Troy Township Comprehensive Plan Steering Committee

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Troy Township

Comprehensive Plan 2002

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Maps

11” x 17” Plans

Executive Summary

According to the U.S. Bureau of Census, Delaware County is the fastest growing county in Ohio by percentage of growth and the 40th fastest growing county in the USA from 1990-2000. Troy Township has experienced modest growth from 1990-2000, putting its current population at 2,665.

Troy Township is likely to remain a single family residential rural area due to a lack of sanitary sewer service and a large portion of the township still lacking central water service. With the northern expansion of Delaware City, the southern portion of the Township may encounter suburban growth pressures in the next 10 years. The Olentangy River and Delaware Lake are two significant features in the township recommended for conservation through lower densities and encouragement of conservation subdivision design. The US 23 corridor is to be the commercial base of the township, with access management and architectural guidelines strongly emphasized. A density of 1 unit per two acres is recommended for most of the township to help maintain rural character, but higher densities are recommended in certain areas if sanitary sewer service were to become available.

A. Findings of the 2002 Comprehensive Plan:

1. To date, the township has lost 204 acres by annexation. (total)
2. 203 new homes have been built in the last 21 years (1980 to end of 2000).
3. Population has grown from 1,652 in 1990 to 2,665 in 2000.
4. From January 1987 to December 2000, 65 new lots were reviewed by the DCRPC, 52 of which were recorded. This does not include road frontage lot splits and 5-acre mini-farms.
5. From January 1998 to the end of 2001, 41 new lots ranging from 1 to 5 acres were created through the no-plat approval (lot split) process.
6. Agricultural and undeveloped acreage is still approximately 85% of the township, and the number one land use by acreage.
7. The local farm-to-market roads were not built to sustain their new functional roles as collector and arterial streets. Most collector roads need to be widened, but some narrow roads are considered part of the scenic character.
8. Troy Township has significant natural beauty in the Delaware Lake and Olentangy River and tributaries, which need protection.

9. There are 792 total housing units within Troy Township, 484 of which are single-family homes and 308 are mobile homes. The condition of the housing stock is good to excellent.
10. Delaware County is in good economic condition. The current unemployment rate is 1.7- 1.9%. The current inflation rate is less than 2%. If anything, economists worry that the low unemployment rate may deter new industry from locating in the county.
11. The Polaris area eight miles south of US 36, has been a huge job and traffic generator for Delaware County. As land becomes more scarce and expensive there, northerly commercial expansion up the US 23 corridor, along the US 36 corridor, and at the US 36-SR37/ I-71 interchange becomes more likely. The US 23 corridor represents an opportunity for commercial tax base.
12. US 23 will lose its ability to move through-traffic as it becomes a commercial frontage road. Access management principles to limit curb cuts can help prevent the deterioration of this important highway.
13. There is a lack of centralized water supplied to the township. Most of the township is served by private wells.
14. Troy Township is currently outside of the Delaware County sanitary sewer service district.
15. Buckeye Valley and Delaware City school districts, which serve the township, have experienced modest growth in its student population over the past 10 years and has stabilized over the last 3.
16. Fire protection is provided by the Tri-Township Fire District, staffed by on-call paid volunteers and four full-time personnel.
17. Troy Township generated 429 of 13,743 or 3.1% of the Sheriff's complaints in 2000.
18. There is no township park, but Delaware State Park and Delaware State Wildlife Area provides passive open space and recreation. There may be a need for additional active recreation such as baseball and soccer fields, tennis and basketball courts, and a public swimming pool in the future.

B. Goals and Objectives of the Troy Township Comprehensive Plan

1. Community Vision

Goal - To retain economically viable agriculture.

Objectives

a) Classify the most important farmland by soil type, location, productivity and proximity to development using the USDA Land Evaluation Site Assessment model (LESA).
b) Preserve viable farmland as part of Planned Residential Developments (PRDs) by transfer (sale) of development rights from farmland to adjacent PRDs in return for a permanent easement for open space and/or agriculture on the remaining adjacent farmland.
c) Keep Farm-Residential zone densities low at one unit per two acres.
d) Encourage cluster and farm village style developments.
e) Ensure that uses that would result in conflicts with agricultural operations are not established in productive farming areas.

Goal – To Retain Rural Character

Objectives

a) Maintain Farm-Residential zoning status for lands where no sanitary sewer exists or is expected.
b) Encourage Conservation subdivision design that best utilize available land, protect environmentally sensitive areas, protect historical structures, retain open space, maintain maximum vegetation and tree cover, and assure the protection of surface water and groundwater.
c) Promote architectural design standards for Planned Unit Developments (PRD, PCD) that reflects rural feel.

Goal - To ensure significant and diverse citizen input into the planning process.

Objectives

a) Use a 15 member steering committee as the primary citizen input to the Zoning Commission in amending the Comprehensive Plan.
b) Advertise an open informational meeting to discuss and review the recommendations of the plan prior to public hearings.
c) Use a township newsletter or weekly newspaper insert to publish and mail a synopsis of the plan to every household in Troy Township.
d) Recognize and promote high quality development and community beautification.

Goal – To prevent undue congestion on narrow county and township roads.

Goal – To protect rural real estate values

Objectives

a) Discourage zoning that would result in incompatible land uses.
b) Encourage connectivity of subdivisions to offer multiple accesses in order to avoid concentrating traffic on to one route.
c) Initiate a minimum lot size in areas when sanitary sewer service is available that emulate suburban densities within Planning Area 1a and 1b.
d) Amend the zoning text to maintain a rural lot size of 1 unit per 2 acres to safely utilize on-site water supply and sewage disposal systems where no sanitary sewer service is available.

2. Environment

Goal - To preserve natural beauty, wildlife, quietness and open space.

Objectives

a) Amend the zoning text to require a green way link between adjacent PRD subdivisions.
b) Create a landscape detail for greenway paths.
c) Retain wooded green ways along ravines, waterways and project perimeters in reviewing Planned Unit Developments and conventional subdivisions.
d) Set landscape and architectural design standards for Planned Unit Developments that stipulate the kinds of centralized green spaces envisioned.
e) Require the linkage of Planned Unit Developments by bike paths or walking paths in green ways so that new neighborhoods are all pedestrian oriented and children can move safely between neighborhoods without having to be driven by automobile.
f) Create a landscape standard for new Planned Unit Developments that front on township roads.
g) Amend the zoning text to require the appropriate landscaping buffer detail between certain residential and non-residential land uses. Create a landscaping detail(s) to be used between incompatible land uses.

Goal - To avoid inappropriate sprawl and retain critical resource areas and wildlife corridors

Objectives

a) Retain natural vegetation and forestland, and use existing topography as buffers where they exist.
b) Protect critical resources including floodplain and slopes over 20% with adequate buffer distances and lower densities along the Olentangy River to protect the water supply.
c) Encourage the use of conservation design in site development to protect natural resources and unique areas in the township.
d) Request the county amend its subdivision regulations to protect 100-year floodplains.

e) Amend the zoning resolution to identify and protect floodplains, jurisdictional wetlands, and slopes over 20% in planned residential developments (PRD).

Goal – To conserve surface and ground water quality

Objectives

a) Require minimum 2 acre lot size in areas without sanitary sewer.

b) Within 500' buffer from the Olentangy River high water mark – density of 1 unit per 5 acres for residential development.

3. Land Use

Goal - To retain a primarily single family residential housing mix, but offer diversity of housing when needed services are available.

Goal - To retain an overall low density.

Goal - To protect sensitive surface and ground water aquifers

Objectives

a) Retain single family densities of at least one unit per 2 acres where there is no centralized sanitary sewer provided by Delaware County or Delaware City.

b) Use the width of roads, the capacity of water and sewer systems, and the soil characteristics to regulate development, using the recommended densities and land use on the 2001 Comprehensive Plan map as a guide.

c) Avoid development of uses or densities that cannot be serviced by currently available or imminently planned infrastructure, unless such development mitigates its infrastructure impacts.

d) Permit single family housing in subdivisions with 20,000 square foot lots (approximately ½ acre) with centralized sanitary sewer and water, adequate fire protection and road access. (Within Planning Area 1)

e) Permit multi-family, empty nester style units as part of Planned Residential Developments, approved per the development plan. (Within Planning Area 1a)

f) Permit flexible lot sizes as part of Planned Residential Developments.

g) Discourage expansion of the suburban growth area boundary (Planning Area 1a and 1b) until it is completely developed.

h) Develop policies for service provision that relate to the comprehensive plan

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Goal - To provide appropriate recreation and managed open space

Objectives

a) Obtain 25-50 acres of land for a future Township park for active recreation (playing fields for organized sports).

b) Create a series of mini-parks (less than 1 acre) with ¼ mile spacing as part of Planned Residential Developments (PRD) where densities are greater than 1 unit per acre. Create a series of neighborhood parks of 15 acres with active recreation with ½ mile spacing in PRD neighborhoods.

Goal - To determine and implement an appropriate land use mix

Objectives

a) Direct Planned Commercial growth along US 23 corridor with appropriate types of neighborhood commercial within residential developments.

b) To create architectural guidelines for Planned Unit Developments; avoiding "franchise architecture" that has no community architectural syntax.

c) Acquire new sites for township facilities, including fire, police, road maintenance, etc.

d) Avoid prematurely zoning land. Respond to zoning requests pursuant to the Comprehensive Plan recommendations.

e) Use the Comprehensive Plan as the guideline in zoning.

f) Use a 15 member steering committee as the primary citizen input to the Zoning Commission in amending the Comprehensive Plan.

g) Advertise an open informational meeting to discuss and review the recommendations of the plan prior to public hearings.

h) Adhere to the proposed access management policies to avoid strip commercial developments.

i) Provide for 5 year updates and revisions to the Comprehensive Plan.

Goal – Offer Development alternatives to annexation

Objectives

a) Work with the City of Delaware to possibly create a Joint Economic Development District (JEDD) for commercial and industrial uses, or a cooperative agreement for residential uses.

Goal - To use access management controls to limit key access points to minimize traffic congestion.

Objectives

a) Require parallel access roads and connections between planned commercial and/or other highway service district uses on major arterial streets. The outside lanes of US 23 could act as parallel access frontage roads.
b) Require traffic studies of PRD proposals that follow the format of the 2001 Delaware County Thoroughfare Plan.
c) Adopt the appropriate ODOT Access Management recommendations for US 23; work with ODOT to prevent the deterioration of US 23

C. Recommendations

- Chapter 15 includes detailed Sub Area recommendations that relate to the 2002 Comprehensive Plan Map (please turn to Chapter 15 for those details).

Please see the foldout 2002 Comprehensive Plan Map (next page).

Vision Statement

When Troy Township is all built out, we would like it to be a community with a rural feel and character. Our Township roads should safely carry local traffic. Rural roads would have a rough edge that provides a rural feel. We strongly recommend that mature landscaping be maintained along rural roads. We would like most residential areas to remain at an overall low-density.

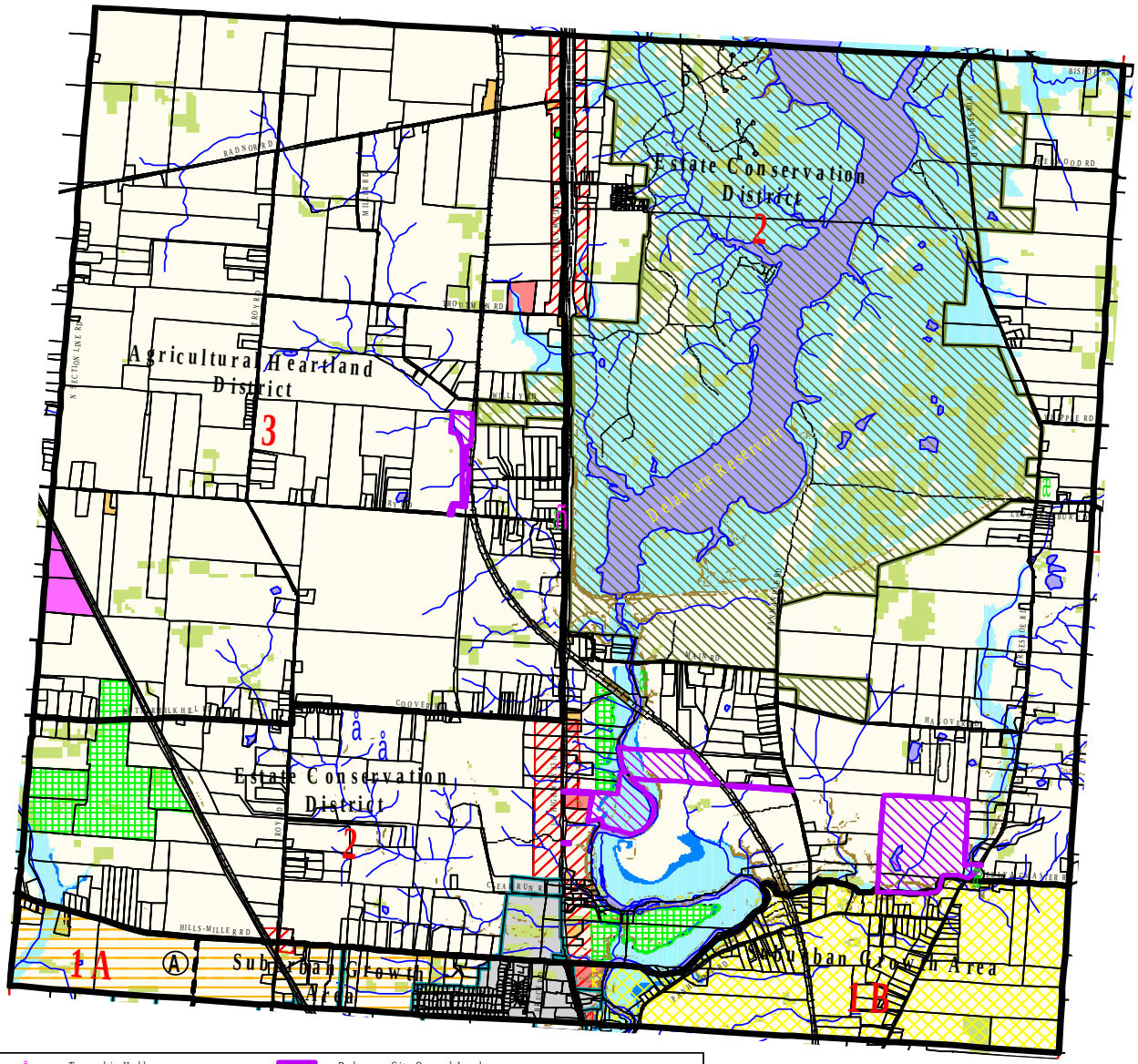
We would like agriculture and/or green spaces throughout the community. We would like to preserve unique scenic views and our critical natural resources such as ravines, floodplains, wetlands, forests and aquifers. We would like planned commercial and planned industrial uses, with attractive landscaping to balance the tax base. We would like to have a variety of land uses with controlled densities of population dependent upon the locations, natural features, and availability of utilities.

As we grow, we would like to see a planned commercial corridor along US 23 that does not encroach on the surrounding rural character. We would like commercial development to reflect a small community feel, with the use of natural materials and traditional structural colors.

We want to live in a community where growth is balanced with the conservation and enhancement of rural landscapes, agriculture, cultural and heritage resources, and the environment.

COMPREHENSIVE PLAN

Troy Township Comprehensive Land Use Plan 2002



Township Hall
Fire Department
Cemeteries
Schools
Planning Subareas
Township Boundaries
Property Lines
Incorp. Area Boundaries
Railroad
Road Centerlines
Proposed Roads
Road Right of Way
Streams
Slope > 20%
Ponds/Lakes/Rivers

Wetland
Potential Wetland / Farmed Wetland
500-Year Flood Plain
100-Year Flood Plain
Government Lands

Delaware City Owned Land

Proposed Land Use
Single Family Residential at 1 du/2acres
Single Family Residential at 1 du/2acres without centeralized sewer or 1.25 du/acre with centeralized sewer
Single Family Residential at 1 du/2acres without centeralized sewer or 2 du/acre with centeralized sewer
Potential Township Park / Preservation Area
Planned Commercial and Office (PCD)

Troy Township Zoning
Farm Residential District (FR-1)
Planned Residential District (PRD)
Planned Commercial and Office District (PCD)
Planned Industrial District (PID)
City of Delaware
Non-Conforming Use
Highway Service District
River
Road

N
W
E
S

0 1000 2000 3000 4000 5000 Feet

Scale: 1" = 4000'

Prepared By: Delaware County Regional Planning Commission (740-833-2260)
http://www.dcrpc.org
Original Data provided by Delaware County Auditor's Office DALIS Project (Topo, Parcel, ROW, Municipal Boundary, Road Centerlines, Hydrology, Township Boundary, Floodplain)(740-833-2070)
(8/13/2002)

Chapter 1

Introduction

The Troy Township Zoning Commission convened on October 19th, 2000 for the purpose of updating the 1991 Troy Township Master Plan. The Zoning Commission is responsible (Ohio Revised Code 519.05) for the submission of the plan to the Township Trustees to achieve the purposes of land use regulation under zoning powers (ORC 519.02). At-large residents and landowners of the township were encouraged to participate in the planning process.

The Township has previously taken steps to plan for its future by the adoption of a land use plan in 1991. The 2002 Troy Township Comprehensive Plan (update) is intended to:

1.) Review the changes in land use, population, utility services, roads, and boundaries that have occurred from 1991 to 2000.
2.) Review the changes in economic, legislative, judicial and regulatory conditions that have occurred from 1991 to 2000.
3.) Review the goals and policies adopted in 1991; judge whether they are still representative of the communities values and visions of its future, and if they conform to current federal and state land use legislation and court decisions.
4.) Amend the goals and objectives for the growth in the ensuing five to ten years.
5.) Create a revised text and map for the recommended land use of each parcel on a site- specific basis to guide future growth of the township.

The comprehensive plan contains policies, goals and a recommended land use map for the future development of the township. The township must subsequently amend its zoning to implement these policies and visions.

- **1991 Troy Township Master Plan** (See map, Appendix I)

1. Strengths of the 1991 Troy Township Master Plan

a.) It existed, and was the underpinning of zoning and road planning for 10 years from 1991-2001.
b.) It guided the growth of the township for ten years.
c.) It preserved rural character in non-sewer areas by keeping densities low.
d.) It used soils as a basis for density in non-sewer areas.
e.) It noted that lands along the Olentangy River and the Delaware Lake were environmentally sensitive.

f.) It anticipated new road corridors to serve the "super block areas" of land.

g.) It suggested access management policies to limit curb cuts along major roads.

h.) It acknowledges the need for neighborhood parks and outlined the need for active recreational facilities in the future.

i.) It identified functional classifications for roads and named those roads

j.) It provided goals for future development and development policies.

k.) Suggests exploring a joint service agreement with the City of Delaware for supply of water and wastewater treatment without annexation.

2. Drawbacks of the 1991 Master Plan

a.) The environmental criteria for evaluation of land (i.e. slopes > 20%, 100 year floodplains, wetlands, prime agricultural soils, unsuitable soils for septic systems, topography) were less fully developed than is now possible, and need to be updated.

b.) The goals and policy recommendations have not been reviewed/reconsidered in ten years.

c.) Some of the goals had no policies to implement them.

d.) There were no objectives to implement goal attainment; therefore it is difficult to evaluate success.

e.) There are no specific sub-area planning recommendations to interpret the map.

f.) There are no development policies for lands in transition.

g.) The master plan map was based on the available USGS base maps, so its recommendations were not site-specific. Without measurements or descriptions of boundaries of land uses, it is difficult to judge the edge of proposed districts.

h.) The master plan set densities high in the southern half of the township in anticipation of a large amount of the township being annexed.

The 2002 Comprehensive Plan is intended to be site-specific, with land use and/or density classification attached to each parcel, and viewed from an environmental standpoint with policies to protect critical resource areas.

The DCRPC 1993 Master Plan-The Effect on the Township

In 1993 the Delaware County Regional Planning Commission contracted with Frank Elmer and Assoc., Wilbur Smith and the SWA Group to prepare a Regional Comprehensive Plan for the entire Delaware County Planning Area. Troy Township falls within the Central Planning Area. However, no recommendations were made in this plan for Troy Township.

The 1993 Delaware County Master Plan overlays data to create a land suitability map which, in conjunction with development policies for each planning area represents the best guidelines possible at the macro scale of the study. It is suggestive, not prescriptive.

The 1993 DCRPC Master Plan is the adopted Regional plan. The 2002 Troy Township Comprehensive Plan update will be the vision, goals and objectives determined by the Township. If these plans differ in their recommendations, the Township plan takes precedence.

DALIS – How digital information affects the township's ability to plan

The Delaware County Auditor developed a Geographic Information System (GIS) for the primary purpose of accurately mapping tax parcels. DALIS stands for Delaware Area Land Information System. It is an accurate computer mapping system that offers both tabular and graphic real estate data about each of 50,000 tax parcels.

This mapping system has a cadastral (property line) layer and topography layer. Topography is available in 2', 5', and 10' contours depending upon which area of the county is viewed. In addition, the Auditor has also created revised soil maps and digital ortho photos with structures.

DALIS mapping is used as the base map for the 2002 Troy Township Comprehensive Plan. The software used is Arc/Info and ArcView, by ESRI. Planners may now view each parcel in a site-specific manner. This allows the Comprehensive Land Use Plan to be site specific.

Chapter 2
Population

Troy Township's population has grown from 1,652 in 1990 to 2,665 in 2000. The high growth rate (61.32%) is primarily attributed to a low census count in 1990. Building permit trends indicate that the growth rate in the township is moderate, due to the lack of central sewer (Table 2.8).

Table 2.1 Troy Population 1960-2000

Year	1960	1970	1980	1990	2000
Population	765	989	1,414	1,652	2,665

Source: U.S. Census Bureau.

Table 2.2 Troy Township, Ohio 2000 Census

Subject	All ages		18 years and over	
	Number	Percent	Number	Percent
RACE				
Total population	**2,665**	**100.0**	**2,032**	**100.0**
One race	2,647	99.3	2,021	99.5
White	2,591	97.2	1,981	97.5
Black or African American	43	1.6	33	1.6
American Indian and Alaska Native	0	0.0	0	0.0
Asian	4	0.2	3	0.1
Native Hawaiian and Other Pacific Islander	0	0.0	0	0.0
Some other race	9	0.3	4	0.2
Two or more races	18	0.7	11	0.5
HISPANIC OR LATINO AND RACE				
Total population	**2,665**	**100.0**	**2,032**	**100.0**
Hispanic or Latino (of any race)	11	0.4	7	0.3
Not Hispanic or Latino	2,654	99.6	2,025	99.7
One race	2,636	98.9	2,014	99.1
White	2,588	97.1	1,978	97.3
Black or African American	43	1.6	33	1.6
American Indian and Alaska Native	0	0.0	0	0.0
Asian	4	0.2	3	0.1
Native Hawaiian and Other Pacific Islander	0	0.0	0	0.0
Some other race	1	0.0	0	0.0
Two or more races	18	0.7	11	0.5

Source: U.S. Census Bureau, Census 2000 Redistricting Data (Public Law 94-171)

Delaware County is the fastest growing county in Ohio and the 40th fastest growing county in America by percentage growth rate. Most of this growth has occurred in Orange, Genoa, and Liberty Townships.

Table 2.3 US Bureau of Census, Ohio Population Estimates, Six Fastest Growing Counties

County	1990 population	2000 population	90-2000 growth rate	90-2000 rank in Ohio, % growth	90-2000 rank in USA, all counties, % growth
Delaware	66,929	109,989	64.3 %	1	40
Warren	113,909	158,383	39 %	2	161
Union	31,969	40,909	28 %	3	365
Noble	11,336	14,058	24 %	4	484
Medina	122,354	151,095	23.5 %	5	504
Brown	34,966	42,285	20.9 %	6	607

Source: US Bureau of Census

Table 2.4 Ohio's Top Six Counties by Numerical Population Increase

County	1990 population	2000 population	90-2000 increase	90-2000 rank in Ohio, numeric growth	90-2000 rank in USA, all counties, numeric increase
Franklin	961,437	1,068,978	107,541	1	54
Warren	113,909	158,383	44,474	2	172
Delaware	66,929	109,989	43,060	3	178
Butler	291,479	332,807	41,328	4	187
Medina	122,354	151,095	28,741	5	256
Summit	514,990	542,899	27,909	6	269

Source: US Bureau of Census

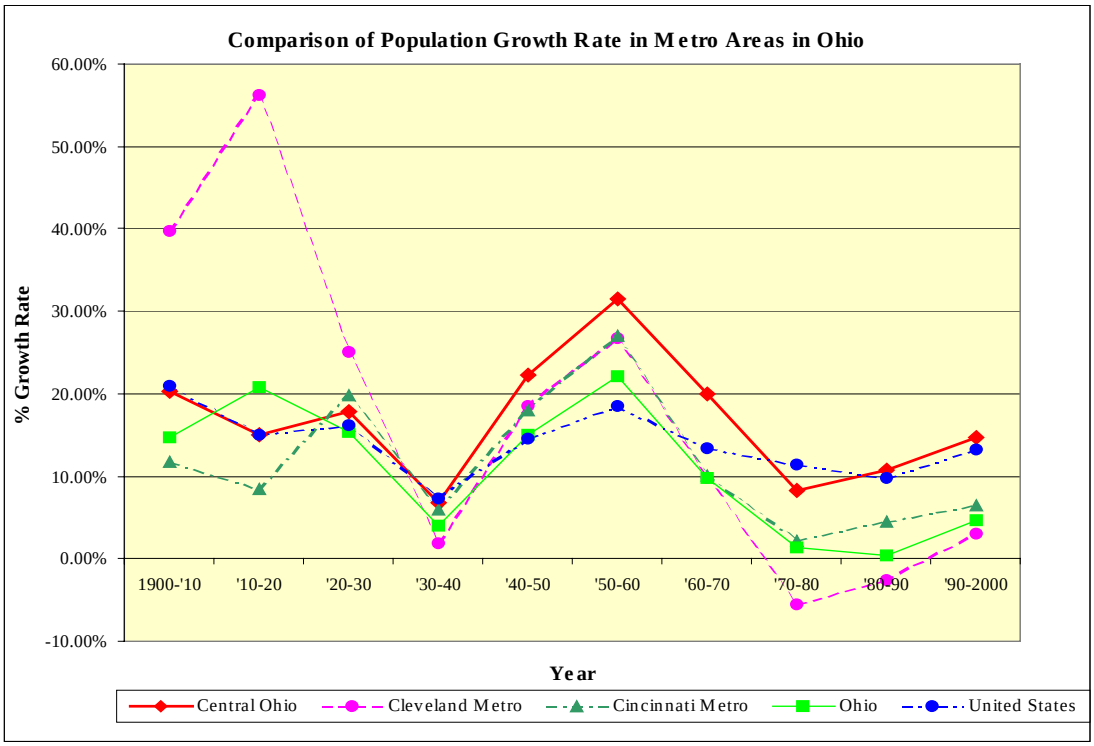
The Delaware County growth rate has continued to increase as people pushed north from Franklin County (Columbus) into the "country" for larger lots or more "rural character". To put Delaware County's rate of growth into national perspective, consider the state and national annual growth rates. (Table 2.5)

Delaware County is growing largely by domestic in-migration. 25,347 new residents moved into the county from 1990 to 1999. Births minus deaths represented 5,341 new population in this time span.

By contrast, Franklin County experienced a net loss of –21,749 via outward migration from 1990-99. People are moving into other central Ohio counties, principally Delaware County, which received 62% of the domestic migration in Central Ohio from 1990-99 (Source: US Bureau of Census).

Table 2.5 Population Growth in Central Ohio

(Source, US Bureau of Census)



Population Information in Central Ohio

(Data source: U.S. Census Bureau)

Area Name	1990 Census	2000 Census	Changed # of Pop.	Total Growth R.	Births 1990-1999	Deaths 1990-1999	Natural G. # of Pop.	Int'l Migration	Domestic Migration
Franklin	961,437	1,068,978	**107,541**	**11.19%**	149,925	70,377	**79,548**	**11,089**	**-21,749**
Delaware	66,929	109,989	**43,060**	**64.34%**	9,856	4,515	**5,341**	**440**	**25,347**
Fairfield	103,472	122,759	**19,287**	**18.64%**	14,070	8,166	**5,904**	**283**	**17,280**
Licking	128,300	145,491	**17,191**	**13.40%**	17,230	11,100	**6,130**	**285**	**8,103**
Union	31,969	40,909	**8,940**	**27.96%**	4,685	2,498	**2,187**	**75**	**6,576**
Pickaway	48,244	52,727	**4,483**	**9.29%**	5,806	3,760	**2,046**	**46**	**3,240**
Madison	37,068	40,213	**3,145**	**8.48%**	4,803	2,843	**1,960**	**77**	**2,349**
Central Ohio	1,377,419	1,581,066	**203,647** *14.78%*	**14.78%**	206,375	103,259	**103,116** *7.49%*	**12,295** *0.89%*	**41,146** *2.99%*
Ohio	10,847,115	11,353,140	**506,025** *4.67%*	**4.67%**	1,454,713	957,171	**497,542** *4.59%*	**52,922.00** *0.49%*	**-166,200** *-1.53%*
United States	248,709,873	281,421,906	**32,712,033** *13.15%*	**13.15%**	36,820,132	20,934,303	**15,885,829** *6.39%*	**7,478,078** *3.01%*	**0** *0.00%*

Table 2.6 Delaware County Growth Rate Vs. Ohio Vs. USA

(Source, US Bureau of Census, Internet Release Date: April 2001; Statistical Information, Washington D.C, (301)-457-2422).

Area	1990 population	2000 population	Growth Rate 1990-2000
USA	248,709,873	281,421,906	13.15 %
Ohio	10,847,115	11,353,140	4.66 %
Central Ohio	1,377,419	1,581,066	14.78 %
Franklin Co.	961,437	1,068,978	11.2 %
Berkshire Twp.	1,713	1,946	13.6 %
Berlin Twp.	1,978	3,315	67.59 %
Brown Twp.	1,164	1,297	11.43 %
Concord Twp.	3,363	4,088	21.56 %
Delaware Twp.	1,607	906	-43.62 %
Genoa Twp.	4,053	11,293	178.63 %
Harlem Twp.	3,391	3,762	10.94 %
Kingston Twp.	1,136	1,603	41.11 %
Liberty Twp.	3,790	9,182	142.27 %
Marlboro Twp.	213	227	6.57 %
Orange Twp.	3,789	12,464	228.95 %
Oxford Twp.	901	854	-5.22 %
Porter Twp.	1,345	1,696	26.10 %
Radnor Twp.	1,156	1,335	15.48 %
Scioto Twp.	1,698	2,122	24.97 %
Thompson Twp.	582	558	-4.12 %
Trenton Twp.	1,906	2,137	12.12 %
Troy Twp.	**1,652**	**2,665**	**61.32 %**
Total Unincorp.	**35,437**	**61,450**	**73.41 %**
Delaware	20,030	25,243	26.03 %
Dublin	3,811	4,283	12.39 %
Galena	361	305	-15.51 %
Sunbury	2,046	2,630	28.54 %
Shawnee Hills	423	419	-.95 %
Powell	2,154	6,247	190.02 %
Ashley	1059	1,216	14.83 %
Ostrander	431	405	-6.03 %
Westerville	1,177	5,900	401.27 %
Columbus	0	1,891	
Total Incorp.	**31,492**	**48,539**	**54.13 %**
Total Delaware Co.	**66,929**	**109,989**	**64.3 %**

2.1 Population Projections

The Delaware County Regional Planning Commission makes population projections based upon the housing unit method. The formula works as follows:

1.) Last Census used as a base year (1990).
2.) Number of residents per dwelling unit for each jurisdictions is calculated based upon the last census information.
3.) Number and type of dwelling unit is tracked by month for all jurisdictions.
4.) A time lag factor anticipates the occupancy date of new housing after building permit issuance.
5.) New population is projected for each jurisdiction based on the number of building permits issued times the number of residents per dwelling unit type, after the lag factor.
6.) New population added to last census data to create projected population.

Because of Delaware County's rapid growth, all recent population projections by the county and the Bureau of Census have proven to be low. The Population by Housing Unit Method Projections table contains population projections by township, village and city for Delaware County.

DELAWARE COUNTY REGIONAL PLANNING COMMISSION
POPULATION PROJECTION (HOUSING UNIT METHOD)
2000 THROUGH 2020

YEAR	1990 CENSUS (APRIL OF 1990)	2000 CENSUS (APRIL OF 2000)	POPULATION INDEX	H_UNITS VACANCY R.	END OF 2000 (PROJECTED	2001	2002	2003	2004	2005	GROWTH R/ (90-2000)	ANNUAL GROWTH R.	2010	2015	2020	GROWTH RATE (2001-2010)	GROWTH RATE (2011-2020)
TOWNSHIPS																	
BERKSHIRE	1713	1946	2.810	4.5%	1974	2032	2135	2225	2312	2381	13.60%	1.28%	2,715	3,047	3,398	37.52%	25.16%
BERLIN	1978	3315	2.810	4.7%	3490	3890	4360	4670	4973	5214	67.59%	5.30%	6,324	7,428	8,595	81.17%	35.91%
BROWN	1164	1297	2.850	3.3%	1310	1353	1392	1408	1423	1434	11.43%	1.09%	1,508	1,582	1,660	15.16%	10.07%
CONCORD	3363	4088	2.740	5.8%	4323	4998	5654	6010	6356	6631	21.56%	1.97%	7,912	9,185	10,532	83.00%	33.12%
DELAWARE	1607	906	2.630	7.0%	931	1013	1085	1120	1154	1180	-43.62%	-5.57%	1,313	1,445	1,585	40.97%	20.72%
GENOA	4053	11293	2.930	5.0%	12185	14123	15948	16858	17743	18447	178.63%	10.79%	21,747	25,028	28,499	78.46%	31.05%
HARLEM	3391	3762	2.820	3.1%	3774	3805	3846	3868	3890	3902	10.94%	1.04%	4,034	4,165	4,305	6.89%	6.70%
KINGSTON	1136	1603	3.020	3.1%	1652	1745	1844	1899	1954	1996	41.11%	3.50%	2,211	2,425	2,652	33.87%	19.95%
LIBERTY	3790	9182	3.000	5.3%	9633	10513	11437	11983	12513	12933	142.27%	9.25%	14,939	16,934	19,045	55.08%	27.49%
MARLBORO	213	227	2.690	6.7%	227	229	230	230	231	231	6.57%	0.64%	236	241	247	3.96%	4.46%
ORANGE	3789	12464	2.930	8.4%	13226	14534	16030	17017	17977	18742	228.95%	12.65%	22,302	25,841	29,586	68.62%	32.66%
OXFORD	901	854	2.870	7.2%	864	891	914	924	934	940	-5.22%	-0.53%	987	1,034	1,083	14.27%	9.74%
PORTER	1345	1696	2.870	3.0%	1705	1734	1766	1784	1800	1812	26.10%	2.35%	1,897	1,981	2,070	11.26%	9.15%
RADNOR	1156	1335	2.750	4.3%	1345	1373	1403	1418	1433	1443	15.48%	1.45%	1,516	1,588	1,665	12.71%	9.82%
SCIOTO	1698	2122	2.740	4.7%	2154	2211	2277	2320	2360	2391	24.97%	2.25%	2,566	2,741	2,926	19.13%	14.01%
THOMPSON	582	558	2.760	8.2%	559	563	568	571	574	576	-4.12%	-0.42%	594	612	632	6.27%	6.34%
TRENTON	1906	2137	2.920	3.0%	2143	2164	2190	2201	2212	2219	12.12%	1.15%	2,291	2,363	2,439	6.93%	6.45%
TROY	1652	2665	2.520	8.5%	2658	2662	2668	2666	2664	2660	61.32%	4.90%	2,694	2,728	2,765	1.35%	2.63%
TOTAL UNINC	**35,437**	**61,450**	2.810	5.3%	**64,154**	**69,833**	**75747**	**79,174**	**82,503**	**85,133**	73.41%	**5.66%**	**97,785**	**110,366**	**123,683**	52.42%	**26.48%**
INCORPORATED AREAS																	
DELAWARE	20030	25243	2.630	6.7%	25900	26609	27237	27876	28495	28970	26.03%	2.34%	31,531	34,077	36,605	21.74%	16.09%
GALENA	361	305	2.610	7.6%	305	308	312	313	313	313	-15.51%	-1.67%	320	327	334	4.81%	4.38%
SUNBURY	2046	2630	2.550	3.9%	2692	2852	2998	3042	3085	3116	28.54%	2.54%	3,310	3,503	3,694	22.95%	11.60%
SHAWNEEHILL	423	419	2.320	9.0%	429	447	455	455	455	454	-0.95%	-0.09%	460	466	472	7.23%	2.61%
POWELL	2154	6247	3.180	2.8%	6434	6751	7109	7417	7716	7952	190.02%	11.24%	9,096	10,234	11,363	41.38%	24.92%
ASHLEY	1059	1216	2.660	6.2%	1284	1361	1363	1364	1366	1368	14.83%	1.39%	1,369	1,371	1,375	6.64%	0.44%
OSTRANDER	431	405	2.680	5.1%	403	406	415	416	417	417	-6.03%	-0.62%	427	436	445	5.88%	4.22%
DUBLIN	3811	4283	3.040	6.9%	4291	4326	4329	4355	4385	4414	12.39%	1.17%	4,516	4,618	4,719	5.25%	4.50%
WESTERVILLE	1177	5900	2.820	3.7%	6748	8255	8575	8954	9324	9672	401.27%	17.49%	11,238	12,796	14,237	66.53%	26.69%
COLUMBUS	0	1891	2.480	7.8%	2546	2882	3273	3863	4438	4903			6,940	8,966	10,977	172.58%	58.17%
TOTAL INC.	**31,492**	**48,539**	2.697	5.0%	**51,033**	**54,197**	**52,792**	**58,055**	**55,556**	**61,580**	54.13%	**4.42%**	**69,208**	**76,793**	**84,221**	35.61%	**21.69%**
T. INC&UNINC	**66,929**	**109,989**	2.700	6.4%	**115,186**	**124,030**	**128,539**	**137,229**	**138,059**	**146,713**	64.34%	**5.09%**	**166,993**	**187,159**	**207,903**	44.98%	**24.50%**

THIS FIGURE CONSIDERS: 1) ANNEXATION
2) SINGLE F. AND MULTI F. OR CONDOMINIUM BUILDING PERMITS
3) VACANCY RATE
4) 8 MONTHS CONSTRUCTION TIME AFTER GETTING BUILDING PERMIT
5) ANNUAL DEAD RATE (0.60758% (90-95), 0.55852%(96-2000))
6) POPULATION INDEX AND HOUSING _UNITS VACANCY RATE IS FROM CENSUS 2000

NOTE: POTENTIAL SHIFTS IN POPULATION BY UNCHARTED TRENDS MAY OCCUR,
FOR EXAMPLE EXTENSION OF SEWERS, UNANTICIPATED HIGHER DENSITY REZONINGS, ETC.

Revised – 4/15/02

Figure 2.1 Population Projections in Northern Delaware County

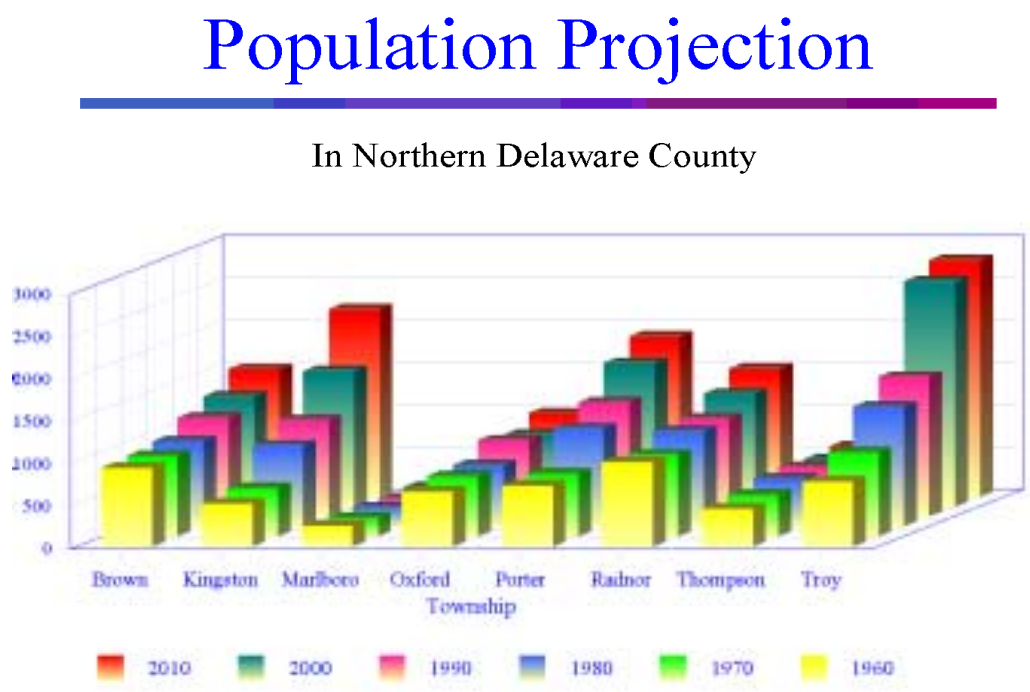
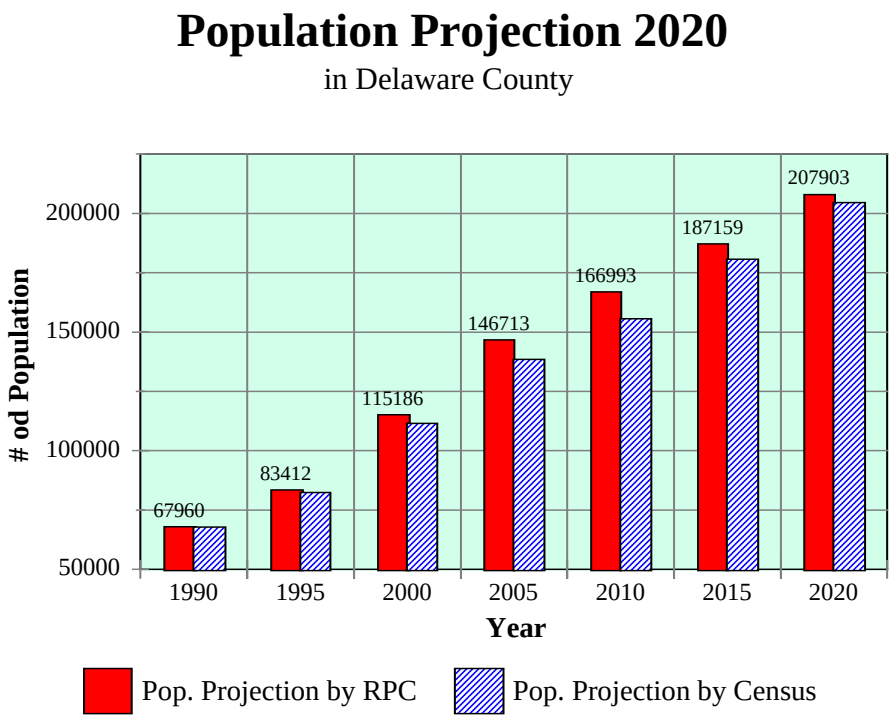


Figure 2.2 Delaware County Population Projections to Year 2020



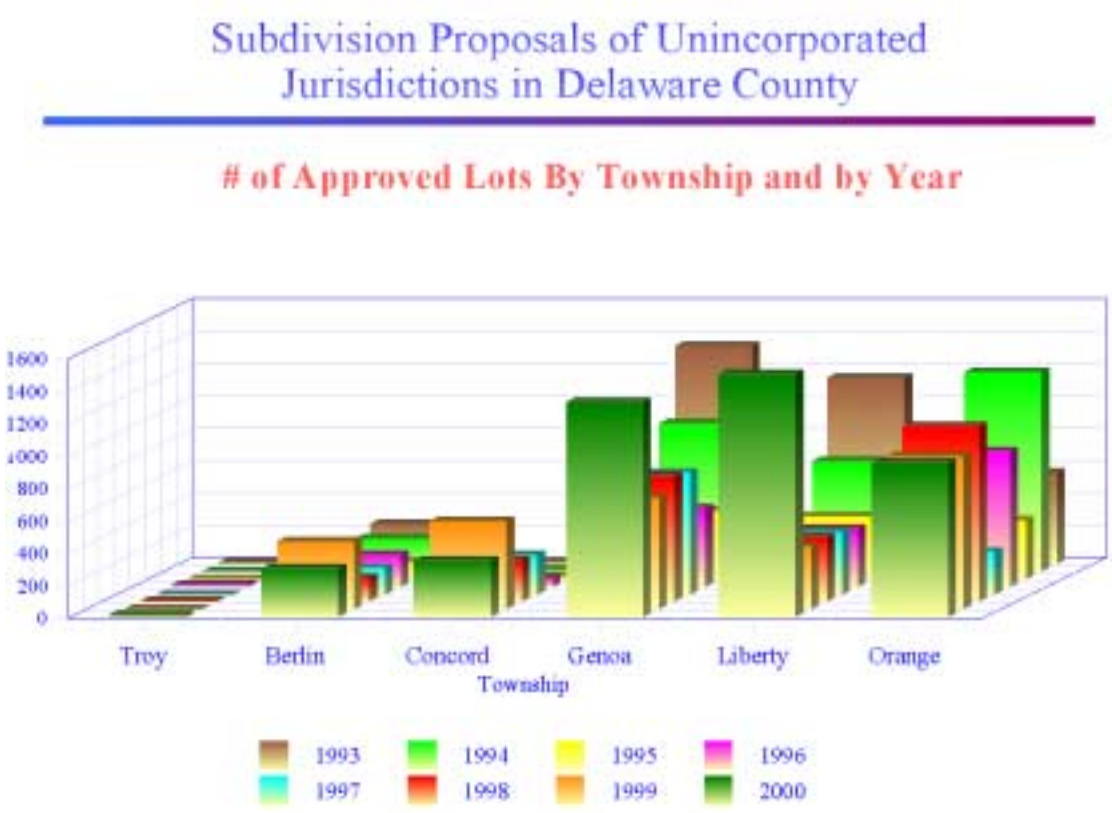
DELAWARE COUNTY REGIONAL PLANNING COMMISSION
NUMBER OF BUILDING PERMITS
1980 THROUGH 2000

YEAR	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Total ('80-'00)
TOWNSHIPS																						
BERKSHIRE	6	3	2	6	6	13	30	28	26	26	30	18	27	26	13	21	22	16	17	34	16	386
BERLIN	8	11	4	9	11	19	19	34	32	17	13	22	26	35	39	65	66	54	98	117	128	827
BROWN	3	2	2	9	5	3	5	10	15	13	8	7	9	12	14	11	17	9	10	8	17	189
CONCORD	16	16	4	11	14	26	42	44	51	27	30	22	33	38	42	35	30	43	96	103	235	958
DELAWARE	3	5	2	2	7	5	6	6	5	6	11	9	5	10	12	3	4	12	25	11	31	180
GENOA	9	3	10	21	30	27	66	52	39	40	51	54	114	187	271	243	363	342	622	507	651	3,702
HARLEM	13	8	8	19	19	16	32	33	30	19	18	17	32	37	27	25	30	30	23	27	16	479
KINGSTON	6	3	2	7	9	11	6	14	15	7	14	12	22	32	20	19	18	19	24	37	30	327
LIBERTY	20	18	9	19	35	37	60	59	93	57	73	91	164	153	202	164	202	231	262	322	276	2,547
MARLBORO	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	1	1	0	1	1	1	8
ORANGE	11	5	5	56	57	43	110	150	139	80	84	103	135	170	180	188	268	352	378	637	410	3,561
OXFORD	0	1	2	3	4	1	2	4	3	4	8	8	6	7	7	3	6	6	4	9	10	98
PORTER	10	5	7	6	4	6	14	11	17	17	10	21	20	12	25	12	13	16	17	11	12	266
RADNOR	7	3	6	4	3	2	1	5	7	8	9	7	11	15	12	13	11	9	13	11	12	169
SCIOTO	16	8	8	12	14	21	17	30	21	11	22	15	17	28	26	33	26	20	27	37	21	430
THOMPSON	1	0	1	2	1	1	6	4	2	7	1	3	3	0	2	0	3	4	4	4	2	51
TRENTON	6	7	3	7	9	4	8	17	15	16	11	12	12	17	9	11	25	17	13	12	10	241
TROY	0	6	1	21	4	6	5	18	13	7	15	5	9	13	18	9	15	13	12	6	7	203
TOTAL UNINCORP.	**135**	**104**	**76**	**214**	**232**	**241**	**430**	**519**	**524**	**362**	**408**	**426**	**646**	**792**	**919**	**856**	**1,120**	**1,193**	**1,646**	**1,894**	**1,885**	**14,622**
INCORPORATED AREAS																						
DELAWARE	132	104	6	54	46	103	86	160	150	322	89	76	87	111	245	305	465	248	355	790	318	4,252
GALENA	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	2	0	2	2	1	10
SUNBURY	2	0	0	1	8	13	5	4	8	4	3	3	11	10	14	17	40	30	33	19	47	272
SHAWNEE HILLS															3	7	1	2	1	0	4	18
POWELL	9	9	7	7	24	56	105	202	137	129	92	73	89	169	166	103	130	163	217	141	103	2,131
ASHLEY											1	1		0	2	3	0	2	0	0	1	10
OSTRANDER	2	0	0	0	2	2	6	2	2	0	1	0	0	1	0	9	7	1	0	1	0	36
DUBLIN																				4	9	13
WESTERVILLE																					140	140
COLUMBUS																83	121	546	184	774	146	1,854
TOTAL INC.	**145**	**113**	**13**	**62**	**80**	**174**	**203**	**369**	**297**	**456**	**186**	**153**	**187**	**291**	**430**	**527**	**766**	**992**	**792**	**1,731**	**769**	**8,736**
T. INC&UNINC.	**280**	**217**	**89**	**276**	**312**	**415**	**633**	**888**	**821**	**818**	**594**	**579**	**833**	**1,083**	**1,349**	**1,383**	**1,886**	**2,185**	**2,438**	**3,625**	**2,654**	**23,358**

NOTE: 1) IN THE CITY OF DELAWARE AND COLUMBUS, THOSE FIGURES ARE INCLUDING MULTI-FAMILY RESIDENTIAL BUILDING PERMITS.
2) FROM 1997, THOSE FIGURES ARE INCLUDING MULTI-FAMILY RESIDENTIAL BUILDING PERMITS IN TOWNSHIPS

Revised – 4/15/02

Figure 2.3 Central Ohio Population Growth



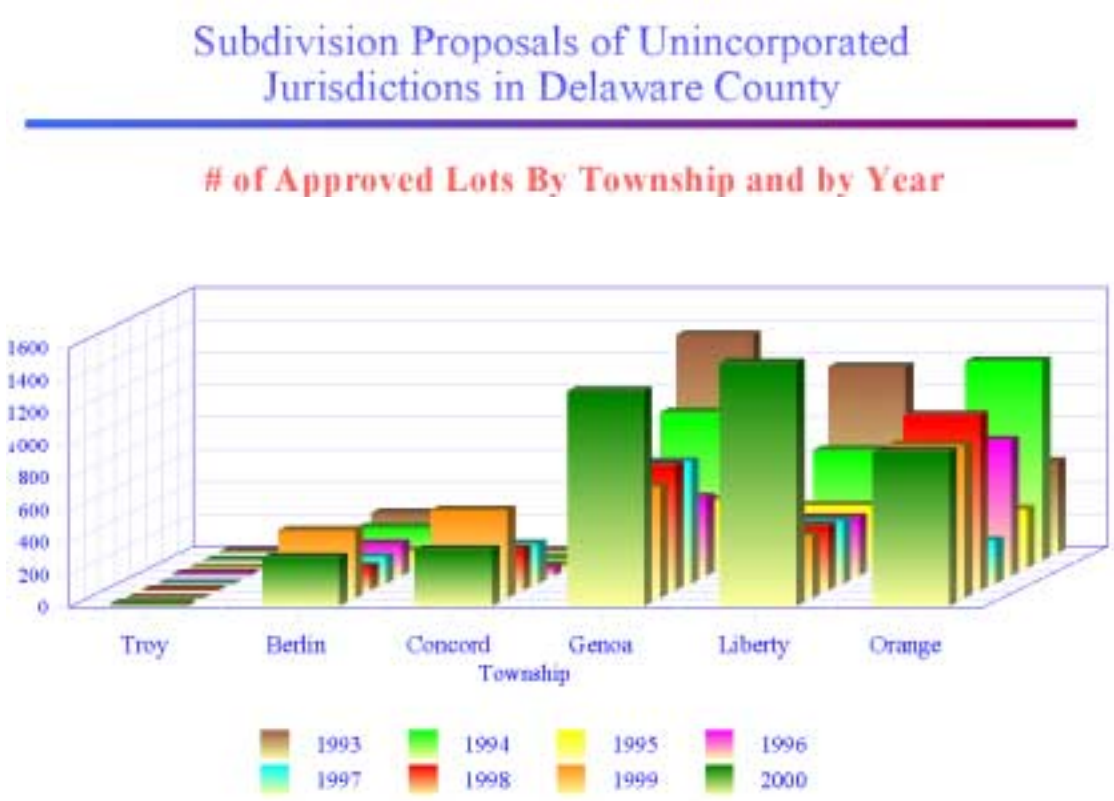
Chapter 3

Development and Change 1980-2000

3.1 Development Indicators from 1980-2000

From 1980 to the end of 2000, Troy Township added 203 new single-family homes, or an average of almost 10 homes per year.

Figure 3.1 New Subdivisions



From January 1993 to December 2000, 43 new subdivision lots were platted in Troy Township. This figure does not include road frontage lot splits and five-acre mini-farms. From January 1998 to the end of 2001, 41 new lots ranging from 1 to 5 acres were created through the no-plat approval (lot split) process. It should also be noted that of all the subdivisions platted in the township, the majority would be considered lot splits by today's standards. It is clear that residential growth in Troy Township is not occurring by traditional subdivisions with streets, but by road frontage lot splits.

Table 3.1 Subdivisions in Delaware County 1/1/93- 12/31/00

SUMMARY STATISTICS OF SUBDIVISION DATA BASE FROM 1/1/87 TO 12/31/00

	TOTAL # OF LOTS APPROVED BY RPC							
TOWNSHIP	1993	1994	1995	1996	1997	1998	1999	2000
BERKSHIRE	9	6	10	3	0	24	55	19
BERLIN	244	206	107	198	162	145	420	302
BROWN	6	0	0	8	0	2	4	10
CONCORD	15	11	19	52	241	254	548	346
DELAWARE	24	4	19	5	209	83	59	39
GENOA	1,346	912	425	483	753	771	690	1,326
HARLEM	11	11	26	9	4	3	31	0
KINGSTON	10	7	0	8	8	12	16	9
LIBERTY	1,149	679	386	358	386	398	391	1,497
MARLBORO	0	0	0	0	0	0	0	5
ORANGE	562	1,232	364	834	263	1,085	943	949
OXFORD	0	0	0	0	0	0	0	9
PORTER	4	2	2	2	3	0	2	0
RADNOR	8	0	0	0	0	0	5	3
SCIOTO	2	11	7	11	4	0	28	38
THOMPSON	0	0	0	3	0	0	21	0
TRENTON	7	9	23	0	0	0	19	5
TROY	8	3	0	11	0	4	4	13
TOTAL	3,405	3,093	1,388	1,985	2,033	2,781	3,236	4,570

* TOTAL # OF LOTS INCLUDE S-F & M-F SUBDIV. AND OTHER USE SUBDIVISION PROPOSALS

Table 3.2 Delaware County Lot Splits from 1998 to 2001

TOWNSHIP	TOTAL LOTS	TOTAL ACREAGE	VACANT LOTS	VACANT ACREAGE
BERKSHIRE	31	65.48	24	44.47
BERLIN	30	67.58	27	59.09
BROWN	18	44.59	15	36.34
CONCORD	45	96.65	31	63.43
DELAWARE	13	22.99	8	13.69
GENOA	49	103.39	36	77.47
HARLEM	29	50.18	18	28.46
KINGSTON	***102***	***197.35***	***86***	***166.51***
LIBERTY	58	112.20	33	81.59
MARLBORO	17	48.12	16	35.20
ORANGE	25	47.95	15	37.59
OXFORD	53	122.32	48	102.03
PORTER	4	12.24	3	9.38
RADNOR	11	29.58	9	23.57
SCIOTO	56	111.17	45	85.49
THOMPSON	11	18.73	6	9.27
TRENTON	18	41.26	11	24.71
TROY	45	102.70	41	92.21
TOTAL	615	1294.48	472	990.48

Table 3.3 Residential Subdivision from 1987-2000 in Delaware County

SUMMARY STATISTICS OF RESIDENTIAL SUBDIVISION DATA BASE FROM 1/1/87 TO 12/31/00

		NUMBER OF S.F. LOTS									
TOWNSHIP	ACREAGE	TOTAL*	RECORDED	FINAL APPD	PREL. APPD	OVERALL PREL.	TABLED	SKETCH REVIEW	M_H_UNIT	BLDGPER	EXPIRED LOTS
BERKSHIRE	521.77	317	146	21	7	0	0	43	0	112	0
BERLIN	1,228.73	1,307	692	130	262	0	0	23	0	499	37
BROWN	197.37	77	36	0	0	0	0	31	0	21	0
CONCORD	1,898.02	1,953	936	36	299	679	0	3	154	551	49
DELAWARE	351.96	322	163	37	117	0	0	5	48	79	32
GENOA	3,648.25	5,270	3,847	138	1,238	0	0	47	60	3,001	99
HARLEM	355.06	119	95	0	0	0	0	24	0	64	0
KINGSTON	268.76	83	76	0	0	0	0	7	0	50	0
LIBERTY	5,378.74	4,153	2,555	22	448	834	111	191	1,223	2,003	272
MARLBORO	32.16	7	2	0	5	0	0	0	0	1	0
ORANGE	3,822.26	4,082	3,701	110	1,168	0	0	3	1,335	2,788	233
OXFORD	58.37	0	0	0	0	0	0	0	0	0	0
PORTER	258.19	19	19	0	0	0	0	0	0	14	0
RADNOR	158.82	34	21	3	2	0	0	8	0	18	0
SCIOTO	247.11	73	41	7	18	0	0	7	0	27	2
THOMPSON	51.99	24	24	0	0	0	0	0	0	2	0
TRENTON	304.65	56	49	0	5	0	0	2	0	32	7
TROY	154.27	65	52	0	3	0	0	10	0	47	0
TOTAL	18,863.66	18,370	12,445	304	3,573	1,513	111	434	2,820	9,309	771

NOTE 1: BR (RATIO) = # OF BUILDING PERMITS / # OF RECORDED LOTS = 74.88%
NOTE 2: TOTAL* DOESN'T INCLUDE THE EXPIRED SUBDIVISION PROPOSALS
NOTE 3: M_H_UNIT INCLUDES THE EXPIRED SUBDIVISION PROPOSALS

Figure 3.2

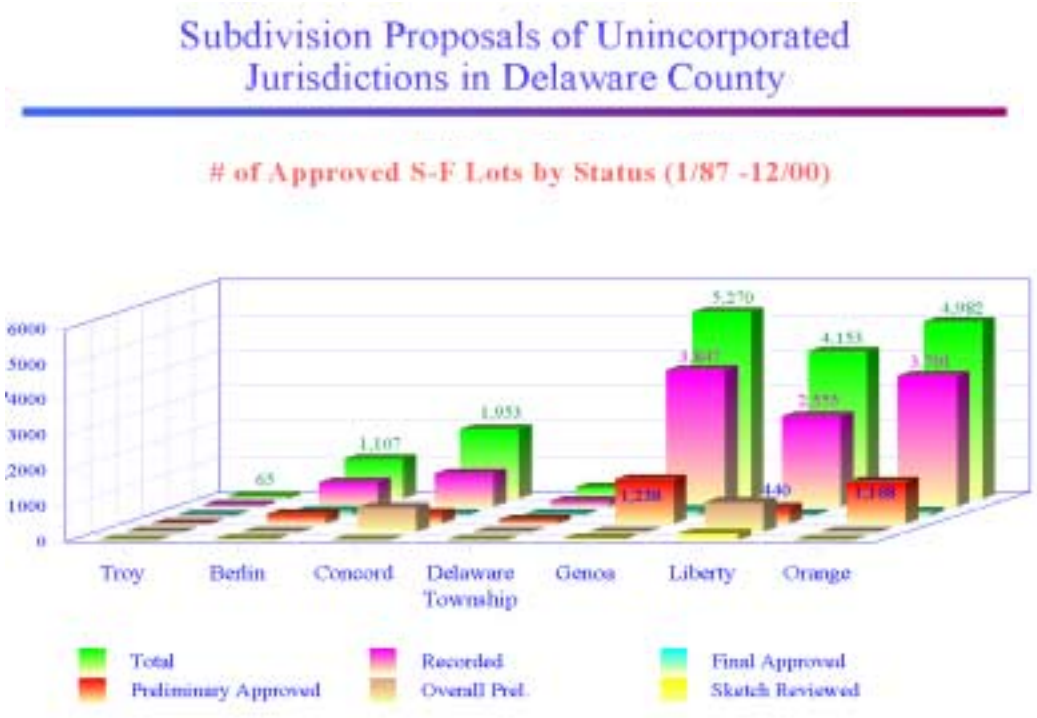


Figure 3.3

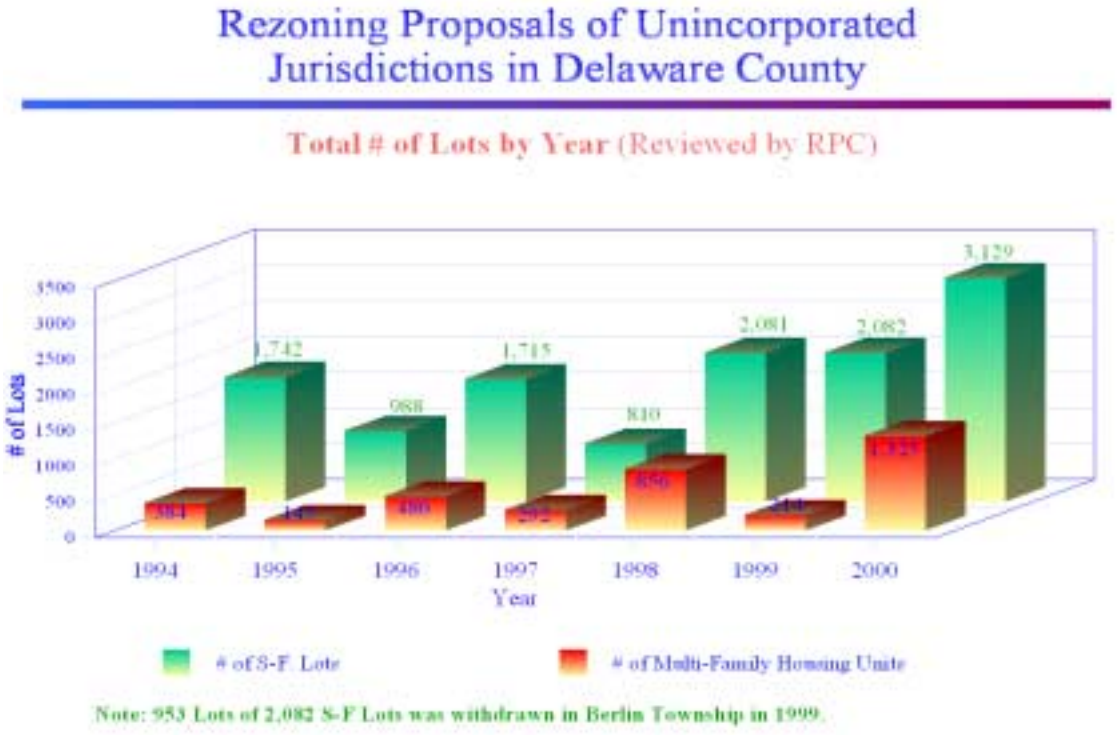


Table 3.4

SUMMARY STATISTICS OF REZONING DATA BASE FROM 1/1/94 TO 12/31/00

ACTIVE REZONING PROPOSALS REVIEWED BY RPC

TOWNSHIP	1994		1995		1996		1997		1998		1999		2000	
	# LOTS	# M-F. HU	# LOTS	# M-F. HU	# LOTS	# M-F. HU	# LOTS	# M-F. HU	# LOTS	# M-F. HU	# LOTS	# M-F. HU	# LOTS	# M-F. HU
BERKSHIRE	300	384	5	0	9	0	32	0	31	0	24	0	307	0
BERLIN	88	0	0	0	0	0	164	0	124	50	1,211	0	116	0
BROWN	1	0	0	0	0	0	0	0	0	0	0	0	0	0
CONCORD	0	0	0	0	598	72	0	0	1,164	92	4	0	26	0
DELAWARE	3	0	0	0	203	0	0	0	0	0	0	0	0	0
GENOA	411	0	773	0	271	0	157	0	63	0	532	181	1,126	380
HARLEM	14	0	11	0	5	0	5	0	4	0	11	0	10	0
KINGSTON	0	0	0	0	0	0	0	0	0	0	0	0	0	0
LIBERTY	115	0	29	145	229	408	116	0	203	192	241	33	1,155	547
MARLBORO	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ORANGE	605	0	138	0	396	0	333	292	486	522	20	0	382	398
OXFORD	0	0	0	0	0	0	1	0	0	0	0	0	0	0
PORTER	0	0	0	0	2	0	0	0	0	0	0	0	0	0
RADNOR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SCIOTO	0	0	0	0	0	0	0	0	0	0	0	0	1	0
THOMPSON	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TRENTON	5	0	12	0	2	0	2	0	6	0	39	0	5	0
TROY	0	0	0	0	0	0	0	0	0	0	0	0	1	0
TOTAL	1,742	384	988	145	1,715	480	810	292	2,081	856	2,082	214	3,129	1,325

Note: # Lots = # of Single-Family Lots

Figure 3.4

SUMMARY STATISTICS OF REZONING DATA BASE FROM 1/1/89 TO 12/31/00

ACTIVE REZONING PROPOSALS REVIEWED BY RPC AND TOWNSHIPS

TOWNSHIP	TOTAL	RESIDENTIAL			NON-RESIDENTIAL	
	ACREAGE	ACREAGE	# OF LOTS	#OF M-F. HU	ACREAGE	# OF SQ.FT
BERKSHIRE	739.52	485.15	413	173	254.37	224,380
BERLIN	1,288.32	958.71	2,031	0	329.61	467,840
BROWN	42.91	0.00	0	0	42.91	4,644
CONCORD	1,402.42	1,192.54	1,762	164	209.88	53,290
DELAWARE	218.54	216.38	297	0	2.16	8,663
GENOA	2,930.29	2,858.36	6,521	594	71.93	308,300
HARLEM	476.46	307.52	118	0	168.94	0
KINGSTON	13.32	0.00	0	0	13.32	0
LIBERTY	3,246.54	2,515.50	3,391	1,637	731.04	2,820,394
MARLBORO	2.10	0.00	0	0	2.10	4,280
ORANGE	3,271.44	2,697.27	4,609	2,087	574.17	4,963,845
OXFORD	1.02	0.00	0	0	1.02	1,920
PORTER	4.50	4.50	2	0	0.00	0
RADNOR	6.24	0.00	0	0	6.24	0
SCIOTO	595.62	1.50	1	0	594.12	0
THOMPSON	0.00	0.00	0	0	0.00	0
TRENTON	349.35	340.08	110	0	9.27	23,600
TROY	40.09	1.69	1	0	38.40	19,250
TOTAL	14,628.68	11,579.20	19,256	4,655	3,049	8,900,406

Figure 3.5

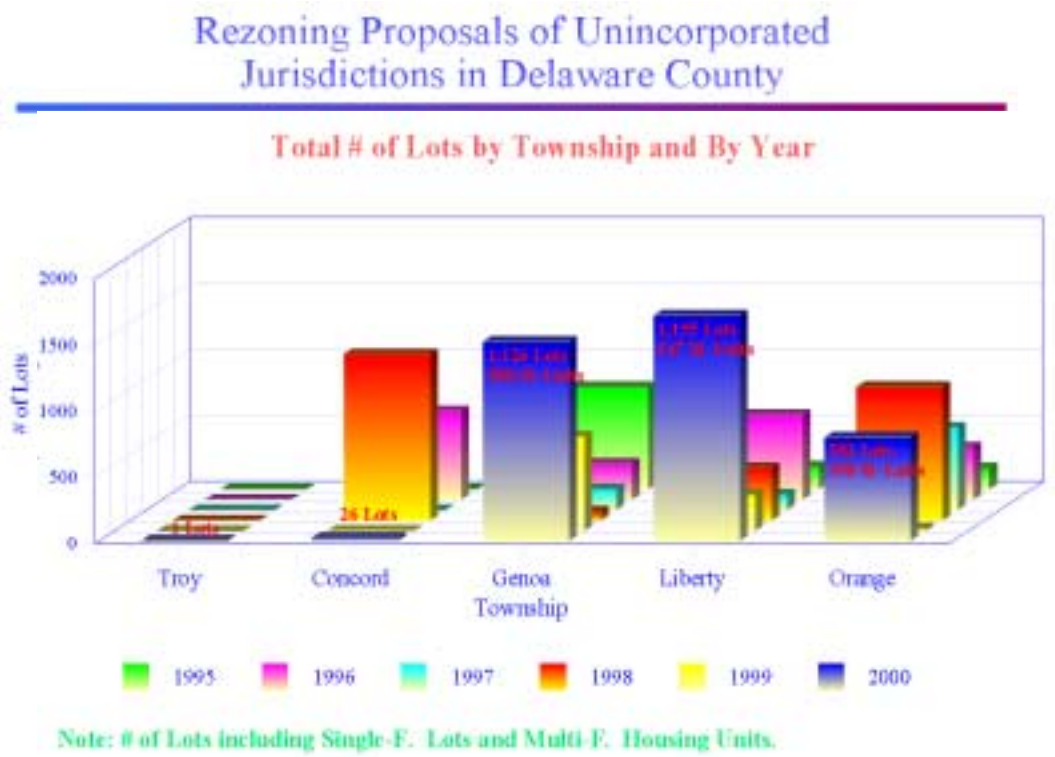


Figure 3.6

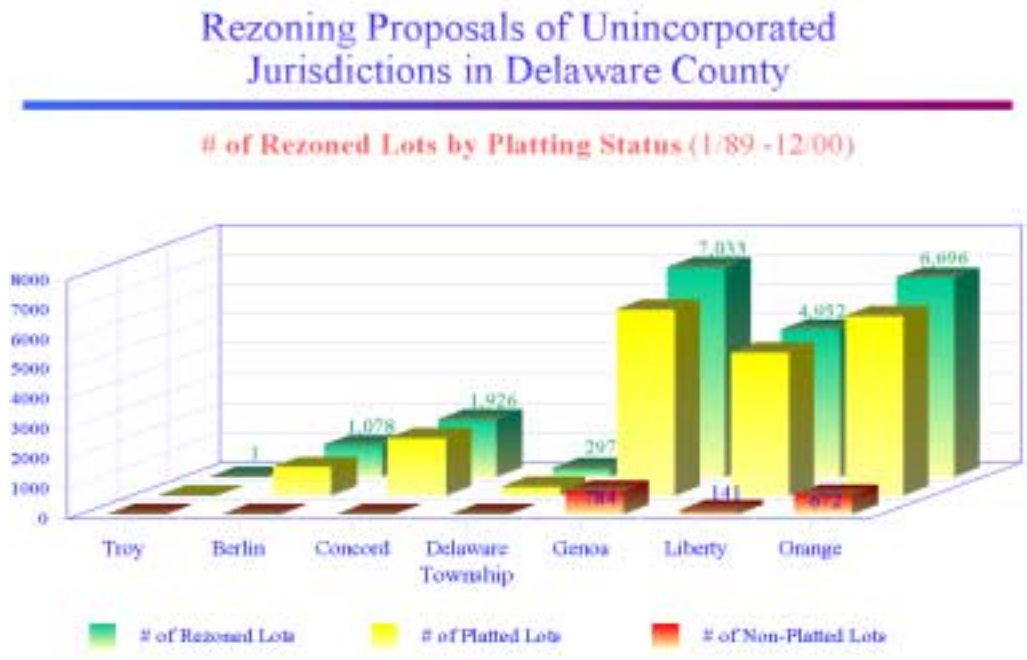


Table 3.6

SUMMARY STATISTICS OF REZONING DATA BASE FROM 1/89 TO 12/00

ACTIVE REZONING PROPOSALS APPROVED BY RPC AND TOWNSHIPS

TOWNSHIP	# OF S-F. LOTS & HU			PLATTING
	REZONED*	PLATTED	NON-PLATTED	RATE
BERKSHIRE	188	118	70	62.77%
BERLIN	1,078	963	115	89.33%
BROWN	0	0	0	0.00%
CONCORD	1,926	1,925	1	99.95%
DELAWARE	297	297	0	100.00%
GENOA	7,033	6,249	784	88.85%
HARLEM	116	102	14	87.93%
LIBERTY	4,952	4,811	141	97.15%
ORANGE	6,696	6,024	672	89.96%
PORTER	2	2	0	100.00%
TRENTON	110	76	34	69.09%
TROY	1	0	1	0.00%
TOTAL	22,398	20,567	1,831	91.83%

NOTE: # OF REZONED LOTS* IS INCLUDING ALL REZONING PROPOSALS WHICH ARE APPROVED OR PENDING IN TOWNSHIPS.

Figure 3.7

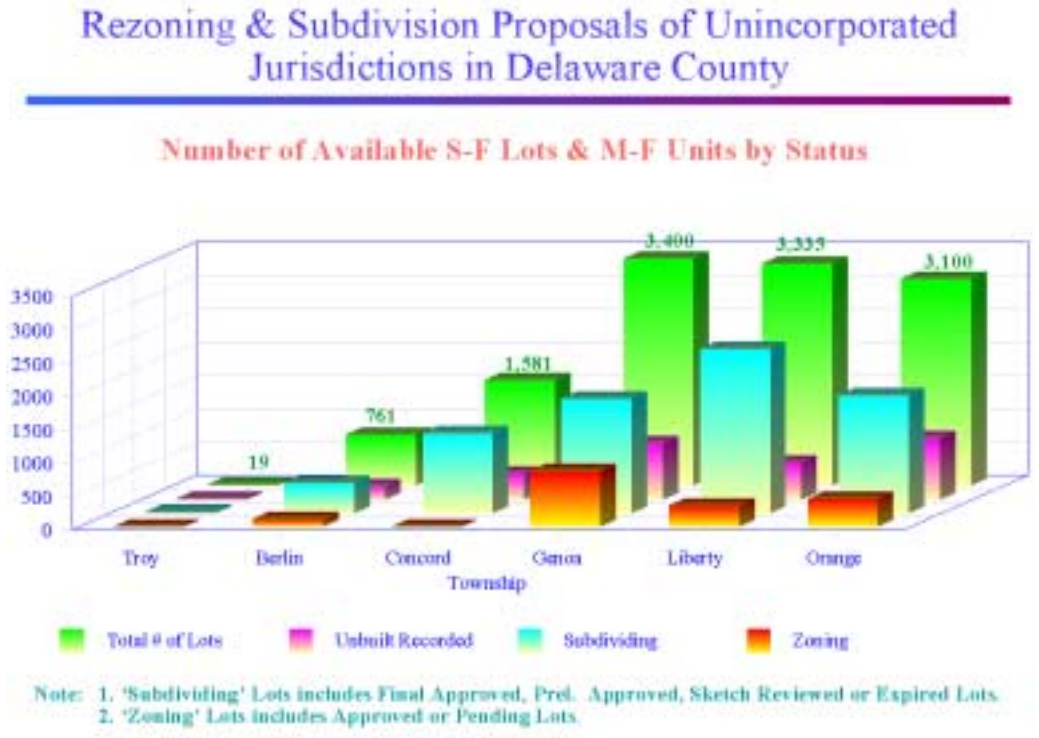


Table 3.7

SUMMARY STATISTICS OF REZONING AND SUBDIVISION

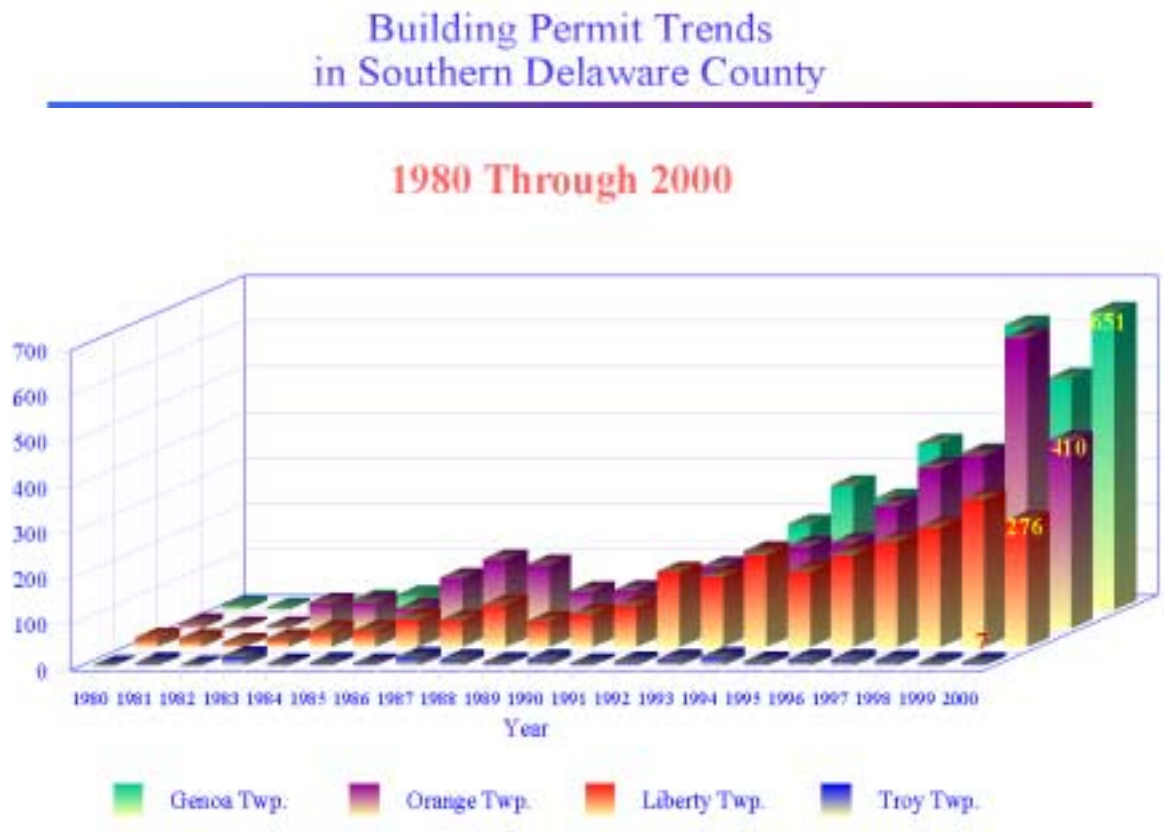
ACTIVE PROPOSALS APPROVED BY RPC AND TOWNSHIPS
TOTAL NUMBER OF AVAILABLE LOTS AND HOUSING UNITS FOR NEW BUILDING PERMITS

		NUMBER OF AVAILABLE SUBDIVIDED S-F. LOTS						M-F. UNIT		NUMBER OF ZONING LOTS			
TOWNSHIP	*TOTAL	SUBTOTAL	UNBUILT RECORDED	FINAL APP'D	PREL. APP'D	OVERALL PREL.	TABLED	SKETCH REVIEW	APPROVED BY SUBDIV.	EXPIRED S-F. LOTS	**APPROVED BY ZONING S-F. LOTS	**APPROVED BY ZONING M-F. UNITS	PENDING IN TWPS S-F. LOTS	PENDING IN TWPS M-F. UNITS
BERKSHIRE	183	103	34	21	7	0	0	41	0	8	69	0	1	0
BERLIN	761	608	193	130	282	0	0	23	0	37	0	0	116	0
BROWN	56	56	5	0	0	0	0	51	0	0	0	0	0	0
CONCORD	1,581	1,402	385	36	299	679	0	3	89	89	1	0	0	0
DELAWARE	275	243	84	37	117	0	0	5	0	32	0	0	0	0
GENOA	3,400	2,269	846	138	1,238	0	0	47	288	98	502	240	0	88
HARLEM	70	55	31	0	0	0	0	24	0	0	10	0	5	0
KINGSTON	33	33	26	0	0	0	0	7	0	0	0	0	0	0
LIBERTY	3,235	2,150	552	22	440	834	111	191	594	272	37	0	197	85
MARLBORO	6	6	1	0	5	0	0	0	0	0	0	0	0	0
ORANGE	3,100	2,194	903	110	1,168	0	0	3	290	233	305	118	0	0
OXFORD				0	9	0	0	0		0	0	0	0	0
PORTER	5	5	5	0	0	0	0	0	0	0	0	0	0	0
RADNOR	16	16	3	3	2	0	0	8	0	0	0	0	0	0
SCIOTO	49	46	14	7	18	0	0	7	0	2	0	0	1	0
THOMPSON	22	22	22	0	0	0	0	0	0	0	0	0	0	0
TRENTON	58	24	17	0	5	0	0	2	0	7	27	0	0	0
TROY	19	18	5	0	3	0	0	10	0	0	0	0	1	0
TOTAL	12,969	9,252	3,136	504	3,573	1,513	111	404	1,141	778	951	361	321	173

NOTE *: TOTAL NUMBER OF AVAILABLE S-F. LOTS AND M-F. HOUSING UNITS
NOTE **: TOTAL LOTS APPROVED BY ZONING, BUT NOT SUBDIVIDED YET (NON-PLATTED LOTS).
NOTE : SUBDIVISION PROPOSALS DATA FROM 1/87 TO 12/00
NOTE : REZONING PROPOSALS DATA FROM 1/89 TO 12/00

Figure 3.8

Figure 3.9



3.2 Summary of Development Indicators in Delaware County and Troy Township

Troy Township has received moderate commercial growth along US 23 in the last ten years, but has not received significant residential growth, largely due to lack of sanitary sewer and water service.

Faster growth in Troy Township may be on the horizon via large land assemblies for major development projects. These developments may be proposed in areas where centralized sanitary sewer may be provided on site pursuant to OEPA approval.

There are some observed trends that merit concern for the townships in Delaware County. Significant zoning and subdivision activity has led to a buildup of supply in subdivision lots available for development. As of December 31, 2000, there were 12,969 single family lots or multi-family housing units in the development approval process. This means that all 12,969 lots had received at least zoning approval or had begun the subdivision process. These 12,969 housing units represent an eight (8) year supply, using the average number of new housing permits in the townships for the previous 5 years

(1,548/yr). A three (3) year supply is considered normal. Despite this significant increase in platting and zoning, subdivision activity has remained strong. DCRPC reviewed 4,570 new lots in 2000.

Table 3.8 Total Number of Available Lots and MF Units in Delaware County Townships, 1/1/2001

All Delaware County Townships Combined	
• Multi family zoning pending	173
• Single family zoning pending	321
• Multi family zoning approved, not platted	361
• Single family zoning approved, not platted	951
• Multi family with subdiv. approval	1,141
• Expired subdivision (can be restored)	773
• Sketch plan reviewed	424
• Tabled	111
• Overall preliminary subdivision approved	1,513
• Preliminary approved subdivisions	3,573
• Final subdivision approved (not recorded)	504
• Unbuilt, recorded lots	3,136
Totals	**12,969***

* Totals are not the sum of all categories, since there can be zonings that are also an expired subdivision.

3.3 Effects of Growth- Community Perception

The Building Industry Association of Columbus and Franklin County conducted a Delaware County survey in June, 1998 to gauge sentiments about the effects of growth. 400 likely voters were canvassed for 18 minutes apiece about various growth concerns. The data was county wide.

- Development/Loss of farmland, Growth Planning, and Traffic were #2, #4,and #6 concerns.
- 40.8% said we are doing a poor job of managing growth and development.
- 55.8% said we are doing a poor job to reduce traffic congestion
- Amenities/access were cited (20.2%) as positive aspects of growth.
- 53.9% said they want growth to continue, but the pace is too fast.
- 49.4% said government should encourage planned growth.
- #1 and #2 priorities on managing growth were keeping up with school construction and protecting the environment and open spaces.

A second detailed survey was performed in Delaware County in 1998 relative to the environmental health of the county. The Protocol for Assessing Community Excellence in Environmental Health (PACE-EH) survey asked questions in person and by mail relating to the community's perception of

its environmental health. Trained volunteers surveyed 500 students in five local high schools and 200 county fair attendees. In addition, the survey questions were mailed to 40,000 households.

The top five PACE environmental concerns were:

1. Need for more parks, green space, wildlife habitats (733 responses)
2. County development, zoning, annexation out of control (721)
3. Surface water pollution from sewage systems (686)
4. Surface water pollution from factories, agriculture (685)
5. Environmental Education (660)

It may be observed that in Southern Delaware County, there is an opinion that growth has many negative attributes:

- too much traffic,
- unplanned neighborhoods,
- lack of environmental and open space protection,
- inadequate new school construction, and too rapid pace of growth.

Troy Township has not yet experienced the rapid pace of growth that is seen in Genoa, Orange, and Liberty Townships. Nonetheless, within the 5-10 year horizon of this comprehensive plan the pace of growth is likely to increase when development of larger tracts is requested.

Chapter 4
Issues and Opportunities

The Comprehensive Planning process is a forum for the development issues (forces) pushing and pulling at the township. The issues are categorized as strengths, opportunities, weaknesses, or threats. The township's response to these issues is a future vision, or strategic plan of action for the township's development.

4.1 Citizen Participation in the Decision Making Process

A. Need for Citizen Participation

The Comprehensive Plan typically looks 5-10 years into the future, with the understanding that unforeseen circumstances may change the vision.

The planning process demands broad representation of the populace to ascertain current issues, and to set goals for the future. Each community may take a slightly different approach to involving the public, but a citizen participation element is the backbone of the process; it provides legitimacy to the resulting plan.

In general, the citizen participation should be:

- Representative of the population and land ownership of the township
- More broad based than just elected and appointed officials
- Long term and open to continuing debate
- Influential in the recommendations made to appointed and elected officials

B. Open Invitation to the Process

The Troy Township Zoning Commission took steps to open the discussion to the community.

1. They posted legal advertisements for the public meetings to discuss the plan.
2. The Zoning Commission requested a core group of citizens to join a Comprehensive Plan Steering Committee, which would work on the plan update and forward the final draft to the Zoning Commission for consideration. On October 19, 2000 a fifteen-member Steering Committee was organized, which included the five members of the Zoning Commission. The group of residents and landowners agreed to meet on a monthly basis until the update of the plan was completed

C. Commencement of the Planning Process

A group of approximately 18 Troy Township residents and landowners attended the initial meeting of October 19th, 2000, at which time they discussed the following items:

1. Why do we need a Comprehensive Plan for future land use?

2. The History of the 1991 Troy Township Master Plan

3. What do we like about Troy Township?

4. What do we dislike about Troy Township?

4.2 Citizens' Likes and Dislikes Regarding Current Development of Troy Township

The group of 18 was asked what they liked about Troy Township's development and what they disliked. Each member of the group was then asked to rank the items according to importance. This simple question is asked because the responses can be reformulated into issues, which can then be categorized as Strengths, Opportunities, Weaknesses and Threats (SWOTs) to the future development of the township. From those SWOTs, a vision statement can be adopted.

Likes- 2000	**Dislikes-2000**
Rural Character (15)	Mosquitos (7)
Not dense (6)	Traffic (U.S. 23) (11)
Open areas (not checkerboard development) (4)	Trailer parks (11)
Wildlife (6)	Bypass (7)
Good quality water Del-Co water (1)	5 acre lots (land out of production) (6)
Good quality well water (2)	Cluster housing (in other communities) (7)
Large amount of farmland (6)	Multiple curb cuts/ flag lots
Delaware State Wildlife Area (7)	3rd tier flag lots
Delaware state park (7)	Too far from some services
Natural corridors (ie. Olentangy R.)	No bike paths/ways
Convenience to services is reasonable (3)	Quarries
Wood lots (1)	Mega-farms
Happy with Roads	
Commercial close to 23 (not too spread out) (3)	
Quarries	
Mega-farms	

Likes- 2000	Dislikes-2000
Rough edge to roads with ditch section	
Cluster housing (concept OK) (6)	
Night sky (down lighting) (3)	
3rd tier flag lots	
Fence rows with rough edge of roads	
Common access drives (2)	

4.4 The Essence of Troy Township

The essence of Troy Township in the year 2000 is:

1. Rural feel as characterized by:
    - Agriculture
    - Open spaces.
    - Preserved ravines, jurisdictional wetlands, slopes >20%, trees and fence lines.
    - Access to Delaware State Park, Olentangy River and Delaware State Wildlife Area.
    - Large lots for residential country living.
    - Mature trees on scenic roads; rough road edge, farm and split rail fences.
    - Wildlife corridors maintained.
2. US 23 as the central core for commercial and light industrial uses.
3. Moderate traffic.
4. Convenience to services offered in Delaware City

Vision Statement

When Troy Township is all built out, we would like it to be a community with a rural feel and character. Our Township roads should safely carry local traffic. Rural roads would have a rough edge that provides a rural feel. We strongly recommend that mature landscaping be maintained along rural roads. We would like most residential areas to remain at an overall low-density.

We would like agriculture and/or green spaces throughout the community. We would like to preserve unique scenic views and our critical natural resources such as ravines, floodplains, wetlands, forests and aquifers. We would like planned commercial and planned industrial uses, with attractive landscaping to balance the tax base. We would like to have a variety of land uses with controlled densities of population dependent upon the locations, natural features, and availability of utilities.

As we grow, we would like to see a planned commercial corridor along US 23 that does not encroach on the surrounding rural character. We would like commercial development to reflect a small community feel, with the use of natural materials and traditional structural colors.

We want to live in a community where growth is balanced with the conservation and enhancement of rural landscapes, agriculture, cultural and heritage resources, and the environment.

Chapter 5
Existing Land Use

5.1 Existing Land Use Update

The 2000 Existing Land Use map (Map 5.1) shows the generalized extent of development and its types based upon current information from the County Auditor's DALIS. Table 5.1 compares existing land use data from two different years: 1990 and 2000.

Table 5.1 Comparison of Troy Township Existing Land Use Acreage 1990-2000

	1990 (raster)*	**2000****	**% Land Use (2000)**
Acreage in Township	15,890	15, 889.36	100%
Residential (SF +MF)	578.25	1533.32	10%
Single Family	*555.25*	*1533.32*	*10%*
Multi family	*0*	*0*	
Mobile Home	39.18	See commercial	
Commercial & Services (Commercial + Industrial +Institutions)	71.35	110.48 (does not include institutions)	<1%
Commercial	32.278	105.741 (includes Mobile Home Parks)	<1 %
Industrial	8.14	5.48	< 1 %
Institutions	30.43	See Open Space	
Agriculture	9574.08	8277.41	52%
Water	1046.19	913.06 ***	6 %
Highway/Rail/Utility	529.43	446.97 ****	3%
Parks/open space	3375 (includes forests)	4338.773 (includes Institutional)	27 %
Vacant residential (residentially zoned, but not developed)	N/A	40.30	< 1 %
Undeveloped/vacant non Agr.	9.49	23.67	< 1 %
Delaware City	195.90	204.61	1%

- * This is the raster acreage from the Frank Elmer plan, which is less accurate than vector data.
- ** The 2000 DALIS Geographic Information System acreage calculation, based on the land area shown by the Auditor's maps. DALIS data for 2000 is vector data and considered more accurate.
- *** Water area was created as follows: Lakes, ponds and rivers exist as polygons in the GIS and can be calculated. Lakes and pond area, plus streams (including seasonal swales on the USGS maps) were given a width of 20 feet, and multiplied times the number of lineal feet.
- **** Railroads were calculated by lineal feet x 120' ROW = # acres.

5.2 Findings of The DALIS Existing Land Use Map

- The township has lost 204 acres to annexation (6.78 acres since 1990).
- Residential land has increased from 578.25 acres in 1990 to 1533.32 acres in 2000.
- Agricultural use is still the largest land use in the township with 52% of all land. Agricultural acreage in 2000 was 8,277.41 acres compared to 9,574.08 acres in 1990, a drop of 14%.
- The commercial acreage seems to have increased by a large amount. However, the additional acreage is most likely due to the inclusion of mobile home parks in the commercial land use classification.

Table 5.2 Existing Land Use 1999

Existing Land Use (unit count) in Troy Township.

December 1999

Section	Single-Family	Two-Family		Multi-Family		MH	Housing Conditions*						Commercial	Industrial	Institutional
	Units	Units	Res.	Units	Res.		1	2	3	4	5	None			
1 of 16	13	0	0	0	0	0	4	4	4	1	0	0	0	0	0
2 of 16	13	0	0	0	0	0	2	3	6	2	0	0	2	0	0
3 of 16	6	0	0	0	0	0	0	1	5	0	0	0	0	0	0
4 of 16	3	0	0	0	0	0	0	1	2	0	0	0	0	0	0
5 of 16	32	0	0	0	0	0	8	18	6	0	0	0	0	0	0
6 of 16	60	0	0	0	0	5	17	31	12	3	2	0	1	0	2
7 of 16	1	0	0	0	0	0	0	1	0	0	0	0	0	0	1
8 of 16	35	0	0	0	0	0	12	13	9	0	1	0	0	0	2
9 of 16	40	0	0	0	0	2	12	15	12	2	1	0	0	1	0
10 of 16	40	0	0	0	0	0	1	31	8	0	0	0	1	0	4
11 of 16	50	0	0	0	0	3	17	23	4	8	1	0	2	0	4
12 of 16	34	0	0	0	0	181	15	185	13	2	0	0	0	0	0
13 of 16	33	0	0	0	0	0	13	11	9	0	0	0	2	0	0
14 of 16	28	0	0	0	0	0	14	10	4	0	0	0	1	1	1
15 of 16	60	0	0	0	0	117	12	80	77	3	0	5	8	0	0
16 of 16	36	0	0	0	0	0	16	15	5	0	0	0	0	0	2
Totals	**484**	**0**	0	**0**	0	**308**	143	442	176	21	5	5	17	2	16

Source- Field Survey checked and compiled by DCRPC Staff.

***Housing Conditions**

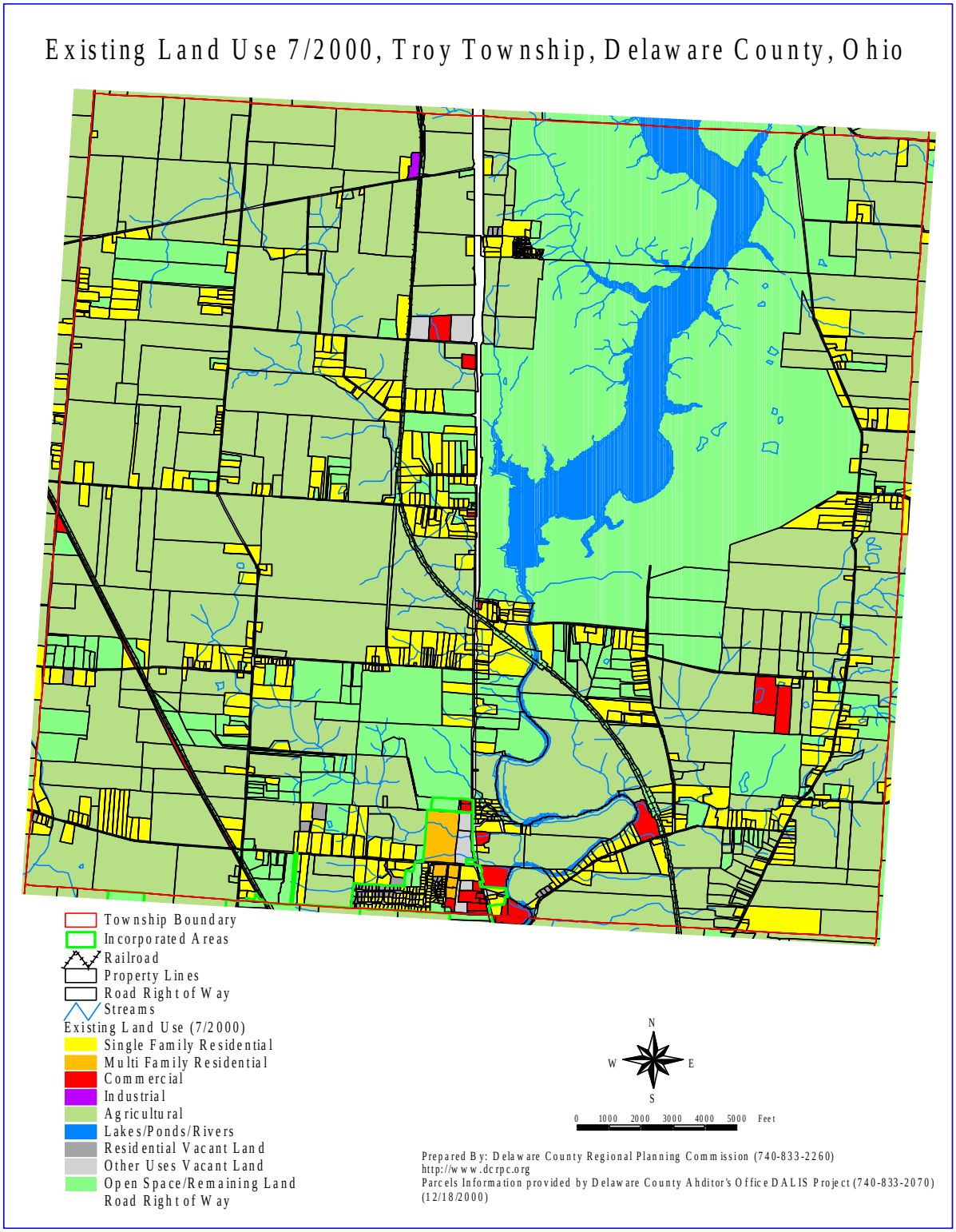
1.) Sound: no defects, a meticulously maintained structure, or a recently completed new structure.
2.) Sound: slight defects- structure in which defects were correctable by normal maintenance.
3.) Sound: deteriorated- an intermediate defect, for example, a roof sagging, a wall unit warped, a foundation settled unevenly or a chimney eroding.
4.) Dilapidated: critical defects- a structure in a state of disrepair to the extent that the present condition might impose a threat to the health and safety of its occupants but which was still considered inhabitable.
5.) Uninhabitable: extensive critical defects- structures in a state of disrepair to the extent that the unit is not suitable for habitation.

5.3 DCRPC Existing Land Use Survey

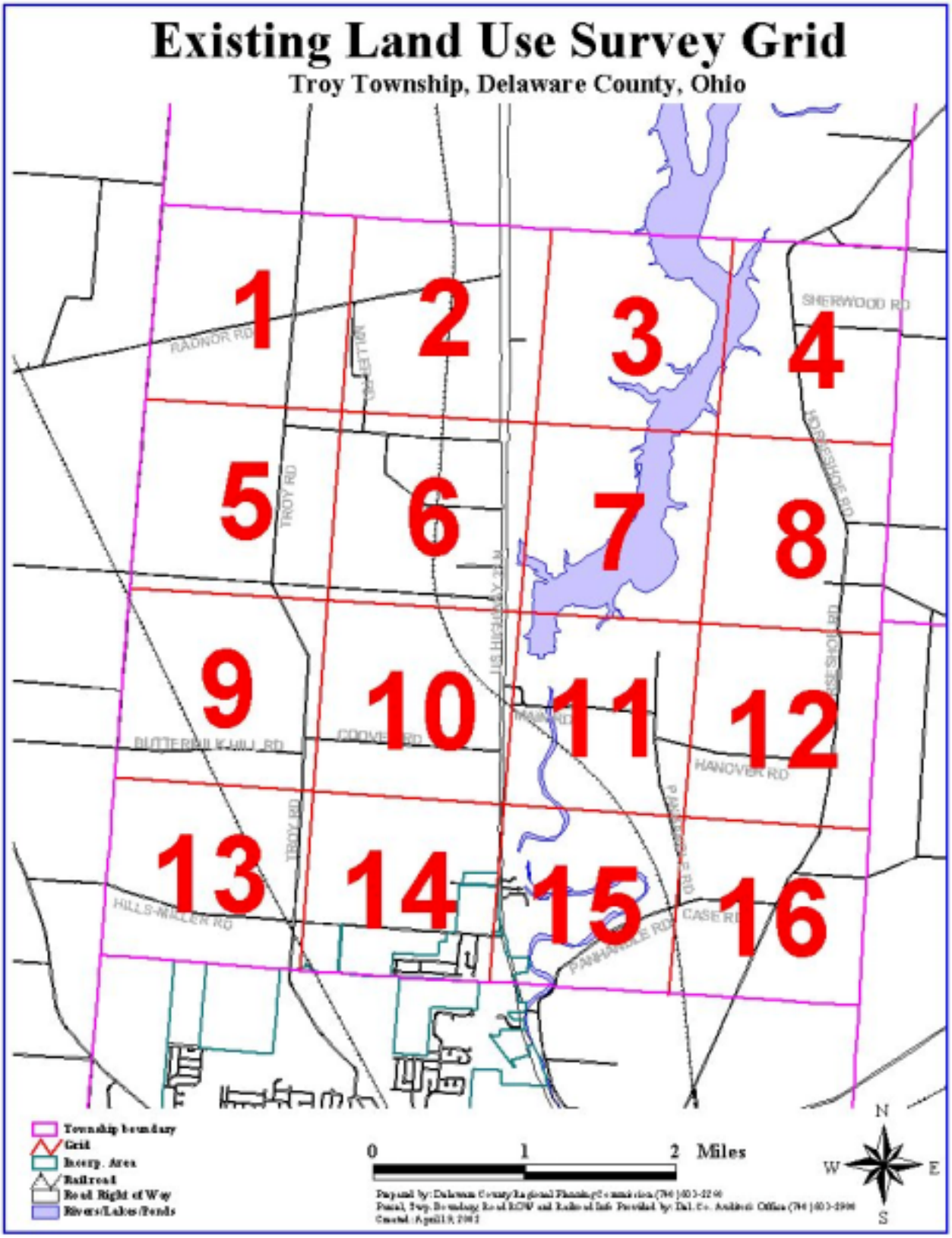
In December 1999, DCRPC staff used 1997 aerial photos to field record land usage and housing conditions (See Map 5.2 – Existing Land Use Quadrant Map).

As of December 1999 there were 792 total residential units in Troy Township, (484 single-family homes, 308 mobile homes, no multi-family units); 17 commercial uses; 2 industrial uses, and 16 institutional uses. The condition of the housing stock is good to excellent.

Map 5.1 Existing Land Use July/2000



Map 5.2 Existing Land Use Quadrant Map December 1999



Chapter 6
Natural Resources and Conservation

Troy Township's principal natural resources are the Delaware Lake and Olentangy River. Troy Township also has floodplains, wetlands, fertile soils, forests, and abundant wildlife. These natural resources are most frequently cited as the foundation of "rural character" noted in Chapter Four. The natural resources of the township are part of this rural character. These resources should be conserved wherever possible.

6.1 Topography- (DALIS contours)

Troy Township has relatively mild differences in elevations and slopes. The elevation map indicates a 120 foot difference in elevation from the highest point of 980 feet above mean sea level in the western portion of the Township to a low of 860 at the low water elevation of the Olentangy River in the southern portion of the Township. (See Map 6.1)

6.2 Slopes Greater than 20%

The township set a goal to preserve ravines, and slopes greater than 20% for open space when the township develops. The steep slope map indicates slopes over 20%. Generally, roads do not exceed 10% slope. Houses with walkout basements can typically be built on slopes up to 20%. (See Map 6.2)

6.3 Floodplains, bodies of water

The Delaware Lake is a significant natural resource area. Most of the floodplains in Troy Township relate to the Delaware Lake and Olentangy River. The Delaware Lake was created by the U.S. Army Corps of Engineers in 1951 with the construction of a flood control dam. Its purpose is to control flooding in the Olentangy Watershed. The lake is also a source for Delaware City drinking water as well as a recreational park. The Delaware State Park has 1,815 acres in land and 1,330 acres in water, and the Delaware State Wildlife area is 4,670 acres.

The National Flood Insurance Program, (which includes Troy Township) discourages development in the 100 year floodplain and prohibits development in the 100 year floodway. These areas are mapped by the Federal Emergency Management Agency (FEMA). The floodplain map gives a general location of the floodplains. For specific information see the FEMA maps at the Delaware County Building Department, 50 Channing Street, Delaware Ohio (740-833-2200). (See Map 6.3)

According to Protecting Floodplain Resources (FEMA, 1996) undisturbed floodplains perform several critical functions :

Water Resources- Natural flood and erosion control

- flood storage and conveyance; reduce flood velocities; reduce peak flows; reduce sedimentation

Water Quality Maintenance

- Filter nutrients and impurities from runoff; process organic wastes; moderate temperature fluctuations

Groundwater Recharge

- Reduce frequency and duration of low surface flows

Biological Resources

- Rich, alluvial soils promote vegetative growth; maintain bio diversity, integrity of ecosystems

Fish and Wildlife habitats

- Provide breeding and feeding grounds; create and enhance waterfowl habitat; protect habitats for rare and endangered species.

Societal Resources

- Harvest of wild and cultivated products; enhance agricultural lands; provide sites for aqua culture; restore and enhance forest lands

Recreation

- Provide areas for passive and active uses; provide open space; provide aesthetic pleasure

Scientific Study/Outdoor Education

- Contain cultural resources (historic and archeological sites); environmental studies

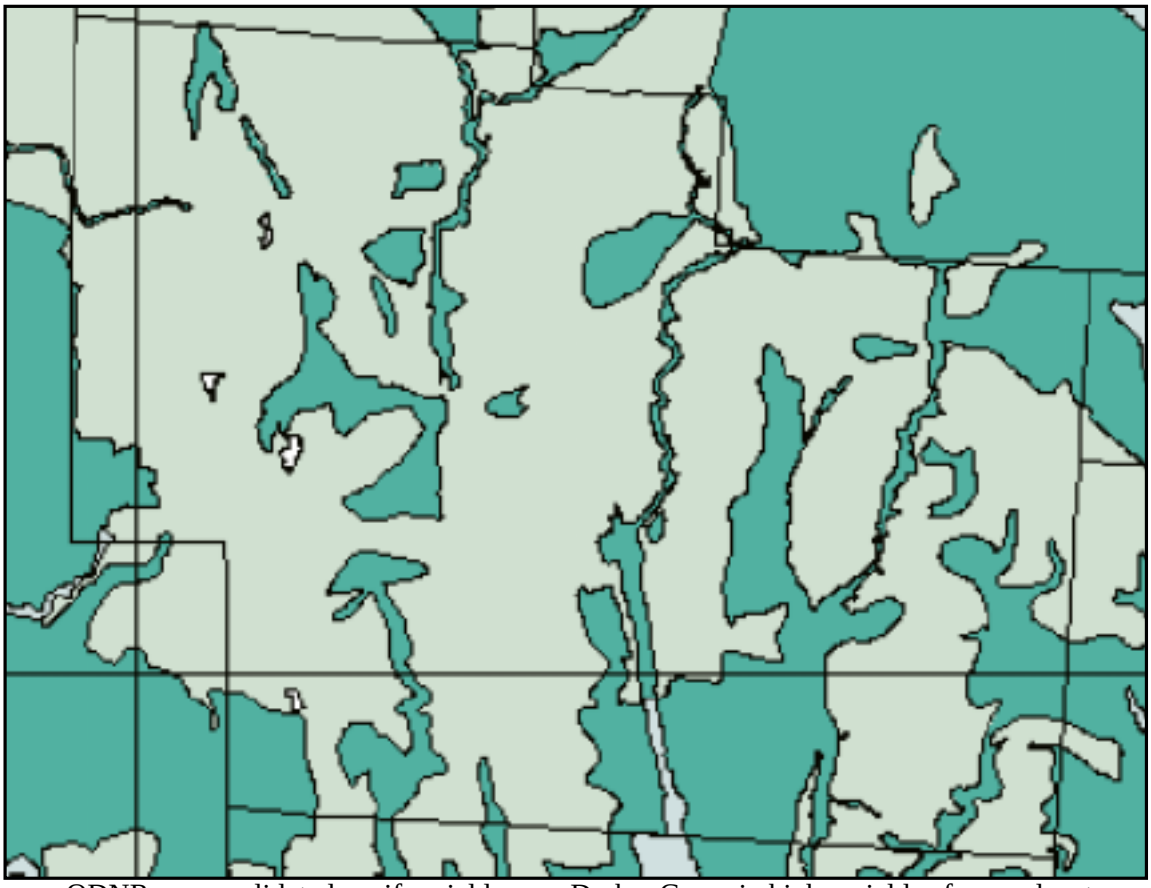
The Delaware County FEMA floodplain maps were revised in 1999. One hundred (100) year floodplain elevations have risen in some areas of the County. New development is a contributing factor to the rise in floodplains.

With floodplains rising, and with all the natural benefits of floodplains listed previously, it is unwise to permit any development in the 100-year floodplains of Delaware County. The subsidy for the low-cost, flood insurance sold under National Flood Insurance Program comes from federal taxes. Each land use decision to permit development in the 100 year floodplain not only puts people in harm's way, but also potentially burdens all American taxpayers with the cost of continuing to bail out bad development .

For all these reasons, the 100-year floodplains in Troy Township should be protected. Some counties have flat floodplains that comprise a great deal of the developable area of the county. In an urban county, where such land is precious, it is understandable, but not advisable, that some filling may occur. In Delaware County, the floodplains are narrow and limited. They comprise a very small portion of the land area, and they occur on four rivers that are drinking water and recreational resources (Alum Creek, Big Walnut, Olentangy, and Scioto). It is critically important to protect the floodplains of these four rivers.

6.4 Groundwater resources

There are four aquifer systems in Delaware County. The eastern portion of the County has sandstone aquifers with a yield of from 15 to 25 gallons per minute (GPM) at depths of 95 feet. The southern portion of the County has thin lenses of sand and gravel within thick layers of clay fill with a lower yield. The center of the County is a shale aquifer where dry wells are common with a yield of 0 to 3 (GPM) at 75 feet. The western part of the County has a carbonate aquifer type with yields up to 1,000 (GPM) at depths of less than 85 feet. (source: Ohio State University Extension)



ODNR unconsolidated aquifer yield map. Darker Green in higher yields of ground water.

Groundwater is a valuable natural resource. It is an essential part of the hydrological cycle and provides drinking water to many areas in the township that are not served by public water. Groundwater should be conserved and its quality as a drinking water supply should be protected, especially for those areas of the township that are not served by public water. The city of Delaware is currently pumping groundwater from Troy Township. State agencies such as ODNR Division of Water monitor the quality of the groundwater and its consumption. Future effects of the City of Delaware's wells may be monitored by ODNR to determine if individual wells have been adversely affected.

6.5 Wetlands

Wetlands are generally defined as soils that support a predominance of wetland (hydrophytic) vegetation, and/or are under water at least two weeks per year. The more specific definition to wetlands under the jurisdiction of the US Army corps of Engineers is found in the Corps of Engineers Wetlands Delineation manual Technical Report Y-87-1, US Army Engineer Waterways Experiment Station, Vicksburg, Miss. (See Map 6.4)

Jurisdictional wetlands are regulated by the Clean Water Act of 1972, Section 404. They consist of :

1.) hydric soils,
2.) hydrophytic vegetation,
3.) wetland hydrology (this means they support more than 50% wetland vegetation, are poorly drained, and are periodically inundated or saturated).

In January 2001, the United States Supreme Court determined that only wetlands that drain to flowing waters would be protected by the Clean Water Act. This does not mean that isolated pockets of wetlands are not important. Such pockets may indeed be valuable, especially for stopover places for migrating waterfowl as well as breeding areas for declining amphibian populations. Isolated pockets or "perched" wetlands however, do not come under the federal protection of the Clean Water Act.

Jurisdictional wetlands serve many of the same functions as floodplains, and deserve protection for the same reasons. Troy Township's wetlands are primarily tiled agricultural fields, which, if tiled before 1985, are exempt from regulation unless they revert back to their natural state. Wetlands can be enhanced to be an attractive and functional part of the storm water detention system in developments. They work better than man-made basins, since their wetland vegetation serves to trap, filter and break down surface runoff pollutants.

The wetlands map shows the location of potential wetlands from OCAP satellite imaging. These locations are raster data, meaning they have square edges in their computer images. They may indicate the locations of potential jurisdictional wetlands.

6.6 Prime Agricultural Soils

The Prime Agriculture Soils map (Map 6.5) shows the location of soils suited to high yields in Troy Township. Agriculture is still an important land use in Troy Township, although the land value for future development may exceed the short-term value for continued agricultural use.

Creative zoning and development techniques may be able to preserve agricultural land as open space. There is a methodology to evaluate which farms should be preserved, based upon highest yield soils, proximity to utilities, four-lane highways, and dense settlements. The method is called the Land Evaluation Site Assessment system or LESA and is created by the US Department of Agriculture. When farms are considered for development, those with the highest LESA ranking might be given the most favorable consideration for preservation. The DCRPC and the Delaware Soil and Water District can perform the LESA evaluation.

6.7 Soil Suitability for Septic Systems

Since sanitary sewer service is not available in township, it is useful to evaluate the soil capability for septic systems. Land with very poor suitability for septic systems should be served by centralized sanitary sewer or alternative sewage disposal systems, or remain undeveloped. (See Map 6.6)

6.8 Combined Critical Resources

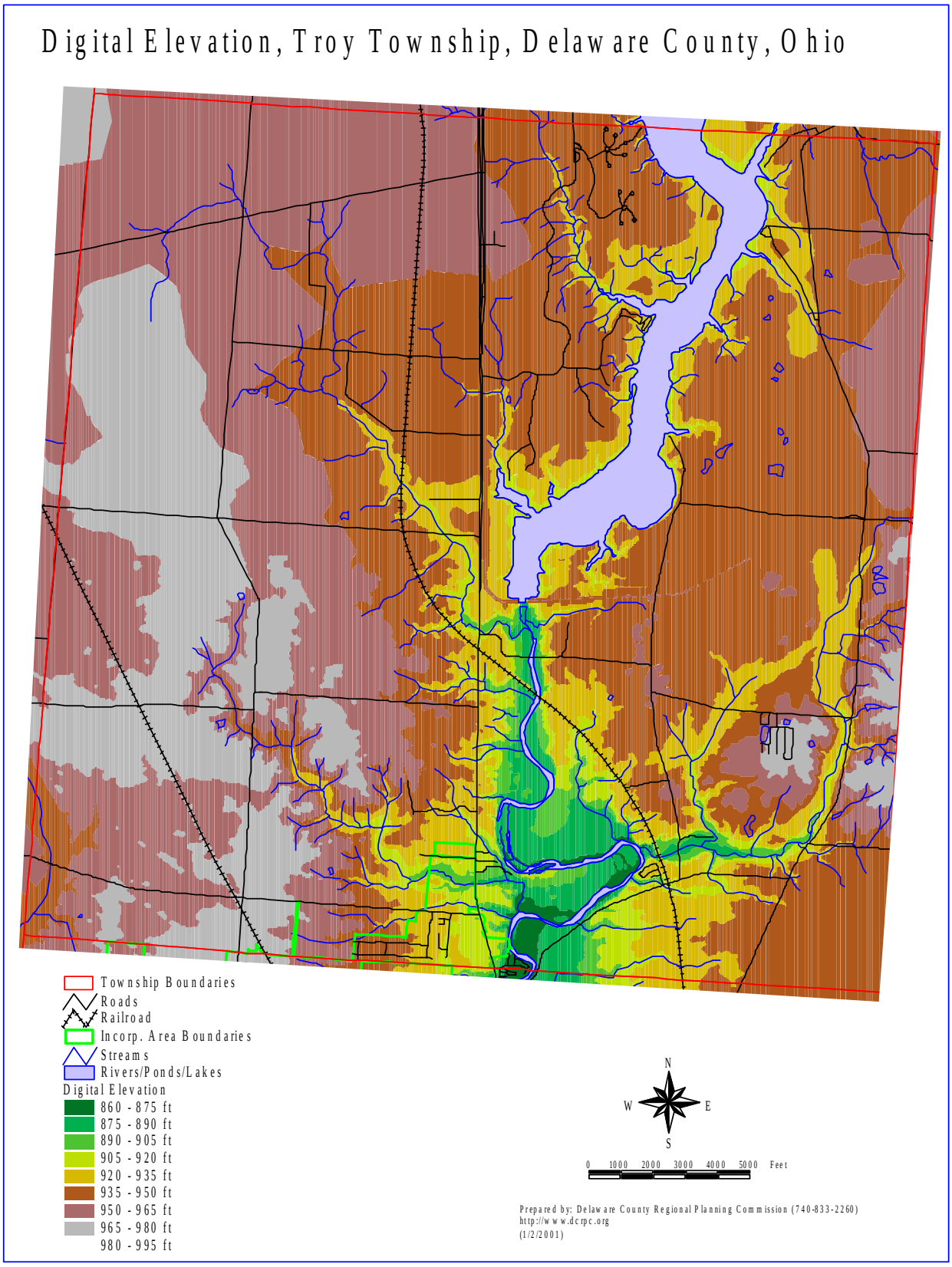
The combined Critical Resources map (Map 6.7) displays generalized floodplains, water, wetlands, prime agricultural soils and 100 foot suggested setbacks from major watercourses. This map may be used as an evaluation tool when land is developed.

6.9 Development or Harvesting of Natural Resources

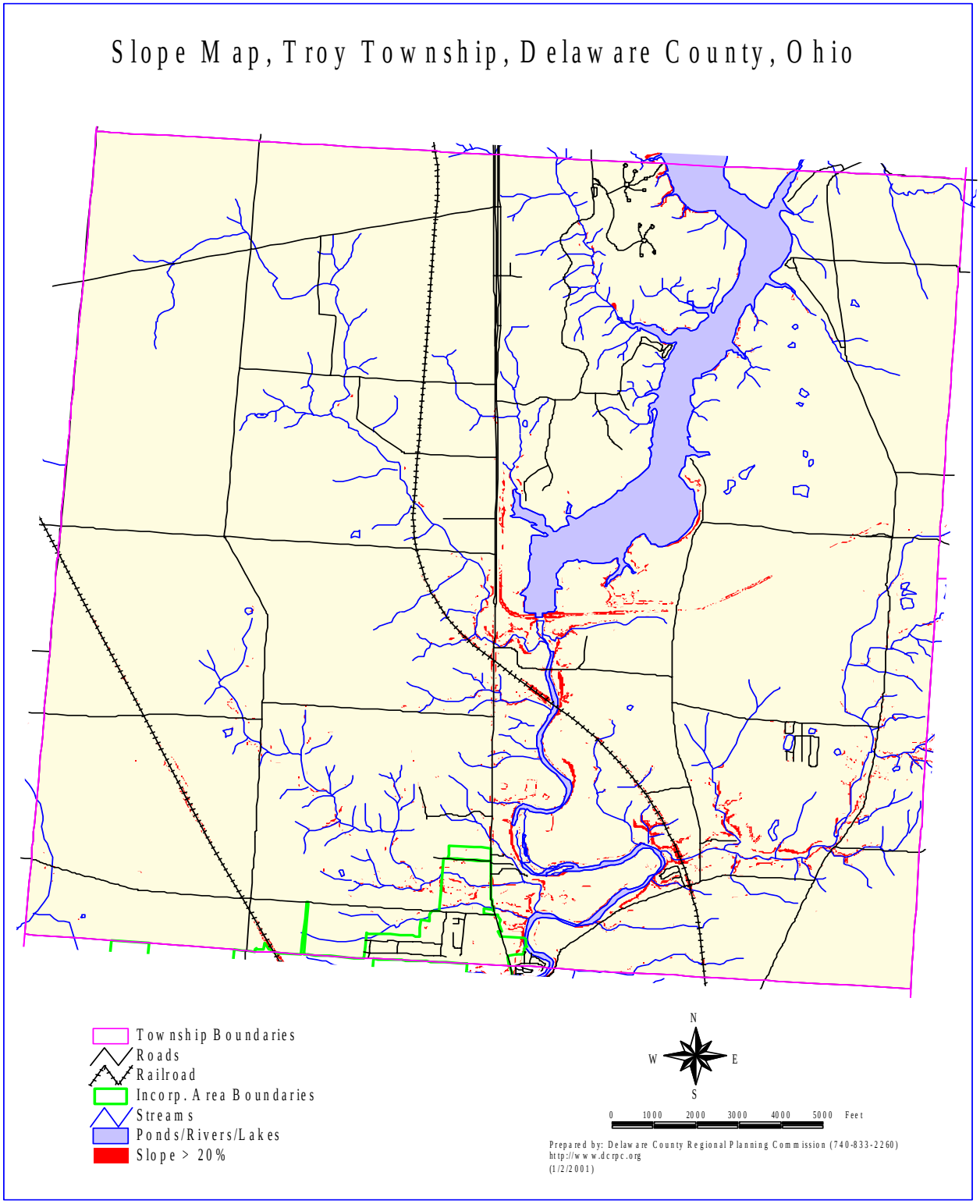
There are no currently mined deposits of natural resources in Troy Township (i.e. minerals, stone, gravel, oil, natural gas). Prime agricultural soils are the main natural resource. It is conceivable that someday these soils could be extracted and moved for landscaping or other uses. There may be some commercially viable limestone deposits in the township.

The township should develop policies regarding the development of valuable natural resources, either as part of a specific zoning district, or as a conditional use if certain performance standards are met (noise prevention, dust control, buffering and screening, appropriate access, hours of operation, etc). Mining operations should not be permitted within the 100-year floodway, and if proposed within the 100-year floodplain should only be permitted with strict environmental controls to prevent water pollution, flotation of equipment and other related hazards. Mining operations must take into account the proximity of existing residential uses.

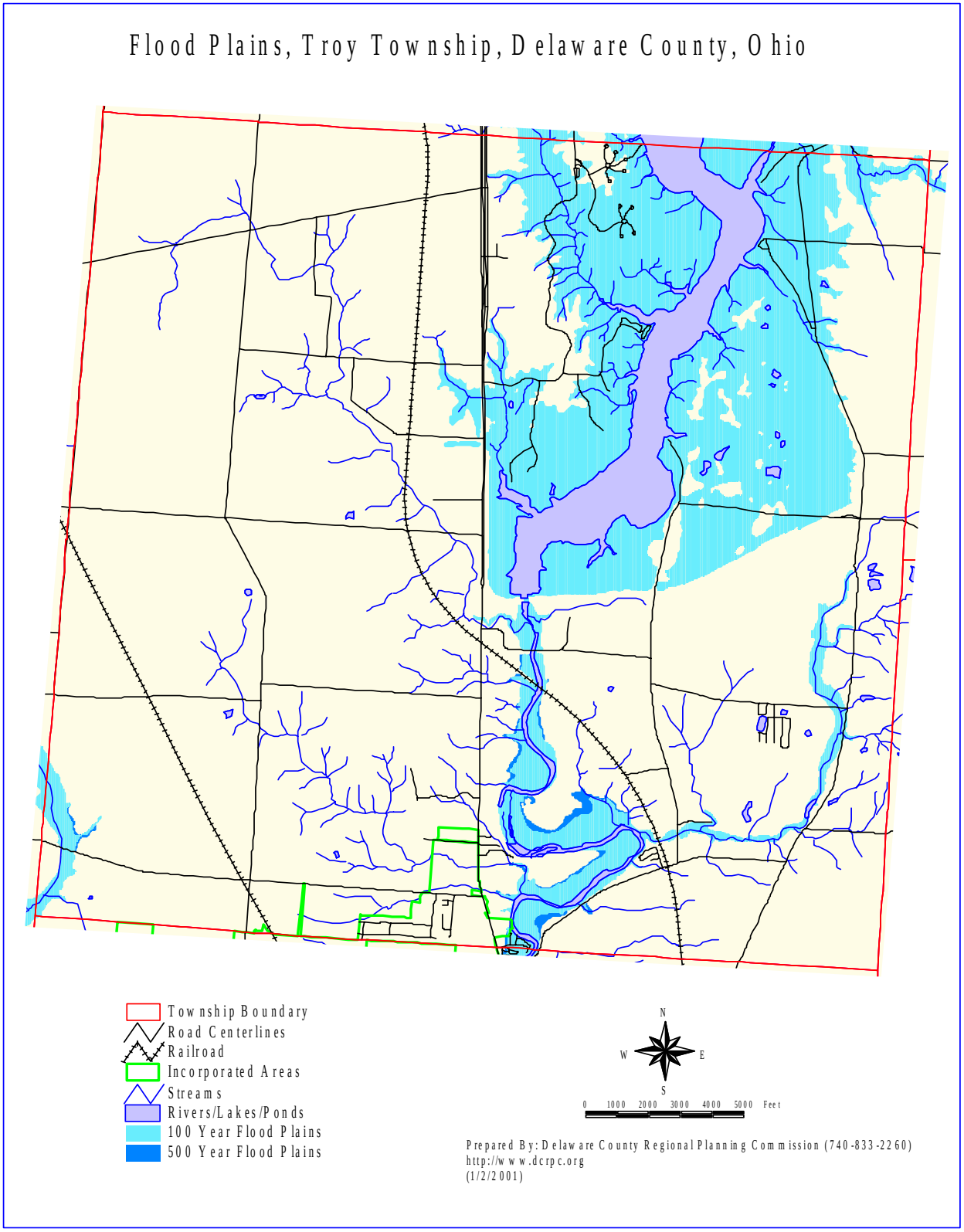
Map 6.1 Troy Township Elevation Map



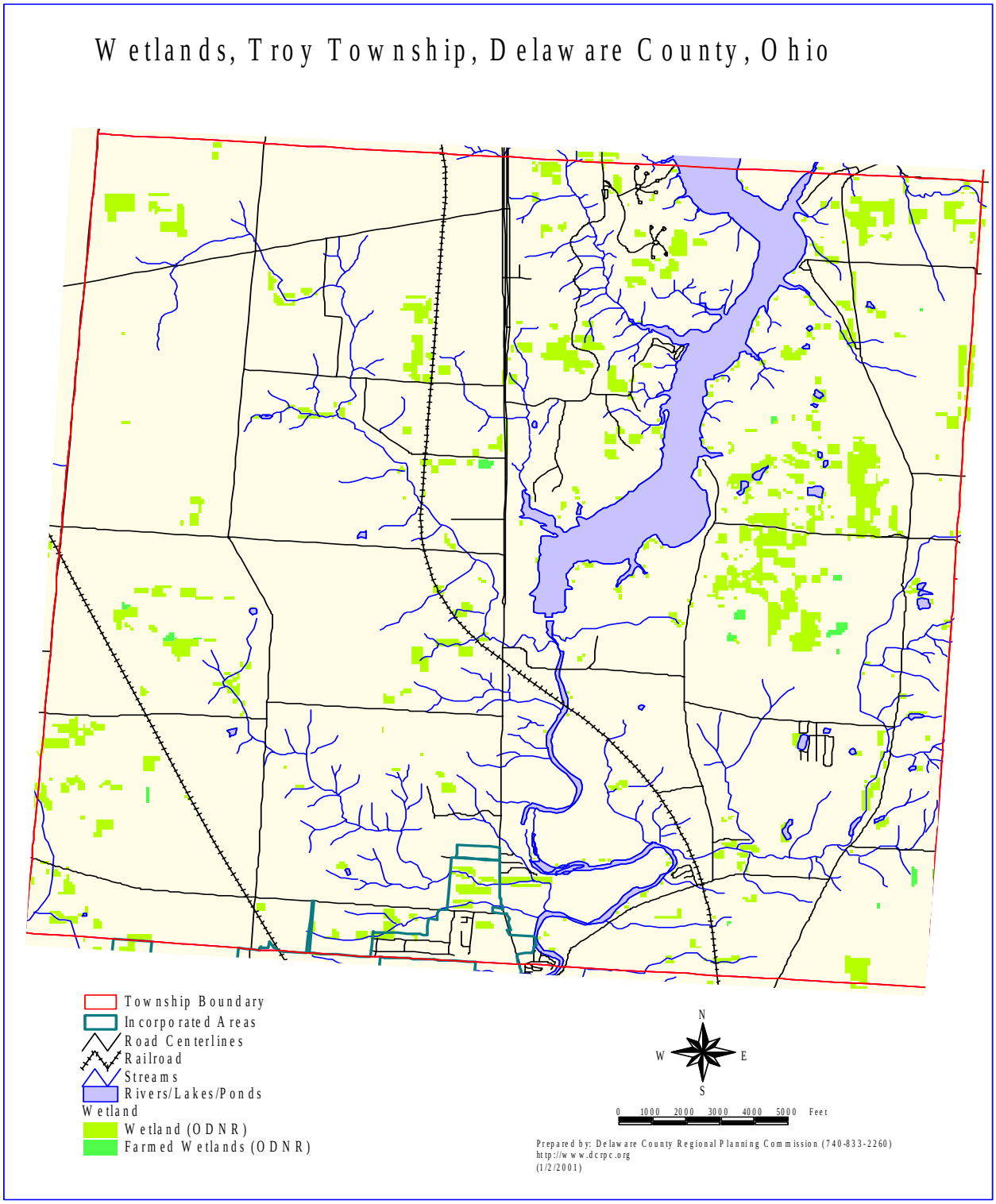
Map 6.2 Troy Township 20% Slope Map



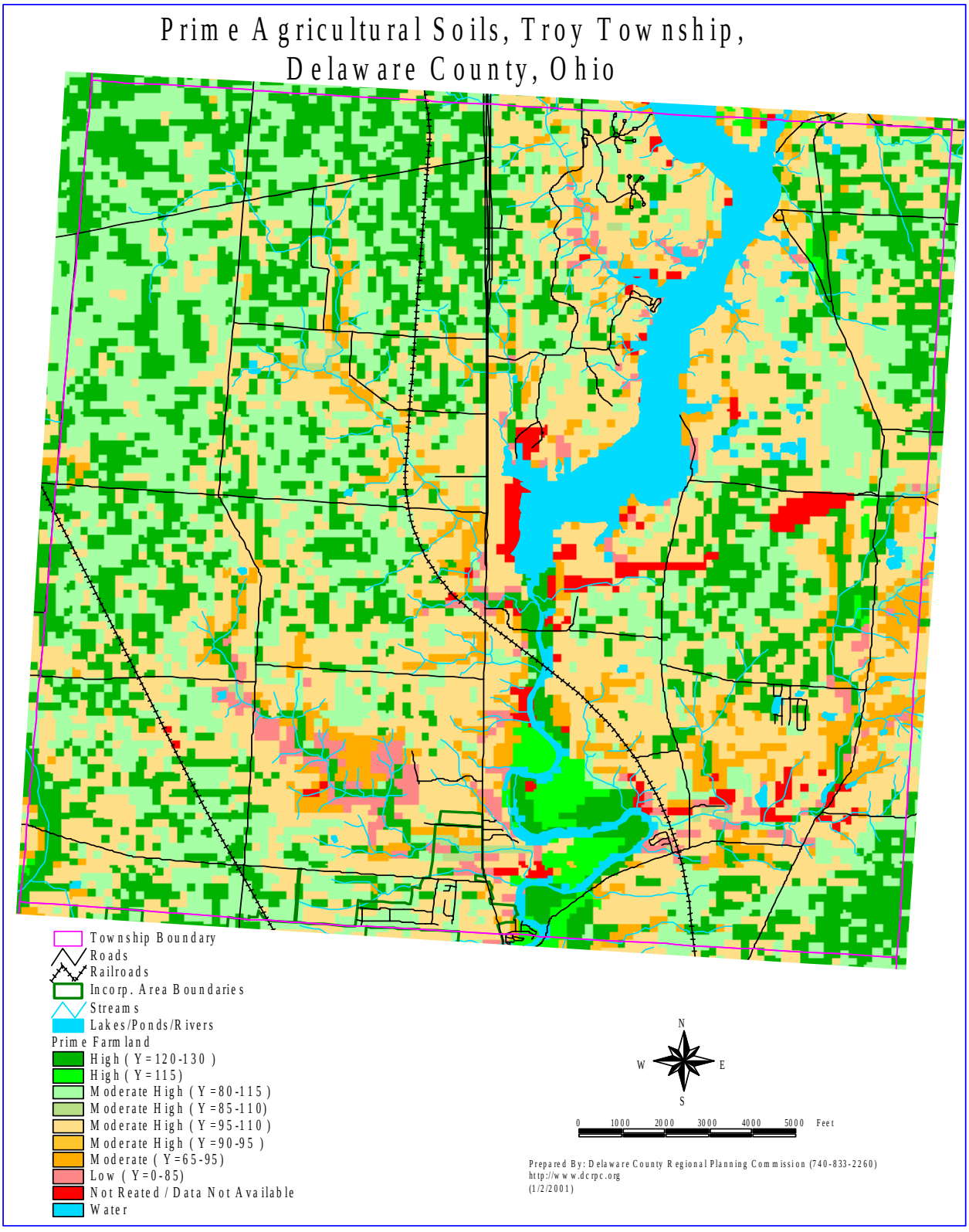
Map 6.3 Troy Township Floodplain Map



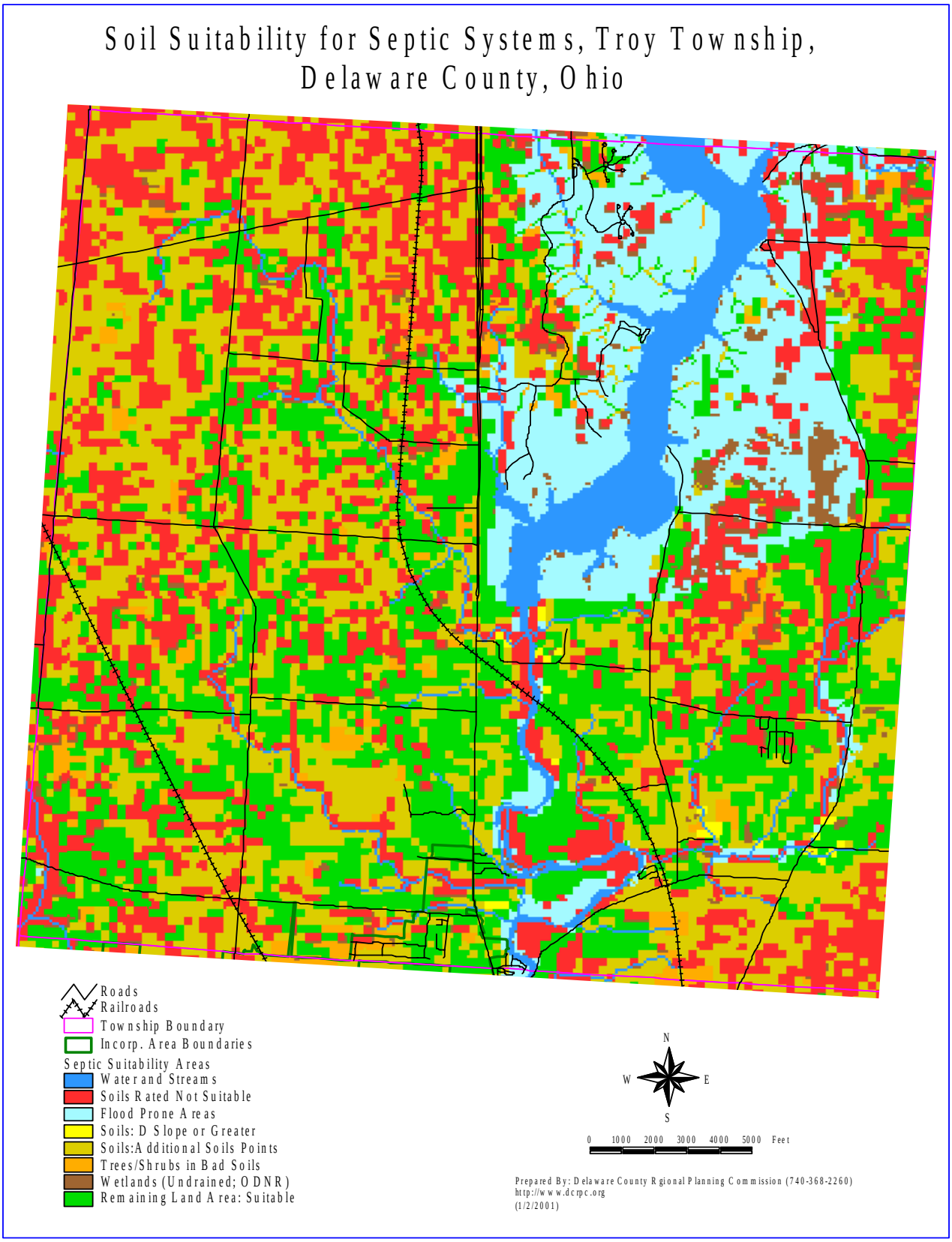
Map 6.4 Troy Township Wetlands Map



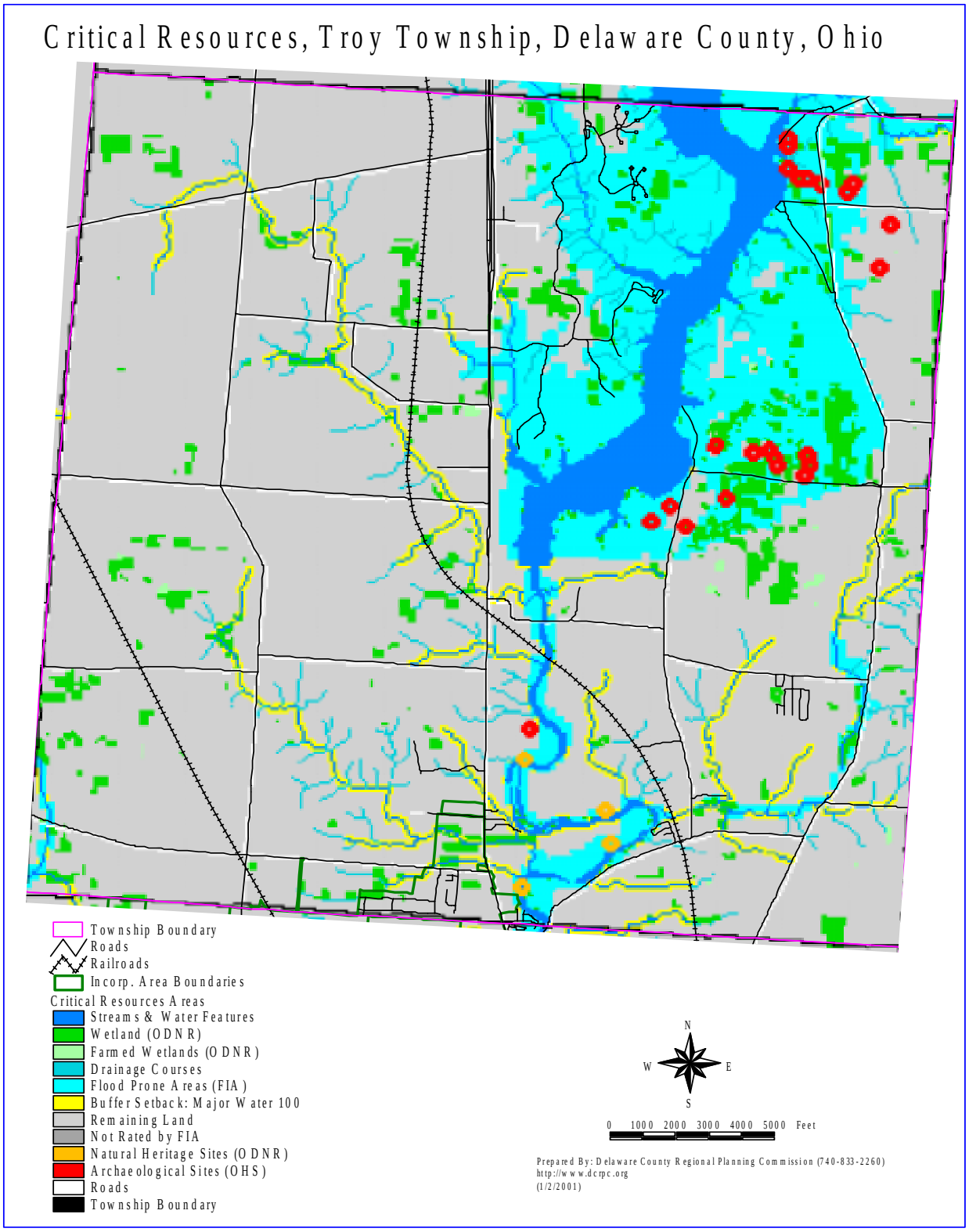
Map 6.5 Troy Township Prime Agricultural Soils Map



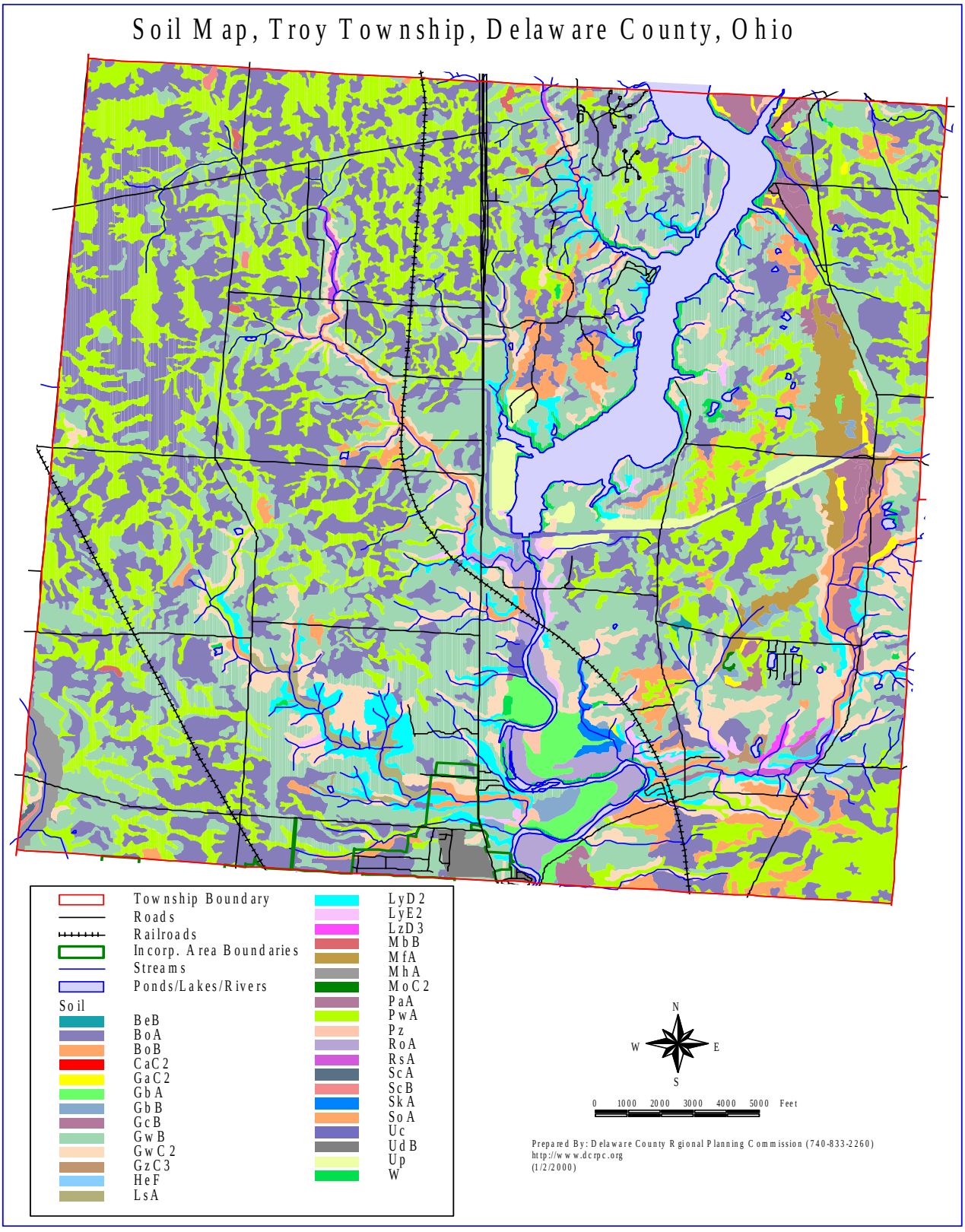
Map 6.6 Troy Township Soils Suitable for Septic Systems Map



Map 6.7 Troy Township Critical Resources Map



Map 6.8 Troy Township Soils Map



Chapter 7
Housing

Housing has been the primary index of growth in Troy Township. Housing growth has been slower than those portions of the County that are served with public water and sewer. Troy Township is a rural community without sanitary sewer and with public water service extending along many roadways only in the eastern portion of the township.

Providing a range of housing in a developing community is a complex planning issue. Troy Township zoning provides for a variety of housing types, (single family detached, single family attached, modular, cluster manufactured homes, patio homes and common wall homes and multi-family housing) without overly restrictive minimum square footages or lot sizes. Minimum square footages for single family houses are only 950 square feet for one story. Multi-family minimum square footages are 800, 900, and 1,000 square feet respectively for 1, 2, or 3 bedroom apartments.

As the township updates its land use plan, consideration has been given to the appropriate timing and location of housing types based upon the inventory of existing housing conditions and relationship to the housing needs of the area.

7.1 Existing housing stock

A house-to-house windshield survey was conducted in December, 1999. An exterior condition of each house was given based upon five criteria.

Table 7.1 Troy Township Housing Survey Results, December 1999, field survey (with MH's)

Housing Type	Total # Units	#Units new/well maintained	# Units need normal repair	# Units somewhat dilapidated	# Units possible health threat	# Units appear condemnable	Not able to determine condition
Single Family	484	143	205	112	15	4	5
Two Family	0	0	0	0	0	0	0
Multi Family	0	0	0	0	0	0	0
Mobile Homes	308	0	56	245	6	1	0
Totals	**792**	**143**	**261**	**357**	**21**	**5**	**5**
%Total(MH)	**100%**	**18.1%**	**32.9%**	**45.1%**	**2.7%**	**0.6%**	**0.6%**
%Total(noMH)	**100%**	**29.5%**	**42.4%**	**23.2%**	**3.1%**	**0.8%**	**1.0%**

Based upon the survey, several points about housing may be made:

- Excluding mobile homes the majority of the housing stock in Troy Township is in good condition.
  1.) 29.5% of all housing is either new or maintained like new.
  2.) 42.4% of all housing is in very good condition.
  3.) 23.2% of all housing appeared to be somewhat dilapidated.
  4.) 3.1% appeared to be a possible health threat.
  5.) Below 1% (4 homes) appeared to be condemnable and 1% (5 homes) could not be determined.

- Housing in the township is entirely single family residential. This is largely due to the lack of sanitary sewers and other services that multi-family housing demand.

- Troy Township may someday wish to adopt a housing code to assure the constant maintenance of its housing stock, to retain property values and stable neighborhoods.

7.2 Housing needs

Troy Township is ranked 12th in total housing units in Delaware County and has been the sixteenth-largest provider of new housing stock from 1980 to 2000 (203 units), ranked by building permits issued (Table 7.2, DCRPC Number of Building Permits 1980-2000). Troy Township has provided 0.86% of the total new housing in Delaware County in the last 20 years. The top five communities (city of Delaware, Genoa, Orange, Liberty Townships, and Powell) have provided almost 70% of all the housing in Delaware County during the same period. Those communities have centralized sewer service.

Table 7.2 also shows vacancy rates, as determined by the US Bureau of Census during the April 2000 count. In general, vacancy rates show a healthy supply of new homes available for sale. Vacancy rates below 2% indicate a tight housing market, while vacancy rates of 5% are normal for a market with reasonable supply for market demand.

Table 7.2 Housing Providers in Delaware County, by Reported Building Permits 1980-2000

Name of Community	Census 2000 Housing Units April, 2000	County Rank, Housing Units, Census 2000	Vacancy Rate, Census April 2000	Building Permits 1980-2000 (rank)	% total permits issued 1980-2000, Delaware County
Berkshire Township	712	16	4.5 %	386	1.65 %
Berlin Township	1,239	11	4.7 %	827	3.54 %
Brown Township	479	21	3.3 %	189	0.80 %
Concord Township	1,374	10	5.8 %	958	4.10 %
Delaware Township	373	22	7.0 %	180	0.77 %
Genoa Township	4,058	3	5.0 %	3,702	15.8 %
Harlem Township	1,382	9	3.1 %	479	2.05 %
Kingston Township	554	18	3.1 %	327	1.40 %
Liberty Township	3,469	4	5.3 %	2,547	10.9 %
Marlboro Township	167	26	6.7 %	8	.034 %
Orange Township	5,055	2	8.4 %	3,561	15.24 %
Oxford Township	318	23	7.2 %	98	0.41 %
Porter Township	597	17	3.0 %	266	1.13 %
Radnor Township	511	19	4.3 %	169	0.72 %
Scioto Township	864	14	4.7 %	430	1.84 %
Thompson Township	220	24	8.2 %	51	0.21 %
Trenton township	769	15	3.0 %	241	1.03 %
Troy Township	**1,210**	**12**	**8.5 %**	**203**	**0.86 %**
Total Townships	**23,273**		**5.3 %**	**14,622**	**62.59 %**
Columbus	1,660	7	7.8 %	1,854*	7.93 %
Delaware city	10,208	1	6.7 %	4,252	18.2 %
Galena	132	28	7.6 %	10	0.042 %
Sunbury	1,057	13	3.9 %	272	1.16 %
Shawnee Hills	199	25	9.0 %	18	0.077 %
Powell	2,032	6	2.8 %	2,131	9.12 %
Ashley	500	20	6.2 %	10	0.042 %
Ostrander	156	27	5.1 %	36	0.15 %
Dublin	1,501	8	6.9 %	13**	0.055%
Westerville	2,311	5	3.7 %	140***	0.59 %
Total Incorporated areas	**19,756**		**5.0 %**	**8,736**	**37.4 %**
Total All Reporting Incorp. & Unincorp. areas in Delaware County	**43,029**			**23,358**	**100 %**

*- Data available from 1995-2000 only

** Data from 1999- 2000 only

*** Data from 2000 only

7.3 Open Space ("Golf Course") Developments

The Delaware County townships that have experienced the most growth (Liberty, Orange, and Genoa) have access to County sanitary sewer systems.

A change in sewer policy by the Ohio Environmental Protection Agency (see Chapter 9) allows on-site centralized sewage disposal systems (treatment plants) with land application of the treated effluents. This has led to a surge in "golf course" development in townships that previously had no sanitary sewer service. The developments use the golf course as an irrigation area for the treated wastewater. Houses are placed around the golf course, which enhances house lot prices. This form of cluster housing may be appropriate, depending on the gross overall density and other service demands.

These golf course communities, with their on site centralized sewer facilities, may shift housing starts to rural, non-urban service areas, which could redistribute the housing geography in Delaware County. Troy Township must determine if such "golf course" communities are appropriate, and if so, at what overall density in different neighborhoods.

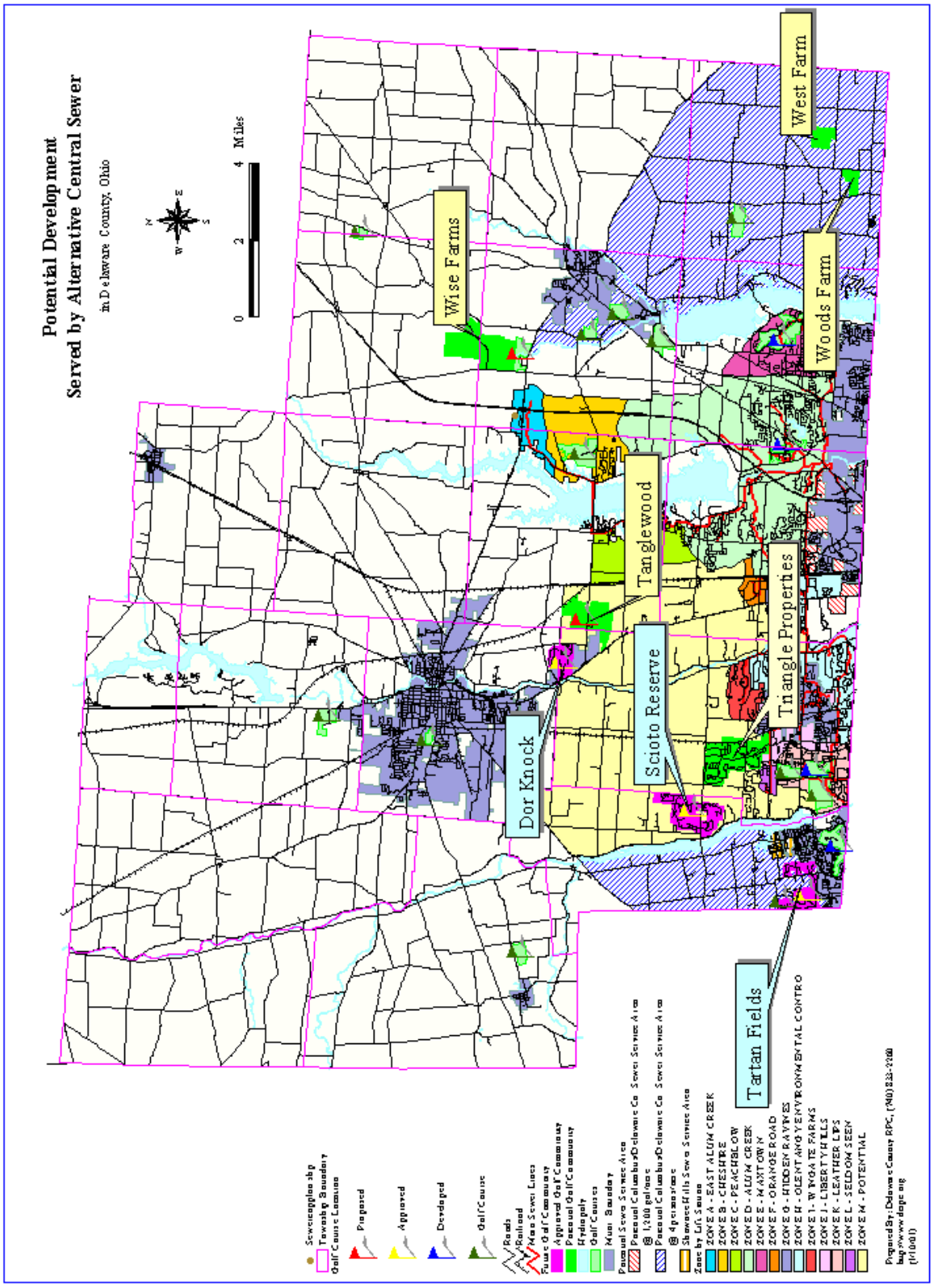

Potential Development
Served by Alternative Central Sewer
in Delaware County, Ohio
0
2
4 Miles
N
E
S
W
Wise Farms
West Farm
Woods Farm
Tanglewood
Triangle Properties
Scioto Reserve
Dor Knock
Tartan Fields
Sewerage Map
Township Boundary
Golf Course Location
Proposed
Approved
Developed
Golf Course
Roads
Railroad
Major Sewer Lines
Future Golf Community
Approved Golf Community
Developed Golf Community
Hydrography
Golf Course
Major Boundary
Pascual Sewer Service Area
Pascual Columbus/Delaware Co. Sewer Service Area @ 1,200 gal/acre
Pascual Columbus/Delaware Co. Sewer Service Area @ 4persons/acre
Shawnee Hills Sewer Service Area
Zones by Lot Sizes
ZONE A - EAST ALUM CREEK
ZONE B - CHESHIRE
ZONE C - PEACHBLOW
ZONE D - ALUM CREEK
ZONE E - MARTOWN
ZONE F - ORANGE ROAD
ZONE G - HIDDEN RAVINES
ZONE H - OLENTANGY ENVIRONMENTAL CONTRO
ZONE I - WYOATE FARMS
ZONE J - LIBERTY HILLS
ZONE K - LEATHER LPS
ZONE L - SELDOM SEEN
ZONE M - POTENTIAL
Prepared by: Delaware County RPC, (740) 833-2260
http://www.delgeo.org
(1/1001)

Table 7.4 Developments Proposed with Alternative Centralized Sanitary Sewage Disposal

Development	Location	Township	Acres	# Units Approved	# Units Proposed	Potential Density	Status
Tartan Fields	**Concord Rd.**	**Concord**	**302**	**449**		1.49/ac	**Approved**
Dornoch	**US 23**	**Liberty/Delaware**	**282**	**393**		1.39/ac	**Approved**
Scioto Reserve	**Home Road, Riverside Drive**	**Concord**	**695**	**1250**		1.8/ac	**Approved**
Tanglewood	Cheshire Road	Berlin/Liberty	573		1035	1.8/ac	Withdrawn
North Star	N. Galena Road	Kingston/Berkshire	965		1500	1.55/ac	Pending
West Farm	Robins Road	Harlem	175		540	3.1/ac	Optioned
Woods Farm	SR 605.	Harlem	128		260	2/ac	Optioned
Totals				**2092**	**4601**		

Economics drive the Land Application System equation in Delaware County.

- Land prices for land with water and county sewer in Delaware County townships are approximately $20,000 per raw acre for large tracts, which yield densities of 2 units per acre. Finished lot prices are $40-50,000 in such developments.
- Land prices in agricultural areas of the county are $2,500 to $6,000 per acre for large tracts. Existing PRD Zoning permits cluster densities of 2-8 units (varies by township) per acre with "centralized" water and sewer, even in rural areas.
- Land Application Systems can allegedly be constructed for $5,000/unit on a large-scale basis (500 units or more). Delaware County sewer tap fees are $5,900/unit. 1,000 units of housing on a Land Application System potentially saves the developer $1 million in Delaware County sewer tap fees.
- If developers can convince homebuyers to drive farther into the country and buy into a Land Application development, the developer can potentially pay less for land, save on sewer installation costs, and receive equivalent or greater densities, while marketing the "rural character" buyers demand.

7.4 Zero Discharge On Site Centralized Sewer Systems- Opportunity or Threat to Planning?

For Ohio Townships, Land Application Systems can be both an opportunity and a threat.

- **Opportunity #1-** If cluster developments with Land Application Systems are proposed in areas anticipated to be served by county sewer, the Land Application Systems can augment the county's sewer capacity. This means additional areas for sewer users may be accommodated without future upgrades to the treatment plant. This can be a benefit.

- **Opportunity # 2-** Agricultural (non-urban service) areas can use properly worded cluster development (such as the Farm Village Concept adopted by portions of Delaware and Franklin Counties) to transfer development rights from working farmland to adjacent PRD developments. The key to success of this concept is low density (one unit per two acres might be an appropriate gross density). Homes in such areas may be tightly clustered on smaller lots; the Land Application System can be used as irrigation on appropriate set-aside areas for agriculture and managed open space. This preserves farmland.

- **Opportunity # 3** Land application systems can also augment the water capacity of the potable water supply by reducing the summer lawn watering peak usage. By using a parallel gray water system to irrigate open space, lawns and golf courses, potable water demand could be reduced during droughts. Note: Check with the OEPA on permitting lawns to be gray watered. This may not be allowed.

- **Threat # 1-** Ohio townships should be cautious when using alternative sewer systems to achieve urban densities (greater than one unit per acre) in rural areas. These areas typically have no broad base of community services available to them (i.e. fire and police protection, public transportation, shopping, recreation, entertainment, and cultural activities). Every demand for such services requires trips in cars. Local roads typically cannot support significant trip increases for high density, large-scale development. The cost of upgrading farm to market roads to accommodate leapfrog development would likely exceed the benefits of the development.

- **Threat # 2 -**If gross densities of more than one unit per acre are allowed in rural (non urban service) areas, more farms become targets for golf course development, and existing golf courses become targets for effluent irrigation easements. This does not preserve farmland.

- **Threat # 3 -**Most municipal or county sewage treatment plants are built using general obligation bonds. Sewer tap fees typically make the bond payments. If developments construct their own treatment plant and avoid sewer tap fees, they may compete with a municipal or county sewer system. Property owners may incur increased taxes if a shortfall in tap fees occurs. Note: This does not appear

to be a threat in Delaware County because there is more demand for county sewer than supply, so all tap fees should be collected regardless of Land Application System developments.

- **Threat #4**– If the county does not maintain the Land Application System treatment plant, it may be prone to failure. These LAS should be considered permanent. Delaware County prefers county ownership of the plant (by dedication) to assure proper design and maintenance. Home Owners Associations are notoriously under-financed and ill equipped to maintain or oversee maintenance of sewage treatment plants.

To prepare for potential suburban-density developments using Land Application Systems or other approved "centralized" on-site sewage disposal systems, Ohio townships should:

1. Adopt up-to-date land use plans with recommended densities as the basis for their zoning.
2. Permit Land Application Systems as accommodations to development only when the use and density conform to the comprehensive plan.
3. Avoid gross tract densities greater than one unit per acre in truly rural areas. Even lower gross densities are appropriate in prime agricultural areas.
4. Require/encourage county ownership and maintenance of the sewage system.

7.5 Future Housing Needs

In order to make future housing projections, a community might anticipate what services they can, or should, provide for what kinds of housing, anticipate further their share of the future population of the area and allocate the distribution of housing types.

Few communities attempt such an analysis, leaving the housing mix up to the traditional power of zoning, which is seldom so analytical. In a high-growth area such as Delaware County, where all recent population projections have been low, it is impossible to anticipate what the county's share of the state's population will be, and distribute that amount among the townships, villages and cities. Furthermore, this is not a centralized economy, but a free market economy.

Ohio annexation law favored cities until October 26, 2001 when new annexation legislation went into effect. Although 100% annexations (in which every landowner seeking to be annexed signs the annexation petition) are still almost automatic, townships now have greater say in the annexation process. The annexation law still favors municipalities, but the balance has shifted slightly in favor of townships.

Zoning battles occur along the edges of cities over density, which translates to land value, with developers sometimes playing one jurisdiction against the other to get the most density.

Where the possibility of annexation exists, townships cannot be certain of their future boundaries. For that reason, it is impossible to assess fair share allocations of housing to be provided by the township when a city or village, which may offer superior services, may annex some of that land and provide housing at a higher density. In Troy Township, the City of Delaware provides sanitary sewer service that the township does not. Therefore, higher density housing can be provided in Delaware City than in the township.

A more pragmatic approach to housing distribution is to determine how the community wants to look like when it is all built out (vision), what services it can and should provide, and what its reasonable and fair share of the mix of population would be.

Troy Township's future housing mix and densities will be shaped by the vision of the community when it is all built out. Decision-making will also be influenced by the available utilities, natural resources and limited services the township can economically provide. This is reflected on the Comprehensive Land Use Plan Map in Chapter 15.

7.6 Housing Policies

Troy Township has established goals of maintaining a mostly single family residential housing mix. Its overall density is limited by a lack of sanitary sewer and water service. This lack of service may aid in the township's desire to maintain a sense of rural character, even when it is all built out. Troy Township's share of the Delaware County housing starts is likely to remain small. The Township should continually evaluate its housing mix as new developments are proposed.

Columbus and Delaware are the primary multi-family providers in the Delaware County housing market. They offer higher densities than the townships. The City of Delaware has recently passed a high-density apartment district that will compete with Columbus for land yield (approximately 15 units per acre). The townships cannot compete with the five cities in Delaware County (Delaware, Powell, Columbus, Dublin and Westerville), which have utilities and services needed for the multi family market.

For this reason, the townships should not be expected to provide large percentages of their future land use mix in multi-family housing. In those areas where there is access to major road networks public water and sewer, in transition to commercial uses, or as part of large planned developments, multi family housing can

occur in the townships. Troy Township could receive multi-family housing requests as part of larger planned developments. It must evaluate its housing mix in light of all state and federal housing laws, and binding court decisions, and in light of the availability, or lack of central water, and sewer systems.

Chapter 8
General Economic Conditions

Land development and fulfillment of the comprehensive plan depend on a strong local economy. Within the national economy there are regional economies moving forward or slumping due to local conditions. Delaware is one of Ohio's most affluent counties, with one of the lowest unemployment rates. The central Ohio economy (especially Franklin and Delaware County) drives Troy Township's economy.

In March 2001, the United States economy slipped into a national recession. Despite low interest rates and low inflation rates, the long period of expansion from 1991 to 2001 was ended. The effects of the September 11, 2001 terrorist attacks on the United States deepened the economic downturn. A 12/21/01 report by the U.S Commerce Department declared the US economy "turned in its weakest performance in a decade in the third quarter, shrinking at an annual rate of 1.3 %" (Columbus Dispatch, 12/22/01).

Signs of economic weakness:

- U.S. unemployment rate jumped from 4% in August, 2000 to 5.7% November 2001 (Columbus Dispatch).
- Ohio's unemployment rate rose from 4.2% in July, 2000 to 4.7% in November 2001 (Columbus Dispatch).
- Central Ohio unemployment rose from 2.4% (11/00) to 3.2% (11/01) (Business First, 1/11/02)
- Central Ohio Labor Force was at 904,300, a decrease from July 2001 high levels of approximately 918,000, but still ahead of the 12 month low of 871,800 in December, 2000 (Business First, 1/11/02).
- Central Ohio Labor Force (excluding Union County) showed an average of 41 weekly work hours, compared to 42.7 weekly work hours in October 2000. (Business First 1/11/02).
- Delaware County unemployment rose from 1.9% (August 2000) to 2.7% (November 2001) (Columbus Dispatch), but still remains one of the lowest unemployment rates in Ohio.
- Greater Columbus industrial vacancy rates rose from 7.9% first quarter 1998 to 10.18% fourth quarter 2001 (Columbus Business First Market Report, 1/18/02).
- Greater Columbus area office vacancy rates are expected to reach 10-15% in 2002 (Columbus Business First Market Report, 1/18/02)

Although economic data from the 2000 U.S. census is not yet available, there are local indicators that presage a re-emergence of the strong Delaware County economy.

Signs of economic strength:

- Delaware County Per Capita Income was $35,042 in 1999, the highest in the State. Its' 11.29% increase from 1994-96 was the fastest growing per capita income of any county in Ohio and 52nd in the USA (Ohio Development Department web site).

- Polaris Fashion Place Mall opened in November 2001, with record-breaking sales tax receipts. The mall is a destination for central Ohio shoppers, bringing new dollars into Delaware County. Polaris Centers of Commerce is the largest office park in central Ohio, with 3.8 million square feet of office space, 28 buildings and 900 of 1200 acres built. Bank One Corporate Office Center (Polaris) is the largest office building in central Ohio (2 million square feet).

- Affluence is the mark of the Polaris region. Within a 10-mile radius of Polaris are 200,000 households with a median household income of $54,400. The upscale Easton Mall/office-park, by comparison, counts 300,000 homes with a $40,600 household median (Business First).

- While new platting activity in the Delaware County townships slowed in November and December 2001, new construction continued, fed by cheap mortgage rates of 6% - 7.5% for fixed 30-year loans. Final 2001 building permit tallies for the unincorporated Delaware County townships showed 2144 new building permits, the largest number ever in Delaware County. Troy Township was the number ten provider, with 14 new homes.

- Kroger announced (Business First, January 25, 2002) they will build a $69 million, 750,000 square foot food distribution warehouse on US 36 in the city of Delaware, at Glenn Road. The facility will create 276 new full-time jobs, and retain/transfer 387 full time jobs, paying an average $13.00 per hour. The state of Ohio "estimates the new project will generate $587,221 in additional corporate franchise and individual income taxes in the next 10 years.

- 21 of 52 Greater Columbus Stocks (as of January 9, 2002, Business First newspaper) were at, or within 10% of their 52 week highs. Many of these 21 companies have a presence in Delaware County (Bob Evans; Dominion Homes; Glimcher Realty Trust; Greif Brothers; Huntington Bancshares; Max & Erma's; M/I Schottenstein; Wendy's International).

8.2 Employment by Industry in Delaware County

Delaware County has a broad-based economy. The 1998 annual average civilian labor force estimates for Delaware County: Total labor force - 48,800; Employment - 47,800; Unemployment - 1,000.

Table 8.1 Employment by (covered) Industry in Delaware County, 2000

(Source: Ohio Development Department, OBES/LMI place of work data) *This does not include all employment

Employment Category	2000 Employees	% of Total
1. Wholesale and Retail Trade	10,259	29.1%
2. Services	8,831	25.0%
3. Manufacturing	4,901	13.9%
4. Government	4,618	13.1%
5. Finance, Insurance Real Estate	3,027	8.6%
6. Construction	2,446	6.9%
7. Transportation/Utilities	553	1.6%
8. Agriculture, Forestry, Fishing	543	1.5%
9. Mining	120	0.3%

Table 8.2 Major Employers, Delaware County (Source: Delaware County Economic Dev.)

Employer	Employment Sector	# Employees
Advance Auto Parts	Trade (vehicle parts)	304
American Showa	Manufacturing (vehicle suspensions)	375
Bank One	Finance	1,000
Cigna	Insurance	450
Delaware City BD of Education	Government	559
Delaware County	Government	810
Grady Memorial Hospital	Service (medical)	657
Meijer	Trade (retail)	348
Olentangy Local Schools	Government	672
Ohio Wesleyan University	Service (Higher Education)	495
PPG Industries	Manufacturing (paint)	563
Wal Mart Store #2725	Trade (retail)	465

In 1997, the total value of all non-farm sector sales/receipts/shipments in Delaware County was $3,506,597,000 (Source: Delaware County Economic Development/US Census Bureau County Business Patterns and Economic Conditions).

8.3 Agricultural Component of the Delaware County Economy

Agriculture is still the largest land use (by acreage) in Delaware County.

Delaware County- Total Acreage	283,700
Delaware Co. Agricultural Acres (1998-Ohio Dept. Dev.)	179,000
Percent of Delaware County Acres in Agriculture	63%
Ohio Acreage in Agriculture, 1998	15,100,000 acres
Delaware County's Share of Total Ohio Agr. Acres	1.2 %

Agricultural acreage has been converting to other land uses since the end of World War II.

Table 8.3 Census of Agriculture, Change in Land in Farms in Delaware County

Source: 1995 Ohio Dept. of Agriculture Annual Report

Period	Land in Farms
1982-92	-10 %
1974-92	-11 %
1964-92	-18 %
1954-92	-31 %
1945-92	-39 %

Agriculture (farming, as reported by the Delaware County Farm Bureau) represents 770 farms. These employees (most are family farmers) represent about 3% of the total Delaware County labor force (770 farms, @ 2 full time workers/farm = 1440 farm workers; 1440/47,800 total employment = 3%).

Total cash receipts for all agricultural production in Delaware County in 1998 was $55,195,000. This represented 1.6% of the total sales/receipts for the county. It may be observed that in 1998, 63% of the land was in agriculture, an estimated 3% of the labor force was in agriculture, and 1.6% of the total cash receipts for productions of goods and services was in agriculture. Clearly, agriculture is still an important land use in Delaware County, but it is becoming a smaller portion of the local economy.

Table 8.4 Delaware County Agricultural Comparison: 1994 &1998

	1994	1998
Number of Farms	710	770
Average Farm Size	254 ac	230 ac
Total Land in Farms	180,000 ac	177,000 ac
Fertilizer Deliveries	10,615 tons	20,827 tons
Commercial Grain Storage Capacity	562,000 bushels	317,000 bushels

Source: 1995 and 1999 Ohio Department of Agriculture Annual Report

Table 8.5 Delaware County Agricultural Production: Comparison, 1994 & 1998

Crop	1994 Acres	1998 Acres	1994 Production	1998 Production
Corn (grain)	43,300	41,000	5,000,600 Bu	5,246,800 Bu
Soybeans	72,200	75,000	2,255,700 Bu	2,832,000 Bu
Wheat	18,800	12,300	969,100 Bu	929,000 Bu
Oats	-	-	-	
Hay	8,300	8,100	21,100	21,800 ton

Source: 1995 and 1999 Ohio Department of Agriculture Annual Report

Table 8.6 Delaware County Cash Receipts from Marketing of Farm Commodities

Crop	1994	1998
Corn	$13,921,000	$12,820,000
Soybeans	21,208,000	18,986,000
Wheat	3,353,000	2,203,000
Oats and Hay	633,000	819,000
Other Crops	14,393,000	12,573,000
Dairy and Milk	2,687,000	2,706,000
Cattle and Calves	1,828,000	1,352,000
Hogs and Pigs	2,808,000	3,162,000
Poultry and other Livestock	953,000	573,000
Total	**$61,784,000**	**$55,195,000**
Average per farm	**$84,635**	**$75,609**

Source: 1995 and 1999 Ohio Department of Agriculture Annual Report

8.4 Local Housing and Real Estate Market

Compared to the Midwest region, the Central Ohio housing market is healthy, but not super “hot”. Whereas the Midwest was up +18% for single and multi-family units in 1998, Central Ohio was up only 8.6% overall (Source, Business First). This was still down 8.9% from the 1996 high of 12,147 total units

for Central Ohio. The number of closings in February 1999 was 1097, versus 1174 in February 1998, a 6.5% decrease. Interest rate increases of 2% from 1999 to mid 2000 have slowed sales somewhat.

For the second quarter of 2000, Business First reported (8/25/00) a "Market Hotness" index of 10.6 for the Columbus MSA. This compared to a high of 36.2 (Naples, Florida) and a US rate of 6.0. For comparison, Cincinnati MSA was ranked a 6.9, and Cleveland MSA 3.9.

Delaware County's housing market has been strong for two decades and is getting stronger (see building permits figure in Chapter 2, and subdivision data in Chapter 3). The townships have primarily provided upscale single family housing, while the cities of Delaware and Columbus have provided more moderate income and middle class housing.

The Mid Year Greater Columbus Blue Chip Economic Forecast (August 16, 2000, Greater Columbus Chamber of Commerce) warned that the declining ability of residents to find affordable housing threatens the Greater Columbus economic expansion. As reported in Business First (8/25/00) " even with high average incomes and large down payments, the majority of newly built homes in Greater Columbus are economically out of reach for most regional residents. A household making $40,300, the average income for the region, and placing a 20 percent down payment on a home could afford only 4 percent of the area's new houses."

In the townships of Delaware County (see Summary Statistics of Rezoning and Subdivision, Chapter 3) there were 12, 969 lots in the subdivision "pipeline" for approval on 12/31/2001. Based upon a three-year average absorption of 1,976 new lots in the unincorporated townships, the 12,969 house-lots represents a 6.5 year supply. If too much high-end housing is offered to the market, and if demand becomes reduced by weakness in the local, state and national economy, the Delaware County real estate economy could suffer. It is too soon and too difficult to predict at this moment (February 2002).

8.5 Other Economic Indicators

Delaware County's poverty rate was the lowest in Ohio in 1999 (3.6%), one-third that of Franklin County (11.6%). All other central Ohio counties average 7% (Source: Census Bureau)

According to the 2000 Census, Delaware County has the highest educational attainment rate of any central Ohio county. 92.9% of the population is a high school graduate, 41% has at least a Bachelor's degree, and 12.9% of the population has a Master's or higher college degree. By comparison, combined college level

attainment in other counties is: Franklin: 31.8%; Fairfield: 20.8%; Licking: 18.4%; Madison: 13%; Pickaway: 11.4%; and Union: 15.9%.

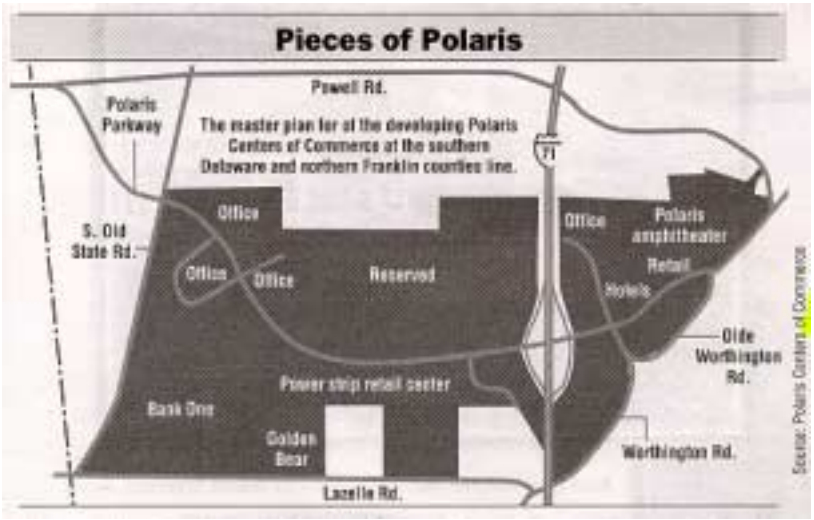
Delaware County ranks third in the state of Ohio's 88 counties in the highest per capita property taxes, with 1997 revenues of $1,063.86 per capita.

8.7 Economic Development in Delaware County

Traditionally, economic development in Delaware County focused on the city of Delaware. In the last twenty years, as water and sewer systems branched out into the townships, economic development has followed. For example, the Polaris I-71 interchange and the extension of Polaris Parkway to US 23 at Powell Road created an economic engine in Orange Township.

Polaris

A 1200-acre Polaris annexation from Orange Township to Columbus occurred in January 1991. Private and city funds were used to construct the interchange and Polaris Parkway.



(Image from Business First, 2/5/99, special supplement)

NP Limited was the master developer of Polaris. According to a NP Limited Partnership, the following economic development has occurred in the last eleven years at Polaris Centers of Commerce.

Polaris facts:

- There is almost 4 million square feet of office space that has been constructed and is occupied
- Of the 4 million square feet, Bank One occupies nearly half, with a complex on the corner on Polaris Parkway and Sancus Blvd.

- Polaris Fashion Mall opened in the Fall of 2001 with 1.5 million square feet of retail development, which includes 150 specialty stores and 7 large department stores.
- There is currently 2.5 million square feet of retail in the area.
- The Polaris Amphitheater has been a financial and marketing success, but has created unwanted noise problems with its residential neighbors.
- Polaris and the Polaris Parkway have spawned spin-off economic development on the east side of Alum Creek in Westerville (Liebert, Meijer Store, Kroger).
- Affluence is the mark of the Polaris region. Within a 10 mile radius of Polaris are 200,000 households with a median household income of $54,400. The upscale Easton Mall/office park, by comparison, counts 300,000 homes with a $40,600 household median.

Polaris Expansion

Currently there is 150,000 square feet of retail development being built, mostly along Sancus Blvd. and Polaris Parkway. Road widening continues in the area and ODOT plans to start construction on reconfiguring the Polaris Interchange as soon as Spring of 2003. The new interchange would include another overpass over I-71 with Fashion Mall Blvd.

Enterprise Zones

Delaware County's established enterprise zone program provides tax abatements in return for guaranteed job creation. The enterprise zone program has been successful in creating 1,392 new jobs at 28 of 30 firms receiving abatements as of 12/31/99 (source, Delaware Gazette, 4/12/00). The four enterprise zones in Delaware County are in Orange Township, city of Delaware, Westerville, and the village of Sunbury.

Table 8.7 Delaware County Enterprise District: Orange Township (1999)

Firm	# jobs created	Real Property	Personal Property	Base payroll	Projected Payroll
Airwaves Inc	30	2,700,000	3,450,000		500,000
BKP BT USA	30	2,550,000	3,700,000		600,000
Digital Storage	30	2,000,000	11,000,000	1,371,000	750,000
Colorifics	8	600,000	197,600	496,454	162,240
Fisher Backup us	8	536,000	50,000		100,000
Sarcom #1	10	1,875,000	18,700,000		200,000
Sarcom #2	225	2,700,000	11,750,000		6,750,000
Sheridan Ass.	4	525,000	0		46,000
Volvo Parts	50	300,000	22,400,000		2,000,000
Totals	**395**	**$13,786,000**	**$71,247,600**	**$1,867,454**	**$11,108,240**

Table 8.8 Summary of Enterprise Zone Data, 2000

Enterprise Zone	New Jobs	New Annual Payroll	New inventory and Equipment
Delaware	757	$17 million	$105.4 million
Orange Township	494	$14 million	$90.3 million
Westerville	146	$3.8 million	$15.2 million
Sunbury	305	$10.6 million	$30 million

Source: Delaware Gazette, 4/12/00

8.8 Delaware City

Delaware City's 1996 Comprehensive Plan projects growth into a significant portion of the southern half of Troy Township by the year 2020. This includes low and moderate density residential as well as commercial along US 23. Troy Township must be proactive and work with the city in order to discourage future annexations and the potential loss of tax base.

8.9 Troy Township Economy

Troy Township's economy has historically been based on agriculture but commercial uses continue to grow along US 23.

Table 8.8 Businesses in Troy Township noted by Windshield Survey, March 2000:

Business Name	Business Type
Pauls Marine	Boat Storage
KCB Trucking	Trucking company
All stop drive thru	Drive thru retail
American Home Loans	Finance Company
Little Bit Farms	Farm Market
Chad's Machine repair	Machine repair
Oak Haven Golf Club	Golf Club
Central Marine Service Co.	Boat Sales and repair
Western	Western garment retail
Tracy's Restaurant	Restaurant
Common Sense Mortgage	Finance company
Storage North	Storage units
Brey's Machine Shop	Machine Shop
Emrichs Garage/ J & J Salvage	Auto body, salvage yard
Something Fishy	Bait Shop
Howard Trucking	Trucking operation
Rogers Battery Sales	Battery sales
S.M.H. Sales	Mobile home sales
Obies Carry Out and Gas	Carry out and Gas Station
Walters DVM	Veterinarian
D & T Sign Erectors	Sign Company
DeHowe's Machine Shop	Machine Shop
Nikolai Kennels	Kennel
Show Boat Marine	Boat and RV supplies

There is a possibility for additional economic development along US 23 within Troy Township, however, with no sanitary sewer service available in the township, annexation of these lands to Delaware is also possible. If the township can attract commercial, office or industrial uses that do not require sewer service, then the economy of the township could be strengthened.

8.10 Troy Township Economic Development

Troy Township should plan for future economic development by:

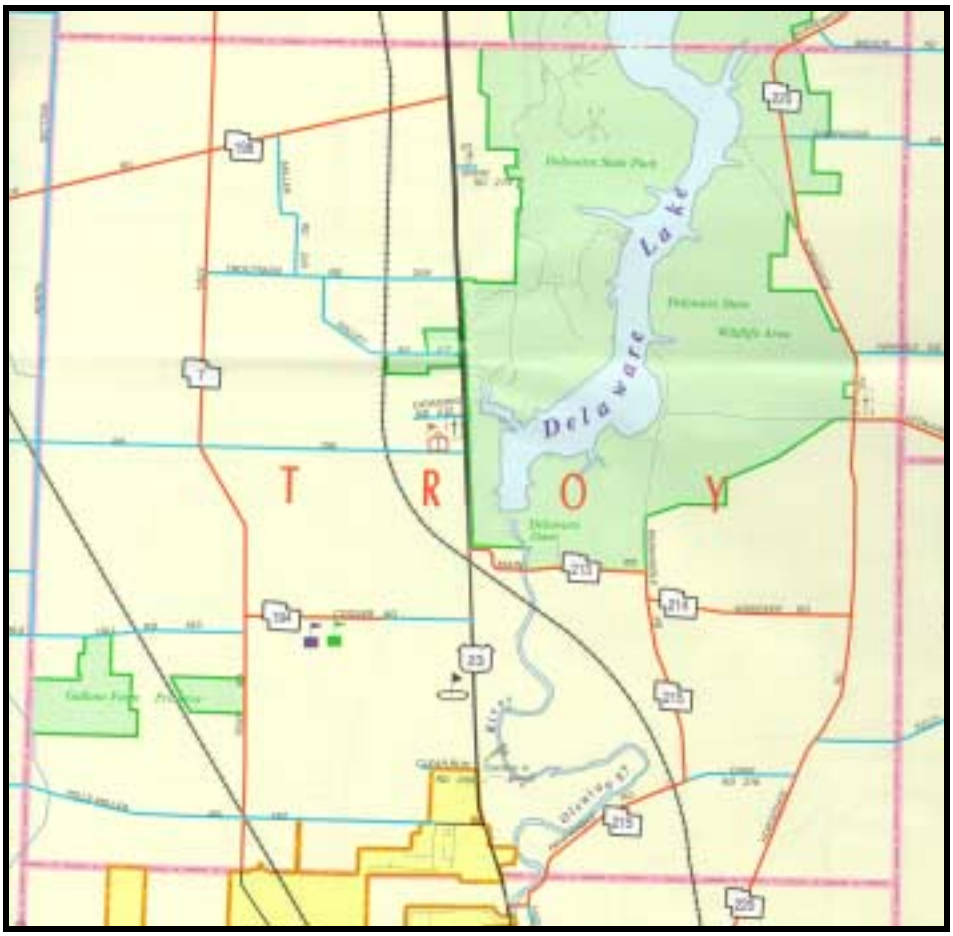
- Working with the City of Delaware to investigate the possibility of a Joint Economic Development District (JEDD) with a commercial base utilizing city sewer service.
- Consider future commercial development on US 23 served by on-site (i.e. septic and leach or zero discharge, land application sewer systems) at key locations.

Chapter 9
Roads and Transportation

9.1 General Information

Troy Township roads were originally laid out for farm access in the early nineteenth century. These original township roads continue to be the only avenue for local transportation. With the exception of a few small residential subdivisions, all development in the township has taken place along these original farm-to-market roads. As the area develops, these historic roads are changing function. What were once unpaved, narrow horse and buggy tracks are now paved, narrow, township and county roads used as collector and arterial streets. As traffic counts increase, roadway improvements will be needed.

Map 9.1 Troy Township Roads



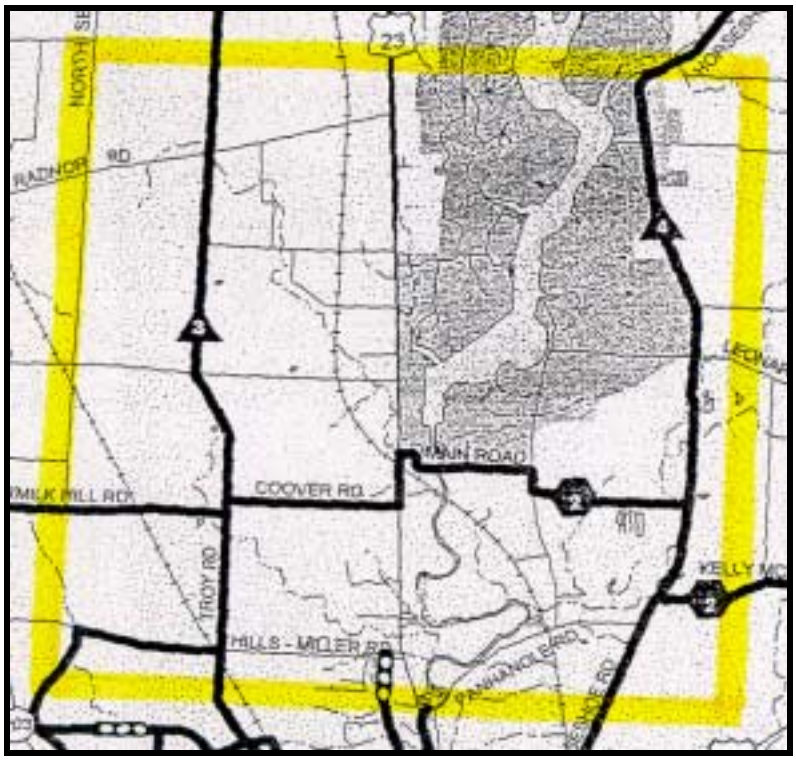
Troy Township has no regularly scheduled public transportation. Automobiles are the primary means of transportation. The Delaware Area Transportation Authority (DATA) offers an on-call non-scheduled bus

service from point-to-point in the county. A DATA bus will deliver passengers to Crosswoods at I-270 and US 23. A COTA linkage from Crosswoods delivers bus riders to any COTA stop in Franklin County.

Bikeways - No bikeways exist in the township. The Mid Ohio Regional Planning Commission (MORPC) has prepared a regional bikeway corridor update for Franklin and Delaware Counties, in hopes of obtaining Transportation Equity Act 21 funding. The bikeway plan recommends five bikeway corridors along existing roads in Troy Township.

- ***East West #2***, follows Buttermilk Hill Rd. from the Radnor Township line on the west to Coover Road, north on US 23, east on Main Rd., south on Panhandle, east on Hanover Rd., south on Horseshoe Rd., and east on Kelly-McMaster to the Township's eastern border.
- ***East West unnumbered***, follows Hills-Miller west of Troy Road and turns south towards SR 203.
- ***North South #3***, follows Troy Road from the southern border to the northern border of the Township.
- ***North South #4***, follows Horseshoe Road from the southern border to the northern border of the Township.
- ***North South Unnumbered***, is a committed bikeway that follows Bruce Street from Hills Miller south to the township line.

9.2 MORPC 1999 Bikeway Corridor Update Map



MORPC 1999 Proposed Regional Bikeway Corridor Update

9.2 Road Maintenance

Roads are maintained by various authorities:

- Federal and state roads are maintained by District 6, Ohio Department of Transportation.
- The Delaware County Engineer maintains county roads.
- The Township maintains township roads.
- Homeowner associations maintain private subdivision roads.
- Common Access Driveways (CADs) are 12- foot wide private roads used in small (2-5 lot) subdivisions and are maintained by the lot owners.

9.3 Federal and State Roads

a.) U.S. 23– Troy Township has approximately 5 miles of U.S 23 (Columbus Pike) passing through it from north to south. This is a four-lane divided highway with limited access. Access rights were purchased for most of the corridor by the Ohio Department of Transportation in the 1950s. This limits land use along the US 23 corridor to the rights of access at the time of purchase. It is possible to upgrade access rights from agricultural or residential driveways to commercial use, but the access rights must be repurchased from ODOT based upon the market value of the property if it were used commercially.

U.S. 23 is the major north-south federal and state highway from Detroit/Toledo to Columbus and Portsmouth, Ohio. This road is heavily traveled by interstate trucks and passenger vehicles. In recent years, commercial development in Orange Township has resulted in new traffic lights. This slows interstate traffic, which has caused ODOT to finance a major Access Management study for all of US 23 in Delaware County. A draft US 23 Access Management Plan has been released; its recommendations are discussed in Section 9.8.

The US 23 corridor offers an important commercial tax base to Troy Township. There may be a desire to plan and zone some of these frontages for commercial use. Any such commercial use should be subservient to the needs for US 23 to carry high speed through traffic. If commercial development is desirable, it must be a part of a planned network of limited access points, signals placed no more frequently than one half mile spacing, and with parallel access road to control left turns across traffic a mandatory feature. This would relieve a great deal of future traffic problems.

9.4 County Roads

The Delaware County Engineer maintains 9 county roads in Troy Township (see Table 9.1).

Table 9.1 County Roads and Conditions in Troy Township, 2000

#	Road Name	Surface Width	Road Width	Surface Type	Road Length (miles in Twp.)
07	Troy Road	22	24	G2	5.09
194	Coover Road	21	25	I	0.77
215	Panhandle Road	20	20,22,24	G2,H2	2.8
220	Horseshoe Road	22	24	G2	5.26
221	Leonardsburg Road	18	22	G2	0.25
08	North Section Line Road	16,18	18,20,22	H2,G2	1.81
198	Radnor Road	22	26	I	2.39
213	Main Road	20	32	I	1.11
214	Hanover Road	16	22	I	1.19

Road carrying capacity is determined by the width of the paved surface and the number of lanes. The speed of the road is generally determined by such factors as road width, pavement conditions, curve radii, topography, number of driveways and cross traffic movements.

Future land development will lower the level of service (LOS) of county and township roads. Level of Service A is ideal. Level of Service F is failure. Level of Service C is usually considered acceptable. Upgrades will be needed to keep pace with the increased traffic counts. The DCRPC has estimated future population per square mile at different densities (see Table 9.2).

Table 9.2 Dwelling Unit Density Per Acre and the Equivalent Population per Square Mile

# Units/acre x	#Persons/unit x	% Developable/ac x	Acres/ Square Mile =	Population/ Square Mile
.2	2.7	95 %	640	328
.5	2.7	90 %	640	778
1	2.7	90 %	640	1555
1.25	2.7	85 %	640	1836
1.5	2.7	85 %	640	2203
2	2.7	85 %	640	2938
3	2.7	80 %	640	4147
4	2.7	80 %	640	5530
5	2.7	80 %	640	6912
6	2.7	80 %	640	8294

Based upon a similar analysis, engineers can anticipate the size of road needed to serve a calculated density of population. A generalized table for road size versus population density at full build-out is provided in Table 9.3 (Author: Scott Pike, Delaware County Engineer's office).

Table 9.3 Road Size and Type Needed to Serve Specific Population Density/Square Mile

Density (# Units /ac)	Average Annual Daily Trips/ Square Mile	Directional Design Hour Traffic	Level Of Service	Road Class Required	Calculation # lanes each direction	Actual # lanes	Width Needed (feet) *
.2	1,220	139	A C E	Local	0.24 0.11 0.08	2 2 2	38' 38' 38'
.5	2,880	328	A C E	Collector	0.56 0.27 0.19	2 2 2	38' 38' 38'
1	5,760	655	A C E	Arterial	1.12 0.54 0.38	2 2 2	38' 38' 38'
1.25	6,800	774	A C E	Arterial	1.32 0.64 0.45	4 2 2	62' 38' 38'
1.5	8,160	928	A C E	Arterial	1.58 0.76 0.54	4 2 2	62' 38' 38'
2	10,880	1,238	A C E	Arterial	2.11 1.02 0.72	4 2 2	62' 38' 38'
3	15,360	1,747	A C E	Arterial	2.98 1.43 1.02	6 4 2	86' 62' 38'
4	20,480	2,330	A C E	Arterial	3.97 1.91 1.36	8 4 4	110' 62' 62'
5	25,600	2,912	A C E	Arterial	4.96 2.39 1.70	10 6 4	134' 86' 62'
6	30,720	3,494	A C E	Arterial	5.96 2.87 2.04	12 6 4	158' 86' 62'

***With 12' lanes and 7'shoulder each side**

Assumptions:

1. 8% trucks
2. Level terrain
3. # vehicles per hour per lane = SFL:

   LOS A 650

   LOS C 1,350

   LOS E 1,900

9.5 Township Roads

The Township currently maintains fifteen local roads. According to the Delaware County Engineer, all township and county local and collector roads should be at least 20 feet of surface width with an additional shoulder of five to seven feet. Many county and township roads do not meet this standard.

Table 9.4 Troy Township Roads 2000

#	Road Name	Surface Width	Road Width	Surface Type	Road Length (miles in Twp.)
192	Hills-Miller Road	18	21,22	I	2.64
193	Buttermilk Hill Road	16	20	G2	1.25
194	Coover Road	20	26	I	0.55
196	Penry Road	16,18	22	I	2.48
209	Troutman Road	14,18,22	20,24	G2	1.46
210	Miller Road	12,16	16,20	I	0.94
211	Willey Road	18	22	I	1.13
212	Downing Road	18	20	I	0.31
218	Case Road	19	22	G2	0.65
219	Kelly-McMaster	18	18	H2	0.49
222	Whipple Road	16	20	I	0.28
223	Sherwood Road	16	24	H1	0.71
225	Bishop Road	14	22	G1	0.16
279	Irwin Road	10	12	H1	0.31
289	Clear Run Road	12	16	I	0.13

Source: ODOT Road Inventory 2000

Notes: Surface Types

A Primitive Road
B Unimproved Road
C Graded and drained earth road
E2 Gravel or stone road
F Bituminous surface treated road
G1 Mixed bituminous combined base with surface under 7”
G2 Mixed bituminous combined base with surface 7” or more
H1 Bituminous Penetration combined base under 7”
H2 Bituminous penetration combined base 7” or over
I Bituminous concrete sheet asphalt or rock asphalt road
J Portland Cement Road
K Brick Road
L Block Road

9.6 Functional classifications

Roads have functional classifications. The Delaware County Engineer has created categories for roads in their 1999 Design Standards.

a.) **Arterial streets** – Arterial Streets have the primary purpose of carrying through traffic to and from residential, commercial, and industrial areas and the secondary purpose of providing access to abutting property. It is usually a continuous route carrying heavy loads and a large volume of traffic. Average Daily Traffic (ADT) is usually in excess of 3,500 vehicles.

Existing Arterial Streets (MORPC)

- US 23

2001 Thoroughfare Plan (Proposed functional classification)

- Major arterial roads in Troy Township: US 23, North Section Line Road.
- Minor arterial roads in Troy Township: Troy Road, Horseshoe Road, Radnor Road.

b.) **Collector Streets**- Collector Streets have the primary purpose of intercepting traffic from intersecting local streets and handling this movement to the nearest major collector or arterial street. ADTs typically range from 1,500 to 3,500 vehicles, with AM peak hour traffic about 7-8% and PM peak hour of 10%.

Existing Collector Streets (MORPC)

- Troy Rd., Horseshoe Rd.

2001 Thoroughfare Plan (Proposed functional classification)

- Major collector roads in Troy Township: Penry Rd., Hills-Miller Rd., Hanover Rd., Main Rd., Panhandle Rd., Case Rd., Bishop Rd.
- Minor Collector Roads in Troy Township: Buttermilk Hill Rd., Whipple Rd., Sherwood Rd., Troutman Rd.

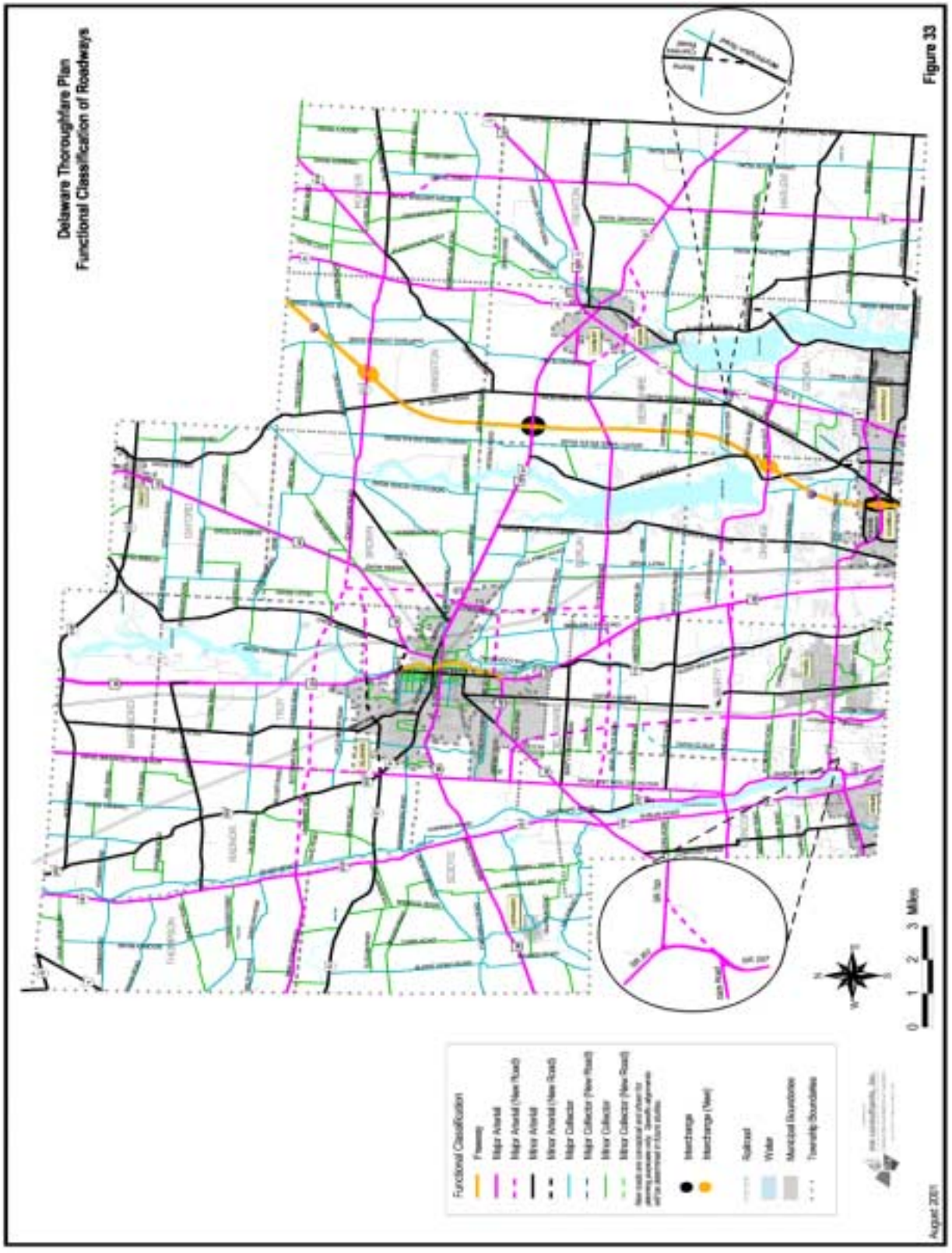
c.) **Local Streets-** Local streets represent the lowest category. Their primary function is to serve abutting land use. Typical ADT's range from 100 to 1,500 vehicles. Local streets are further classified as Loop, Through and Cul-de-sac.

- Examples: Clear Run Rd., Willey Rd., Miller Rd., Downing Rd.

The historic county and township roads, built as local farm to market roads, are being pressed into service as collectors, major collectors, or even minor arterial streets, yet they are often narrower than new subdivision streets, and sometimes built to a lighter load bearing standard.

The cost of upgrading county and township roads to collector or arterial standards can be prohibitive. In each planning sub-area, the ability of the road to carry the traffic, its functional classification, and the cost of upgrading it can be factors in determining the timing of land use and density changes; However traffic, by itself, is not grounds in Ohio to justify denying a zoning change.

COUNTY THOROUGHFARE PLAN
Functional classifications

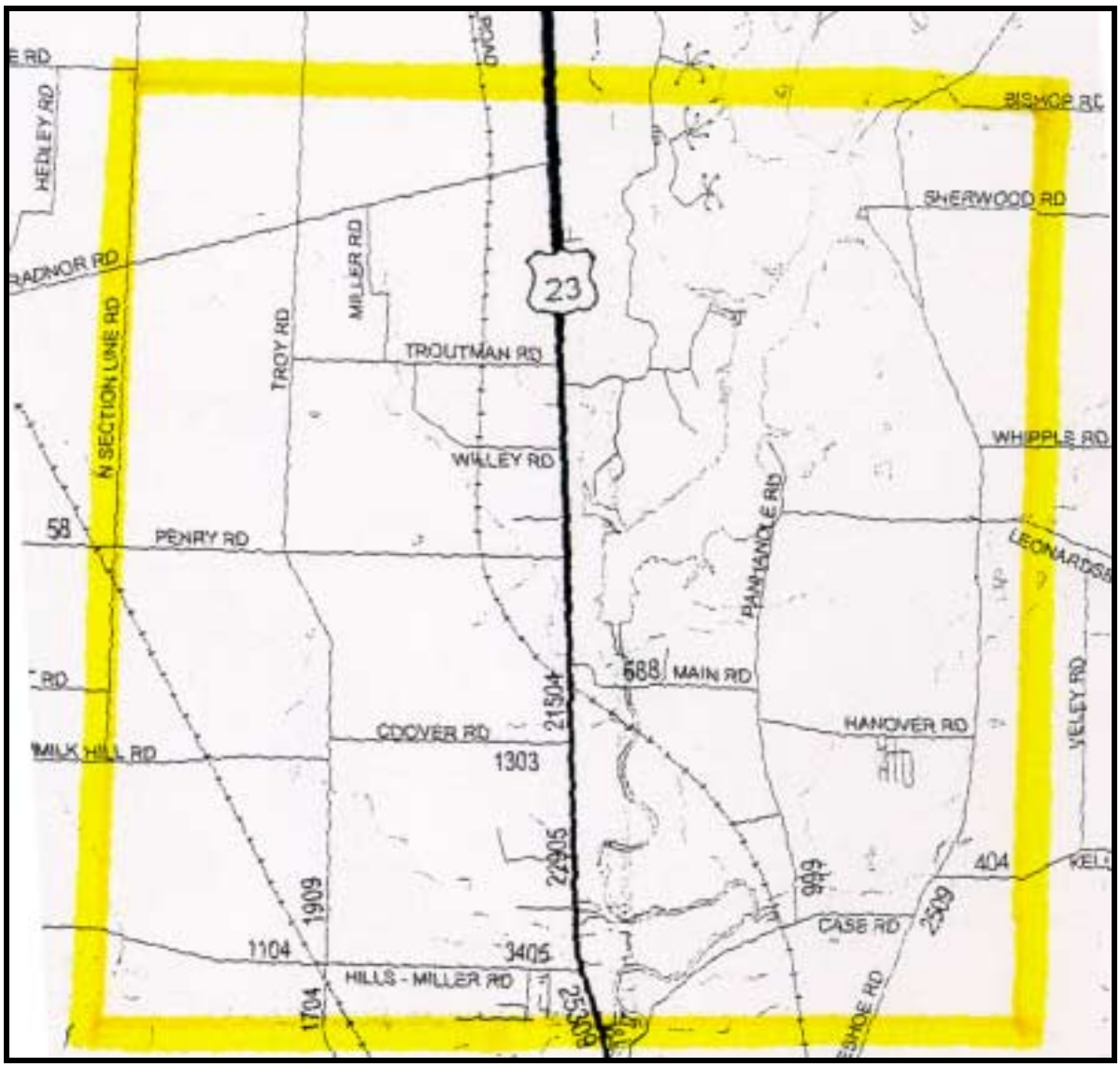


9.7 Traffic Counts

Map 9.2 shows the latest traffic counts taken as part of the 2001 Thoroughfare Plan. The count for US 23 is 21,500 vehicles/day north of Coover Road and 22,900 vehicles/day south of Coover Road.

*Note: All counts are rounded to the nearest hundred. The year of the traffic count is signified by the last digit. For example, the US Average Daily Trips (ADT) south of Coover Road was 22,900 as measured in 1995.

Map 9.3 Troy Township Traffic Counts



9.8 General Access Management Principles

The US 23 corridor offers potential commercial tax base to Troy Township. Any such commercial use should be subservient to the needs for US 23 to carry high speed through traffic. An ODOT Access Management Study for US 23 has found the following access impacts:

- Poor access management can reduce highway capacity to 20% of its design.
- Delay is as much as 74% greater on highways without access management.
- 60% of urban and 40% of rural crashes are driveway and intersection related.
- 15,000 access related crashes occur each day at an estimated annual cost of $90 billion.

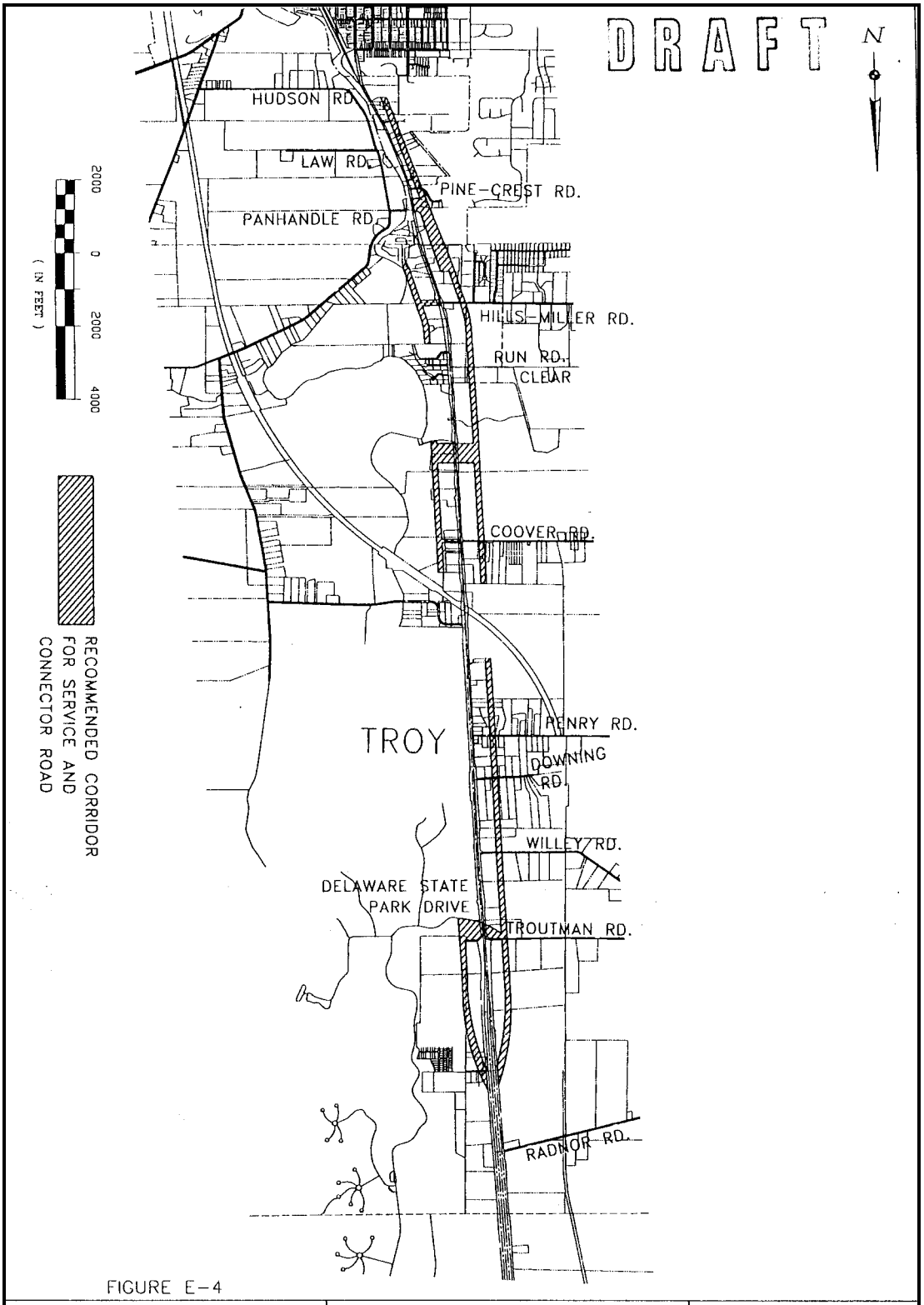
ODOT Access Management Principles

- **Regulate the location, spacing and design of drives.**
- **Space access points so they do not interact with each other.**
- **Provide adequate sight distance for driveways.**
- **Use appropriate curve radius, lane widths, driveway angle.**
- **Provide turn lanes to separate conflict points for acceleration, deceleration, & storage lanes.**
- **Prohibit some turns in critical areas; relocate that activity to a less conflicted point.**
- **Restrict driveways to fewer than 30 per mile (every 350 lineal feet maximum).**
- **Use feeder roads to relocate critical movements and to handle short trips parallel to the main road.**
- **Locate driveways away from intersections to reduce conflicts (corner clearance).**
- **Use right in, right out drives to prevent unwanted left turns across traffic.**
- **Use zoning with access management to develop good site plans.**
- **Connect parking lots; share driveways.**
- **Use frontage roads to connect commercial traffic, and keep it parallel to the main road.**
- **Connect frontage roads to collector streets at properly spaced intersections.**
- **Use "backage" roads as rear access roads connecting commercial uses.**
- **Avoid individual, closely spaced curb cuts to "bowling alley" lots.**
- **Use the 30-curb cuts/mile standard, or maximum of one access each 350 feet.**
- **Avoid disconnected street systems.**
- **Encourage internal access to out-parcels.**
- **Minimize the number of traffic signals. Two per mile is ideal (half mile spaced).**
- **Use medians to separate traffic flows.**
- **Coordinate access permit review between ODOT, local zoning and building departments**

New commercial development along US 23 is likely to be requested during the planning period 2002-2012. If the township wishes to rezone for US 23 development, it should insist on the construction of backage or frontage parallel access roads (as depicted on the US 23 Access Management Plan Draft) concurrent with the commercial development. These backage roads would preferably be constructed by the developer or, at a minimum have a dedicated easement provided by the developer to allow ODOT to construct them in the future.

US 23 north of Troutman Road has eight lanes, two outside lanes on the east and west sides of the four lane divided section. ODOT District 6 has agreed that the outside two lanes can be used as the frontage road, taking place of a "backage road". South of Troutman Road, the backage road concept should be followed. Most importantly, any rezoning along US 23 should involve a coordinated agreement with ODOT on access.

Map 9.4 ODOT Draft 2001 US 23 Access Management Plan



9.9 Future Roads – The Delaware County Thoroughfare Plan

"Original" farm-to-market county and township roads are often narrower than new subdivision streets, and sometimes built to a lighter load bearing standard. The cost of upgrading "original" county and township roads to collector or arterial standards can be factors in land use decisions, although excess traffic by itself is not considered grounds in Ohio to deny a zoning change.

A Thoroughfare Plan is a powerful tool for counties and townships to plan for future land use and traffic conditions. The Thoroughfare Plan is enabled by Ohio Revised Code Section 711.10:

> "Whenever a regional planning commission adopts a plan for the major streets or highways of the county or region, then no plat of a subdivision of land within the county or region, other than land within a municipal corporation"… "shall be recorded until it is approved by the regional planning commission."

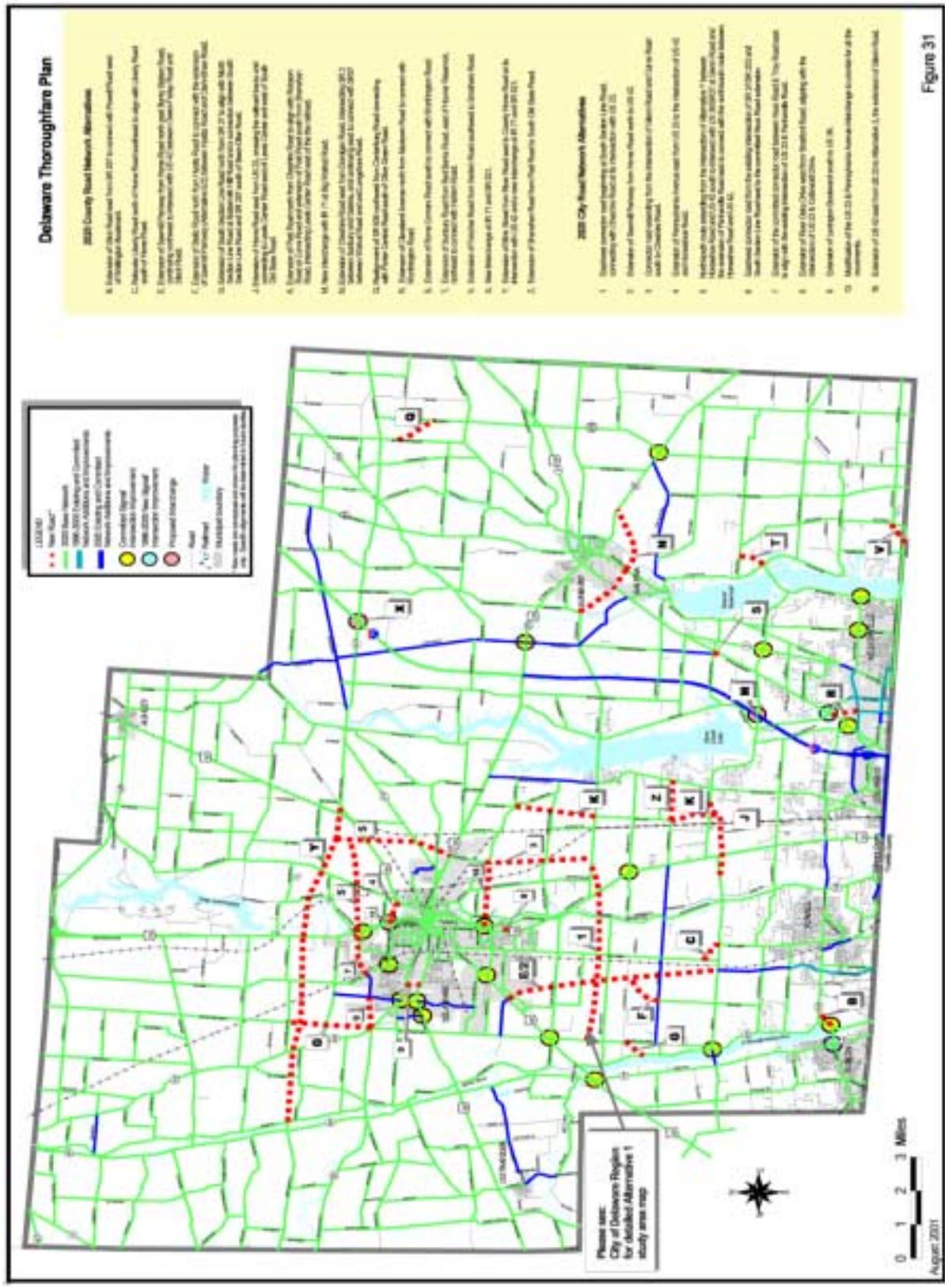
The Delaware County Thoroughfare Plan was adopted in December 2001 by the Delaware County Commissioners. The Thoroughfare Plan recommends the following future improvement in Troy Township:

- Extension of Mink Street from River Road in Radnor Township east to County Home Road at its intersection with US 42. Includes a proposed interchange at US 23 and the new east-west road.
- Extension of North Section Line Road south to connect with South Section Line Road at SR 37.
- Houk Road extension from SR 37 to connect with Hills-Miller Road in Troy Township.

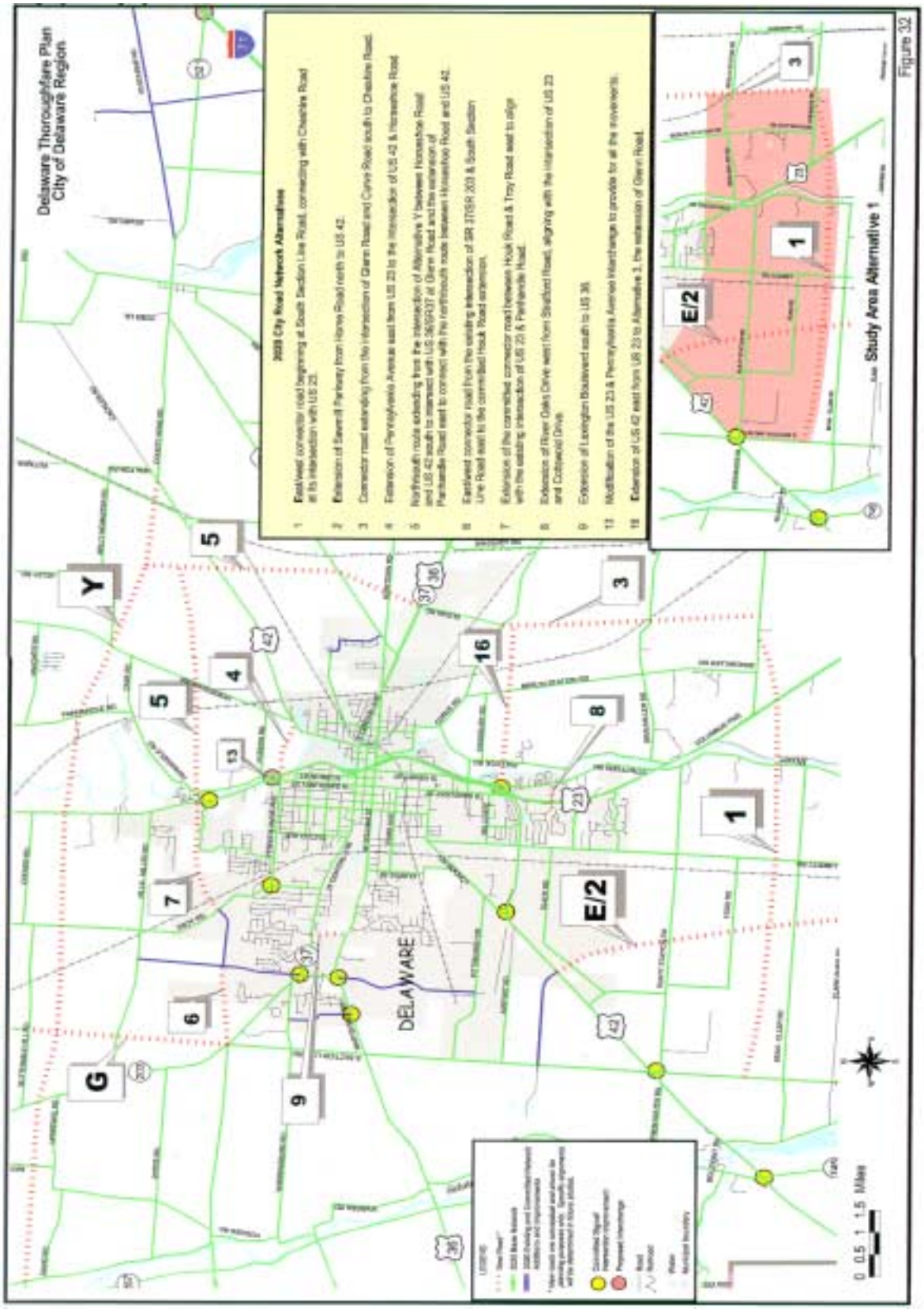
Troy Township should consider the recommendations for new roads and improvements to existing roads in the township.

2001 Del Co

THOROUGHFARE PLAN



DEL CITY THOROUGHFARE PLAN



9.10 Other Road related Issues

As Delaware County grows, traffic increases. This decreases the quality of life that residents enjoyed or moved here to find.

Four traffic considerations to any re-zoning request:

1.) Patterns of Development and "Induced Traffic"-Traffic can be induced or reduced by the design of the development and the mix of land uses. When development is low density (typically one acre lots or larger), there is no opportunity for local commercial uses to be included in the mix. However, if large developments with densities greater than one unit per acre are proposed, there should be consideration for a mix of local convenience commercial uses and a network of sidewalks, trails and bike paths to avoid induced auto trips. Induced traffic is the result of development patterns with exclusive uses separated so that every household need results in an auto trip. A typical home in an exclusively residential area generates 10 or more trips per day. A home located in a neighborhood that is designed to be convenient for walking and biking with mixed commercial and service uses can reduce auto trips to as little as 4 trips per home per day.

2.) Traffic Impact- New development proposals should be assessed for their trip generation. An assessment using ITE trip generation rates should be submitted by the developer as part of any planned development. As a general rule, if the trip generation is more than 1000 vehicles per day, a full-fledged traffic study should be performed to determine the impact and mitigation measures needed. Current level of service (LOS) and post development LOS should be compared. Roads should not be degraded below LOS C on a scale of A-F. This should be considered as part of the zoning decision.

3.) Impact Fees for Offsite Traffic Improvements-Ohio planning and zoning legislation does not currently empower townships to charge impact fees to offset costs of service expansion (roads, schools, parks, etc.). Generally, road improvements immediately adjacent to the development can be attributable to the project as part of the subdivision and zoning process. If large impact development proposals do not reasonably offer to mitigate their significant off-site impacts, they may impose an undue burden on the township. In such cases the rezoning may be premature.

4.) Air Pollution Standards- Delaware County is one of 32 counties in Ohio where air pollution exceeded the 8-hour US EPA air quality standard for ozone. The 8-hour standard has been appealed to the US Supreme Court. If the 8-hour standard is supported by the Court, then there may be substantial impacts on economic development and transportation. Some of the possible consequences:

   a.) loss of federal funding for state infrastructure (roads and other improvements)

b.) requirement of potentially more expensive, cleaner burning fuels
c.) use of vapor controls at fueling stations
d.) emissions testing (E check) of tailpipes (not currently planned)
e.) voluntary restrictions on travel with staggered work hours, etc.

Project CLEAR (Community Leadership to Effect Air Emission Reductions) is a community oriented partnership between the Columbus Health Department, The Ohio State University and the Mid Ohio Regional Planning Commission. Project CLEAR will evaluate and recommend strategies to reduce air emissions that contribute to smog and ground level ozone in Central Ohio. Even small details, such as providing tree islands in commercial parking lots, can reduce the incidence of ground level ozone, and should be a consideration in the zoning process when reviewing development plans.

Chapter 10
Utilities

10.1 Water

Most of the potable water in Troy Township is currently supplied by private wells. The Del-Co Water Company, a cooperatively owned private water company established in 1973, serves part of the eastern portion of Troy Township with potable water. As the county has grown, Del-Co has expanded its service to provide larger diameter water lines for residential and commercial service as well as fire protection.

Supply

Private Water Systems

Most of the western half of the township is served by private water systems. Rules for such systems, including a list of required distances fall under the Ohio Administrative Code Chapter 3701-28, which can be obtained from the Delaware General Health District. Permits for any private water system are issued by the Delaware General Health District. Most of the private water systems in the township are groundwater wells. Water sources (cisterns, wells, etc.) are required to be located according to minimum distances listed in the Private Water System Rules of ORC 3701-28 No. 10. A typical residential well must be provided with a 50' sanitary radius. Well yields will depend on the age, depth, type of construction, diameter of casing, pump capacity, and the geologic formation. Anecdotal reports on well yields in Troy Township suggest that quantity is usually adequate, but water quality is poor. Most common complaints are high iron and hardness, with some sulfur problems

Del-Co Water

Del-Co has two current sources of supply. It draws surface water from the Olentangy River and from the Alum Creek reservoir. The water is treated and piped to up ground reservoirs on South Old State (Orange Twp.) and Olentangy River Roads (Liberty Twp.), and to elevated storage tanks.

Del-Co Water Headwaters and Up-Ground Reservoirs on State Route 315, Liberty Twp.

Del-Co has met its need for expanding water supply with aggressive planning for future growth. For example, in 1998 Del-Co added over 1,800 new customers and installed over 63 miles of new water lines. They constructed a new administrative office building, began construction of a million-gallon storage tank in Morrow County, and completed a 400,000-gallon storage tank at Tartan Fields subdivision and golf club in Concord Township.

The rapid growth of Delaware County has strained water supply and treatment capabilities. Del-Co has a current daily treatment and pumping capacity of 13.6 million gallons per day (mgd). In May of 1999, with a minor drought, they were pumping 13 mgd, or approximately 272 gallons per person served at peak demand. Approximately 9 mgd was going to lawn watering; the demands for lawn sprinkling systems overtax the water system for supply and treatment. Because of this, Del-Co is currently maintaining a permanent odd/even day/address sprinkling regulation. It is clear that there are limits to water supply and this can affect the pace of growth.

Future supply locations are planned at the Whetstone River, northwest of Ashley, 400 acres on the Scioto River at SR 257 and Donovon Road, and South Old State Road in Orange Township.

With these new facilities, a total of 38 mgd is the long term pumping and treatment capacity of Del-Co. While they have planned for future growth, they do not have unlimited supply options, since they compete with, or share supply with Westerville, Columbus, and Delaware City. Long term solutions to water needs in Delaware County will require careful land use planning so that water needs do not outstrip ability to serve.

Year 2000 service population for Del-Co was approximately 66,700 (59,099 in Delaware County). This is expected to double in twenty years. If water demand also doubles, the peak pumping of 13 mgd x 2 would require 26 mgd, which is within the realm of Del-Co's future planning. Growth beyond a service population of 140,000 (outside of the city of Delaware, Westerville and Columbus) in the villages and townships will require more far-reaching and expensive new sources of supply.

Water Lines

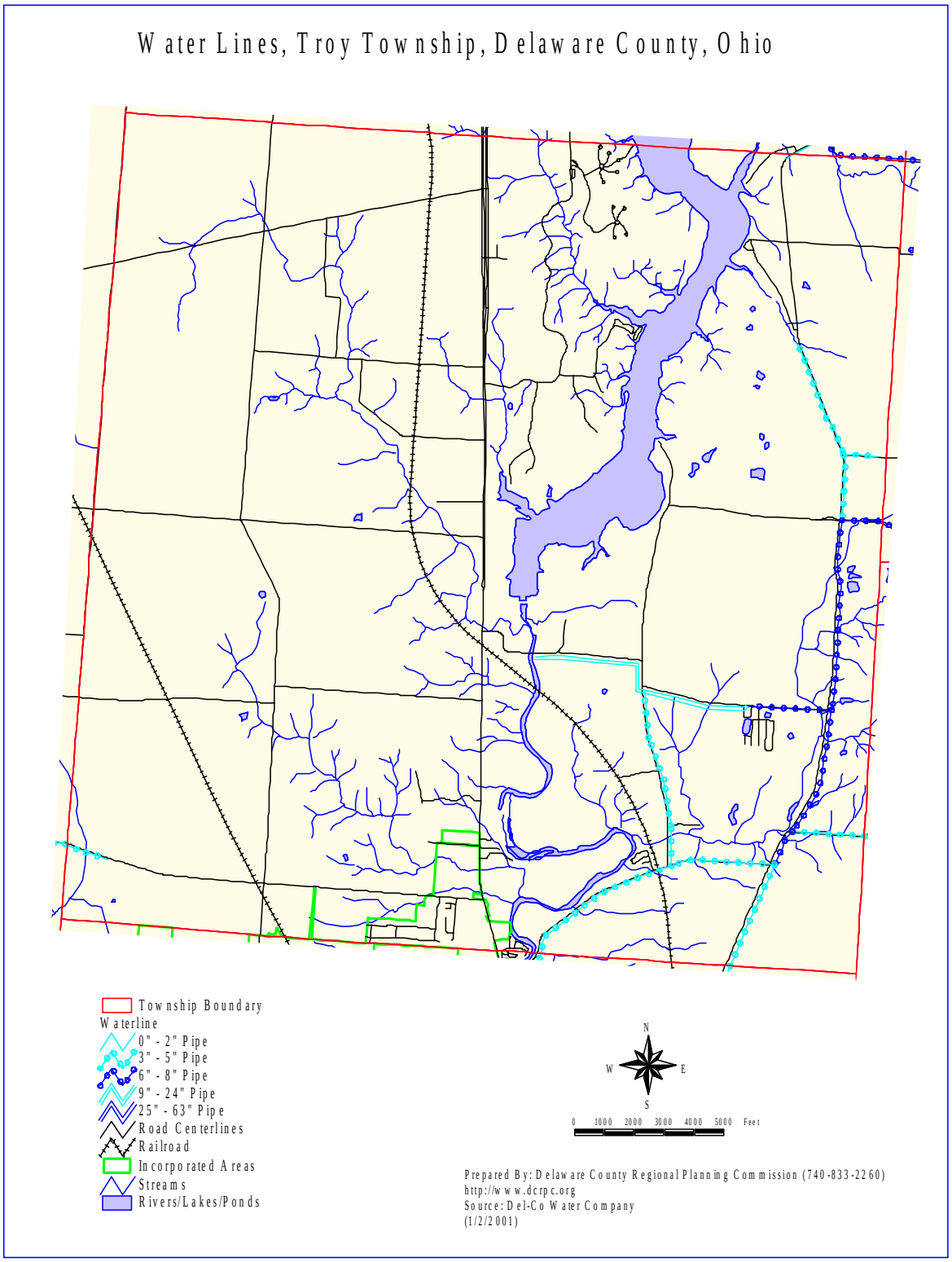
The Del-Co Water Lines map (Map 10.1) shows the location and diameters of water lines in Troy Township. In general, those streets that have water lines of less than 6 inches in diameter will not offer fire hydrants. Fire hydrants are normally a requirement of development densities greater than one unit per acre. Del-Co Water lines are located in the eastern portion of Troy Township, serving approximately one third of the township.

Delaware City – Water Supply

Delaware City's principal water supply is the Olentangy River. The City also draws water from wells within Troy Township for additional supply and to dilute nitrate levels and other contaminants within the Olentangy River water. Test pumping at the City's Troy Township well field off Penry Road has caused concerns among neighbors that the aquifer is being lowered, thereby affecting the quality and/or quantity of their well water. Since the township is not a provider of water, the resolution of this issue appears to be a matter between affected residents and the City of Delaware.

Discussions with Delaware City officials indicate that the city will be able to supply water to the planned growth area within their 1996 Comprehensive Plan. Delaware City's policy is to provide water service only to those areas that annex.

Map 10.1 Water Lines, Troy Township



10.2 Sanitary Sewer

Troy Township currently has no centralized sanitary sewer service to the township, nor is any proposed by the County in the planning period 2002-2012.

Delaware County – Sanitary Sewer

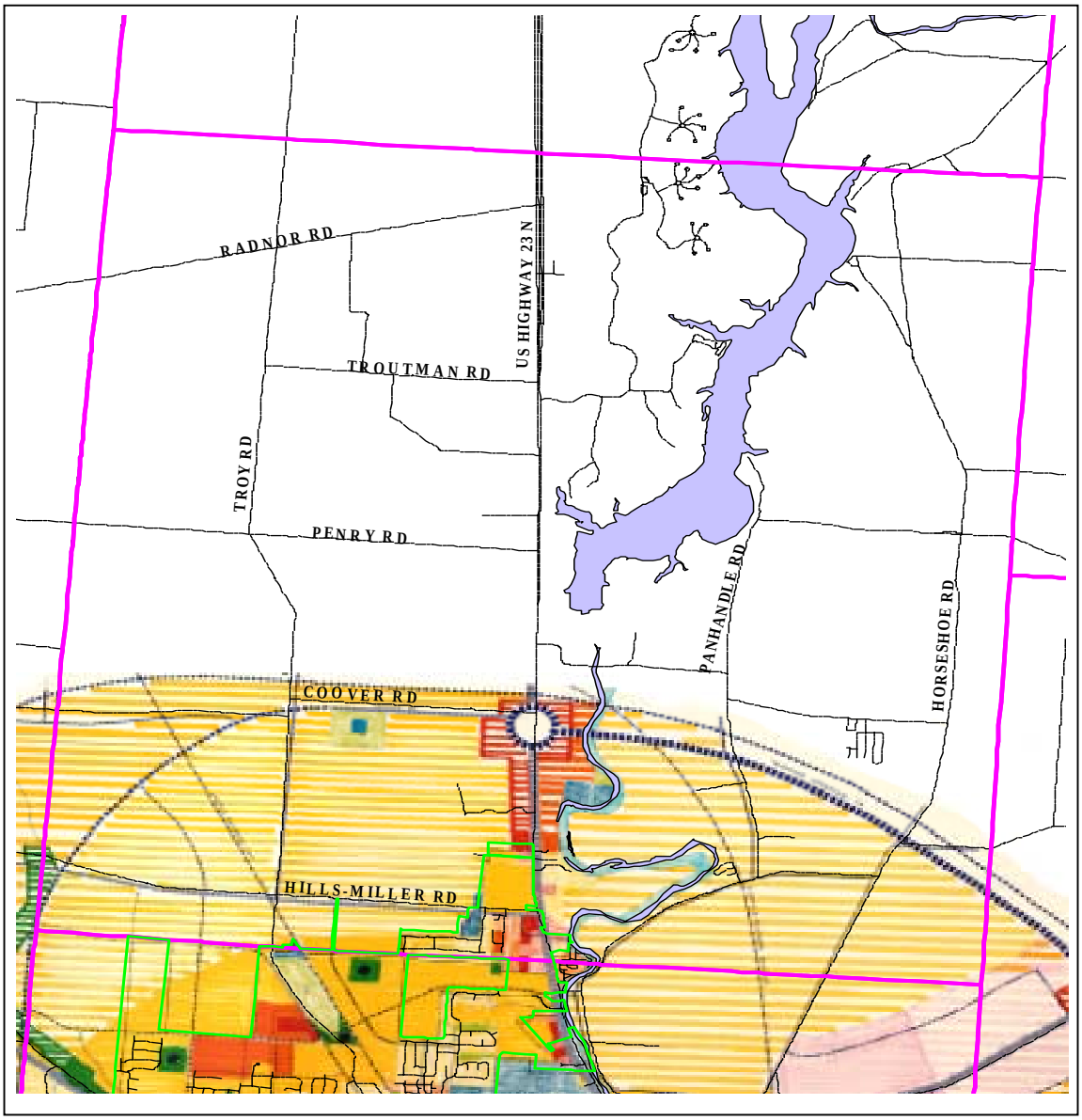
The Delaware County Sanitary Sewer Department, a division of the County Commissioners, provides sanitary sewer service in un-incorporated areas. There are currently two plants, the Olentangy Environmental Control Center (OECC), located on the West Bank of the Olentangy River at the Franklin County Line and the Alum Creek Wastewater Treatment Plant located along the east side of Walker Wood Blvd., north of E. Powell Road and next to I-71. The current capacity of the OECC is approximately 6 million gallons per day (mgd). The new Alum Creek wastewater treatment plant opened in June of 2001 and is intended to serve the central and east side of the county. Its capacity is 10 mgd, with an off site discharge to Alum Creek below the dam.

The Delaware County Sanitary Engineer has created sanitary sewer service areas (see map 10.3) based on lift stations. The service area also takes into consideration a large area that could potentially be served by the Olentangy Treatment facility, which is based on a facilities plan from 1975. Troy Township is currently outside of these service areas, and county sewer is not likely to be made available as far north as Troy Township within the planning period 2002-2012.

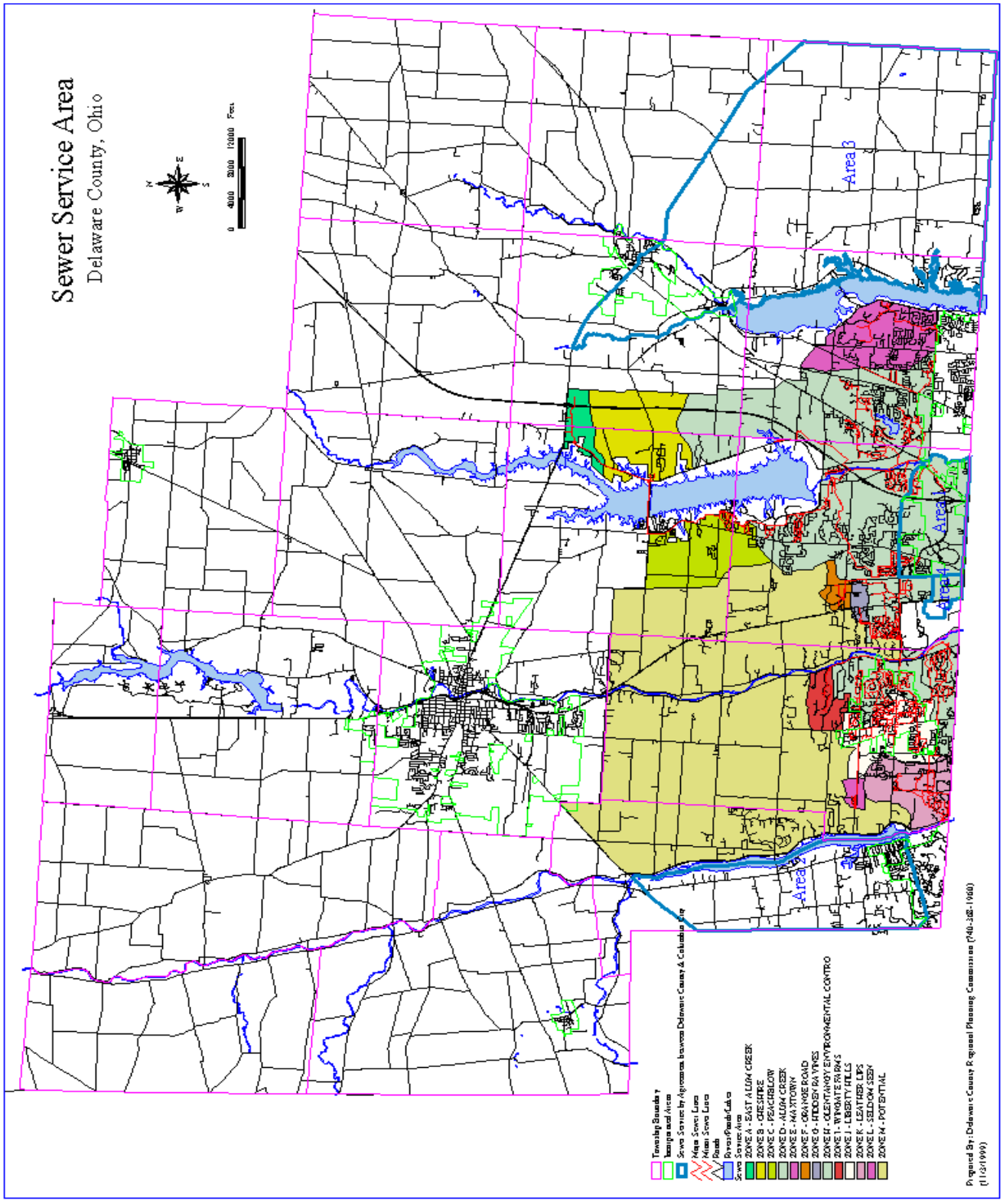
Delaware City –Sanitary Sewer

Delaware City's wastewater treatment plant is located southeast of downtown Delaware on the west side of the Olentangy River between US 23 and the river. According to the 1996 Delaware City Comprehensive Plan, the plant is designed for 5.5 mgd of wastewater with a maximum hydraulic capacity of 10 mgd. The 1996 Delaware City Plan suggests that the city may be facing a capacity problem due to increased volumes from inflow and infiltration. However, recent discussions with city staff indicate that the City will have sufficient capacity to serve the projected growth within the planning areas of the 1996 Comprehensive Plan as well as future growth beyond that boundary (see Map 10.2). The City will be releasing a study regarding their future sewer plant capacities and future expansion options. Delaware City's sewer policy is to provide service only to those areas that annex.

Map 10.2 1996 Delaware City Comprehensive Plan Growth Area



Map 10.3 Sanitary Sewer Service Area



Sewer Agreement – City of Columbus

Delaware County entered into an agreement with the City of Columbus to provide service to the Polaris development in 1991. In exchange, the City agreed to provide service to limited areas within the County currently not served, nor expected to be served by County Sanitary sewer. The area bounded on the west by Hoover Reservoir, on the east by the Licking County line, and the north by State Route 37 is in zone 3, with a density not to exceed 4 persons per acre regardless of whether the County or City provides service. Annexation is not a prerequisite for the City to provide service.

There does not appear to be new sewer capacity in the County system in the planning period 2000-2010 after currently zoned properties develop, therefore Troy Township is not expected to be served with centralized Delaware County sanitary sewer in the foreseeable future.

Sewer Policy- OEPA

Centralized sewer systems historically meant placing sewage in a pipe, and sending it to a publicly owned sewage treatment plant that discharged to a running stream.

In 1996 the Ohio Environmental Protection Agency tightened its anti-degradation requirements for surface discharge from a wastewater treatment plant. This has prompted alternative "zero discharge" centralized sewage disposal systems, such as on-site treatment plants that use the treated effluent to irrigate a golf course. Permits are issued by the OEPA.

Such OEPA approved on-site centralized sewage disposal systems offer the opportunity for cluster development in rural areas with lot sizes smaller than would have been possible without sewers.

Recommendation for land application systems within Troy Township.

1. Troy Township may permit zoning schemes that incorporate land application systems as accommodations to development only when the use and density conform to the Comprehensive Plan, and when it is satisfactorily demonstrated that there is adequate land area of suitable soils to accept the wastewater to be disposed. There should also be a public or private centralized water supply.
2. Preferably land application systems and their sewage treatment plants should be deeded to the County Sanitary Engineer/County Commissioners to assure proper, permanent maintenance.

10.3 Electric

Ohio Edison, American Electric and Consolidated Electric Companies provide electric service to Troy Township. The Electrical Service Provider Jurisdiction Map (10.4) shows the service area.

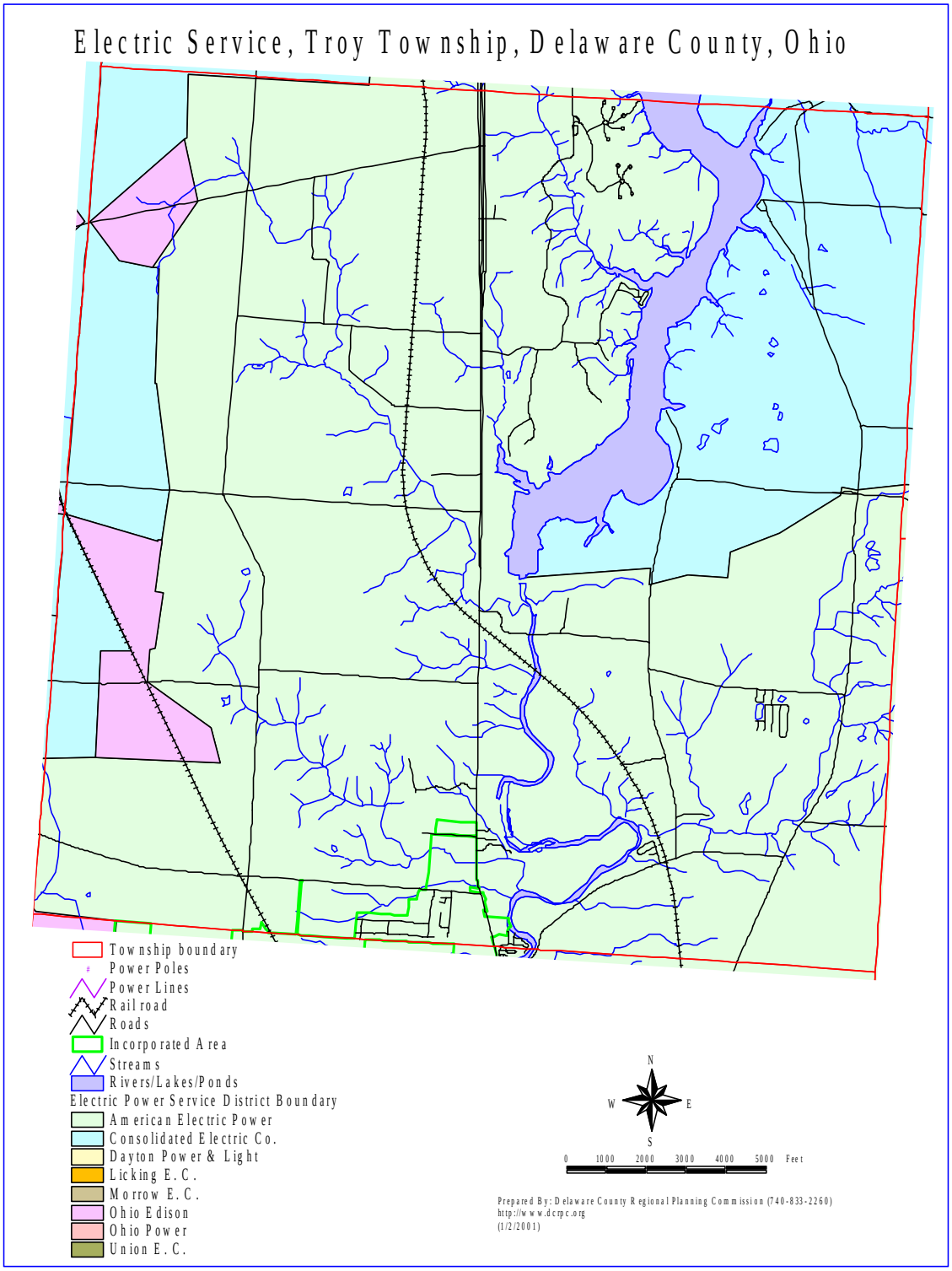
There are no electric transmission lines in Troy Township.

There is presumed to be no limitation to growth of the Township because of shortage of electric power.

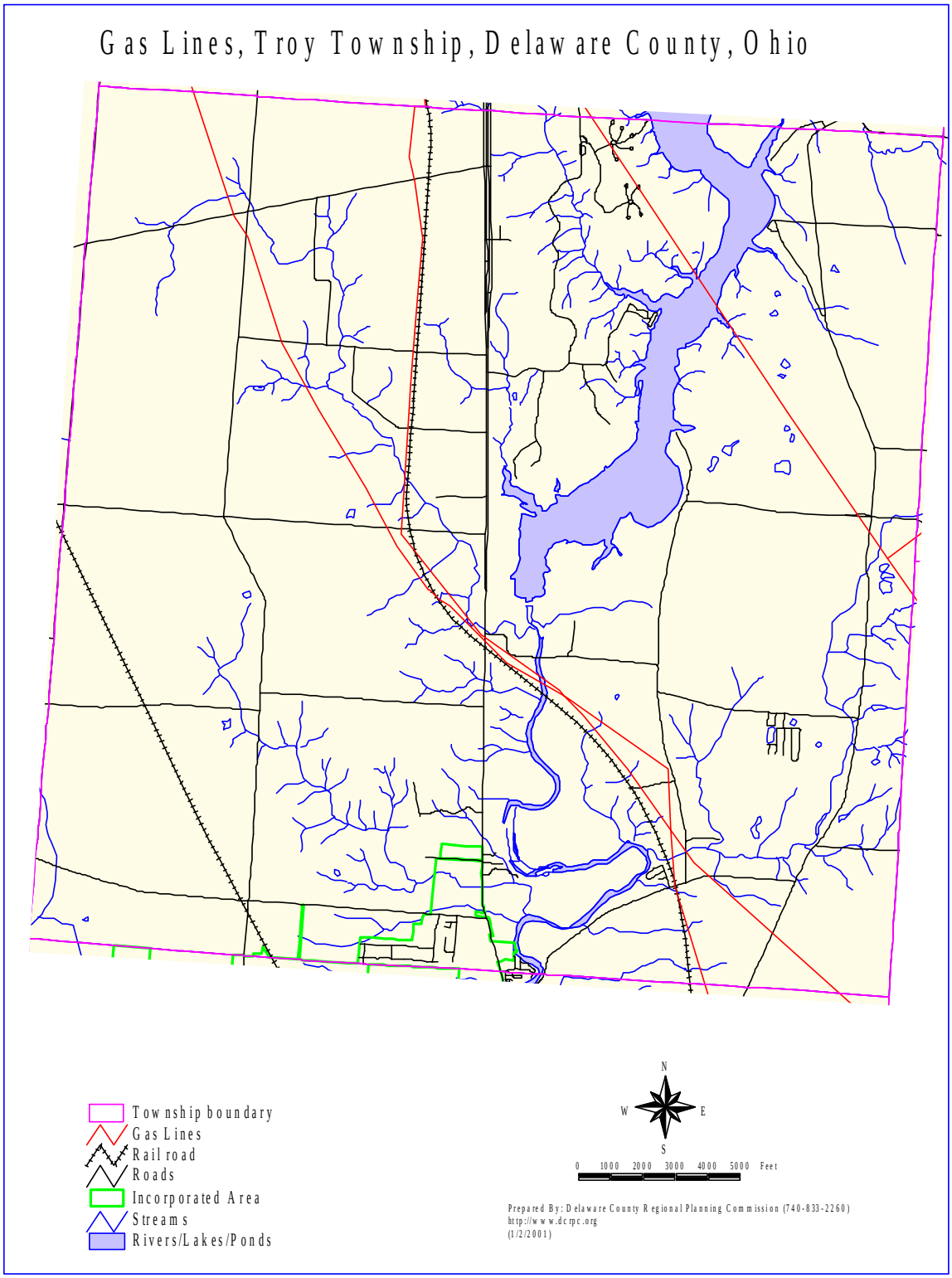
10.4 Gas

Columbia Gas, Suburban Natural Gas and Ohio River Product provide portions of Troy Township with gas service. The service area is shown on the Gas Service Area Map (10.5).

Map 10.4 Electrical Service Boundary, Troy Township



Map 10.5 Gas Service Area, Troy Township



10.5 Telecommunications/cellular

Under current state and federal laws, telecommunications towers are permitted in any non-residentially zoned districts. Under Ohio law, township zoning can regulate telecommunications towers in residential districts if objections are filed by abutting property owners or Township Trustees. (See ORC 519.211)

10.6 Storm water management

Storm water management is reviewed by the Delaware County Engineer's Office for new subdivisions and road construction. The Delaware County Soil & Water Conservation District, which maintains ditches, also review storm water plans by agreement with the County Engineer's ditch maintenance program. As of December 31, 1999 there were 70 projects on county ditch maintenance, 46 of which were subdivisions.

Table 10.1 Drainage Structures on Maintenance in Delaware County

Open Ditch	38.26 miles
Tile drains	27.38 miles
Surface Drains	.62 miles
Retention/Detention Basins	121

Chapter 11

Community Facilities

11.1 Schools

Troy Township is evenly divided into the Buckeye Valley School District and the Delaware City School District. The Buckeye Valley School District also includes most of Concord, Scioto, and Thompson, about half of Kingston, and all of Brown, Radnor, Marlboro and Oxford Townships. The Delaware City School District also includes Delaware Township and Delaware City.

A. Current Facilities

There are two Vocational Schools that serve the County: **Delaware JVS North** – 1610 SR 521 **Delaware JVS South** – 4565 Columbus Pike.

Buckeye Valley

The Buckeye Valley Local School District has a $10 million operating budget including 26 voted mills and a 1% income tax.

The following information is from the Buckeye Valley web site - http://www.buckeyevalley.k12.oh.us/:

A $14 million bond was approved by the community in 1995 to construct:

- a nine million dollar middle school for 750 students southeast of the high school, featuring two computer labs, expanded media center, foreign language, two music studios, and a gymnasium with four locker rooms. This building opened for the 1997-98 school year.
- 800 seat auditorium in the high school plus a new auxiliary gymnasium, expanded library, a new art classroom with darkroom, two science laboratories, weight and exercise rooms. This addition opened in the fall of 1997.
- six new classrooms and an elevator at West Elementary School plus a renovated library media center for the 1997-98 school year.
- eight new classrooms and an elevator at East Elementary School, including a new library media center and student restrooms for the 1997-98 school year.
- converted the existing middle school at Radnor into a third elementary school with a new library, playground and an elevator.

There are two secondary schools in the Buckeye Valley District: **Buckeye Valley High School** is located at 901 Coover Road. **Buckeye Valley Middle School** is located at 683 Coover Road.

There are three elementary schools in the Buckeye Valley School District: **East Elementary** located at 522 E. High St., Ashley. **North Elementary** located at 4230 St. Route 203., Radnor. **West Elementary** located at 61 North 3rd., Ostrander.

The Buckeye Valley Local School District facility plan from 1989 is now being updated by Planning Advocates, Inc. Many of the recommendations of the 1989 facilities plan have been realized. With the growth over the last ten years, this update is necessary to ensure that the district continues to provide the best educational opportunities for its students.

Delaware City Schools

There are three secondary schools in the Delaware City School District: **Hayes High School -** 289 Euclid Ave. **Willis Intermediate School –** 74 West William St. **Dempsey Middle School –** 621 Pennsylvania Ave.

There are five elementary schools in the Delaware School District: **Carlisle** – 746 SR 37 West. **Conger** – 10 Channing St. **Smith** – 355 N. Liberty St. **Schultz** – 499 Applegate Lane. **Woodward** – 200 South Washington St.

There is also an Administration Building, Transportation Department facility and the Dempsey Technology Center in the District.

B. Enrollment Growth

Buckeye Valley

The following tables show the current enrollment numbers as well as the trend over the last ten years. Table 11.3 shows the projections performed by Planning Advocates in 2000-01 for enrollment growth to 2010-11.

Table 11.1 2000-01 Buckeye Valley Local School District Enrollments

Grade	East Elementary	North Elementary	West Elementary	Middle School	High School	JVS	Total
P*	23						**23**
MH**		9					**9**
K***	64	44	49				**157**
1-5	332	226	251				**809**
6-8				516			**516**
9-12					658	81	**739**
Total	**419**	**279**	**300**	**516**	**658**	**81**	**2253**

(source: Buckeye Valley Local School District, 2001)

* P – Preschool

** MH – Multiple Handicap

*** K- Kindergarten

Table 11.2 Buckeye Valley Enrollment 1991-01

Grade	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
K* - 5	1053	1017	1023	1023	998	1009	993	973	969	966
6 – 8	474	515	535	578	552	538	553	504	522	516
9 – 12	593	621	648	702	752	785	799	788	744	739
K - 12	**2120**	**2153**	**2206**	**2303**	**2302**	**2332**	**2345**	**2265**	**2235**	**2221**

(source: Planning Advocates, 2001)

*K- Kindergarten

Enrollment over the last 10 years increased slowly, then dropped slightly, and stabilized in the 2200's in the last 3 years. Projections done by Planning Advocates in 2001 show that the enrollments will again begin to increase.

Table 11.3 Most Likely Enrollment Projections, Buckeye Valley Local School District

Grade	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
K* – 5	966	1009	1076	1167	1234	1427	1412	1473	1508	1551	1617
6 – 8	516	532	554	539	546	522	537	575	670	749	782
9 – 12	739	708	718	747	753	783	781	770	762	756	810
K - 12	**2221**	**2249**	**2348**	**2453**	**2533**	**2732**	**2730**	**2818**	**2940**	**3056**	**3209**

(source: Enrollment Projections by Planning Advocates, Inc. 2001)

* K- Kindergarten

The enrollment projections for the Buckeye Valley School District calculated in 2001 by Planning Advocates, Inc. show a most likely 44% enrollment increase by 2010-11, or 988 new students. This is a drastic change from the slow growth of the last 10 years. The increase is primarily due to major residential developments underway in the District.

The "most likely projection" reflects a growth of approximately 3.7 percent per year on average, higher than the annual population growth rate projections made by the Delaware County Regional Planning Commission (approx. 2% for Buckeye Valley School District). The future trend indicates an overall steady growth with small dips in certain grade groups at different times (see table 11.3).

Delaware City Schools

The following table shows the enrollment growth over the last ten years in the Delaware City School District.

Table 11.4 Delaware City Schools Enrollment 1991-01

Grade	1991-92	1992-93	1993-94	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
K - 4	1510	1536	1612	1611	1694	1714	1656	1660	1619	1638
5 - 6	587	596	603	592	587	611	647	678	631	661
7 - 8	563	572	597	576	575	582	612	619	645	678
9 - 12	1133	1142	1127	1173	1155	1194	1207	1164	1210	1188
K - 12	**3793**	**3846**	**3939**	**3952**	**4011**	**4101**	**4122**	**4121**	**4105**	**4165**

(source: Planning Advocates, 2001)

Table 11.5 Delaware City School Most Likely Enrollment Projections

Grade	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11
K - 4	1638	1654	1734	1765	1860	1923	2026	2121	2235	2355	2481
5 - 6	661	678	603	625	634	643	680	694	732	757	798
7 – 8	678	633	668	685	609	632	640	651	687	701	740
9 – 12	1188	1244	1276	12227	1325	1298	1244	1290	1229	1265	1310
K - 12	**4165**	**4209**	**4281**	**4302**	**4428**	**4496**	**4590**	**4756**	**4883**	**5078**	**5329**

(source: Planning Advocates, 2001)

Over the last 10 years, enrollment has grown steadily (9.85% overall), with a drop only in 1999-00 of 16 students. Most likely projections for the next 10 years show a more rapid increase of 4165 students in 2000-01 to 5329 students in 2010-11. This increase of 28% (1164 students) for Delaware City is a higher increase in students than Buckeye Valley but a lower growth rate over the 10 year interval. The average growth rate over the next ten years will be approximately 2.1%, which is very

close to the 2% population growth rate projected by the Delaware County Regional Planning Commission.

C. Funding for Schools

Buckeye Valley

The cost of educating a student in the Buckeye Valley School District was $6,169 in 1999-2000. This is slightly above similar districts ($6,137) but below the state average ($7,057). However, Buckeye Valley's revenue sources per pupil were $6,377 of which 54.4% were generated locally in the Buckeye Valley District 42.2% from the state and 3.4% from the federal government. Table 11.6 shows the comparison to similar districts as well as districts statewide.

Table 11.6 Comparison of Buckeye Valley Percent of Revenue Generated Locally

Buckeye Valley District	Similar Districts	Statewide
54.4%	43%	50.4%

Buckeye Valley is an average district in terms of revenue sources and real estate valuation. The median household income was $34,565 in 1999-2000 compared to $29,411 statewide.

The Buckeye Valley Local School District currently has a $208 surplus per pupil and does not have a funding problem.

Delaware City Schools

The cost of educating a student in the Delaware City School District was $7,108 in 1999-2000. This is slightly above similar districts ($6,640) and the state average ($7,057). Delaware City's revenue sources per pupil were $6,783 of which 59.1% were generated locally in the Delaware City District, 37% from the state and 3.9% from the federal government. Table 11.7 shows the comparison to similar districts as well as districts statewide.

Table 11.7 Delaware City Percent of Revenue Generated Locally Comparison

Delaware City District	Similar Districts	Statewide
59.1%	58%	50.4%

Delaware City is an average district in terms of revenue sources and real estate valuation. The median household income was $31,796 in 1999-2000 compared to $29,411 statewide.

The Delaware City Local School District has a $325 shortfall per pupil, and currently has a slight funding problem. Additional monies may be necessary to maintain the current level of service.

D. Effect of Land Use Planning on School Planning

When schools become overcrowded due to rapid growth, there may be call for growth controls, or limitations on residential building permits (moratoriums). A series of 1970's cases regarding growth rate limitations, the most famous of which is Golden v. Ramapo (409 US 1003, 93 S. Ct. 440 34 L. Ed. 2d 294 (1972) suggested that communities could control growth to allow new infrastructure to be built at a reasonable, attainable rate. Where upheld, moratoriums have been temporary, based on a critical shortage of a basic community service. The community must work to provide that service, at which time the moratorium must be removed.

Ohio law does not provide for building moratoriums in townships (see Meck and Pearlman, Ohio Planning and Zoning Law, 2000 Edition, The West Group, Section 11.27-11.28). Cities and villages in Ohio have home rule authority which "provides the flexibility to experiment with different types of planning programs to respond to the issues of rapid growth" (Meck and Pearlman, ibid., p. 529)

Since townships do not have the authority in Ohio to control their growth by moratoriums, and they do not have the authority to impose impact fees, their only recourse to overly rapid growth is to control the timing of zoning.

Troy Township should use the schools as one additional indicator of critical facilities that need to be monitored in making zoning decisions.

11.2 Historic Sites

Troy Township was created in December of 1816 when Marlboro and Delaware Townships were split. Between 1893 and 1904 a town called Troyton was located at the intersection of Radnor Road and the Norfolk & Western railroad. Troyton had its own post office. All that remains of Troyton is a grain

elevator. Cole's Mills was also considered a town in the old Troy Township. A gristmill and a sawmill erected by Joseph Cole in 1816 were followed by a post office in 1841. The grinding stones from Cole's Mill now sit in front of the Nash House Museum in Delaware.

The Delaware Lake was built where the Olentangy and Whetstone Rivers converged. It was created by the U.S. Army Corps of Engineers with the construction of a flood control dam in 1951. The reservoir was dedicated as a state park later that year. The point where these two rivers met was the site of the Cole Compound.

Much of Troy Township's historical community was destroyed during the Delaware Dam Project, including Cole's Mill. Over 270 residents were displaced during this time. The few buildings that did survive are very important to preserve the history of the Township. There is one residence in Troy Township listed on the National Register of Historic Places. There are also other historically significant structures. Some of these include the following:

Marlboro Baptist Church

The Marlborough Baptist Church was located in the Cole's Mill area. The church was built on the same site 3 times. The first was a log cabin (cabin and land donated by Joseph Cole), the second a brick church built in 1871 that was destroyed by a tornado and replaced in 1916 by a frame structure. The frame structure was moved to the present location (northeast corner of Horseshoe and Leonardsburg Road) during the Army Corps of Engineers Delaware Dam project in 1948, as was the cemetery. The Church name was shortened to Marlboro at this time while the cemetery retained the original Marlborough spelling.

Pleasant Hill Baptist Church (circa 1850's)

Northeast corner of Horseshoe and Kelly McMaster Road, includes a cemetery of the same name.

Upper Horseshoe - One room school

East side of Horseshoe Road between Whipple and Sherwood Road.

Residences:

Robert Edwards Property - Horseshoe Road - House built in 1827
D.C. Travis Property - Horseshoe Road - House built circa 1840's
Donald Burdette Property - Horseshoe Road - House built 1832

James Ufferman Property - Horseshoe Road - House built circa 1850's
Berry/Siler Property - Horseshoe Road - Barn built circa 1830's
Martin Barn - (present owners unknown) Sherwood and Horseshoe Road - circa 1830's
Singing Springs - Panhandle Road - circa 1850
R. W. Burdette - Horseshoe and Kelly McMaster Road (North of Panhandle Church) pre Civil War
Maxine Main - Horseshoe Road - pre Civil War
Kern Property - Kelly McMaster Road - One room schoolhouse - pre Civil War
Law Barn - northwest corner of Case & Horseshoe Road
Veley Home (1st lot east of Horseshoe Road at Delaware/Troy Township line) pre Civil War.

The Critical Resources Map in Chapter 6 (Map 6.7) indicates possible archeological sites. These sites are mapped by the State of Ohio OCAP data available from the Ohio Department of Natural Resources. The DCRPC has no information regarding any materials found at any of these sites.

11.3 Libraries

Currently there are no public libraries in Troy Township. However, residents can obtain a library card at any of the following libraries.

The Delaware County District Library has its downtown library at 84 East Winter Street, Delaware, and branch libraries in the City of Powell at 460 S. Liberty Street, and Ostrander at 75 North 4th Street.

The District Library employs 30 people or 24 full time equivalents. Its annual budget is approximately $2 million, which is used for staff salaries and materials, maintenance, and operating expenses. 94 % of the budget comes from state income tax and the remaining 6 % is generated by overdue fines.

There are 75,000 residents in the Delaware District Library service area and 42,000 registered borrowers (borrowers can be outside of the district). School districts that are in the service area include Olentangy, Delaware City, Buckeye Valley, Elgin Local (in Delaware County), Dublin (in Delaware County), and North Union (within Delaware County). Currently, the District has 145,000 volumes. The “old” rule of thumb is that there should be 3 volumes per capita. This shortfall of 5,000 is not considered a problem because libraries in general have evolved to offer other resources for patrons.

The District’s long range plan is to monitor the growth area and provide service to the expanding population, expand facilities if necessary, and promote home based programs.

The Sunbury Community Library is located at 44 Burrer Drive in Sunbury. It is funded by state income tax set aside for libraries. Its primary mission is to serve the Big Walnut School District, but any resident of the State of Ohio may obtain a library card and use the library. Their building was constructed in 1994, and was constructed to be expandable. The library currently has books in circulation, reference materials, audio and video cassettes, and 8-10 public access computers with on-line internet services. They employ 18 full and part time staff. Hours of operation are Monday –Thursday, 9:00 a.m. to 8:00 p.m., and 9:00 to 5:00 on Fridays and Saturdays.

Ohio Wesleyan University, Beeghley Library located at 43 University Ave., Delaware extends borrowing privileges to all residents of Delaware County.

Ashley Wornstaff Library is located at 302 E. High St., Ashley.

As the population of Troy Township and Delaware County increases, there may be a need for expanded library service.

11.4 Hospitals

There are no hospitals located within Troy Township. Grady Memorial Hospital located on Central Avenue in the City of Delaware, is the closest hospital for most Troy Township residents. Grady Hospital provides 125 beds for general surgery, and orthopedics, urology and ophthalmology, as well as Emergency care. Cardiac surgery and neuro surgery are referred to other hospitals. Grady recently expanded its emergency room and constructed a helicopter pad for incoming life flights.

11.5 Fire Protection

The Tri-Township Fire District provides fire protection to Troy, Delaware and Brown townships and is located at 495 Sunbury Road in Delaware City. The Fire Department consists of 4 full time personnel, including a Fire Chief and three Fire Captains as well as 25 volunteers. The Fire Chief works the typical forty hour week, Monday through Friday and the Fire Captains work a 24 hour on, 48 hour off shift. According to Chief Troy Morris, the average response time to Troy Township is 6 - 7 minutes.

Staff is dispatched on all EMS runs in Troy Township as a first responder with a transporting medic unit. In addition, the department has mutual aid contracts with all Delaware County Fire Departments, including automatic response on all structure fire assignments. All firefighters are CPR and AED trained.

The Fire Department has the following equipment for emergency responses:

- 1997 Engine/Rescue – Initial response unit on any rescue situation or fire response. (purchased from Sutphen Corporation)
  - Seating for five firefighters
  - 1250 gallon per minute pumps
  - Carries 1000 gallons of water
  - Minimum of 1000 feet of 4 inch supply line and 500 feet of 2 ½ inch fire hose.
  - Minimum of 200 feet pre-connected attack lines.
- 1991 Engine – "Second out" engine. Has seating for six firefighters (purchased from the KME Company)
  - Seating for six firefighters
  - 1250 gallon per minute pumps
  - Carries 1000 gallons of water
  - Minimum of 1000 feet of 4 inch supply line and 500 feet of 2 ½ inch fire hose.
  - Minimum of 200 feet pre-connected attack lines.
- 1995 International Tanker to transport water from source to the scene (Purchased from Monroe equipment)
- 1999 Ford F-350 four wheel drive grass-fire unit with a 250 gallon tank. First responder and responds to all medical assist calls.
- 1987 Jeep Wrangler with a 100 gallon tank with a pump. This unit pulls a Suzuki Quadrunner to the scene. The Quadrunner carries a fifty gallon tank.

The Tri-Township Fire Department is planning on purchasing another Rescue Engine with a 500 gallon tank and possibly another grass truck.

The Insurance Services Office (ISO) grading in Troy Township is 6 for areas within 1000-ft of a fire hydrant (village areas) and Class 9 for areas outside of the 1000-ft radius (rural areas). The rating is based on how well the department receives and handles fire alarms; fire department equipment, staff, and training; and water supply. ISO gradings determine fire insurance premiums. Higher gradings (lower the number) may result in lower insurance premiums.

11.6 Police

Troy Township is policed by the Delaware County Sheriff's Office, (DCSO) which is headquartered in Delaware on S.R. 42. In 2000 the department had 4 Sergeants, 1 Corporal, and 33 Deputies and 3 K-9 units. Each patrol covers 459 square miles 24 hrs a day 365 days a year and each patrol is divided into three shifts.

According to the Sheriff, the DCSO had enough vehicles in 1998 to come close to the International Association of Chiefs of Police standards. He believes that the number of deputies patrolling per shift has fallen short of IACP standards. It is unclear whether this accounting includes jurisdictions with police departments.

Table 11.4 Sheriffs Complaints

Sheriffs Complaints for 2000 by Geographic Code			
Orange Township	**3525**	**Marlboro Township**	**58**
Liberty Township	**2618**	**Genoa Township**	**51**
Berkshire Township	**884**	**Thompson Township**	**45**
Concord Township	**759**	**Sunbury**	**745**
Berlin Township	**823**	**Ashley**	**283**
Harlem Township	**719**	**Delaware**	**176**
Delaware Township	**518**	**Alum Creek State Park**	**97**
Troy Township	**429**	**Shawnee Hills**	**87**
Scioto Township	**383**	**Galena**	**53**
Trenton Township	**315**	**Other (out of County)**	**44**
Brown Township	**287**	**Ostrander**	**39**
Radnor Township	**208**	**Powell**	**20**
Kingston Township	**202**	**Columbus**	**19**
Porter Township	**185**	**Delaware State Park**	**18**
Oxford Township	**141**	**Dublin**	**7**
		Westerville	**5**

Source: Delaware County Sheriff Office web page http://www.delawarecountysheriff. com/patrol.htm

Troy Township represented 3.1% of the Sheriff's complaints in 2000, and represented only 2.4% of the county population in 2000. It should be noted, however, that Genoa Township, City of Delaware, Dublin, Shawnee Hills, Westerville, the City of Columbus and the City of Powell provide their own police protection.

11.7 Cemeteries

Marlboro Baptist Cemetery

A. Marlboro Cemetery – Northeast corner of Leonardsburg Road and Horseshoe Road.

B. Pleasant Hill Cemetery - Horseshoe Baptist Cemetery, Northeast corner of Kelly McMaster Road and Horseshoe Road.

C. Troy Chapel Cemetery – Northwest corner of Penry Road and US 23.

D. Silverwood Family Cemetery – South side of Main Road just east of the Olentangy River.

11.8 Other Township Facilities

A. Troy Township Hall - Township Hall is located at 4293 US 23 North at Penry Road.

B. Maintenance Building - located behind the Township Hall with access from Penry Road.

Chapter 12
Open Space and Recreation

12.1 Introduction

The Ohio Revised Code acknowledges the importance of open space and recreation in both the zoning and subdivision enabling legislation. RC 519.02 states that the trustees may regulate by [zoning] resolution "sizes of yards, courts, and other open spaces…the uses of land for…recreation." RC 711 states that "a county or regional planning commission shall adopt general rules [subdivision regulations]… to secure and provide for …adequate and convenient open spaces for…recreation, light, air, and for the avoidance of congestion of population."

The importance of open space and recreation has long been recognized. In the 1850's the City Beautiful Movement advocated public parks as retreats from the congestion and overcrowding of city life. New York's Central Park (1856, Frederick Law Olmstead, Sr.) is the best known American example. Every desirable community in America has a significant park and recreation system as one of its building blocks.

The Subdivision and Site Design Handbook (David Listokin and Carole Walker, 1989, Rutgers, State University of New Jersey, Center for Urban Policy Research) is considered a planner's bible for many accepted standards in subdivision review. In their chapter on open space and recreation, they relate the following critical functions of open space:

- Preserves ecologically important natural environments
- Provides attractive views and visual relief from developed areas
- Provides sunlight and air
- Buffers other land uses
- Separates areas and controls densities
- Functions as a drainage detention area

- Serves as a wildlife preserve
- Provides opportunities for recreational activities
- Increases project amenity
- Helps create quality developments with lasting value

12.2 Open Space Defined

Listokin and Walker define open space as:
"Essentially unimproved land or water, or land that is relatively free of buildings or other physical structures, except for outdoor recreational facilities. In practice, this means that open space does not have streets, drives, parking lots, or pipeline or power easements on it, nor do walkways, schools, clubhouses and indoor recreational facilities count as open space. Private spaces such as rear yards or patios not available for general use are not included in the definition either."

"Open space is usually classified as either developed or undeveloped. Developed open space is designed for recreational uses, both active and passive, whereas undeveloped open space preserves a site's natural amenities."

12.3 Land Area Required

The National Recreation and Park Association (NRPA) has developed a set of standards for local developed open space (See Appendix F). Although these standards have been promoted as goals, they are not universally accepted. Recreational needs vary from community to community, and desires for recreation vary also.

Listokin notes that:
"Ideally, the [NRPA] national standards should stand the test in communities of all sizes. However, the reality often makes it difficult or inadvisable to apply national standards without question in specific locales. The uniqueness of every community, due to differing geographical, cultural, climatic, and socioeconomic characteristics, makes it imperative that every community develop its own standards for recreation, parks, and open space."

12.4 Location of Open Space Parcels

Listokin notes what has been the subject of much debate in Delaware County, namely that:

"Open space parcels should be easily accessible by development residents. In smaller developments, one large, centrally located parcel may suffice; but a large development may require several parcels, equitably distributed. Linking open space parcels is a good strategy, because it enlarges the area available for recreation. Parcels containing noise generators, such as basketball courts or playgrounds, should be sited to minimize disturbance to residents."

12.5 Undeveloped Open Space

Listokin suggests that "No general standard can specify the amount of open space that should remain undeveloped: a determination will depend on the particular development site."

Delaware State Park and the Delaware State Wildlife Area serve regional purposes, with boating and fishing access to the lake. The availability of these two recreation areas would satisfy most of Troy Township's requirement for passive open space.

A. Delaware State Park and Wildlife area

Delaware Wildlife Area

Delaware Dam

Delaware Sate Park comprises 1,815 land acres within Troy Township and the Delaware State Wildlife area comprises 4,670 land acres principally within Troy and Marlboro townships. Smaller portions of the wildlife area are located in Oxford Township and Marion County. Access to the park and wildlife area is from US 23, Horseshoe Road and SR 229. The lake was created by impoundment of Delaware Lake behind an earthen levy and concrete flood control dam built by the U.S. Army Corps of Engineers between 1947 and 1951. The dam is 92 feet high and 3 ½ miles long controlling a drainage area of 286 square miles.

Today, Delaware Lake serves five purposes:

- Flood control
- Water supply
- Fish and wildlife enhancement
- Water Quality
- Recreation

Recreational opportunities at Delaware State Park and Delaware Dam are shown on the US corps of Engineers Map, and are itemized in Table 12.1.

Table 12.1 Delaware State Park and Delaware State Wildlife Area Facts

Activity	Facilities	Quantity
Resource	Land, acres	1815
	Water, acres	1330
	Nearby Wildlife Area, acres	4670
Day-Use Activities	Fishing	yes
	Hunting	yes
	Hiking Trails, miles	7.5
	Picnic Shelter	yes
	Shelter House	yes
	Swimming Beach, feet	800
	Beach Vending	yes
	Summer Nature Programs	yes
Boating	Boat Rental	yes
	Boating Limits	UNL
	Fuel For Sale	yes
	Seasonal Dock Rental, #	275
	Launch Ramps, #	2
Winter Recreation	Sledding	yes
	Ice Rink	yes
	Ice Fishing	yes
	Cross-Country Skiing	yes
Camping	Campsites, #	214
	Campsites with Elec., #	164
	Pets Permitted	yes
	Showers	yes
	Flush Toilets	yes
	Dump station	yes
	Youth Group Camp, capacity	50
	Rent-A-Camp, # units	3

Source: ODNR website- www.dnr.state.oh.us/parks/parks/delaware.htm

While the park serves a regional function, it is also serving as a de facto township park.

Other destinations for Troy Township residents include Gallant Farms, the Water Treatment Plant (picnic area), Smith Park and Mingo Park south of Troy Township in Delaware City.

The 1991 Troy Township Plan showed proposed public parks and open space along the west side of the Olentangy River south of the Dam as well as on a 90 acre parcel on the west side of the Horseshoe Road and Kelly-McMaster Road intersection. The 90 acre parcel has since been purchased by the City of Delaware.

12.6 Future Recreational Needs

As Troy Township grows it may wish to use the NRPA model, "which surveys the service area population to determine demand for different activities. Demand is then converted to facilities needs and then to land requirements." (Listokin and Walker, ibid., Pg. 222).

A. Undeveloped Open Space-Regional and Township

Suggestion: The large amounts of undeveloped open space along the Olentangy River and the presence of the Delaware State Park and Wildlife Area should help fulfill the need for undeveloped (passive) open space and a portion of developed (active) open space on a township-wide basis. They do not replace the need for neighborhood parks and township-wide parks with athletic fields for organized sports.

The Preservation Parks District of Delaware County has acquired land within Troy Township. It is described by the district as the following:

"Gallant Farm Preserve is 225 acres of forest, meadows, wetlands, and the ancient, rocky remains of retreating glaciers. A special feature is the huge, 250 year old burr oak known as "Big Troy." Gallant Farm will have hiking and nature interpretation trails, picnic facilities and a visitor center with displays of farm life in the early days of Delaware County. Development of this site is scheduled to begin within a few years."

The preserve is on the south side of Buttermilk Hill Road, with a smaller portion on the north side of Buttermilk Hill Road, just west of North Section Line Road.

B. Undeveloped Open Space- Neighborhood

Suggestion: The open space requirement for new Planned Residential Developments should be used to provide centrally located undeveloped and developed open space within residential neighborhoods of suburban densities (generally greater than 1 unit/acre). These would be either mini parks of one acre or less within a ¼ mile radius of all portions of such neighborhoods, or 15-acre joint neighborhood parks that provide athletic fields for neighborhoods within ½ mile radius. The open space requirement in the PRD zones may be inadequate unless undevelopable land (slopes greater than 20%, power line easements and storm water detention basins are either excluded, or reduced in their contribution to the open space requirement).

C. Developed Open Space- Township wide

Suggestion: The township should provide active recreational areas for its ultimate population. Use the NRPA Standards as a guide. [See NRPA Recommended Standards for Local Developed Open Space, Appendix F]

Recommendations at Build–Out

- Overall active recreational area required - NRPA recommends 6.25-10.5 acres /1000 population. Use the lower ratio because of the existence of Delaware State Park, Delaware Wildlife Area and Olentangy River.
- Establish mini parks of one acre or less within neighborhoods, serving the population within ¼ mile radius (these should be developer dedications as part of the PRD zoning).
    1. Establish neighborhood parks of 15 acres, with field games, play ground apparatus, serving the population within ¼ to ½ mile radius.
    2. Establish a community park of 25-50 acres (when built out) with an athletic complex, large swimming pool, and recreational fields.

  Within these parks consider the following facilities:

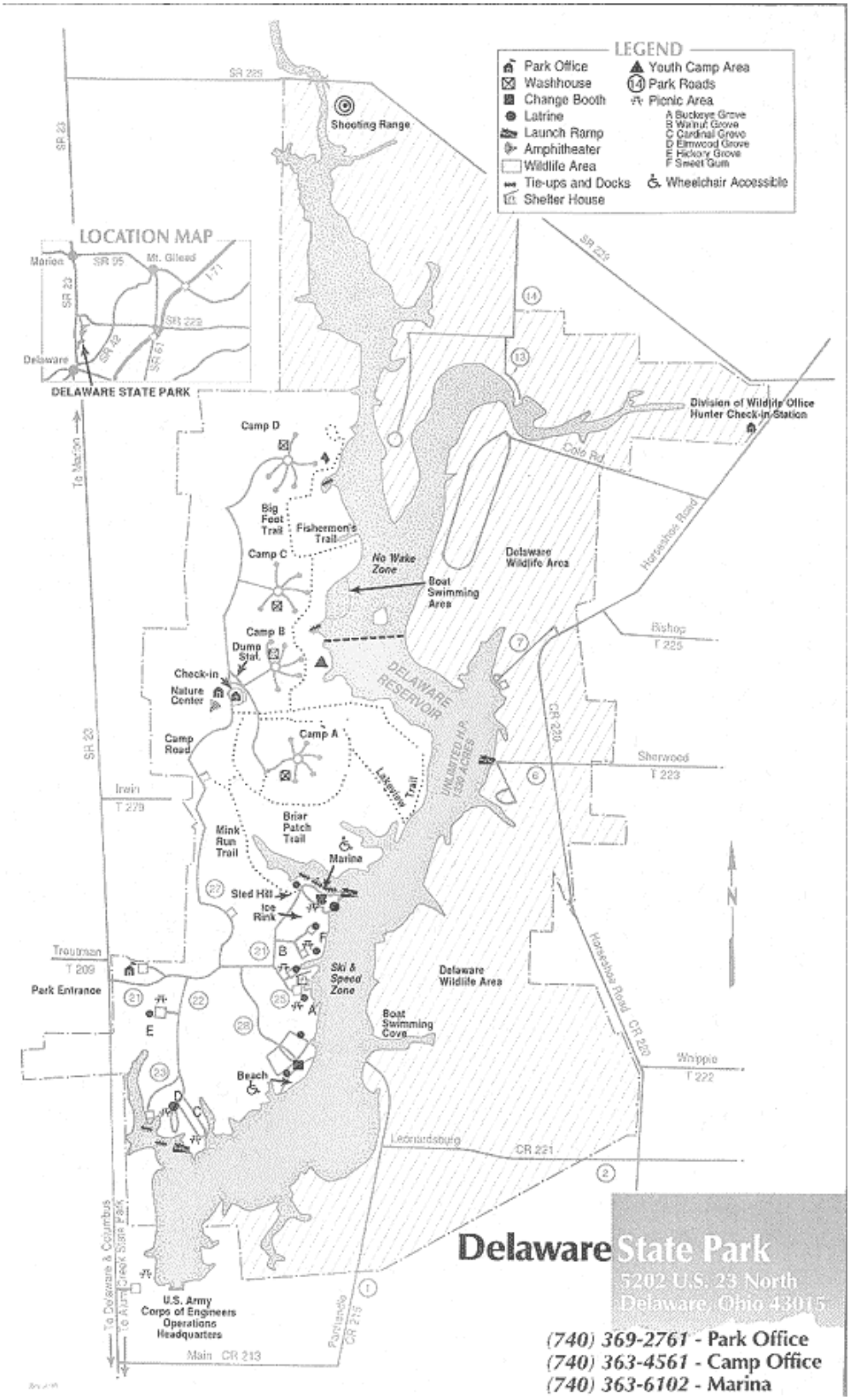
  - tennis courts
  - basketball courts
  - volleyball courts
  - baseball fields (this may be reduced according to the popularity of baseball versus soccer)
  - softball fields
  - football fields
  - field hockey field

- soccer fields (this number may rise according to the popularity of soccer versus baseball)
- ¼ mile running track
- Swimming Pool (normally should be large enough to accommodate 1000 people; with Delaware State Park beach, make large enough to accommodate 200 people).

12.7 Green ways

An inexpensive way to provide undeveloped open space is to assure the linkage of neighborhoods by green ways, or corridors of natural or man made landscaped paths, and trails. These can be easily placed along drainage ways, creeks, sewer easements and portions of the land that cannot be otherwise developed. These paths can maintain undisturbed wildlife habitat, or create new habitat through plantings and creative use of storm water retention and detention facilities. These areas of developments are often afterthoughts in the design and planning process. They should be viewed as opportunities to improve the value of the development and link developments. The Mid Ohio Regional Planning Commission has developed a set of suggested standards for green ways, which are available at the Delaware County Regional Planning Commission office.

Map 12.1 The Delaware State Park and Wildlife Area



Chapter 13
Future Development Patterns

13.1 Preserving Rural Character - The Community's Choice

The number one goal of the community is to preserve its rural character. This rural character is expressed as an overall low density, and the preservation of natural resources including ravines, floodplains, wetlands and trees as well as fence-lines, wildlife corridors and traditional and agricultural buildings.

Clearly, part of what makes the township desirable is the vision there will always be some permanent, interconnected open space and natural lands throughout. When agriculture changes to other land uses, this rural character will be lost unless conservation areas are preserved by future development patterns.

Troy Township is still a rural community with 52% of its acreage in agriculture. However, agricultural lands are converting to large-lot residential uses, which account for 10% of all acreage.

Troy's vision to remain a low-density residential community seems understandable and defensible for the scope of this comprehensive plan (2002-2012) because no areas are serviced by public centralized sanitary sewer. However, Delaware City has plans to grow into Troy Township, potentially as far north as Coover Road over the next 20 years.

13.2 Development pattern options to consider

1. Rural Large Lot Development

Most residential development has taken place along township roads via lot splits (minor no plat subdivisions) on lots larger than one acre to accommodate an on-site sewage disposal system. This large lot development, as long as it is surrounded by open space, has been accepted as retaining rural character, but if <u>all</u> rural lands were developed for one-acre house lots, there would be no interconnecting open space, and the rural character would be destroyed. Development of large lots <u>everywhere</u> on township roads would actually lead to "rural sprawl". Such development also contributes to "induced" traffic, since all household needs require an automobile trip in exclusively residential areas.

For Troy Township, large lot splits along township roads will be a viable alternative so long as state law permits such "no plat" subdivisions, but they do not preserve connected open space.

2. Conventional Subdivisions

As road frontage is used up by "no plat" lot splits, subdivisions with new streets will be platted. Troy Township has no conventional subdivisions to date. Conventional subdivisions create nothing but lots and streets. There are no nice places to walk, no central green or woods, no riverbank or lakeshore because all the land has been parceled out to all landowners. There are no playing fields for children, no common area to throw a frisbee, to meet your neighbors, to walk the dog. Conventional subdivisions do not create permanent, interconnected open space. They do not preserve conservation areas, so they do not retain rural character when the township is all built out.

3. Cluster Subdivisions

For thirty years, cluster subdivisions, or "Planned Residential Developments" have been touted as an improved alternative to the conventional subdivision. In PRDs, greater design flexibility is obtained by reducing lot size, and width.

The absence of comprehensive standards for quantity, quality and configuration of open space has permitted many uninspired designs. The notable exception to the general failure of PRDs is the "golf course" development. However, the success of golf course developments only underscores the desire for people to live on or near permanent open space. Furthermore, golf course developments typically do not provide public open space. The open space is not available to non-golfers and young children.

To date, no cluster subdivisions have been approved in Troy Township under the Planned Residential District. The PRD requires a minimum lot size as approved per the development plan.

Typical Delaware County Planned Residential Development

The PRD has created developments in Delaware County did not fulfill community expectations for:

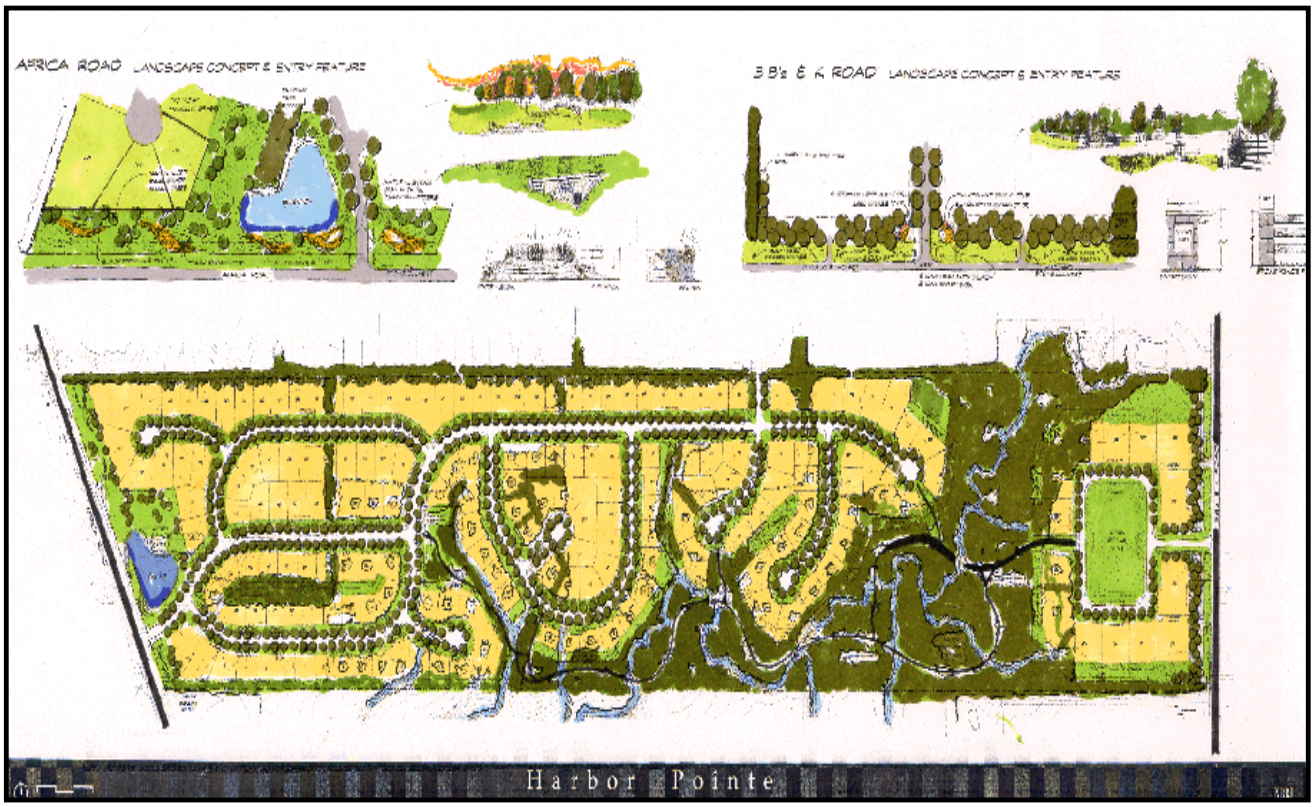
a.) Open Space- Troy township does not require open space in PRD's. Density bonuses are offered if open space is provided. Cluster PRD subdivisions with small (7,200-10,000 square feet) lots have been created in other townships without any useable open space.

b.) Density-Any property owner in the township may request a PRD at densities of up to 2 units per acre or higher if density bonuses are granted. Densities greater than one unit per acre may not conform to the 1991 comprehensive plan.

c.) Community focus- large (300 units or more) PRDs need a local pedestrian oriented design, with a possible local commercial and service core, active recreation area, and sidewalks/bikepaths to avoid induced traffic. Many Delaware County villages are actually smaller than 300 homes (Shawnee Hills is currently 208 homes) and they provide such local services and pedestrian scale.

d.) Architectural Design Criteria- in order to make higher density cluster subdivisions work, considerable thought needs to be given to the architecture, materials, facades, detailing, colors and landscape features that will bind the neighborhood into a cohesive unit. Such criteria are generally required in PRD development standards. Seldom does a land developer, who intends to sell the subdivision to a builder or builders, bother to provide significant criteria. The result is often a jarring hodge-podge of different builder's standard production houses with no continuity of material or architectural syntax. Without specific standard criteria, the zoning commissions must negotiate these details on an inconsistent basis. Cluster housing demands greater advance planning and significant landscape architecture and architectural design elements.

Harbor Pointe is a Berlin Township Planned Residential Development (cluster subdivision) designed to new open space and environmental protection standards. With an overall density of 1.25 units per acre, and 22% open space, Harbor Pointe saves sensitive areas, preserves useable open space, and connects neighborhoods with trails.



4. Conservation Subdivisions

Conservation Subdivisions are a form of cluster subdivision where natural features and environmentally sensitive areas (conservation areas) are excluded from development and preserved, with homes clustered in the remaining areas.

Conservation subdivisions are typically located in areas without sanitary sewer service, at densities of less than one unit per acre. If the conservation subdivision concept is proposed to be used for higher densities with sewer service, the amount of open space may need to be adjusted to less than 50%, or lot sizes may be severely reduced.

Conservation areas are divided into two types:

- Primary conservation areas are highly sensitive resources that are normally unusable, such as wetlands, steep slopes, and floodplains.
- Secondary conservation areas are natural resources of lesser critical significance such as woodlands, prime farmland, significant wildlife habitats, historic archaeological or cultural features, and views into or out from the site.

The term Conservation Subdivision, as coined by author Randall Arendt (Conservation Design for Subdivisions, 1996, Island Press) requires the following elements:

- 50% or more of the buildable land area is designated as undivided permanent open space.
- The design is density-neutral. The overall number of dwellings allowed is the same as would be permitted in a conventional subdivision layout.
- Primary Conservation Areas [PCAs] are protected as open space and deducted from the total parcel acreage, to determine the number of units allowed by zoning on the remaining parts of the site.
- Secondary Conservation Areas [SCAs] are preserved to the greatest extent possible.
- Reduced size house lots are grouped around the open space.
- Streets are interconnected to avoid dead ends and cul-de-sacs wherever possible.
- Open space is interconnected and accessible by trails or walkways.

For Troy Township the Conservation Subdivision offers tremendous potential for retaining rural character and maintaining an overall low density.

The following graphics are presented with permission of Randall Arendt, from his book *Conservation Design for Subdivisions* (1996, Island Press).

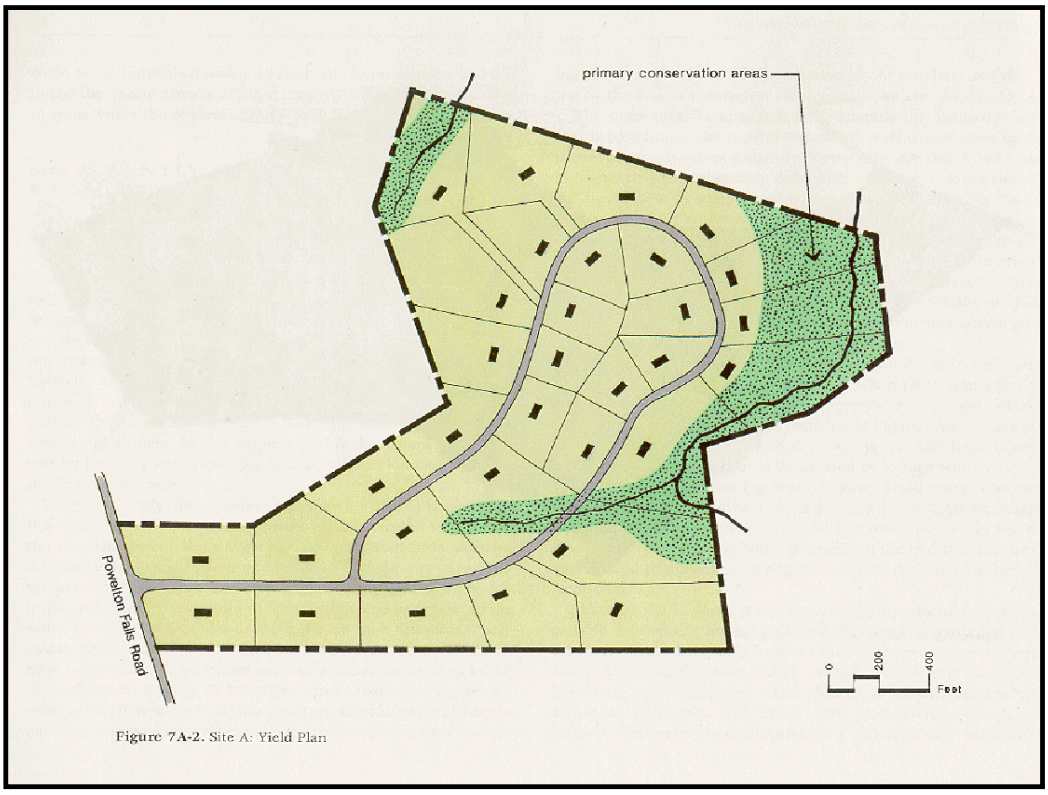


Figure 7A-2. Site A: Yield Plan

(above) Traditional subdivision of large lots, leaving no common open space

(below) Identifying Secondary Conservation Areas

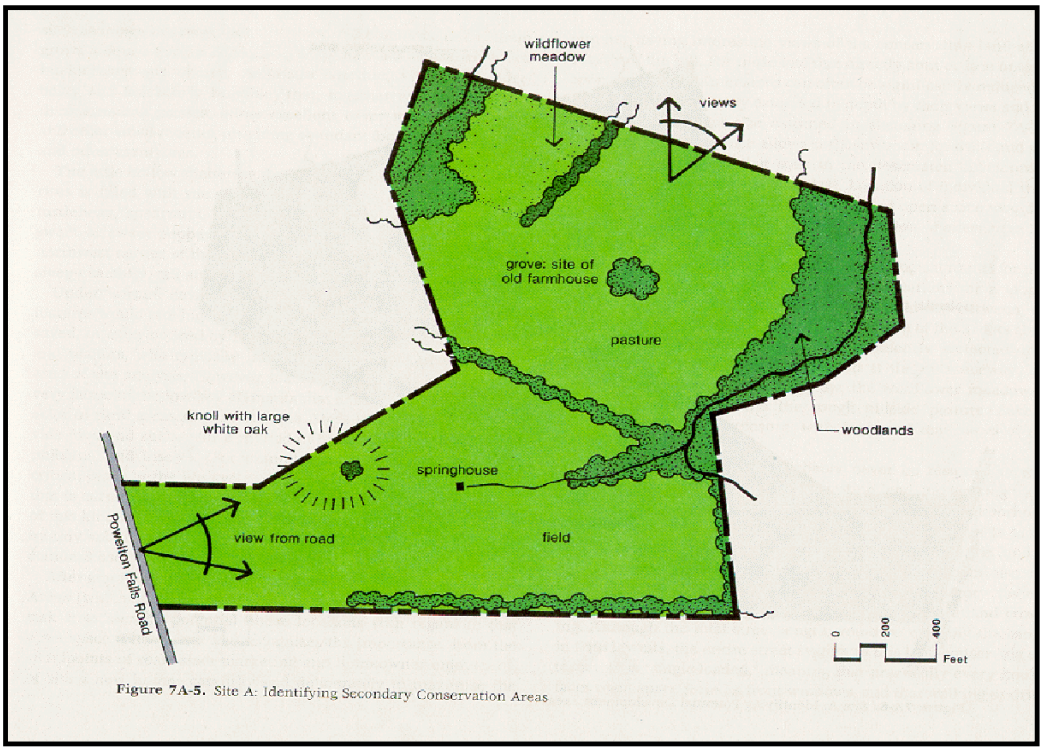


Figure 7A-5. Site A: Identifying Secondary Conservation Areas

Figure 7A-9. Site A: Drawing in the Lot Lines

Same yield, but with conservation subdivision, above and below

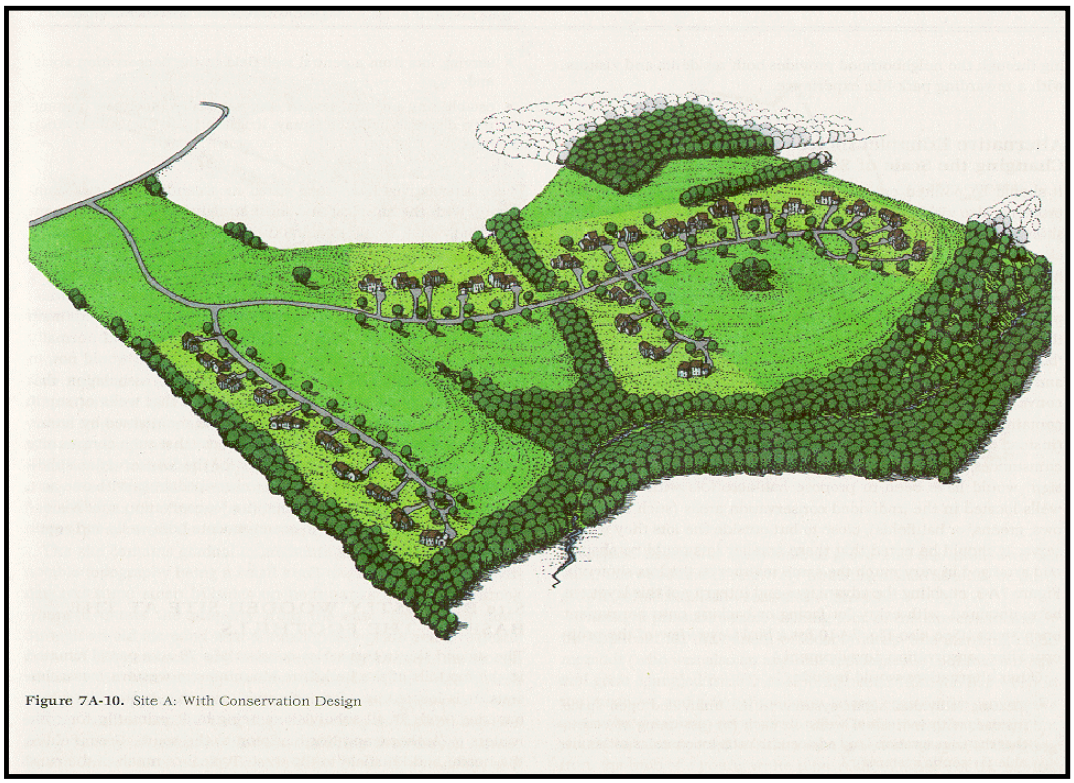


Figure 7A-10. Site A: With Conservation Design

5. New Urbanism - Traditional Neighborhood Development (TND)

The New Urbanists (Andres Duany, Elizabeth Plater-Zybeck, Peter Calthorpe and others) are a school of architects and planners (The New Urbanism, Toward an Architecture of Community, Peter Katz, 1994, McGraw Hill). The hallmarks of TNDs are formal design, a dense core, grid streets, mixed uses, and strict guidelines for architecture, materials, and common open space. TNDs emulate successful older neighborhoods such as German Village in Columbus and the north end of Delaware City from William St. on the south to Pennsylvania Ave on the north and Sandusky St. on the east to Euclid Ave. on the west. TNDs typically require public sanitary sewer.

The following TND graphics are reproduced from Rosemary Beach sales literature. Rosemary Beach is a TND located on the Gulf of Mexico in the Florida Keys, designed by Andres Duany and Elizabeth Plater-Zyberk.


ROSEMARY
BEACH
N
MASTER PLAN
CIVIC BUILDINGS
COMMERCIAL
LIVE/WORK
BED & BREAKFAST
TOWNHOUSES
COURTYARD HOUSES
SINGLE FAMILY RESIDENTIAL
subject to change
Developer
Rosemary Beach Land Company
Patrick Bienvenue, President
Architects and Town Planners
Duany Plater-Zyberk & Company
Five Minute Walk
0
100
300
500
1000
1320 FEET

Proposed civic buildings and shops, downtown Rosemary Beach

Beach house fronting a public green, Rosemary Beach

For Troy Township, the TND will be difficult to develop because of the lack of sanitary sewer service. Furthermore, a TND with a dense core and mixed uses may not conform to the township's vision of retaining an overall low density and retaining rural character. A TND in Troy Township might only be appropriate near Delaware City.

6. Farmland Preservation

The Delaware County Commissioners appointed a Farmland Preservation Task Force in 1998. The Task Force issued a Farmland Preservation Plan in June 2000 with 12 recommendations for action. Recommendation number 4 is to "Support and encourage any township that seeks to protect its agricultural industry through zoning codes."

With 52% of Troy Township land still in agriculture, and a goal to retain rural character, the following agricultural preservation strategies in zoning could be considered.

a.) The township should consider delineating areas it wishes to see remain agricultural. Map 6.5 is a good indicator of prime agricultural soils. Using the L.E.S.A. system of the U.S.D.A., Troy Township could further refine the most desirable farmland.

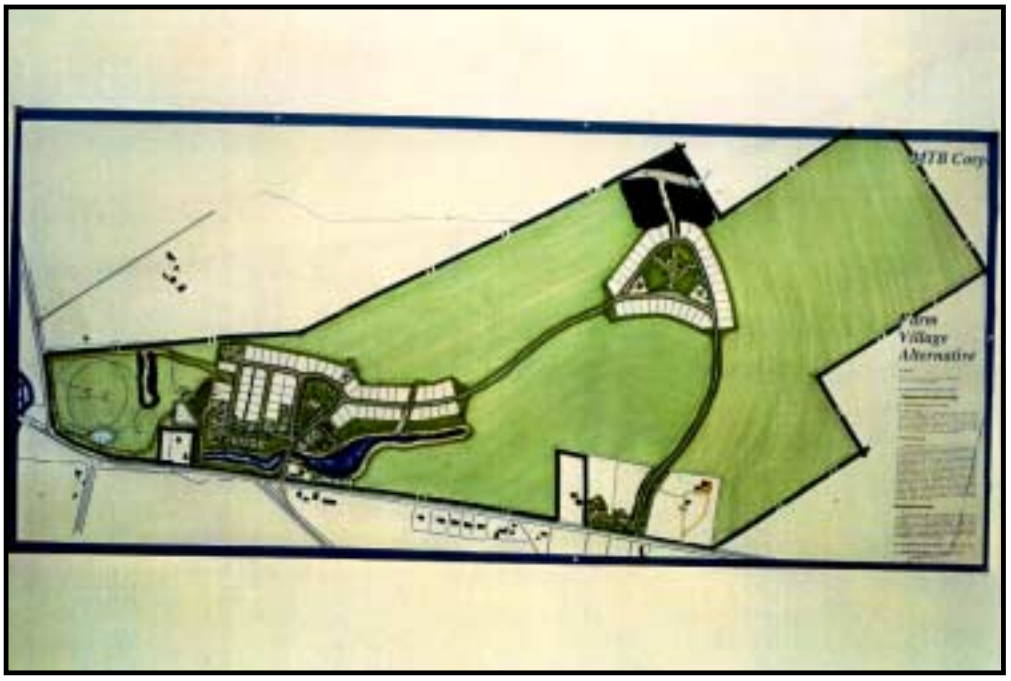
b.) The township should determine what densities can reasonably be served with roads, sewer, water, fire, schools, etc, and plan for only those densities. When farm land is assembled by developers in these identified farming areas, rezoning to suburban densities (one unit per two acre or greater) should be discouraged as not being in compliance with the comprehensive plan and the farmland preservation plan.

c.) In the Agricultural Zone, five-acre lots could be changed to a conditional use, permitted if it can be shown there is no reasonably viable use as a Farm Village. If five-acre lots were proposed as a conditional use, the maximum area of use for the house lot should be limited to one acre, with an easement to preserve agriculture on the remainder.

d.) The Farm Village is a conservation subdivision where the secondary conservation area is farmland. The Delaware County Regional Planning Commission wrote a version of this zoning text that was adopted in Trenton Township. The Farm Village could be used to preserve farmland in farming areas not served by public sanitary sewer, where the comprehensive plan identifies farmland as a resource to be preserved. For example, in the Agricultural zone, five acre lots are currently a permitted use, which wastes farmland. As an alternative, the Farm Village subdivision could be a permitted use at one unit per five acres overall density, but with clustering of smaller lots to preserve large amounts of open space as agriculture.

Conventional subdivision 104 lots, 2.5 acres per lot, total 320 acres. Wet soils shown in green. (Brown Township, Franklin County)

Farm Village, 120 lots in cluster, 240 acres in permanent easement for open space/farmland, 320 acres total



7. Smart Growth

Maryland enacted "Smart Growth" legislation in 1997. Since then, Smart Growth has been a topic for planners nationwide. Maryland directs state growth related expenditures into locally designated compact growth areas.

The American Planning Association (APA) defines Smart Growth as "a collection of planning, regulatory, and development practices that use land resources more efficiently through compact building forms, infill development and moderation in street and parking standards." For APA, one of the purposes of Smart Growth is to reduce the outward spread of urbanization, protect sensitive lands and in the process create true neighborhoods with a sense of community."

Smart Growth encourages the location of stores, offices, residences, schools and related public facilities within walking distance of each other in compact neighborhoods.

The popularity of many smart growth concepts has captured the interest of the press as well. Smart growth incorporates many of the concepts of conservation subdivisions in rural areas and TNDs in urban areas.

13.3 Which Development Pattern for Troy?

Troy Township should consider the benefits of some conservation and Smart Growth principles in its future land use.

1. Identify critical resource areas that should be given primary or secondary conservation area status.
2. In rural areas, permit a mixture of road frontage lot split development and Conservation Subdivisions.
3. Permit Farm Villages as Conservation Subdivisions to preserve farmland while allowing farmers to divide residential lots.
4. Permit residential subdivisions that best utilize the available buildable land, protect the environmentally sensitive areas, retain open spaces maintain maximum vegetation and tree cover, and assure the protection of surface water and groundwater.
5. Combine commercial development to share parking and access to arterial streets. Consider mixed uses of commercial and residential as part of a large scale planned unit development that creates a sense of community rather than strip the commercial along arterial roads.

13.4 Development Patterns and Cost of Services

Many growing communities struggle with the cost of providing new services, especially when their property tax base is primarily residential. Depending on the development pattern chosen, Troy Township

has the opportunity to develop a commercial property tax base along US 23. This commercial tax base could help pay for new services and support the school district.

Every community must determine what land use mix provides an appropriate balance of commercial versus residential property tax base. Single family residential development is often suspected of not paying its fair share of its costs because of school costs for children. As noted in Chapter 11, the revenues collected from the school district were lower than the amount used for funding in the Delaware City School District. In order to ascertain what land use mix might be optimal, it is necessary to analyze the fiscal impacts of development to determine the costs versus revenues to the community.

Models for estimating the fiscal impact of new development were developed by Robert Burchell, David Listokin and William Dolphin in The New Practitioner's Guide to Fiscal Impact Analysis, (Center for Urban Policy Research, Rutgers University, 1985). and the Development Assessment Handbook, Urban Land Institute, 1994). They define development impact analysis.

"Development impact analysis is the process of estimating and reporting the effects of residential and nonresidential construction on a host political subdivision, usually a local community, school district, special district and/or county. The effects take several forms:

a.) physical
b.) market
c.) environmental
d.) social
e.) economic
f.) fiscal
g.) traffic

Development impact assessment may be either prospective or retrospective; it may be short term or long term; it may be an in depth or abbreviated study."

Burchell and Listokin have created "Preview" and "Quickway" models to approximate development impacts. These models use derived multipliers from regional or national standards to gauge impacts. For example, a single family home with four bedrooms in Central Ohio would be expected to generate 1.428 school age children. These may be further broken down to .9866 school age children in grades Kindergarten–Sixth; .2475 in Junior High School, and .1906 in High School.

13.5 Impact Fees and Ohio Law

The Community Vision for Troy Township will be represented by its Comprehensive Plan. The potential fiscal impacts of this plan may be determined on a project basis for projects of large magnitude.

Some states permit impact fees based upon a fair share allocation of the costs of new development. Ohio planning and zoning legislation does not currently empower townships to charge impact fees that offset costs of service expansion (roads, schools, parks, etc.). It has been generally held, however, that road improvements immediately adjacent to the development can be attributable to the project as part of the subdivision and zoning process. If large impact development proposals do not reasonably mitigate their impacts, they may impose an undue burden on the township. In such cases the rezoning may be premature, or not in conformance with the Comprehensive Plan.

An Ohio Supreme Court case (Home Builders Association of Dayton and the Miami Valley et al v. City of Beavercreek, 89 Ohio St 3d 121; decided June 14, 2000) held that a municipal impact fee imposed on real estate developers is constitutional if:

1.) the impact fee bears a reasonable relationship between the city's interest in constructing new roads and the traffic generated by new developments, and
2.) there is a reasonable relationship between the fee imposed and the benefits accruing to the developer as a result of the construction of new roads.

Clearly Ohio cities and villages may now adopt impact fees that conform to the Supreme Court's Beavercreek ruling in Ohio. Whether this power will extend to townships is unclear. It is the opinion of the Delaware County Prosecutor's Office that nothing in Ohio law allows townships to impose impact fees.

Chapter 14

Goals and Objectives

14.1 Goals and Objectives for Future Development

1. Community Vision

Goal - To retain economically viable agriculture.

Objectives

a) Classify the most important farmland by soil type, location, productivity and proximity to development using the USDA Land Evaluation Site Assessment model (LESA).

b) Preserve viable farmland as part of Planned Residential Developments (PRDs) by transfer (sale) of development rights from farmland to adjacent PRDs in return for a permanent easement for open space and/or agriculture on the remaining adjacent farmland.

c) Keep Farm-Residential zone densities low at one unit per two acres.

d) Encourage cluster and farm village style developments.

e) Ensure that uses that would result in conflicts with agricultural operations are not established in productive farming areas.

Goal – To Retain Rural Character

Objectives

a) Maintain Farm-Residential zoning status for lands where no sanitary sewer exists or is expected.

b) Encourage Conservation subdivision design that best utilize available land, protect environmentally sensitive areas, protect historical structures, retain open space, maintain maximum vegetation and tree cover, and assure the protection of surface water and groundwater.

c) Promote architectural design standards for Planned Unit Developments (PRD, PCD) that reflects rural feel.

Goal - To ensure significant and diverse citizen input into the planning process.

Objectives

a) Use a 15 member steering committee as the primary citizen input to the Zoning Commission in amending the Comprehensive Plan.
b) Advertise an open informational meeting to discuss and review the recommendations of the plan prior to public hearings.
c) Use a township newsletter or weekly newspaper insert to publish and mail a synopsis of the plan to every household in Troy Township.
d) Recognize and promote high quality development and community beautification.

Goal – To prevent undue congestion on narrow county and township roads.

Goal – To protect rural real estate values

Objectives

a) Discourage zoning that would result in incompatible land uses.
b) Encourage connectivity of subdivisions to offer multiple accesses in order to avoid concentrating traffic on to one route.
c) Initiate a minimum lot size in areas when sanitary sewer service is available that emulate suburban densities within Planning Area 1a and 1b.
d) Amend the zoning text to maintain a rural lot size of 1 unit per 2 acres to safely utilize on-site water supply and sewage disposal systems where no sanitary sewer service is available.

2. Environment

Goal - To preserve natural beauty, wildlife, quietness and open space.

Objectives

a) Amend the zoning text to require a green way link between adjacent PRD subdivisions.
b) Create a landscape detail for greenway paths.
c) Retain wooded green ways along ravines, waterways and project perimeters in reviewing Planned Unit Developments and conventional subdivisions.
d) Set landscape and architectural design standards for Planned Unit Developments that stipulate the kinds of centralized green spaces envisioned.
e) Require the linkage of Planned Unit Developments by bike paths or walking paths in green ways so that new neighborhoods are all pedestrian oriented and children can move safely between neighborhoods without having to be driven by automobile.
f) Create a landscape standard for new Planned Unit Developments that front on township roads.

g) Amend the zoning text to require the appropriate landscaping buffer detail between certain residential and non-residential land uses. Create a landscaping detail(s) to be used between incompatible land uses.

Goal - To avoid inappropriate sprawl and retain critical resource areas and wildlife corridors

Objectives

a) Retain natural vegetation and forestland, and use existing topography as buffers where they exist.

b) Protect critical resources including floodplain and slopes over 20% with adequate buffer distances and lower densities along the Olentangy River to protect the water supply.

c) Encourage the use of conservation design in site development to protect natural resources and unique areas in the township.

d) Request the county amend its subdivision regulations to protect 100-year floodplains.

e) Amend the zoning resolution to identify and protect floodplains, jurisdictional wetlands, and slopes over 20% in planned residential developments (PRD).

Goal – To conserve surface and ground water quality

Objectives

a) Require minimum 2 acre lot size in areas without sanitary sewer.

b) Within 500’ buffer from the Olentangy River high water mark – density of 1 unit per 5 acres for residential development.

3. Land Use

Goal - To retain a primarily single family residential housing mix, but offer diversity of housing when needed services are available.

Goal - To retain an overall low density.

Goal - To protect sensitive surface and ground water aquifers

Objectives

a) Retain single family densities of at least one unit per 2 acres where there is no centralized sanitary sewer provided by Delaware County or Delaware City.

b) Use the width of roads, the capacity of water and sewer systems, and the soil characteristics to regulate development, using the recommended densities and land use on the 2001 Comprehensive Plan map as a guide.

c) Avoid development of uses or densities that cannot be serviced by currently available or imminently planned infrastructure, unless such development mitigates its infrastructure impacts.
d) Permit single family housing in subdivisions with 20,000 square foot lots (approximately ½ acre) with centralized sanitary sewer and water, adequate fire protection and road access. (Within Planning Area 1)
e) Permit multi-family, empty nester style units as part of Planned Residential Developments, approved per the development plan. (Within Planning Area 1a)
f) Permit flexible lot sizes as part of Planned Residential Developments.
g) Discourage expansion of the suburban growth area boundary (Planning Area 1a and 1b) until it is completely developed.
h) Develop policies for service provision that relate to the comprehensive plan

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Goal - To provide appropriate recreation and managed open space

Objectives

a) Obtain 25-50 acres of land for a future Township park for active recreation (playing fields for organized sports).
b) Create a series of mini-parks (less than 1 acre) with ¼ mile spacing as part of Planned Residential Developments (PRD) where densities are greater than 1 unit per acre. Create a series of neighborhood parks of 15 acres with active recreation with ½ mile spacing in PRD neighborhoods.

Goal - To determine and implement an appropriate land use mix

Objectives

a) Direct Planned Commercial growth along US 23 corridor with appropriate types of neighborhood commercial within residential developments.
b) To create architectural guidelines for Planned Unit Developments by avoiding “franchise architecture” that has no community architectural syntax.
c) Acquire new sites for township facilities, including fire, police, road maintenance, etc.
d) Avoid prematurely zoning land. Respond to zoning requests pursuant to the Comprehensive Plan recommendations.
e) Use the Comprehensive Plan as the guideline in zoning.
f) Use a 15 member steering committee as the primary citizen input to the Zoning Commission in amending the Comprehensive Plan.

g) Advertise an open informational meeting to discuss and review the recommendations of the plan prior to public hearings.

h) Adhere to the proposed access management policies to avoid strip commercial developments.

i) Provide for 5 year updates and revisions to the Comprehensive Plan.

Goal – Offer Development alternatives to annexation

Objectives

a) Work with the City of Delaware to possibly create a Joint Economic Development District (JEDD) for commercial and industrial uses, or a cooperative agreement for residential uses.

Goal - To use access management controls to limit key access points to minimize traffic congestion.

Objectives

a) Require parallel access roads and connections between planned commercial and/or other highway service district uses on major arterial streets. The outside lanes of US 23 could act as parallel access frontage roads.

b) Require traffic studies of PRD proposals that follow the format of the 2001 Delaware County Thoroughfare Plan.

c) Adopt the appropriate ODOT Access Management recommendations for US 23; work with ODOT to prevent the deterioration of US 23

Chapter 15
Recommendations

Intent of the Troy Township Comprehensive Plan

The 2002 Troy Township Comprehensive Plan is the sum of all the chapters and appendices. Chapter 15 is to be read in conjunction with the Comprehensive Plan Map (see map in this chapter).

15.1 Planning Area 1- Suburban Growth District

US 23 facing south

Citgo gas station on US 23

Part A – West Suburban Growth District

Boundaries: West: Troy/Radnor Township line; East: The City of Delaware; North: Hills Miller Road; South: Troy Twp/Delaware Twp & Delaware City line.
Land Area: Approximately 449 acres

General Facts and Findings

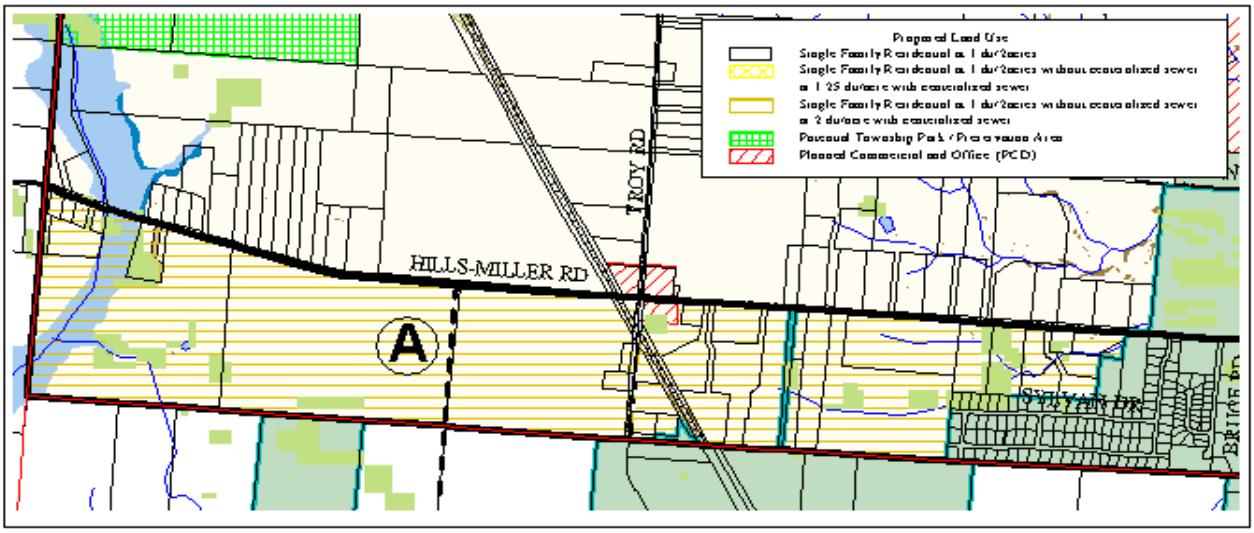
This area is adjacent to the City of Delaware with Troy Road and North Section Line Road running north-south through it as well as a railroad line. The soils in the area are generally suitable for development with a few locations containing poorly drained soils unsuitable for septic systems. The area is characterized by large tracts of land, some of which are still actively farmed as well as large lot residential on the east side of Troy Road along Hills-Miller Road.

Only a few parcels along the western portion of Hills-Miller Road near the Radnor Township line have Del-Co water. Sanitary sewer is not currently available, however a sewer service area has been delineated for Delaware City's sewer expansion project. Delaware City's potential future sewer service area extends just north of Coover Road on the west side of US 23 and just north of Kelly McMaster to the east. This sewer service area may be negotiated in the future to have a master metering system to be partially served by the County. Whether serviced by the City, County or a combination of the two, it would be appropriate to plan for a higher suburban density in this area. The recommended density of Part A is 2 dwelling units per acre when central sewer is available due to its proximity to the City of Delaware and its location in the potential sanitary service area.

The green outline represents Delaware City and the red is the Township Line. Planning area 1 Part A is defined by cultivated fields and large lot residential development.

Aerial Photo- 1997

Planning Area 1 – Part A – Legend shows recommended land uses (See Planning Areas Map for exact boundary of Part A)



Part A Recommendations

Planned Commercial

1. Neighborhood style Planned Commercial is recommended for approximately 10 acres at the intersection of Troy and Hills-Miller Roads to serve future residential development.
2. Only low level, downward-cast lighting should be permitted to prevent a halo effect on the night sky in deference to the Perkins Observatory, and to reduce light pollution as noted in dislikes by residents.
3. To avoid sign clutter, ground signs should be the only commercial sign type permitted at the intersection of Hills-Miller and Troy Roads. Billboard and pole signs should be prohibited.
4. A Troy Township sign and landscape detail should be developed.
5. Extensive landscaping should be required in parking lots to avoid the "sea of asphalt" to reduce runoff and temperatures (and thus ozone levels). Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along US 23 frontage. A standard landscape detail should be adopted.

Residential

1. Planning area I Part A is recommended for single family development at one unit per 2 acres without sanitary sewer service. If centralized sanitary sewer is provided during the planning period, the plan recommends single family residential use at up to 2 units per acre. PRD/Cluster development shall include open spaces to adequately serve the residents of the development (see NRPA standards in Appendix F)
2. Permit Conservation Subdivisions at the density of the underlying zone. Subdivision design should attempt to maintain natural drainage patterns as much as possible and encourage environmentally friendly stormwater management.
3. Any development in this area should take into consideration the proposed road alignments and recommendations of the Delaware County 2001 Thoroughfare Plan. The Houk Road extension (Road A) to Hills-Miller Road is a committed project
4. The MORPC bikeway plan includes a route along Troy Road. New development along Troy Road should incorporate the bike path in their design.

Part B – East Suburban Growth District

Boundaries: West: U.S. 23; East: Brown Twp. Line; North: Olentangy River, Horseshoe Run and Kelly McMaster Road; South: Delaware Twp. Line.
Land Area: Approximately 1150 acres

General Facts and Findings

This area is adjacent to Delaware Township with US 23, Case and Horseshoe Roads through it. The area is characterized by large tracts of land, some of which are still actively farmed as well as large lot residences along Panhandle, Case and Horseshoe Roads. Most of the soils on the east side of Horseshoe Road are generally unsuitable for development, while the west side contains more soils suitable for soil absorption on-site sanitary systems.

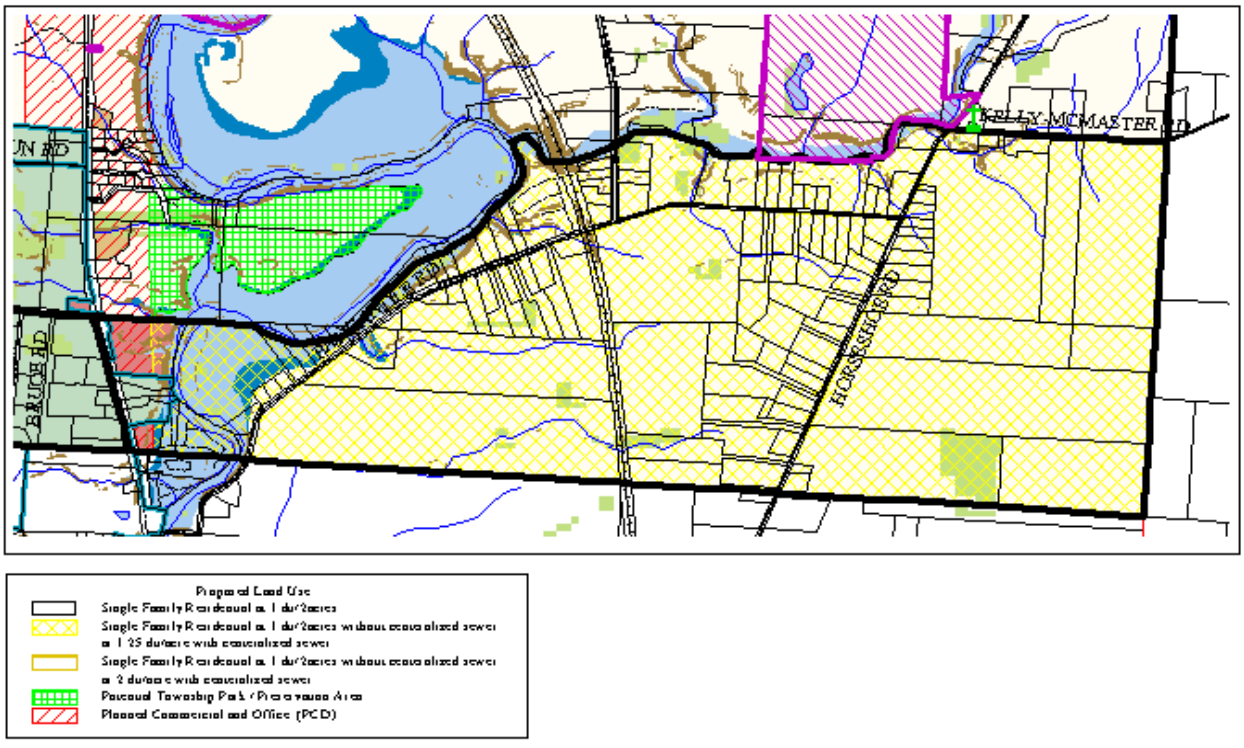
The entire area of Part B is served by Del-Co water, but sanitary sewer is not currently available. However, Part B is within the Delaware City potential sewer service area described in Planning Area 1 Part A. The recommended density of Part B is 1.25 dwelling units per acre if central sewer becomes available. The area lacks development pressure from Delaware in relation to Part A, but its location in the potential sanitary service area still justifies an increased recommended density.

To take advantage of the township's proximity to Delaware City, planned commercial and office should be developed and encouraged along US 23. Appropriate access management principles restricting left turns across traffic should follow ODOT standards (See Chapter 9).

The green outline represents Delaware City and the red is the Township Line. Planning area 1 Part B is defined by the US 23 corridor and the Olentangy River, with the eastern portion of the area being cultivated fields and large lot residential development.

Aerial Photo- 1997

Planning Area 1 – Part B – Legend shows recommended land uses (See Planning Areas Map for exact boundary of Part B)



Part B Recommendations

Planned Commercial

1. Continue planned commercial and office development of the US 23 frontage to a depth of approximately 700 feet, extending north from the City to the Stonebrook Subdivision.
2. Parcels should have limited access to US 23 and should be linked with parallel rear access or frontage roads built in increments by developers. Left turn movements across traffic should be at controlled locations at least ¼ mile spaced, as recommended by ODOT (see U.S. 23 Access Management Plan). Most access points should be right turn in and right turn out only.
3. Any development in this area should take into consideration the proposed road alignments and recommendations of the Delaware County 2001 Thoroughfare Plan.
4. Only low level, downward-cast lighting should be permitted to prevent a halo effect on the night sky in deference to the Perkins Observatory, and to reduce light pollution as noted in dislikes by residents.
5. To avoid sign clutter, ground signs should be the only commercial sign type permitted along US 23. Billboard and pole signs should be prohibited.
6. A Troy Township sign and landscape detail should be developed.
7. Extensive landscaping should be required in parking lots to avoid the "sea of asphalt" to reduce runoff and temperatures (and thus ozone levels). Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along US 23 frontage. A standard landscape detail should be adopted.
8. Commercial and Office uses within the 500' Olentangy River Protection Buffer should be limited to those that do not produce toxic runoff that would be harmful to the drinking water supply. Also, impermeable surface should be limited as much as possible to decrease runoff rates.
9. No commercial development within the 100 year floodplain of the Olentangy River.

Residential

1. Planning area I Part B is recommended for single family development at 1 unit per 2 acres without sanitary sewer service. If centralized sanitary sewer is provided during the planning period, the plan recommends single family residential use at up to 1.25 units per acre. PRD/Cluster development shall include open spaces to adequately serve the residents of the development (see NRPA standards in Appendix F)

2. Permit Conservation Subdivisions at the density of underlying zone. Subdivision design should attempt to maintain natural drainage patterns as much as possible and encourage environmentally friendly stormwater management.
3. There is a 500 foot buffer from the edge of the Olentangy River that should be developed at a density of no more than 1 unit per 5 acres and have a limited amount of impermeable surface in order to decrease the amount of harmful runoff to the Olentangy River.
4. The MORPC bikeway plan includes a route along Panhandle and Horseshoe Roads. New development along these roads should incorporate the bike paths in their design.

Open space

1. An open space greenway is planned for the west bank of the Olentangy River. This is meant for passive recreation with a gravel walking/biking path.
2. Preserve deep ravines that run to the Olentangy River as common open space in planned developments.
3. A large open space area is planned directly east of the planned commercial along US 23. The area is mostly within the 500' buffer area and would connect to the proposed greenway and be used for picnicking and other passive recreation.

15.2 Planning Area 2 – Estate Conservation District

Olentangy River from the Main Road Bridge

US land and agriculture in Planning Area 2

Boundaries: West: Troy/Radnor Township Line and US 23; North: Troy/Marlboro Township Line and Coover Road; East: Troy /Brown&Oxford Township Line; South: Olentangy River, Horseshoe Run and Kelly McMaster Road and Hills-Miller Road.

Land Area: Approximately 8984 acres (3563 acres within State Park and Wildlife Area)

General Facts and Findings

This area is the northeastern portion of the Township, which contains the Delaware State Park and Wildlife Area as well as a transitional area between the Agricultural District and the Suburban Growth District in the western portion of the township. It is characterized by rolling topography in Horseshoe Run in the south, and flat land to the north with a large amount of floodplain. The greater habitat and species diversity throughout this section of the township merits special attention for conservation practices. On the west side of US 23 it is generally flat with a tributary of the Olentangy River running west to east through the area south of Buckeye Valley High School and the Oak Haven Golf Course.

Planning area 2 is less likely to develop at suburban densities because of the lack of sewer service. However, it does have Del-Co water and some soils suitable for on-site sanitary systems throughout. The area is susceptible to large single family lot split type developments that could lead to a loss of common open space and also a large number of curb cuts hindering access management goals.

Lot splits along Panhandle Road. Typical of the southern portion of Planning area 2 and the dominant type of residential development throughout the township

Large tracts of cultivated fields are split into large lots along Panhandle Road with multiple curb cuts. Planning area 2 is beginning to see more of this style of development.

Aerial Photo - 1997

The MORPC 1999 Bikeway plan shows a path along US 23 north from Planning area 1 and turning to the east along Main Road, then continuing along Hanover Road. The Bikeway plan also shows a path along

Horseshoe Road through the entire township with a connection to another eastbound route on Kelly McMaster Road. If new developments are proposed along these paths, bikeway increments should be part of their subdivision design.

Planning Area 2 Recommendations

1. Lands on the east side of the Olentangy River and north side of Horseshoe Run, are mostly outside of the Delaware City proposed sewer service area. This area is rural and is planned to be built out at a density of 1 unit per 2 acres. The transition area between the higher density suburban growth district and the lower density agricultural district in the west is also recommended for 1 unit per 2 acres.
2. Conservation subdivision developments are the preferred style of growth in order to conserve as much of the areas natural features as possible. If conservation subdivisions are not feasible, estate lots of no less than 2 acres should be permitted.
3. Parallel access roads will allow for access to commercial properties without forcing curb-cuts along US 23. Parallel access roads can be frontage or backage orientated depending on the location of the property.
4. Planned Commercial is also recommended at a depth of 350 feet on the east side of US 23 from Troutman Road north to the Marlboro/Troy Townships boundary. The development should utilize parallel access roads and access to US 23 should be restricted to key locations. Coordinate with ODOT and adhere to the US 23 Access Management Plan.
5. There is a 500 foot buffer from the edge of the Olentangy River that should be developed at a density of no more than 1 unit per 5 acres and have a limited amount of impermeable surface in order to decrease the amount of harmful runoff to the Olentangy River.
6. The Delaware State Park and Wildlife Area are the most predominant land uses in this Planning Area and will remain both the Township's and northern Delaware County's passive recreation hub.
7. Permit Conservation Subdivisions without zoning change at the density of the underlying zone with flexible lot sizes.
8. As a general rule prohibit new structures in, or filling of the 100 year floodplain. Provide hardship criteria for possible variances.
9. Continue planned commercial and office development of the US 23 frontage to a depth of no more than 700 feet, extending north from Planning Area 1 to Coover Road.

10. Parcels should have limited access to US 23 and should be linked with parallel rear access or frontage roads built in increments by developers. Left turn movements across traffic should be at controlled locations at least ¼ mile spaced, as recommended by ODOT (see U.S. 23 Access Management Plan). Most access points should be right turn in and right turn out only.
11. Any development in this area should take into consideration the proposed road alignments and recommendations of the Delaware County 2001 Thoroughfare Plan.
12. Only low level, downward-cast lighting should be permitted to prevent a halo effect on the night sky in deference to the Perkins Observatory, and to reduce light pollution as noted in dislikes by residents.
13. To avoid sign clutter, ground signs should be the only commercial sign type permitted along US 23. Billboard and pole signs should be prohibited.
14. A Troy Township sign and landscape detail should be developed.
15. Extensive landscaping should be required in parking lots to avoid the "sea of asphalt" to reduce runoff and temperatures (and thus ozone levels). Use landscaping to divide parking areas by using islands at reasonable spacing, at ends of rows, and along US 23 frontage. A standard landscape detail should be adopted.
16. Commercial and Office uses within the 500' Olentangy River Protection Buffer should be limited to those that do not produce toxic runoff that would be harmful to the drinking water supply. Also, impermeable surface should be limited as much as possible to decrease runoff rates.
17. Gallant Farm is located on the west side of Planning Area 2 on the south and north side of Buttermilk Hill Road, west of North Section Line Road. This is a passive recreation area owned by the Delaware County Preservation Parks District slated to open in approximately two years.
18. The MORPC 1999 Bikeway Corridor Update includes routes along Troy Road, Horseshoe Road, Hills-Miller Road, Buttermilk Hill Road, and Coover Road. New development along these roads should incorporate these bike paths in their design.

15.3 Planning Area 3 – Agricultural Heartland District

Agricultural heritage and land still being farmed define Planning Area 3

Boundaries: North: Marlboro Township; South: Coover and Buttermilk Hill Roads; East: US 23; West: N. Section Line Road.

Land Area: Approximately 5306 acres

General Facts and Findings

Planning area 3 has the highest amount of prime agricultural soils and is made up largely of cultivated fields divided by tree lines and small wood lots. There is no sewer or water service, and it is likely that planning area 3 will remain at rural densities with larger lot sizes in order to have enough land for the required on-site sanitary systems and wells.

The portion of US 23 within planning area 3 currently has little development. There is some large lot residential development south of Troutman Road and lots with more frontage north of Troutman Road offering more opportunity for commercial development. The Railroad runs parallel and is close to US 23 offering additional access for commercial, office and light industrial uses.

Currently most of the planning area is zoned Farm Residential at one dwelling unit per acre with some non-conforming uses and one Industrial zoned area on the western boundary along N. Section Line Road. Most of the planning area is flat, with one long tributary of the Olentangy River running north to south through its center.

Typical development pattern of Planning Area 3 is large acreage cultivated fields
with scattered no-plat residential frontage and flag lots generally occurring closer to US 23

Aerial Photo - 1997

Planning Area 3 Recommendations

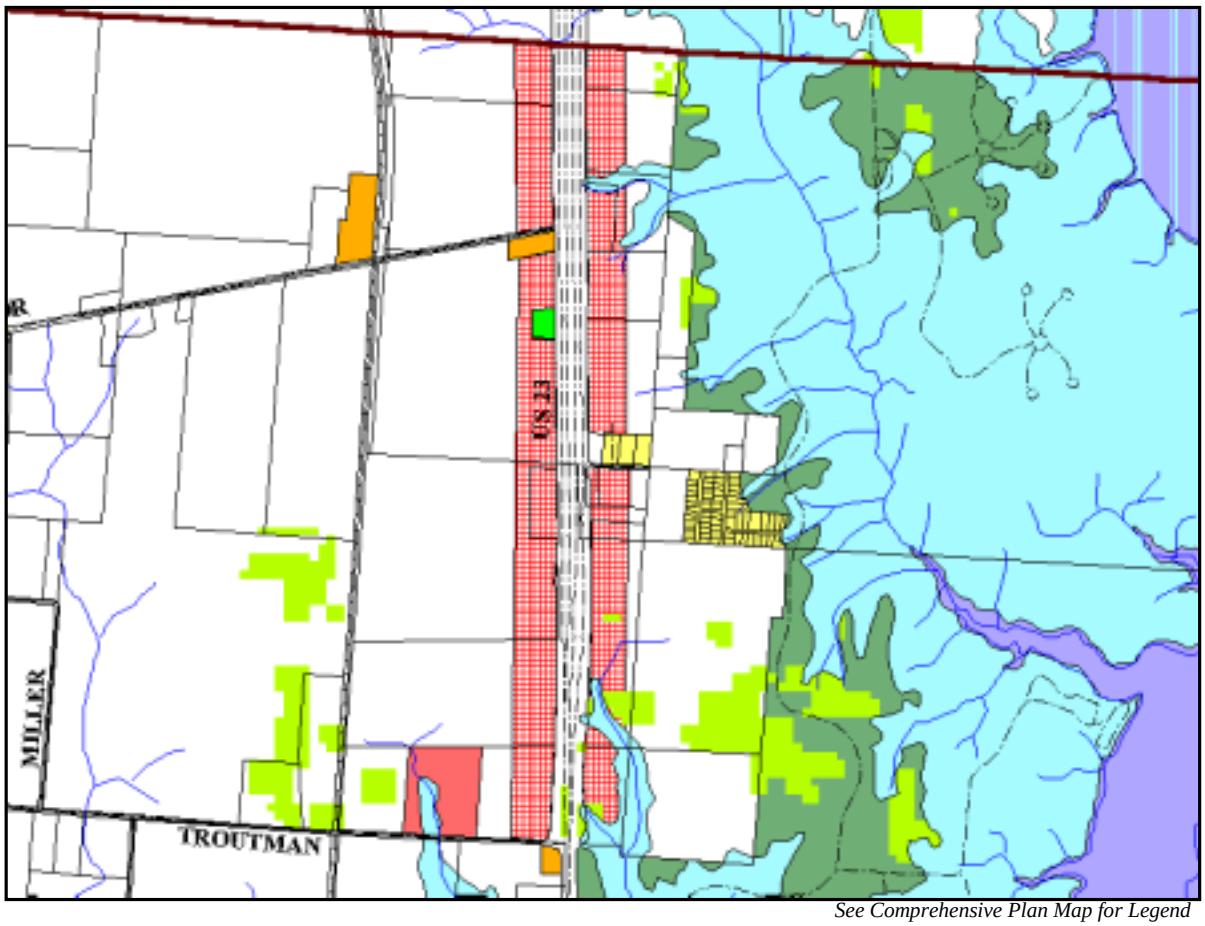
1. Permit and promote agricultural uses
2. Consider the County Thoroughfare Plan when making land use decisions.
3. Permit residential densities no higher than 1 dwelling unit per 2 acres in conservation subdivisions and Farm Village style developments to preserve prime farmland and natural features in open space.
4. As a general rule prohibit new structures in, or filling of the 100 year floodplain. Provide hardship criteria for possible variances..
5. The primary use for the Agricultural Heartland will be for farm and accessory uses within the 2002-2012 time period with the exception of the US 23 corridor.
6. Continue to work with Delaware City on water quantity and quality issues surrounding the Penry Road well fields. The City is now testing the well-field and monitoring the "water depths and water quality

of the residential wells in the area to help us determine what effect the City well-field will have on the neighboring community". (www.ci.delaware.oh.us)

7. Planned Commercial is recommended at a depth of 350 feet on the west side of US 23 from Troutman Road north to the Marlboro/Troy Townships boundary. Access to US 23 should be restricted to key locations. The development should utilize parallel access roads. Coordinate with ODOT and access management plan.

ODOT is currently testing experimental paving and has constructed two sets of lanes for the northern portion of US 23. In the photograph below the outside lanes are not being used, which is how US 23 will function when the testing is finished. These outside lanes are recommended for use as parallel access to commercial and office development along US 23.

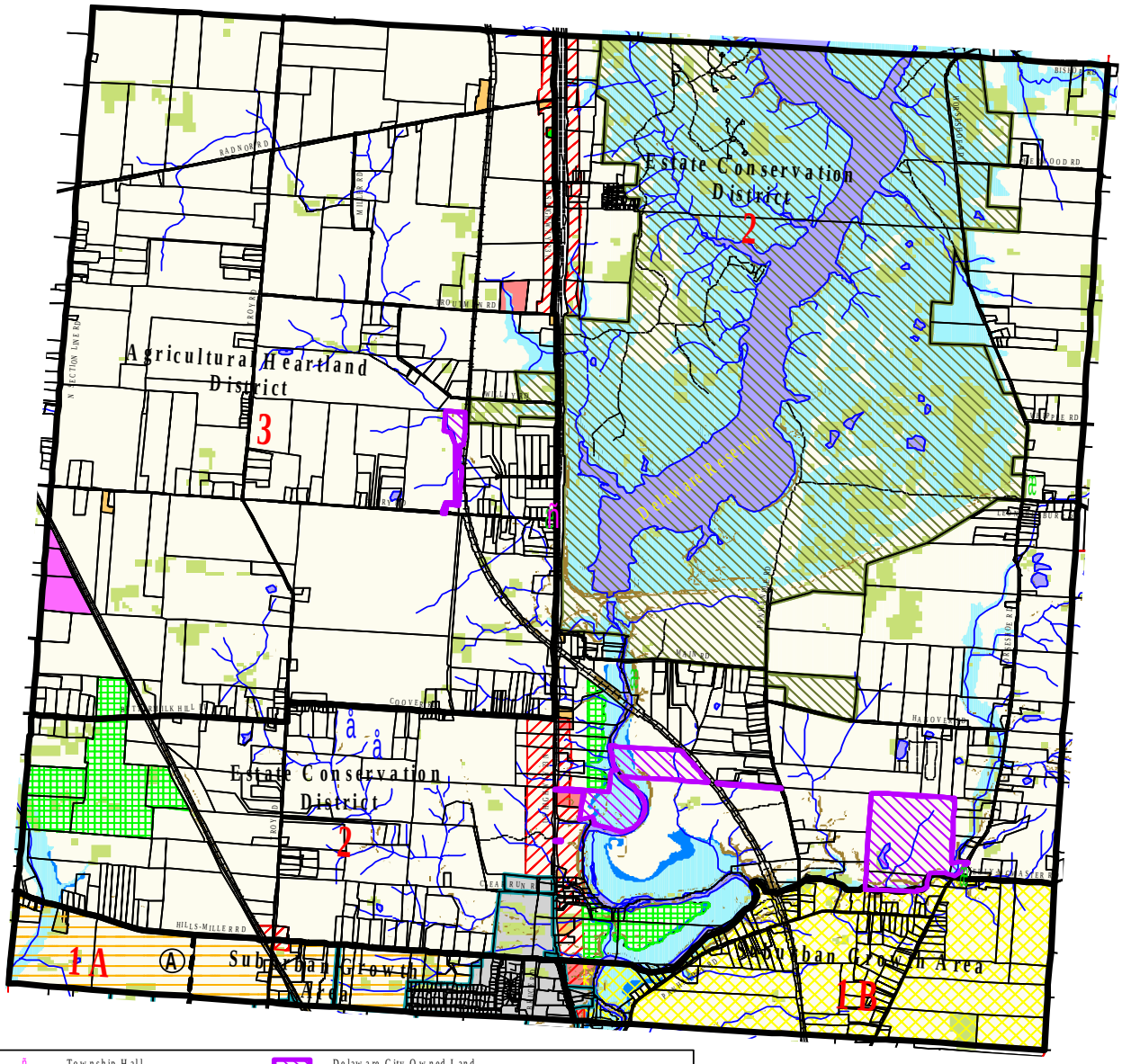
350’ depth of Planned Commercial and Office is recommended for lands along US 23 north of Troutman Road with parallel access frontage roads existing currently as ODOT experimental pavement lanes.



See Comprehensive Plan Map for Legend

COMPREHENSIVE PLAN

Troy Township Comprehensive Land Use Plan 2002



Township Hall
Fire Department
Cemeteries
Schools
Planning Subareas
Township Boundaries
Property Lines
Incorp. Area Boundaries
Railroad
Road Centerlines
Proposed Roads
Road Right of Way
Streams
Slope > 20%
Ponds/Lakes/Rivers

Wetland
Potential Wetland / Farmed Wetland
500-Year Flood Plain
100-Year Flood Plain
Government Lands

Delaware City Owned Land

Proposed Land Use
Single Family Residential at 1 du/2acres
Single Family Residential at 1 du/2acres without centeralized sewer or 1.25 du/acre with centeralized sewer
Single Family Residential at 1 du/2acres without centeralized sewer or 2 du/acre with centeralized sewer
Potential Township Park / Preservation Area
Planned Commercial and Office (PCD)

Troy Township Zoning
Farm Residential District (FR-1)
Planned Residential District (PRD)
Planned Commercial and Office District (PCD)
Planned Industrial District (PID)
City of Delaware
Non-Conforming Use
Highway Service District
River
Road

N
W E
S

0 1000 2000 3000 4000 5000 Feet

Scale: 1" = 4000'

Prepared By: Delaware County Regional Planning Commission (740-833-2260)
http://www.dcrpc.org
Original Data provided by Delaware County Auditor's Office DALIS Project (Topo, Parcel, ROW, Municipal Boundary, Road Centerlines, Hydrology, Township Boundary, Floodplain)(740-833-2070)
(8/13/2002)

APPENDICES

A. History of Planning- a New Planner's Timeline

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I. Acronyms

J. Model Conservation Subdivision Provisions

K. Glossary

L. 1991 Troy Township Master Plan Goals and Map

Appendix A

A New Planner's History of Planning

1189- England, required stone party walls 1 &1/2 feet thick each side, 16' tall on houses.

1214- Magna Carta, King John of England, prevented the seizure of land by the King without compensation. First land use regulation, restricting forests for hunting**.**

1297- England- Front yards to be cleared and maintained

1400's- England- all roofs in urban areas to be stone, lead or tile (fire protection)

1565- St. Augustine, Florida, first American planned city, Spanish Law of the Indies

1666- Great fire of London, England- An Act for the Rebuilding of the City of London, divided city housing into 4 classes, required uniform roof lines and balconies, established front setbacks, mandated 3 year reconstruction or seizure by the city for the public good.

1690 - Annapolis, Maryland, Sir Francis Nicholson, designed it as a new town, with radial spokes

1692-Philadelphia, first major city built on land speculation, used grid pattern for the layout. 1st neighborhood park system.

1692-Boston ordinance restricted slaughter, still, curriers and tallowchandler's houses to areas of the city less populous and offensive to the public.

1699- Williamsburg, Virginia, Sir Francis Nicholson, designed grid with green mall, central avenue.

1733- Savannah, Georgia, General James Ogelthorpe, 24 squares, 40 families per square, grid.

1777- Vermont, 1780 Massachusetts, 1789 North Carolina Constitutions prevent taking of land without compensation.

US Constitution, Article V of the Amendments- " no person shall …be deprived of life, liberty, or property, without due process of law; nor shall private property be taken for public use without just compensation."

Land Act of 1785- Established survey grid 36 square mile townships, NorthWest territories, (includes Ohio)

1789- Washington D.C. Pierre Charles L'Enfant combined the radial spokes of Annapolis and the green mall of Williamsburg.

1811- 25 x 100 standard New York City lot

1856- Central Park, New York City, Frederick Law Olmstead, Sr.

1860's Public Health Movement- New York, San Francisco, regulating tenements and slaughterhouses.

1869- Riverside, Illinois, English garden style city by Frederick Law Olmstead Sr. Used curving, tree-lined streets, deep setbacks, single family detached houses, exclusively residential neighborhoods. Became the standard for FHA in the 1930's, thus copied in virtually every major city and community in the US. Still the standard suburban style of land plan used today.

1871- Pumpelly V. Green Bay 80 US 166 (1871)-Established a taking by flooding of private property.

1890-Jacob Riss writes How the Other Half Lives, depicts slum conditions in New York.

1893- Chicago, Colombian Exposition, "White City", Daniel Hudson Burnham, beginning of City Beautiful movement.

1898- Ebeneezer Howard writes Tomorrow, a Peaceful Path to Real Reform, beginning of Garden City movement.

1903- Cleveland Plan, Daniel Burnham, civic center, first master plan for an American city to be realized.

1904- San Francisco Plan, Daniel Burnham, based on City Beautiful principles.

1909- Chicago- first regional plan in US, Daniel Burnham.

1909- Wisconsin passed first state enabling legislation permitting cities to plan

1909- Los Angeles, first zoning ordinance

1909- Harvard, first course in city planning

1915- Hadacheck V. Sebastian- 239 US 394 (1915) Determined that a local government can prohibit land uses in certain areas it deems inappropriate, even though this significantly reduces land value.

1916- New York adopts first comprehensive zoning ordinance, no mention of master plan.

1917- ACPI established, Kansas City

1919- Ohio Planning Conference, precursor of APA established, first citizen based planning organization in US.

1920's- City Beautiful gives way to legalistic, "city efficient" emphasis on administration, lawyers, and engineers

1922- Standard State Zoning Enabling Act issued by the US Department of Commerce. Mentions a plan as a separate study, but most communities do not realize its importance. Zoning seen as planning. Flawed.

1922- Pennsylvania Coal v. Mahon, 260 US 393 (1922) Supreme Court rules that if a regulation goes too far, it will be recognized as a taking. The determination as to whether a taking has occurred rests on the facts of the case. Still the basic taking case today.

1925- Cincinnati, Ohio, first comprehensive city land use plan in America. Not the New York model. Alfred Bettman.

1926- First capital budget, Cincinnati, Ohio

1927- Village of Euclid (Ohio) V. Ambler Realty, 272 US 365 (1926)-upheld zoning as constitutional under the United States Constitution, as a police power of the state. If zoning classifications are reasonable, they will be upheld.

1928- Standard City Planning Enabling Act issued by the US Department of Commerce. Enter the modern planning age, where a comprehensive plan is the intended basis of zoning, the implementing tool. Act flawed, not largely followed; most major cities already regulating land use under standard zoning act.

1930's- Greenbelt cities, including Greenhills, Ohio, Greenbelt, Maryland, Greendale, Wisconsin.

1935- Frank Lloyd Wright's Broadacre City, A New Community Plan, lot size varied with family. Did not consider the broad economic spectrum, elitist.

1941- Ladislas Segoe, Cincinnati, Ohio writes Local Planning Administration, (the "Green "book). The Planning "bible" still used and updated today as the basic manual for planners. Segoe is one of the giants of planning. (Note: Ladislas Segoe and Assoc. authored the first regional Plan for the Delaware County Regional Planning Commission in 1964.)

1961 -Jane Jacobs writes The Death and Life of Great American Cities

1964-T.J. Kent writes The Urban General Plan. Noted Std. City Planning Act of 1928 was faulty. Said the plan should be:

1.) long range and general
2.) one comprehensive document adopted at one time with all elements integrated
3.) focused on the physical development implications of socio-economic policies
4.) be identified as the city council's (elected official's) plan

1969- Design with Nature, Ian McHarg, brings environmental sensitivity to planning movement with overlay of land capability and critical resources.

1970's- Citizen participation and advocacy planning movements bring power back to the people from the inception of the plan.

1970's-90's- Land use law cases; Appellate and Supreme Court decisions regarding

- Growth management (Golden v. Planning Board of Ramapo, 30 NY 2d 339, 285 N.E. 2d (1972); also Construction Industry Association of Sonoma County (California) v. City of Petaluma, 522 F2nnd 897 (9th Cir. , 1975), cert. Denied 424 US 934 (1976).
- Affordable Housing and the fair share analysis (Southern Burlington County NAACP v. Township of Mount Laurel, 67 N.J. 151, 336 A. 2d 713, 1975)
- Takings and exactions;
    1. Penn Central Transportation Company et al v. City of New York, 1978. No taking occurred as a result of the Grand Central Station being placed in a Landmark Preservation District. The use of the terminal was unimpeded, and useful governmental purpose (landmark preservation) was vindicated. The fact that the landmark Preservation commission recommended denial of a 53 story tower over Grand Central Station did not in itself assure that the tower would be denied zoning, nor was it a taking.

    a.) First English Evangelical Lutheran Church v County of Los Angeles 482 US 304 (1987). The court rejected as a full remedy the declaration of invalidity of the zoning ordinance. Plaintiff could be compensated for time the use of the land was lost due to zoning.

    b.) Nollan v. California Coastal Commission 483 US 825 (1987) Court held that development exaction's are valid so long as there is a reasonable relationship between the imposed exaction and the impact on property. The requirement of an easement for public walkway along the beach was not related to the issuance of a building permit on private property.

c.) Lucas v. South Carolina Coastal Council 505 US 1003 112 S. Ct. 2886 (1992) Court held that when a regulation goes too far to deny all economic use of a property, it will be considered a taking.

d.) Dolan v. Tigard 114 S. Ct. 2309, 2315 (1994) City requirement to dedicate land in a floodplain for a bike path as a condition to approval of expansion of an existing hardware store was not reasonable. Must be an essential nexus between the exaction and the use. The benefit to the landowner must be roughly proportional to the impact of the development. The burden is on the community to create this nexus.

1990s- desktop geographic information systems (GIS) allow for inexpensive sophisticated land capability and land use analysis, court decisions relate to reasonableness of environmental preservation (aquifers, endangered species, floodplains, wetlands).

Appendix B

Ohio Planning Enabling Legislation

- **Ohio Enabling Legislation: Township Planning and Zoning (ORC 519)**

Current Ohio enabling legislation treats the need for a comprehensive plan the same in townships and counties. The ORC does not specify for Counties or Townships what must constitute a Comprehensive plan. This stems from the 1922 Standard Zoning Enabling Act, which was passed prior to the Standard City Planning Enabling Act, both released in the 1920's by the US Department of Commerce. Ohio began planning by zoning, and has left the cart before the horse ever since.

> "For the purpose of promoting the public health, safety, and morals, the board of county commissioners [township trustees] *may, in accordance with a comprehensive plan,* regulate the location, height, bulk, number of stories, and size of buildings and other structures, including tents, cabins, and trailer coaches, percentages of lot areas which may be occupied, setback building lines, sizes of yards, courts, and other open spaces, the density of population, the uses of buildings and other structures including tents, cabins, and trailer coaches, and the uses of land for trade, industry, residence, recreation, or other purposes...and for such purposes may divide all or any part of the ... territory into districts or zones of such number, shape and areas as the board determines. All such regulations shall be uniform for each class or kind of building or other structure or use throughout any district or zone, but the regulations in one district or zone may differ from those in other districts or zones."

Columbia Oldsmobile Inc v. City of Montgomery (1990, 56 Ohio St. 3d 60)

> "R.C. 303.02, regulating rural land use in counties and R.C. 519.02 regulating land use in townships *require* [court emphasis] that zoning regulations promulgated by counties and townships be in accordance with a comprehensive plan. However, there is no statutory requirement that cities such as Montgomery enact a comprehensive community plan pursuant to its power to zone under R.C 713.06 et seq." **Therefore, a comprehensive plan is required in Township and county zoning according to the Ohio Supreme Court.**

The voluntary (but recommended) nature of planning in municipalities in Ohio was stated in the case of City of Pepper Pike (Ohio App. 1979) 63 Ohio App. 2d 34, 409 N.E 2d 258, 13 O.O. 3d 347, 17 O.O. 3d 240). "Because Ohio law does not require a municipality to adopt a comprehensive zoning plan as a condition

precedent to the enactment of zoning legislation, a municipality has the discretion as to whether it will adopt a comprehensive zoning plan; failure to have a zoning plan which is separate and distinct from a zoning ordinance does not render a zoning ordinance unconstitutional." It should be noted that this is for cities, which have greater authority than townships, but with regard to the lack of a requirement for planning, the resultant legal conclusion is the same.

- **Township Authority**

Troy Township has taken the authority given by Ohio Revised Code Section 519 to adopt a comprehensive plan as a basis for zoning, and to adopt township zoning. Township zoning was first adopted in 1972.

Appendix C

Common Elements of Great Communities

1. Central public open spaces (park, square, greenbelt, and water) in every neighborhood as it's centerpiece.
2. Variety of architectural styles, with compatible elements
3. Retention of history through reinvestment and restoration of structures
4. Fine grained downtown or village centers
    a.) Intimate, human scale
    b.) Angle parking, with 2-3 lanes of traffic
    c.) Street trees/planters
    d.) Decorative/historic street lighting (at human scale)
    e.) High quality, permanent, natural materials (stone, brick, stucco, real wood)
    f.) Classic architectural elements, pillars, cornices quoin, deep overhangs. No plain boxes.
    g.) Wide sidewalks, with colored paver accents
    h.) Retention of public and cultural buildings as anchors
    i.) mixed uses (residential, commercial, office)
    j.) Compact blocks with no rapid through traffic. Block design purposefully interrupted. Where through streets exist, make treed boulevards.
    k.) Fine grained signage with theme. No pole signs. Extensive use of painted window signs, labeled awnings, fascia signs, none internally lit. Small hanging signs from buildings.
    l.) Large glass area on first floor to invite the outside in. Divided by vertical posts or pillars as support ands design element.
    m.) Narrow streets
    n.) Restrained color palette. No clashing garish colors.
    o.) "0" setbacks or minimal; (10' setbacks from the right of way). Commercial uses on ROW with paved sidewalk up to storefronts. House with 10-20' courtyards, fenced at ROW.
    p.) Grid pattern streets, short blocks, with low speeds, stop signs at intersections.
    q.) Wall graphics in classic style, restrained palette. Historic murals or advertising.
    r.) Small shops, narrow structures, with greater depth. Parking to rear and angle parking in street.
    s.) Landscape end islands to protect angle parking and provide location for street trees.

5. Highway Commercial Uses with the following attributes:
    a.) Greenbelts along roadway
    b.) Access management, controlled access points, adequate setback for parallel access roads.
    c.) Ground signs rather than pole signs.
    d.) Prohibition of billboards
    e.) Lush landscaping; end islands for parking stalls. Parking lot forested look.
    f.) Signage restraint. Use of franchise type fonts and colors, but neutral backgrounds. No garish or florescent colors. Unified background color on shared signs.
    g.) Avoidance of white, yellow and red plastic internally lit signs.
    h.) Limit number, type and location of signs.
    i.) Limit conversion to inappropriate uses such as flea markets from storage lockers.
    j.) Parallel access roads or interconnecting parking lots to limit curb cuts to major highway.
    k.) Community theme for greenbelt/landscape along road.
    l.) Exclusively retail, no mixture of commercial and residential uses.
    m.) Deep setbacks.

6. Residential Areas with the following attributes
    a.) Narrow streets with either no on street parking for streets with deep (more than 35' from ROW) setbacks, or on-street parking with landscaped end islands for streets with shallow (less than 35' from ROW) setbacks.
    b.) Traffic calming features (center islands with landscaping), eyebrow islands with landscaping), parks at blocks end to divert traffic flow.
    c.) Separation of residential uses from all other uses.
    d.) Curvilinear roads, low speeds.
7. Adopt a General Plan for overall road development.
8. Require development to "fit" and preserve natural features such as topography, wetlands, floodplains, water views, and trees. Encourage public space around such features.
9. Preserve rural areas with the following attributes
    a.) open vistas from the roads
    b.) save natural resources
    c.) retain agriculture where feasible
    d.) retain woods where feasible or replant.
    e.) Narrow roads, wide spacing of curb cuts (300-400 feet)
    f.) Deep setbacks.
    g.) Low densities.
    h.) Retention of rural/historic structures, such as attractive wooden barns.
    i.) Retain tree lines along rural roads.
10. Industrial areas with the following attributes:
    a.) Ground or fascia signage, no pole signs.
    b.) Wide roads with large curve radii for heavy trucks.
    c.) Location in parks, not stripped out along highways.
    d.) Landscaped greenbelt around parking areas.
    e.) Signalized entrance to park areas for safe vehicular entry.

Appendix D

Delaware County Sewer Capacity Study

DCRPC Staff, with the cooperation of the Delaware County Sanitary Engineer

Delaware County Sewer Capacity Study (7/19/99)

Prepared By: Delaware County Regional Planning Commission

Assumption:

1. **Commercial/Industrial Average Water Uses = 1,200 gal/acre/day**
2. **Residential Average Water Uses = 375 gal/du/day**
3. **Pump will be upgraded, but Pipe won't.**

Summary Statistics:

Anticipated Residual Treatment Plant Capacities and Residential Densities After Consideration of the Existing Land Uses, Current Flows, and Proposed Land Uses Based on Zoning and Subdivision Approvals or Partial Approvals Granted as of 6/1/99.

		Existing Land Use (from DALIS)	Future Land Use* (from DCRPC)
Townships	Residential (# DU)	8,491	19,943
	Comm./Indu. (Acres)	779.1	2,540.60
Columbus/	Residential (# DU)	1,028	
Westerville	Comm./Indu. (Acres)	266.32	2097.16**
Water Uses		4.824 mgd	13.4284 mgd

	Remainder Total Water Uses	Overall Residual Density
East Side (total 10.0 mgd)	1.581 mgd	0.36 du/ac
West Side (total 6.0 mgd)	1.123 mgd	0.925 du/ac

Note: *. Pipeline Land Use
Note: **. Total Acreage of Columbus and Westerville within Serwer Service Area
Note: Those figures are not including Zone M (Future Sewer Service Area).

East Alum Creek Lift Station

Zone A

Total Acreage: **934.79 Acres**
Existing **Pump Capacity: 0.504 mgd** **(50% full: 0.252 mgd currently used)**
Pipe Capacity: 4.00 mgd
Used Capacity within Zone A: 0.252 mgd

Potential Developable Area (Agri. Land Use): 363.0 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		21 (9)*					68	**89 (77)***
Multi-F. (# of HU)								
Commercial (Acres)		104.03		61.56		73.32	156.45	**395.36**
Industrial (Acres)				9.99		24.33		**34.32**
Total	**# of HU**	**21 (9)***					**68**	**89 (77)***
	Acreage	**104.03**		**71.55**		**97.65**	**156.45**	**429.68**

Note: (##)* - # of lots inside Subdivisions

Existing Commercial Water Uses for Zone A: 0.252 mg/day
Commercial Reserve Water Uses for Zone A: 0.516 mgd (= 429.68 ac * 1,200 gal/ac/day)

Total Reserve Water Uses for Zone A: 0.5445 mgd (= 0.516 mgd + 77 du * 375 gd)

Cheshire Lift Station

Zone B

Total Acreage: **2,550.42 Acres**

Existing **Pump Capacity: 0.576 mgd** **(80% full: 0.461 mgd currently used)**

Pipe Capacity: 2.351 mgd

Used Capacity within Zone B: 0.2088 mgd (= 0.461 - 0.252 mgd (from Zone A))

Potential Developable Area (Agri. Land Use): 2,215.33 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		177 (123)*	56	30	76	2	237	**578 (524)***
Multi-F. (# of HU)								
Commercial (Acres)		4.73		9.47		26.54		**40.74**
Industrial (Acres)						1.7		**1.7**
Total	**# of HU**	**177 (123)***	**56**	**30**	**76**	**2**	**237**	**578 (524)***
	Acreage	**4.73**		**9.47**		**28.24**	**0**	**42.44**

Note: **(##)* - # of lots inside Subdivisions**

Reserve Water Uses for Zone B: 0.247 mgd (= 524 DU * 375 gd/du + (42.44 ac * 1,200 gal/ac))

Total Reserve Water Uses for Zone A and B: **0.792 mgd** (= 0.5445 mgd (Zone A) + 0.247 mgd (Zone B))

Peachblow Lift Station

Zone C

Total Acreage: **2,254.28 Acres**

Existing **Pump Capacity: 0.72 mgd** **(110% full: 0.792 mgd currently used)**

Pipe Capacity: 3.58 mgd

Used Capacity within Zone B: 0.3312 mgd

Potential Developable Area (Agri. Land Use): 1,827.98 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		203 (157)*	58	120	256	61		**698 (652)***
Multi-F. (# of HU)								
Commercial (Acres)		15.51						**15.51**
Industrial (Acres)								**0**
Total	**# of HU**	**203 (157)***	**58**	**120**	**256**	**61**	**0**	**698 (652)***
	Acreage	**15.51**		**0**		**0**	**0**	**15.51**

Note: **(##)* - # of lots inside Subdivisions**
Public Building - one school existed

Reserve Water Uses for Zone C: 0.301 mgd (= 652 du * 375 gal/du + (15.51 ac * 1,200 gal/ac) + school)

Total Reserve Water Uses for Zone A, B and C: **1.093 mgd** (= 0.5445 mgd (Zone A) + 0.247 (Zone B) + 0.301 (Zone C))

Alum Creek Lift Station

Zone D

Total Acreage: **14,727.11 Acres**
in Townships: 12,022.26 acres
in Columbus: 1,583.69 acres
in Westerville: 1,121.16 acres

Existing **Pump Capacity: 4.32 mgd**
Pipe Capacity: 32.246 mgd
Used Capacity within Zone D: approx. 2.2 mgd

Potential Developable Area (Agri. Land Use): **in Townships - 6,438.83 Acres**

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		3,254 (2,871)*	1,135	766	1,609	1,175		**7,939 (7,556)***
Multi-F. (# of HU)		905				112	248	**1,265**
Commercial (Acres)		53.32		82.92		82.5		**218.74**
Industrial (Acres)		39.15		14.29		36.4	86.21	**176.05**
Total	**# of HU**	**4,159 (3,776)***	**1135**	**766**	**1609**	**1287**	**248**	**9,204 (8,821)***
	Acreage	**92.47**		**97.21**		**118.9**	**86.21**	**394.79**

Note: **(##)* - # of lots inside Subdivisions**
Public Building - three schools existed
Those figures are not including City of Columbus and Westerville.

Total Reserve Water Uses for Zone D: **6.4104 mgd**
in Townships: 3.894 mgd (= 8,821 du * 375 gal/day + (394.79 ac * 1,200 gal/ac) + 3 schools)
in Columbus: 1.9004 mgd (= 1,583.69 ac * 1,200 gal/ac)
in Westerville: 0.616 mgd (= 513.47 ac * 1,200 gal/ac)

(Designed) Optimal Pump Capacity for Zone A, B, C, D and E: **10.0 mgd**

Total Reserve Water Uses for Zone A, B, C, D and E: **8.419 mgd**
(= 0.5445 mgd (Zone A) + 0.247 (B) + 0.301 (C) + 6.4104 (D) + 0.916 (E

Remainder Total Water Uses for Zone A, B, C, D and E: **1.581 mgd** (= 10.0 mgd - 8.419 mgd)
Future Developable # of Residential Lots: 4,216 du (= 1.581 mgd / 375 gd/du)

Total Poential Developable Area (Agri. Land Use) in Zone A, B, C, D and E: **11,622.39 ac**

Overall Residual Residential Density for Zone A, B, C, D and E: **0.36 du/ac** (= 4,216 du / 11,622.39 ac)

Maxtown Lift Station

Zone E

Total Acreage: 2,382 Acres
Existing Pump Capacity: 1.728 mgd
Pipe Capacity: 3.830 mgd
Used Capacity within Zone E:

Potential Developable Area (Agri. Land Use): 777.25 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		553 (472)*	338	216	997	388		**2,492 (2,411)***
Multi-F. (# of HU)								
Commercial (Acres)		0.93		3.14		0.44		**4.51**
Industrial (Acres)		5.13						**5.13**
Total	**# of HU**	**553 (472)***	**338**	**216**	**997**	**388**	**0**	**2,492 (2,411)***
	Acreage	**6.06**		**3.14**		**0.44**	**0**	**9.64**

Note: (##)* - # of lots inside Subdivisions
Assumption: 3.83 mgd Pipe Capacity will not be upgraded.

Reserve Water Uses for Zone E: 0.916 mgd (= 2411 du * 375 gal/du + (9.64 ac * 1,200 gal/ac))

Orange Road Lift Station

Zone F

Total Acreage: 340.49 Acres
Existing Pump Capacity: 0.432 mgd
Pipe Capacity: 1.218 mgd
Used Capacity within Zone F:

Potential Developable Area (Agri. Land Use): 74.665 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		3 (0)*		3	16			**22 (19)***
Multi-F. (# of HU)		76						**76**
Commercial (Acres)		29.29		29.8		31.44		**90.53**
Industrial (Acres)		53.18		104.11		0.11		**157.4**
Total	**# of HU**	**79 (76)***	**0**	**3**	**16**	**0**	**0**	**98 (95)***
	Acreage	**82.47**		**133.91**		**31.55**	**0**	**247.93**

Note: (##)* - # of lots inside Subdivisions

Reserve Water Uses for Zone F: 0.333 mgd (= 95 du * 375 gal/du + (247.93 ac * 1,200 gal/ac))

Hidden Ravines Lift Station

Zone G

Total Acreage: **225.64 Acres**
Existing **Pump Capacity: 0.72 mgd**
Pipe Capacity: 2.128 mgd
Used Capacity within Zone G:

Potential Developable Area (Agri. Land Use): 39.55 acres

	Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		2	3	138			**143**
Multi-F. (# of HU)	510			140	302		**952**
Commercial (Acres)	9.49		117.08	60.02	35.35		**221.94**
Industrial (Acres)	1.12		9.98		14.7		**25.8**
Total # of HU	**510**	**2**	**3**	**278**	**302**	**0**	**1,095**
Acreage	**10.61**		**127.06**	**60.02**	**50.05**	**0**	**247.74**

Reserve Water Uses for Zone G: 0.708 mgd (= 1095 du * 375 gal/du + (247.74 ac * 1,200 gal/ac))

Olentangy Environmental Control Center

Zone H

Total Acreage: **3,981.19 Acres**
Existing **Pump Capacity: 6.0 mgd**
Pipe Capacity: 31.125 mgd
Used Capacity within Zone H:

Potential Developable Area (Agri. Land Use): **in Townships - 1,314.33 Acres**
in Powell - 9.56 Acres

	Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)	1,868 (1,757)*	79	454	80		85	**2,564 (2,453)***
Multi-F. (# of HU)							
Commercial (Acres)	121.98		149.21	26.68	62.69	37.94	**398.50**
Industrial (Acres)	158.14		57.76		37.41		**253.31**
Total # of HU	**1,868 (1,757)***	**79**	**454**	**80**	**0**	**85**	**2,564 (2,453)***
Acreage	**280.12**		**206.97**		**100.1**	**37.94**	**625.13**

Note: **(##)* - # of lots inside Subdivisions**

(Designed) Optimal Pump Capacity for Zone F, G, H, I, J, K and L: **6.0 mgd**

Total Reserve Water Uses for Zone H: **1.67 mgd** (= 2,453 du * 375 gd + (625.13 ac * 1,200 gd/ac))
Total Reserve Water Uses for Zone F, G, H, I, J, K and L : **4.877 mgd**
(= 0.333 mgd(Zone F) + 0.708 (G) + 1.67 (H) + 0.109 (I) + 1.265 (J) + 0.775 (K) + 0.017 (L))

Remainder Total Water Uses for Zone F, G, H, I, J, K and L: **1.123 mgd** (= 6.0 mgd - 4.877 mgd)
Future Developable # of Residential Lots: 2,995 du (= 1.123 mgd / 375 gd/du)

Total Poential Developable Area (Agri. Land Use) in Zone F, G, H, I, J, K and L: **3,237.445 ac**
In Townships: 2,932.395 ac
In Village of Powell: 305.05 ac

Overall Residual Residential Density for Zone F, G, H, I, J, K and L: **0.925 du/ac** (= 2,995 du /3,237.445 a
(This figure is not including Future Service Area (Zone M))

Wingate Farms Lift Station

Zone I

Total Acreage: 696.77 Acres
Existing Pump Capacity: 0.432 mgd
Pipe Capacity: 1.080 mgd
Used Capacity within Zone I:

Potential Developable Area (Agri. Land Use): 528.02 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		229 (224)*	22	12	32			295 (290)*
Multi-F. (# of HU)								-
Commercial (Acres)								-
Industrial (Acres)								0
Total	# of HU	229 (224)*	22	12	32	0	0	295 (290)*
	Acreage	0		0		0	0	-

Note: (##)* - # of lots inside Subdivisions

Reserve Water Uses for Zone I: 0.109 mgd (= 290 du * 375 gal/du)

Liberty Hills Lift Station

Zone J

Total Acreage: 1,930.94 Acres
Existing Pump Capacity: 1.224 mgd
Pipe Capacity: 4.857 mgd
Used Capacity within Zone J:

Potential Developable Area (Agri. Land Use): in Townships - 381.78 Acres
in Powell - 295.49 Acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		1,140 (1,096)*	11	468	139	34		1,792 (1,748)*
Multi-F. (# of HU)		347					272	619
Commercial (Acres)		90.62		133.52		29.79	49.2	303.13
Industrial (Acres)		23.85		1.13			14.1	39.08
Total	# of HU	1,487 (1,443)*	11	468	139	34	272	2,411 (2,277)*
	Acreage	114.47		134.65		29.79	63.3	342.21

Note: (##)* - # of lots inside Subdivisions

Reserve Water Uses for Zone J: 1.265 mgd (= 2277 du * 375 gal/du + 342.21 ac * 1200 gd/ac)

Leather Lips Lift Station

Zone K

Total Acreage: 1,681.90 Acres
Existing Pump Capacity: 1.728 mgd
Pipe Capacity: 7.734 mgd
Used Capacity within Zone K:

Potential Developable Area (Agri. Land Use): 401.89 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		476 (470)*	220	195	24	16	89	**1,020 (1,014)***
Multi-F. (# of HU)		460						**460**
Commercial (Acres)		68.85		102.75	5.05	8.88		**185.53**
Industrial (Acres)								**0**
Total	**# of HU**	**936 (930)***	**220**	**195**	**24**	**16**	**89**	**1,480 (1,474)***
	Acreage	**68.85**		**102.75**		**8.88**	**0**	**185.53**

Note: (##)* - # of lots inside Subdivisions

Reserve Water Uses for Zone K: 0.775 mgd (= 1474 du * 375 gal/du + 185.53 ac * 1200 gd/ac)

Seldom Seen Lift Station

Zone L

Total Acreage: 204.95 Acres
Existing Pump Capacity: 0.259 mgd
Pipe Capacity: 0.775 mgd
Used Capacity within Zone L:

Potential Developable Area (Agri. Land Use): 192.16 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		50 (42)*		4				**54 (46)***
Multi-F. (# of HU)								**-**
Commercial (Acres)								**-**
Industrial (Acres)								**0**
Total	**# of HU**	**50 (42)***	**0**	**4**	**0**	**0**	**0**	**54 (46)***
	Acreage	**0**		**0**		**0**	**0**	**-**

Note: (##)* - # of lots inside Subdivisions

Reserve Water Uses for Zone L: 0.017 mgd (= 46 du * 375 gal/du)

Future Sewer Service Area

Zone M

Total Acreage: **24,264.77 Acres**
Existing **Pump Capacity:**
Pipe Capacity:
Used Capacity within Zone M:

Potential Developable Area (Agri. Land Use): 20,408.01 acres

		Existing Land Use (from DALIS)	Under Construction	Vacant Land (Recorded)	Active Subdivision	Zoned Area (Not Platted)	Active Zoning Request	Total
Single-F. (# of Lots)		1,437 (817)*	10	19	1,744	322		**3,532 (2,912)***
Multi-F. (# of HU)		173			154			**327**
Commercial (Acres)		445.92		154.38	67.03	108.28	10.84	**786.45**
Industrial (Acres)		104.58		46.27		236.43		**387.28**
Total	**# of HU**	**1,610 (990)***	**10**	**19**	**1898**	**322**	**0**	**3,859 (3,239)***
	Acreage	**550.5**		**200.65**		**344.71**	**10.84**	**1,106.70**

Note: **(##)* - # of lots inside Subdivisions**
Public Building - five schools existed

Appendix E

Delaware County Sanitary Sewer Drainage Areas, Acreage

Drainage area	**Acres**
Berlin & Berkshire (Areas A, B, C)	5,739
Area D; subareas	
5	2811.95
6	719.66
7	1087.78
16	137.80
17	352.37
18	443.61
19	423.21
20	299.47
26	804.00
27	271.99
28	781.49
29	1525.43
30	590.00
31	449.31
33	159.65

Totals Area D	10,857.72 ac.
Area E; subareas	
8	1,370.38
9	230.97
10	780.91
Totals Area E	2,382.26 ac
Area F; subareas	
11	299.81
12	196.36
13	491.55
14	699.42
15	734.53
Totals area F	2421.67 ac
Area G minus Columbus contract	2,876.93 ac- 1571= 1305.93

Area H (Orange Point)	340.48 ac.
Area I	225.63 ac.
Area J; subareas	
35 (Green Meadows Ind. Pk)	300.80
36	260.33
37	160.69
Totals area J	721.82 ac
Subtotals	
Area P; subareas	
34	562.09
40	17,635.06
69	6533.14
Totals Area P	24,730.29 ac
Westerville contract	513 ac
Columbus contract area (from Area G)	1571 ac

Appendix F

NRPA Recreational Standards

Excerpted from The Subdivision and Site Plan Handbook, David Listokin and Carole Walker, copyright 1989, Rutgers, State University of New Jersey, Center for Urban Policy Research, New Brunswick, New Jersey.

EXHIBIT 3-3
NRPA RECOMMENDED STANDARDS FOR LOCAL DEVELOPED OPEN SPACE

This classification system is intended to serve as a *guide* to planning – not as an absolute blueprint. Sometimes more than one component may occur within the same site (but not on the same parcel of land), particularly with respect to special uses within a regional park. Planners of park and recreation systems should be careful to provide adequate land for each functional component when this occurs.

NRPA suggests that a park system, at a minimum, be composed of a "core" system of parklands, with a total of 6.25 to 10.5 acres of developed open space per 1,000 population. The size and amount of "adjunct" parklands will vary from community to community, but *must* be taken into account when considering a total, well-rounded system of parks and recreation areas.

Component	***Use***	***Service Area***	***Desirable Size***	***Acres / 1,000 Population***	***Desirable Site Characteristics***
LOCAL / CLOSE-TO-HOME SPACE					
Mini-Park	Specialized facilities that serve a concentrated or limited population or specific group such as tots or senior citizens	Less than ¼ mile radius	1 acre or less	0.25 to 0.5 A	Within neighborhoods and in close proximity to apartment complexes, townhouse developments, or housing for the elderly.
Neighborhood Park / Playground	Area for intense recreational activities, such as field games, craft, playground apparatus area, skating, picnicking, wading pools, etc.	¼ to ½ mile radius to serve a population up to 5,000 (a neighborhood).	15+ acres	1.0 to 2.0 A	Suited for intense development. Easily accessible to neighborhood population – geographically centered with safe walking and bike access. May be developed as a school-park facility
Community Park	Area diverse environmental quality. May include areas suited for intense recreational facilities, such as athletic complexes, large swimming pools. May be an area of natural quality for outdoor recreation, such as walking, viewing, sitting, picnicking. May be any combination of the above, depending upon site suitability and community need.	Several neighborhoods. 1 to 2 mile radius	25 + acres	5.0 to 8.0 A	May include natural features, such as water bodies, and areas suited for intense development. Easily accessible to neighborhood served.
TOTAL CLOSE-TO-HOME SPACE = 6.25-10.5 A / 1,000					

Source: National Recreation and Park Association, *Recreation, Park and Open Space Standards and Guidelines*, p. 56. Copyright © 1983 by the National Recreation and Park Association, 3101 Park Center Drive, Alexandria, Virginia 22302.

ACTIVITY / FACILITY	RECOMMENDED SPACE REQUIREMENTS	RECOMMENDED SIZE AND DIMENSIONS	RECOMMENDED ORIENTATION	NO. OF UNITS PER POPULATION	SERVICE RADIUS	LOCATION NOTES
Badminton	1620 sq. ft.	Singles - 17' x 44' Doubles – 20' x 44' with 5' unobstructed are on all sides	Long axis north-south	1 per 5000	¼ - ½ mile	Usually in school, recreation center, or church facility. Safe walking or bike access
Basketball Youth High School Collegiate	2400-3036 sq. ft. 5040-7280 sq. ft. 5600-7980 sq. ft.	40'-50' x 84' 50' x 84' 50' x 94' with 5' unobstructed space on all sides	Long axis north-south	1 per 5000	¼ - ½ mile	Same as badminton. Outdoor courts in neighborhood and community parks, plus active recreation areas in other park settings
Handball (3-4 wall)	800 sq. ft. for 4-wall, 1000 sq.ft. for 3-wall	20' x 40' – minimum of 10' to rear of 3-wall court. Minimum 20' overhead clearance	Long axis north-south. Front wall at north end	1 per 20,000	15-30 minute travel time	4-wall usually indoor as part of multi-purpose facility. 3-wall usually outdoor in park or school setting
Ice Hockey	22,00 sq. ft. including support area	Rink 85' x 200' (minimum 85' x 185') Additional 5000 sq. ft. support area	Long axis north-south if indoor	Indoor – 1 per 100,000 Outdoor-depends on climate	½ - 1 hour travel time	Climate important consideration affecting no. of units. Best as part of multi-purpose facility.
Tennis	Minimum of 7,200 sq. ft. single court (2 acres for complex)	36' x 78' 12' clearance on both sides 21' clearance on both ends	Long axis north-south	1 court per 2000	¼ - ½ mile	Best in batteries of 2-4. Located in neighborhood/ community park or adjacent to school site
Volleyball	Minimum of 4,000 sq. ft.	30' x 60'. Minimum 6' clearance on all sides	Long axis north-south	1 court per 5,000	¼ - ½ mile	Same as other court activities (e.g. badminton, basketball, etc.)
Baseball Official Little League	3.0 – 3.85 A minimum 1.2 A minimum	Baselines-90' Pitching distance-60 ½' Foul lines-min. 320' Center field – 400'+ Baselines-60' Pitching distance – 46' Foul lines – 200' Center field – 200'-250'	Locate home plate so pitcher throwing across sun and batter not facing it. Line from home plate through pitcher's mound run east-north-east	1 per 5000 Lighted – 1 per 30,000	¼ - ½ mile	Part of neighborhood complex. Lighted fields part of community complex

Field Hockey	Minimum 1.5 A	180’ x 300’ with a minimum of 10’ clearance on all sides	Fall season – long axis Northwest to southeast For longer periods, north to south	1 per 20,000	15 – 30 minute travel time	Usually part of baseball, football, soccer complex in community park or adjacent to high school

ACTIVITY / FACILITY	RECOMMENDED SPACE REQUIREMENTS	Recommended SIZE AND DIMENSIONS	RECOMMENDED ORIENTATION	NO. OF UNITS PER POPULATION	SERVICE RADIUS	LOCATION NOTES
Football	Minimum 1.5 A	160' x 360' with a minimum of 6' clearance on all sides.	Same as field hockey	1 per 20,000	15-30 minutes travel time	Same as field hockey
Soccer	1.7 to 2.1 A	195' to 225' x 330' to 360' with a minimum clearance on all sides.	Same as field hockey	1 per 10,000	1-2 miles	Number of units depends on popularity. Youth soccer on smaller fields adjacent to schools or neighborhood parks.
Golf – Driving Range	13.5 A for minimum of 25 tees	900' x 680' wide. Add 12' width for each additional tee	Long axis south-west. Northeast with golfer driving toward north-east.	1 per 50,000	30 minutes travel time	Part of golf course complex. As a separate unit, may be privately operated.
¼ Mile Running Track	4.3 A	Overall width – 276' Length – 600.02' Track width for 8 to 4 lanes is 32'.	Long axis in sector from north to south to north-west-south-east with finish line at northerly end	1 per 20,000	15-30 minutes travel time	Usually part of high school or in community park complex in combination with football, soccer, etc.
Softball	1.5 to 2.0 A	Baselines – 60' Pitching distance – 46' min. 40' – women Fast pitch field radius from plate – 225' between foul lines. Slow pitch – 275' (men) 250' (women)	Same as baseball	1 per 5,000 (if also used for youth baseball)	¼ - ½ mile	Slight difference in dimension for 16" slow pitch. May also be used for youth baseball.
Multiple Recreation Court (baseball, volleyball, tennis)	9,840 sq. ft.	120' x 80'	Long axis of courts with *primary* use is north-south	1 per 10,000	1-2 miles	
Trails	N/A	Well defined head maximum 10' width, maximum average grade 5%, not to exceed 15%. Capacity rural trails – 40 hikers/day/mile. Urban trails – 90 hikers/day/mile.	N/A	1 system per region	N/A	
Archery Range	Minimum 0.55 A	300' length x minimum 10' wide between targets. Roped clear space on sides of range minimum of 30', clear space behind targets minimum of 90' x 45' with bunker.	Archer facing north + or - 45º	1 per 50,000	30 minutes travel time	Part of a regional / metro park complex

ACTIVITY / FACILITY	RECOMMENDED SPACE REQUIREMENTS	Recommended SIZE AND DIMENSIONS	RECOMMENDED ORIENTATION	NO. OF UNITS PER POPULATION	SERVICE RADIUS	LOCATION NOTES
Combination Skeet and Trap Field (8 station)	Minimum 30 A	All walks and structures occur within an area approximately 130' wide by 115' deep. Minimum cleared area is contained within two superimposed segments with 100-yard radii (4 areas). Shot-fall danger zone is contained within two superimposed segments with 300-yard radii (36 acres)	Center line of length runs northeast-south-west with shooter facing northeast.	1 per 50,000	30 minutes travel time	Part of a regional / metro park complex
Golf 1. Par 3 (18 hole) 2. 9 Hole standard 3. 18 hole standard	• 50-60 A • Minimum 50 A • Minimum 110 A	• Average length –vary 600-2700 yards • Average length – 2250 yards • Average length – 6500 yards	Majority of holes on north-south axis	• 1/25,000 • 1/50,000	½ to 1 hour travel time	• 9 hole course can accommodate 350 people/day • 18 hole course can accommodate 500-550 people/day Course may be located in community or district park, but should not be over 20 miles from population center
Swimming Pools	Varies size of pool and amenities. Usually ½ to 2 A site	Teaching-minimum of 25 yards x 45' even depth of 3 to 4 feet. Competitive-minimum of 25m x 16m. Minimum of 27 sq. ft. of water surface per swimmer. Ratios of 2:1 deck vs. water.	None-although care must be taken in siting of lifeguard stations in relation to afternoon sun.	1 per 20,000 (Pools should accommodate 3 to 5% of total population at a time.)	15 to 30 minutes travel time	Pools for general community use should be planned for teaching, competitive, and recreational purposes with enough depth (3.4m) to accommodate 1m and 3m diving boards. Located in community park or school site.
Beach Areas	N/A	Beach area should have 50 sq. ft. of land and 50 sq. ft. of water per user. Turnover rate is 3. There should be 3.4 A supporting land per A of beach.	N/A	N/A	N/A	Should have sand bottom with slope a maximum of 5% (flat preferable). Boating areas completely segregated from swimming areas.

Appendix G

Model Planned Residential District Resolution

Legislative Intent of the Planned Residential Development District (PRD)

The Township has determined that its rural character is critical to its community character
In order to preserve the character and environment of the Township, to avoid congestion on its narrow roads, and to preserve natural open space, the Township Zoning Commission and Trustees have hereby provided for a Planned Residential Development district.

In a PRD, house lots are clustered, village-like, in the most environmentally appropriate portion of a tract, adjacent to permanently preserved open space. The development rights to the preserved open space are permanently and irrevocably transferred to the village lots. The open space is protected by permanent deed restrictions, plat restrictions and open space easements. The land that transfers its development rights to the PRD may be retained outside of the PRD.

The PRD is intended to be density neutral, meaning that the overall density, or number of house lots on the gross tract is approximately the same as it would be if it had been converted to lots in the underlying district.

Purpose

The purpose of the Planned Residential District is:

a.) To permanently preserve natural topography and trees.

b.) To encourage a less sprawling form of community development that makes more efficient use of land, requires shorter networks of streets and utilities and which fosters more economical development and less consumption of rural land.

c.) To use permanent open space as the development's centerpiece. To provide open space and recreation in close proximity to dwelling units. To link open space to existing or proposed roads, bike paths or sidewalks.

d.) To encourage creativity in design through a controlled process of review and approval of particular plans.

PLANNED RESIDENTIAL DISTRICT (PRD)

Section 11.01 - Definitions

a.) **Open space development**- land that is designed and developed as a residential unit with open space as an integral characteristic. Instead of subdividing an entire tract into house lots of conventional size, the same number of housing lots may be clustered on a reduced amount of acreage. The remaining land in the tract, or on an adjacent tract, is reserved for permanent open space area.

b.) **Net Developable area**- determined by deducting 15% of the subdivision's gross acreage for streets and utilities plus all otherwise unbuildable areas, as follows:

1.) Engineers Wetlands Delineation Manual, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss. Jurisdictional wetlands as regulated by Section 404 of the Clean Water Act consist of a.) hydric soils, b.) hydrophytic vegetation and c.) wetland hydrology (this generally means they support more than 50% wetland vegetation, and are poorly drained soils which are periodically inundated or saturated).

2.) floodplains – areas that lie within a FEMA 100-year floodplain, either with in elevations determined by FEMA or mapped by FEMA.

3.) slopes greater than 20%, including ravines shown to be critical resource areas on the Delaware County Regional Planning Commission Comprehensive Land Use Plan.

4.) utilities rights-of-way and easements for aboveground and currently existing utility structures such as above ground pipelines, and overhead electric transmission (not local service*)* wires that exist prior to the PRD application.

5.) existing bodies of water.

c.) **Permitted density-** The permitted density is the number of dwelling units in the development. Such number shall be determined by dividing the net developable area by the conventional lot size for the zoning district being overlaid. If the proposed open space development is located in more than one zoning district, then the total number of dwelling units allowed within the tract shall be the sum of those allowed for the portion of land lying within each zoning district.

If land is dedicated to public use as part of the PRD development plan, and such dedicated tract will house public buildings (such as a school, fire station, police station, public recreational facility, township hall) that are approved by the Zoning Commission, and if the public buildings occupy less than 30 % of the tract so dedicated, the full land area of the tract dedicated to a public use may be included in the net developable area for density calculations.

If the buildings on the public dedication tract comprise more than 30% of the land area of the dedicated tract, the amount of acreage in excess of 30% lot coverage of the dedicated tract shall be subtracted from the net developable area and reduce overall allowable project density.

d.) **Open space-** land that shall not be built upon and may be classified as either "common" or "natural" open space, or a combination of both. It does not include the areas of individual fee simple lots conveyed to homeowners. Open space land may either be owned by the homeowner's association, or may be owned by a third party if protected by an open space easement which permanently and

irrevocably transfers the development rights from the open space land to the homeowner's association of the PRD.

1.) Common area- open space set-aside for passive or active recreational purposes. These areas may contain accessory buildings and improvements necessary and appropriate for recreational uses. If deemed appropriate by the zoning commission, common area may incorporate land for on site wastewater disposal.
2.) Natural area- land set-aside in its natural condition for the benefit of the residents of the PRD. Typical natural conditions might be, but are not limited to ravines, wetlands, floodplains, woods, scenic views, or appropriate agriculture.

e.) **Open space easement**- a recorded legal instrument, which permanently and irrevocably transfers all development rights, other than for approved open space uses, to the PRD to be controlled by the Home Owner's Association. The easement shall be tied to the title of the land regardless of the subsequent ownership of the land.

f.) **Home Owner's Association**- A private non-profit corporation, association or other non-profit entity established by the developer to maintain such open space and facilities as may be dedicated to subdivision residents. Membership in such an association shall be mandatory for property owners and made a required covenant in any deed issued. It shall provide voting and use rights in the open space areas when applicable and may charge dues to cover expenses, which may include tax liabilities of common areas, recreational or utility facilities. Articles of association or incorporation must be recorded pursuant to subdivision plat approval.

g.) **Single family dwellings**- detached, individual dwelling units, which accommodate one family related by blood or marriage or up to five unrelated individuals living as one housekeeping unit. The type of construction of such units shall conform any of the following:

1.) The CABO One and Two family dwelling code.
2.) Be classified as an Industrialized Unit inspected by the State of Ohio
3.) Be classified as a "permanently sited manufactured home" as defined in section 3781.06 of the Ohio Revised Code. *

Section 11.02 - Initial Discussions

The applicant is encouraged to engage in informal consultations with the Zoning Commission and the Delaware County Regional Planning Commission prior to formal submission of a development plan and application to amend the zoning map.

No statement by officials of the Township or the DCRPC shall be binding upon either at the concept stage.

In addition to any other procedures set out in this Resolution, all applications for amendments to the zoning map to rezone lands to this PRD district shall follow the procedures herein.

Section 11.03 - Location of Planned Residential Developments

Planned Residential Development zoning may be overlaid on the FR-1 and the R-2 zones pursuant to a zoning map amendment approved by the township.

Section 11.04- Permitted Uses

1.) Single Family detached residential dwelling units in FR-1 and R-2 PRDs; single family attached dwellings (condominiums separated by vertical firewalls) in R-2 PRDs.

2.) Common Area- upon approval of the final development plan by the township, the following uses and improvements may be permitted in the common area:
a.) Outdoor recreation, such as golf, swimming, tennis skating and other forms of predominantly outdoor recreation, except shooting ranges. If the common areas are intended for spectator events, they shall be so stated and approved as part of the development plan. If outdoor recreation areas are intended to be used as a profit basis as a private, commercial venture they shall be so stated and approved as part of the development plan.
b.) Accessory service buildings and structures incidental and pertinent to outdoor recreation, as set forth in paragraph a.) above, where said accessory service buildings and structures are necessary to the pursuit of a permitted recreational use on the premise.

3.) Natural Area- restricted to passive recreational uses such as fishing, swimming, hiking, canoeing, and such other recreation that does not alter any of the natural features of the area. Agriculture may also be used as natural open space, provided it does not permit hog operations, poultry barn, fur bearing farms or feed lots. Accessory buildings should be discouraged in the natural area.

4.) A convenience store without fuel sales according to NAICS (Executive Office of the President of the United States industry classification manual) number 445120, provided it does not exceed .5% of the total residential square footage to be constructed, and it is located within the tract, but front on a major arterial street adjacent to the PRD. For example, if there were 100 houses, each with a square footage of 2000 square feet, the general or convenience store could be provided up to 1000 square feet. The Township may regulate the architecture, and site plan of such store in the final development plan.

Section 11.05 - Design Features Required of a PRD

The development plan shall incorporate the following standards:

a.) Open space shall be distributed throughout the development as part of a unified open space system, which shall serve to unify the development visually and functionally, and buffer surrounding land uses;

b.) No building shall be constructed within 50 feet of the perimeter property line of the overall PRD tract;

c.) The zoning commission may require walkways to connect all dwelling areas with open space and to interconnect the open spaces;

d.) Moderate to thick coverage by trees and natural undergrowth is desirable to most intended functions of the open space. Where such foliage exists naturally, it should be retained where practicable. Where adequate foliage does not exist, the Zoning Commission may require establishment of such tree cover or other foliage as may be necessary to achieve the purpose of the open space and the buffer of adjacent uses;

e.) Scenic areas and views shall be preserved to the maximum extent practicable, including views from the adjacent road;

f.) Open spaces may be used for the natural disposal of storm water drainage. No features should be designed which are likely to cause erosion or flooding of the proposed or existing houses;

g.) Minimum overall tract size for a PRD is 20 acres, unless adjacent to a neighborhood of comparable density or design, in which case the Zoning Commission may permit the tract size to be reduced to 10 acres;

h.) Improvements within the PRD shall conform to the subdivision standards for Delaware County Ohio;

i.) Wetlands, steep (over 20%) slopes, forests, 100 year floodplains, ravines and noted wildlife habitat are to be preserved to the greatest extent possible;

j.) The permitted density shall not be exceeded.

k.) The required percent of open space shall be provided. The percent of open space required varies according to the zoning district overlaid;

FR-1- 40% (of gross tract area) open space
R-2: - 20% (of gross tract area) open space

In calculating open space, the areas of fee simple lots conveyed to homeowners shall not be included. Unbuildable areas, as provided in 11.03 (b), may count for up to 50% of the required open space. That portion of land dedicated to public purposes (see section 11.03, c.) that remains either open and unbuilt upon by any structure (including parking) or which houses a recreational facility approved by the Zoning Commission on the Development Plan may count toward the open space requirement.

l.) No residential dwelling structures shall be constructed within the 100-year floodplain of any stream or river.

m.) In FR-1 zones, water supply and sanitary sewage disposal shall be as approved by the Delaware County Board of Health and/or the Ohio EPA. Feasibility shall be indicated by the appropriate agency at the time of the preliminary plan. In the R-2 zone, centralized water supply and sanitary sewage disposal systems shall be provided, subject to Delaware County Sanitary Engineer, Board of Health and Ohio Environmental Protection Agency approval. Feasibility of water supply and wastewater disposal systems shall be indicated by the appropriate agencies at the time of the preliminary plan.

n.) The project architect shall give due regard to the footprints, building orientation, massing, roof shape, pitch and exterior materials to blend with other traditional or historic architecture in the community or with the site. All residential roofs must be a minimum of 5/12 pitch, or as approved by plan.

o.) House lots shall be fenced for safety if they abut agriculture.

p.) Sidewalks or paths shall be provided in the village area. Sidewalks shall be separated from the paved street surface by at least five feet (5') of landscaped or grassed green strip. Deciduous, broad leaf street trees (i.e. maple, oak, sycamore, chestnut, sweet gum) shall be planted (or saved) at the rate of one per 60 feet of frontage on both sides of the street. Trees must be at least a 2.5-inch caliper at planting. Trees may be placed in the 5 foot green strip if permitted by the county engineer and/or township trustees, otherwise they shall be placed in the front lawn of the residences.

q.) Setbacks- Houses shall be setback a minimum of 50 feet from the village street centerline, or as approved per plan.

r.) Minimum lot size:, none, per plan

s.) Minimum Lot Width at the building line- none, per plan.

t.) Minimum Side yards- Eight feet each side for houses, five feet from an attached garage to side lot line.

u.) Detached garages with one hour fire rated construction may be constructed within three feet of the lot line provided the garage is located to the rear of the house, and that the garage does not abut an adjacent residence.

v.) Minimum Rear yard- Fifty (50) feet for houses and attached garages, or as per plan.

w.) Street layouts should be looped, grid, square or other traditional village layout. Cul-de-sacs should be avoided where street connections are possible.

x.) Attached garages shall be setback at least 12 feet from the front building line of the house, if on street parking is not provided.

y.) Porches- A covered porch or portico across some portion of the front of the house is a recommended structural design element.

z.) Street lighting, if provided, must be of white light, with light standards of traditional or Victorian design (no modern gooseneck lamps or yellow lighting). Maximum height of standards is 16 feet.

aa.) Building Height Limits - No buildings in this district shall exceed thirty-five (35) feet in height measured from the elevation of the threshold plate at the front door to the highest point of the roof. Chimneys, barns, silos, grain handling conveyors, church spires, domes, flag poles, and elevator shafts are exempted from the height regulation and may be erected to any safe height, not to exceed one-hundred (100) feet in height. No windmills, antennas, or towers shall be constructed to a height greater than the distance from the center of the base thereof to the nearest property line of said tract and not to exceed one hundred (100) feet in height.

bb.) Building Dimensions - (Floor space requirements) - Each detached single family dwelling hereafter erected in this district shall have a living area not less than one-thousand (1000) square feet or eight-hundred (800) square feet of ground floor living area, if the residence is multi-story. All such living areas shall be exclusive of basements, porches or garages.

All attached single family structures constructed within this district shall contain the following minimum living area:

One (1) bedroom unit-	800 square feet
Two (2) bedroom unit	900 square feet
Three or more bedroom units	1000 square feet

cc.) Landscaping - All yards, front, side and rear, shall be landscaped, and all organized open spaces or non-residential use areas shall be landscaped and shall meet the requirements of article XXIII, unless a variation from these standards is specifically approved as part of the final development plan. A landscape plan showing the caliper, height, numbers, name and placement of all material, prepared by a licensed landscape architect shall be approved as a part of the final development plan.

dd.) Parking - Off-street parking shall be provided, at the time of construction of the main structure or building, with adequate provisions for ingress and egress according to the development plan. In preparing and approving the parking plan, the provisions of Article XXI of this Resolution, when appropriate, shall be incorporated.

ee.) Signs - Except as provided under the provisions of this article for home occupations or as controlled by Article XXII (Signs) of this Resolution and except as permitted by the Board of

Zoning Appeals incidental to Conditional Uses, no signs shall be permitted in this district except a "For Sale" or "For Rent or Lease" sign advertising the tract on which the said sign is located. Such sign shall not exceed six (6) square feet in area on each side.

ff.) The owner or developer of a subdivision or similar area, upon the conditions and for the time period established by the Zoning Commission, may erect one (1) sign not exceeding thirty-two (32) square feet in area per side advertising said subdivision, development or tract for sale.

gg.) Exterior Lighting- All exterior lighting shall meet the lighting requirements of Article XXI of this zoning resolution, unless a variation from these standards is specifically approved as part of the final development plan.

hh.) Other required provisions as stated in this ordinance. The Township Zoning Commission and/or Board of Trustees may impose special additional conditions relating to the development with regard to type and extent of public improvements to be installed, landscaping, development, improvement and maintenance of common open space, and any other pertinent development characteristics.

Section 11.06 - Required findings for Approval of a Planned Residential Development

The Zoning Commission and Trustees may approve a Planned Residential Development zoning overlay provided they find that the proposed use complies with all of the following requirements:

1.) That the proposed development is consistent in all aspects with the intent, and general standards of this zoning resolution.
2.) That the proposed development is in conformity with the comprehensive plan or portion thereof as it may apply.
3.) That the proposed development advances the general welfare of the township and the immediate vicinity.
4.) That the proposed plan meets all of the design features required in this resolution.
5.) That the proposed development is in keeping with the existing land use character and physical development potential of the area.
6.) That the proposed development will be compatible in appearance with the remainder of the district; and
7.) That the minimum open space as required herein has been provided.

Section 11.07- Application Procedure

An application for a PRD requires:

Step 1. A change in the zoning map to show the PRD as an overlay zone. This includes a preliminary development plan. The change in the zoning map is considered a legislative amendment, and is subject to referendum by the citizens of the township.

A rezoning to another district may be submitted simultaneously with a PRD overlay application. For example, if a PRD/R-2 were desired for land zoned FR-1, a rezoning from FR-1 to R-2 would be filed with the application for PRD. No double fees would be charged. In order to receive the PRD at the higher density, both zonings would have to be approved.

Step 2. The submission and approval of a final development plan. Unless simultaneously adopted as part of the zoning map change, the subsequent approval or disapproval of the final development plan is an administrative act by the Township, based on the PRD standards herein adopted, which is an administrative action, but is subject to the review and approval by the township for appropriateness.

Section 11.08 - Process for Amendment

Planned Residential Developments may be approved according to one of the following procedures:

1.) Simultaneous with the application for a PRD, the applicant shall schedule a walkabout on the site with the Zoning Commission to familiarize all parties with the lay of the land, and the general design intent of the applicant

2.) The applicant, being the owner of subject real estate, may apply for designation of the land as a PRD overlay. A preliminary development plan must be submitted with the application. If the application is approved, then the zoning map is amended to PRD overlay, either FR-1/PRD or R-2 /PRD. (This is a legislative act and is subject to referendum).

3.) The applicant, being an owner of real estate, may apply for designation of the land as a PRD and simultaneously submit, along with the application for the zoning change, a final development plan acceptable to the township and in accordance with the final development plan standards set forth herein. (This is a legislative act and is subject to referendum).

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Section 11.09 - Effect of Property Owner Initiated PRD Zoning Overlay On The Previous Zone.

Upon approval of the PRD district, all previous regulations shall no longer be in effect, and the regulations for the PRD shall prevail.

Section 11.10 - Accessory Uses

1.) Non-residential uses of a religious, cultural, educational or recreational nature or character to the extent that they are designed and intended to serve the residents of the Planned Residential District. Said facilities may be designed to serve adjoining neighborhoods or residents if they are located in such proximity to major thoroughfares as to permit access without burdening residential streets.

2.) Schools, if they occupy a lot of not less than 1 acre, with adequate area for indoor and outdoor recreation, and additional setbacks as may be necessary to avoid disruption to adjacent residences.

3.) Adult Family Homes as provided for and defined in ORC Chapter 3722

4.) Child Day Care provided in the provider's permanent residence for six or fewer children, who are not members of the immediate resident family, provided the day care is accessory to the use of the dwelling as a residence.

5.) Temporary structures such as mobile office and temporary buildings of a nonresidential character may be used incidental to construction work on the premises or on adjacent public projects or during a period while the permanent dwelling is being constructed. The user of said structure shall obtain a permit for such temporary use, which permit shall be valid for six (6) months and may be renewed not more than two (2) times. Renewal of the permit shall be at the discretion of the Zoning Inspector on finding of reasonable progress toward completion of the permanent structure or project. The Zoning Inspector may require provisions for sanitary waste disposal, solid waste disposal and water supply, as he/she deems necessary. The fees for such permit and renewals thereof shall be established by the Board of Township Trustees. Said temporary structure shall be removed no later than ten (10) days after expiration of said permit. No unit

shall be occupied as a residence without approval of the Board of Zoning. Appeals as granted in compliance with the provisions of Article XXVIII of this Resolution.

6.) Conducting of casual sale of goods in what are commonly referred to as garage sales or yard sales provided that such sales shall not be conducted on more than six (6) days in any calendar year or more than three (3) consecutive days. The sale and parking area shall be out of the road right-of-way so as not to interfere with traffic on adjacent thoroughfares.

7.) Home occupation, conducted by the resident of a permitted dwelling subject to the restrictions of the zoning resolution.

8.) Licensed Family Homes as provided for in ORC 5123.19 (k). All such facilities shall possess all approvals and/or licenses as required by state or local agencies.

Section 11.11- CONDITIONAL USES

A. Model Homes in Subdivisions, the same being defined as residential-type structures used as sales offices by builders/developers and to display the builder's/developer's product. The same may be furnished within, since its purpose is to display to prospective buyer the builder's/developer's features (such as exterior siding treatment, roofing materials, interior trim, moldings, floor coverings, etc.), in the environment of a completed home. Model homes may be staffed by the builder's/developer's sales force. Model homes shall be subject to the following restrictions:

1 . Lighting: All exterior lighting, except for security lighting, must be down-lighting, so that no light shall be cast onto adjoining residential properties. All off-street parking areas must be illuminated. All exterior lighting, except for security lighting, shall be extinguished at the closing time of the model home.

2. Parking: All model homes shall provide off-street paved parking for the public. Such off-street paved parking shall be located as directed by the Board of Zoning Appeals. The number of required parking spaces shall be six (6) per model home. The driveway of the model home may be utilized for not more than two (2)-parking spaces.

3. Screening and Trash Receptacles: Landscape drawing shall be required and show adequate landscaping and screening from adjoining residential lots, together with the clear marking of the boundaries of the model home lot. Trash receptacles shall be provided around the model home for use by visitors to the home.

4. Termination of Use: The use of model homes within a residential subdivision, or within any single phase of a multi-phase subdivision, shall terminate when building permits have been issued for ninety percent (90%) of the lots.

5.) Model Home signs: Model home signs may be approved by the Board of Zoning Appeals provided the following conditions are met:

a.) the sign shall not exceed 16 (sixteen) square feet per side with 32 (thirty two) square feet maximum total display area;
b.) the overall height of the sign shall be no more than four (4) feet above grade.
c.) model home sign shall be located on the same lot as the model home.

6.) If sign information is not presented at the time the development is submitted and approved, the applicant will apply for a conditional use permit to the Board of Zoning Appeals, which will rule on additional sign conditions.

Section 11.12 - PROHIBITED USES:

A. No use not specifically authorized by the express terms of this article of the Zoning Resolution shall be permitted.

B. Outdoor storage of inoperable, unlicensed, or unused vehicles or trailers, for a period exceeding fourteen (14) days is prohibited. Said vehicles if stored on the premises shall be enclosed within a building so as not to be visible from any adjoining property or public road.

C. No trailer of any type, no boats, no motor homes nor equipment of any type shall be parked in front of the building line on any parcel within this district for more than twenty-four (24) hours in any ten (10) day period. If a dwelling is located on said lot, the building line shall be considered to be the front wall of the dwelling even if said dwelling is located behind the minimum building line established by this code or the restrictions on the plat or subdivision.

D. No motor home, mobile home or camper of any type may be occupied by a guest of the resident/owner for more than fourteen (14) days. No more than one (1) motor home, trailer, or camper may be occupied for such a period on any lot or parcel.

E. Except as specifically permitted in Section 11.03 g or approved in the approved development plan, no manufactured housing/mobile home shall be placed or occupied in this district.

F. No trash, debris, unused property, or discarded materials which creates an eyesore, hazard or nuisance to the neighborhood or general public shall be permitted to accumulate on any lot or portion thereof.

G. In subdivided areas that meet the requirements of section 711.131 of the Ohio Revised Code, the keeping of livestock and poultry is prohibited.

H. Cellular telephone towers, if, upon notification of objection to the sighting of the cellular tower is met, per requirements of section 519.211 of the Ohio Revised Code (cellular towers would be prohibited).

Section 11.13 – DEVELOPMENT PLANS

A. Preliminary Development Application – Upon application for a PRD District, the owner(s) of lots or land within the Township shall simultaneously submit a preliminary development plan. The preliminary development plan shall show the intended layout of the site in accordance with PRD standards.

Fifteen copies of the preliminary development plan shall be submitted to the Zoning Commission with the PRD application. The plan shall include in text and map form, the following:

1.) The proposed size and location of the PRD district, at a scale of at least 1" = 200', showing topographic contours of at least 5' intervals, wooded areas, wetlands, adjacent (within 200') structures, 100 year floodplains.

2.) Suggested architectural designs for all structures and signs.

3.) The intended general provisions for water, fire hydrants, sanitary sewer and surface drainage, to the extent known. Information regarding existing pipe sizes, capacities, committed flows, and potential needed upgrades must be documented.

4.) The relationship of the proposed development to existing and probable uses of surrounding areas, including easements, rights of way, proposed drainage and public utilities.

5.) A design of the open space and proposed description of its use and maintenance.

6.) Specific statements of divergence from the development standards in this article.

7.) Proposed location of all structures

8.) Preliminary Traffic Impact Analysis, based upon new trip generation.

9.) The responsibility and maintenance of any proposed on site sewage disposal systems, and letter from the appropriate county or state agency declaring the site feasible for such design.

10.) All required design features from Section 11.08.

11.) Emergency service provisions (letter from Fire and Police departments).

12.) Phasing plans.

B. Final Development Plan – The applicant shall submit fifteen (15) copies of the final development plan to the Zoning Commission with the application. The Zoning Commission shall be the review authority for the final development plan.

The review and approval of the Final Development Plan is an administrative, not legislative act, unless the final development plan is simultaneously submitted with application for the zoning change.

If, in the opinion of the Zoning Commission, there is substantial deviation from the approved preliminary development plan, the final development plan shall state the areas of divergence. The final development plan shall include in text and map form the following:

1. A survey plat and legal description signed by a registered Ohio surveyor showing the size and location of the proposed Planned Residential District.

2. The plan will be to scale of at least 1" =100' and will show the proposed uses of the site, location of buildings and structures, streets and roadways, and parking areas, all required design features, and the following:

a. The general development character of the tract including the limitations or controls to be placed on all uses, with proposed lot sizes, minimum setback requirements. Other development features, including landscaping, entrance features, signage, pathways, sidewalks, recreational facilities and all commonly owned structures shall be shown in detail which identifies the quantity and type and typical section of each. For example, the landscape plan shall identify each plant, shrub or tree, its name, its size at planting and rendering of how that section of the development would look in elevation.

b. Environmentally sensitive areas such as the 100 year floodplain, wetlands, and slopes greater than 20% shall be mapped. No structure (other than approved drainage structures) shall be constructed within the limits of the 100-year floodplain as mapped by FEMA on the Flood Insurance Rate Maps for Delaware County.

c. Architectural design criteria including materials, colors and exact renderings for all structures and criteria for proposed signs, with proposed control procedures. These are specific renderings of the elevations of structures. Any modification of these structures shall require re-approval of the development plan by the Township. Materials and colors shall be submitted for approval.

d. The proposed provisions for water, fire hydrants, sanitary sewer and surface drainage with engineering feasibility studies or other evidence of reasonableness. Line sizes and locations, detention basins and drainage structures shall be drawn.

e. A traffic impact analysis by a competent traffic engineer, showing the proposed traffic patterns, public and private streets and other transportation facilities, including their relationship to existing conditions, topographical and otherwise.

f. The relationship of the proposed development to existing and probable uses of surrounding areas during the development timetable.

g. Location of schools, parks and other public facility sites, within or adjacent to the site.

h. The proposed time schedule for development of the site including streets, buildings, utilities and other facilities.

i. If the proposed timetable for development includes developing the land (including open space) in phases, all phases developed after the first, which in no event shall be less than five (5) acres or the whole tract (whichever is smaller), shall be fully described in textual form in a manner calculated to give township officials definitive guidelines for approval of future phases.

j. The ability of the applicant to carry forth this plan by control of the land and the engineering feasibility of the plan.

k. Specific statements of divergence from the development standards in Articles XXI (General Standards) XXII (Signs) AND/OR XXIII (Landscaping) or existing County Subdivision regulations or standards and the justification therefore, unless a variation from these development standards is specifically approved, the same shall be complied with. Since the Final Development Plan is an exact rendition of what is intended to be built, all standards for setback, landscaping parking and lot size are per plan.

l. Evidence of the applicant's ability to post a bond or an irrevocable letter of credit if the plan is approved assuring completion of public service facilities to be constructed within the project by the developer.

m. The development plan shall bear the seal of an architect, landscape architect, and professional engineer licensed to practice in the state of Ohio.

C. Effect of Final Development Plan Approval - The Final Development Plan as approved by the Township Zoning Commission shall be the subject of a subdivision plat to be approved by the Delaware County Regional Planning Commission if required by Ohio Revised Code. Where the land is to be developed in phases, plans for phases subsequent to the first phase shall be submitted in accordance with the timetable in the approved development.

D. Failure to Maintain-If the organization established to own and maintain the open space, or the owners of dwelling units within the PRD shall, for any reason, fail to maintain the open space in reasonable order and in accordance with the final development plan, the township trustees shall serve written notice upon such organization of the deficiencies and demand that corrective action be taken within 14 days.

If such maintenance shall not have been performed within 14 days, the Township, in order to preserve the taxable values of the properties within and adjacent to the PRD, may enter upon the open space and maintain it for a period of up to one year. Said entry shall not vest any rights in the public to use and enjoyment of the open space. The cost of such maintenance shall be assessed against the properties within the PRD in direct relation to their proportionate interest in the open space and shall become a tax lien on such properties.

E. Plat Required – If required by applicable law, no use shall be established or changed, and no structure shall be constructed or altered until the required subdivision plat has been prepared and recorded in accordance with the Subdivision Regulations for Delaware County, Ohio, and this Resolution. The subdivision plat and plan shall be in accordance with the approved development plan and shall include:

1 . Site arrangement, including building setback lines and space to be built upon within the site; water, fire hydrants, sewer, all underground public utility installations, including sanitary sewers, surface drainage and waste disposal facilities; easements, access points to public right-of-way, parking areas and pedestrian ways; and land reserved for non-highway service use with indication of the nature of such use.

2. Deed restrictions, covenants, easements and encumbrances to be used to control the use, development and maintenance of the land, the improvements thereon, and the activities of occupants, including those applicable to areas within the tract to be developed for non-residential uses.

3. In the event that any public service facilities not to be otherwise guaranteed by a public utility have not been constructed prior to the recording of the plat, the owner of the project shall post a performance bond in favor of the appropriate public officers in a satisfactory amount ensuring expeditious completion of said facilities within one (1) year after the recording of said plat. In no event, however, shall any zoning certificate be issued for any building or use until such time that the facilities for the phase in which the building or use is located are completed.

F. Extension of Time or Modification of Final Development Plan

a.) An extension of the time limit for either filing the required subdivision plat or recording the approved subdivision plat may be granted by the Zoning Commission without public hearing provided the Board finds that such an extension is not in conflict with the public interest, that there is a legitimate purpose and necessity for such extension, and that the applicant shows evidence of a reasonable effort toward the accomplishment of the filing and/or recordation.

b.) A request for minor changes to the final development plans may be approved by the Zoning Commission without being subject to the same procedures as the original application.

c.) In the case of a request for a modification or amendment to the approved final development plan that represents a substantial departure from the intent of the original proposal, said modification or amendment shall be subject to the same procedure and conditions of final

development plan approval as the original application. The following shall be considered substantial departures from the original application.

(i) A change in the use or character of the development

(ii) An increase in overall lot coverage of structures and off-street parking

(iii) An increase in the density

(iv) An increase in the problems of traffic circulation and public utilities;

(v) A reduction in approved open space;

(vi) A reduction of off street parking and loading space;

(vii) A reduction in required pavement widths;

(viii) A reduction of the acreage in the planned development;

(ix) Any other departure from the approved development plan which is deemed substantial by the Zoning Commission.

G. Administrative Review - All plats, construction drawings, restrictive covenants and other necessary documents shall be submitted to the Zoning Inspector, the Zoning Commission or their designated technical advisors for administrative review to ensure substantial compliance with the development plan as approved.

* Permanently Sited Manufactured Housing:

a.) Must be constructed pursuant to the HUD Code (Manufactured Home Construction and Safety Standards Act, 42 U.S.C. §§ 5401) after January 1, 1995.
b.) Be attached to a permanent frost-free foundation.
d.) Must be connected to appropriate utilities.
e.) Have a length of at least 22 feet and a width of at least 22 feet.
f.) Have at least 900 square feet of living area.
g.) Have conventional residential siding.
h.) Have a minimum 6-inch eave overhang.
i.) Have a minimum 3:12 “A” roof pitch.
j.) Have removed its indicia of mobility (temporary axles, trailer tongue, running lights) upon placement upon its foundation.
k.) Be intended to be assessed and taxed as permanent real estate, not personal property. The title for such structure shall be surrendered to the county Auditor upon its placement on its permanent foundation, and such surrender shall be notice to the Auditor to tax said structure as real estate from that day forward.
l.) Meet all applicable zoning requirements (including square footage).

Appendix H

Permanently Sited Manufactured Housing

Philip C. Laurien, AICP

Proposed zoning amendments to incorporate the intent of SB 142 re permanently sited manufactured housing. Amend the definitions section with the following definitions.

I. Definitions-

Single family dwellings- detached, individual dwelling units, which accommodate one family related by blood, adoption, or marriage, or up to five unrelated individuals living as one housekeeping unit. The type of construction of such units shall conform either to the OBOA, or CABO One and Two family dwelling code, or other applicable building code, or be classified as an Industrialized Unit under the Ohio Basic Building Code, or conform to the Ohio Revised Code [ORC 303.212- counties; ORC 519.212-townships] definition of permanently-sited manufactured housing, as follows:

Permanently Sited Manufactured Housing must:

a.) Be constructed pursuant to the HUD Code (Manufactured Housing Construction and Safety Standards Act of 1974, 88 stat.700, 42 U.S.C.A. 5401 and 5403) after January 1, 1995. It must also have a permanent label or tag attached to it as specified in 42 U.S.C.A 5415, certifying compliance with all federal construction and safety standards.

b.) Be attached to a permanent foundation (defined in ORC 3781.06 as permanent masonry, concrete or locally approved footing or foundation).

c.) Be connected to appropriate facilities (i.e. gas , water sewage disposal systems, electric, etc.).

d.) Have a length of at least 22 feet and a width of at least 22 feet, as manufactured.

e.) Have at least 900 square feet of living area, or whatever greater square footage is uniformly required by zoning.

f.) Have conventional residential siding (i.e. lap, clapboard, shake, masonry, vertical natural materials), a 6-inch minimum eave overhang, and a minimum “A” roof pitch of 3:12.

g.) Not be located in a manufactured home park as defined by Section 3733.01 of the Ohio Revised Code.

h.) Meet all applicable zoning requirements uniformly imposed (i.e. minimum lot size; setbacks; minimum dwelling unit square footage) on all single-family dwellings in the district, (excepting contrary requirements for minimum roof pitch and requirements that do not comply with HUD code standards for manufactured housing).

Manufactured home – a non self- propelled building unit or assembly of closed construction fabricated in an off site facility, and which conforms with the federal construction and safety standards established by the Secretary of Housing and Urban development (HUD) pursuant to the "Manufactured Housing Construction and Safety Standards Act of 1974, and that has a label or tag permanently affixed to it certifying compliance with all applicable federal construction and safety standards. A manufactured home is transportable in one

or more sections, which, in the traveling mode, is eight body feet or more in width or forty body feet or more in length or, when erected on site, is three hundred twenty or more square feet, and which is built on a permanent chassis, designed to be used as a dwelling with or without permanent foundation when connected to required utilities. Calculations used to determine the number of square feet in a structure's exterior dimensions are measured at the largest horizontal projections when erected on site. These dimensions include all expandable rooms, cabinets, and other projections containing interior space, but do not include bay windows. (ORC 4501.01) For the purposes of this section, chassis means a steel frame specifically designed and constructed with wheels or running gear and towing tongue installed for transportation on public streets or highways and designed without the need for a permanent foundation arriving at the site complete and ready for residential occupancy except for minor and incidental unpacking and assembly operations; location on wheels, jacks, blocks, or other foundation, connection to utilities and the like.

Mobile home- a non self-propelled building unit or assembly of closed construction that is fabricated in an off-site facility, **built** on a permanent movable chassis which is 8 feet or more in width and more than 35 feet in length, which when erected on site is 320 or more square feet, that is transportable in one or more sections and which does not qualify as a manufactured home or industrialized unit.

Industrialized Unit- means a building unit or assembly of closed construction fabricated in an off site facility, that is substantially self sufficient as a unit or as a part of a greater structure and that requires transportation to the site of intended use. Industrialized unit includes units installed on the site as independent units, as part of a group of units, or incorporated with standard construction methods to form a completed structural entity. Industrialized unit does not include a manufactured or mobile home as defined herein.

Appendix I

Acronyms

ADT – **A**verage **D**aily **T**raffic

AICP – **A**merican **I**nstitute of **C**ertified **P**lanners

APA – **A**merican **P**lanning **A**ssociation

BIA – **B**uilding **I**ndustry **A**ssociation

BZA – **B**oard of **Z**oning **A**ppeals

DALIS - **D**elaware **A**rea **L**and **I**nformation **S**ystems

DCRPC - **D**elaware **C**ounty **R**egional **P**lanning **C**ommission

DU – **D**welling **U**nit

EMS – **E**mergency **M**edical **S**ervice

FEMA – **F**ederal **E**mergency **M**anagement **A**gency

GIS – Geographical **I**nformation **S**ystems

HU – **H**ousing **U**nit

LESA – **L**and **E**valuation **S**ite **A**ssess

NRPA – **N**ational **R**ecreation and **P**ark **A**ssociation

OCAP – **O**hio **C**apability **A**nalysis **P**rogram

ODOT – **O**hio **D**epartment **O**f **T**ransportation

OEPA – Ohio **E**nvironmental **P**rotection **A**gency

PACE – **P**rotocol for **A**ssessment of **C**ommunity **E**nvironmental Health

PCD – **P**lanned **C**ommercial **D**istrict

PRD – Planned **R**esidential **D**istrict

PUD – **P**lanned **U**nit **D**evelopment

ROW – **R**ight **O**f **W**ay

RPC – **R**egional **P**lanning **C**ommission

Appendix J

Model Conservation Subdivision Provisions

by Randall Arendt

From Conservation Design for Subdivisions, (1996, Island Press, reprinted with permission from the author)

OUTLINE OF CONTENTS

I. STANDARDS FOR "CONSERVATION SUBDIVISION DESIGN"

A. Determining Density or "Yield"

Applicants shall have the option of estimating the legally permitted density on the basis of mathematical percentages and formulas contained in this ordinance, or on the basis of a "yield plan." Such "yield plans" consist of conventional lot and street layouts and must conform to the township's regulations governing lot dimensions, land suitable for development (for example, not including wetlands), street design, and parking. Although such plans shall be conceptual in nature, and are not intended to involve significant engineering costs, they must be realistic and must not show potential house sites or streets in areas that would not ordinarily be legally permitted in a conventional layout.

In order to prepare a realistic "yield plan," applicants generally need to first map the Primary Conservation Areas on their site. Typical "yield plans" would include, at minimum, basic topography, location of wetlands, 100-year floodplains, slopes exceeding 25%, and soils subject to slumping, as indicated on the medium-intensity maps contained in the county soil survey published by the USDA Natural Resources Conservation Service.

On sites not served by public sewerage or a centralized private sewage treatment facility, soil suitability for individual septic systems shall be demonstrated. The Planning Commission shall select a small percentage of lots (10 to 15%) to be tested, in areas considered to be marginal. If tests on the sample lots pass the percolation test, the applicant's other lots shall also be deemed suitable for septic systems, for the purpose of calculating total lot yield. However, if any of the sample lots fail, several others (of the township's choosing) shall be tested, until all the lots in a given sample pass.

B. Density Incentives

1. To Endow Maintenance Fund. The township may allow a density bonus to generate additional income to the applicant for the express and sole purpose of endowing a permanent fund to offset continuing open space maintenance costs. Spending from this fund should be restricted to expenditure of interest, in order that the principal may be preserved. Assuming an annual average interest rate of 5%, the amount designated for the Endowment Fund should be twenty (20) times the amount estimated to be required on a yearly basis to maintain the open space. On the assumption that additional dwellings, over and above the maximum that would ordinarily be permitted on the site, are net of development costs and represent true profit, 75% of the net selling price of the lots shall be donated to the Open Space Endowment Fund for the preserved lands within the subdivision. Such estimates shall be prepared by an agency or organization with experience in open space management acceptable to the Planning Commission. This fund shall be transferred by the developer to the designated entity with ownership and maintenance responsibilities (such as a homeowners' association, a land trust, or the township).

2. To Encourage Public Access. Dedication of land for public use, including trails, active recreation, municipal spray irrigation fields, etc., in addition to the 10% public land dedication required under other provisions of this ordinance, may be encouraged by the supervisors who are authorized to offer a density bonus for this express purpose. The density bonus for open space that would be in addition to the 10% public land dedication that may also be required shall be computed on the basis of a maximum of one dwelling unit per five acres of publicly accessible open space. The decision whether to accept an applicant's offer to dedicate open space for public access shall be at the discretion of the board of supervisors, who shall be guided by the recommendations contained in the township's *Open Space Recreation, and Environmental* Re*sources Plan,* particularly those sections dealing with trail networks and/or recreational facilities.

3. To Encourage Affordable Housing. A density increase is permitted where the conservation subdivision proposal provides on-site or off-site housing opportunities for low- or moderate-income

families. The amount of the density increase shall be based on the following standard: *For each affordable* housing unit *provided under this section, one additional building lot or dwelling unit shall be permitted, up to a* maximum 15% increase in *dwelling units. Affordable housing is* herein *defined as units to be sold* or rented *to* families earning *70 to 120 percent of the* county median income, *adjusted* for family *size, as determined by the U.S. Department of Housing and Urban Deve7opment.*

C. Minimum Percentage of Open Space

The minimum percentage of land that shall be designated as permanent open space, not to be further subdivided, and protected through a conservation easement held by the township or by a recognized land trust or conservancy, shall be as specified below:

1. A minimum of fifty percent (50%) of the total tract area, after deducting the following kinds of unbuildable land (which are also required to be deducted when calculating net permitted density for conventional subdivisions as well):

- wetlands (both tidal and fresh) and land that is generally inundated (land under ponds, lakes, creeks, etc.),
- all of the floodway and floodway fringe within the 100-year floodplain, as shown on official FEMA maps,
- land with slopes exceeding 25%, or soils subject to slumping,
- land required for street rights-of-way (10% of the net tract area),
- land under permanent easement prohibiting future development (including easements for drainage, access, and utilities).

The above areas shall generally be designated as *undivided open space,* to facilitate easement monitoring and enforcement, and to promote appropriate management by a single entity according to approved land management standards. [However, in subdivisions where the gross density is one dwelling per ten acres (or lower), the required open space may be included within individual lots.]

2. All undivided open space and any lot capable of further subdivision shall be restricted from further subdivision through a permanent conservation easement, in a form acceptable to the township and duly recorded in the County Register of Deeds Office.

3. At least twenty-five percent (25%) of the minimum required open space shall be suitable for active recreation purposes, but no more than fifty percent (50%) shall be utilized for that purpose, in order to preserve a reasonable proportion of natural areas on the site. The purposes for which open space areas are proposed shall be documented by the applicant.

4. The required open space may be used, without restriction, for underground drainage fields for individual or community septic systems, and for "spray fields" for spray irrigation purposes in a "land treatment" sewage disposal system. However, "mound" systems protruding above grade and aerated sewage treatment ponds shall be limited to no more than ten percent of the required minimum open space.

5. Stormwater management ponds or basins may be included as part of the minimum required open space, as may land within the rights-of-way for underground pipelines. However, land within the rights-of-

way of high-tension power lines shall not be included as comprising part of the minimum required open space.

D. Location of Open Space

The location of open space conserved through compact residential development shall be consistent with the policies contained in the Open Space, Recreation, and Environmental Resources Element of the township's comprehensive plan, and with the recommendations contained in this section and the following section ("Evaluation Criteria").

Open space shall be comprised of two types of land: "Primary Conservation Areas" and "Secondary Conservation Areas." All lands within both Primary and Secondary Conservation Areas are required to be protected by a permanent conservation easement, prohibiting further development, and setting other standards safeguarding the site's special resources from negative changes.

1. Primary Conservation Areas. This category consists of wetlands, lands that are generally inundated (under ponds, lakes, creeks, etc.), land within the 100-year floodplain, slopes exceeding 25%, and soils subject to slumping. These sensitive lands are deducted from the total parcel acreage to produce the "Adjusted Tract Acreage," on which density shall be based (for both conventional and conservation subdivisions).

2. Secondary Conservation Areas. In addition to the Primary Conservation Areas, at least fifty percent (50%) of the remaining land shall be designated and permanently protected. *Full density credit shall be allowed for land in this category that would otherwise be buildable under local, state and federal regulations, so that their development potential is not reduced by this designation.* Such density credit may be applied to other unconstrained parts of the site.

Although the locations of Primary Conservation Areas are predetermined by the locations of floodplains, wetlands, steep slopes, and soils subject to slumping, greater latitude exists in the designation of Secondary Conservation Areas (except that they shall include a 100-foot deep greenway buffer along all waterbodies and watercourses, and a 50-foot greenway buffer alongside wetlands soils classified as "very poorly drained" in the medium-intensity county soil survey of the USDA Natural Resources Conservation Service).

The location of Secondary Conservation Areas shall be guided by the maps and policies contained in the Open Space, Recreation, and Environmental Resources Element of the township's comprehensive plan, and shall typically include all or part of the following kinds of resources: mature woodlands, aquifer recharge areas, areas with highly permeable ("excessively drained") soil, significant wildlife habitat areas, sites listed on the Pennsylvania Natural Diversity Inventory, prime farmland, historic, archaeological or cultural features listed (or eligible to be listed) on national, state or county registers or inventories, and scenic views into the property from existing public roads. Secondary Conservation Areas therefore typically consist of upland forest, meadows, pastures, and farm fields, part of the ecologically connected matrix of natural areas significant for wildlife habitat, water quality protection, and other reasons. Although the resource lands listed as potential Secondary Conservation Areas may comprise more than half of the remaining land on a development parcel (after Primary Conservation Areas have been deducted), no applicant shall be required to designate more than 50% of that remaining land as a Secondary Conservation Area.

3. General Locational Standards. Subdivisions and planned residential developments (PRDS) shall be designed around both the Primary and Secondary Conservation Areas, which together constitute the total required open space. The design process should therefore commence with the delineation of all potential open space, after which potential house sites are located. Following that, access road alignments are

identified, with lot lines being drawn in as the final step. This "four-step" design process is further described in Section II.B.6 below.

Both Primary and Secondary Conservation Areas shall be placed in undivided preserves, which may adjoin housing areas that have been designed more compactly to create larger areas that may be enjoyed equally by all residents of the development.

Undivided open space shall be directly accessible to the largest practicable number of lots within a conservation subdivision. To achieve this, the majority of houselots should abut undivided open space in order to provide direct views and access. Safe and convenient pedestrian access to the open space from all lots not adjoining the open space shall be provided (except in the case of farmland, or other resource areas vulnerable to trampling damage or human disturbance). Where the undivided open space is designated as separate, noncontiguous parcels, no parcel shall consist of less than three (3) acres in area nor have a length-to-width ratio in excess of 4:1, except such areas that are specifically designed as village greens, ballfields, upland buffers to wetlands, waterbodies or watercourses, or trail links.

4. Interconnected Open Space Network. As these policies are implemented, the protected open spaces in each new subdivision will eventually adjoin each other, ultimately forming an interconnected network of Primary and Secondary Conservation Areas across the township. To avoid the issue of the "taking of land without compensation," the only elements of this network that would necessarily be open to the public are those lands that have been required to be dedicated for public use, never more than 10% of a development parcel's gross acreage, and typically configured in a linear fashion as an element of the township's long-range open space network.[1]

E. Evaluation Criteria

In evaluating the layout of lots and open space, the following criteria will be considered by the Planning Commission as indicating design appropriate to the site's natural, historic, and cultural features, and meeting the purposes of this ordinance. Diversity and originality in lot layout shall be encouraged to achieve the best possible relationship between development and conservation areas. Accordingly, the Planning Commission shall evaluate proposals to determine whether the proposed conceptual preliminary plan:

1. *Protects and serves all floodplains, wetlands, and steep slopes* from clearing, grading, filling, or construction (except as may be approved by the township for essential infrastructure or active or passive recreation amenities).

2. *Preserves and maintains* mature *woodlands, existing fields, pastures, meadows,* and orchards, *and creates sufficient buffer areas* to minimize conflicts between residential and agricultural uses. For example, locating houselots and driveways within wooded areas is generally recommended, with two exceptions. The first involves significant wildlife habitat or mature woodlands that raise an equal or greater preservation concern, as described in items #5 and #8 below. The second involves predominantly agricultural areas, where remnant tree groups provide the only natural areas for wildlife habitat.

3. *If development must be located on open fields or pastures because of greater constraints in all other parts of the site,* dwellings should be sited on the least prime agricultural soils, or in locations at the far edge of a field, as seen from existing public roads. Other considerations include whether the development will be visually buffered from existing public roads, such as by a planting screen consisting of a variety of indigenous native trees, shrubs, and wildflowers (specifications for which should be based upon a close examination of the distribution and frequency of those species found in a typical nearby roadside verge or hedgerow).

[1] 'The legality of requiring public land dedication is open to question in light of the recent *Dolan v. Tigard* decision.

4. *Maintains or creates an upland* buffer of natural native species vegetation of at least 100 feet in depth *adjacent to wetlands and surface* waters, including creeks, streams, springs, lakes and ponds.

5. *Designs around existing hedgerows and treelines between fields or meadows, and minimizes impacts on large woodlands* (greater than five acres), especially those containing many mature trees or a significant wildlife habitat, or those not degraded by invasive vines. Also, woodlands of any size on highly erodible soils with slopes greater than 10% should be avoided. However, woodlands in poor condition with limited management potential can provide suitable locations for residential development. When any woodland is developed, great care shall be taken to design all disturbed areas (for buildings, roads, yards, septic disposal fields, etc.) in locations where there are no large trees or obvious wildlife areas, to the fullest extent that is practicable.

6. *Leaves scenic views and vistas unblocked* or uninterrupted, particularly as seen from public thoroughfares. For example, in open agrarian landscapes, a deep "no-build, no-plant" buffer is recommended along the public thoroughfare where those views or vistas are prominent or locally significant. The concept of "foreground meadows," with homes facing the public thoroughfare across a broad grassy expanse (as illustrated in Fig. 5-5 of *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks)* is strongly preferred to mere buffer strips, with or without berms or vegetative screening. In wooded areas where the sense of enclosure is a feature that should be maintained, a deep "no-build, no-cut" buffer should be respected, to preserve existing vegetation.

7. *Avoids* siting new construction on prominent *hilltops or ridges*, by taking advantage of lower topographic features.

8. *Protects wildlife habitat areas* of species listed as endangered, threatened, or of special concern by the U.S. Environmental Protection Agency and/or by the Pennsylvania Natural Diversity Inventory.

9. *Designs around and preserves sites of historic, archaeological or* cul*tural value,* and their environs, insofar as needed to safeguard the character of the feature, including stone walls, spring houses, barn foundations, cellar holes, earthworks, and burial grounds.

10. *Protects rural roadside character* and improves public safety and vehicular carrying capacity by avoiding development fronting directly onto existing public roads. Establishes buffer zones along the scenic corridor of rural roads with historic buildings, stone walls, hedgerows, and so on.

11. *Landscapes common areas* (such as community greens), cul-de-sac islands, and both sides of new streets with native specie shade trees and flowering shrubs with high wildlife conservation value. Deciduous shade trees shall be planted at forty-foot intervals on both sides of each street, so that the neighborhood will have a stately and traditional appearance when they grow and mature. These trees shall generally be located between the sidewalk or footpath and the edge of the street, within a planting strip not less than five feet in width.

12. *Provides active recreational areas* in suitable locations that offer convenient access by residents and adequate screening from nearby houselots.

13. *Includes a pedestrian circulation system* designed to assure that pedestrians can walk safely and easily on the site, between properties and activities or special features within the neighborhood open space system. All roadside footpaths should connect with off-road trails, which in turn should link with potential open space on adjoining undeveloped parcels (or with existing open space on adjoining developed parcels, where applicable).

14. Provides open space that is reasonably contiguous, and whose configuration is in accordance with the guidelines contained in the *Design and Management Handbook for Preservation Areas,* produced by the Natural Lands Trust. For example, fragmentation of open space should be minimized so that these resource areas are not divided into numerous small parcels located in various parts of the development. To the greatest extent practicable, this land shall be designed as a single block with logical, straightforward boundaries. Long thin strips of conservation land shall be avoided, unless the conservation feature is linear or unless such configuration is necessary to connect with other streams or trails. The open space shall generally abut existing or potential open space land on adjacent parcels (such as in other subdivisions, public parks, or proper-ties owned by or eased to private land conservation organizations). Such subdivision open space shall be designed as par-t of larger contiguous and integrated greenway systems, as per the policies in the Open Space, Recreation, and Environmental Resources Element of the township's *comprehensive plan.*

II. SITE PLANNING PROCEDURES FOR CONSERVATION SUBDIVISIONS

A. General

1. Process Overview. The sequence of actions prescribed in this article is as listed below. These steps shall be followed sequentially and may be combined only at the discretion of the Planning Commission:

a. Pre-application discussion

b. Existing Features (Site Analysis) Plan (90-day clock starts with the submission of this plan at the on-site walkabout or at a regularly scheduled meeting of the Planning Commission)

c. On-site walkabout by planning commissioners and applicant

d. Pre-submission conference

e. Conceptual Preliminary Plan *(conceptual illustration* of greenway land, potential house sites, street alignments, and tentative lot lines, prepared according to the four-step design process described herein)

f. Preliminary Plan submission, determination of completeness, review of overall planning concepts, and decision

g. Preliminary engineering certification

h. Final Plan submission, determination of completeness, review, and decision

i. Supervisors' signatures

j. Recording at County Recorder of Deeds

B. Elements of the Preliminary Plan Process

1. Pre-Application Discussion. A pre-application discussion is strongly encouraged between the applicant, the site designer(s), and the Planning Commission. The purpose of this informal meeting is to introduce the applicant and the site designer(s) to the township's zoning and subdivision regulations and procedures, and to discuss the applicant's objectives in relation to the township's official policies and

ordinance requirements. The township may designate a consultant experienced in development design and in the protection of natural features and greenway lands to meet with the applicant and to attend or conduct meetings required under this ordinance. (The cost of these consultant services shall be paid for through subdivision review fees received by the township.)

2. Existing Features (Site Analysis) Plan. Plans analyzing each site's special features are required for all proposed subdivisions, as they form the basis of the design process for greenway lands, house locations, street alignments, and lot lines. The applicant or his/her representative shall bring a copy of the Existing Features (Site Analysis) Plan to the on-site walkabout. Detailed requirements for Existing Features (Site Analysis) Plans are contained in another section of this ordinance, but at the minimum must include (1) a contour map based at least upon topographical maps published by the U.S. Geological Survey; (2) the location of severely constraining elements such as steep slopes (over 25%), wetlands, watercourses, intermittent streams and 100-year floodplains, and all rights-of-way and easements; (3) soil boundaries as shown on USDA Natural Resources Conservation Service medium-intensity maps; and (4) the location of significant features such as woodlands, treelines, open fields or meadows, scenic views into or out from the property, watershed divides and drainage ways, fences or stone walls, rock outcrops, and existing structures, roads, tracks and trails, and any sites listed on the Pennsylvania Natural Diversity Inventory.

These Existing Features (Site Analysis) Plans shall identify both Primary Conservation Areas (floodplains, wetlands, and steep slopes, as defined in the process for computing "Adjusted Tract Acreage") and Secondary Conservation Areas, as described in Sections I.C.1 and I.D.1 of this ordinance. Together, these Primary and Secondary Conservation Areas comprise the development's proposed open space, the location of which shall be consistent with the locational design criteria listed in the Open Space, Recreation, and Environmental Resources Element of the township's *comprehensive plan.* The Existing Features (Site Analysis) Plan shall form the basis for the conceptual Preliminary Plan, which shall show the tentative location of houses, streets, lot lines, and greenway lands in new subdivisions, according to the four-step design process described in Section II.B.6 below.

3. On-Site Walkabout. After the Existing Features (Site Analysis) a mutually convenient date to walk the property with the applicant and his/her site designer. The purpose of this visit is to familiarize township officials with the property's special features, and to provide them an informal opportunity to offer guidance (or at least a response) to the applicant regarding the tentative location of the Secondary Conservation Areas and potential house locations and street alignments. If this visit is not scheduled before submission of the sketch plan or the Conceptual Preliminary Plan, it should occur soon thereafter.

4. Pre-Submission Conference. Prior to the submission of the sketch plan or a Conceptual Preliminary Plan, the applicant shall meet with the Planning Commission to discuss how the four-step approach to designing subdivisions, described in Section II.B.6 below, could be applied to the subject property. At the discretion of the Planning Commission this conference may be combined with the on-site walkabout.

5. Conceptual Preliminary Plan. After the pre-submission conference, a sketch plan or a *Conceptual* Preliminary Plan shall be submitted for all proposed subdivisions. As used in this ordinance, the term "Conceptual Preliminary Plan" refers to a preliminarily engineered sketch plan drawn to illustrate initial thoughts about a conceptual layout for greenway lands, house sites, and street alignments. This is the stage where drawings are *tentatively* illustrated, before heavy engineering costs are incurred in the design of any proposed subdivision layout. These drawings shall be prepared by a team that includes a landscape architect and a civil engineer.

A Conceptual Preliminary Plan shall be submitted by the applicant to the township zoning officer who will then submit it to the Planning Commission for review for the purpose of securing early agreement on the overall pattern of streets, houselots, Primary and Secondary Conservation Areas, and potential trail linkages (where applicable), prior to any significant expenditure on engineering costs in the design of streets, stormwater management, or the accurate delineation of internal lot boundaries.

Within thirty days of receiving the Conceptual Preliminary Plan the Planning Commission shall approve it, disapprove it, or approve it with conditions, stating its reasons in writing. The remaining 60 days of the statutory 90-day review period for Preliminary Plans (as provided for in the state enabling legislation) shall therefore remain for the applicant to submit a Detailed Preliminary Plan (which shall contain all the customary engineering data) and for the Planning Commission to review said plan and to render its decision in writing. Either or both of these time periods may be formally extended if mutually agreeable to the applicant and the Planning Commission.

6. Four-Step Process. Each sketch plan or Conceptual Preliminary Plan shall follow a four-step design process, as described below. When the conceptual Preliminary Plan is submitted, applicants shall be prepared to demonstrate to the Planning Commission that these four design steps were followed by their site designers in determining the layout of their proposed streets, houselots, and greenway lands. This process shall be accomplished during the first 30 days of the statutory 90-day review period for Preliminary Plans.

a. *Designating the Open Space.* During the first step, all potential conservation areas (both primary and secondary) are identified, using the Existing Features (Site Analysis) Plan. Primary Conservation Areas shall consist of wetlands, floodplains, slopes over 25%, and soils susceptible to slumping. Secondary Conservation Areas shall comprise 50% of the remaining land, and shall include the most sensitive and noteworthy natural, scenic, and cultural resources on that remaining half of the property.

Guidance on which parts of the remaining land to classify as Secondary Conservation Areas shall be based upon:

- the procedures described in *Conservation Design for Subdivisions: A Practical Guide to Creating Open Space Networks,* produced by Natural Lands Trust and published by Island Press,
- on-site visits or "walkabouts,"
- the open space locational criteria contained in Section I.E above,
- the evaluation criteria listed in Section I.E above,
- information from published data and reports, and
- conversations with existing or recent owners of the property, and members of the township Board of Supervisors and Planning Commission.

b. *Location of House Sites.* During the second step, potential house sites are tentatively located. Because the proposed location of houses within each lot represents a significant decision with potential impacts on the ability of the development to meet the 14 evaluation criteria contained in Section I.E. above, subdivision applicants shall identify tentative house sites on the Conceptual Preliminary Plan and proposed house sites on the detailed Final Plan. House sites should generally be located not closer than 100 feet from Primary Conservation Areas, but may be situated within 50 feet of Secondary Conservation Areas, in order to enjoy views of the latter without negatively impacting the former. The building "footprint" of proposed residences may be changed by more than fifty feet in any direction with majority approval from the members of the Planning Commission. Changes involving less than fifty feet do not require approval.

c. *Street and Lot Layout.* The third step consists of aligning proposed streets to provide vehicular access to each house in the most reasonable and economical way. When lots and access streets are laid out, they shall be located in a way that avoids or at least minimizes adverse impacts on both the

Primary and Secondary Conservation Areas. To the greatest extent practicable, wetland crossings and streets traversing existing slopes over 15% shall be strongly discouraged. Street connections shall generally be encouraged to minimize the number of new cul-de-sacs to be maintained by the township and to facilitate easy access to and from homes in different parts of the property (and on adjoining parcels). Where cul-de-sacs are necessary, those serving six or fewer homes may be designed with "hammer-heads" facilitating three-point turns. Cul-de-sacs serving more than six homes shall generally be designed with a central island containing indigenous trees and shrubs (either conserved on site or planted). The township generally encourages the creation of single-loaded **res**idential access streets, in order that the maximum number of homes in new developments may enjoy views of open space.

Note that in situations where more formal, "neo-traditional," or village-type layouts are proposed, Steps Two and Three may be reversed, so that the location of house sites follows the location of streets and squares.

d. *Lot Lines.* The fourth step is simply to draw in the lot lines (where applicable). These are generally drawn midway between house locations and may include L-shaped "flag-lots" meeting the township's minimum standards for the same.

7. Preliminary Engineering Certification. Prior to approval of the Conceptual Preliminary Plan, the applicant shall submit to the Planning Commission a "Preliminary Engineering Certification" that the approximate layout of proposed streets, houselots, and open space lands complies with the township's zoning and subdivision ordinances, particularly those sections governing the design of subdivision streets and stormwater management facilities. This certification requirement is meant to provide the township with assurance that the proposed plan is able to be accomplished within the current regulations of the township. The certification shall also note any waivers needed to implement the plan as drawn.

III. OWNERSHIP AND MAINTENANCE OF OPEN SPACE

A. General

Different ownership and management options apply to the permanently protected open space created through the development process. The open space shall remain undivided and may be owned and managed by a homeowners' association, the township, or a recognized land trust or conservancy. (However, in low-density rural subdivisions with ten or more acres per dwelling, all or part of the required open space may be located within the houselots.) A public land dedication, not exceeding 10% of the total parcel size, may be required by the township, through this open space, to facilitate trail connections. A narrative describing ownership, use and maintenance responsibilities shall be submitted for all common and public improvements, utilities, and open spaces.

B. Ownership Standards

Common open space within a development shall be owned, administered, and maintained by any of the following methods, either individually or in combination, and subject to approval by the township.

1. Offer of Dedication. The township shall have the first and last offer of dedication of undivided open space in the event said land is to be conveyed. Dedication shall take the form of a fee simple ownership. The township may, but shall not be required to accept undivided open space provided: (1) such land is accessible to the residents of the township; (2) there is no cost of acquisition other than any costs

incidental to the transfer of ownership such as title insurance; and (3) the township agrees to and has access to maintain such lands. Where the township accepts dedication of common open space that contains improvements, the township may require the posting of financial security to ensure structural integrity of said improvements as well as the functioning of said improvements for a term not to exceed eighteen (18) months from the date of acceptance of dedication. The amount of financial security shall not exceed fifteen percent (15%) of the actual cost of installation of said improvements.

2. Homeowners' Association: The undivided open space and associated facilities may be held in common ownership by a homeowners' association. The association shall be formed and operated under the following provisions:

a. The developer shall provide a description of the association, including its bylaws and methods for maintaining the open space.

b. The association shall be organized by the developer and shall be operated with a financial subsidy from the developer, before the sale of any lots within the development.

c. Membership in the association is automatic (mandatory) for all purchasers of homes therein and their successors. The conditions and timing of transferring control of the association from developer to homeowners shall be identified.

d. The association shall be responsible for maintenance of insurance and taxes on undivided open space, enforceable by liens placed by the township on the association. The association may place liens on the homes or houselots of its members who fail to pay their association dues in a timely manner. Such liens may require the imposition of penalty interest charges.

e. The members of the association shall share equitably the costs of maintaining and developing such undivided open space. Shares shall be defined within the association bylaws.

f. In the event of a proposed transfer, within the methods here permitted, of undivided open space land by the homeowners' association, or of the assumption of maintenance of undivided open space land by the township, notice of such action shall be given to all property owners within the development.

g. The association shall have or hire adequate staff to administer common facilities and properly and continually maintain the undivided open space.

h. The homeowners' association may lease open space lands to any other qualified person, or corporation, for operation and maintenance of open space lands, but such a lease agreement shall provide:

(1) that the residents of the development shall at all times have access to the open space lands contained therein (except croplands during the growing season);

(2) that the undivided open space to be leased shall be maintained for the purposes set forth in this ordinance; and

(3) that the operation of open space facilities may be for the benefit of the residents only, or may be open to the residents of the township, at the election of the developer and/or homeowners' association, as the case may be.

i. The lease shall be subject to the approval of the board and any transfer or assignment of the lease shall be further subject to the approval of the board. Lease agreements so entered upon shall be recorded with the County Recorder of Deeds within thirty (30) days of their execution and a copy of the recorded lease shall be filed with the township.

3. Condominiums. The undivided open space and associated facilities may be controlled through the use of condominium agreements, approved by the township. Such agreements shall be in conformance with the state's uniform condominium act. All undivided open space land shall be held as a "common element."

4. Dedication of Easements. The township may, but shall not be required to, accept easements for public use of any portion or portions of undivided open space land, title of which is to remain in ownership by condominium or homeowners' association, provided: (1) such land is accessible to township residents; (2) there is no cost of acquisition other than any costs incidental to the transfer of ownership, such as title insurance; and (3) a satisfactory maintenance agreement is reached between the developer, condominium or homeowners' association, and the township.

5. Transfer of Easements to a Private Conservation Organization. With the permission of the township, an owner may transfer easements to a private, nonprofit organization, among whose purposes it is to conserve open space and/or natural resources, provided that:

1. the organization is acceptable to the township, and is a bona fide conservation organization with perpetual existence;

2. the conveyance contains appropriate provisions for proper reverter or retransfer in the event that the organization becomes unwilling or unable to continue carrying out its functions; and

3. a maintenance agreement acceptable to the board is entered into by the developer and the organization.

C. Maintenance Standards

1. The ultimate owner of the open space (typically a homeowners' association) shall be responsible for raising all monies required for operations, maintenance, or physical improvements to the open space through annual dues, special assessments, etc. The homeowners' association shall be authorized under its bylaws to place liens on the property of residents who fall delinquent in payment of such dues, assessments, etc.

2. In the event that the association or any successor organization shall, at any time after establishment of a development containing undivided open space, fail to maintain the undivided open space in reasonable order and condition in accordance with the development plan, the township may serve written notice upon the owner of record, setting forth the manner in which the owner of record has failed to maintain the undivided open space in reasonable condition.

3. Failure to adequately maintain the undivided open space in reasonable order and condition constitutes a violation of this ordinance. The township is hereby authorized to give notice, by personal service or by United States mail, to the owner or occupant, as the case may be, of any violation, directing the owner to remedy the same within twenty (20) days.

4. Should any bill or bills for maintenance of undivided open space by the township be unpaid by November 1 of each year, a late fee of fifteen percent (15%) shall be added to such bills and a lien shall be filed against the premises in the same manner as other municipal claims.

Appendix K

Glossary

Access: A way or means of approach to provide physical entrance to a property.

Adjacent Property: a lot or parcel of land which shares all or part of a common lot line with another lot or parcel of land; also: contiguous; abutting.

Common Access Drive (CAD): Privately constructed, owned and maintained drive within a platted ingress/egress easement, properly shown on a subdivision plat approved by the Commission in accordance with these Regulations.

County: Delaware County, State of Ohio, including officials, agencies, departments, or other representatives.

County Engineer: Delaware County Engineer and designated representatives.

County Commissioners: The Delaware County Board of Commissioners or designated representative.

County Sanitary Engineer: The Delaware County Sanitary Engineer or designated representative.

Deed: Legal document conveying ownership of real property.

Director: Director of the Delaware County Regional Planning Commission.

Easement: Rights granted by a landowner to and/or for use by the public, a corporation, person, or entity, for a specified purpose of a designated portion of land.

Erosion: a) The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep; b) Detachment and movement of soil or rock fragments by wind, water, ice, or gravity.

Grade: The degree of rise or descent of a sloping surface.

Health Department: Delaware City/County General Health District Commissioner and designated representatives.

Improvements: Any man-made addition to the natural state of the land which increases its utility or value, including but not limited to: street, Common Access Drive, Shared Access Point, grading, storm water management and sanitary items.

Lot: A parcel of land of sufficient size to meet minimum health and zoning requirements for use, coverage, and area, and to provide such yards and other open spaces as are herein required, and which has frontage on an improved public street, approved private street, or Common Access Drive.

Maintenance Agreement: Document governing the responsibilities of maintenance of required subdivision improvements.

Metes and Bounds: A method of describing the boundaries of land by directions and distances from a known point of reference.

O.D.O.T.: Ohio Department of Transportation officials and designated representatives.

O.R.C.: Ohio Revised Code.

Plan, Preliminary: Drawings, plans and materials representing a proposed subdivision or development; does not constitute a subdivision plat.

Plan, Sketch: A rough sketch of a proposed subdivision or site plan of sufficient accuracy to be used for the purpose of discussion and classification.

Plat , Subdivision (Final Plat): Original subdivision plat document intended for recording, prepared and sealed by a professional surveyor in accordance with these Regulations and illustrating a subdivision or other development.

Plat, Survey (Survey Drawing): Survey plat drawn to scale prepared and sealed by a professional surveyor graphically representing a metes and bounds legal description showing all essential data pertaining to the boundaries and subdivisions of a tract of land. The drawing may also include other information and shall be included with deeds submitted for Commission approval.

Private Street: Privately constructed , owned and maintained street, or road within a platted ingress/egress easement, serving more than one platted lot, properly shown on a subdivision plat approved by the Commission in accordance with these Regulations, for which the County Engineer shall provide plan review and approval and construction inspection.

Public Authority: One or more of the following: Building Department, Regional Planning Commission, County Commissioners, County Engineer, Health Department, ODOT, Sanitary Engineer, Zoning authority (County or Township), or other public entity.

Regulations: Subdivision Regulations of Delaware County, Ohio.

Reserves: Parcels of land within a subdivision set aside for future subdivision or set aside for other purposes as noted on the plat.

Right-of-Way: A strip of land occupied, or intended to be occupied, by a road, cross-walk, railroad, electric transmission lines, oil or gas pipeline, water line, sanitary storm sewer and other similar uses.

Sedimentation: (1) The depositing of earth or soil that has been transported from its site of origin by water, ice, wind, gravity or other natural means as a product of erosion; (2) In waste water treatment, the settling out of solids by gravity.

Shared Access Point (SAP): Access management practice restricting two lots to a single shared vehicular access onto the public roadway, in accordance with these Regulations.

Sanitary Engineer: County Sanitary Engineer and designated representatives.

Site Review Committee: Group which conducts on-site reviews of proposed subdivisions, consisting of representatives from: Delaware County Regional Planning Commission, Delaware City/County General Health District, Soil and Water Conservation District, Delaware County Building Regulations, Delaware County Engineer; and Delaware County Sanitary Engineer.

Staff: Employees of the Delaware County Regional Planning Commission.

Storm Water Management: Items concerning earth-disturbing activities and storm water run-off and control, such as but not limited to: storm sewers and structures, storage basins, subsurface drainage, grading, major storm routing paths, erosion and sedimentation control, road or drive culverts, swales, ditches, watercourses, bridges, etc.

Subdivider: Landowner or their representatives proposing the subdivision of land.

Subdivider's Improvement Agreement (SIA): Agreement between a subdivider and public authority concerning the manner in which specified subdivision improvements shall be provided. Content and format shall be determined by the applicable public authority.

Subdivision: As defined by § 711.001 ORC.

Surveyor: A registered surveyor, authorized to practice professional surveying by the State Board of Registration, as specified in Section 4733, Ohio Revised Code.

Variance: Permission to depart from the requirements of existing regulations.

Zoning Official: Administrative officer designated by township and/or county officials to administer and enforce the adopted zoning ordinance and issue zoning permits and certificates.

Appendix L

1991 Comprehensive Plan Goals and Map

Agriculture

1. Township should remain an agricultural community.
2. Protect agriculture.
3. Maintain a rural township – Life and Atmosphere.
4. Balance township – Emphasis on agriculture and open space.

Residential

1. Establish defined residential areas.
2. Limit multi-family developments.
3. No additional mobile homes or mobile home parks.
4. Limit densities.

Commercial

1. Commercial development to be located on US 23.
2. Limit locations of commercial developments.
3. Regulate shopping malls.
4. Establish defined areas for commercial growth.

Industrial

1. Establish defined areas for industrial growth.
2. Limit industrial uses.

Transportation

1. Repair and improve existing roads.
2. Establish a thoroughfare plan.
3. Control access and traffic lights on US 23.

Recreation and Open Space

1. Promote recreational land use.
2. Create green areas.

3. Protect Scenic River.
4. Protect and maintain green areas.
5. Create a State Lodge at Delaware Lake State Park.

Infrastructure

1. Expand central water and sewer availability within the township.
2. Expand natural gas and cable TV availability within the township.
3. Establish fire hydrants throughout the township.

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1991 Comprehensive Plan Map