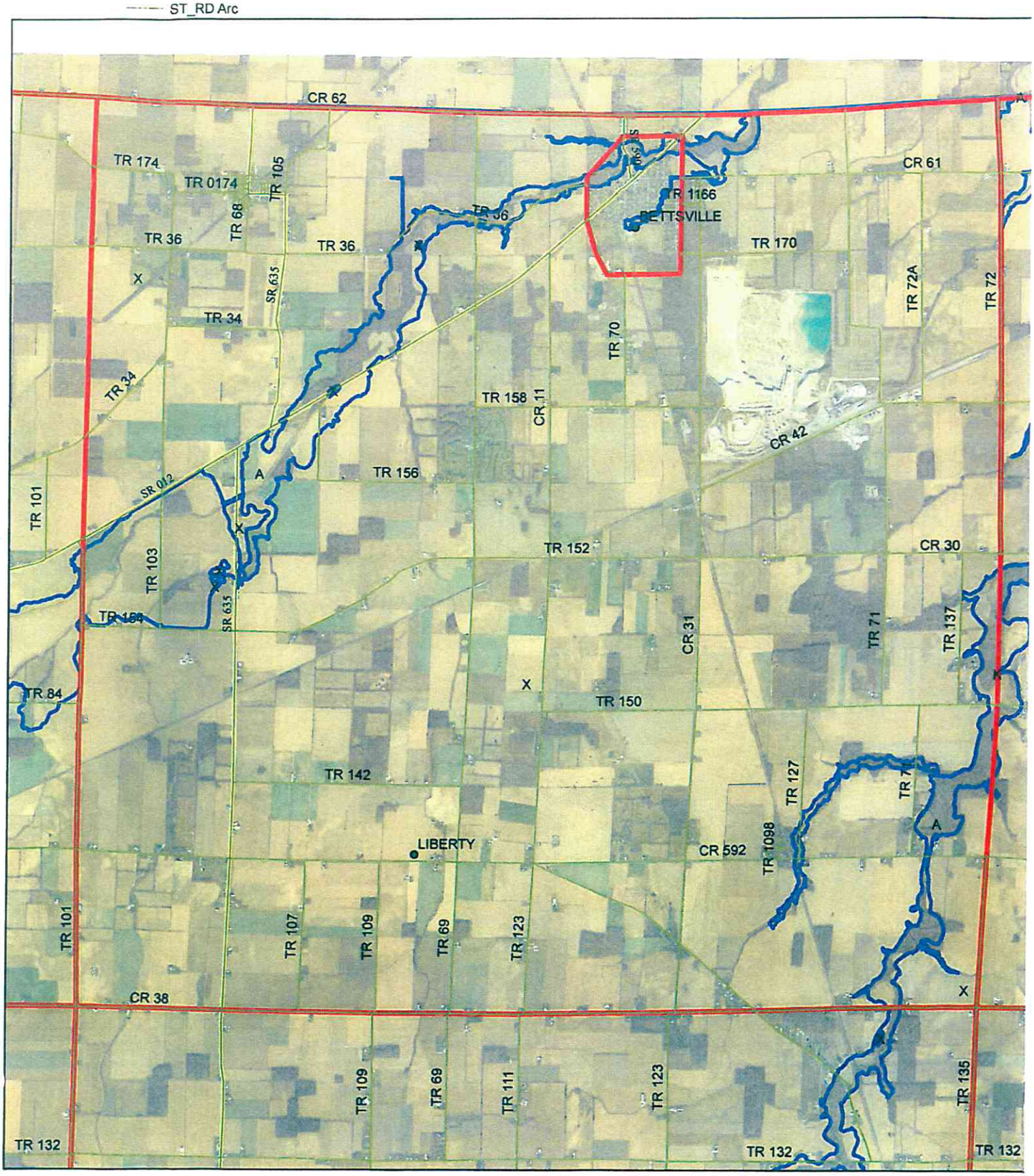
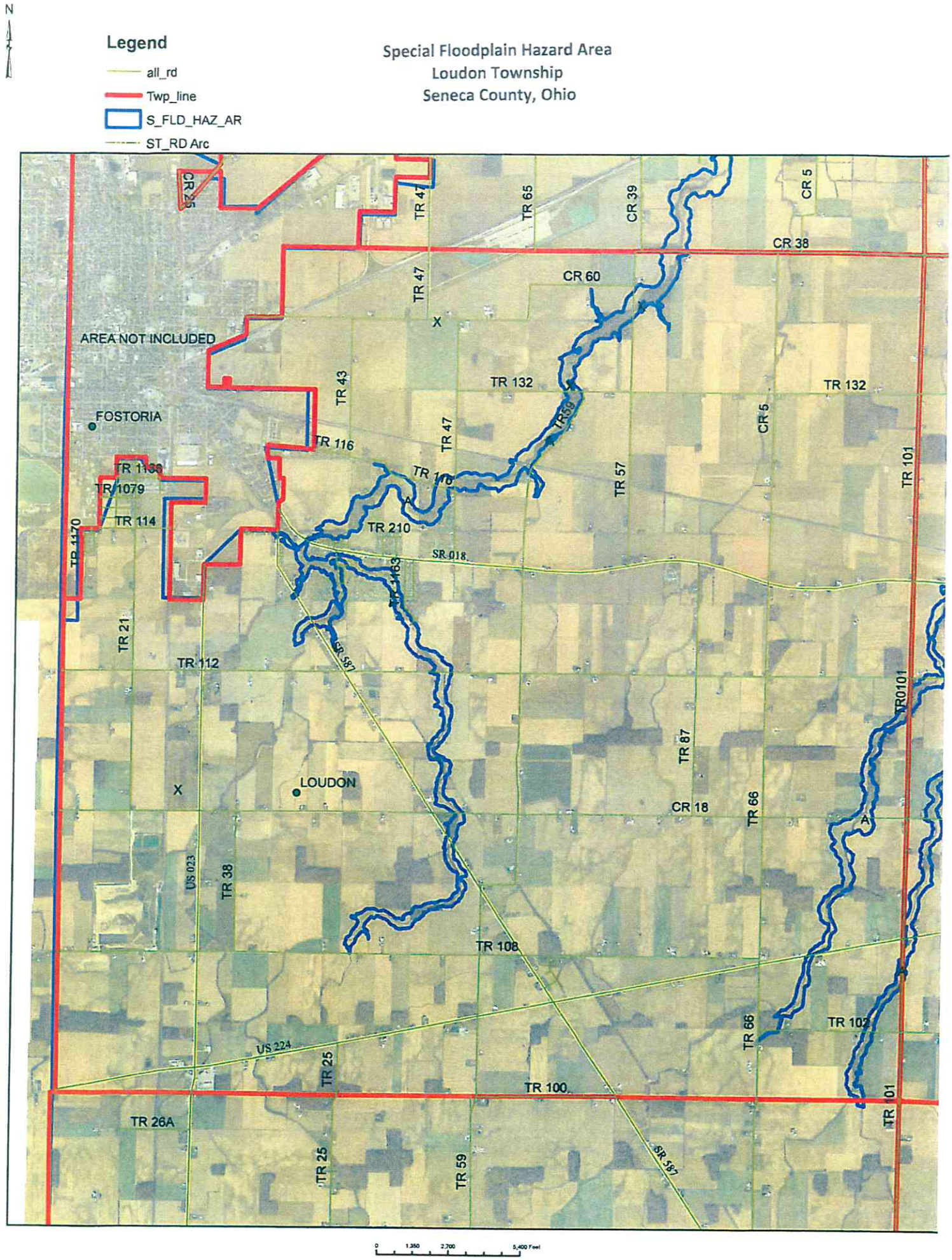
Special Floodplain Hazard Area
Liberty Township
Seneca County, Ohio

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ST_RD Arc
Special Floodplain Hazard Area
Loudon Township
Seneca County, Ohio
AREA NOT INCLUDED
FOSTORIA
LOUDON
CR 38
CR 60
CR 39
CR 5
CR 6
TR 47
TR 65
TR 43
TR 132
TR 116
TR 1138
TR 1079
TR 114
TR 1170
TR 210
SR 018
TR 1163
TR 21
TR 112
SR 587
TR 57
TR 101
TR 67
TR 66
CR 18
TR 38
US 023
TR 108
US 224
TR 25
TR 100
TR 26A
TR 59
TR 102
TR 0101
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2,700
5,400 Feet

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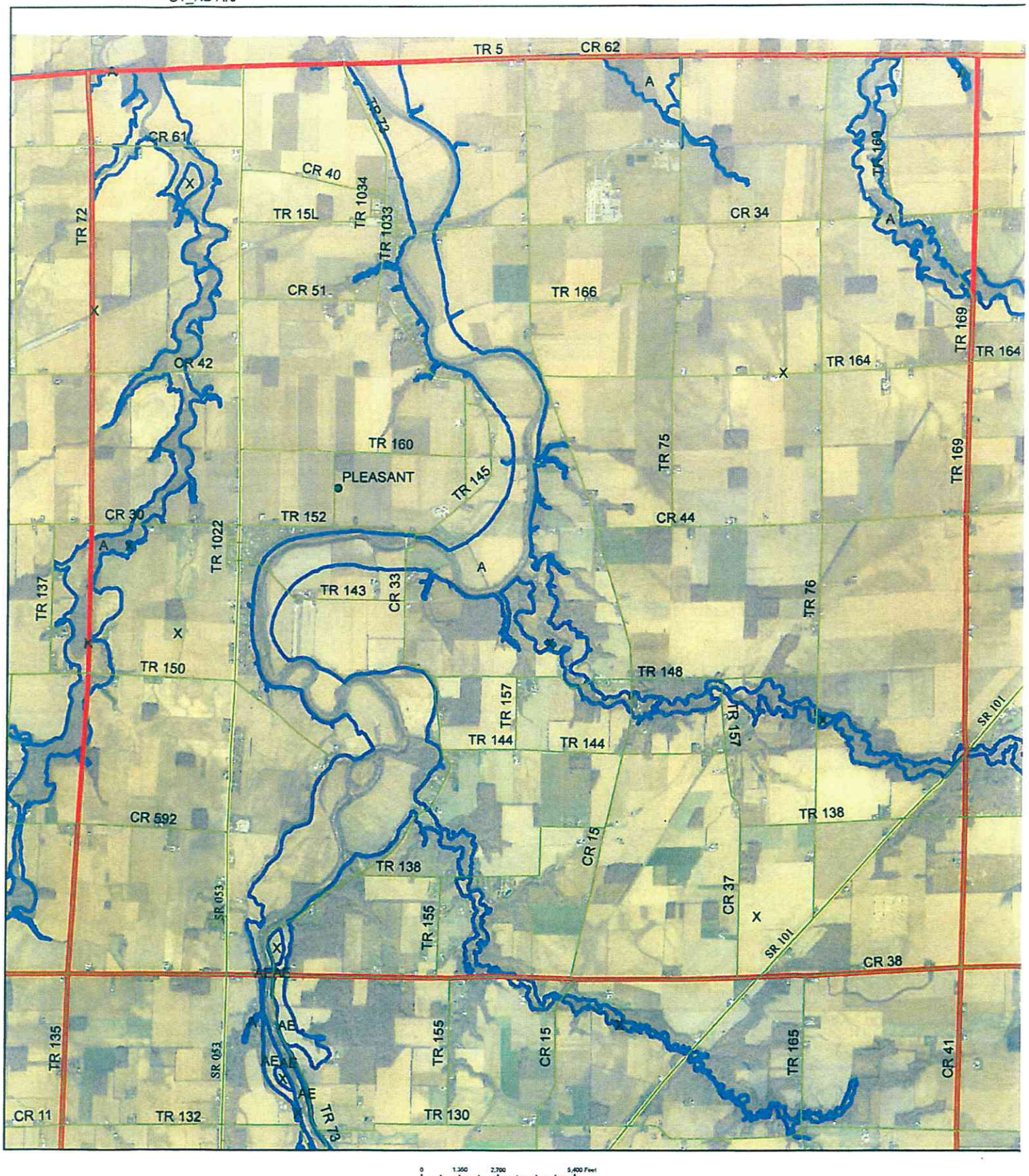
Special Floodplain Hazard Area
Pleasant Township
Seneca County, Ohio



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Special Floodplain Hazard Area
Reed Township
Seneca County, Ohio

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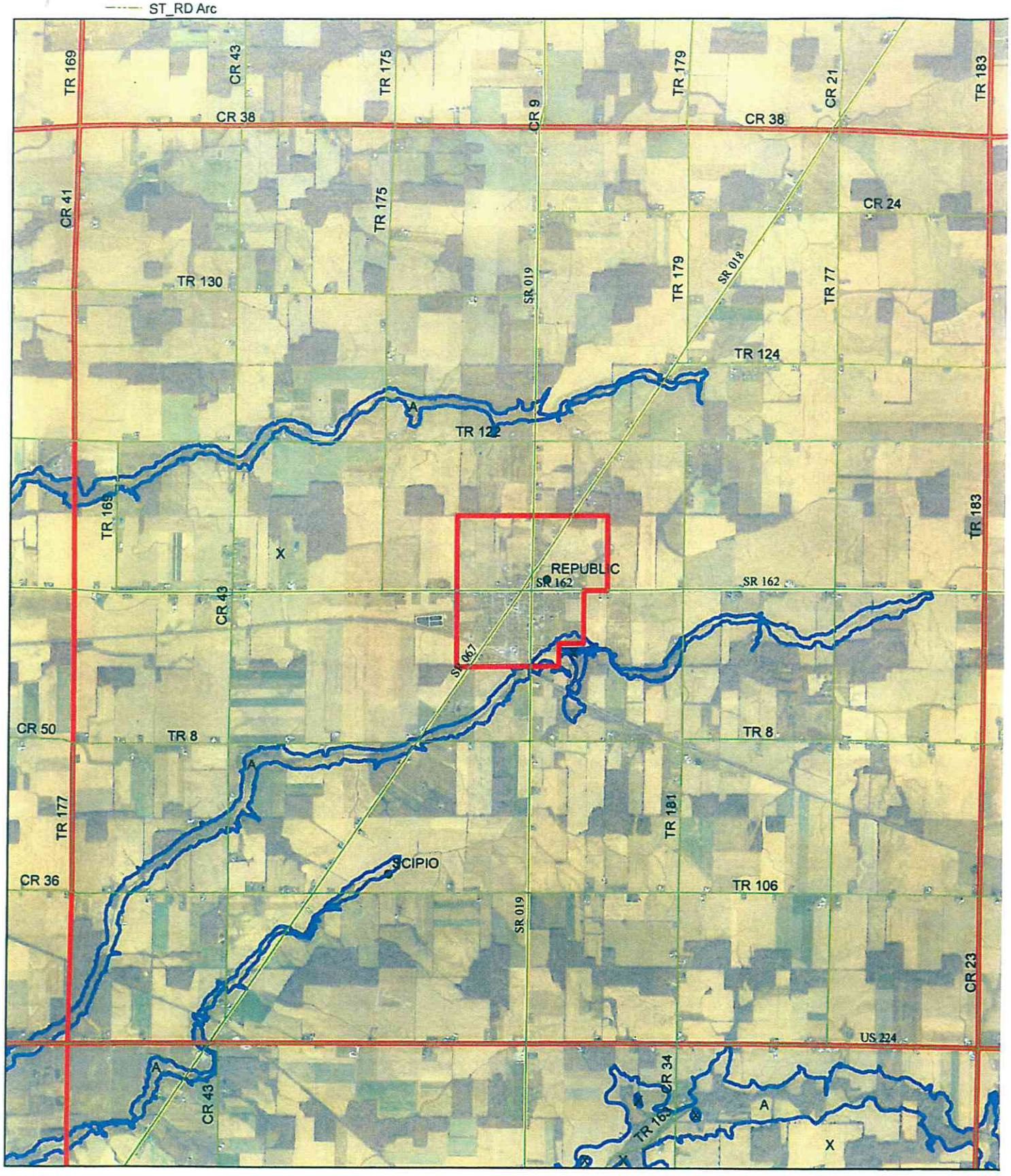
Special Floodplain Hazard Area
Scipio Township
Seneca County, Ohio



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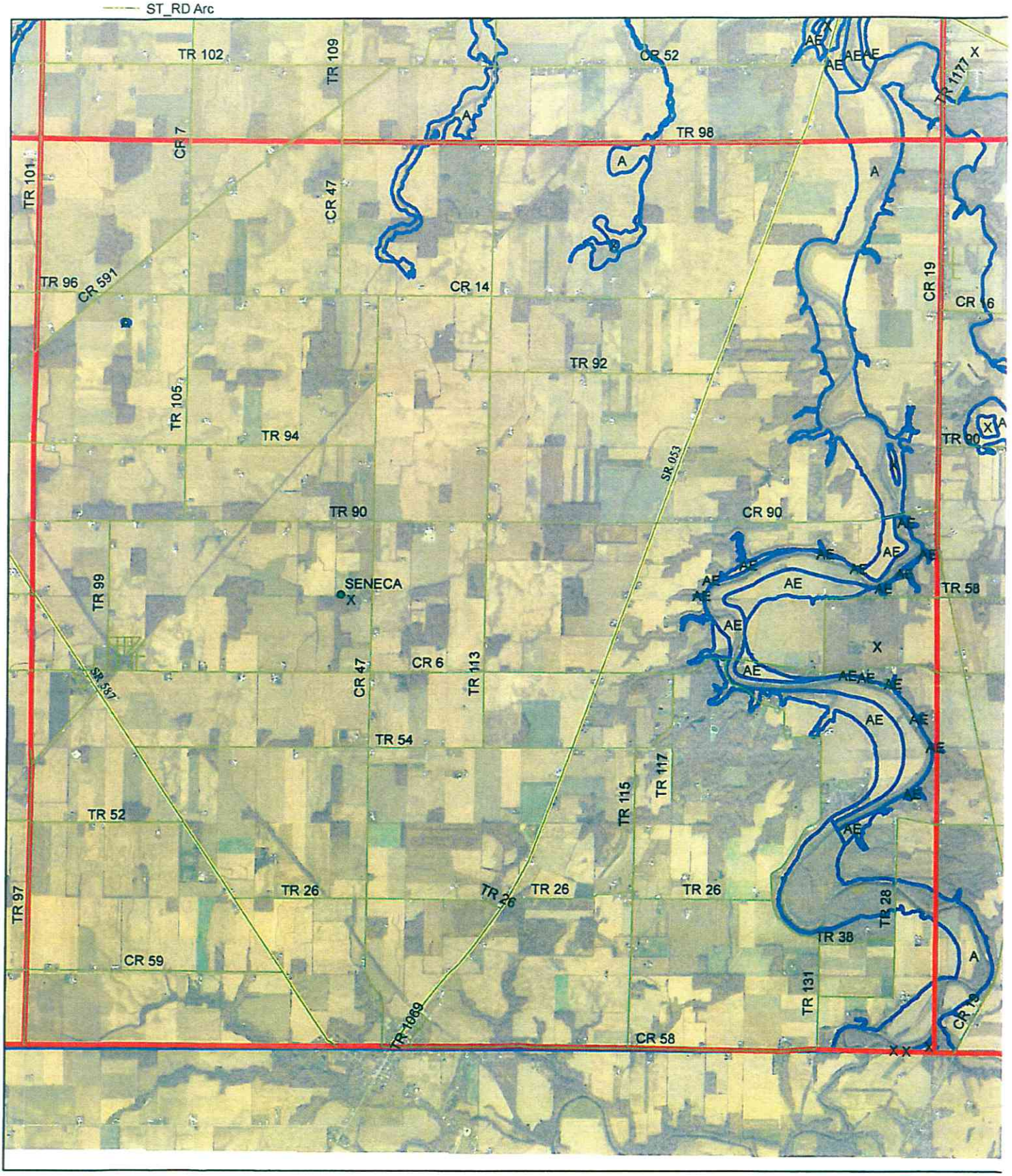
Special Floodplain Hazard Area
Seneca Township
Seneca County, Ohio



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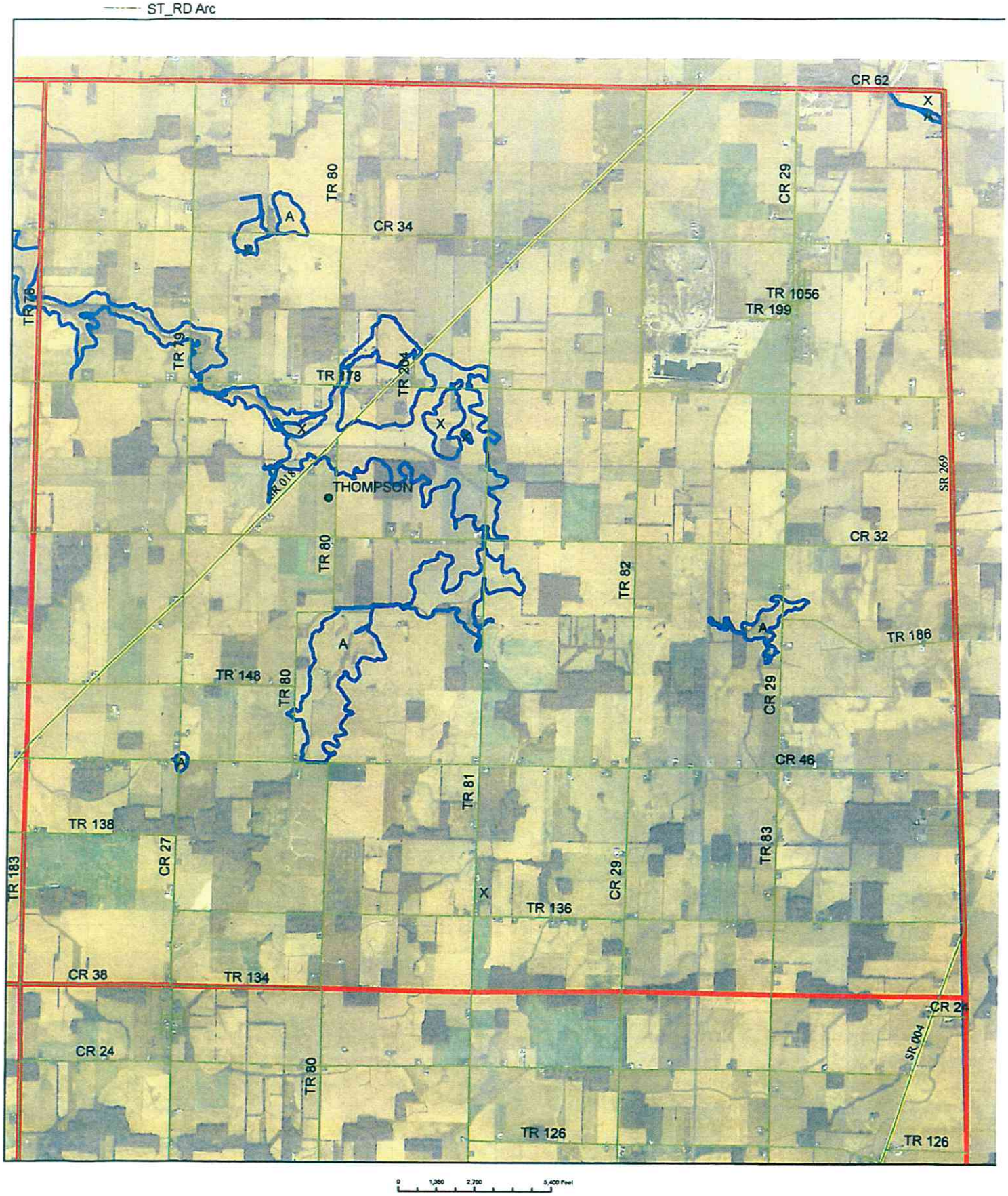
Special Floodplain Hazard Area
Thompson Township
Seneca County, Ohio



Special Floodplain Hazard Area
Venice Township
Seneca County, Ohio

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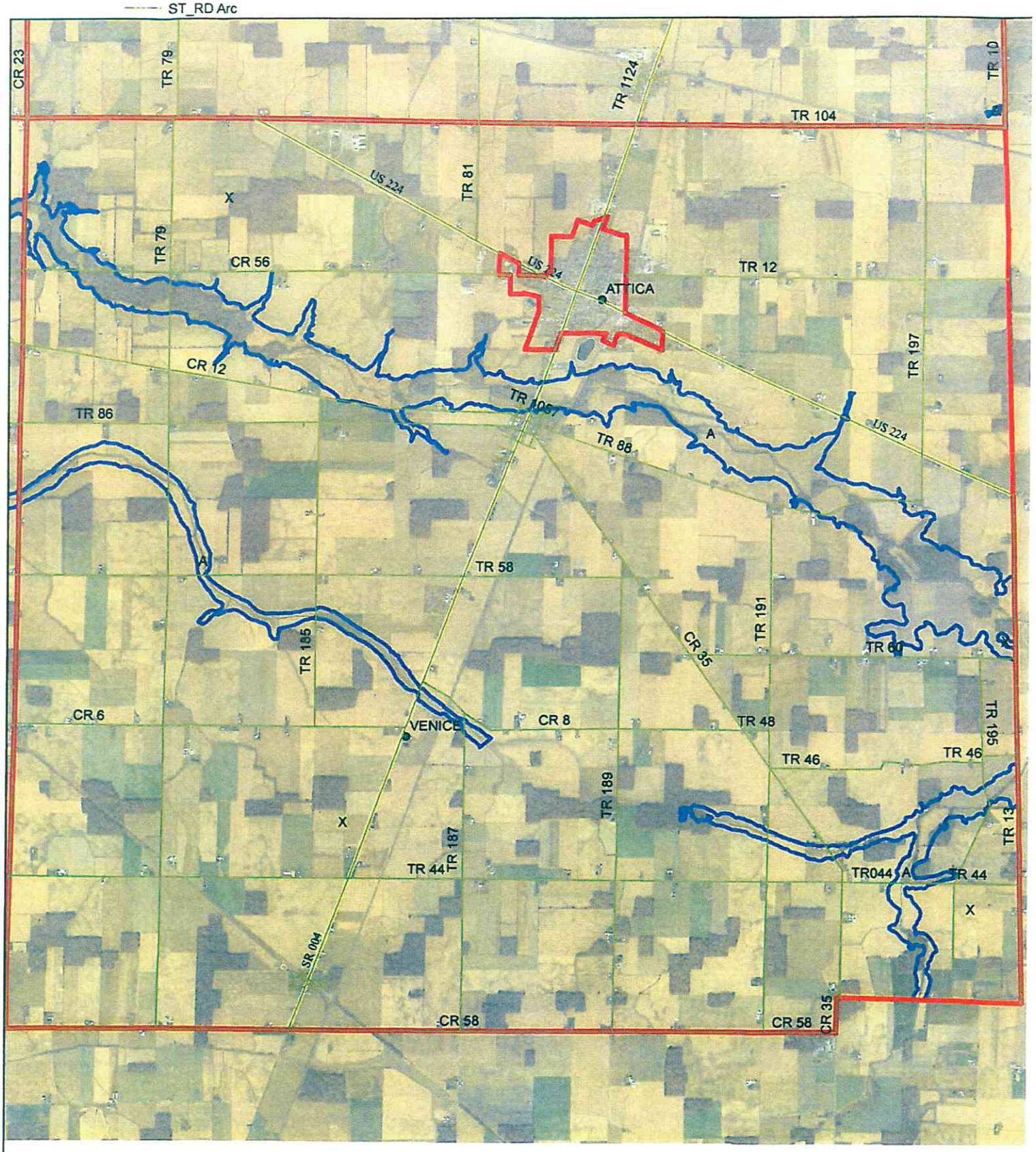

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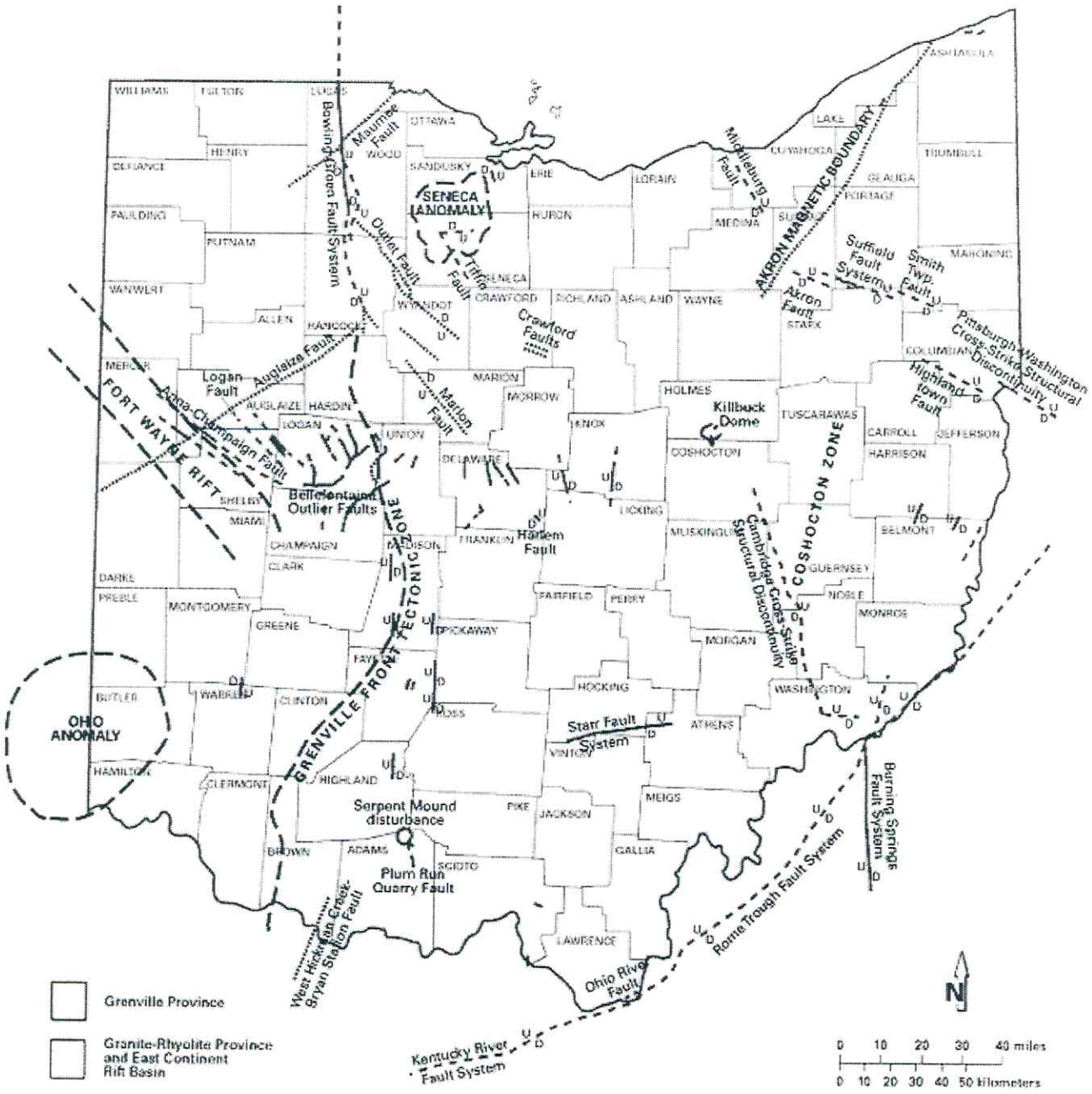
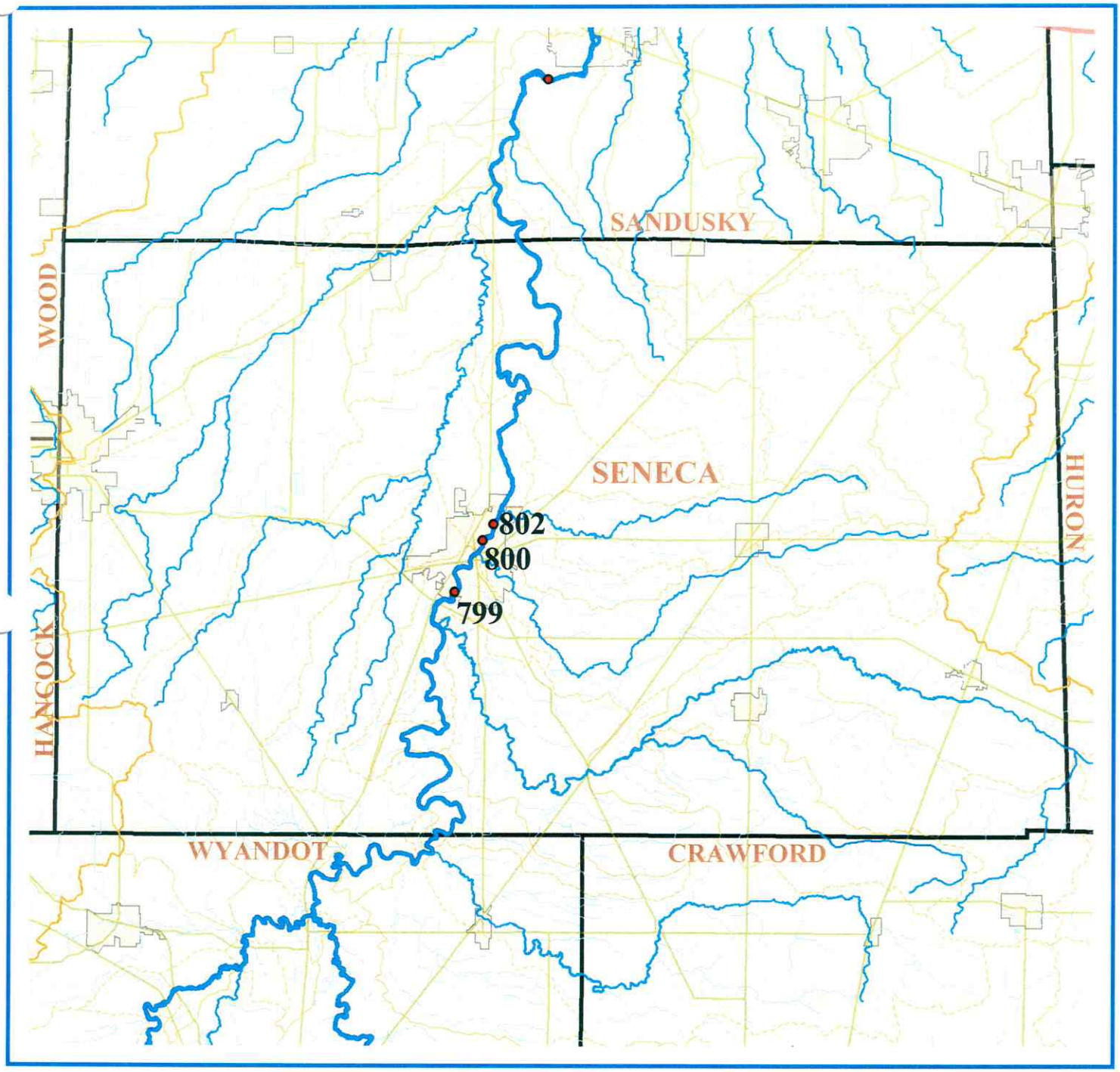
Map of Deep Structures in Ohio



Source: The Ohio Seismic Network

E-19

SENECA COUNTY LOWHEAD DAMS



Map Features

- Lowhead Dam
- Streams
- Interstates
- Primary Roads
- Major Watersheds
- Watersheds

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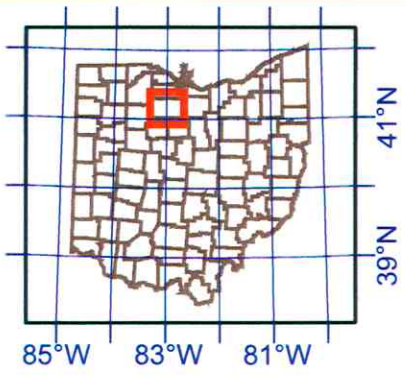

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APPENDIX F - SENECA COUNTY PROPERTY LISTS

Listing of facilities and properties that are critical to Seneca County are contained in the Attachments.
A description of each list follows:

List 1: This list represents the market values of county residential, commercial, agricultural, and exempt properties by township or municipality. Exempt properties includes all publically owned buildings such as government offices, fire stations, police and sheriff's offices, and highway garages, etc. Commercial property includes the valuation of all privately owned utilities including water processing plants and electricity generating facilities.

List 2: This is a list of all facilities in the county used as public access shelters or community centers during a disaster.

List 3: This is an inventory of all Seneca County critical asset roads with valuations. The base value is included; additional improvements and repair values are archived, but the document was so large it could not be printed with any readability.

List 4: This is an inventory of critical asset bridges in Seneca County with valuations.

List 5: This is an inventory of critical asset culverts in Seneca County with valuations.

Seneca County Property Valuations

Jurisdiction	Residential	Agricultural	Commercial/Industrial	Exempt Properties	Total
Seneca County - ALL	**$ 558,911,420.00**	**$ 226,395,450.00**	**$ 182,319,320.00**	**$ 373,817,320.00**	**$ 593,808,870.00**
Municipalities - ALL	**$ 282,985,710.00**	**$ 1,606,530.00**	**$ 121,638,970.00**	**$ 251,124,610.00**	$ 155,106,600.00
City of Fostoria	$ 63,624,730.00	$ 769,800.00	$ 33,609,210.00	$ 44,313,540.00	$ 53,690,200.00
City of Tiffin	$ 182,666,700.00	$ 278,540.00	$ 79,938,670.00	$ 190,288,710.00	$ 72,595,200.00
Village of Attica	$ 9,849,490.00	$ 41,800.00	$ 3,426,310.00	$ 521,670.00	$ 12,795,930.00
Village of Bettsville	$ 6,215,830.00	$ 76,610.00	$ 1,052,330.00	$ 4,251,140.00	$ 3,093,630.00
Village of Bloomville	$ 6,992,220.00	$ 65,510.00	$ 812,360.00	$ 2,548,300.00	$ 5,321,790.00
Village of Green Springs	$ 5,563,220.00	$ 85,800.00	$ 1,045,060.00	$ 1,053,910.00	$ 5,640,170.00
Village of New Riegel	$ 2,463,410.00	$ 108,300.00	$ 949,120.00	$ 6,553,050.00	$ (3,032,220.00)
Village of Republic	$ 5,610,110.00	$ 180,170.00	$ 805,910.00	$ 1,594,290.00	$ 5,001,900.00
Townships - ALL	**$ 279,015,710.00**	**$ 224,793,920.00**	**$ 60,690,350.00**	**$ 122,692,710.00**	**$ 441,807,270.00**
Adams Township	$ 13,432,470.00	$ 15,537,710.00	$ 1,955,970.00	$ 1,763,460.00	$ 29,162,690.00
Big Springs Township	$ 14,285,470.00	$ 17,200,280.00	$ 2,494,070.00	$ 2,080,510.00	$ 31,899,310.00
Bloom Township	$ 7,438,230.00	$ 13,108,100.00	$ 1,759,960.00	$ 1,432,630.00	$ 20,873,660.00
Clinton Township	$ 58,250,680.00	$ 13,302,340.00	$ 10,836,140.00	$ 22,701,400.00	$ 59,687,760.00
Eden Township	$ 25,783,240.00	$ 15,879,210.00	$ 1,966,890.00	$ 24,693,860.00	$ 18,935,480.00
Hopewell Township	$ 34,189,890.00	$ 15,718,160.00	$ 9,484,590.00	$ 30,763,540.00	$ 28,629,100.00
Jackson Township	$ 15,636,150.00	$ 15,658,850.00	$ 4,994,780.00	$ 1,271,100.00	$ 35,018,680.00
Liberty Township	$ 14,110,030.00	$ 14,781,030.00	$ 4,579,230.00	$ 1,500,570.00	$ 31,969,720.00
Louden Township	$ 24,126,340.00	$ 15,050,800.00	$ 5,297,150.00	$ 879,490.00	$ 43,594,800.00
Pleasant Township	$ 17,646,130.00	$ 15,410,360.00	$ 4,695,790.00	$ 9,005,940.00	$ 28,746,340.00
Reed Township	$ 6,717,720.00	$ 13,734,280.00	$ 1,233,210.00	$ 2,044,170.00	$ 19,641,040.00
Scipio Township	$ 11,322,700.00	$ 14,157,430.00	$ 2,057,110.00	$ 174,630.00	$ 27,362,610.00
Seneca Township	$ 14,511,530.00	$ 15,864,350.00	$ 3,803,530.00	$ 3,450,490.00	$ 30,728,920.00
Thompson Township	$ 14,306,130.00	$ 13,936,330.00	$ 2,125,860.00	$ 6,168,950.00	$ 24,199,370.00
Venice Township	$ 7,259,000.00	$ 15,454,690.00	$ 3,406,070.00	$ 14,761,970.00	$ 11,357,790.00

	1/31/2011		Fostoria/Seneca County Red Cross						
			Emergency Shelters						
	Name of Shelter	Street Address	City	State	Zip	General Capacity	Point of Contact	Phone Work	Phone Cell
*	Lincoln Elm. School	124 Ohio Avenue	Tiffin	OH	44883	60	Tom Anway	419-447-2515	419-618-0357
	Krout Elem. School	20 Glenn Street	Tiffin	OH	44883	60	Tom Anway	419-447-2515	419-618-0357
*	Clinton Elem. School	2036 E Twp Rd 122	Tiffin	OH	44883	60	Tom Anway	419-447-2515	419-618-0357
*	Noble Elem. School	130 Minerva Street	Tiffin	OH	44883	60	Tom Anway	419-447-2515	419-618-0357
*	Washington Elem. School	151 Elmer Street	Tiffin	OH	44883	80	Tom Anway	419-447-2515	419-618-0357
	Tiffin Middle School	103 Shepherd Drive	Tiffin	OH	44883	100	Tom Anway	419-447-2515	419-618-0357
	Columbian High School	300 South Monroe Street	Tiffin	OH	44883	100	Tom Anway	419-447-2515	419-618-0357
*	American Legion Post 354	20 East South Street	New Riegel	OH	44853	150	Herman J. Kimmet	419-595-2524	567-230-9986
*	VFW Post 6067	5912 E. Co. Rd. 44	Green Springs	OH	44836	135	Dennis Bowling	419-443-1495	419-618-3636
	New Riegel School	44 North Perry Street	New Riegel	OH	44853	400	Dennis Kline	419-595-2265	419-937-6427
	Tiffin Comm. YMCA	180 Summit St.	Tiffin	OH	44883	500	Steve Wise	419-447-8711	
*	Ebenezer United Methodist CH.	75 N. Sandusky Street	Tiffin	OH	44883	80	Donna Van Trees	419-447-6748	567-207-7360
	Bettsville Local School	118 Washington Street	Betttsville	OH	44815	80	Paul Orshoski	419-986-5166	419-357-0749
*	Sentinel Career & Tech. Cntr.	793 E. Twp. Rd. 201	Tiffin	OH	44883	275	Elissa Heal	419-448-1212	419-618-3244
	Seneca Cnty. Opportunity Cntr	780 E. County Rd.20	Tiffin	OH	44883	158	Lewis Hurst	419-447-7521	419-618-7410
	Seneca East Local Schools	13343 E. US Hwy 224	Attica	OH	44807	100	Michael Wank	419-426-1861	419-934-2923
	Geary Family YMCA	154 W. Center Street	Fostoria	OH	44830	180	Eric Stinehelfer	419-435-6608	419-619-0539
*	Fostoria Church of Nazarene	339 Sandusky St	Fostoria	OH	44830	100	Bernie Dixon	419-435-6262	419-934-2468
	Fostoria Middle School	1202 H.L. Ford Drive	Fostoria	OH	44830	280	Gary Fries	419-436-4102	419-467-1812
*	Riley Elementary	1324 Walnut Street.	Fostoria	OH	44830	90	Gary Fries	419-436-4102	419-467-1812
*	Field Elementary (Closed)	127 W. 6th, Street	Fostoria	OH	44830	80	Gary Fries	419-436-4102	419-467-1812
	St. Wendelin Schools	533 N. County Line St	Fostoria	OH	44830	100	David Lang	419-435-6692	419-619-2566
	Seneca County Junior Fair Bd.	100 Hopewell Ave. PO Box 756	Tiffin	OH	44883	90	Joan Zimmerman		419-618-4979
	Flat Rock Homes & Care Cntr.	7353 County Rd. 29	Flat Rock	OH	44828	300	Richard Dietz	419-626-4751	419-271-6841
	Seneca Cnty. Opportunity Center available only in case of major emergency.								
	All locations are in Seneca County except the following: Fostoria Middle, Fostoria High School - Wood, St. Wendelin - Hancock.								
	An(*) asterisk indicates no shower facilities.								
		Sites that have not provided the necessary paper work.							
	Fostoria High School	1001Park	Fostoria	OH	44830	100	Gary Fries	419-436-4102	419-467-1812
	Longfellow Elementary	609 Sandusky St.	Fostoria	OH	44830	80	Gary Fries	419-436-4102	419-467-1812

2005 Seneca County Road Inventory

County Road #	County Road ID Log	To/From Description	SegmentWidth (Historic Base Width)	SegmentWidth 2005	Lanes	SegmentLength	YEAR BUILT	ROAD BASE COST (Fixed) $10K/ft/mi+$25K/mi Unless Known
CR001	CR001 0.000-0.652	CUL DE SAC To US224	26	26	2	0.652	1991	$303,114
CR003	CR003 0.000-0.503	TR 84 To TR 57 RT	18	18	2	0.503	1950	$21,629
CR003	CR003 0.503-1.251	TR 57 TR To CR 28 RT	18	18	2	0.748	1950	$32,164
CR003	CR003 1.251-1.502	CR 28 RT To CR 28 LT	18	18	2	0.251	1950	$10,793
CR003	CR003 1.502-2.004	CR 28 LT To TR 172	18	18	2	0.502	1950	$21,586
CR003	CR003 2.004-3.004	TR 172 To TR 36	18	18	2	1.000	1950	$43,000
CR003	CR003 3.004-4.049	TR 36 To CR 62	18	18	2	1.045	1950	$44,935
CR005	CR005 0.000-1.338	SR 18 To CR 60 LT	17.9	17.9	2	1.338	1950	$57,400
CR005	CR005 1.338-2.335	CR 60 LT To CR 38	17.9	17.9	2	0.997	1950	$42,771
CR005	CR005 2.505-3.609	CR 38 To CR 592	18.2	18.2	2	1.104	1950	$47,693
CR005	CR005 3.609-4.819	CR 592 To TR 84	16.5	16.5	2	1.210	1950	$50,215
CR005	CR005 4.819-5.52	TR 84 To SR 12	16.5	16.5	2	0.701	1950	$29,092
CR005	CR005 5.52-6.237	SR 12 To CR 28 LT	20	20	2	0.717	1950	$32,265
CR005	CR005 6.237-6.319	CR 28 LT To TR 34 RT	20	20	2	0.081	1950	$3,645
CR005	CR005 6.319-6.82	TR 34 RT To TR 172 LT	20	20	2	0.501	1950	$22,545
CR005	CR005 6.82-7.822	TR 172 LT To TR 36	19	19	2	1.002	1950	$44,088
CR005	CR005 7.822-8.321	TR 36 To TR 176 LT	19	19	2	0.499	1950	$21,956
CR005	CR005 8.321-8.65	TR 176 LT To TR 174 RT	19	19	2	0.329	1950	$14,476
CR005	CR005 8.65-8.86	TR 174 RT To CR 62	20	20	2	0.209	1950	$9,405
CR006	CR006 0.000-0.984	CR 57 To US 23/SR 199	20	20	2	0.984	1950	$44,280
CR006	CR006 0.984-1.738	US 23/SR 199 To TR 25 RT	20	20	2	0.754	1950	$33,930
CR006	CR006 01.738-1.99	TR 25 RT To TR 25 LT	20	20	2	0.252	1950	$11,340
CR006	CR006 01.99-2.997	TR 25 LT To CR 45	20	20	2	1.007	1950	$45,315
CR006	CR006 02.997-3.258	CR 45 To CR 591	20	20	2	0.261	1950	$11,745
CR006	CR006 03.258-4.219	CR 591 To TR 61	20	20	2	0.961	1950	$43,245
CR006	CR006 04.219-4.998	TR 61 To TR 93	20	20	2	0.779	1950	$35,055
CR006	CR006 04.998-6.016	TR 93 To SEN/BSP TOWNSHIP LINE	20	20	2	1.018	1950	$45,810
CR006	CR006 06.016-6.366	SEN/BSP TOWNSHIP LINE To SR 587	20	20	2	0.350	1950	$15,750
CR006	CR006 06.366-6.502	SR 587 To TR 99 LT	20	20	2	0.136	1950	$6,120
CR006	CR006 06.502-8.253	TR 99 LT To CR 47	20	20	2	1.751	1950	$78,795
CR006	CR006 08.253-9	CR 47 To TR 113 LT	20	20	2	0.747	1950	$33,615
CR006	CR006 09.000-9.778	TR 113 LT To SR 53	20	20	2	0.778	1950	$35,010
CR006	CR006 09.778-10.252	SR 53 To TR 54 RT	21.1	21.1	2	0.474	1950	$21,851
CR006	CR006 10.252-10.623	TR 54 RT To TR 131 RT	21.1	21.1	2	0.370	1950	$17,057
CR006	CR006 10.623-11.303	TR 131 RT To TR 58 LT	21.1	21.1	2	0.680	1950	$31,348
CR006	CR006 11.303-12.068	TR 58 LT To EDE/SEN TOWNSHIP LINE	21.1	21.1	2	0.764	1950	$35,220
CR006	CR006 12.068-12.253	EDE/SEN TOWNSHIP LINE To CR 19	20.8	20.8	2	0.185	1950	$8,473
CR006	CR006 12.253-13.085	CR 19 To SR 231	20	20	2	0.832	1950	$37,440
CR006	CR006 13.085-14.075	SR 231 To TR 151 LT	20	20	2	0.989	1950	$44,505
CR006	CR006 14.075-15.401	TR 151 LT To TR 17	20	20	2	1.326	1950	$59,670
CR006	CR006 15.401-16.561	TR 17 To SR 67	20	20	2	1.160	1950	$52,200
CR006	CR006 16.561-17.373	SR 67 To CR 12 LT	20	20	2	0.812	1950	$36,540
CR006	CR006 17.373-18.414	CR 12 LT To TR 171	20	20	2	1.041	1950	$46,845
CR006	CR006 18.414-19.43	TR 171 To CR 43	20	20	2	1.016	1950	$45,720
CR006	CR006 19.43-20.438	CR 43 To TR 173 LT	20	20	2	1.008	1950	$45,360
CR006	CR006 20.438-21.456	TR 173 LT To SR 19	20	20	2	1.018	1950	$45,810
CR006	CR006 21.456-22.45	SR 19 To TR 181	20	20	2	0.994	1950	$44,730
CR006	CR006 22.45-23.438	TR 181 To TR 77	20	20	2	0.988	1950	$44,460
CR006	CR006 23.438-24.439	TR 77 To CR 23	20	20	2	1.001	1950	$45,045
CR006	CR006 24.449-25.441	CR 23 To TR 79	20	20	2	0.991	1950	$44,595
CR006	CR006 25.441-26.438	TR 79 To TR 185 LT	20	20	2	0.997	1950	$44,865
CR006	CR006 26.438-27.041	TR 185 LT To SR 4	20	20	2	0.603	1950	$27,135
CR007	CR007 0.000-0.531	CR 591 To HOP/SEN TOWNSHIP LINE	21	21	2	0.531	1950	$24,428
CR007	CR007 0.531-1.032	HOP/SEN TOWNSHIP LINE To TR 102	21	21	2	0.501	1950	$23,046
CR007	CR007 1.032-1.878	TR 102 To US 224	21	21	2	0.846	1950	$38,916
CR007	CR007 1.878-2.533	US 224 To CR 18 LT	20	20	2	0.655	1950	$29,475
CR007	CR007 2.533-3.536	CR 18 LT To TR 112	19	19	2	1.003	1950	$44,132
CR007	CR007 3.536-3.842	TR 112 To HOP-LOU SCHOOL	20	20	2	0.306	1950	$13,770
CR007	CR007 3.842-4.175	HOP-LOU SCHOOL To SR 18	20	20	2	0.333	1950	$14,985
CR008	CR008 0.000-0.352	SR 4 To TR 187 RT	17.7	17.7	2	0.352	1950	$15,030
CR008	CR008 0.352-1.4	TR 187 RT To TR 189	17.7	17.7	2	1.048	1950	$44,750
CR008	CR008 1.4-2.237	TR 189 To CR 35	17.7	17.7	2	0.837	1950	$35,740
CR009	CR009 0.000-0.145	CR 38 To SR 19	9	9	1	0.145	1950	$4,930
CR010	CR010 0.000-0.995	CR 57 To US 23/SR 199	20	20	2	0.995	1950	$44,775
CR010	CR010 0.995-1.995	US 23/SR 199 To TR 25	20	20	2	1.000	1950	$45,000
CR010	CR010 1.995-2.995	TR 25 To CR 45	20	20	2	1.000	1950	$45,000
CR010	CR010 2.995-3.996	CR 45 To TR 85 LT	20	20	2	1.001	1950	$45,045
CR010	CR010 3.996-5.138	TR 85 LT To NEW RIEGEL WEST CORP LINE	20	20	2	1.142	1950	$51,390
CR010	CR010 5.503-6.015	NEW RIEGEL EAST CORP LINE To TR 94	17.3	17.3	2	0.512	1950	$21,658
CR011	CR011 0.323-0.675	TIFFIN NORTH CORP LINE To CR 48 LT	20.4	20.4	2	0.352	1950	$15,961
CR011	CR011 0.675-1.681	CR 48 LT To TR 135 RT	20.4	20.4	2	1.006	1950	$45,672
CR011	CR011 1.681-2.336	TR 135 RT To TR 132 LT	20.4	20.4	2	0.655	1950	$29,737
CR011	CR011 2.336-3.644	TR 132 LT To CR 38	20.5	20.5	2	1.308	1950	$59,514
CR011	CR011 3.644-4.308	CR 38 To CR 31	20.2	20.2	2	0.664	1950	$30,013
CR011	CR011 4.308-5.431	CR 31 To CR 592	20.2	20.2	2	1.123	1950	$50,760
CR011	CR011 5.431-6.43	CR 592 To TR 150 RT	18.1	18.1	2	0.999	1950	$43,057

2005	Seneca County Road Inventory							
County Road #	County Road ID Log	To/From Description	SegmentWidth (Historic Base Width)	SegmentWidth 2005	Lanes	SegmentLength	YEAR BUILT	ROAD BASE COST (Fixed) $10K/ft/mi+$25K/mi; Unless Known
CR011	CR011 6.43-7.436	TR 150 RT To TR 152	18.1	18.1	2	1.006	1950	$43,359
CR011	CR011 7.436-8.438	TR 152 To TR 158	18.1	18.1	2	1.002	1950	$43,186
CR011	CR011 8.438-9.443	TR 158 To SR 12	18.1	18.1	2	1.005	1950	$43,316
CR012	CR012 0.000-1.437	CR 6 To TR 171	12	12	1	1.437	1950	$53,169
CR012	CR012 01.437-1.591	TR 171 To TR 58	12	12	1	0.154	1950	$5,698
CR012	CR012 01.591-2.908	TR 58 To CR 43 RT	12	12	1	1.317	1950	$48,729
CR012	CR012 02.908-2.949	CR 43 RT To CR 43 LT	12	18	2	0.040	1950	$2,518
CR012	CR012 02.949-4.081	CR 43 LT To TR 173	17	18	2	1.132	1950	$76,915
CR012	CR012 04.081-4.742	TR 173 To BLOOMVILLE WEST CORP LINE	17	18	2	0.661	1950	$44,912
CR012	CR012 05.588-6.083	BLOOMVILLE EAST CORP LINE To CR 49 LT	18	18	2	0.495	1950	$21,285
CR012	CR012 06.083-7.081	CR 49 LT To TR 77	18	18	2	0.998	1950	$42,914
CR012	CR012 07.081-8.084	TR 77 To CR 23	17	17	2	1.003	1950	$42,126
CR012	CR012 08.605-9.597	CR 23 To TR 79	20	20	2	0.991	1950	$44,595
CR012	CR012 09.597-10.606	TR 79 To TR 185 RT	20	20	2	1.009	1950	$45,405
CR012	CR012 10.606-11.99	TR 185 RT To SR 4	20	20	2	1.384	1950	$62,280
CR013	CR013 0.000-0.647	CR 36 To CR 50	22	22	2	0.647	1950	$30,409
CR013	CR013 0.647-1.47	CR 50 To SR 18	21	21	2	0.823	1950	$37,858
CR013	CR013 1.47-2.028	SR 18 To SR 101	25	25	2	0.558	1950	$27,900
CR014	CR014 0.000-0.548	CR 591 To TR 105	20	20	2	0.548	1950	$24,660
CR014	CR014 0.548-1.56	TR 105 To CR 47 LT	19	19	2	1.012	1950	$44,528
CR014	CR014 1.56-1.81	CR 47 LT To CR 47 RT	19	19	2	0.250	1950	$11,000
CR014	CR014 1.81-2.559	CR 47 RT To TR 113	19	19	2	0.749	1950	$32,956
CR014	CR014 2.559-4.226	TR 113 To SR 53	19	19	2	1.667	1950	$73,348
CR015	CR015 0.000-1.015	US 224 To CR 36	20.3	20.3	2	1.015	1950	$45,980
CR015	CR015 1.015-1.998	CR 36 To CR 50	20.3	20.3	2	0.983	1950	$44,530
CR015	CR015 1.998-2.581	SR 101 To TR 130 LT	21	21	2	0.583	1950	$26,818
CR015	CR015 2.581-2.589	TR 130 LT To TR 130 RT	21	21	2	0.008	1950	$368
CR015	CR015 2.589-3.632	TR 130 RT To CR 38	21	21	2	1.043	1950	$47,978
CR015	CR015 3.652-4.681	CR 38 To TR 138 LT	20	20	2	1.029	1950	$46,305
CR015	CR015 4.681-5.187	TR 138 LT To CR 37 RT	21	21	2	0.506	1950	$23,276
CR015	CR015 5.187-5.693	CR 37 RT To TR 148	20	20	2	0.505	1950	$22,725
CR015	CR015 5.693-6.725	TR 148 To CR 44 RT	21	21	2	1.032	1950	$47,472
CR015	CR015 6.725-7.788	CR 44 RT To TR 164 RT	21	21	2	1.063	1950	$48,898
CR015	CR015 7.788-8.297	TR 164 RT To TR 166 RT	20	20	2	0.509	1950	$22,905
CR015	CR015 8.297-8.801	TR 166 RT To CR 51/CR 34	21	21	2	0.504	1950	$23,184
CR016	CR016 0.000-0.905	CR 19 To SR 231	21	21	2	0.905	1950	$41,630
CR016	CR016 0.905-2.079	SR 231 To TR 151	20	20	2	1.174	1950	$52,830
CR016	CR016 2.079-2.49	TR 151 To SR 100	20	20	2	0.411	1950	$18,495
CR016	CR016 2.49-3.082	SR 100 To TR 17	21	21	2	0.592	1950	$27,232
CR016	CR016 3.082-4.076	TR 17 To TR 159	21	21	2	0.994	1950	$45,724
CR016	CR016 4.076-5.059	TR 159 To TR 165	21	21	2	0.983	1950	$45,218
CR016	CR016 5.059-6.102	TR 165 To BLO/EDE TOWNSHIP LINE	25	25	2	1.043	1950	$52,150
CR016	CR016 6.102-6.373	BLO/EDE TOWNSHIP LINE To SR 67	21	21	2	0.271	1950	$12,466
CR016	CR016 6.373-7.101	SR 67 To CR 43	19	19	2	0.728	1950	$32,032
CR016	CR016 7.101-8.152	CR 43 To TR 173 RT	20	20	2	1.051	1950	$47,295
CR016	CR016 8.152-9.141	TR 173 RT To SR 19	20	20	2	0.989	1950	$44,505
CR017	CR017 0.000-1.009	US 224 To CR 36	19	19	2	1.009	1950	$44,396
CR017	CR017 1.009-2.018	CR 36 To CR 50	19	19	2	1.009	1950	$44,396
CR017	CR017 2.018-3.073	CR 50 To SR 18	19	19	2	1.055	1950	$46,420
CR018	CR018 0.000-0.522	HAN/SEN COUNTY LINE To TR 21 LT	21	21	2	0.522	1950	$24,012
CR018	CR018 0.522-1.021	TR 21 LT To US 23/SR 199	21	21	2	0.499	1950	$22,954
CR018	CR018 1.021-1.273	US 23/SR 199 To TR 37 RT	18	18	2	0.252	1950	$10,836
CR018	CR018 1.273-2.677	TR 37 RT To SR 587	19	19	2	1.404	1950	$61,776
CR018	CR018 2.677-3.294	SR 587 To TR 59	18	18	2	0.617	1950	$26,531
CR018	CR018 3.294-4.522	TR 59 To TR 87 LT	18	18	2	1.228	1950	$52,804
CR018	CR018 4.522-5.025	TR 87 LT To TR 66	18	18	2	0.503	1950	$21,629
CR018	CR018 5.025-6.047	TR 66 To TR 101	18	18	2	1.022	1950	$43,946
CR018	CR018 6.047-7.045	TR 101 To CR 7	18	18	2	0.998	1950	$42,914
CR019	CR019 0.000-1.067	WAY/SEN COUNTY LINE To TR 42 RT	20	20	2	1.067	1950	$48,015
CR019	CR019 1.067-1.58	TR 42 RT To TR 28	20	20	2	0.513	1950	$23,085
CR019	CR019 1.58-2.6	TR 28 To CR 8	20	20	2	1.020	1950	$45,900
CR019	CR019 2.6-3.109	CR 8 To TR 58	21	21	2	0.509	1950	$23,414
CR019	CR019 3.109-3.517	TR 58 To EDE/SEN TOWNSHIP LINE	21	21	2	0.408	1950	$18,768
CR019	CR019 3.517-3.689	EDE/SEN TOWNSHIP LINE To CR 90 LT	21	21	2	0.172	1950	$7,912
CR019	CR019 3.689-4.111	CR 90 LT To TR 90 RT	21	21	2	0.422	1950	$19,412
CR019	CR019 4.111-5.015	TR 90 RT To CR 16 RT	21	21	2	0.904	1950	$41,584
CR019	CR019 5.015-6.123	CR 16 RT To HOP/SEN/CLI/EDE TL	21	21	2	1.108	1950	$50,968
CR019	CR019 6.123-6.366	HOP/SEN/CLI/EDE TL To TR 1177 RT	21	21	2	0.242	1950	$11,132
CR019	CR019 6.366-6.573	TR 1177 RT To TR 1177 RT	21	21	2	0.207	1950	$9,522
CR019	CR019 6.573-6.946	TR 1177 RT To US 224	21	21	2	0.372	1950	$17,112
CR019	CR019 6.946-7.024	US 224 To CLI/HOP TOWNSHIP LINE	24	24	2	0.078	1950	$3,822
CR019	CR019 7.024-7.453	CLI/HOP TWP LINE To TIFFIN SOUTH CORP LINE	24	24	2	0.429	1950	$21,021
CR020	CR020 0.000-0.243	DEAD END To TR 151	18.7	18.7	2	0.243	1950	$10,619
CR021	CR021 0.000-0.92	SR 18 To TR 136	21	21	2	0.920	1950	$42,320
CR021	CR021 0.92-1.916	TR 136 To TR 148	21	21	2	0.996	1950	$45,816
CR021	CR021 1.916-2.925	TR 148 To CR 32	21	21	2	1.009	1950	$46,414
CR021	CR021 2.925-3.922	CR 32 To TR 178	21	21	2	0.997	1950	$45,862

2005	Seneca County Road Inventory							
County Road #	County Road ID Log	To/From Description	SegmentWidth (Historic Base Width)	SegmentWidth 2005	Lanes	SegmentLength	YEAR BUILT	ROAD BASE COST (Fixed) $10K/ft/mi+$25K/mi; Unless Known
CR021	CR021 3.922-4.922	TR 178 To CR 34	21	21	2	1.000	1950	$46,000
CR021	CR021 4.922-5.906	CR 34 To CR 62	21	21	2	0.984	1950	$45,264
CR023	CR023 0.000-0.999	CR 58 To TR 44 LT	21	21	2	0.999	1950	$45,954
CR023	CR023 0.999-1.007	TR 44 LT To TR 44 RT	21	21	2	0.007	1950	$322
CR023	CR023 1.007-1.999	TR 44 RT To CR 6 LT	20	20	2	0.992	1950	$44,640
CR023	CR023 1.999-2.009	CR 6 LT To CR 6 RT	21	21	2	0.009	1950	$414
CR023	CR023 2.009-2.998	CR 6 RT To TR 58	21	21	2	0.989	1950	$45,494
CR023	CR023 2.998-4	TR 58 To CR 12 LT	21	21	2	1.002	1950	$46,092
CR023	CR023 4.000-4.006	CR 12 LT To TR 86 RT	21	21	2	0.006	1950	$276
CR023	CR023 4.006-4.523	TR 86 RT To CR 12 RT	21	21	2	0.516	1950	$23,736
CR023	CR023 4.523-5.004	CR 12 RT To TR 12 LT	21	21	2	0.481	1950	$22,126
CR023	CR023 5.004-5.014	TR 12 LT To CR 56 RT	21	21	2	0.010	1950	$460
CR023	CR023 5.014-6.013	CR 56 RT To US 224	21	21	2	0.999	1950	$45,954
CR023	CR023 6.013-7.015	US 224 To CR 36 RT	19	19	2	1.002	1950	$44,088
CR023	CR023 7.015-8.009	CR 36 RT To TR 8 LT	19	19	2	0.994	1950	$43,736
CR023	CR023 8.009-8.016	TR 8 LT To TR 8 RT	19	19	2	0.006	1950	$264
CR023	CR023 8.016-9.014	TR 8 RT To SR 162	19	19	2	0.997	1950	$43,868
CR024	CR024 0.000-1.003	SR 19 To TR 179	18	18	2	1.003	1950	$43,129
CR024	CR024 1.003-1.601	TR 179 To SR 18	18	18	2	0.598	1950	$25,714
CR024	CR024 1.601-2.005	SR 18 To TR 77	18	18	2	0.404	1950	$17,372
CR024	CR024 2.005-2.998	TR 77 To TR 183	18	18	2	0.993	1950	$42,699
CR024	CR024 2.998-4.007	TR 183 To CR 27	18	18	2	1.009	1950	$43,387
CR024	CR024 4.007-5.007	CR 27 To TR 80	18	18	2	1.000	1950	$43,000
CR024	CR024 5.007-5.998	TR 80 To TR 81	18	18	2	0.991	1950	$42,613
CR024	CR024 5.998-6.997	TR 81 To CR 29	18	18	2	0.999	1950	$42,957
CR024	CR024 6.997-7.996	CR 29 To TR 83	18	18	2	0.999	1950	$42,957
CR024	CR024 7.996-8.943	TR 83 To SR 4	18	18	2	0.946	1950	$40,678
CR024	CR024 8.943-9.157	SR 4 To SEN/HUR COUNTY LINE	20	20	2	0.214	1950	$9,630
CR025	CR025 0.889-1.25	FOSTORIA NORTH CORP LIMIT To CR 592	22	22	2	0.361	1950	$16,967
CR025	CR025 1.25-2.291	CR 592 To TR 63 LT	21	21	2	1.041	1950	$47,886
CR025	CR025 2.291-2.785	TR 63 LT To TR 84 RT	21	21	2	0.494	1950	$22,724
CR025	CR025 2.785-3.285	TR 84 RT To TR 33	21	21	2	0.500	1950	$23,000
CR025	CR025 3.285-4.285	TR 33 To CR 28	21	21	2	1.000	1950	$46,000
CR025	CR025 4.784-5.284	CR 28 To TR 172 RT	18.1	18.1	2	0.500	1950	$21,550
CR025	CR025 5.284-5.784	TR 172 RT To TR 35 LT	18.1	18.1	2	0.500	1950	$21,550
CR025	CR025 5.784-6.285	TR 35 LT To TR 36	18.1	18.1	2	0.501	1950	$21,593
CR025	CR025 6.285-7.29	TR 36 To TR 62	18.1	18.1	2	1.005	1950	$43,316
CR026	CR026 0.000-0.241	SR 18 To TR 121 LT	24	24	2	0.241	1950	$11,809
CR026	CR026 0.241-2.19	TR 121 LT To TIFFIN WEST CORP LINE	24	24	2	1.949	1950	$95,501
CR027	CR027 0.000-1.005	SR 162 To TR 122	21	21	2	1.005	1950	$46,230
CR027	CR027 1.005-1.506	TR 122 To TR 124	22	22	2	0.501	1950	$23,547
CR027	CR027 1.506-2.509	TR 124 To CR 24	21	21	2	1.003	1950	$46,138
CR027	CR027 2.509-3.017	CR 24 To CR 38	21	21	2	0.508	1950	$23,368
CR027	CR027 3.017-3.522	CR 38 To TR 136 RT	21	21	2	0.505	1950	$23,230
CR027	CR027 3.522-4.023	TR 136 RT To TR 138 LT	21	21	2	0.501	1950	$23,046
CR027	CR027 4.023-4.521	TR 138 LT To CR 46	21	21	2	0.498	1950	$22,908
CR027	CR027 4.521-5.028	CR 46 To TR 148	21	21	2	0.507	1950	$23,322
CR027	CR027 5.028-5.631	TR 148 To SR 18	21	21	2	0.603	1950	$27,738
CR028	CR028 0.000-0.771	US 23 To TR 63	20.3	20.3	2	0.771	1950	$34,926
CR028	CR028 0.771-1.268	TR 63 To CR 25 RT	20.3	20.3	2	0.497	1950	$22,514
CR028	CR028 1.268-1.769	CR 25 RT To CR 25 LT	20.3	20.3	2	0.501	1950	$22,695
CR028	CR028 1.769-2.33	CR 25 LT To TR 47 RT	20.3	20.3	2	0.561	1950	$25,413
CR028	CR028 2.33-2.766	TR 47 RT To TR 64 LT	20.3	20.3	2	0.436	1950	$19,751
CR028	CR028 2.766-3.519	TR 64 LT To CR 3	20.3	20.3	2	0.753	1950	$34,111
CR028	CR028 3.768-4.13	CR 3 To TR 55 RT	20.3	20.3	2	0.362	1950	$16,399
CR028	CR028 4.13-4.532	TR 55 RT To TR 53 LT	20.3	20.3	2	0.402	1950	$18,211
CR028	CR028 4.532-5.312	TR 53 LT To CR 5	24	24	2	0.780	1950	$38,220
CR029	CR029 0.000-1	SR 162 To TR 122	20	20	2	1.000	1950	$45,000
CR029	CR029 1.000-1.498	TR 122 To TR 124	20	20	2	0.498	1950	$22,410
CR029	CR029 1.498-1.999	TR 124 To TR 126	20	20	2	0.501	1950	$22,545
CR029	CR029 1.999-2.498	TR 126 To CR 24	20	20	2	0.499	1950	$22,455
CR029	CR029 2.498-2.99	CR 24 To THO/REE TOWNSHIP LINE	20	20	2	0.492	1950	$22,140
CR029	CR029 2.99-3.489	THO/REE TOWNSHIP LINE To TR 136	19.9	19.9	2	0.499	1950	$22,405
CR029	CR029 3.489-4.489	TR 136 To CR 46	19.9	19.9	2	1.000	1950	$44,900
CR029	CR029 5.486-6.483	CR 46 To TR 186	21	21	2	0.997	1950	$45,862
CR029	CR029 6.483-6.98	TR 186 To CR 32	21	21	2	0.497	1950	$22,862
CR029	CR029 6.98-7.979	CR 32 To TR 178	21	21	2	0.999	1950	$45,954
CR029	CR029 7.979-8.478	TR 178 To TR 199	21	21	2	0.499	1950	$22,954
CR029	CR029 8.478-8.979	TR 199 To CR 34	34	34	2	0.500	1950	$29,500
CR029	CR029 8.979-9.995	CR 34 To CR 62	21	21	2	1.016	1950	$46,736
CR030	CR030 0.000-1.246	CR 31 To TR 71	18.8	19.5	2	1.246	1950	$79,231
CR030	CR030 1.246-1.744	TR 71 To TR 137 RT	18.8	19.5	2	0.498	1950	$21,812
CR030	CR030 1.744-1.995	TR 137 RT To TR 72 LT	18.8	19.5	2	0.251	1950	$10,994
CR030	CR030 1.995-2.995	TR 72 LT To SR 53	19.6	19.5	2	1.000	1950	$44,600
CR031	CR031 0.000-0.447	CR 38 To CR 11	16	16	2	0.447	1950	$18,327

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County Road #	County Road ID Log	To/From Description	SegmentWidth (Historic Base Width)	SegmentWidth 2005	Lanes	SegmentLength	YEAR BUILT	ROAD BASE COST (Fixed) $10K/ft/mi+$25K/mi; Unless Known
CR031	CR031 0.447-1.001	CR 11 To CR 592	21	21	2	0.554	1950	$25,484
CR031	CR031 1.001-1.999	CR 592 To TR 150	21	21	2	0.998	1950	$45,908
CR031	CR031 1.999-2.997	TR 150 To CR 30 RT	21	21	2	0.998	1950	$45,908
CR031	CR031 2.997-3.462	CR 30 RT To CR 42 RT	21	21	2	0.465	1950	$21,390
CR031	CR031 3.462-3.996	CR 42 RT To TR 158	21	21	2	0.534	1950	$24,564
CR031	CR031 3.996-4.995	TR 158 To TR 170	21	21	2	0.999	1950	$45,954
CR031	CR031 4.995-5.493	TR 170 To CR 61	21	21	2	0.498	1950	$22,908
CR032	CR032 0.000-1.053	SR 19 To TR 179	18	18	2	1.053	1950	$45,279
CR032	CR032 1.053-2.037	TR 179 To CR 21	18	18	2	0.984	1950	$42,312
CR032	CR032 2.037-2.535	CR 21 To TR 78 RT	19	19	2	0.498	1950	$21,912
CR032	CR032 2.535-3.035	TR 78 RT To TR 78 LT	19	19	2	0.500	1950	$22,000
CR032	CR032 3.035-4.045	TR 78 LT To TR 79	19	19	2	1.010	1950	$44,440
CR032	CR032 4.045-4.436	TR 79 To SR 18	19	19	2	0.391	1950	$17,204
CR032	CR032 4.436-5.045	SR 18 To TR 80	19	19	2	0.609	1950	$26,796
CR032	CR032 5.045-6.045	TR 80 To TR 81	18	18	2	1.000	1950	$43,000
CR032	CR032 6.045-7.05	TR 81 To TR 82	19	19	2	1.005	1950	$44,220
CR032	CR032 7.05-8.045	TR 82 To CR 29	19	19	2	0.995	1950	$43,780
CR032	CR032 8.045-9.178	CR 29 To SR 269	19	19	2	1.133	1950	$49,852
CR033	CR033 0.000-0.96	CR 38 To TR 138 RT	17.8	17.8	2	0.960	1950	$41,088
CR033	CR033 0.96-2.111	TR 138 RT To TR 144 RT	17.8	17.8	2	1.151	1950	$49,263
CR033	CR033 2.111-2.608	TR 144 RT To TR 148 RT	17.8	17.8	2	0.497	1950	$21,272
CR033	CR033 2.608-3.232	TR 148 RT To TR 143 LT	17.8	17.8	2	0.624	1950	$26,707
CR033	CR033 3.232-3.758	TR 143 LT To TR 152 LT	20.4	20.4	2	0.526	1950	$23,880
CR033	CR033 3.758-4.121	TR 152 LT To TR 145 RT	20	20	2	0.363	1950	$16,335
CR033	CR033 4.121-4.423	TR 145 RT To TR 160 LT	21	21	2	0.302	1950	$13,892
CR033	CR033 4.423-4.769	TR 160 LT To TR 145 RT	21	21	2	0.346	1950	$15,916
CR033	CR033 4.769-5.547	TR 145 RT To OLD FORT SCHOOL TRACK	21	21	2	0.778	1950	$35,788
CR033	CR033 5.547-5.763	OLD FORT SCHOOL TRACK To CR 51	21	21	2	0.216	1950	$9,936
CR034	CR034 0.000-0.608	CR 51/CR 15 To ENT ARM & HAMMER PLANT LT	22	22	2	0.608	1950	$28,576
CR034	CR034 0.608-1.006	ENT ARM & HAMMER PLANT LT To TR 75	22	22	2	0.398	1950	$18,706
CR034	CR034 01.006-1.947	TR 75 To TR 76	22	22	2	0.941	1950	$44,227
CR034	CR034 01.947-2.475	TR 76 To TR 169 LT	22	22	2	0.528	1950	$24,816
CR034	CR034 02.475-2.677	TR 169 LT To TR 169 RT	22	22	2	0.202	1950	$9,494
CR034	CR034 02.677-2.988	TR 169 RT To ADA/PLE TOWNSHIP LINE	22	22	2	0.311	1950	$14,617
CR034	CR034 02.988-3.981	ADA/PLE TOWNSHIP LINE To SR 19	23	23	2	0.993	1950	$47,664
CR034	CR034 03.981-5.305	SR 19 To TR 32	19	19	2	1.324	1950	$58,256
CR034	CR034 05.305-6.021	TR 32 To TR 196	19	19	2	0.716	1950	$31,504
CR034	CR034 06.021-6.7	TR 196 To SR 101	19	19	2	0.679	1950	$29,876
CR034	CR034 06.7-7.08	SR 101 To TR 179	20	20	2	0.380	1950	$17,100
CR034	CR034 07.08-8.068	TR 179 To CR 21	20	20	2	0.988	1950	$44,460
CR034	CR034 08.068-9.066	CR 21 To TR 78	20	20	2	0.998	1950	$44,910
CR034	CR034 09.066-10.071	TR 78 To TR 79	20	20	2	1.005	1950	$45,225
CR034	CR034 10.071-11.069	TR 79 To TR 80	20	20	2	0.998	1950	$44,910
CR034	CR034 11.069-12.069	TR 80 To TR 81	20	20	2	1.000	1950	$45,000
CR034	CR034 12.069-12.37	TR 81 To SR 18	20	20	2	0.300	1950	$13,500
CR034	CR034 12.37-13.079	SR 18 To TR 82	21	21	2	0.709	1950	$32,614
CR034	CR034 13.079-13.525	TR 82 To ENT FLAT ROCK QUARRY RT	21	21	2	0.446	1950	$20,516
CR034	CR034 13.525-14.083	ENT FLAT ROCK QUARRY RT To CR 29	21	21	2	0.558	1950	$25,668
CR034	CR034 14.083-15.116	CR 29 To SR 269	21	21	2	1.033	1950	$47,518
CR035	CR035 0.000-0.232	CR 58 To TR 14 RT	20.5	20.5	2	0.232	1950	$10,556
CR035	CR035 0.232-0.997	TR 14 RT To TR 44	22	22	2	0.765	1950	$35,955
CR035	CR035 0.997-1.895	TR 44 To TR 46	22	22	2	0.898	1950	$42,206
CR035	CR035 1.895-1.933	TR 46 To TR 191	22	22	2	0.038	1950	$1,786
CR035	CR035 1.933-2.21	TR 191 To CR 8	22	22	2	0.277	1950	$13,019
CR035	CR035 2.21-2.83	CR 8 To TR 60	22	22	2	0.620	1950	$29,140
CR035	CR035 2.83-3.455	TR 60 To TR 58	22	22	2	0.625	1950	$29,375
CR035	CR035 3.455-3.608	TR 58 To TR 189	22	22	2	0.153	1950	$7,191
CR035	CR035 3.608-4.692	TR 189 To SR 4	22	22	2	1.084	1950	$50,948
CR036	CR036 0.965-1.46	TIFFIN EAST CORP LINE To CR 13 LT	21	21	2	0.495	1950	$22,770
CR036	CR036 1.46-2.529	CR 13 LT To CR 15	21	21	2	1.069	1950	$49,174
CR036	CR036 2.529-3.545	CR 15 To TR 159	21	21	2	1.016	1950	$46,736
CR036	CR036 3.545-4.54	TR 159 To CR 17	21	21	2	0.995	1950	$45,770
CR036	CR036 4.54-5.542	CR 17 To TR 177 LT	21	21	2	1.002	1950	$46,092
CR036	CR036 5.542-6.538	CR 23 To TR 79	18	18	2	0.996	1950	$42,828
CR036	CR036 6.538-8.546	TR 79 To TR 81	19	19	2	2.008	1950	$88,352
CR036	CR036 8.546-9.946	TR 81 To SR 4	19	19	2	1.400	1950	$61,600
CR037	CR037 0.000-0.997	CR 38 To TR 138 RT	10.3	18	1	0.997	1950	$62,100
CR037	CR037 0.997-1.518	TR 138 RT To TR 167 RT	10.3	18	1	0.521	1950	$32,451
CR037	CR037 1.518-2.197	TR 167 RT To CR 15	10.3	18	1	0.679	1950	$42,292
CR038	CR038 0.000-0.981	CR 39 To CR 5 RT	21	21	2	0.981	1950	$45,126
CR038	CR038 0.981-1.155	CR 5 RT To CR 5 LT	21	21	2	0.174	1950	$8,004
CR038	CR038 01.155-2.014	CR 5 LT To TR 101	21	21	2	0.859	1950	$39,514
CR038	CR038 02.014-2.985	TR 101 To SR 635	21	21	2	0.971	1950	$44,666
CR038	CR038 02.985-3.488	SR 635 To TR 107	20	20	2	0.503	1950	$22,635
CR038	CR038 03.488-3.976	TR 107 To TR 109	20	20	2	0.488	1950	$21,960

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CR038	CR038 03.976-4.468	TR 109 To TR 69 RT	20	20	2	0.492	1950	$22,140
CR038	CR038 04.468-4.486	TR 69 RT To TR 69 LT	20	20	2	0.017	1950	$765
CR038	CR038 04.486-4.959	TR 69 LT To TR 111 RT	19	19	2	0.473	1950	$20,812
CR038	CR038 04.959-4.987	TR 111 RT To TR 111 LT	19	19	2	0.028	1950	$1,232
CR038	CR038 04.987-5.94	TR 111 LT To TR 123	19	19	2	0.953	1950	$41,932
CR038	CR038 05.94-5.99	TR 123 To CR 31	20	20	2	0.049	1950	$2,205
CR038	CR038 05.99-6.521	CR 31 To CR 11	19	19	2	0.531	1950	$23,364
CR038	CR038 06.521-7.998	CR 11 To TR 135	20	20	2	1.477	1950	$66,465
CR038	CR038 07.998-9.064	TR 135 To SR 53	20	20	2	1.066	1950	$47,970
CR038	CR038 09.064-9.376	SR 53 To CR 33	21	21	2	0.311	1950	$14,306
CR038	CR038 09.376-10.451	CR 33 To TR 155 LT	21	21	2	1.075	1950	$49,450
CR038	CR038 10.451-10.537	TR 155 LT To TR 155 RT	21	21	2	0.086	1950	$3,956
CR038	CR038 10.537-11.345	TR 155 RT To CR 15 LT	21	21	2	0.808	1950	$37,168
CR038	CR038 11.345-11.371	CR 15 LT To CR 15 RT	21	21	2	0.025	1950	$1,150
CR038	CR038 11.371-12.458	CR 15 RT To CR 37	21	21	2	1.087	1950	$50,002
CR038	CR038 12.458-12.615	CR 37 To SR 101	21	21	2	0.157	1950	$7,222
CR038	CR038 12.615-12.912	SR 101 To TR 165	20	20	2	0.297	1950	$13,365
CR038	CR038 12.912-13.964	TR 165 To CR 41	20	20	2	1.052	1950	$47,340
CR038	CR038 13.964-15.034	CR 41 To CR 43 RT	20	20	2	1.070	1950	$48,150
CR038	CR038 15.034-15.063	CR 43 RT To CR 43 LT	22	22	2	0.028	1950	$1,316
CR038	CR038 15.063-16.029	CR 43 LT To TR 175 RT	21	21	2	0.965	1950	$44,390
CR038	CR038 16.029-16.065	TR 175 RT To TR 175 LT	20	20	2	0.036	1950	$1,620
CR038	CR038 16.065-17.029	TR 175 LT To SR 19	20	20	2	0.963	1950	$43,335
CR038	CR038 17.029-18.01	SR 19 To TR 179 RT	20	20	2	0.981	1950	$44,145
CR038	CR038 18.01-18.024	TR 179 RT To TR 179 LT	20	20	2	0.013	1950	$585
CR038	CR038 18.024-18.99	TR 179LT To SR 18	20	20	2	0.965	1950	$43,425
CR038	CR038 18.99-19.025	SR 18 To TR 77	18	18	2	0.035	1950	$1,505
CR038	CR038 19.025-20.021	TR 77 To TR 183	18	18	2	0.996	1950	$42,828
CR038	CR038 20.021-21.03	TR 183 To CR 27	18	18	2	1.009	1950	$43,387
CR039	CR039 0.000-0.246	CR 60 To JAC/LOU TOWNSHIP LINE	21	21	2	0.246	1950	$11,316
CR039	CR039 0.246-0.285	JAC/LOU TOWNSHIP LINE To CR 38	21	21	2	0.039	1950	$1,794
CR039	CR039 0.285-1.295	CR 38 To CR 592	18	18	2	1.010	1950	$43,430
CR040	CR040 0.000-0.965	SR 53 To TR 73	18.6	18.6	2	0.965	1950	$42,074
CR041	CR041 0.000-0.991	TR 122 To TR 130 RT	15.8	18	2	0.991	1950	$85,616
CR041	CR041 0.991-1	TR 130 RT To TR 130 LT	15.8	18	2	0.009	1950	$778
CR041	CR041 1-2.067	TR 130 LT To CR 38	15.8	18	2	1.067	1950	$92,182
CR042	CR042 0.000-1.33	CR 31 To TR 71 LT	20	20	2	1.330	1950	$59,850
CR042	CR042 1.33-1.364	TR 71 LT To TR 71 RT	22	22	2	0.034	1950	$1,598
CR042	CR042 1.364-1.618	TR 71 RT To TR 72A LT	20	20	2	0.254	1950	$11,430
CR042	CR042 1.618-2.121	TR 72 A To TR 72	20	20	2	0.503	1950	$22,635
CR042	CR042 2.121-3.125	TR 72 To SR 53	20	20	2	1.004	1950	$45,180
CR043	CR043 0.000-0.991	CR 58 To TR 44	17.9	17.9	2	0.991	1950	$42,514
CR043	CR043 0.991-2	TR 44 To CR 6	17.9	17.9	2	1.009	1950	$43,286
CR043	CR043 02-3.004	CR 6 To TR 58	17.9	17.9	2	1.004	1950	$43,072
CR043	CR043 03.004-3.768	TR 58 To CR 12	17.9	17.9	2	0.764	1950	$32,776
CR043	CR043 03.808-5.017	CR 12 To CR 16	19	19	2	1.209	1950	$53,196
CR043	CR043 05.017-5.999	CR 16 To US 224	19	19	2	0.981	1950	$43,164
CR043	CR043 05.999-6.833	SR 67 To TR 106	20	20	2	0.834	1950	$37,530
CR043	CR043 06.833-7.823	TR 106 To TR 8	20	20	2	0.990	1950	$44,550
CR043	CR043 07.823-8.821	TR 8 To SR 18	20	20	2	0.997	1950	$44,865
CR043	CR043 08.821-9.829	SR 18 To TR 122	20	20	2	1.008	1950	$45,360
CR043	CR043 09.829-10.815	TR 122 To TR 130	20	20	2	0.985	1950	$44,325
CR043	CR043 10.815-11.917	TR 130 To CR 38	20	20	2	1.102	1995	$49,590
CR043	CR043 11.944-12.949	CR 38 To TR 138	20	20	2	1.005	1950	$45,225
CR043	CR043 12.949-13.952	TR 138 To TR 148	20	20	2	1.003	1950	$45,135
CR043	CR043 13.952-14.537	TR 148 To SR 101	20	20	2	0.585	1950	$26,325
CR044	CR044 0.000-0.51	CR 15 To TR 75 LT	18.6	20	2	0.510	1950	$22,236
CR044	CR044 0.51-1.506	TR 75 LT To TR 76	18.6	19	2	0.996	1950	$43,426
CR044	CR044 1.506-2.48	TR 76 To TR 169 RT	17.8	19	2	0.974	1950	$41,687
CR044	CR044 2.48-2.491	TR 169 RT To TR 169 LT	17.8	17.8	2	0.011	1950	$471
CR044	CR044 2.491-3.528	TR 169 LT To SR 19	15	15	2	1.037	1950	$41,480
CR045	CR045 0.000-1.208	CR 58 To CR 59	18	18	2	1.208	1950	$51,944
CR045	CR045 1.208-1.507	CR 59 To TR 52	19	19	2	0.299	1950	$13,156
CR045	CR045 1.507-2.309	TR 52 To CR 591	19	19	2	0.802	1950	$35,288
CR045	CR045 2.309-2.509	CR 591 To CR 6	22	22	2	0.200	1950	$9,400
CR045	CR045 2.509-3.009	CR 6 To TR 56	19	19	2	0.500	1950	$22,000
CR045	CR045 3.009-3.994	TR 56 To CR 10	19	19	2	0.985	1950	$43,340
CR045	CR045 3.994-4.993	CR 10 To TR 96	20	20	2	0.999	1950	$44,955
CR046	CR046 0.000-0.034	SR 18 To THO/ADA TOWNSHIP LINE	21	21	2	0.034	1950	$1,564
CR046	CR046 0.034-1.054	THO/ADA TOWNSHIP LINE To CR 27	21	21	2	1.020	1950	$46,920
CR046	CR046 1.054-1.801	CR 27 To TR 80 LT	21	21	2	0.747	1950	$34,362
CR046	CR046 1.801-2.049	TR 80 LT To TR 80 RT	21	21	2	0.248	1950	$11,408
CR046	CR046 2.049-3.055	TR 80 RT To TR 81	21	21	2	1.006	1950	$46,276
CR046	CR046 3.055-4.053	TR 81 To CR 29 RT	21	21	2	0.998	1950	$45,908
CR046	CR046 4.053-5.045	CR 29 RT To CR 29 LT	21	21	2	0.992	1950	$45,632

2005 Seneca County Road Inventory

County Road #	County Road ID Log	To/From Description	SegmentWidth (Historic Base Width)	SegmentWidth 2005	Lanes	SegmentLength	YEAR BUILT	ROAD BASE COST (Fixed) $10K/ft/mi+$25K/mi; Unless Known
CR046	CR046 5.045-6.257	CR 29 LT To SR 269	21	21	2	1.212	1950	$55,752
CR047	CR047 0.000-1.031	CR 58 RT To TR 26	17.3	17.3	2	1.031	1950	$43,611
CR047	CR047 1.031-2.025	TR 26 To TR 54	17.3	17.3	2	0.994	1950	$42,046
CR047	CR047 2.025-2.52	TR 54 To CR 6	17.3	17.3	2	0.495	1950	$20,939
CR047	CR047 2.52-3.515	CR 6 To TR 90	21	21	2	0.995	1950	$45,770
CR047	CR047 3.515-4.014	TR 90 To TR 94 LT	21	21	2	0.499	1950	$22,954
CR047	CR047 4.014-5.008	TR 94 LT To CR 14	21	21	2	0.994	1950	$45,724
CR047	CR047 5.257-6.256	CR 14 To TR 98 RT	21	21	2	0.999	1950	$45,954
CR047	CR047 6.256-6.495	TR 98 RT To CR 591	21	21	2	0.239	1950	$10,994
CR048	CR048 0.000-0.113	SR 18 To TR 31 LT	20	20	2	0.113	1950	$5,085
CR048	CR048 0.113-0.605	TR 31 LT To TR 118	21	21	2	0.492	1950	$22,632
CR048	CR048 0.605-0.85	TR 118 To TR 111 LT	21	21	2	0.245	1950	$11,270
CR048	CR048 0.85-1.336	TR 111 LT To TR 121 RT	21	21	2	0.486	1950	$22,356
CR048	CR048 1.336-1.825	TR 121 RT To TR 123 LT	21	21	2	0.489	1950	$22,494
CR048	CR048 1.825-2.398	TR 123 LT To TR 120 RT	21	21	2	0.573	1950	$26,358
CR048	CR048 2.398-2.824	TR 120 RT To TR 129 RT	21	21	2	0.426	1950	$19,596
CR048	CR048 2.824-3.32	TR 129 RT To TR 91 RT	21	21	2	0.496	1950	$22,816
CR048	CR048 3.32-3.826	TR 91 RT To CR 11	21	21	2	0.506	1950	$23,276
CR049	CR049 0.000-0.417	CR 12 To ENT BLOOMVILLE QUARRY RT	18.5	18.5	2	0.417	1950	$18,140
CR049	CR049 0.417-0.863	ENT BLOOMVILLE QUARRY RT To TR 88 LT	23.2	23.2	2	0.446	1950	$21,497
CR049	CR049 0.863-1.002	TR 88 LT To TR 12 RT	23.2	23.2	2	0.139	1950	$6,700
CR049	CR049 1.002-1.545	TR 12 RT To TR 163 LT	23.2	23.2	2	0.543	1950	$26,173
CR049	CR049 1.545-2.017	TR 163 LT To US 224	23.2	23.2	2	0.472	1950	$22,750
CR050	CR050 0.934-1.089	TIFFIN EAST CORP LINE To CR 13	25	25	2	0.155	1950	$7,750
CR050	CR050 1.089-2.08	CR 13 To CR 15 RT	21	21	2	0.991	1950	$45,586
CR050	CR050 2.08-3.075	CR 15 RT To TR 159	21	21	2	0.995	1950	$45,770
CR050	CR050 3.075-4.065	TR 159 To CR 17	22	22	2	0.990	1950	$46,530
CR050	CR050 4.065-5.065	CR 17 To TR 177 RT	21	21	2	1.000	1950	$46,000
CR051	CR051 0.000-0.884	SR 53 To CR 33 RT	21	21	2	0.884	1950	$40,664
CR051	CR051 0.884-1.04	CR 33 RT To ENT OLD FORT SCHOOL	28	28	2	0.156	1950	$8,268
CR051	CR051 1.04-1.336	ENT OLD FORT SCHOOL To TR 73 LT	22	22	2	0.296	1950	$13,912
CR051	CR051 1.336-2.304	TR 73 LT To CR 34 RT	20	20	2	0.968	1950	$43,560
CR051	CR051 2.304-2.802	CR 34 RT To TR 176 LT	21	21	2	0.498	1950	$22,908
CR051	CR051 2.802-3.421	TR 176 LT To CR 62 RT	20	20	2	0.619	1950	$27,855
CR052	CR052 0.000-0.459	CR 591 LT To TR 113	18	18	2	0.459	1950	$19,737
CR052	CR052 0.459-1.447	TR 113 To TR 119 LT	18	18	2	0.988	1950	$42,484
CR052	CR052 1.447-2.663	TR 119 LT To SR 53	18	18	2	1.216	1950	$52,288
CR054	CR054 0.000-0.54	US 224 To CR 594 LT	24	24	2	0.540	1950	$26,460
CR054	CR054 0.54-0.684	CR 594 LT To SR 53	24	24	2	0.144	1950	$7,056
CR056	CR056 0.000-0.972	CR 23 To TR 79	21	21	2	0.972	1950	$44,712
CR056	CR056 0.972-3.219	TR 79 To ATTICA WEST CORP LINE	21	21	2	2.247	1950	$103,362
CR057	CR057 2.535-3.023	CR 6 RT To TR 56 RT	19	19	2	0.488	1950	$21,472
CR057	CR057 3.023-3.994	TR 56 RT To CR 10 RT	19	19	2	0.971	1950	$42,724
CR057	CR057 3.994-5	CR 10 RT To TR 96 RT	19	19	2	1.006	1950	$44,264
CR058	CR058 04.862-4.913	CR 47 To SR 53	19	19	2	0.051	1950	$2,244
CR058	CR058 04.913-6.484	SR 53 To TR 115	19	19	2	1.571	1950	$69,124
CR058	CR058 06.484-7.735	TR 115 To TR 131	19	19	2	1.251	1950	$55,044
CR058	CR058 07.735-7.957	SR 67 To TR 17	18	18	2	0.222	1950	$9,546
CR058	CR058 07.957-8.959	TR 17 To TR 159	18	18	2	1.002	1950	$43,086
CR058	CR058 08.959-9.901	TR 159 To SR 100	18	18	2	0.942	1950	$40,506
CR058	CR058 09.901-10.963	SR 100 To TR 171	21	21	2	1.062	1950	$48,852
CR058	CR058 10.963-11.964	TR 171 To CR 43	19	19	2	1.001	1950	$44,044
CR058	CR058 11.964-13.976	CR 43 To SR 19	19	19	2	2.012	1950	$88,528
CR058	CR058 13.976-14.971	SR 19 To TR 181	21	21	2	0.994	1950	$45,724
CR058	CR058 14.971-15.973	TR 181 To TR 77	21	21	2	1.002	1950	$46,092
CR059	CR059 0.000-1.261	US 23/SR 199 To CR 45	18	18	2	1.261	1950	$54,223
CR059	CR059 1.261-2.524	CR 45 To TR 61	18	18	2	1.263	1950	$54,309
CR059	CR059 2.524-3.098	TR 61 To TR 95	20	20	2	0.574	1950	$25,830
CR059	CR059 3.098-3.248	TR 95 To TR 93 LT	20	20	2	0.150	1950	$6,750
CR059	CR059 3.248-3.425	TR 93 LT To TR 93 RT	20	20	2	0.177	1950	$7,965
CR059	CR059 3.425-4.401	TR 93 RT To TR 97	20	20	2	0.976	1950	$43,920
CR059	CR059 4.401-6.108	TR 97 To SR 587	20	20	2	1.707	1950	$76,815
CR060	CR060 0.691-1.201	FOSTORIA EAST CORP LINE To TR 43	17.2	18	2	0.510	1950	$21,522
CR060	CR060 1.201-1.742	TR 43 To TR 47 LT	17.2	18	2	0.541	1950	$22,830
CR060	CR060 1.742-1.959	TR 47 LT To TR 47 RT	17.2	18	2	0.217	1950	$9,157
CR060	CR060 1.959-3.431	TR 47 RT To CR 39	17.2	18	2	1.472	1950	$62,118
CR060	CR060 3.431-4.18	CR 39 To TR 57	17.8	18	2	0.749	1950	$32,057
CR060	CR060 4.18-5.203	TR 57 To CR 5	17.8	18	2	1.023	1950	$43,764
CR061	CR061 0.3-0.419	BETTSVILLE EAST CORP LINE To CR 31 RT	19.7	19.7	2	0.119	1950	$5,319
CR061	CR061 0.419-1.409	CR 31 RT To TR 71	19.7	19.7	2	0.990	1950	$44,253
CR061	CR061 1.409-1.906	TR 71 To TR 72A RT	19.7	19.7	2	0.497	1950	$22,216
CR061	CR061 1.906-2.418	TR 72A RT To TR 72	19.7	19.7	2	0.512	1950	$22,886
CR061	CR061 2.418-3.427	TR 72 To SR 53	20	20	2	1.009	1950	$45,405
CR062	CR062 12.12-12.635	TR 76 To TR 169	21	21	2	0.515	1950	$23,690
CR062	CR062 12.635-13.152	TR 169 To ADA/PLE TOWNSHIP LINE	21	21	2	0.516	1950	$23,736

2005	Seneca County Road Inventory							
County Road #	County Road ID Log	To/From Description	SegmentWidth (Historic Base Width)	SegmentWidth 2005	Lanes	SegmentLength	YEAR BUILT	ROAD BASE COST (Fixed) $10K/ft/mi+$25K/mi; Unless Known
CR062	CR062 13.152-13.693	ADA/PLE TWP LINE To GREEN SPRINGS W CORP LINE	20	20	2	0.541	1950	$24,345
CR062	CR062 14.632-16.288	GREEN SPRINGS E CORP LINE To TR 32	17.8	17.8	2	1.656	1950	$70,877
CR062	CR062 16.288-17.217	TR 32 To TR 179	17.8	17.8	2	0.928	1950	$39,718
CR062	CR062 17.217-17.991	TR 179 To SR 101	17.8	17.8	2	0.774	1950	$33,127
CR062	CR062 17.991-18.21	SR 101 To CR 21	17.5	17.5	2	0.219	1950	$9,308
CR062	CR062 18.21-19.209	CR 21 To TR 78	17.6	17.6	2	0.998	1950	$42,515
CR062	CR062 19.209-20.214	TR 78 To TR 79	17.8	17.8	2	1.005	1950	$43,014
CR062	CR062 20.214-21.201	TR 79 To TR 80	17.8	17.8	2	0.987	1950	$42,244
CR062	CR062 21.201-22.212	TR 80 To TR 81	17.8	17.8	2	1.011	1950	$43,271
CR062	CR062 22.212-23.215	TR 81 To TR 82	17.8	17.8	2	1.003	1950	$42,928
CR062	CR062 23.215-23.55	TR 82 To SR 18	17.8	17.8	2	0.335	1950	$14,338
CR062	CR062 23.55-24.218	SR 18 To CR 29	17.1	17.1	2	0.667	1950	$28,081
CR062	CR062 24.218-24.849	CR 29 To RR CROSSING	21	21	2	0.631	1950	$29,026
CR062	CR062 24.849-25.216	RR CROSSING To SR 269	24	24	2	0.367	1950	$17,983
CR090	CR090 0.000-1.864	SR 53 To CR 19	21	21	2	1.864	1950	$85,744
CR591	CR591 0.000-1.527	US 23/SR 199 To CR 45	20.7	20.7	2	1.527	1950	$69,784
CR591	CR591 01.527-1.858	CR 45 To CR 6	20.7	20.7	2	0.331	1950	$15,127
CR591	CR591 01.858-2.685	CR 6 To TR 56	20.7	20.7	2	0.827	1950	$37,794
CR591	CR591 02.685-3.061	TR 56 To TR 61 RT	20.7	20.7	2	0.376	1950	$17,183
CR591	CR591 03.061-4.033	TR 61 RT To TR 93 RT	20.7	20.7	2	0.972	1950	$44,420
CR591	CR591 04.671-5.336	NEW RIEGEL EAST CORP LINE To TR 101 LT	21	21	2	0.665	1950	$30,590
CR591	CR591 05.336-5.926	TR 101 LT To CR 14 RT	22	22	2	0.590	1950	$27,730
CR591	CR591 05.926-6.643	CR 14 RT To CR 7 LT	21	21	2	0.717	1950	$32,982
CR591	CR591 06.643-7.509	CR 7 LT To HOP/SEN TOWNSHIP LINE	21	21	2	0.866	1950	$39,836
CR591	CR591 07.509-7.908	HOP/SEN TOWNSHIP LINE To CR 47 RT	21	21	2	0.399	1950	$18,354
CR591	CR591 07.908-8.347	CR 47 RT To TR 102 LT	21	21	2	0.438	1950	$20,148
CR591	CR591 08.347-8.535	TR 102 LT To CR 52 RT	22	22	2	0.188	1950	$8,836
CR591	CR591 08.535-9.228	CR 52 RT To TR 113	21	21	2	0.693	1950	$31,878
CR591	CR591 09.228-10.396	TR 113 To TR 119 RT	21	21	2	1.168	1950	$53,728
CR591	CR591 10.396-10.811	TR 119 RT To US 224	21	21	2	0.415	1950	$19,090
CR592	CR592 0.000-0.127	US 23 To TR 174A	40	40	2	0.127	1950	$8,255
CR592	CR592 0.549-0.726	FOSTORIA EAST CORP LINE To CR 25	37	37	2	0.177	1950	$10,974
CR592	CR592 0.726-1.546	CR 25 To TR 41 RT	25	25	2	0.820	1950	$41,000
CR592	CR592 01.546-1.685	TR 41 RT To TR 41 LT	25	25	2	0.139	1950	$6,950
CR592	CR592 01.685-2.05	TR 41 LT To TR 45	25	25	2	0.365	1950	$18,250
CR592	CR592 02.05-2.548	TR 45 To TR 47	25	25	2	0.498	1950	$24,900
CR592	CR592 02.548-2.736	TR 47 To SR 12	25	25	2	0.188	1950	$9,400
CR592	CR592 02.736-3.306	SR 12 To TR 65	20	20	2	0.570	1950	$25,650
CR592	CR592 03.306-3.99	TR 65 To TR 57	20	20	2	0.684	1950	$30,780
CR592	CR592 03.99-4.077	TR 57 To CR 39	20	20	2	0.086	1950	$3,870
CR592	CR592 04.077-4.478	CR 39 To TR 89	20	20	2	0.401	1950	$18,045
CR592	CR592 04.478-5.324	TR 89 To CR 5	19	19	2	0.846	1950	$37,224
CR592	CR592 05.324-6.067	CR 5 To TR 101	19	19	2	0.743	1950	$32,692
CR592	CR592 06.067-7.089	TR 101 To SR 635	20	20	2	1.022	1950	$45,990
CR592	CR592 07.089-7.583	SR 635 To TR 107	20	20	2	0.494	1950	$22,230
CR592	CR592 07.583-8.587	TR 107 To TR 69	20	20	2	1.004	1950	$45,180
CR592	CR592 08.587-9.098	TR 69 To CR 11	20	20	2	0.511	1950	$22,995
CR592	CR592 09.098-10.101	CR 11 To CR 31	20	20	2	1.003	1950	$45,135
CR592	CR592 10.101-10.65	CR 31 To TR 1099	19	19	2	0.548	1950	$24,112
CR592	CR592 10.65-10.727	TR 1099 To TR 1098	19	19	2	0.077	1950	$3,388
CR592	CR592 10.727-10.858	TR 1098 To TR 127	19	19	2	0.131	1950	$5,764
CR592	CR592 10.858-11.601	TR 127 To TR 71	20	20	2	0.743	1950	$33,435
CR592	CR592 11.601-12.104	TR 71 To TR 135	20	20	2	0.502	1950	$22,590
CR592	CR592 12.104-13.103	TR 135 To SR 53	20	20	2	0.999	1950	$44,955
CR594	CR594 0.000-0.331	CR 54 To TR 1116 RT	23.9	23.9	2	0.331	1950	$16,186

SL MILES	BASE cost (Fixed)
369.064	$17,011,963

AVG 2003 Value per Mile = $ 62,938 = 2003 Book Value per Mile

2012 Seneca County Bridge Inventory											(year) 2012		1.074 (current year CPI)		
COID	Year Built	Year Rehab	Depreciation Year	Structure Type	Span	Overall Length	Deck Width	LABEL	SQ FT	50 YR USEFUL LIFE	CPI	BASE COST (Cost at Installation)	Cumulative Depreciation (Through 2012)	Book Value 2012
C0003 - 0214	1996		1996	3 or 4 Sided Concrete Box	18	20	36	C3-2.14	720	34	0.870	$ 26,942	$ 8,621	$ 18,321
C0005 - 0003	1950		1950	Concrete Slab	10	13	24	C5-0.03	312	0	0.134	$ 2,861	$ 2,861	$ -
C0005 - 0155	1975		1975	Prestressed Concrete Box Beam	25	28	25.5	C5-1.55	714	13	0.298	$ 12,271	$ 9,081	$ 3,191
C0005 - 0434	1980		1980	Steel Beam	49	54	27	C5-4.34	1458	18	0.457	$ 42,336	$ 27,095	$ 15,241
C0005 - 0885	1968		1968	Concrete Slab	22	25	25	C5-8.85	625	6	0.193	$ 8,254	$ 7,263	$ 990
C0006 - 0140	1957	1979	1957	Steel Beam	16	20	27	C6-1.40	540	(5)	0.403	$ 13,827	$ 15,210	$ (1,383)
C0006 - 0585	1956		1956	Concrete Slab	28	30	30	C6-5.85	900	(6)	0.149	$ 9,176	$ 10,277	$ (1,101)
C0006 - 1065	1978		1978	Steel Beam	83	300	30	C6-10.65	9000	16	0.362	$ 207,009	$ 140,766	$ 66,243
C0006 - 1387	1968		1968	Steel Beam	68	187	28	C6-13.87	5236	6	0.193	$ 64,209	$ 56,504	$ 7,705
C0006 - 1723	2004		2004	Prestressed Concrete Box Beam	146	156	32	C6-17.23	4992	42	1.048	$ 588,347	$ 94,136	$ 494,211
C0006 - 1877	1960		1960	Concrete Slab	19	21	27.8	C6-18.77	583.8	(2)	0.164	$ 6,551	$ 6,813	$ (262)
C0006 - 2140	1963	1987	1963	Steel Beam	37	41	25.5	C6-21.40	1045.5	1	0.630	$ 41,851	$ 41,014	$ 837
C0006 - 2419	1964		1964	Concrete Slab	12	16	29	C6-24.19	464	2	0.172	$ 5,461	$ 5,243	$ 218
C0006 - 2567	2001		2001	3 or 4 Sided Concrete Box	18	20	60	C6-25.67	1200	39	0.982	$ 51,844	$ 11,406	$ 40,438
C0007 - 0200	2004		2004	3 or 4 Sided Concrete Box	16	18	60	C7-2.00	1080	42	1.048	$ 57,750	$ 9,240	$ 48,510
C0007 - 0400	1938		1938	Concrete Beam	55	58	30	C7-4.00	1740	0	0.078	$ 7,960	$ 7,960	$ -
C0010 - 0361	1940		1940	Concrete Slab	10	13	25.3	C10-3.61	328.9	0	0.078	$ 1,755	$ 1,755	$ -
C0010 - 0450	1942		1942	Concrete Slab	10	13	22	C10-4.50	286	0	0.090	$ 1,761	$ 1,761	$ -
C0010 - 0507	1945		1945	Concrete Slab	10	13	22.5	C10-5.07	292.5	0	0.100	$ 2,001	$ 2,001	$ -
C0010 - 0556	1988		1988	Timber Culvert	11	13	20	C10-5.56	260	26	0.656	$ 8,336	$ 4,001	$ 4,335
C0011 - 0282	1990		1990	Concrete Slab	37	100	30	C11-2.82	3000	28	0.725	$ 565,360	$ 248,758	$ 316,602
C0011 - 0389	1944	1992	1944	Concrete Slab	14	17	46.4	C11-3.89	788.8	0	0.778	$ 41,992	$ 41,992	$ -
C0011 - 0404	2005		2005	3 or 4 Sided Concrete Box	8	10	78	C11-4.04	780	43	1.074	$ -	$ -	$ -
C0012 - 0146	1984		1984	Steel Truss	58	61	26	C12-1.46	1586	22	0.576	$ 75,905	$ 42,507	$ 33,398
C0012 - 0738	2005		2005	Prestressed Concrete Box Beam	54	57	32	C12-7.38	1824	43	1.074	$ 280,635	$ 39,289	$ 241,346
C0012 - 1112	1993		1993	3 or 4 Sided Concrete Box	17	19	46	C12-11.12	874	31	0.801	$ 30,111	$ 11,442	$ 18,669
C0013 - 0131	1947		1947	Concrete Slab	22	26	24.7	C13-1.31	642.2	0	0.124	$ 5,449	$ 5,449	$ -
C0014 - 0083	2002		2002	3 or 4 Sided Concrete Box	16	18	60	C14-0.83	1080	40	1.000	$ 46,452	$ 9,290	$ 37,161
C0014 - 0169	1955	1986	1955	Steel Truss	47	52	22.5	C14-1.69	1170	(7)	0.608	$ 59,106	$ 67,381	$ (8,275)
C0014 - 0192	1954		1954	Concrete Culvert	13	13	20	C14-1.92	260	0	0.149	$ 1,704	$ 1,704	$ -
C0014 - 0300	1984		1984	Concrete Culvert	10	11	20	C14-3.00	220	22	0.576	$ 5,574	$ 3,122	$ 2,453
C0014 - 0418	1962	1986	1962	Steel Beam	34	38	25.5	C14-4.18	969	0	0.608	$ 37,434	$ 37,434	$ -
C0015 - 0129	1973		1973	Prestressed Concrete Box Beam	22	27	30	C15-1.29	810	11	0.246	$ 11,492	$ 8,964	$ 2,528
C0015 - 0347	1972		1972	Steel Beam	40	42	26.1	C15-3.47	1096.2	10	0.232	$ 16,159	$ 12,927	$ 3,232
C0015 - 0547	1986		1986	Prestressed Concrete Box Beam	35	37	25.5	C15-5.47	943.5	24	0.608	$ 33,084	$ 17,204	$ 15,880
C0016 - 0067	1998		1998	Prestressed Concrete Box Beam	74	148	30	C16-0.67	4440	36	0.904	$ 608,000	$ 170,240	$ 437,760
C0016 - 0363	1968		1968	Steel Beam	40	44	30	C16-3.63	1320	6	0.193	$ 16,187	$ 14,245	$ 1,942
C0016 - 0411	1968		1968	Steel Beam	50	54	30	C16-4.11	1620	6	0.193	$ 19,866	$ 17,482	$ 2,384

2012 Seneca County Bridge Inventory										(year) 2012		1.074 (current year CPI)		
COID	Year Built	Year Rehab	Depreciation Year	Structure Type	Span	Overall Length	Deck Width	LABEL	SQ FT	50 YR USEFUL LIFE	CPI	BASE COST (Cost at Installation)	Cumulative Depreciation (Through 2012)	Book Value 2012
C0016 - 0493	1964		1964	Prestressed Concrete Box Beam	50	54	24.2	C16-4.93	1306.8	2	0.172	$ 12,963	$ 12,445	$ 519
C0016 - 0525	1954		1954	Concrete Slab	30	34	24.9	C16-5.25	846.6	0	0.149	$ 8,632	$ 8,632	$ -
C0016 - 0556	1975		1975	Steel Beam	31	34	29.5	C16-5.56	1003	13	0.298	$ 18,991	$ 14,054	$ 4,938
C0017 - 0068	1999		1999	3 or 4 Sided Concrete Box	12	14	42	C17-0.68	588	37	0.924	$ 23,368	$ 6,076	$ 17,293
C0017 - 0166	2000		2000	3 or 4 Sided Concrete Box	14	16	54	C17-1.66	864	38	0.955	$ 35,489	$ 8,517	$ 26,972
C0017 - 0243	1998		1998	3 or 4 Sided Concrete Box	16	18	60	C17-2.43	1080	36	0.904	$ 41,992	$ 11,758	$ 30,234
C0018 - 0122	1977		1977	Prestressed Concrete Box Beam	27	30	25.5	C18-1.22	765	15	0.336	$ 14,824	$ 10,377	$ 4,447
C0018 - 0286	1974		1974	Prestressed Concrete Box Beam	26	29	25.5	C18-2.86	739.5	12	0.273	$ 11,643	$ 8,849	$ 2,794
C0018 - 0332	1980		1980	Prestressed Concrete Culvert	10	11	20	C18-3.32	220	18	0.457	$ 5,897	$ 3,774	$ 2,123
C0018 - 0432	1971		1971	Steel Beam	32	35	30	C18-4.32	1050	9	0.225	$ 15,011	$ 12,309	$ 2,702
C0018 - 0572	1985		1985	Prestressed Concrete Box Beam	45	48	27.2	C18-5.72	1305.6	23	0.597	$ 44,953	$ 24,275	$ 20,678
C0018 - 0623	1958		1958	Prestressed Concrete Beam	45	49	26	C18-6.23	1274	(4)	0.160	$ 11,158	$ 12,051	$ (893)
C0019 - 0626	1996		1996	Prestressed Concrete Box Beam	48	143	28.5	C19-6.26	4075.5	34	0.870	$ 498,860	$ 159,635	$ 339,225
C0021 - 0211	1968		1968	Concrete Slab	14	17	24.7	C21-2.11	419.9	6	0.193	$ 5,545	$ 4,880	$ 665
C0021 - 0349	1959		1959	Steel Culvert	13	13	20	C21-3.49	260	(3)	0.161	$ 2,251	$ 2,386	$ (135)
C0021 - 0435	2002		2002	Prestressed Concrete Box Beam	34	40	30	C21-4.35	1200	40	1.000	$ 32,873	$ 6,575	$ 26,298
C0023 - 0351	1940	1978	1940	Steel Truss	32	35	28.5	C23-3.51	997.5	0	0.362	$ 30,003	$ 30,003	$ -
C0023 - 0545	1971		1971	Steel Beam	27	80	28	C23-5.45	2240	9	0.225	$ 32,023	$ 26,259	$ 5,764
C0024 - 0077	1995		1995	3 or 4 Sided Concrete Box	10	12	48	C24-0.77	576	33	0.845	$ 20,934	$ 7,118	$ 13,817
C0024 - 0368	2003		2003	3 or 4 Sided Concrete Box	18	20	60	C24-3.68	1200	41	1.023	$ 47,390	$ 8,530	$ 38,860
C0024 - 0416	1982		1982	Prestressed Concrete Culvert	12	14	20	C24-4.16	280	20	0.535	$ 8,786	$ 5,272	$ 3,514
C0024 - 0644	1986		1986	Prestressed Concrete Box Beam	20	22	25.5	C24-6.44	561	24	0.608	$ 19,672	$ 10,229	$ 9,442
C0024 - 0820	1967		1967	Steel Culvert	12	12	20	C24-8.20	240	5	0.185	$ 2,387	$ 2,148	$ 239
C0024 - 0887	1962	1991	1962	Prestressed Concrete Box Beam	30	33	24	C24-8.87	792	0	0.755	$ 34,486	$ 34,486	$ -
C0025 - 0641	1984		1984	Steel Beam	29	34	20	C25-6.41	680	22	0.576	$ 24,887	$ 13,937	$ 10,950
C0025 - 0728	1939		1939	Concrete Slab	19	22	22	C25-7.28	484	0	0.077	$ 2,550	$ 2,550	$ -
C0026 - 0121	1994		1994	Prestressed Concrete Box Beam	40	44	28	C26-1.21	1232	32	0.822	$ 33,443	$ 12,039	$ 21,403
C0026 - 0141	1968		1968	Prestressed Concrete Slab	26	73	28	C26-1.41	2044	6	0.193	$ 23,137	$ 20,361	$ 2,776
C0027 - 0006	1949	1978	1949	Concrete Slab	12	15	23.4	C27-0.06	351	0	0.362	$ 8,694	$ 8,694	$ -
C0027 - 0018	1970		1970	Steel Beam	35	44	30.1	C27-0.18	1324.4	8	0.215	$ 18,092	$ 15,198	$ 2,895
C0027 - 0153	1988		1988	Timber Slab	17	20	25.3	C27-1.53	506	26	0.656	$ 17,846	$ 8,566	$ 9,280
C0027 - 0169	2003		2003	3 or 4 Sided Concrete Box	18	20	60	C27-1.69	1200	41	1.023	$ 37,248	$ 6,705	$ 30,543
C0027 - 0200	1973		1973	Steel Beam	18	24	25.5	C27-2.00	612	11	0.246	$ 9,566	$ 7,461	$ 2,104
C0027 - 0297	1977		1977	Prestressed Concrete Box Beam	20	23	25.5	C27-2.97	586.5	15	0.336	$ 11,365	$ 7,956	$ 3,410
C0027 - 0318	1986		1986	Timber Slab	28	30	27.5	C27-3.18	825	24	0.608	$ 26,968	$ 14,023	$ 12,945
C0028 - 0061	1949		1949	Concrete Slab	21	23	25.9	C28-0.61	595.7	0	0.132	$ 5,381	$ 5,381	$ -
C0028 - 0149	1994		1994	3 or 4 Sided Concrete Box	16	18	40	C28-1.49	720	32	0.822	$ 25,455	$ 9,164	$ 16,292
C0028 - 0351	1938		1938	Concrete Slab	16	19	33.2	C28-3.51	630.8	0	0.078	$ 3,367	$ 3,367	$ -

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C0030 - 0116	2000		2000	3 or 4 Sided Concrete Box	16	18	52	C30-1.16	936	38	0.955	$ 38,446	$ 9,227	$ 29,219
C0030 - 0231	1981		1981	Steel Truss	100	102	26.5	C30-2.31	2703	19	0.504	$ 113,193	$ 70,180	$ 43,013
C0031 - 0250	2002		2002	3 or 4 Sided Concrete Box	10	12	42	C31-2.50	504	40	1.000	$ 22,712	$ 4,542	$ 18,169
C0032 - 0603	1982		1982	Steel Beam	27	31	19.5	C32-6.03	604.5	20	0.535	$ 20,549	$ 12,329	$ 8,220
C0033 - 0158	1972		1972	Steel Beam	26	29	31	C33-1.58	899	10	0.232	$ 13,252	$ 10,602	$ 2,650
C0033 - 0366	1892	1986	1892	Steel Truss	208	218	18.8	C33-3.66	4098.4	0	0.608	$ 207,043	$ 207,043	$ -
C0034 - 0117	2005		2005	3 or 4 Sided Concrete Box	16	18	48	C34-1.17	864	43	1.074	$ 46,991	$ 6,579	$ 40,412
C0034 - 0166	1978		1978	Steel Beam	24	27	25.5	C34-1.66	688.5	16	0.362	$ 15,836	$ 10,769	$ 5,068
C0034 - 0241	1983		1983	Steel Truss	51	55	25.5	C34-2.41	1402.5	21	0.552	$ 64,326	$ 37,309	$ 27,017
C0035 - 0059	1995		1995	3 or 4 Sided Concrete Box	12	14	48	C35-0.59	672	33	0.845	$ 24,423	$ 8,304	$ 16,119
C0035 - 0121	1967		1967	Steel Culvert	15	15	20	C35-1.21	300	5	0.185	$ 2,984	$ 2,685	$ 298
C0036 - 0129	1996		1996	Prestressed Concrete Beam	53	114	30	C36-1.29	3420	34	0.870	$ 352,800	$ 112,896	$ 239,904
C0036 - 0216	1987		1987	Steel Beam	32	34	33.5	C36-2.16	1139	25	0.630	$ 45,593	$ 22,797	$ 22,797
C0036 - 0302	1992		1992	3 or 4 Sided Concrete Box	16	18	36	C36-3.02	648	30	0.778	$ 21,684	$ 8,673	$ 13,010
C0036 - 0586	1998		1998	3 or 4 Sided Concrete Box	10	12	54	C36-5.86	648	36	0.904	$ 25,195	$ 7,055	$ 18,141
C0037 - 0118	1996		1996	3 or 4 Sided Concrete Box	13	15	48	C37-1.18	720	34	0.870	$ 26,942	$ 8,621	$ 18,321
C0038 - 0028	1952		1952	Concrete Beam	50	54	27	C38-0.28	1458	0	0.147	$ 12,570	$ 12,570	$ -
C0038 - 0105	1985		1985	Prestressed Concrete Box Beam	45	48	31.4	C38-1.05	1507.2	23	0.597	$ 51,895	$ 28,023	$ 23,871
C0038 - 0235	1960		1960	Concrete Slab	20	23	25	C38-2.35	575	(2)	0.164	$ 6,453	$ 6,711	$ (258)
C0038 - 0286	1965		1965	Concrete Slab	23	27	27.5	C38-2.86	742.5	3	0.175	$ 8,891	$ 8,358	$ 533
C0038 - 0430	2003		2003	3 or 4 Sided Concrete Box	14	16	60	C38-4.30	960	41	1.023	$ 35,525	$ 6,395	$ 29,131
C0038 - 0634	1980		1980	Prestressed Concrete Culvert	12	14	20	C38-6.34	280	18	0.457	$ 7,505	$ 4,803	$ 2,702
C0038 - 0747	1982		1982	Steel Truss	107	110	26.5	C38-7.47	2915	20	0.535	$ 129,579	$ 77,748	$ 51,832
C0038 - 0932	1970		1970	Prestressed Concrete Box Beam	60	240	30	C38-9.32	7200	8	0.215	$ 89,279	$ 74,994	$ 14,285
C0038 - 1098	1955		1955	Steel Beam	37	41	28	C38-10.98	1148	(7)	0.149	$ 10,868	$ 12,390	$ (1,522)
C0038 - 1277	1975		1975	Steel Culvert	12	12	20	C38-12.77	240	13	0.298	$ 3,845	$ 2,845	$ 1,000
C0038 - 1497	1964		1964	Steel Culvert	13	13	25.8	C38-14.97	335.4	2	0.172	$ 3,102	$ 2,977	$ 124
C0038 - 1562	1974		1974	Prestressed Concrete Box Beam	28	32	25.8	C38-15.62	825.6	12	0.273	$ 12,999	$ 9,879	$ 3,120
C0038 - 1846	1988		1988	Steel Beam	31	34	27.5	C38-18.46	935	26	0.656	$ 38,972	$ 18,707	$ 20,265
C0038 - 1876	2002		2002	Prestressed Concrete Box Beam	28	32	30	C38-18.76	960	40	1.000	$ 28,959	$ 5,792	$ 23,167
C0038 - 2033	2002		2002	3 or 4 Sided Concrete Box	14	16	60	C38-20.33	960	40	1.000	$ 35,319	$ 7,064	$ 28,256
C0038 - 2098	2002		2002	3 or 4 Sided Concrete Box	20	22	30	C38-20.98	660	40	1.000	$ 30,164	$ 6,033	$ 24,131
C0041 - 0112	2000		2000	3 or 4 Sided Concrete Box	12	14	42	C41-1.12	588	38	0.955	$ 24,152	$ 5,797	$ 18,356
C0041 - 0150	1948	2004	1948	Steel Beam	17	21	19.5	C41-1.50	409.5	0	0.578	$ 14,987	$ 14,987	$ -
C0042 - 0151	1937		1937	Concrete Slab	16	19	23.2	C42-1.51	440.8	0	0.080	$ 2,413	$ 2,413	$ -
C0042 - 0251	2005		2005	3 or 4 Sided Concrete Box	18	20	72	C42-2.51	1440	43	1.074	$ 68,215	$ 9,550	$ 58,665
C0042 - 0269	1936	1949	1936	Steel Girder	81	85	26	C42-2.69	2210	0	0.132	$ 22,813	$ 22,813	$ -
C0043 - 0289	1962		1962	Prestressed Concrete Box Beam	55	59	26	C43-2.89	1534	0	0.168	$ 14,863	$ 14,863	$ -

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C0043 - 0382	1977		1977	Steel Truss	65	69	26.5	C43-3.82	1828.5	15	0.336	$ 51,048	$ 35,734	$ 15,314
C0043 - 0623	1974		1974	Prestressed Concrete Box Beam	26	28	25.5	C43-6.23	714	12	0.273	$ 11,242	$ 8,544	$ 2,698
C0043 - 0728	1981		1981	Steel Truss	57	61	26.5	C43-7.28	1616.5	19	0.504	$ 67,694	$ 41,970	$ 25,724
C0043 - 0969	2000		2000	Prestressed Concrete Box Beam	60	66	30	C43-9.69	1980	38	0.955	$ 65,993	$ 15,838	$ 50,154
C0043 - 1302	1980		1980	Prestressed Concrete Culvert	12	14	20	C43-13.02	280	18	0.457	$ 7,505	$ 4,803	$ 2,702
C0043 - 1443	1974		1974	Steel Culvert	10	11	20	C43-14.43	220	12	0.273	$ 3,229	$ 2,454	$ 775
C0044 - 0343	2001		2001	3 or 4 Sided Concrete Box	16	18	72	C44-3.43	1296	39	0.982	$ 58,800	$ 12,936	$ 45,864
C0045 - 0080	1987		1987	Prestressed Concrete Box Beam	36	38	26	C45-0.80	988	25	0.630	$ 35,898	$ 17,949	$ 17,949
C0046 - 0001	1994		1994	3 or 4 Sided Concrete Box	16	18	44	C46-0.01	792	32	0.822	$ 28,001	$ 10,080	$ 17,921
C0046 - 0187	1979		1979	Steel Beam	29	33	26.8	C46-1.87	884.4	17	0.403	$ 22,646	$ 14,946	$ 7,700
C0046 - 0327	1997		1997	Prestressed Concrete Box Beam	38	40	28	C46-3.27	1120	35	0.890	$ 57,489	$ 17,247	$ 40,242
C0046 - 0494	1950		1950	Concrete Slab	20	23	27.2	C46-4.94	625.6	0	0.134	$ 5,736	$ 5,736	$ -
C0048 - 0002	1928		1928	Steel Beam	15	17	30	C48-0.02	510	0	0.095	$ 3,078	$ 3,078	$ -
C0048 - 0104	1958	1987	1958	Steel Truss	65	68	26.5	C48-1.04	1802	(4)	0.630	$ 94,328	$ 101,874	$ (7,546)
C0048 - 0270	1975		1975	Steel Beam	40	45	25.2	C48-2.70	1134	13	0.298	$ 21,472	$ 15,889	$ 5,583
C0049 - 0076	1964		1964	Steel Beam	40	44	30	C49-0.76	1320	2	0.172	$ 14,426	$ 13,849	$ 577
C0049 - 0151	1964	1985	1964	Steel Truss	66	71	32.5	C49-1.51	2307.5	2	0.597	$ 114,461	$ 109,883	$ 4,578
C0050 - 0248	1974		1974	Prestressed Concrete Box Beam	28	31	26	C50-2.48	806	12	0.273	$ 12,690	$ 9,645	$ 3,046
C0051 - 0153	2000		2000	Prestressed Concrete Box Beam	151	705	32	C51-1.53	22560	38	0.955	$ 3,238,990	$ 777,358	$ 2,461,632
C0052 - 0045	1974		1974	Steel Beam	27	30	34	C52-0.45	1020	12	0.273	$ 17,693	$ 13,447	$ 4,246
C0052 - 0159	1969		1969	Concrete Slab	31	35	26	C52-1.59	910	7	0.204	$ 12,703	$ 10,924	$ 1,778
C0052 - 0243	2004		2004	3 or 4 Sided Concrete Box	24	16	84	C52-2.43	1344	42	1.048	$ 67,374	$ 10,780	$ 56,594
C0056 - 0035	1974		1974	Steel Beam	67	70	26	C56-0.35	1820	12	0.273	$ 31,570	$ 23,993	$ 7,577
C0056 - 0208	1999		1999	3 or 4 Sided Concrete Box	12	14	64	C56-2.08	896	37	0.924	$ 35,609	$ 9,258	$ 26,350
C0056 - 0273	1962		1962	Concrete Culvert	15	15	20	C56-2.73	300	0	0.168	$ 2,217	$ 2,217	$ -
C0058 - 0572	1973		1973	Prestressed Concrete Box Beam	16	22	21	C58-5.72	462	11	0.246	$ 6,555	$ 5,113	$ 1,442
C0058 - 0652	1954		1954	Concrete Slab	16	19	22	C58-6.52	418	0	0.149	$ 4,262	$ 4,262	$ -
C0058 - 0753	1956		1956	Concrete Culvert	13	13	20	C58-7.53	260	(6)	0.149	$ 1,704	$ 1,909	$ (204)
C0058 - 0873	1987		1987	Prestressed Concrete Box Beam	32	37	26	C58-8.73	962	25	0.630	$ 34,954	$ 17,477	$ 17,477
C0058 - 1130	1998		1998	3 or 4 Sided Concrete Box	12	13	54	C58-11.30	702	36	0.904	$ 27,295	$ 7,643	$ 19,652
C0059 - 0090	1930		1930	Concrete Slab	14	18	22	C59-0.90	396	0	0.093	$ 2,520	$ 2,520	$ -
C0059 - 0145	2003		2003	Prestressed Concrete Box Beam	31	35	28	C59-1.45	980	41	1.023	$ 53,128	$ 9,563	$ 43,565
C0059 - 0387	1934		1934	Concrete Slab	16	20	24	C59-3.87	480	0	0.074	$ 2,430	$ 2,430	$ -
C0059 - 0588	1949		1949	Concrete Slab	10	13	25.1	C59-5.88	326.3	0	0.132	$ 2,947	$ 2,947	$ -
C0060 - 0360	1938		1938	Concrete Arch	51	53	18.2	C60-3.60	964.6	0	0.078	$ 5,148	$ 5,148	$ -
C0060 - 0516	1979		1979	Prestressed Concrete Box Beam	22	25	27	C60-5.16	675	17	0.403	$ 15,689	$ 10,355	$ 5,334
C0061 - 0022	1940	1988	1940	Prestressed Concrete Box Beam	12	16	42	C61-0.22	672	0	0.656	$ 25,424	$ 25,424	$ -
C0061 - 0048	2005		2005	3 or 4 Sided Concrete Box	12	14	60	C61-0.48	840	43	1.074	$ 42,684	$ 5,976	$ 36,708

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C0061 - 0055	1978		1978	Prestressed Concrete Culvert	10	11	20	C61-0.55	220	16	0.362	$ 4,671	$ 3,176	$ 1,495
C0061 - 0230	2005		2005	3 or 4 Sided Concrete Box	12	14	60	C61-2.30	840	43	1.074	$ 39,504	$ 5,531	$ 33,974
C0061 - 0269	2002		2002	3 or 4 Sided Concrete Box	16	18	64	C61-2.69	1152	40	1.000	$ 49,548	$ 9,910	$ 39,639
C0061 - 0302	1955		1955	Steel Beam	59	162	32	C61-3.02	5184	(7)	0.149	$ 49,078	$ 55,949	$ (6,871)
C0062 - 1251	1978		1978	Steel Beam	53	58	25.5	C62-12.51	1479	16	0.362	$ 34,018	$ 23,133	$ 10,886
C0062 - 1293	1995		1995	3 or 4 Sided Concrete Box	12	14	48	C62-12.93	672	33	0.845	$ 24,423	$ 8,304	$ 16,119
C0062 - 1466	1999		1999	3 or 4 Sided Concrete Box	16	18	66	C62-14.66	1188	37	0.924	$ 54,660	$ 14,212	$ 40,449
C0062 - 1871	1992		1992	3 or 4 Sided Concrete Box	10	12	36	C62-18.71	432	30	0.778	$ 14,456	$ 5,782	$ 8,673
C0090 - 0157	1986		1986	Steel Beam	68	210	26	C90-1.57	5460	24	0.608	$ 210,928	$ 109,682	$ 101,245
C0591 - 0482	1980		1980	Prestressed Concrete Culvert	10	11	20	C591-4.82	220	18	0.457	$ 5,897	$ 3,774	$ 2,123
C0591 - 0532	1960		1960	Aluminum Culvert	15	15	20	C591-5.32	300	(2)	0.164	$ 2,164	$ 2,251	$ (87)
C0591 - 0692	1984		1984	Prestressed Concrete Box Beam	21	26	25.5	C591-6.92	663	22	0.576	$ 22,025	$ 12,334	$ 9,691
C0591 - 0935	1966	2001	1966	Prestressed Concrete Box Beam	34	38	27	C591-9.35	1026	4	0.982	$ 58,108	$ 53,459	$ 4,649
C0592 - 0169	1977		1977	Concrete Culvert	10	11	20	C592-1.69	220	15	0.336	$ 3,252	$ 2,276	$ 975
C0592 - 0469	1961		1961	Prestressed Concrete Box Beam	50	54	28	C592-4.69	1512	(1)	0.166	$ 14,476	$ 14,765	$ (290)
C0592 - 0507	1985		1985	Prestressed Concrete Box Beam	46	50	30.2	C592-5.07	1510	23	0.597	$ 51,991	$ 28,075	$ 23,916
C0592 - 0554	1960		1960	Concrete Slab	13	19	27.3	C592-5.54	518.7	(2)	0.164	$ 5,821	$ 6,054	$ (233)
C0592 - 0660	1999		1999	3 or 4 Sided Concrete Box	18	20	66	C592-6.60	1320	37	0.924	$ 60,811	$ 15,811	$ 45,000
C0592 - 0679	1967	1999	1967	Prestressed Concrete Box Beam	21	23	27	C592-6.79	621	5	0.924	$ 33,093	$ 29,784	$ 3,309
C0592 - 0850	1968	1994	1968	Prestressed Concrete Box Beam	29	34	28	C592-8.50	952	6	0.822	$ 24,938	$ 21,945	$ 2,993
C0592 - 1085	1956	2003	1956	Prestressed Concrete Box Beam	37	42	29	C592-10.85	1218	(6)	1.023	$ 51,908	$ 58,137	$ (6,229)
C0592 - 1170	1981		1981	Steel Truss	105	109	26.5	C592-11.70	2888.5	19	0.504	$ 120,961	$ 74,996	$ 45,965
SR012 - 1273	1968		1968				44		10473	6	0.193	$ 286,497	$ 252,118	$ 34,380
SR018 - 1425	1994		1994		250	250	56.6		14488	32	0.822	$ 1,345,100	$ 484,236	$ 860,864
SR018 - 1464	1929		1929				66.8		3671	0	0.095	$ 49,431	$ 49,431	$ -
SR018D - 0025	1996		1996		66	73	56.25		4106.25	34	0.870	$ 401,740	$ 128,557	$ 273,183
SR018D - 0054	1997		1997				56.4		17319	35	0.890	$ 1,908,400	$ 572,520	$ 1,335,880
SR023 - 1036	1956		1956				40.5		603	(6)	0.151	$ 12,906	$ 14,455	$ (1,549)
SR023 - 1092	1956		1956				40.5		732	(6)	0.151	$ 15,667	$ 17,547	$ (1,880)
SR100 - 0983	1997		1997				66.3		18428	35	0.890	$ 2,111,000	$ 633,300	$ 1,477,700
SR224 - 2867	1994		1994				29		291	32	0.822	$ 33,904	$ 12,206	$ 21,699
SR231 - 0750	1967		1967						700	5	0.185	$ 18,355	$ 16,520	$ 1,836
T0008 - 0229	1955		1955	Steel Beam	34	38	24	T8-2.29	912	(7)	0.149	$ 8,634	$ 9,843	$ (1,209)
T0008 - 0824	1945	1983	1945	Steel Beam	21	24	21.8	T8-8.24	523.2	0	0.552	$ 18,350	$ 18,350	$ -
T0008 - 1012	1985		1985	Steel Beam	20	23	20	T8-10.12	460	23	0.597	$ 17,449	$ 9,422	$ 8,027
T0009 - 0063	1984		1984	Steel Beam	40	45	20	T9-0.63	900	22	0.576	$ 32,938	$ 18,446	$ 14,493
T0012 - 0413	1949		1949	Concrete Slab	10	13	22.9	T12-4.13	297.7	0	0.132	$ 2,689	$ 2,689	$ -
T0015 - 0017	1967		1967	Concrete Slab	23	27	26	T15-0.17	702	5	0.185	$ 8,887	$ 7,998	$ 889

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T0015 - 0136	1960	1996	1960	Prestressed Concrete Box Beam	65	70	25.5	T15-1.36	1785	(2)	0.870	$	89,564	$	93,147	$ (3,583)
T0015 - 0171	1965		1965	Concrete Culvert	16	16	20	T15-1.71	320	3	0.175	$	2,463	$	2,316	$ 148
T0017 - 0037	1959	2000	1959	Prestressed Concrete Box Beam	48	53	24	T17-0.37	1272	(3)	0.955	$	70,059	$	74,263	$ (4,204)
T0017 - 0066	2004		2004	Prestressed Concrete Box Beam	24	45	28	T17-0.66	1260	42	1.048	$	63,040	$	10,086	$ 52,954
T0017 - 0166	1948		1948	Steel Culvert	19	20	20	T17-1.66	400	0	0.134	$	2,882	$	2,882	$ -
T0017 - 0175	1948		1948	Steel Culvert	19	20	20	T17-1.75	400	0	0.134	$	2,882	$	2,882	$ -
T0017 - 0182	1985		1985	Steel Truss	89	93	26.5	T17-1.82	2464.5	23	0.597	$	122,249	$	66,015	$ 56,235
T0017 - 0573	1953	1977	1953	Steel Truss	35	39	22.2	T17-5.73	865.8	0	0.336	$	24,171	$	24,171	$ -
T0018 - 0011	1984		1984	Steel Beam	22	25	18	T18-0.11	450	22	0.576	$	16,469	$	9,223	$ 7,246
T0021 - 0179	1926		1926	Concrete Slab	10	12	22	T21-1.79	264	0	0.098	$	1,770	$	1,770	$ -
T0024 - 0063	2005		2005	3 or 4 Sided Concrete Box	12	14	54	T24-0.63	756	43	1.074	$	37,510	$	5,251	$ 32,259
T0024 - 0098	1990		1990	Prestressed Concrete Box Beam	30	32	20	T24-0.98	640	28	0.725	$	26,761	$	11,775	$ 14,986
T0025 - 0388	1946	1981	1946	Steel Beam	15	18	18	T25-3.88	324	0	0.504	$	10,376	$	10,376	$ -
T0025 - 0449	1940	1981	1940	Steel Beam	21	24	17.5	T25-4.49	420	0	0.504	$	13,450	$	13,450	$ -
T0028 - 0121	1966		1966	Steel Beam	60	252	26	T28-1.21	6552	4	0.180	$	74,935	$	68,940	$ 5,995
T0032 - 0096	1978		1978	Steel Beam	58	60	26.8	T32-0.96	1608	16	0.362	$	36,986	$	25,150	$ 11,835
T0032 - 0244	1931		1931	Concrete Slab	15	17	17.5	T32-2.44	297.5	0	0.084	$	1,710	$	1,710	$ -
T0033 - 0216	1987		1987	Steel Beam	25	28	20	T33-2.16	560	25	0.630	$	22,416	$	11,208	$ 11,208
T0035 - 0076	1966		1966	Aluminum Culvert	11	12	20	T35-0.76	240	4	0.180	$	1,900	$	1,748	$ 152
T0035 - 0125	2003		2003	3 or 4 Sided Concrete Box	20	22	60	T35-1.25	1320	41	1.023	$	51,802	$	9,324	$ 42,478
T0036 - 0103	1946	1983	1946	Steel Beam	16	19	20	T36-1.03	380	0	0.552	$	13,328	$	13,328	$ -
T0036 - 0133	1967		1967	Aluminum Culvert	21	21	20	T36-1.33	420	5	0.185	$	3,418	$	3,076	$ 342
T0036 - 0350	1983		1983	Prestressed Concrete Culvert	12	14	20	T36-3.50	280	21	0.552	$	9,065	$	5,258	$ 3,807
T0036 - 0388	1988		1988	Steel Beam	27	30	21.5	T36-3.88	645	26	0.656	$	26,884	$	12,905	$ 13,980
T0036 - 0419	1994		1994	3 or 4 Sided Concrete Box	10	12	42	T36-4.19	504	32	0.822	$	17,819	$	6,415	$ 11,404
T0036 - 0604	1980		1980	Concrete Culvert	11	11	20	T36-6.04	220	18	0.457	$	4,423	$	2,830	$ 1,592
T0036 - 0874	1936		1936	Steel Culvert	80	80	20	T36-8.74	1600	0	0.077	$	6,624	$	6,624	$ -
T0041 - 0141	1966		1966	Concrete Culvert	10	11	20	T41-1.41	220	4	0.180	$	1,742	$	1,603	$ 139
T0041 - 0262	1937		1937	Concrete Slab	10	13	22.3	T41-2.62	289.9	0	0.080	$	1,587	$	1,587	$ -
T0042 - 0254	1952		1952	Concrete Slab	22	23	22.7	T42-2.54	522.1	0	0.147	$	5,252	$	5,252	$ -
T0044 - 0022	2005		2005	3 or 4 Sided Concrete Box	16	18	52	T44-0.22	936	43	1.074	$	48,619	$	6,807	$ 41,813
T0044 - 0047	1985		1985	Steel Beam	15	18	19.5	T44-0.47	351	23	0.597	$	13,314	$	7,190	$ 6,125
T0044 - 0062	2002		2002	3 or 4 Sided Concrete Box	14	16	48	T44-0.62	768	40	1.000	$	33,032	$	6,606	$ 26,426
T0044 - 0525	2002		2002	3 or 4 Sided Concrete Box	16	18	42	T44-5.25	756	40	1.000	$	36,099	$	7,220	$ 28,879
T0044 - 0546	1985	1996	1985	Prestressed Concrete Box Beam	37	40	24.1	T44-5.46	964	23	0.870	$	31,605	$	17,067	$ 14,538
T0044 - 0823	1945		1945	Concrete Slab	10	14	18	T44-8.23	252	0	0.100	$	1,724	$	1,724	$ -
T0044 - 1168	1947		1947	Concrete Slab	12	15	22	T44-11.68	330	0	0.124	$	2,800	$	2,800	$ -
T0044 - 1352	1900	1997	1900	Concrete Beam	20	22	18	T44-13.52	396	0	0.890	$	20,671	$	20,671	$ -

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T0044 - 1408	1970		1970	Steel Culvert	11	12	20	T44-14.08	240	8	0.215	$ 2,774	$ 2,330	$ 444
T0045 - 0123	1988		1988	Timber Slab	27	30	25.3	T45-1.23	759	26	0.656	$ 26,769	$ 12,849	$ 13,920
T0047 - 0056	1940	1986	1940	Steel Truss	49	51	21.6	T47-0.56	1101.6	0	0.608	$ 55,651	$ 55,651	$ -
T0047 - 0172	2002		2002	3 or 4 Sided Concrete Box	14	16	78	T47-1.72	1248	40	1.000	$ 47,093	$ 9,419	$ 37,674
T0056 - 0165	1991		1991	3 or 4 Sided Concrete Box	11	13	42	T56-1.65	546	29	0.755	$ 17,730	$ 7,447	$ 10,284
T0056 - 0534	1998		1998	3 or 4 Sided Concrete Box	14	15	40	T56-5.34	600	36	0.904	$ 23,329	$ 6,532	$ 16,797
T0058 - 0298	1900	1984	1900	Steel Truss	89	93	20.5	T58-2.98	1906.5	0	0.576	$ 91,244	$ 91,244	$ -
T0058 - 0714	1997		1997	Prestressed Concrete Beam	52	150	27.5	T58-7.14	4125	35	0.890	$ 589,990	$ 176,997	$ 412,993
T0058 - 1289	1984		1984	Concrete Culvert	10	11	20	T58-12.89	220	22	0.576	$ 5,574	$ 3,122	$ 2,453
T0058 - 1457	1939	1995	1939	Prestressed Concrete Box Beam	20	24	24	T58-14.57	576	0	0.845	$ 16,236	$ 16,236	$ -
T0059 - 0160	1938	1983	1938	Steel Beam	12	15	16.3	T59-1.60	244.5	0	0.552	$ 8,575	$ 8,575	$ -
T0059 - 0496	1963		1963	Steel Culvert	12	12	20	T59-4.96	240	1	0.170	$ 2,194	$ 2,150	$ 44
T0059 - 0532	1992		1992	3 or 4 Sided Concrete Box	10	12	36	T59-5.32	432	30	0.778	$ 14,456	$ 5,782	$ 8,673
T0059 - 0571	1936	1983	1936	Steel Beam	14	16	20	T59-5.71	320	0	0.552	$ 11,223	$ 11,223	$ -
T0063 - 0423	2005		2005	3 or 4 Sided Concrete Box	20	22	120	T63-4.23	2640		1.074	$ -	$ -	$ -
T0064 - 0252	1995		1995	Prestressed Concrete Box Beam	32	36	28.5	T64-2.52	1026	33	0.845	$ 23,848	$ 8,108	$ 15,740
T0066 - 0217	1983		1983	Steel Beam	35	40	25.5	T66-2.17	1020	21	0.552	$ 35,775	$ 20,749	$ 15,025
T0066 - 0494	2003		2003	3 or 4 Sided Concrete Box	12	14	60	T66-4.94	840	41	1.023	$ 43,872	$ 7,897	$ 35,975
T0071 - 0060	1988		1988	Steel Beam	35	38	19.5	T71-0.60	741	26	0.656	$ 30,886	$ 14,825	$ 16,061
T0071 - 0235	1948		1948	Concrete Slab	12	13	22	T71-2.35	286	0	0.134	$ 2,622	$ 2,622	$ -
T0071 - 0315	1984		1984	Steel Beam	14	17	20	T71-3.15	340	22	0.576	$ 12,443	$ 6,968	$ 5,475
T0071 - 0479	1962		1962	Concrete Culvert	11	11	20	T71-4.79	220	0	0.168	$ 1,626	$ 1,626	$ -
T0071 - 0505	1939		1939	Concrete Slab	11	13	23.5	T71-5.05	305.5	0	0.077	$ 1,610	$ 1,610	$ -
T0072 - 0055	2001		2001	3 or 4 Sided Concrete Box	12	14	60	T72-0.55	840	39	0.982	$ 42,263	$ 9,298	$ 32,965
T0072 - 0218	1992		1992	3 or 4 Sided Concrete Box	18	20	40	T72-2.18	800	30	0.778	$ 26,770	$ 10,708	$ 16,062
T0073 - 0050	2004		2004	Prestressed Concrete Box Beam	39	54	32	T73-0.50	1728	42	1.048	$ 100,714	$ 16,114	$ 84,600
T0075 - 0127	1940		1940	Concrete Slab	10	12	22.5	T75-1.27	270	0	0.078	$ 1,441	$ 1,441	$ -
T0075 - 0266	1950		1950	Concrete Arch	22	32	22	T75-2.66	704	0	0.134	$ 6,455	$ 6,455	$ -
T0076 - 0136	1962	2003	1962	Prestressed Concrete Box Beam	32	34	24	T76-1.36	816	0	1.023	$ 31,426	$ 31,426	$ -
T0076 - 0409	1985		1985	Prestressed Concrete Box Beam	15	18	21.5	T76-4.09	387	23	0.597	$ 13,325	$ 7,195	$ 6,129
T0077 - 0016	1988		1988	Prestressed Concrete Box Beam	43	47	26	T77-0.16	1222	26	0.656	$ 46,233	$ 22,192	$ 24,041
T0077 - 0414	1988		1988	Steel Beam	39	42	25.5	T77-4.14	1071	26	0.656	$ 44,641	$ 21,428	$ 23,213
T0077 - 0572	1943		1943	Concrete Beam	46	96	29	T77-5.72	2784	0	0.096	$ 15,675	$ 15,675	$ -
T0077 - 0873	1969		1969	Steel Beam	20	29	26	T77-8.73	754	7	0.204	$ 9,773	$ 8,405	$ 1,368
T0078 - 0003	1993		1993	3 or 4 Sided Concrete Box	14	15	40	T78-0.03	600	31	0.801	$ 20,671	$ 7,855	$ 12,816
T0078 - 0303	1984		1984	Steel Beam	18	22	18	T78-3.03	396	22	0.576	$ 14,493	$ 8,116	$ 6,377
T0078 - 0424	1993		1993	3 or 4 Sided Concrete Box	18	20	24	T78-4.24	480	31	0.801	$ 16,537	$ 6,284	$ 10,253
T0079 - 0161	1992		1992	3 or 4 Sided Concrete Box	16	18	24	T79-1.61	432	30	0.778	$ 14,456	$ 5,782	$ 8,673

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T0079 - 0361	1988		1988	Prestressed Concrete Box Beam	35	38	20	T79-3.61	760	26	0.656	$ 28,754	$ 13,802	$ 14,952
T0079 - 0488	1988		1988	Steel Truss	79	80	26.6	T79-4.88	2128	26	0.656	$ 115,990	$ 55,675	$ 60,315
T0079 - 1039	1990		1990	Prestressed Concrete Box Beam	16	18	20	T79-10.39	360	28	0.725	$ 15,053	$ 6,623	$ 8,430
T0079 - 1077	2001		2001	Prestressed Concrete Box Beam	46	50	28	T79-10.77	1400	39	0.982	$ 79,290	$ 17,444	$ 61,846
T0080 - 0561	1909		1909	Concrete Slab	26	38	16.1	T80-5.61	611.8	0	0.051	$ 2,135	$ 2,135	$ -
T0081 - 0590	1986		1986	Steel Beam	12	15	20.5	T81-5.90	307.5	24	0.608	$ 11,879	$ 6,177	$ 5,702
T0081 - 0921	2005		2005	3 or 4 Sided Concrete Box	20	22	72	T81-9.21	1584	43	1.074	$ 77,001	$ 10,780	$ 66,221
T0082 - 0112	2001		2001	3 or 4 Sided Concrete Box	12	14	52	T82-1.12	728	39	0.982	$ 30,748	$ 6,765	$ 23,984
T0083 - 0103	1984		1984	Steel Beam	24	27	20	T83-1.03	540	22	0.576	$ 19,763	$ 11,067	$ 8,696
T0083 - 0336	1996		1996	3 or 4 Sided Concrete Box	14	16	56	T83-3.36	896	34	0.870	$ 33,528	$ 10,729	$ 22,799
T0084 - 0212	1968		1968	Steel Culvert	16	16	20	T84-2.12	320	6	0.193	$ 3,320	$ 2,922	$ 398
T0084 - 0275	1987		1987	Prestressed Concrete Box Beam	23	26	25.5	T84-2.75	663	25	0.630	$ 24,090	$ 12,045	$ 12,045
T0084 - 0309	1992		1992	3 or 4 Sided Concrete Box	18	20	40	T84-3.09	800	30	0.778	$ 26,770	$ 10,708	$ 16,062
T0084 - 0543	1994		1994	Prestressed Concrete Box Beam	72	77	24	T84-5.43	1848	32	0.822	$ 62,331	$ 22,439	$ 39,892
T0085 - 0071	1900	1985	1900	Steel Beam	18	20	19	T85-0.71	380	0	0.597	$ 14,414	$ 14,414	$ -
T0086 - 0009	1990		1990	Prestressed Concrete Box Beam	27	30	20	T86-0.09	600	28	0.725	$ 25,088	$ 11,039	$ 14,049
T0086 - 0356	1993		1993	3 or 4 Sided Concrete Box	22	24	30	T86-3.56	720	31	0.801	$ 24,805	$ 9,426	$ 15,379
T0087 - 0146	1989		1989	Prestressed Concrete Box Beam	31	35	20	T87-1.46	700	27	0.688	$ 27,776	$ 12,777	$ 14,999
T0087 - 0167	1938	1996	1938	Prestressed Concrete Box Beam	22	26	25	T87-1.67	650	0	0.870	$ 16,603	$ 16,603	$ -
T0088 - 0001	2004		2004	Prestressed Concrete Box Beam	76	79	30	T88-0.01	2370	42	1.048	$ 372,524	$ 59,604	$ 312,920
T0088 - 0050	1984		1984	Steel Beam	41	44	20	T88-0.50	880	22	0.576	$ 32,206	$ 18,036	$ 14,171
T0088 - 0431	1990		1990	Steel Truss	60	62	26.6	T88-4.31	1649.2	28	0.725	$ 99,347	$ 43,713	$ 55,634
T0090 - 0049	2000		2000	3 or 4 Sided Concrete Box	14	16	60	T90-0.49	960	38	0.955	$ 39,432	$ 9,464	$ 29,969
T0090 - 0260	1998		1998	3 or 4 Sided Concrete Box	14	16	40	T90-2.60	640	36	0.904	$ 33,327	$ 9,332	$ 23,995
T0090 - 0516	1939		1939	Concrete Slab	10	14	18	T90-5.16	252	0	0.077	$ 1,328	$ 1,328	$ -
T0090 - 0554	1989		1989	Steel Truss	107	110	26.6	T90-5.54	2926	27	0.688	$ 167,265	$ 76,942	$ 90,323
T0092 - 0038	1932		1932	Concrete Slab	12	15	22.6	T92-0.38	339	0	0.076	$ 1,763	$ 1,763	$ -
T0094 - 0005	2003		2003	3 or 4 Sided Concrete Box	18	20	60	T94-0.05	1200	41	1.023	$ 31,526	$ 5,675	$ 25,851
T0094 - 0192	1955	2003	1955	Steel Beam	34	36	20.5	T94-1.92	738	(7)	1.023	$ 47,970	$ 54,686	$ (6,716)
T0096 - 0208	1947		1947	Steel Culvert	16	17	20	T96-2.08	340	0	0.124	$ 2,267	$ 2,267	$ -
T0096 - 0325	1992		1992	3 or 4 Sided Concrete Box	10	12	30	T96-3.25	360	30	0.778	$ 12,046	$ 4,819	$ 7,228
T0096 - 0432	1999		1999	Prestressed Concrete Box Beam	36	40	29	T96-4.32	1160	37	0.924	$ 35,700	$ 9,282	$ 26,418
T0096 - 0517	1980		1980	Concrete Culvert	10	11	20	T96-5.17	220	18	0.457	$ 4,423	$ 2,830	$ 1,592
T0096 - 0566	1983		1983	Concrete Culvert	10	11	20	T96-5.66	220	21	0.552	$ 5,342	$ 3,098	$ 2,244
T0096 - 0607	1988		1988	Prestressed Concrete Box Beam	22	25	20	T96-6.07	500	26	0.656	$ 18,917	$ 9,080	$ 9,837
T0098 - 0057	1987		1987	Prestressed Concrete Box Beam	35	38	20	T98-0.57	760	25	0.630	$ 27,614	$ 13,807	$ 13,807
T0098 - 0205	1985		1985	Prestressed Concrete Box Beam	13	16	21	T98-2.05	336	23	0.597	$ 11,569	$ 6,247	$ 5,322
T0098 - 0291	1928		1928	Concrete Arch	22	22	22.5	T98-2.91	495	0	0.095	$ 3,218	$ 3,218	$ -

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T0101 - 0018	1945	1997	1945	Concrete Beam	23	25	21	T101-0.18	525	0	0.890	$ 27,405	$ 27,405	$ -
T0101 - 0043	1994		1994	3 or 4 Sided Concrete Box	20	22	56	T101-0.43	1232	32	0.822	$ 43,557	$ 15,681	$ 27,877
T0101 - 0224	1989		1989	Prestressed Concrete Box Beam	32	35	20	T101-2.24	700	27	0.688	$ 26,363	$ 12,127	$ 14,236
T0101 - 0418	1982		1982	Steel Beam	29	34	20.3	T101-4.18	690.2	20	0.535	$ 23,462	$ 14,077	$ 9,385
T0101 - 0666	1933		1933	Concrete Slab	20	22	23.5	T101-6.66	517	0	0.072	$ 2,547	$ 2,547	$ -
T0101 - 0996	1975		1975	Steel Beam	50	53	26	T101-9.96	1378	13	0.298	$ 26,092	$ 19,308	$ 6,784
T0101 - 1017	1995		1995	3 or 4 Sided Concrete Box	14	16	48	T101-10.17	768	33	0.845	$ 27,912	$ 9,490	$ 18,422
T0102 - 0078	1973		1973	Steel Beam	36	39	22	T102-0.78	858	11	0.246	$ 13,411	$ 10,461	$ 2,950
T0102 - 0220	1985		1985	Prestressed Concrete Box Beam	21	24	21.5	T102-2.20	516	23	0.597	$ 17,766	$ 9,594	$ 8,173
T0103 - 0020	1986		1986	Steel Beam	26	30	21.5	T103-0.20	645	24	0.608	$ 24,917	$ 12,957	$ 11,960
T0103 - 0074	1993		1993	Prestressed Concrete Box Beam	61	66	24	T103-0.74	1584	31	0.801	$ 47,631	$ 18,100	$ 29,531
T0103 - 0111	1968		1968	Steel Culvert	15	15	20	T103-1.11	300	6	0.193	$ 3,113	$ 2,739	$ 374
T0104 - 0461	1986		1986	Concrete Culvert	10	11	20	T104-4.61	220	24	0.608	$ 5,884	$ 3,060	$ 2,824
T0106 - 0032	1997		1997	Prestressed Concrete Box Beam	46	48	28	T106-0.32	1344	35	0.890	$ 44,625	$ 13,388	$ 31,238
T0106 - 0181	1988		1988	Prestressed Concrete Box Beam	17	20	20	T106-1.81	400	26	0.656	$ 15,134	$ 7,264	$ 7,869
T0106 - 0681	1961		1961	Concrete Slab	18	20	22	T106-6.81	440	(1)	0.166	$ 4,998	$ 5,098	$ (100)
T0108 - 0122	1999		1999	3 or 4 Sided Concrete Box	12	14	48	T108-1.22	672	37	0.924	$ 26,707	$ 6,944	$ 19,763
T0108 - 0163	1990		1990	Prestressed Concrete Box Beam	29	31	24	T108-1.63	744	28	0.725	$ 31,109	$ 13,688	$ 17,421
T0108 - 0313	1939		1939	Concrete Slab	14	18	18.1	T108-3.13	325.8	0	0.077	$ 1,717	$ 1,717	$ -
T0109 - 0217	1963		1963	Concrete Slab	30	33	19.9	T109-2.17	656.7	1	0.170	$ 7,639	$ 7,486	$ 153
T0109 - 0332	1915	1987	1915	Steel Truss	51	55	20.8	T109-3.32	1144	0	0.630	$ 59,884	$ 59,884	$ -
T0109 - 0529	1989		1989	Prestressed Concrete Box Beam	22	25	20	T109-5.29	500	27	0.688	$ 19,840	$ 9,126	$ 10,713
T0110 - 0081	2001		2001	3 or 4 Sided Concrete Box	20	22	60	T110-0.81	1320	39	0.982	$ 61,294	$ 13,485	$ 47,809
T0110 - 0129	1987		1987	Steel Beam	29	32	20	T110-1.29	640	25	0.630	$ 25,619	$ 12,809	$ 12,809
T0112 - 0115	2004		2004	3 or 4 Sided Concrete Box	18	11	60	T112-1.15	660	42	1.048	$ -	$ -	$ -
T0112 - 0161	1958		1958	Concrete Slab	25	27	26	T112-1.61	702	(4)	0.160	$ 7,686	$ 8,300	$ (615)
T0112 - 0274	1940	1983	1940	Steel Beam	19	21	20	T112-2.74	420	0	0.552	$ 14,731	$ 14,731	$ -
T0112 - 0405	1997		1997	3 or 4 Sided Concrete Box	15	16	25	T112-4.05	400	35	0.890	$ 15,312	$ 4,594	$ 10,718
T0112 - 0431	1990		1990	Prestressed Concrete Box Beam	20	22	20	T112-4.31	440	28	0.725	$ 18,398	$ 8,095	$ 10,303
T0112 - 0504	1937		1937	Steel Culvert	14	14	20	T112-5.04	280	0	0.080	$ 1,204	$ 1,204	$ -
T0112 - 0624	1984		1984	Steel Beam	47	50	25.5	T112-6.24	1275	22	0.576	$ 46,663	$ 26,131	$ 20,532
T0112 - 0664	1968		1968	Concrete Slab	34	38	32	T112-6.64	1216	6	0.193	$ 16,059	$ 14,132	$ 1,927
T0112 - 0841	1925	1987	1925	Steel Truss	30	34	22	T112-8.41	748	0	0.630	$ 39,155	$ 39,155	$ -
T0113 - 0121	1943		1943	Concrete Slab	11	14	20.1	T113-1.21	281.4	0	0.096	$ 1,848	$ 1,848	$ -
T0113 - 0130	1985	1997	1985	Concrete Box Beam	11	13	24	T113-1.30	312	23	0.890	$ 16,286	$ 8,795	$ 7,492
T0113 - 0437	1996		1996	Prestressed Concrete Box Beam	44	48	28	T113-4.37	1344	34	0.870	$ 44,664	$ 14,293	$ 30,372
T0114 - 0075	1982		1982	Prestressed Concrete Culvert	10	11	20	T114-0.75	220	20	0.535	$ 6,903	$ 4,142	$ 2,761
T0116 - 0159	1928	1984	1928	Steel Truss	43	48	17.8	T116-1.59	854.4	0	0.576	$ 40,891	$ 40,891	$ -

2012 Seneca County Bridge Inventory										(year) 2012			1.074 (current year CPI)		
COID	Year Built	Year Rehab	Depreciation Year	Structure Type	Span	Overall Length	Deck Width	LABEL	SQ FT	50 YR USEFUL LIFE	CPI	BASE COST (Cost at Installation)	Cumulative Depreciation (Through 2012)	Book Value 2012
T0119 - 0013	1935		1935	Steel Culvert	22	22	20	T119-0.13	440	0	0.076	$ 1,798	$ 1,798	$ -
T0119 - 0077	1967		1967	Prestressed Concrete Box Beam	36	40	24.6	T119-0.77	984	5	0.185	$ 10,499	$ 9,449	$ 1,050
T0120 - 0095	1973		1973	Steel Beam	39	42	26	T120-0.95	1092	11	0.246	$ 17,069	$ 13,313	$ 3,755
T0122 - 0568	1993		1993	Prestressed Concrete Box Beam	65	67	24	T122-5.68	1608	31	0.801	$ 74,284	$ 28,228	$ 46,056
T0122 - 0658	1972		1972	Steel Culvert	12	12	20	T122-6.58	240	10	0.232	$ 2,994	$ 2,395	$ 599
T0122 - 0862	2004		2004	3 or 4 Sided Concrete Box	19	18	60	T122-8.62	1080	42	1.048	$ 55,225	$ 8,836	$ 46,389
T0122 - 1336	2004		2004	66" Culvert	12	5.5	64	T122-13.36	352	42	1.048	$ -	$ -	$ -
T0122 - 1625	2004		2004	3 or 4 Sided Concrete Box	10	10	48	T122-16.25	480	42	1.048	$ -	$ -	$ -
T0123 - 0080	1900	1982	1900	Steel Truss	56	60	16.2	T123-0.80	972	0	0.535	$ 43,208	$ 43,208	$ -
T0124 - 0026	1987		1987	Prestressed Concrete Box Beam	14	19	20	T124-0.26	380	25	0.630	$ 13,807	$ 6,904	$ 6,904
T0124 - 0277	1998		1998	3 or 4 Sided Concrete Box	12	14	42	T124-2.77	588	36	0.904	$ 22,862	$ 6,401	$ 16,461
T0124 - 0313	2004		2004	3 or 4 Sided Concrete Box	18	20	60	T124-3.13	1200	42	1.048	$ 46,626	$ 7,460	$ 39,166
T0124 - 0485	1937		1937	Steel Culvert	16	16	20	T124-4.85	320	0	0.080	$ 1,376	$ 1,376	$ -
T0124 - 0666	1939		1939	Concrete Slab	13	16	24	T124-6.66	384	0	0.077	$ 2,023	$ 2,023	$ -
T0124 - 0819	1945		1945	Concrete Slab	12	15	19	T124-8.19	285	0	0.100	$ 1,950	$ 1,950	$ -
T0126 - 0063	2004		2004	3 or 4 Sided Concrete Box	10	11	60	T126-0.63	660	42	1.048	$ -	$ -	$ -
T0126 - 0185	2005		2005	Prestressed Concrete Box Beam	27	30	28	T126-1.85	840	43	1.074	$ 75,059	$ 10,508	$ 64,551
T0126 - 0256	1919		1919	Concrete Slab	10	23	27.5	T126-2.56	632.5	0	0.096	$ 4,155	$ 4,155	$ -
T0127 - 0021	1946		1946	Concrete Slab	16	20	22.3	T127-0.21	446	0	0.124	$ 3,784	$ 3,784	$ -
T0130 - 0326	1998		1998	Prestressed Concrete Box Beam	38	40	32.5	T130-3.26	1300	36	0.904	$ 67,778	$ 18,978	$ 48,800
T0131 - 0304	1925		1925	Concrete Arch	12	18	22	T131-3.04	396	0	0.097	$ 2,628	$ 2,628	$ -
T0132 - 0083	1997		1997	Prestressed Concrete Box Beam	58	60	28	T132-0.83	1680	35	0.890	$ 86,233	$ 25,870	$ 60,363
T0132 - 0328	1928		1928	Concrete Arch	22	24	24	T132-3.28	576	0	0.095	$ 3,744	$ 3,744	$ -
T0132 - 0838	1947	1983	1947	Steel Beam	30	34	20	T132-8.38	680	0	0.552	$ 23,850	$ 23,850	$ -
T0132 - 0841	1983		1983	Steel Beam	33	39	20	T132-8.41	780	21	0.552	$ 27,357	$ 15,867	$ 11,490
T0135 - 0121	1914		1914	Concrete Slab	10	14	21.5	T135-1.21	301	0	0.056	$ 1,153	$ 1,153	$ -
T0136 - 0037	1900	1985	1900	Steel Beam	20	23	19.5	T136-0.37	448.5	0	0.597	$ 17,013	$ 17,013	$ -
T0136 - 0253	2001		2001	3 or 4 Sided Concrete Box	20	22	60	T136-2.53	1320	39	0.982	$ 64,444	$ 14,178	$ 50,266
T0137 - 0072	2003		2003	3 or 4 Sided Concrete Box	8	9.33	60	T137-0.72	559.8	41	1.023	$ -	$ -	$ -
T0138 - 0076	1983		1983	Steel Beam	28	34	20	T138-0.76	680	21	0.552	$ 23,850	$ 13,833	$ 10,017
T0138 - 0572	2005		2005	Prestressed Concrete Box Beam	34	37	28	T138-5.72	1036	43	1.074	$ 86,115	$ 12,056	$ 74,059
T0138 - 0720	1943		1943	Concrete Arch	22	22	22.1	T138-7.20	486.2	0	0.096	$ 3,194	$ 3,194	$ -
T0142 - 0131	2003		2003	3 or 4 Sided Concrete Box	20	22	60	T142-1.31	1320	41	1.023	$ 52,239	$ 9,403	$ 42,836
T0143 - 0018	1914	1984	1914	Steel Truss	198	204	19.9	T143-0.18	4059.6	0	0.576	$ 194,289	$ 194,289	$ -
T0148 - 0102	1986		1986	Prestressed Concrete Box Beam	35	37	21	T148-1.02	777	24	0.608	$ 27,246	$ 14,168	$ 13,078
T0148 - 0318	1971		1971	Steel Culvert	10	10	20	T148-3.18	200	9	0.225	$ 2,419	$ 1,984	$ 435
T0148 - 0482	1984		1984	Steel Beam	23	27	20	T148-4.82	540	22	0.576	$ 19,763	$ 11,067	$ 8,696
T0148 - 0723	1988		1988	Prestressed Concrete Box Beam	22	25	22	T148-7.23	550	26	0.656	$ 20,809	$ 9,988	$ 10,820

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T0149 - 0102	2002		2002	3 or 4 Sided Concrete Box	12	14	60	T149-1.02	840	40	1.000	$ 32,796	$ 6,559	$ 26,237
T0150 - 0317	1993		1993	Concrete Slab	36	97	28	T150-3.17	2716	31	0.801	$ 148,862	$ 56,568	$ 92,295
T0151 - 0106	2000		2000	3 or 4 Sided Concrete Box	16	18	66	T151-1.06	1188	38	0.955	$ 48,797	$ 11,711	$ 37,086
T0151 - 0233	1945	1986	1945	Steel Beam	18	21	19.5	T151-2.33	409.5	0	0.608	$ 15,820	$ 15,820	$ -
T0152 - 0138	2001		2001	3 or 4 Sided Concrete Box	16	18	56	T152-1.38	1008	39	0.982	$ 42,574	$ 9,366	$ 33,208
T0154 - 0039	1943	1983	1943	Steel Beam	32	35	19.5	T154-0.39	682.5	0	0.552	$ 23,938	$ 23,938	$ -
T0156 - 0129	1938		1938	Steel Beam	22	24	17	T156-1.29	408	0	0.078	$ 2,022	$ 2,022	$ -
T0159 - 0095	1988		1988	Prestressed Concrete Box Beam	17	20	22	T159-0.95	440	26	0.656	$ 16,647	$ 7,991	$ 8,656
T0159 - 0505	1988		1988	Steel Truss	50	53	26.6	T159-5.05	1409.8	26	0.656	$ 76,843	$ 36,885	$ 39,958
T0159 - 0627	2001		2001	3 or 4 Sided Concrete Box	12	14	48	T159-6.27	672	39	0.982	$ 28,383	$ 6,244	$ 22,139
T0159 - 0685	1969		1969	Concrete Slab	12	14	30	T159-6.85	420	7	0.204	$ 5,863	$ 5,042	$ 821
T0159 - 0796	1987		1987	Prestressed Concrete Box Beam	25	30	20	T159-7.96	600	25	0.630	$ 21,801	$ 10,900	$ 10,900
T0163 - 0256	1950		1950	Concrete Slab	10	18	18	T163-2.56	324	0	0.134	$ 2,971	$ 2,971	$ -
T0165 - 0182	1919	1983	1919	Steel Truss	36	40	16.5	T165-1.82	660	0	0.552	$ 30,271	$ 30,271	$ -
T0165 - 0338	2005		2005	Prestressed Concrete Box Beam	49	52	32	T165-3.38	1664	43	1.074	$ 110,949	$ 15,533	$ 95,416
T0165 - 0484	2004		2004	3 or 4 Sided Concrete Box	14	18	78	T165-4.84	1404	42	1.048	$ 67,285	$ 10,766	$ 56,519
T0165 - 0498	1900	1994	1900	Prestressed Concrete Box Beam	37	41	24	T165-4.98	984	0	0.822	$ 25,856	$ 25,856	$ -
T0167 - 0043	1982		1982	Steel Beam	27	32	20	T167-0.43	640	20	0.535	$ 21,756	$ 13,053	$ 8,702
T0169 - 0071	1900	1982	1900	Steel Beam	30	34	18.2	T169-0.71	618.8	0	0.535	$ 21,035	$ 21,035	$ -
T0169 - 0561	1985		1985	Steel Truss	78	81	26.5	T169-5.61	2146.5	23	0.597	$ 106,475	$ 57,497	$ 48,979
T0172 - 0064	1943		1943	Concrete Slab	10	13	20	T172-0.64	260	0	0.096	$ 1,708	$ 1,708	$ -
T0172 - 0174	1967		1967	Concrete Slab	18	21	26	T172-1.74	546	5	0.185	$ 6,912	$ 6,221	$ 691
T0172 - 0251	1950		1950	Concrete Culvert	11	11	20	T172-2.51	220	0	0.134	$ 1,297	$ 1,297	$ -
T0173 - 0068	1988		1988	Steel Truss	44	55	26.5	T173-0.68	1457.5	26	0.656	$ 79,443	$ 38,133	$ 41,310
T0173 - 0166	1942		1942	Concrete Slab	14	18	24.5	T173-1.66	441	0	0.090	$ 2,716	$ 2,716	$ -
T0173 - 0260	1986		1986	Steel Truss	99	101	26.5	T173-2.60	2676.5	24	0.608	$ 135,212	$ 70,310	$ 64,902
T0174 - 0076	1958		1958	Concrete Culvert	11	11	20	T174-0.76	220	(4)	0.160	$ 1,548	$ 1,672	$ (124)
T0175 - 0091	1998		1998	3 or 4 Sided Concrete Box	16	18	60	T175-0.91	1080	36	0.904	$ 41,992	$ 11,758	$ 30,234
T0175 - 0128	1985		1985	Timber Slab	19	39	21.3	T175-1.28	830.7	23	0.597	$ 26,663	$ 14,398	$ 12,265
T0175 - 0298	2005		2005	3 or 4 Sided Concrete Box	18	20	54	T175-2.98	1080	43	1.074	$ 49,856	$ 6,980	$ 42,876
T0175 - 0362	1955		1955	Concrete Slab	14	17	22	T175-3.62	374	(7)	0.149	$ 3,813	$ 4,347	$ (534)
T0178 - 0416	2003		2003	Prestressed Concrete Box Beam	46	50	28	T178-4.16	1400	41	1.023	$ 66,656	$ 11,998	$ 54,658
T0179 - 0165	1990		1990	Steel Beam	44	45	24	T179-1.65	1080	28	0.725	$ 49,751	$ 21,890	$ 27,860
T0179 - 0358	1983		1983	Steel Beam	18	21	20.5	T179-3.58	430.5	21	0.552	$ 15,099	$ 8,757	$ 6,342
T0179 - 0561	1974		1974	Prestressed Concrete Box Beam	28	33	25	T179-5.61	825	12	0.273	$ 12,990	$ 9,872	$ 3,117
T0181 - 0087	1989		1989	Steel Truss	57	60	26.5	T181-0.87	1590	27	0.688	$ 90,893	$ 41,811	$ 49,082
T0181 - 0191	2003		2003	3 or 4 Sided Concrete Box	8	9.33	60	T181-1.91	559.8	41	1.023	$ -	$ -	$ -
T0181 - 0666	2000		2000	3 or 4 Sided Concrete Box	20	23	60	T181-6.66	1380	38	0.955	$ 70,337	$ 16,881	$ 53,456

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T0181 - 0720	1988		1988	Timber Culvert	10	11	20	T181-7.20	220	26	0.656	$ 7,054	$ 3,386	$ 3,668
T0181 - 0762	2004		2004	3 or 4 Sided Concrete Box	14	14	78	T181-7.62	1092	42	1.048	$ 41,450	$ 6,632	$ 34,818
T0183 - 0017	1965		1965	Steel Beam	27	29	26	T183-0.17	754	3	0.175	$ 8,384	$ 7,881	$ 503
T0183 - 0347	1948	1988	1948	Steel Beam	16	20	19.5	T183-3.47	390	0	0.656	$ 16,256	$ 16,256	$ -
T0185 - 0072	1926		1926	Concrete Arch	20	23	22	T185-0.72	506	0	0.098	$ 3,393	$ 3,393	$ -
T0187 - 0203	2004		2004	3 or 4 Sided Concrete Box	16	18	72	T187-2.03	1296	42	1.048	$ 54,185	$ 8,670	$ 45,516
T0189 - 0071	1946		1946	Concrete Slab	14	17	24	T189-0.71	408	0	0.108	$ 3,015	$ 3,015	$ -
T0189 - 0153	1968		1968	Steel Culvert	13	13	20	T189-1.53	260	6	0.193	$ 2,698	$ 2,374	$ 324
T0191 - 0131	1984		1984	Steel Beam	14	17	20	T191-1.31	340	22	0.576	$ 12,443	$ 6,968	$ 5,475
T0191 - 0278	1972		1972	Steel Culvert	10	11	20	T191-2.78	220	10	0.232	$ 2,744	$ 2,195	$ 549
T0194 - 0083	1918	1984	1918	Steel Beam	24	27	20	T194-0.83	540	0	0.576	$ 19,763	$ 19,763	$ -
T0194 - 0099	1980		1980	Concrete Culvert	14	15	20	T194-0.99	300	18	0.457	$ 6,031	$ 3,860	$ 2,171
T0195 - 0090	2004		2004	3 or 4 Sided Concrete Box	20	22	60	T195-0.90	1320	42	1.048	$ 57,317	$ 9,171	$ 48,147
T0195 - 0143	1955		1955	Steel Truss	35	39	27.5	T195-1.43	1072.5	(7)	0.149	$ 13,278	$ 15,137	$ (1,859)
T0196 - 0089	1992		1992	3 or 4 Sided Concrete Box	12	14	36	T196-0.89	504	30	0.778	$ 16,865	$ 6,746	$ 10,119
T0197 - 0212	1928		1928	Steel Beam	25	29	30	T197-2.12	870	0	0.095	$ 5,251	$ 5,251	$ -
T0197 - 0405	1984	2001	1984	Steel Beam	21	24	20	T197-4.05	480	22	0.982	$ 29,950	$ 16,772	$ 13,178
T0197 - 0461	1984		1984	Steel Beam	42	45	20.1	T197-4.61	904.5	22	0.576	$ 33,103	$ 18,538	$ 14,565
T0201 - 0084	1958	1986	1958	Steel Truss	73	75	26.5	T201-0.84	1987.5	(4)	0.608	$ 100,405	$ 108,437	$ (8,032)
T072A - 0051	1924		1924	Concrete Slab	13	15	24.5	T72A-0.51	367.5	0	0.095	$ 2,389	$ 2,389	$ -
												TOTAL	TOTAL	TOTAL
												$ 25,365,777	$ 10,635,119	$ 14,730,658
							Don't change-used by Rod to determine Base Cost=					1.023	cpi rod used to calc base cost at install	

2012 Seneca County Culvert Inventory						
County ID	Culvert Type 2012	Size (in) 2005	Pipe Length (ft) 2005	2012 Book Value (All)	2012 Book Value	2012 Total Cost > $10K
CR 005 - 0.505	Reinforced Concrete Round	60	80	$ (1,566)	$ -	$ -
CR 005 - 1.389	Corrugated Metal Arch	111 X 81	60	$ 34,179	$ 34,179	$ 34,179
CR 005 - 5.318	Concrete Box	108 X 60	56	$ 27,942	$ 27,942	$ 27,942
CR 005 - 8.625	Reinforced Concrete Elliptical	83 X 53	70	$ (1,150)	$ -	$ -
CR 006 - 04.844	Corrugated Metal Pipe	64	48	$ 10,135	$ 10,135	$ 10,135
CR 006 - 06.362	Concrete Box	66 X 10	65	$ 13,839	$ 13,839	$ 13,839
CR 006 - 07.742	Reinforced Concrete Elliptical	76 X 48	44	$ 934	$ 934	$ -
CR 006 - 07.899	Reinforced Concrete Elliptical	68 X 43	44	$ 835	$ 835	$ -
CR 006 - 12.804	Reinforced Concrete Round	72	54	$ 11,402	$ 11,402	$ 11,402
CR 006 - 16.948	Concrete Box	96 X 48	48	$ 15,770	$ 15,770	$ 15,770
CR 006 - 17.413	Concrete Box	96 X 36	48	$ 11,598	$ 11,598	$ 11,598
CR 006 - 22.334	Reinforced Concrete Elliptical	106 X 68	48	$ 3,712	$ 3,712	$ 3,712
CR 006 - 23.444	Reinforced Concrete Round	60	64	$ 4,713	$ 4,713	$ -
CR 006 - 26.535	Reinforced Concrete Elliptical	60 X 38	36	$ 7,126	$ 7,126	$ -
CR 007 - 1.048	Vitrified Clay Tile Round	60 X 38	28	$ (424)	$ -	$ -
CR 011 - 0.414	Reinforced Concrete Elliptical	76 X 48	64	$ 16,047	$ 16,047	$ 16,047
CR 011 - 04.04	Concrete Box	96 X 48	78	$ 34,080	$ 34,080	$ 34,080
CR 011 - 1.675	Concrete Box	96 X 36	80	$ 20,348	$ 20,348	$ 20,348
CR 012 - 04.029	Concrete Box	96 X 60	60	$ 13,635	$ 13,635	$ 13,635
CR 012 - 05.658	Corrugated Metal Pipe	96	65	$ 20,587	$ 20,587	$ 20,587
CR 012 - 10.763	Reinforced Concrete Round	72	32	$ 1,105	$ 1,105	$ -
CR 015 - 2.706	Reinforced Concrete Round	54	84	$ 13,331	$ 13,331	$ 13,331
CR 015 - 5.146	Concrete Box	72 X 48	28	$ 6,503	$ 6,503	$ -
CR 015 - 5.298	Reinforced Concrete Round	60	66	$ 289	$ 289	$ -
CR 015 - 6.178	Reinforced Concrete Elliptical	68 X 43	48	$ (1,189)	$ -	$ -
CR 015 - 7.292	Corrugated Metal Arch	72 X 42	110	$ (411)	$ -	$ -
CR 016 - 3.078	Concrete Box	96 X 48	90	$ 11,792	$ 11,792	$ 11,792
CR 016 - 5.852	Reinforced Concrete Round	60	64	$ 9,249	$ 9,249	$ 9,249
CR 016 - 6.026	Concrete Box	108 X 60	29	$ 10,103	$ 10,103	$ 10,103
CR 016 - 7.750	Concrete Box	96 X 72	66	$ 17,608	$ 17,608	$ 17,608
CR 018 - 1.124	Reinforced Concrete Round	60	64	$ 132	$ 132	$ -
CR 018 - 4.882	Concrete Box	96 X 48	60	$ 9,173	$ 9,173	$ 9,173
CR 018 - 5.180	Reinforced Concrete Elliptical	83 X 53	42	$ 973	$ 973	$ -
CR 021 - 4.263	Reinforced Concrete Elliptical	83 X 53	72	$ 16,193	$ 16,193	$ 16,193
CR 023 - 3.139	Reinforced Concrete Round	72	30	$ 2,828	$ 2,828	$ -
CR 023 - 4.700	Reinforced Concrete Round	72	24	$ 2,828	$ 2,828	$ -
CR 023 - 8.290	Concrete Box	96 X 48	54	$ 13,735	$ 13,735	$ 13,735
CR 024 - 0.165	Reinforced Concrete Elliptical	83 X 53	40	$ 5,959	$ 5,959	$ -
CR 025 - 6.282	Concrete Slab	60 X 43	30	$ 1,511	$ 1,511	$ -
CR 027 - 3.975	Corrugated Metal Elliptical	65 X 40	29	$ 1,017	$ 1,017	$ -
CR 028 - 4.535	Reinforced Concrete Elliptical	76 X 48	54	$ 6,632	$ 6,632	$ 6,632
CR 029 - 0.539	Corrugated Metal Elliptical	84 X 48	48	$ (530)	$ -	$ -
CR 030 - 0.152	Concrete Box	96 X 60	48	$ 11,960	$ 11,960	$ 11,960
CR 030 - 2.737	Corrugated Metal Plate Arch	72	40	$ 12,669	$ 12,669	$ 12,669
CR 031 - 0.439	Corrugated Metal Elliptical	64 X 40	31	$ 1,071	$ 1,071	$ -
CR 031 - 1.994	Reinforced Concrete Elliptical	66 X 44	37	$ 8,056	$ 8,056	$ -
CR 032 - 2.996	Reinforced Concrete Elliptical	76 X 48	54	$ 5,391	$ 5,391	$ -
CR 034 - 04.481	Reinforced Concrete Round	60	48	$ 7,468	$ 7,468	$ -
CR 035 - 2.365	Reinforced Concrete Elliptical	76 X 48	54	$ 5,880	$ 5,880	$ -
CR 035 - 2.879	Reinforced Concrete Elliptical	60 X 38	40	$ 2,946	$ 2,946	$ -
CR 036 - 7.673	Reinforced Concrete Round	60	42	$ 1,209	$ 1,209	$ -
CR 036 - 8.092	Reinforced Concrete Round	60	24	$ (465)	$ -	$ -

2012 Seneca County Culvert Inventory						
County ID	Culvert Type 2012	Size (in) 2005	Pipe Length (ft) 2005	2012 Book Value (All)	2012 Book Value	2012 Total Cost > $10K
CR 038 - 08.374	Reinforced Concrete Elliptical	76 X 48	50	$ 12,537	$ 12,537	$ 12,537
CR 038 - 14.970	Reinforced Concrete Elliptical	76 X 48	42	$ 13,092	$ 13,092	$ 13,092
CR 038 - 17.557	Reinforced Concrete Round	72	29	$ 6,123	$ 6,123	$ -
CR 043 - 0.157	Reinforced Concrete Elliptical	76 X 48	48	$ 12,092	$ 12,092	$ 12,092
CR 043 - 01.713	Stone Arch	90	34	$ (1,701)	$ -	$ -
CR 043 - 03.947	Reinforced Concrete Round	48	72	$ 10,663	$ 10,663	$ 10,663
CR 043 - 05.815	Stone	72	32	$ 1,934	$ 1,934	$ -
CR 043 - 06.050	Reinforced Concrete Elliptical	68 X 44	43	$ (98)	$ -	$ -
CR 043 - 11.425	Reinforced Concrete Elliptical	78 X 48	37	$ 9,521	$ 9,521	$ 9,521
CR 043 - 14.094	Corrugated Metal Pipe	96	43	$ 13,619	$ 13,619	$ 13,619
CR 044 - 0.068	Reinforced Concrete Elliptical	76 X 48	48	$ 11,557	$ 11,557	$ 11,557
CR 044 - 0.611	Reinforced Concrete Elliptical	76 X 48	48	$ 10,801	$ 10,801	$ 10,801
CR 044 - 2.330	Corrugated Metal Pipe	78	30	$ (386)	$ -	$ -
CR 045 - 4.872	Reinforced Concrete Elliptical	68 X 43	24	$ (514)	$ -	$ -
CR 046 - 0.833	Reinforced Concrete Elliptical	76 X 48	66	$ 6,584	$ 6,584	$ -
CR 048 - 3.326	Reinforced Concrete Elliptical	106 X 68	43	$ 898	$ 898	$ -
CR 048 - 3.330	Reinforced Concrete Elliptical	106 X 68	60	$ 20,982	$ 20,982	$ 20,982
CR 051 - 2.724	Concrete Slab	108 X 66	28	$ 15,519	$ 15,519	$ 15,519
CR 056 - 0.140	Corrugated Metal Pipe	78	40	$ (265)	$ -	$ -
CR 056 - 1.643	Concrete Box	96 X 48	60	$ 15,261	$ 15,261	$ 15,261
CR 058 - 06.020	Reinforced Concrete Elliptical	83 X 53	72	$ 7,941	$ 7,941	$ 7,941
CR 058 - 13.740	Reinforced Concrete Elliptical	91 X 58	40	$ 4,284	$ 4,284	$ -
CR 058 - 15.302	Corrugated Metal Elliptical	58 X 36	60	$ (867)	$ -	$ -
CR 059 - 4.148	Concrete Box	96 X 48	56	$ 18,940	$ 18,940	$ 18,940
CR 059 - 4.740	Reinforced Concrete Elliptical	68 X 43	48	$ 13,227	$ 13,227	$ 13,227
CR 059 - 4.963	Concrete Box	96 X 48	48	$ 20,490	$ 20,490	$ 20,490
CR 059 - 5.313	Reinforced Concrete Elliptical	53 X 34	56	$ 10,245	$ 10,245	$ 10,245
CR 059 - 5.463	Reinforced Concrete Elliptical	68 X 43	64	$ 12,542	$ 12,542	$ 12,542
CR 059 - 5.520	Reinforced Concrete Elliptical	45 X 29	56	$ 10,141	$ 10,141	$ 10,141
CR 059 - 5.630	Reinforced Concrete Elliptical	60 X 38	56	$ 10,257	$ 10,257	$ 10,257
CR 060 - 1.201	Concrete Slab	72 X 36	22	$ 8,129	$ 8,129	$ -
CR 060 - 3.125	Reinforced Concrete Elliptical	83 X 53	42	$ 4,632	$ 4,632	$ -
CR 060 - 4.179	Reinforced Concrete Elliptical	76 X 48	84	$ 21,062	$ 21,062	$ 21,062
CR 060 - 4.436	Reinforced Concrete Elliptical	60 X 38	48	$ 10,086	$ 10,086	$ 10,086
CR 061 - 1.079	Corrugated Metal Arch	114 X 78	28	$ 16,381	$ 16,381	$ 16,381
CR 061 - 1.717	Concrete Box	70 X 54	50	$ 11,290	$ 11,290	$ 11,290
CR 062 - 14.957	Reinforced Concrete Elliptical	96 X 72	22	$ 1,140	$ 1,140	$ -
CR 062 - 17.217	Concrete Box	96 X 48	48	$ 16,403	$ 16,403	$ 16,403
CR 062 - 18.403	Reinforced Concrete Elliptical	83 X 53	24	$ (627)	$ -	$ -
CR 062 - 19.960	Concrete Box	72 X 48	48	$ 14,865	$ 14,865	$ 14,865
CR 062 - 20.541	Concrete Box	72 X 48	48	$ 16,020	$ 16,020	$ 16,020
CR 062 - 20.988	Concrete Box	72 X 48	48	$ 14,906	$ 14,906	$ 14,906
CR 062 - 24.841	Reinforced Concrete Round	84	76	$ (1,706)	$ -	$ -
CR 591 - 02.197	Reinforced Concrete Elliptical	68 X 43	61	$ 5,512	$ 5,512	$ 5,512
CR 591 - 03.142	Reinforced Concrete Elliptical	91 X 58	73	$ 6,922	$ 6,922	$ 6,922
CR 591 - 03.299	Reinforced Concrete Round	72	44	$ 9,290	$ 9,290	$ 9,290
CR 592 - 02.743	Reinforced Concrete Elliptical	76 X 48	105	$ 26,327	$ 26,327	$ 26,327
CR 592 - 02.804	Corrugated Metal Plate Arch	90	40	$ (792)	$ -	$ -
CR 592 - 03.302	Corrugated Metal Plate Arch	90	41	$ (812)	$ -	$ -
CR 592 - 06.072	Corrugated Metal Pipe	60	40	$ (396)	$ -	$ -
				$ 872,809	$ 886,707	$ 784,209

2012 Seneca County Culvert Inventory						
County ID	Culvert Type 2012	Size (in) 2005	Pipe Length (ft) 2005	2012 Book Value (All)	2012 Book Value	2012 Total Cost > $10K
CR 062 - 19.960	Concrete Box	72 X 48	48	$ 1,737	$ 1,737	$ -
CR 062 - 20.541	Reinforced Concrete Elliptical	72 X 48	24	$ 888	$ 888	$ -