

ECONOMIC DEVELOPMENT

Some of the most exciting economic development projects in Licking County are taking place in Etna Township. Its proximity to Columbus as well as Interstate 70 and U.S. Route 40 make it an ideal location for major industries and employers. Included is a brief summary of some of the economic development that has taken place in this community over the past decade.

Etna Corporate Park

Etna Corporate Park has developed rapidly and become home to several new employers while bringing jobs and revenue to the township.

The two main developers of the corporate park have been Southgate Corporation and ProLogis. Both entities have had significant impacts on the success of the park, including Southgate's marketing of their real estate and ProLogis' construction and leasing of three enormous warehouse buildings.



Figure 14: The Etna Corporate Park.



Figure 15: The future Etna Parkway and Jobs Ready Site.

Companies operating in the park range from those that own buildings and properties, such as Too Inc., Ridge Corporation, Joules Angstrom, Best Lighting, Progressive Flooring, Best Supply, and Shank Racing; to those that lease space in the ProLogis buildings, such as Menlo Worldwide Logistics, Speed FC, Jeld-Wen Windows & Doors, Genco Marketplace, and Coty Beauty Inc.

Though the park has been quite successful there is still plenty of room to grow and develop. Southgate Corporation still owns nearly 75 acres of land that could be developed within the park, and ProLogis owns 125 acres within the park and another 87 acres on the south side of U.S. Route 40. In total, ProLogis has plans to construct four more warehouse buildings, in addition to the three existing buildings. On top of this available land there is more than 500 acres north of the corporate park that is zoned Light Manufacturing (M-1) or Manufacturing (M-2) and will be accessible from Refugee Road or the planned extension of Etna Parkway.



Figure 16: The future Etna Parkway and Jobs Ready Site.

After many years of planning and months of delays, construction on the extension of Etna Parkway in Pataskala began in July of 2009. This part of the project includes adding turn lanes on Broad Street, improving Refugee Road where it will intersect with Etna Parkway, laying almost 10,000 feet of 16-inch waterline and actual construction of the new roadway between Broad Street and Refugee Road.

This project was possible because the county was awarded a \$3.4 million grant from the Ohio Department of Development's "Jobs Ready Site" (JRS) program. The total cost of the waterline and roadway extension is estimated at \$5 million. The costs not covered by the grant will initially be provided by Licking County. These funds will be repaid to the county through the use of Tax Increment Financing (TIF) and an income tax which has been enacted through the creation of a Joint Economic Development District (JEDD).

Some of the challenges encountered along the way included the expansion of “high quality” wetlands across the proposed right-of-way. This made the original alignment unusable, according to the Ohio Environmental Protection Agency (OEPA). It took months of new survey work, wetland determinations and negotiations with the OEPA before a solution was reached with the assistance of then Governor Ted Strickland.

During the archeological field review, a large number of flint chips were found near the wetland area along the newly designated right-of-way. This find piqued the interest of the Ohio Historical Society and a “Phase II” environmental analysis needs to be completed.

Phase II of the project, which will finish the road from Refuge Road to the Etna Industrial Park, was bid in April of 2010. Work began that same year. Once Etna Parkway is completed, it will make available some 1,200 acres of land for industrial development. This resource will ultimately provide for the creation of hundreds of jobs and strengthen the local and county tax base.

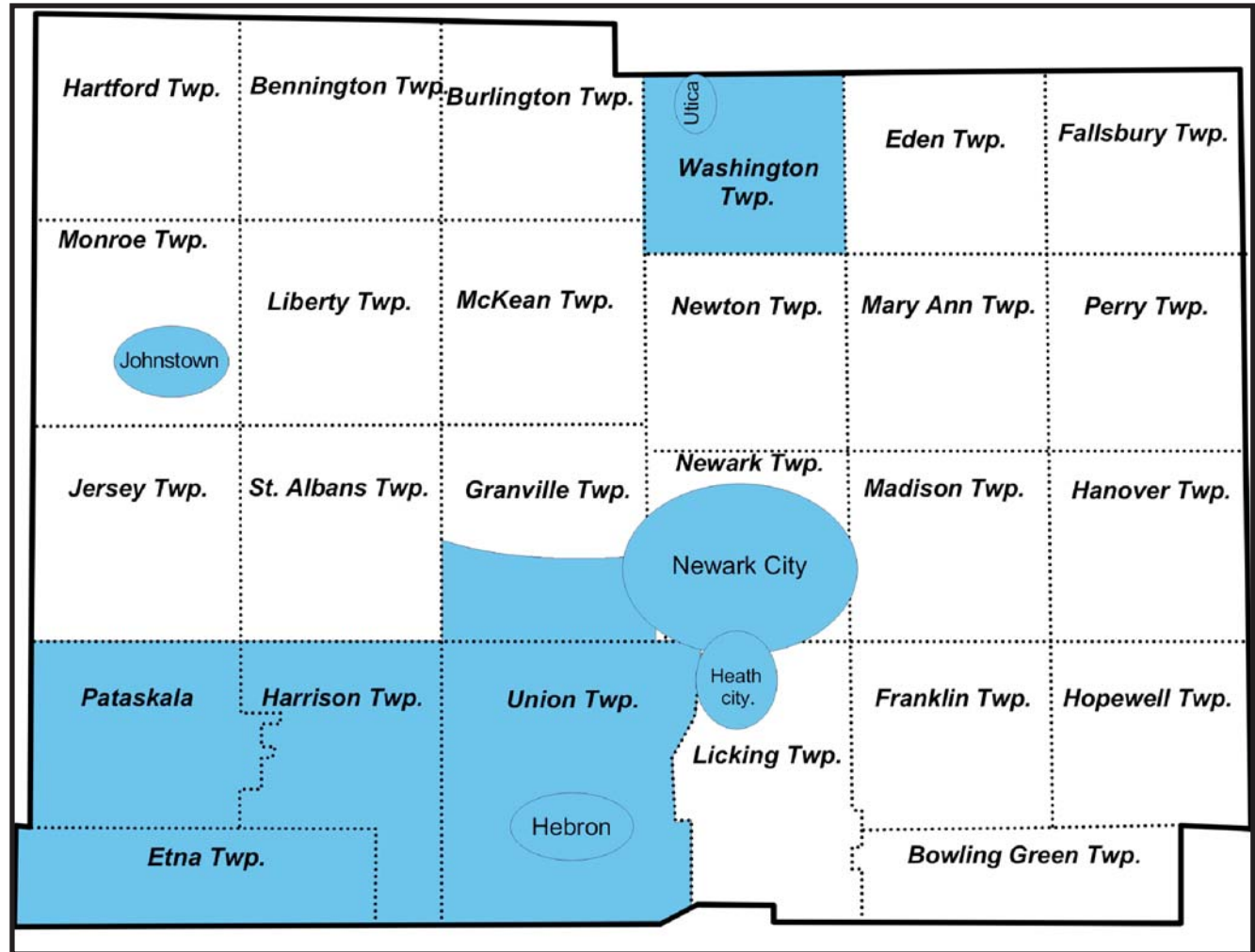
Tax Increment Financing

Tax Increment Financing (TIF) is an



economic development mechanism available to local governments in Ohio to finance public infrastructure improvements. Local governments may authorize TIFs to fund a number of infrastructure needs, including public roads and highways, water and sewer lines, remediation, land acquisition, demolition, the provision of gas, electric and communications service facilities.

The value of real property improvements in TIF zones are exempted from taxes through local TIF authorizing legislation enacted by the municipality, township or county. A taxpayer whose operations are located in a TIF zone continues to make payments to the jurisdiction in an amount equal to the real property tax liability that otherwise would have been due had the property not been exempted. These



Map 4: Enterprise Zones within Licking County.

payments in lieu of taxes, or service payments, are deposited into a separate public improvement fund.

Enterprise Zone Program

The Licking County Planning Commission staff administers the Enterprise Zone Program in Licking County. The enterprise zone law in the State of Ohio allows tax abatements of up to 75% for 10 years for enterprises locating or expanding in cities and villages, and 60% for those locating in unincorporated areas without school board approval. Currently there are six designated enterprise zones in Licking County, including the Cities of Heath and Newark; the villages of Hebron, Utica, and Johnstown; and the townships of Union, Harrison, Etna, and Washington, as well as part of Granville Township (see Map 4 on page 16). The most active zones have been Etna Township, the Village of Hebron, the Cities of Heath and Newark, and Union Township.

Since the beginning of the Enterprise Zone Program in 1988, there have been over \$593 million dollars of real and personal property investment made by private enterprises located in the zones. In return for their investment and job creation, the enterprises were granted partial tax abatements on the new investment in real and personal property. The average abatement is about 68% of new real and personal property taxes for

a period of nine years. These enterprises promised to create 4,785 new jobs when petitioning for the abatements. In reality, they exceeded this mark, creating over 5,998 new jobs with a corresponding annual payroll of over \$215 million. The percentage of abatements granted and length of terms are negotiated locally by a county commissioner, one representative of the local political jurisdiction (i.e., city, village or township), a local school board representative, and a representative of Career and Technology Centers of Licking County (C-TEC).

Licking County was one of the first counties in Ohio to involve the local school boards in the negotiation of enterprise zone agreements. The county views the Enterprise Zone Program as an important tool in the process of economic development, and will continue to do its best to administer the program in a responsible manner. The success of current program participants is testimony to the value of the incentives in assisting current employers with retention and expansion, as well as attracting new industry to Licking County.

Joint Economic Development Districts

Under Ohio Revised Code, sections 715.69 and 715.90, a Joint Economic Development District (JEDD) is set up by a contract approved by the legislative authorities of one or more contiguous corporations and one or more contiguous

townships. Legislative authorities enter into such contracts to facilitate economic development, to create or preserve jobs and employment opportunities, and to improve the economic welfare of the people in the area. The JEDD program is designed to encourage cooperation among local communities, and it is considered by many to be a mutually beneficial economic development tool. This cooperation takes the form of tax revenue sharing among municipalities and townships (*source: OSU Extension Fact Sheet CDFS-1560-07*).

Joint Economic Development Zones JEDZ #1: Etna Corporate Park

ProLogis is developing a 220-acre industrial site in Etna Township that will generate roughly 1,000 new jobs and \$30 million in annual payroll. ProLogis eagerly supported creating a Joint Economic Development Zone (JEDZ) – a multi-party deal that overlays the site and allows the township to employ an income tax specific to that site only.

The ECP JEDZ is one of the first fully functional JEDZs in Ohio, which allows shared municipal-township boundaries to be “leap-frogged” to create a cooperative development entity. With foresight, Etna officials partnered with Newark, whose participation secured the final piece of this complex arrangement.

Seven organizations joined to endorse the JEDZ. Pursuant to their endorsement,

Newark will administer an income tax estimated at over \$20 million in revenue over 30 years, which will be distributed to JEDZ partners Etna Township, Southwest Licking School District, the City of Newark, Licking County, and C-TEC.

The ECP JEDZ is a vital economic development measure. By sharing the costs and benefits of infrastructure improvements, Licking County attracted major private investment. It's unlikely that adequate infrastructure improvements could be constructed without the JEDZ. This unique, multi-party and multi-incentive development approach is a visionary way to facilitate development that enriches our economy.

This JEDZ will directly benefit the participating township and schools while giving incoming manufacturing and/or warehouse companies the benefit of tax abatement. The amount collected for 2009 was \$164,484, and approximate disbursements through September 2009 were \$22,350 to the JEDZ Improvements Account, \$33,526 to Etna Township, \$33,526 to Southwest Licking Schools, \$11,175 to the City of Newark, \$5,028 to the Newark Income Tax Dept, \$5,587 to Licking County, and \$558 to C-TEC. In 2010, \$190,118 was collected; disbursements were not available



at the completion of this document.

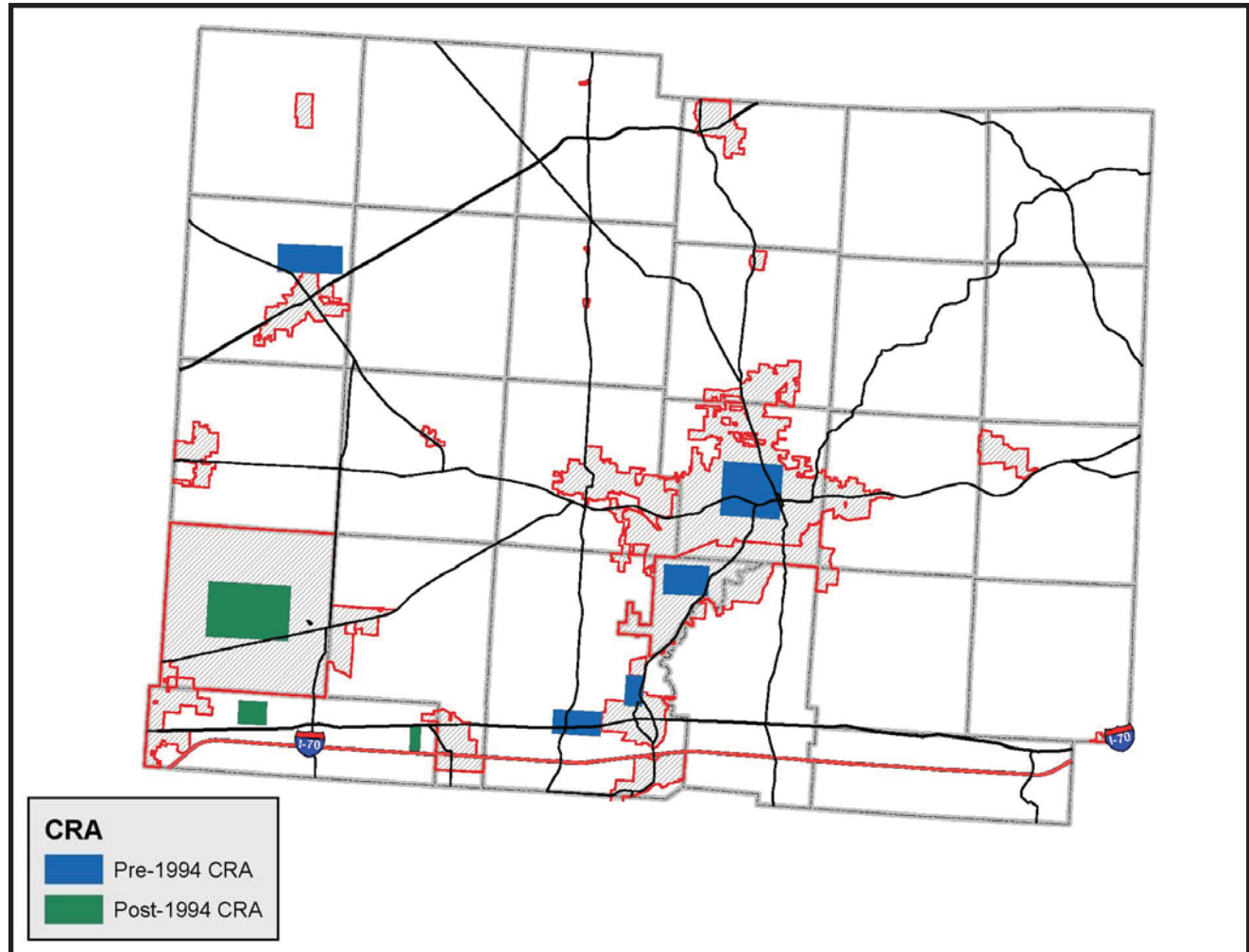
JEDZ #2: Jobs Ready Site

This JEDZ was approved in 2009 between Etna and Newark, and a JEDD was formed with Pataskala and Newark for the Job Ready Site. Pataskala did not have an income tax at that time, and the JEDD was formed with Newark to collect tax from employees on the Job Ready Site. JEDZ #2

and JEDD had no activity other than formation in 2009.

Community Reinvestment Area

The Ohio Community Reinvestment Area (CRA) program is an economic development tool administered by municipal and county governments that provides real property tax exemptions to businesses making investments in Ohio.



Map 5: CRA Agreements within Licking County.

In order to use the CRA program, a city, village, or county petitions to the Ohio Department of Development for confirmation of a geographical area in which investment in housing has traditionally been discouraged. Part of the petition reviewed by the department is a housing survey performed by the respective city, village, or county. Once an area is confirmed, communities may offer real-property tax exemptions to taxpayers that invest in the area. (Source: Ohio Department of Development)

The existing CRA areas within Licking County are shown in Map 5 on page 18.

Etna Township Postal Identity

For many years the identity of Etna Township has been linked to larger neighboring jurisdictions such as Pataskala and Reynoldsburg. Due to this linkage and the desire to create a unique community and economic identity for the township, the Etna Township Economic Development Committee has undertaken the Etna Postal Identity Project. The goal of the project is to allow businesses and citizens within the unincorporated

Population			
	1990	2000	% Increase
Etna Township	6,439	5,410	-16%
Harrison Township	5,041	6,494	29%
Pataskala	7,454*	10,249	37%
Reynoldsburg	25,748	32,069	25%

*Sum population of Pataskala Village and Lima Township

Figure 17: Community population increase comparison.

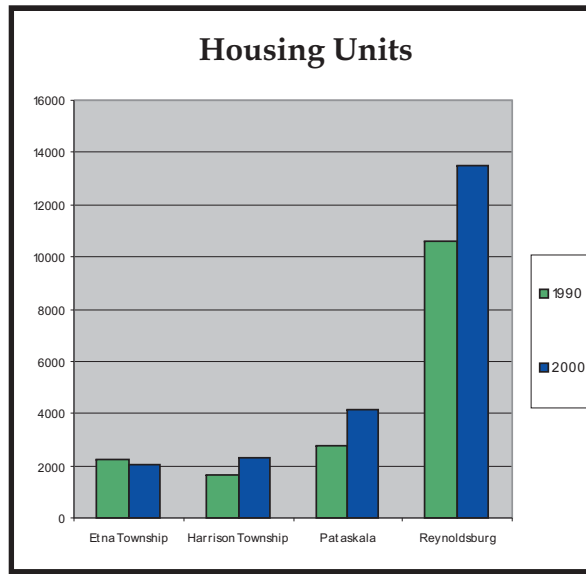


Figure 18: Community housing unit comparison.

portions of township the ability to use "Etna, OH" as their mailing address, without changing their current zip codes. The project will be in full swing during spring and summer of 2011. Soon the mailing option of "Etna, OH" will be a reality, and the use of the option by businesses and residents will help establish a business- and resident-friendly identity and awareness of the Etna community.

DEMOGRAPHICS

A demographic analysis is important when planning for the future needs of a community. This type of analysis helps the community to identify demographic trends between its borders and anticipate future needs that may arise due to these changes. This analysis has helped determine the goals and objectives of this plan.

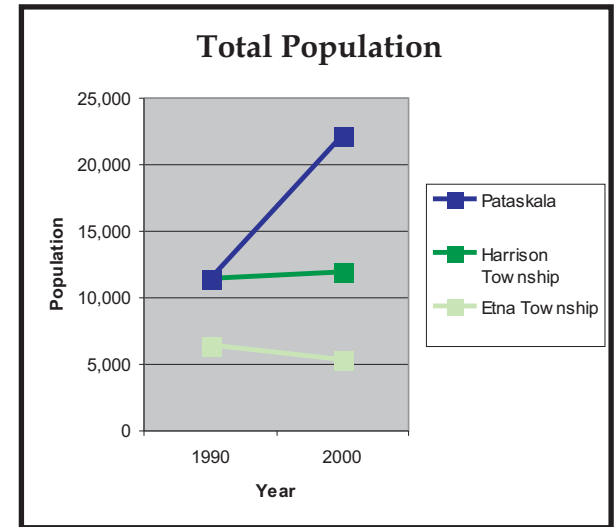


Figure 19: Community total population comparison.

The most reliable way to gather demographic data is to use information collected by the United States Census Bureau. The Census is conducted every ten years and its data serves as the basis for the following analysis. This analysis primarily uses the 1990 and 2000 Census data to show how the township has changed in recent years. It includes not only data pertaining to Etna Township, but also data from surrounding communities as well as Licking County as a whole. Including data from numerous entities will show how the growth in Etna Township compares with growth in other locations.

Population data made available by the United States Census Bureau is broken out into three sets of data: census tracts, census block groups and census blocks. Census tracts are made up of block groups.

Annexations – Etna to Reynoldsburg 1990-2000	
February 1990- Goldman	Etna to Reynoldsburg, 59.828 acres
January 1991 – Smith	Etna to Reynoldsburg, .05 acres
August 1991 – Smith	Etna to Reynoldsburg, 5.4 acres
August 1991 – Northrop	Etna to Reynoldsburg, 3.34 acres
June 1993 – Kipp	Etna to Reynoldsburg, 10 acres
May 1995 – Wolf	Etna to Reynoldsburg, 3.14 acres
September 1997- Ardmore Chip	Etna to Reynoldsburg, 31.299 acres
March 1998 – Thompson	Etna to Reynoldsburg, 10 acres
October 1998 – Kipp	Etna to Reynoldsburg, 5.3 acres
February 1999 – Thompson	Etna to Reynoldsburg, 59.75 acres
August 1999 – Underwood/Dugger	Etna to Reynoldsburg, .184 acres
July 1999 – Gantz	Etna to Reynoldsburg, 4.983
October 1999 – Powell	Etna to Reynoldsburg, 4.389

Figure 20: Annexations out of Etna Township, 1990-2000.

Block groups are then broken down into census blocks. The boundaries of Etna Township include U.S. Census Tracts 7559, 7562, and 7574. Tracts are split out into block groups consisting of multiple census blocks. This analysis looks at data from each level to better understand changes that are going on in different parts of the township, as well as those in the township as a whole.

Population and Housing

In 2000, the population of Etna Township was 5,410, a 16 percent decrease from the 1990 population of 6,439. The number of housing units in the township also decreased during that time; in 1990 there were 2,252 homes and by 2000 there were 2,041, a decrease of nine percent. These decreases in population and housing can



be attributed to land lost to annexation and to the incorporation of Pataskala. Other nearby communities such as Pataskala, Reynoldsburg and Harrison Township have seen a steady increase in both population and housing supply during that time.

As the number of residents and businesses increase in these communities, the amount of traffic in and around Etna Township will increase.

Although the population of Etna Township decreased during the 1990s, it is anticipated that 2010 census numbers will show a great increase in population and housing units in the 2000s. The widespread installation of water and sewer lines has led to increased urbanization. The increase in residential density has and will continue to make the area more attractive to potential developers of retail businesses and other job-creating enterprises.

Annexations can make a community’s population drop over a number of years. From 1990 to 2000, there were 13 annexations out of Etna Township into Reynoldsburg. Figure 20 shows the details regarding those annexations. In that decade, 193.8 acres were annexed out of Etna Township.

The township has a record of the number of zoning permits issued over the past 13 years. Figure 21 shows those numbers.

These statistics are important because they show the level of growth that has occurred during that time. Zoning permits issued can show the level of development activity that has gone on during the past decade, which has been substantial. The newly released 2010 Census numbers show a great increase in the population of Etna Township (see Addendum).

According to the 2009 community survey, residents of Etna Township would like more restaurants, shopping, and places for

Number of zoning permits issued annually for the past thirteen years.	
<i>All numbers are approximate.</i>	
2009: 175 total	Certificate of Occupancy; Residential: 17 Certificate of Occupancy; Business: 10
2008: 188 total	Certificate of Occupancy; Residential: 16 Certificate of Occupancy; Business: 9
2007: 288 total	Certificate of Occupancy; Residential: 29 Certificate of Occupancy; Business: 11
2006: 418 total	Certificate of Occupancy; Residential: 99 Certificate of Occupancy; Business: 8
2005: 418 total	
2004: 423 total	
2003: 513 total	
2002: 487 total	
2001: 491 total	
2000: 366 total	
1999: 252 total	
1998: 148 total	
1997: 145 total	

Figure 21: Etna Township zoning permits, 1997-2009.

entertainment. The population growth in the region will help the township attract these types of establishments. Another statistic to review when examining the makeup of a community is the age distribution of its inhabitants. This can give an idea of the services and facilities that may be needed, especially for the young and old populations. Children will need schools, and the elderly may need more care and access to health facilities. The people who live in Etna Township are predominantly 40 and over (48%), indicating an aging population. A young demographic exists as well; the 5-17 year age group makes up about 19 percent of the township's population. This group is made up of school-age children living with their parents. It is difficult to tell whether this group will stay in the community or leave to live somewhere else. It should be assumed that some will

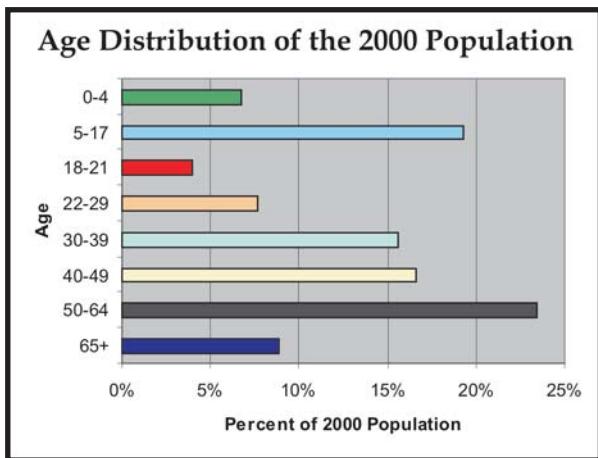


Figure 22: Etna Township age distribution in 2000.

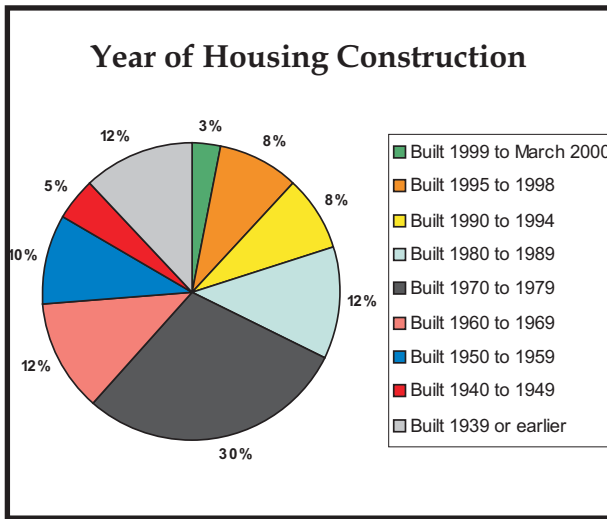


Figure 23: Age of housing stock.

leave to go to college or find jobs elsewhere. It is important that the community become attractive to the next generation so people will want to move to or stay in Etna Township.

When looking at the characteristics of a community, an evaluation of the age of the housing stock is important. It serves as an indicator to the overall quality of the housing options available in a particular place. While older historic homes can certainly add to the character and charm of a place, they typically need more upkeep and maintenance than newer homes. A high level of older homes indicates a need for more rehabilitation and mitigation efforts in that area. Often these homes are health and environmental hazards due to construction practice using lead-based paint and asbestos. These data also serve as a rough approximation of the growth occurring in the township over time. A

majority of the housing (61%) in Etna Township was built after 1970, with 19 percent being built after 1990. The housing stock is not overwhelmingly old or new. There has been a steady rise in residential building over the past 40 years, which should persist with the continued growth of eastern Franklin County.

Education and Income

Education and income factors are important when analyzing the retail potential and employable population of a region. These factors are commonly used by market research studies to predict whether certain stores, restaurants and other businesses would be appropriate in that area. The education factor gives an employer a cursory glance at the skills that workers in the region might have. The education of the population could be very important to a company needing workers

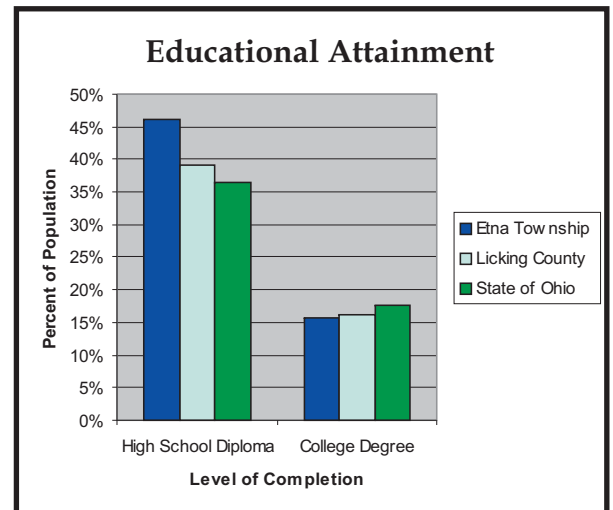


Figure 24: Educational attainment comparison.

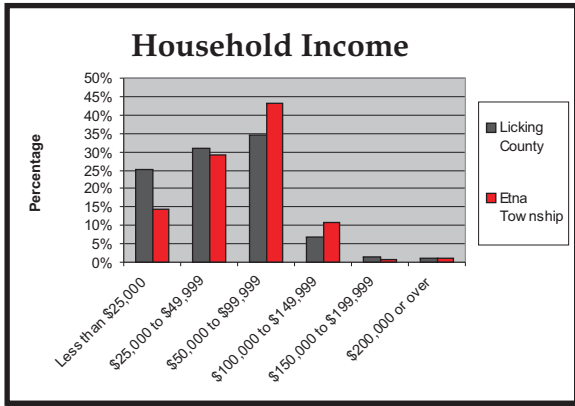


Figure 25: Community household income comparison.

who are trained in a specific area or who have earned a certain type of college degree. Income indicators are used when communities apply for grants and assistance specifically to help low-income populations.

According to the 2000 Census, Etna Township was comparable to Licking County as a whole in household income and educational attainment. The educational attainment factor looks at the population that is 25 years and older and gives data on the highest level of education achieved. Of that group, 64 percent of the Etna Township population listed high school completion as their highest level of education, with 59 percent of the Licking County population getting at least a high school diploma. Twenty-three percent of Etna residents have earned either a college degree in the form of an associate,



bachelor’s, master’s or doctorate degree. In comparison, Licking County as a whole reports that 25 percent have earned a degree. These levels are comparable with the state of Ohio as a whole. Fifty-six percent of the state’s population 25 years or higher have completed at least high school, and 27 percent have earned a college degree.

An analysis of the household income for the township shows the \$50,000 to \$99,999 range as the one that more households fall into than any other (43%). About 15 percent of township household have an income of less than \$25,000 per year.

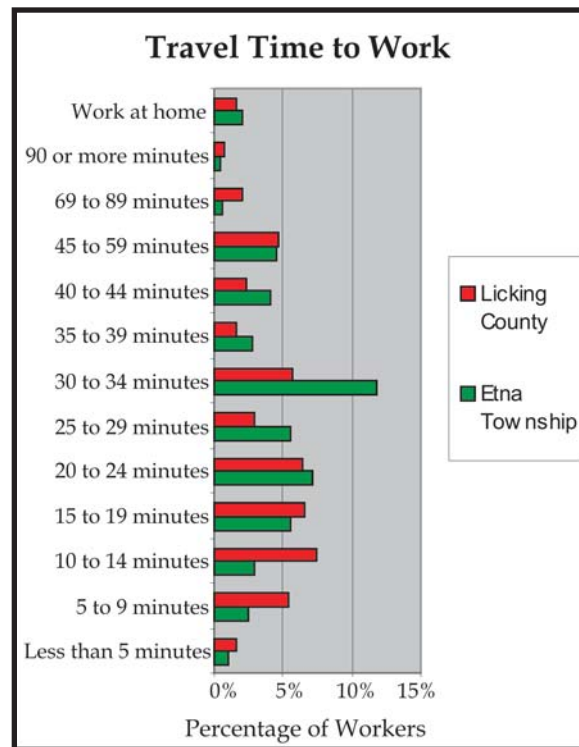


Figure 26: Etna residents typically work outside of the community.

Overall, Etna Township has a household income that is very similar to average numbers for Licking County as a whole.

Travel Time to Work

The amount of time a person spends driving to and from work each day directly affects the amount of time they are able to spend at home. If a majority living in an area spend a lot of time driving to and from work, it could signal a need for more employment opportunities in the community. When asked about travel time to work in the 2000 Census, Etna residents primarily worked outside the community, with 47 percent driving 30 minutes or more each day to get to their places of employment. With nearly half of the working population driving 30 minutes or more to get to their jobs, a need for additional employment opportunities within the Etna Township area is apparent.

NATURAL RESOURCES

Etna Township Flood Hazard Areas

A floodplain is any land area susceptible to inundation by floodwaters from any source. Floodplains are measured in terms of the amount of storm water it takes to cover them. Storm events are measured in years such as five-year, 10-year, 20-year, 50-year, 100-year, and 500-year. The standard measurement is the 100-year storm and floodplain. A 100-year floodplain is the land area having a one in 100 chance of flooding in any given year. The 100-year floodplain is somewhat of a

misnomer however, because an area could have a 100-year flood two years in a row – unlikely, but possible. The floodplain map (Map 6) shows the 100-year, or base, floodplains of Etna Township as determined by the Federal Emergency Management Agency (FEMA) on their Flood Insurance Rate Map (FIRM). Lending institutions uses FIRM maps to determine the need of flood insurance for structures.

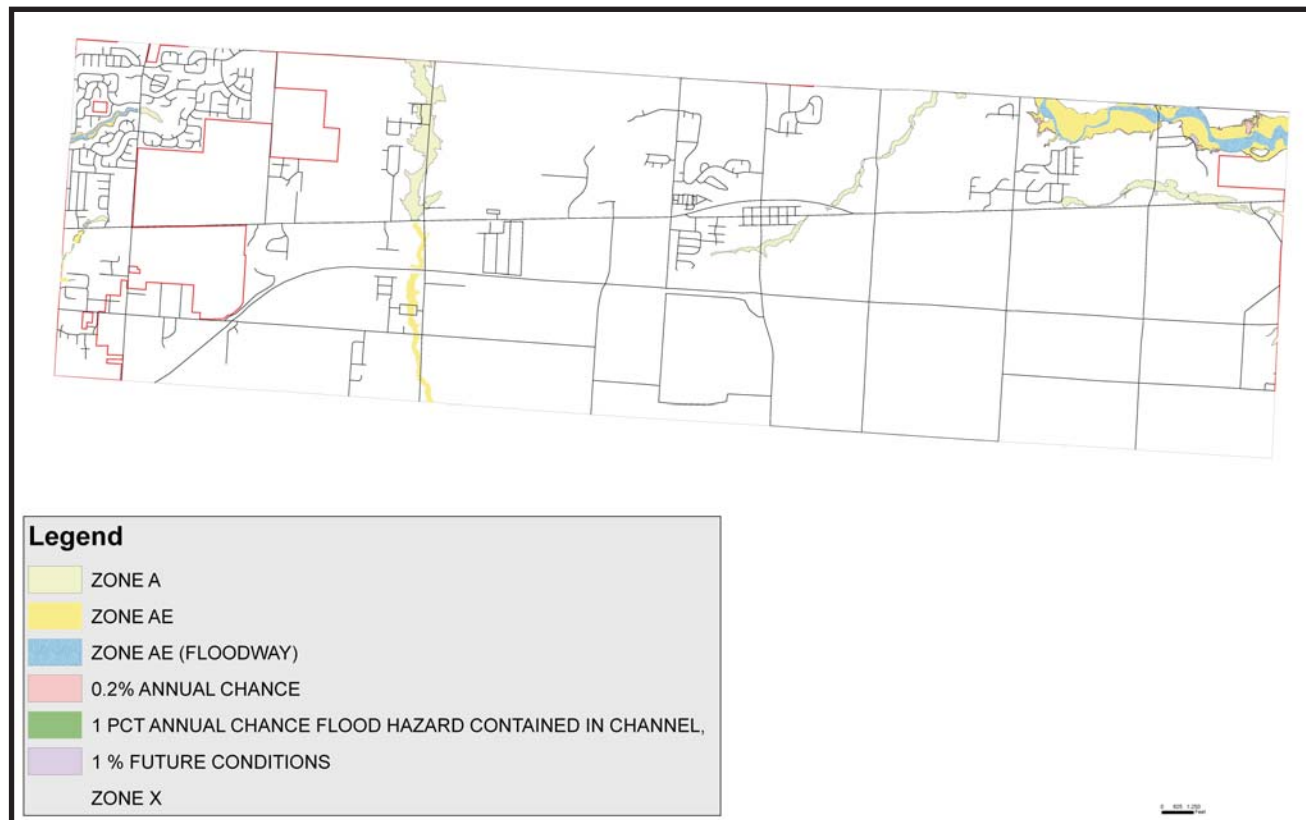
Because floodplains were carved by streams and rivers, and are prone to flooding, they are an important planning consideration. Any development within floodplains can effect the direction, flow, and level of the watercourse during periods of high water or flooding. In other words, if fill material is placed or a house is constructed in a floodplain, it will alter the boundaries of the floodplain downstream. This is because structures or fill take up valuable space that would otherwise act as a natural retaining area for floodwaters to spread into and slow. Enough fill or development could change the probability of flooding downstream from one in 100 each year, to one in 75 or less. Development and careless filling of floodplains have increased flooding in this nation, as seen in many parts of the country, including the Great Mississippi Flood of 1993. Not only does development in the floodplain increase dangers downstream, developments in the floodplain are at higher risk of damage due to flooding. This damage includes fill material and

debris from destroyed structures upstream colliding with structures in the flood plain downstream. Many bridges are washed out in floods because house and construction debris clog their free-flow area, compromising their structural integrity.

Because of the potential for public and private damage, loss of life, and insurance rate decisions all are affected by materials and structures in floodplains. Licking County has recently tightened regulations for floodplains. Permits must be obtained from the Licking County Planning Commission before any development,

including filling and excavating, can take place in known 100-year floodplains.

Protecting floodplains from development offers several benefits in addition to reducing the risk of loss of property and life. Floodplains are natural floodwater storage areas. They reduce the impact of any given storm, slowing the water so it does not become a flash flood. Floodplains are prime areas where groundwater is replenished. Thus the type of land use activity that occurs in these areas must not pollute the surface water, as it will serve as a source of aquifer replenishment.



Map 6: Flood hazard areas in Etna Township.



Map 7: A section of the Sycamore Creek flood hazard area.

Further protection of the floodplains through township zoning will help protect unsuspecting residents from personal danger and loss of property. One way to help is using floodplain areas as open space. Passive recreation areas are also well suited for these areas, since no structures or filling is needed for these activities. In Licking County, there are numerous areas in which floodplain has been used for open space. A great example of this includes the ball fields near Granville at the Raccoon Valley Park. There are six baseball/softball fields and room for roughly four soccer fields, as well as open space for many other types of activities. When flooding occurs, there is little property damage, since there



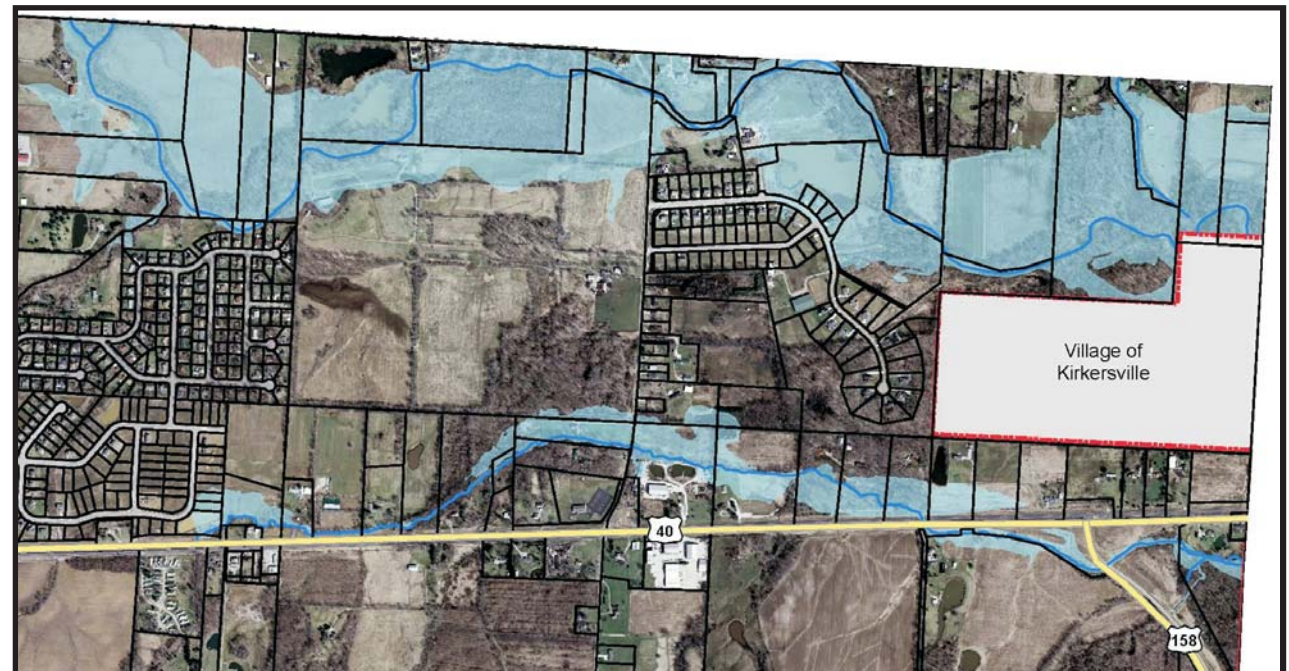
are no habitable structures on the property. The only structures built are the dugouts which have been “flood proofed.” (See Map 17 on page 39.)

Sycamore Creek Flood Hazard Area

Sycamore Creek flows south starting at the northern township border and flowing to the southern township border. The creek flows through the Royal Acres subdivision along Mink Street Road. There are about 24 structures at risk during a major flood.

South Fork Licking River Flood Hazard Area

The South Fork of the Licking River runs east in the northeastern section of the township. Most of the area threatened by



Map 8: The South Fork Licking River flood hazard area.

flood is in an agricultural/open state. There are five houses in this area; three of them are in the Zellers Acres subdivision.

Etna Township Soils

More than 33,000 acres in Licking County were in use for urban development in 1982. Since then, much more farmland has been converted to urban uses, especially in the western and central parts of the county. Many soil properties, such as depth to the seasonal high water table, slope permeability, and depth to bedrock, can limit urban development. Wet basements, malfunctioning onsite sewage disposal systems, erosion on construction sites, and flooding are problems if soil features are ignored. Within the township, special attention should be

paid to shallow excavations, construction of dwellings and commercial buildings, local roads and streets, and lawn and landscaping. These items benefit by identifying the soil type in the initial planning stages.

When researching the type of soil found within a site, the National Resource Conservation Service and the Licking County Soil and Water Conservation District are valuable resources in determining soil type. Within Etna Township, there are some 18 soil types. The majority of the township is composed of Bennington (somewhat poorly drained), Centerburg (moderately poorly drained) and Pewamo (very poorly drained) soil types.

Careful attention should be given to developments that sit on soil that may be less suitable for development. Building on these soils can lead to problems, such as building collapse and ground water contamination. During construction, proper grading must be done to allow water flow in the proper direction, as well as to ensure the building is not on soil that is high in plasticity or with a high organic content.

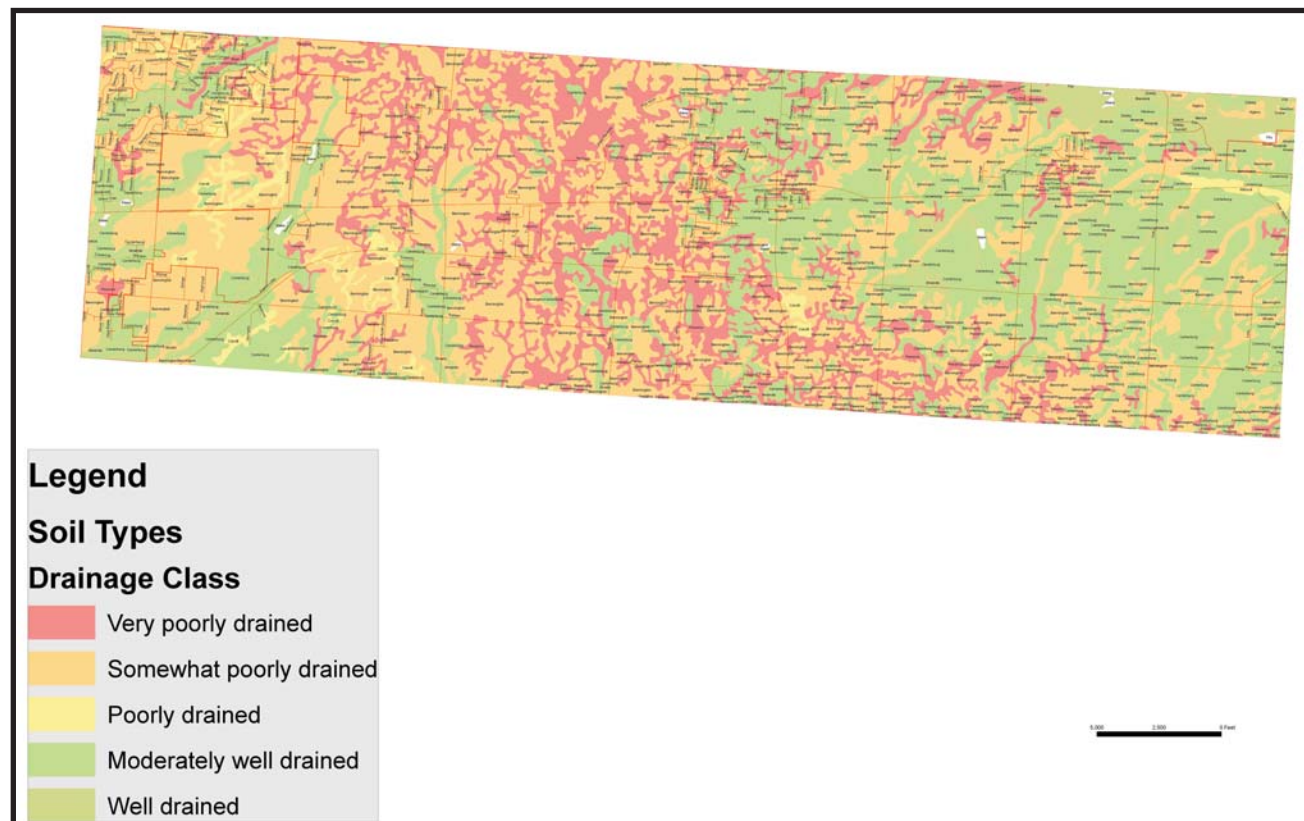
Etna Township has prime farmland that has not yet been developed. While many factors determine agricultural productivity, soil make-up plays a key role in this equation. The United States

Department of Agriculture (USDA) considers certain soils to be prime farmland soils, based on their crop yield potential with regard to minimal input of energy and economic resources. Further, soils which are considered to be prime farmland soils must be best suited to produce food, feed, forage, fiber, and oilseed crops. The USDA has identified these soils because the supply of prime farmland is limited.

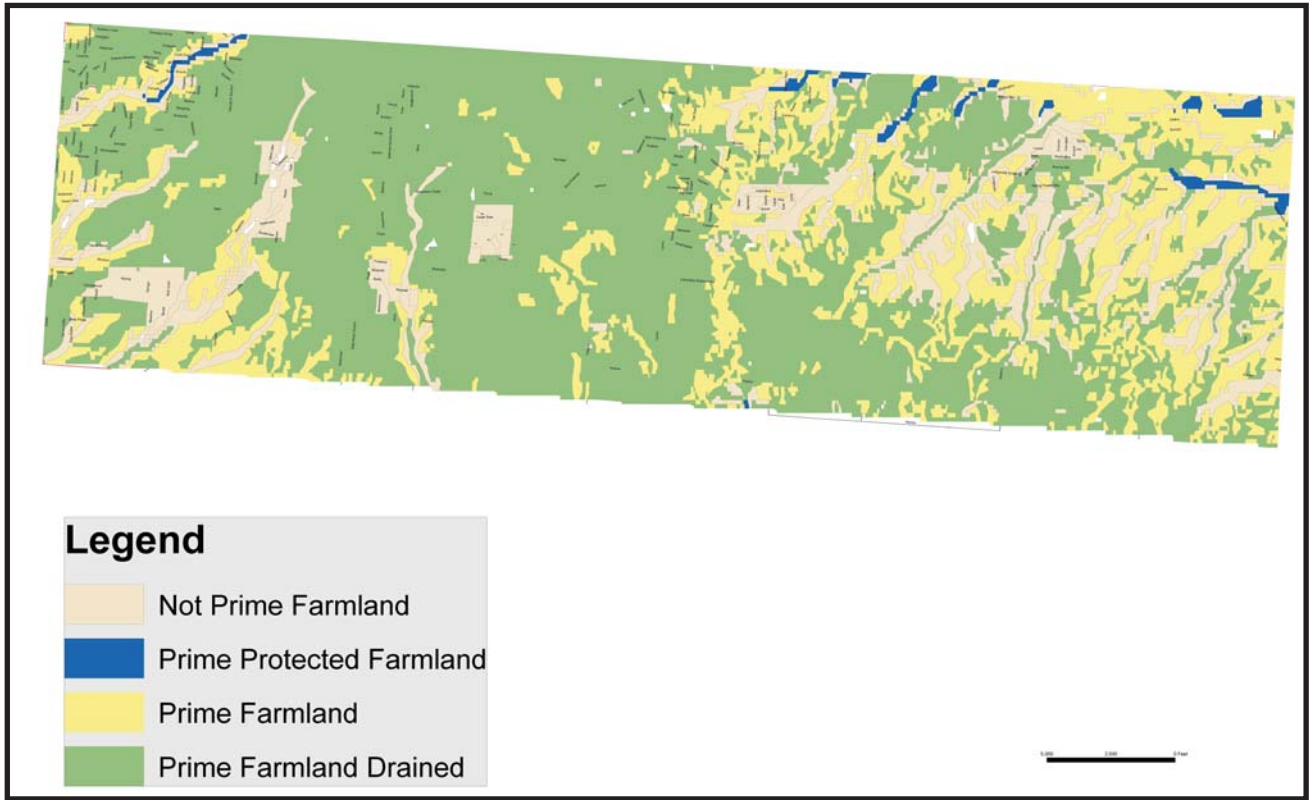
Land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and

oilseed crops is also available for these uses. It has the soil quality, growing season, and moisture supply needed to produce economically sustained high yields of crops when treated and managed according to acceptable farming methods, including water management.

In general, prime farmlands have an adequate and dependable water supply from rain or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, acceptable salt and sodium content, and few or no rocks. They are permeable to water and



Map 9: Etna Township soils map.



Map 10: Prime farmland in Etna Township.

air. Prime farmlands are not excessively erodible or saturated with water for long periods of time, and they either do not flood frequently or are protected from flooding. Township residents have voiced their desire to continue an agricultural way of life in this community. Looking at the Prime Farmland Map (Map 10) may help local leaders determine proper land use patterns and allowed density in different parts of the community.



Etna Township Wetlands

Wetlands are important resources for several reasons. First, many unique plants and animals make their homes in these areas. Second, wetlands supply valuable groundwater recharge by acting as filters for surface runoff percolating back into the aquifers below. Third, wetlands are an important resource because they serve to join surface and groundwater sources, which can improve stream flow during drought periods. Fourth, during rainy periods, wetlands can absorb excess water, and then discharge it slowly back into the surrounding land, averting potential flood

damage. Finally, wetlands are a valuable recreation resource.

Although large-scale benefits of functions can be valued, determining the value of individual wetlands is difficult because they differ widely and do not all perform the same functions or perform functions equally well. Decision-makers must understand that impacts on wetland functions can eliminate or diminish the value of wetlands.

According to the federal Clean Water Act, anyone who wants to discharge dredged or fill material into the waters of the U.S., regardless of whether on private or public property, must obtain a Section 404 permit from the U.S. Army Corps of Engineers (Corps) and a Section 401 Water Quality Certification (WQC) from the State of Ohio. The 401 Water Quality Certification and Isolated Wetland Permit reviewers evaluate applications for projects that would physically effect waters of the state, including streams, lakes and wetlands.

Section 404 of the Clean Water Act (33 USC 1344) requires authorization from the Secretary of the Army, acting through the Corps of Engineers, for the discharge of dredged or fill material into any waters of the United States, including wetlands. Discharges of fill material generally include, without limitation: placement of fill that is necessary for the construction of any structure, or impoundment requiring

rock, sand, dirt, or other material for its construction; site-development fills for recreational, industrial, commercial, residential, and other uses; causeways or road fills; dams and dikes; artificial islands; property protection or reclamation devices such as riprap, groins, seawalls, breakwaters, and revetments; beach nourishment; levees; fill for intake and outfall pipes and underwater utility lines; fill associated with the creation of ponds; and any other work involving the discharge of fill or dredged material. A Corps permit is required whether the work is permanent or temporary. Examples of temporary discharges include de-watering of dredged material prior to final disposal, and temporary fills for access roadways, cofferdams, storage and work areas.

Etna Township Streams and Creeks

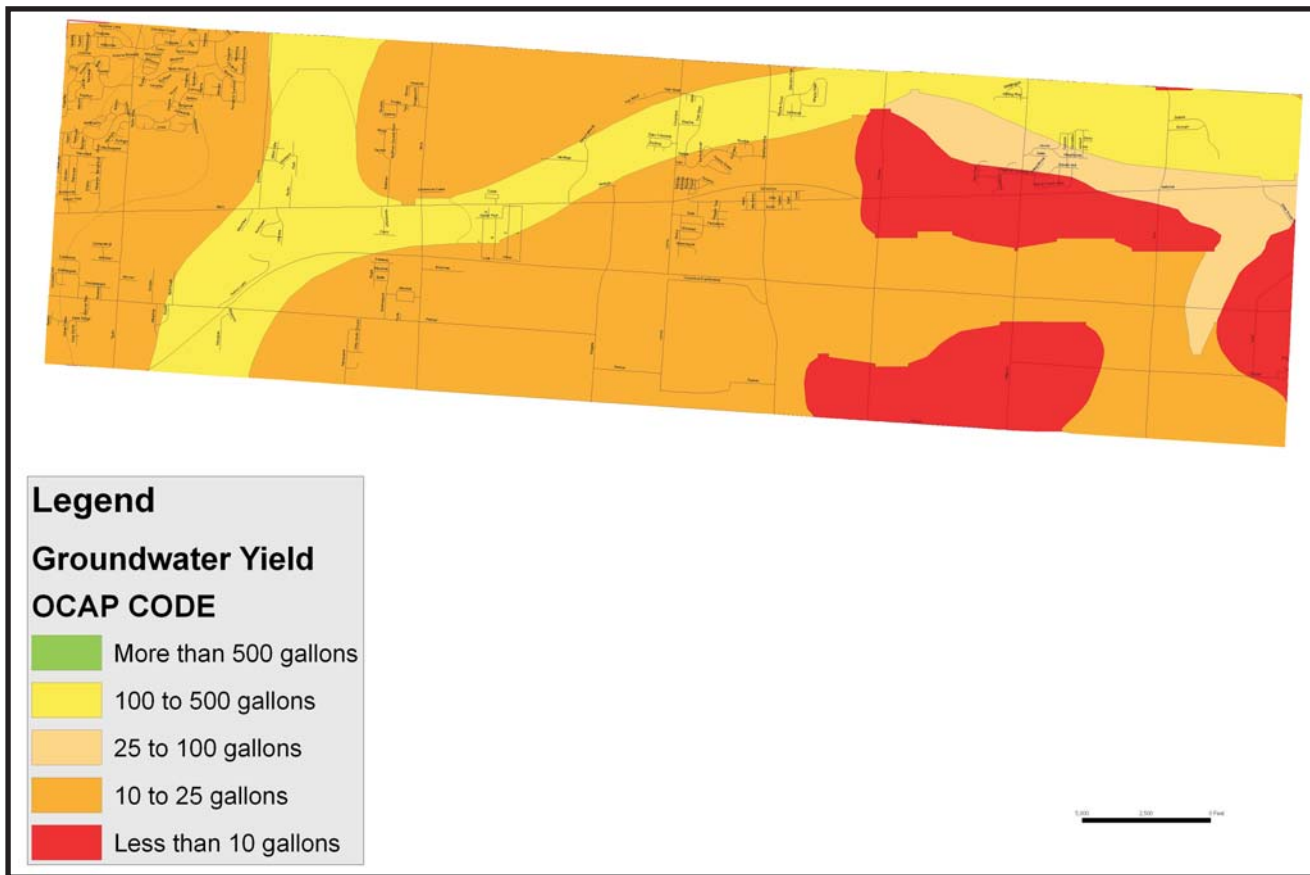
Waterway corridors are very important to the diversity of an ecosystem. They serve as a way for nature to filter harmful chemicals and sediment, provide important habitat and take up important nutrients that refresh the ground water supply. Some 30 intermittent streams exist in Etna Township. During development review, the township and the Licking County Planning Commission should work together to save these riparian corridors. Later in the plan, ideas are presented on ways to protect these delicate areas.

Etna Township Storm Water Management, Water Quality, and Watersheds

Since the development of the 1996 Etna Township Comprehensive Plan, there have been numerous advancements in storm water management. Typical housing developments employ a retention or detention pond to act as a storm-water management structure. Research and technology have given developers new and better ways to manage storm water. Becoming more common are bio-swales that allow water

to infiltrate back into the ground as it is channeled toward a pond, porous pavement that lets water seep into the ground instead of being directed to a pond, vegetated swales that are designed to treat and attenuate storm water runoff for a specified water quality volume, and on-lot treatment including rain gardens and disconnected down spouts.

Watersheds are characterized by the location of the pour-point, or mouth, of the main flow of water to which all other points of flow join and eventually drain



Map 11: Etna Township ground water yield map.

from the watershed. Some of the rainfall in the area of a watershed will flow on top of the ground or find its way via underground water paths to the stream in the watershed. Some of the water will evaporate, be used by people or plants, or be held in the soil or underground. Watersheds are dynamic places, becoming alternately wet and dry due to high water and low rainfall conditions, with many differences in quality and flow, depending on the season, the year, and even with what happens during a single storm. This is best illustrated by examining the components of the hydrologic cycle.

In a watershed, activities on the land interact with the natural hydrologic cycle. Important nutrients and chemicals are circulated throughout the watershed's system and supply a basic nutritional source for aquatic (fish, aquatic insects, etc.) and terrestrial (birds, small mammals, etc.) species. People also use these environments to grow food, build their homes and businesses, and travel from one place to another. Where and how these human activities occur have major effects on the movement of water, water quality, and the quality of the natural habitat that remains. Ideally, we want watersheds that continue to function as healthy

ecosystems and serve as productive systems for people.

Public officials, land use planners, builders and developers need to consider these factors in relation to the region in which they are building communities and the land use occurring within that region, for what happens there affects what occurs at the local level. In other words, groundwater resources do not stop at the political entity's border; they have their own distinct region known as a watershed, for which they serve and are affected by. Therefore, it is important for officials, land use planners, builders and developers in these regions to work together to ensure water resources and the quality of those resources is available and healthy for all.

Two factors contributing to groundwater quality and availability are density and land use. Zoning densities that allow too many new homes in an aquifer recharge area can lead to contamination of groundwater from septic systems. When areas of widespread impervious cover (such as big box retail and large warehousing facilities, with their extensive rooftops and parking areas) are sited atop groundwater recharge areas, aquifers fail to replenish at their normal rate, resulting in depleted groundwater supplies. These are harmful effects that poorly managed development can have on the quality, quantity, and availability of our water resources.

In addition to density, a community needs to consider the types of land uses that are occurring in areas susceptible to ground water pollution, limited recharge, and low yield. Areas of low yield should have lower density development when served by on-site water and wastewater systems, because the ground water resources are not sufficient to meet the demand. Additionally, these areas are not going to be suitable for business or manufacturing processes, which require large quantities of water. However, these areas may support a higher density if adequate public water and wastewater systems exist to support that density.

Areas susceptible to ground water pollution should consider not allowing such uses as manufacturing of hazardous substances and materials, on-site storage of hazardous substances and materials, junk yards, petroleum product manufacturing, vehicle maintenance shops, or fueling stations, laundries and dry cleaners, electronic and other equipment manufacturing, metal plating industry and the like. On-site septic systems should also be designed and limited to protect the ground water.

Walnut Creek Watershed

The Big Walnut Creek watershed is located in Central Ohio, draining to the east side of Columbus. The basin is primarily in Delaware, Franklin and Morrow counties, and also includes small parts of Knox, Licking and Fairfield counties.



According to the Ohio EPA, the Walnut Creek Watershed is impaired by nutrient enrichment, sedimentation, and other habitat alterations. Similar to many other watersheds, the majority of the river miles are impacted by nutrient enrichment. Such severe river and stream impairments commonly result from human development, inadequate agricultural practices and land use changes in the surrounding area.

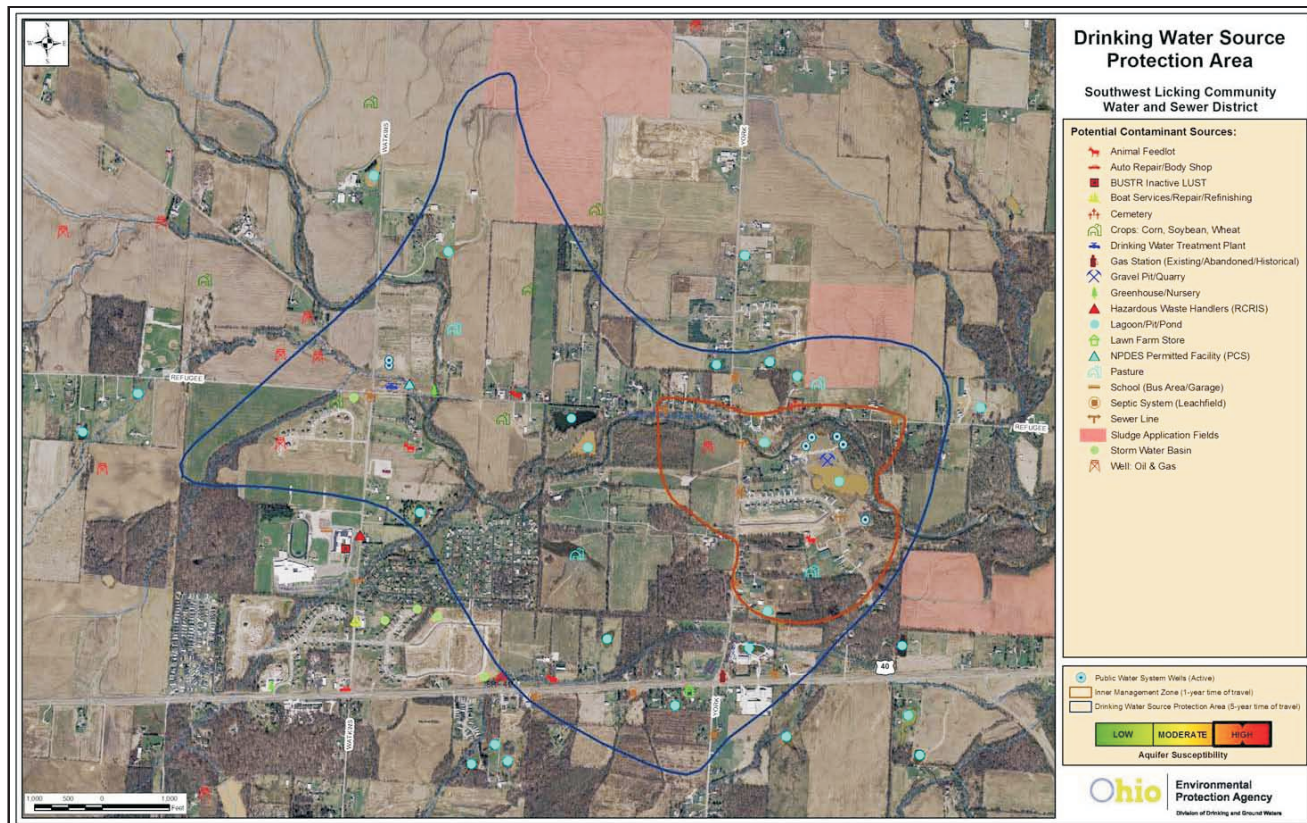
Drinking Water Protection

Through the Safe Drinking Water Act, a program was created where states can assess the drinking water sources for all public water systems. Ohio's Source Water Assessment and Protection Program is designed to help public water systems protect their sources of drinking water from becoming contaminated. In June of 2010, a revised copy of the *Drinking Water Source Assessment, Southwest Licking Community Water & Sewer District* was released. The purpose of the assessment is to provide information that the local water and sewer district can use to help protect its source of drinking water from contamination. This assessment 1) Identifies the drinking water source protection area, based on the area that supplies water to the well(s), (2) Inventories the potential contaminant sources in the area, and (3) Evaluates the susceptibility of the drinking water source to contamination and recommends

protective strategies. The assessment indicates that Southwest Licking's source of drinking water has a high susceptibility to contamination because of a lack of protective layer of clay overlying the aquifer, the shallow depth (less than 10 feet below ground surface) of the aquifer, and the presence of significant potential contaminant sources in the protection area.

An assessment of the aquifer and groundwater resources is important to a

comprehensive planning effort to ensure they are not compromised by future development. The analysis completed by the Ohio EPA on this subject has identified a drinking water source protection area for Southwest Licking's wellfield, as illustrated in Map 12 on page 29. This is an area where future development should be especially careful not to contribute harmful pollutants to the ground. A chemical spill in this zone would pose a greater threat to the drinking water than in other locations of the township.



Map 12: Drinking water source protection area and potential contaminant source inventory (Source: Ohio Environmental Protection Agency).

Due to the sensitive nature of this area more stringent protection is warranted. Map 12 on page 29 shows facilities and activities that currently exist within the protection area that have the potential to release a contaminant. One goal of this plan is to limit the future expansion of uses that could cause harm to this valuable resource. A small section of a current manufacturing zone exists within the protection area, however, this plan does not recommend the expansion of any form of manufacturing or business use within the identified protection zone.

The majority of the proposed future land use in this plan lying within the drinking water source protection area is identified as residential or agricultural. These types of uses are less likely to release contaminants than commercial or manufacturing operations, but can still pose a risk to the quality of the groundwater supply. Some of the factors that cause concern in a residential area are the existence of home heating oil tanks, illegal dumping, poor functioning septic systems, proper sealing and closing of unused wells, and the proper construction of new wells. Concerns in agricultural areas include the handling

of animal waste, its storage and treatment, along with fertilizer and pesticide use. The EPA assessment outlines potential contaminant sources and environmental concerns related to them, along with protective strategies that the community should consider. Etna Township should implement a Wellfield Protection Zoning District. This district should be implemented as an overlay district, which replicates the Ohio EPA's mapped five-year Protection Zone for Southwest Licking Water & Sewer District's water wells.

Radon Concerns

Radon is a gaseous, radioactive and extremely toxic element. It is a cancer-causing gas which you can't smell or taste, but it may be a problem in your home. Radon is estimated to cause many thousands of deaths each year. When you breathe air containing radon, you can get lung cancer. The Surgeon General has warned that radon is the second leading cause of lung cancer in the United States today; only smoking causes more lung cancer deaths. If you smoke and your home has high radon levels, your risk of lung cancer is especially high.

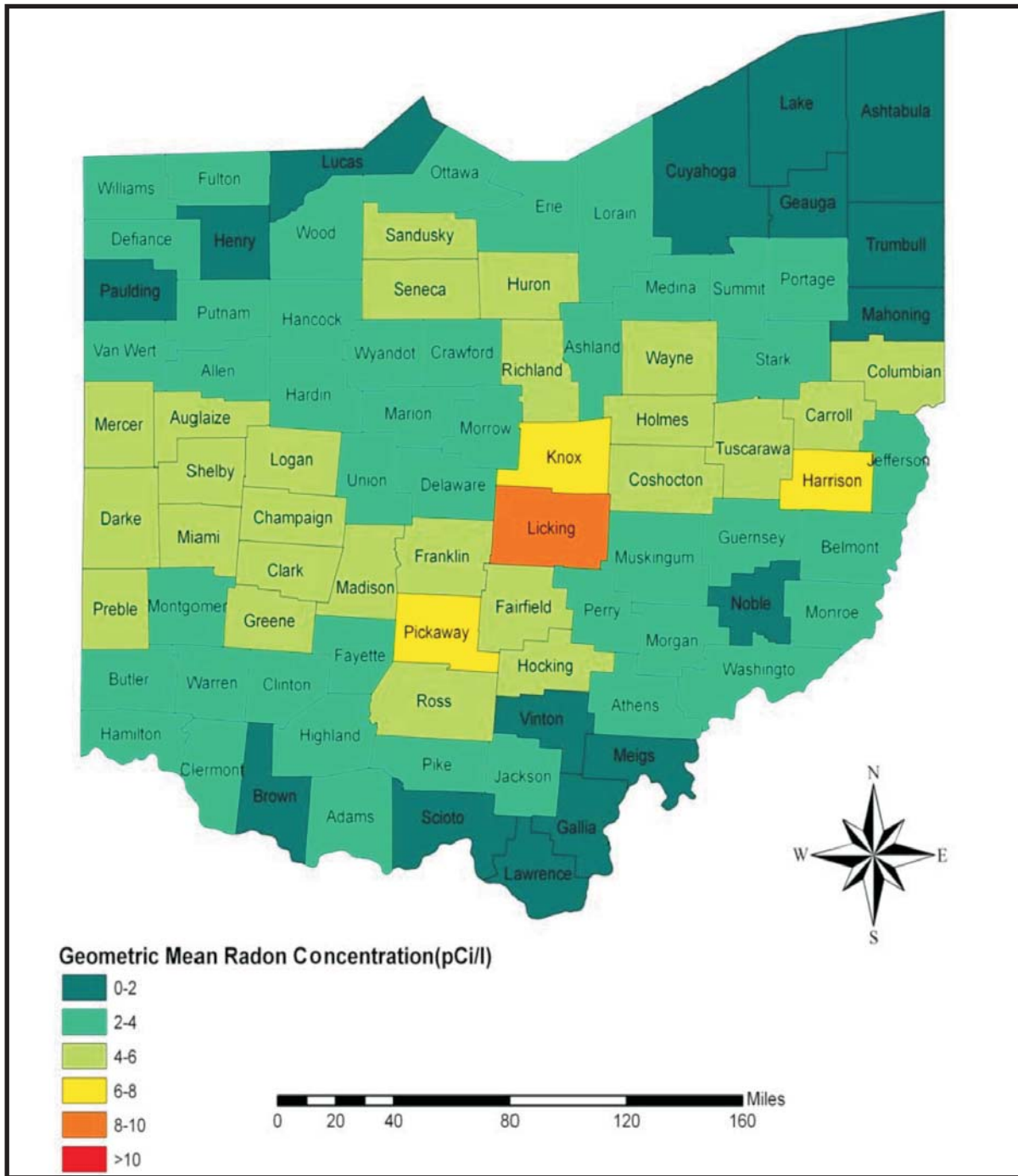
Radon comes from the natural (radioactive) breakdown of uranium in soil, rock and water and gets into the air you breathe. It can get into any type of building – homes, offices, and

schools – and results in a high indoor radon level. You and your family are most likely to get your greatest exposure at home, where you spend most of your time. Radon typically moves up through the ground to the air above and into your home through cracks and other holes in the foundation. Your home traps radon inside, where it can build up. Any home may have a radon problem, including new and old homes, well-sealed and drafty homes, and homes with or without basements.

Radon reduction systems work and they are not too costly. Some radon reduction systems can reduce radon levels in your home by up to 99%. Even very high levels can be reduced to acceptable levels. New homes can be built with radon-resistant features, and radon-resistant construction techniques can be effective in preventing entry. When installed properly and completely, these simple and inexpensive techniques can help reduce indoor radon levels in homes. In addition, installing them at the time of construction makes it easier and less expensive to reduce radon levels further if these passive techniques don't reduce levels to below 4 pCi/L.

Every new home should be tested after occupancy, even if it was built radon-resistant. If radon levels are still in





Map 13: Licking County has the highest level of radon concentration of any county in the state of Ohio (Source: www.eng.utoledo.edu/aprg/radon/fig1new.html).

excess of 4 pCi/L, the passive system should be activated by having a qualified mitigator install a vent fan.

Nearly one out of every 15 homes in the U.S. is estimated to have elevated radon levels. Results of radon tests, performed by Licking County Homeowners, indicate that over 70% of the homes had radon levels above the EPA action level of 4.0pCi/L. The average national indoor radon level is 1.3 pCi/L. The average indoor radon levels of Licking County, as determined by radon test results from Air Chek, Inc, is 17.4 pCi/L. There is certainly a higher level than average in Licking County. This is relevant to the comprehensive plan because actions can be taken at the building stage to reduce the levels of radon present in residential homes.

The planning committee wants to ensure residents are aware of the risks associated with radon inhalation. The committee would like for township officials to work with and through the Licking County Health Department to ensure current and future residents of Etna Township are educated about the dangers of radon gas. Township officials should encourage the Licking County Building Codes Department, Licking County Commissioners, and the State of Ohio to implement Building Code Regulations in Licking County which would require all new residential construction to be radon-resistant.