



LYON OAKS BASELINE PARK ANALYSIS

UPDATED: 7/10/2017 10:19:30 AM

CONTENTS

Park Location	4
Community Context.....	4
Oakland County	5
Lyon Township	5
Drive-Time Service Area	6
Site Analysis	10
Parcel Analysis	10
Physical Characteristics.....	14
Regional Context.....	14
Land Use	15
Park History	16
Early History.....	16
Park History	16
Past Master Plans	17
Grant History	18
Natural Resources.....	19
Park Infrastructure and Assets	23
Park Maps	24
References	30

TABLES

Table 1: Population Trends - 18-minute drive-time of Lyon Oaks	7
Table 2: Race and Ethnicity - 18 minute drive-time of Lyon Oaks	7
Table 3: Market Potential – 18-minute drive-time of Lyon Oaks	8
Table 4: Parcel Table for Lyon Oaks	10
Table 5: Grant, Easement, Agreement Table for Lyon Oaks	12
Table 6: Natural Features at Lyon Oaks	19

FIGURES

Figure A: Golf Course Drive-Time Map	6
Figure B: Population by Age – 18-minute drive-time of Lyon Oaks	7
Figure C: Natural Features Map	22
Figure D: Park map showing locations of selected planning units	24
Figure E: Acquisition Grant Map	25
Figure F: Location of MDNR Conservation Easement	26
Figure G: Survey of MDEQ Conservation Easement	27
Figure H: Lyon Oaks Trail Map	28
Figure I: Huron Valley Trail Map	29

Park Location

Lyon Oaks County Park is a 1041-acre park in southwestern Oakland County in Lyon Township and the City of Wixomⁱ.

Park Contact Information

52221 Pontiac Trail

Wixom, MI 48393

Park Office: (248) 437-1488

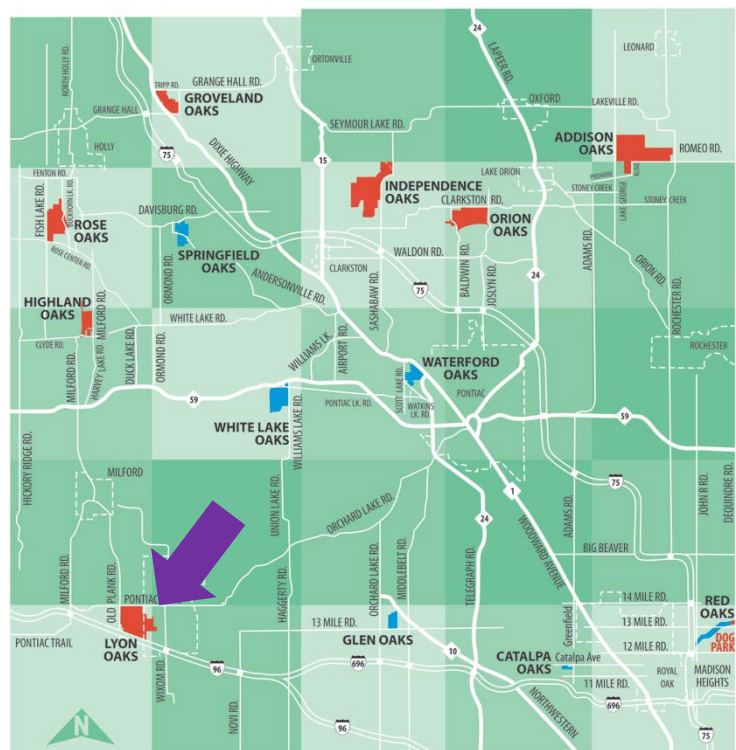
Township and Range

T1N R7E Sections 1 and 12; T1N R8E Sections 6 and 7

Community Context

The characteristics of Lyon Oaks are unique and reflect the character of the local communities. It is important to understand the park within the context of its communities – Michigan, Oakland County, Lyon Township and Wixom – for multiple reasons:

- To convey a ‘sense of place’ that is harmonious and complementary to the local environment
- To ensure that Oakland County Parks is not duplicating services provided by local recreational authorities or by the private, non-profit, or larger regional/state providers
- To collaborate with units of governments and organizations related to the Oakland County Parks mission to manage open space and natural areas and provide recreational facilities and programs on an inter-community, county and/or multi-county basis
- To develop facilities and programs that contribute to the implementation of local and county plans
- To ensure compliance with local and county regulations



ⁱ See *Planning Map Set*, page 3 – Location Map

Oakland County

Oakland County is in southeast Michigan, approximately 20 miles northwest of Detroit, and covers **907** square miles (SEMCOG 2015). The estimated population in 2015 was **1,242,304**. In 2010-2015, median household income was **\$66,426**. An estimated **10%** of the population lives in poverty (U.S. Census Bureau 2015).

According to Advantage Oakland, Oakland County employs nearly 690,000 workers with more than 260,000 commuting from outside the county. The top three employment sectors are Professional and Business Services (26%), Trade, Transportation and Utilities (18%), and Private Education and Health Services (16%). The county is home to nearly 1,000 firms from 39 foreign countries (EDCA n.d.).

Within the county, there are 30 cities, 21 townships, and 11 incorporated villages, in urban, suburban, and rural landscapes. The county is home to the headwaters of five major rivers, the Clinton, Flint, Huron, Rouge, and Shiawassee Rivers, all of which are important to the long-term health of the Great Lakes Ecosystem. Many diverse ecosystems are located in the county due to the area's complex topography and geological history and are an important element in the character of the county (OCPRC 2013).

Oakland County Parks and Recreation

Oakland County Parks and Recreation (OCPR) provides parks and recreation services within the geographic boundaries of Oakland County, but are also open to visitors to the county. Since 1966, OCPR has expanded and diversified the park system from four parks to thirteen, now totaling over 6,700 acres. Key attractions include managed natural areas, nature centers, waterparks, golf courses, conference centers, campgrounds, fairgrounds and over 65 miles of park trails. OCPR also offers a variety of entertaining and educational recreation programs and services for various ages and abilities (OCPRC 2013).

Lyon Township

Lyon Oaks County Park is partially located in Lyon Township in the southwest quadrant of Oakland County. The township covers **30.95 square miles**. The estimated population in 2013 was **16,462** and the median household income was **\$75,479** (U.S. Census Bureau 2014).

Description from master plan: "Lyon Township was founded on March 7, 1834 as a general law township. The Township Board of Trustees approved a resolution on January 15, 1980 to make Lyon Township a charter township. Historically, development in Lyon Township has been influenced by several key parameters, including the predominance of agriculture, major transportation corridors, railroads, proximity to the City of South Lyon, proximity to the Detroit metropolitan area, soil limitations, natural features and resources, and development of the Kensington Metro Park. The most significant impact on development in the Township in recent years is the availability of public sewer and water utilities. (McKenna Associates 2012)

Wixom

Lyon Oaks County Park is partially located in the city of Wixom in the southwest quadrant of Oakland County. The city covers **9.15 square miles**. The estimated population in 2013 was **13,743** and the median household income was **\$46,394** (U.S. Census Bureau 2014).

Description from Advantage Oakland: "Wixom is presently the third fastest growing city in Oakland County, located in the midst of the rapidly growing I-96 corridor and within easy driving distance of three major internationally known universities. The city is characterized by its balanced approach to land use development and mixing the best of country living with a strong industrial base. All types of residential housing are available with a significant concentration of multiple family. Wixom maintains the best of country living within the urban fringe,



Population and Income Trends

Population and income profiles are generated for the drive-time service area using Esri ArcGIS Online. The estimated population in the drive-time service area in 2015 was 284,143 with a 0.73% annual increase in population forecast between 2015 and 2020. The population is becoming more diverse in race and ethnicity. The population profile and forecast reflects an aging population with the population 65 and older increasing by 23% from 2015 to 2020. Median age is 42.0 in 2015 and forecast to be 43.0 in 2020. The median household income in 2015 is estimated at \$75,081 and is forecast to increase at an annual rate of 3.15% between 2015 and 2020.

Table 1: Population Trends - 18-minute drive-time of Lyon Oaks

Summary	Census 2010	2015	2020
Population	274,445	284,143	294,604
Households	112,056	116,786	121,274
Families	74,244	76,468	78,828
Average Household Size	2.44	2.42	2.42
Owner Occupied Housing Units	79,523	81,734	84,869
Renter Occupied Housing Units	32,533	35,051	36,405
Median Age	40.7	42.0	43.0
Trends: 2015 - 2020 Annual Rate	Area	State	National
Population	0.73%	0.15%	0.75%
Households	0.76%	0.21%	0.77%
Families	0.61%	0.06%	0.69%
Owner HHs	0.76%	0.19%	0.70%
Median Household Income	3.15%	2.79%	2.66%

Figure B: Population by Age – 18-minute drive-time of Lyon Oaks

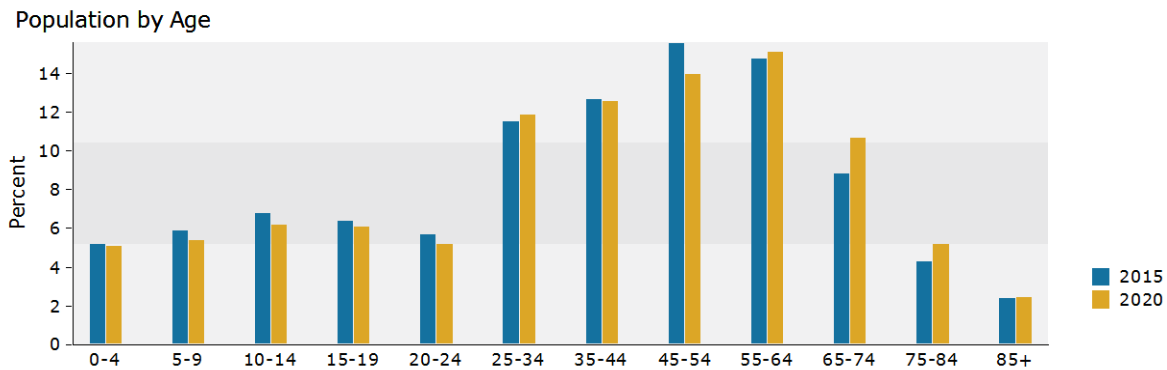


Table 2: Race and Ethnicity - 18 minute drive-time of Lyon Oaks

Race and Ethnicity	Census 2010		2015		2020	
	Number	Percent	Number	Percent	Number	Percent
White Alone	223,885	81.6%	225,011	79.2%	225,621	76.6%
Black Alone	20,969	7.6%	23,901	8.4%	27,602	9.4%
American Indian Alone	658	0.2%	702	0.2%	753	0.3%
Asian Alone	22,136	8.1%	26,539	9.3%	31,415	10.7%
Pacific Islander Alone	45	0.0%	47	0.0%	52	0.0%
Some Other Race Alone	1,671	0.6%	1,942	0.7%	2,248	0.8%
Two or More Races	5,081	1.9%	6,000	2.1%	6,912	2.3%
Hispanic Origin (Any Race)	7,062	2.6%	8,400	3.0%	10,002	3.4%

Market Potential Index – Recreation and Pet-Related Expenditures

ESRI's Market Potential Index (MPI) measures the relative likelihood of the adults or households in the specified trade area to exhibit certain consumer behavior or purchasing patterns compared to the U.S. An MPI of 100 represents the U.S. average.

Table 3: Market Potential – 18-minute drive-time of Lyon Oaks

Product / Consumer Behavior	Percent of Population	MPI
Bicycling (Road) in past 12 months	12.5%	128
Canoeing Kayaking in past 12 months	6.5%	121
Fishing (Fresh Water) in past 12 months	12.0%	97
Golf in past 12 months	12.5%	132
Hiking in past 12 months	12.5%	125
Horseback Riding in past 12 months	2.7%	109
Jogging/Running in past 12 months	15.7%	123
Walking for Exercise in past 12 months	32.2%	115
Overnight Camping Trip in past 12 months	13.1%	103
Households owning 1 dog	25.0%	104
Households owning 2 or more dogs	14.5%	90

Tapestry Segmentation

Tapestry Segmentation classifies neighborhoods into 67 unique segments based not only on demographics but also socioeconomic characteristics. It describes US neighborhoods in easy-to-visualize terms to help understand residents' lifestyle choices, what they buy, and how they spend their free time and help identify best customers, optimal sites, and underserved markets.

The Esri Dominant Tapestry Map shows the tapestry segments within and surrounding the drive-time radius and provides a list of the Tapestry segments with hyperlinks to detailed descriptions. See *Planning Map Set*, pages 21-22 – Esri Dominant Tapestry Map.

The top five Tapestry segments within the drive-time radius are shown below. Each segment name is hyper-linked to the detailed Esri profile. After the name, we show the percentage of households that are included in each segment – within the drive-time radius and nationally. The Tapestry segment summary from the Esri profile is included with each entry.

[Savvy Suburbanites \(1D\)](#)

Describes 15.5% of households within the drive-time radius; 3.0% of households in the U.S.

Savvy Suburbanites residents are well educated, well read, and well capitalized. Families include empty nesters and empty nester wannabes, who still have adult children at home. Located in older neighborhoods outside the urban core, their suburban lifestyle includes home remodeling and gardening plus the active pursuit of sports and exercise. They enjoy good food and wine, plus the amenities of the city's cultural events.

[Professional Pride \(1B\)](#)

Describes 9.0% of households within the drive-time radius; 1.6% of households in the U.S.

Professional Pride consumers are well-educated career professionals that have prospered through the Great Recession. To maintain their upscale suburban lifestyles, these goal oriented couples work, often commuting far

and working long hours. However, their schedules are fine-tuned to meet the needs of their school age children. They are financially savvy; they invest wisely and benefit from interest and dividend income. So far, these established families have accumulated an average of 1.5 million dollars in net worth, and their annual household income runs at more than twice the US level. They take pride in their newer homes and spend valuable time and energy upgrading. Their homes are furnished with the latest in home trends, including finished basements equipped with home gyms and in-home theaters.

[Golden Years \(9B\)](#)

Describes 8.8% of households within the drive-time radius; 1.3% of households in the U.S.

Independent, active seniors nearing the end of their careers or already in retirement best describes Golden Years residents. This market is primarily singles living alone or empty nesters. Those still active in the labor force are employed in professional occupations; however, these consumers are actively pursuing a variety of leisure interests—travel, sports, dining out, museums, and concerts. They are involved, focused on physical fitness, and enjoying their lives. This market is smaller, but growing, and financially secure.

[Enterprising Professionals \(2D\)](#)

Describes 8.6% of households within the drive-time radius; 1.4% of households in the U.S.

Enterprising Professionals residents are well educated and climbing the ladder in STEM (science, technology, engineering, and mathematics) occupations. They change jobs often and therefore choose to live in condos, town homes, or apartments; many still rent their homes. The market is fast-growing, located in lower density neighborhoods of large metro areas. Enterprising Professionals residents are diverse, with Asians making up over one-fifth of the population. This young market makes over one and a half times more income than the US median, supplementing their income with high-risk investments. At home, they enjoy the Internet and TV on high-speed connections with premier channels and services.

[Young and Restless \(11B\)](#)

Describes 6.5% of households within the drive-time radius; 1.7% of households in the U.S.

Gen Y comes of age: Well-educated young workers, some of whom are still completing their education, are employed in professional/technical occupations, as well as sales and office/administrative support roles. These residents are not established yet, but striving to get ahead and improve themselves. This market ranks in the top 5 for renters, movers, college enrollment, and labor force participation rate. Almost 1 in 5 residents move each year. Close to half of all householders are under the age of 35, the majority living alone or in shared nonfamily dwellings. Median household income is still below the US. Smartphones are a way of life, and they use the Internet extensively. Young and Restless consumers are diverse, favoring densely populated neighborhoods in large metropolitan areas; over 50% are located in the South (almost a fifth in Texas), with the rest chiefly in the West and Midwest.

Site Analysis

Parcel Analysis

Lyon Oaks County Park is composed of 11 parcels totaling 1,040.5 acres.

Table 4: Parcel Table for Lyon Oaks

Parcel ID	Acres	Deed	Liber and Page
21-01-100-002 golf course/dog park/wetland mitigation/trails	637.5	1992- Warranty Deed- Leber (also 200-005)	12786/625
		1999- Warranty Deed- OC to OC Building Authority (also 200-005,400-003, 126-001, 101-003)	19509/049
		1999-Quit Claim Deed- OC to RCOC	20592/861
21-01-200-002 entrance, north loop trail	13.9	1999- 4 Warranty Deeds- Rizzolo, Lammy (undiv. 1/6 th interest)	20131/865, 867, 871, 873
		1999- Quit Claim Deed (60% Mineral Interest)	20905/153
21-01-200-005 recreational fields	34.7	1992- Warranty Deed (also 100-002)	12786/625
		1999- Warranty Deed- OC to OC Building Authority (see 100-002)	19509/049
21-01-400-003 trails	20	1996-Warranty Deed- Huck (undiv. ¾ interest)	16624/503
		1996-Warranty Deed- Huck (undiv. ¼ interest)	16624/504
		1996-Quit Claim Deed- Goode	16624/547
		1996-Quit Claim Deed- Allen	16628/285
		1996-Mineral Deed (67% Equity)	16823/498
		1999-Warranty Deed - OC to OC Building Authority (see 100-002)	19509/049
21-12-126-001 south parcels	8.64	1994- Warranty Deed- Lester Building Co., Et al. (also -226-001, -002, -003)	14951/015
		1994- Mineral Deed/ 67% Equity (also 226-001, -002, -003)	14976/310
		1999- Warranty Deed - OC to OC Building Authority (see 100-002) (see 100-002)	19509/049
21-12-226-001 south parcels	12.5	1994- Warranty Deed - Lester Building Co., Et al. (see 126-001)	14951/015
		1994- Mineral Deed/ 67% Equity (see 126-001)	14976/310
21-12-226-002 south parcels	15.74	1994- Warranty Deed - Lester Building Co., Et al. (see 126-001)	14951/015
		1994- Mineral Deed/ 67% Equity (see 126-001)	14976/310

Parcel ID	Acres	Deed	Liber and Page
21-12-226-003 south parcels/trails	45.85	1994- Warranty Deed- Lester Building Co., Et al. (see 126-001)	14951/015
		1994- Mineral Deed/ 67% Equity (see 126-001)	14976/310
		1999- Warranty Deed- OC to OC Building Authority (see 100-002)	19509/049
22-06-100-007 trails	198.44	1997- Warranty Deed-H.M.W. Company	17162/021 & 024
		1997- Mineral Deed (65% Equity) 172.9 acres	17239/107
22-06-400-025 trails	16.48	2005- Warranty Deed- U.S. Real Property	34990/378
22-07-101-003 south parcels/trails	39.4 (part of 924 acres recorded)	1999- Warranty Deed- OC to OC Building Authority (see 100-002)	19509/049
		1999-Warranty Deed- Kaufman Et al.	19762/681
		1999-Warranty Deed- Lester Building Co.	19932/611
		1999-Warranty Deed- Kaufman Et al.	19932/613
		1999-Quit Claim Deed- Kaufman	19932/680

Table 5: Grant, Easement, Agreement Table for Lyon Oaks

Parcel ID	Deed/ Lease/ Easement / Agreement	Liber and Page
21-01-100-002 21-01-200-005	1989 – MNRTF Acquisition Grant Agreement – Grant #TF89-003	*
21-12-126-001 21-12-226-001 21-12-226-002 21-12-226-003	1991- MNRTF Acquisition Grant Agreement – Grant #TF91-026	*
22-06-100-007 (partial)	1993- MNRTF Acquisition Grant Agreement – Grant #TF93-037	*
21-01-200-002	1996- MNRTF Acquisition Grant Agreement – Grant #TF96-026	*
21-01-100-002	1995- Easement- GTE	15706/208
	1995- Survey for GTE	15212/171
21-01-100-002 21-01-400-003 21-01-126-001 21-12-226-001 21-12-226-002 21-12-226-003 21-01-100-007	2001- Conservation Easement DNR (covers Grant #TF89-003; 91-026; 93-037; 96-026)	22670/471
21-01-100-002 21-01-200-005 21-01-400-003 21-01-126-001 21-12-226-001 21-12-226-002 21-12-226-003 21-01-100-007	2009- Conservation Easement MDEQ (13.06-acre wetland mitigation)	41479/683
21-12-126-001 21-12-226-001 21-12-226-002 21-12-226-003	1991-Declaration of taking- DTE underground natural gas pipeline right-of-way	11994/030
21-12-226-002	1992-Easement (right of way DTE underground natural gas pipeline-50' easement)	12303/539, 544, 549, 554
22-06-100-007	1996- Easement (grant of easement for use of central well system)	16834/015
	1996-Easement (sanitary and storm sewer)	16834/024
	1996-Easement (ingress, egress, utilities and signage)	16834/033
	1997- Easement (sanitary and storm sewer)	17162/005

Parcel ID	Deed/ Lease/ Easement / Agreement	Liber and Page
	1997- Easement (first amendment to grant of easement for ingress, egress, utilities and signage)	17162/011
22-06-400-025	2005- Easement (grant of emergency ingress and egress--20' wide)	34990/388

* Contact OCPR Planning and Resource Development Department for documents.

Physical Characteristics

Geologyⁱⁱ

The landscape of the park was shaped by glaciers and is composed mostly of glacial outwash plain of stratified sand and gravel and postglacial alluvium. The northwest portion is composed of ground moraines of coarse-textured till.

Soilsⁱⁱⁱ

Soil maps indicated 14 soil types on the property, ranging from the well-drained sandy-loams of the knolls to the very poorly-drained soils in the wetlands. Notable soils include Houghton and Adrian mucks that are typically wet from September through May.

Topography^{iv}

The property is fairly flat to low rolling terrain with a rise 55'. Elevations range from 925' along Norton Creek to 980' at the northwest corner.

Hydrography^v

The majority of the park--800-acres-- is identified as wetlands by the National Wetlands Inventory. Norton Creek Drain runs mostly north through the hardwood swamp/mesic forest. The stream is mostly channelized with some stream bank erosion, yet some areas of the stream show meandering. A 469-acre MDEQ conservation easement/wetland mitigation project is within the middle of the park. A 13-acre wetland and 7-acre adjacent upland were created for the mitigation project in 2006. Drainage tiles were busted and an earthen berm with water control was established for the restoration.

Presettlement Plan Communities^{vi}

European pre-settlement vegetation consists mostly of Oak-Hickory Forest and Shrub Swamp/Emergent Marsh. Beech- Sugar Maple Forest, Mixed Hardwood Swamp and Wet Prairie were found in the south and east. A small section of Black Oak Barren is at the northwest corner (Comer and Albert 1997).

Regional Context

Potential Natural Areas^{vii}

Michigan Natural Features Inventory (MNFI) has identified a Priority One Natural Area over the majority of the land east of the pipeline. A smaller Priority Two Natural Area is found south of the golf course and within the east woodlands of the golf course.

Watershed^{viii}

Lyon Oaks is within the Huron River Watershed and Kent Lake Subwatershed (HUC12-04090050103- Norton Creek). Norton Creek Drain, a tributary of the Huron River, runs northerly through the southeast section of the park.

ⁱⁱ See *Planning Map Set*, page 4 – Surface Geology

ⁱⁱⁱ See *Planning Map Set*, page 5 – Soils

^{iv} See *Planning Map Set*, page 6 – Ten Foot Contours

^v See *Planning Map Set*, page 7 – Hydrography

^{vi} See *Planning Map Set*, page 8 – Presettlement Vegetation

^{vii} See *Planning Map Set*, page 9 – MNFI Potential Natural Area

^{viii} See *Planning Map Set*, page 10 – Oakland County Subwatersheds

Green Infrastructure^{ix}

The park is within Oakland County's Green Infrastructure vision. A MDEQ Conservation Easement covers two thirds of the southeast portion of the park.

Lyon Oaks is connected to naturalized areas along Norton Creek Drain and open space on large lot residential and Industrial property surrounding the park.

Nearby natural areas include Wixom's 6-acre Gibson historic park to the east; 349-acre Wixom habitat park to the northeast; Maple Run park (neighborhood open space) and Willoway Day Camp both along the Huron Valley Trail to the north; and Pine Ridge Club to the west. The Huron Valley Trail, a 12.2 mile rails-to-trails pathway, runs along the north boundary. It is part of a 30-mile trail system linking the trails in Kensington Metropark, Island Lake State Recreation Area, and Milford.

Land Use^x

Zoning

The park is zoned Residential-Agricultural (R-1.0) in Lyon Township and Light Industrial (M-1) in Wixom.

Current Land Use

Current land use is focused on recreation and conservation. See Parcel Analysis section for information about easements and rights-of-way to which the property may be subject. An underground natural gas pipeline runs north-south through the middle of the park.

Surrounding Land Use

The majority of the surrounding land use is Industrial, mostly to the north and east. The approximately 300-acre recently cleared former Ford Wixom Assembly plant borders the southeast corner of the park with newly opened commercial property. Scattered Vacant property is found to the north, east and west. Single Family residential (both small and large lot) borders the west. I-96 highway is along the park's south boundary.

Past Land Use^{xi}

Historical aerial photographs provide a snapshot of past land uses and of the development of the park over the decades.

^{ix} See *Planning Map Set*, page 11 – Green Infrastructure

^x See *Planning Map Set*, page 12 – 2015 Land Use

^{xi} See *Planning Map Set*, pages 13-20 for views of the park from 1940 through 2015

Park History

Early History

This section is under development

Park History

1992-1999 – Acquisition of 10 parcels totaling 1,024 acres; funding from four grants from the Michigan Natural Resources Trust Fund (MNRTF)

1997 – Master Plan for Lyon Oaks County Park adopted by the OCPRC was developed by Beckett and Raeder Inc. (landscape architects, planners and engineers), in collaboration with Arthurs Hills and Associates (golf course architects) and Brooks Williamson and Associates Inc. (environmental scientists) (Beckett and Raeder, Inc. December 1997)

2001 – Conservation easement conveyed to Michigan Department of Natural Resources (MDNR) for 469.98 acres; MNRTF grant agreements were amended (see Grant History section below) to reference the conservation easement and the 1997 park master plan

2002 – Completion of construction of golf course, drives and parking lots, clubhouse, maintenance building, pump house, on-course restrooms, storage building

2003 – Completion of construction of Woods Edge picnic pavilion, restrooms and playlot, installation of nature center trailer

2004 – Development of dog park and irrigated sports fields

2005 – Additional acquisition of 16.5 acres for a total of 1,040.5 acres

2007 – Development of cricket pitch

2009 – Nature center closed, addition to maintenance building constructed
In collaboration with Road Commission of Oakland County (RCOC), a 13-acre wetland mitigation restoration was created with a Michigan Department of Environmental Quality (MDEQ) wetland conservation easement

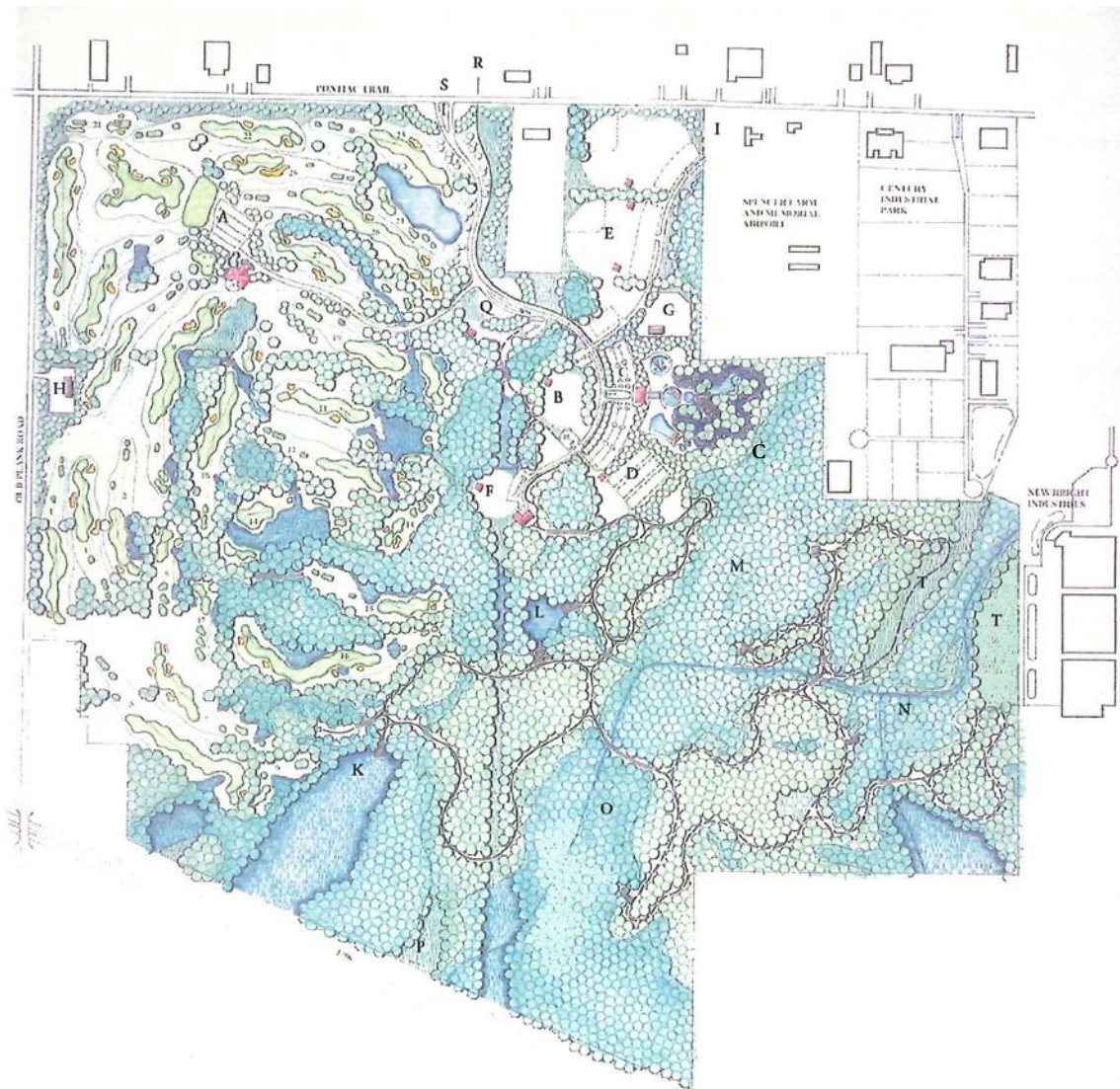
2010 – Construction of dog park pavilions

2015 – Addition of small dog enclosure and construction of small dog park pavilion

Past Master Plans

The 1997 Master Plan for Lyon Oaks County Park proposed the following features:

- | | |
|---|---|
| A. Golf course – 27 holes | K. Emergent wetland overlook |
| B. Day-use picnic area | L. Emergent wetland overlook |
| C. Water park – 22 acres | M. Forested wetland overlook |
| D. Archery range | N. Forested wetland overlook |
| E. Corporate picnic area | O. Open water forested wetland overlook |
| F. Nature trailhead | P. Regional park sign |
| G. Maintenance area | Q. Contact station |
| H. Maintenance area | R. Bike trail interface |
| I. Centennial Spencer Farm and Memorial Airport | S. Main entry sign |
| J. Comfort station | T. Meadow grass development |



Grant History

(acres from MDNR Grants Management post-completion site inspection report)

1989: Michigan Natural Resources Trust Fund #TF89-003

Project Scope: Acquisition of 500 acres

1991: Michigan Natural Resources Trust Fund #TF91-026

Project Scope: Acquisition of 296 acres

1993: Michigan Natural Resources Trust Fund #TF93-037

Project Scope: Acquisition of 188 acres

1996: Michigan Natural Resources Trust Fund #TF96-026

Project Scope: Acquisition of 13.8 acres

2001: Michigan Natural Resources Trust Fund Project Amendments

The four project agreements were amended acknowledge the following additional obligations:

- “The GRANT RECIPIENT has conveyed to the DEPARTMENT a perpetual Conservation Easement over a portion of the project area as defined in the March 8, 2001 Conservation Easement executed on March 22, 2001, herein attached to and incorporated into this Agreement. Termination or violation of the Conservation Easement by the GRANT RECIPIENT represents a material breach of this Agreement.
- “The GRANT RECIPIENT shall ensure that development of the project area is consistent with the Lyon Oaks Master Plan adopted on December 3, 1997. Any development or uses of the project area other than those provided for in the Lyon Oaks Master Plan, requires prior written approval of the DEPARTMENT.
- “The GRANT RECIPIENT shall adhere to the highest environmental standards in design and operation of the golf course to be located within the project area.
- “The GRANT RECIPIENT shall ensure that development and operation of the project area will not adversely impact the natural, scenic, biological, and ecological values of the portion of the project area governed by the March 8, 2001 Conservation Easement.”

Natural Resources

The Michigan Natural Resources Inventory has described and abstracted 76 distinct natural community types within the State of Michigan (Kost 2010). According to MNFI, 40 natural communities occur within Oakland County at varying degrees.

Lyon Oaks natural areas consist of woodlands, wetlands and open fields including no-mow areas of the golf course. To date, 10 natural community types have been identified at Lyon Oaks.

The park is roughly bisected east-west by a Consumers Gas Pipeline. An 18-hole golf course comprises the west half of the property, while the eastern half of the property is managed as a day-use park.



The park's extensive wetlands are protected by a 470-acre Michigan Department of Natural Resources Wetland Conservation Easement put in place after the golf course was constructed in violation of an MNRTF Grant used to purchase the property. In addition, a 13-acre mitigation wetland and 7-acre upland buffer area were created in partnership with RCOC and placed under an MDEQ Conservation Easement in 2013.

Norton Creek is listed as 'impaired' by Michigan's Department of Environmental Quality (DEQ). Concerns include high impervious development, and high phosphorus and bacteria levels. The watershed is mostly residential/urban (62%) with only 10% in public parks (Kent Lake Subwatershed Workgroup 2002). A Norton Creek watershed management plan is in progress.^{xii}

An abandoned great blue heron rookery is in the middle of the park. The wetland complex consists of important habitat for reptiles and amphibians, including the Federally Threatened Eastern Massasauga Rattlesnake and Blanding's turtle, a state Species of Special Concern (ECT/HRM 2015). The grasslands harbor crucial habitat for grassland birds including Henslow sparrow, eastern meadowlark, eastern bluebird, and bobolink^{xiii}







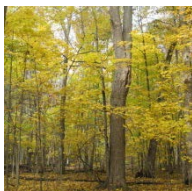


Table 6: Natural Features at Lyon Oaks

Natural Features		Description
	Norton Creek/Drain 1 – Norton Creek	The tributaries within the headwaters of the Huron River watershed, many modified by ditching, flow diagonally through the southeast. There is some stream bank erosion along the banks, and Michigan Department of Environmental Quality has documented Norton Creek with impaired water quality (Kent Lake Subwatershed Workgroup 2002)
	Submergent marsh 2 – Ponds	Occurs within the front entrance pond and golf course ponds. Submerged rooted and non-rooted species include pondweed, water lily, pond lily and duckweed.

^{xii} <http://www.hrc.org/the-watershed/huron-river-creeks/norton-creek/>

^{xiii} eBird data: <https://ebird.org/ebird/hotspots>

	Natural Features	Description
	Emergent marsh 2- Ponds and 3- Wetland Complex	Part of the wetland complex scattered throughout non-developed areas of the park, including extensive areas in the southern end, along the pipeline corridor and along the shores of ponds and streams. Species include cattail, blue vervain, bulrush, sedge and grass. There are substantial areas of invasive species include <i>Phragmites</i> , reed canary grass and narrow-leaved cattail.
	Wet-mesic prairie 3 – Wetland Complex	Part of the wetland complex scattered throughout non-developed areas of the park. The 13-acre mitigation wetland was designed as a wet-mesic prairie and seeded with a native grass and forb mix. Species include big bluestem, Indian grass, cordgrass, tussock sedge, grass-of-Parnassus, aster and goldenrod.
	Southern wet meadow + 3 – Wetland Complex	Part of wetland complex scattered throughout non-developed areas of the park. The ground-water influenced wetland is dominated by sedge and includes swamp milkweed, rattlesnake master, Joe-Pye weed, aster and goldenrod.
	Southern shrub-carr/ Inundated shrub swamp 3 – Wetland Complex	Part of the wetland complex scattered throughout non-developed areas of the park. The shrub-dominated wetland includes buttonbush, dogwood, willow, buckthorn, meadowsweet, swamp rose, and reed canary grass.
	Southern hardwood swamp 3 – Wetland Complex	A significant part of the wetland complex scattered throughout non-developed areas of the park. The poorly-drained forested wetland includes silver and red maple, swamp white oak, yellow birch, ash, tulip tree, shagbark hickory, and American elm. Dead ash trees are common due to the Emerald Ash Borer infestation.
	Dry-mesic southern forest 4 – Woodland Complex	Upland woodland on ridges and upper slopes. Also known as oak-hickory forest. Species include white, black and red oak, sugar maple, shagbark hickory, ash, black walnut, wild black cherry, and sassafras.
	Mesic southern forest 4 – Woodland Complex	Occurs on lower slopes and edges of wetlands. Also known as mixed-deciduous woods or beech-maple forest. Species include sugar maple, American beech, white ash, shagbark hickory, cottonwood, basswood, and American elm.




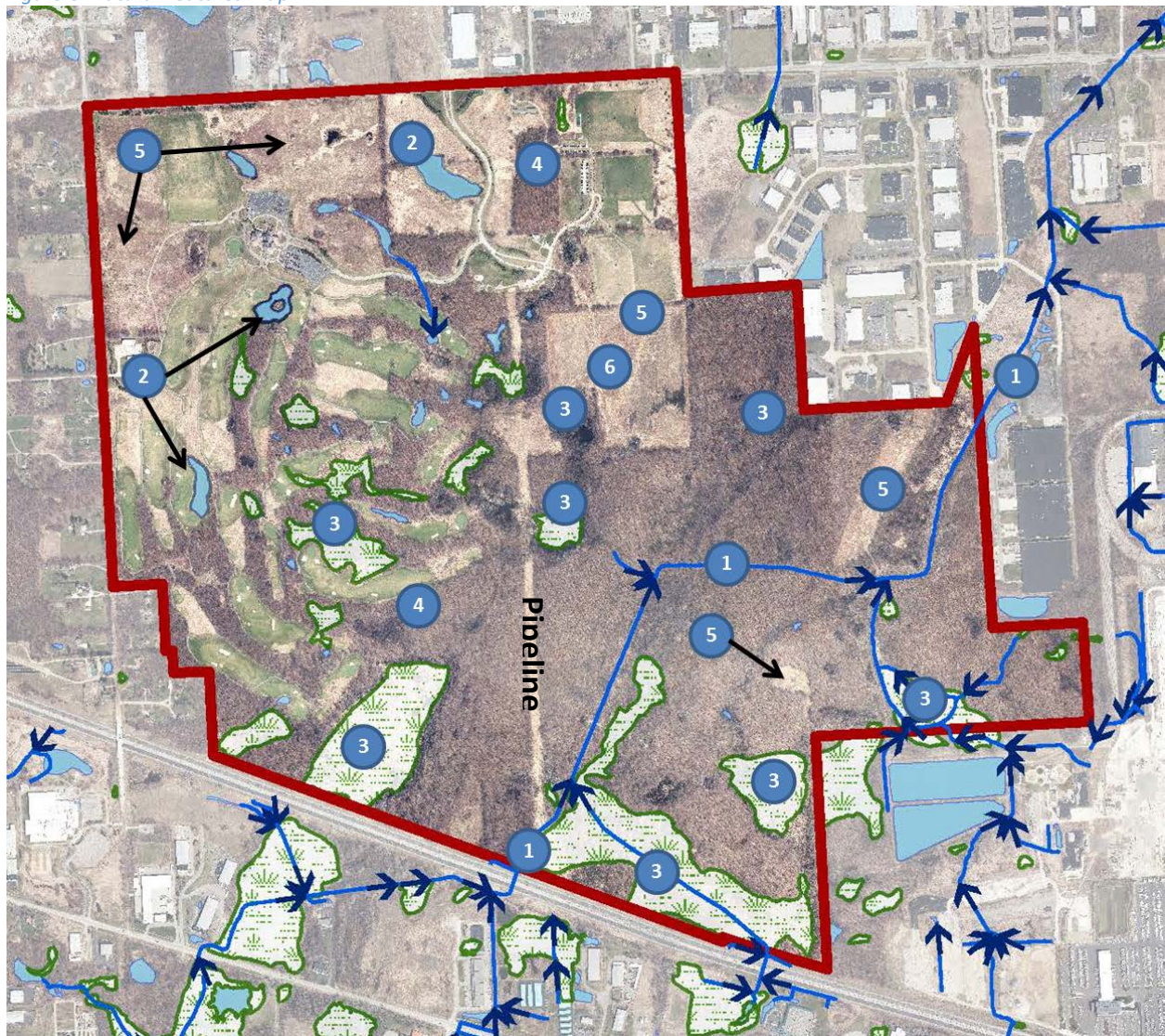
Natural Features	Description
 <p>Old field 5 – Old Field</p>	<p>Old fields in park and no-mow or naturalized areas in golf course, including the 7-acre seeded native prairie buffer bordering the wetland restoration area. Species include big bluestem, butterfly weed, tick-trefoil, wild bergamot and common milkweed. Old field species include smooth brome, orchard grass, Queen-Anne's-lace, common ragweed and mullein. Scattered small shrubs and trees include grey dogwood, black oak, and red cedar. Some cottonwood encroachment is starting.</p>
 <p>Vernal pool</p>	<p>Scattered temporary pools within woodlands that are important habitat for frogs, salamanders, and fairy shrimp. Typically wet or ponded from November through May. Species include red maple, yellow birch, American elm and ferns.</p>
 <p>Wetland mitigation 6- wetland mitigation</p>	<p>A 13-acre constructed wetland located just south of the dog park in the eastern half of the park. Created in 2010-2013 by constructing a berm at the south end. Partnered with RCOC to establish a mesic prairie wetland mitigation bank.</p>

Figure C: Natural Features Map



Park Infrastructure and Assets

Park Entrances, Roadways and Parking

- Main park entrance
- Main park road
- Contact station (no ID) no year
- Day use picnic area parking lot
- Dog park parking lot
- Sports fields parking lot
- Pontiac Lake Road day use maintenance entrance
- Golf course road
- Golf course parking lot – south
- Golf course parking lot – north
- Old Plank Road golf course maintenance entrance

Maintenance, Utilities and Security

- Day use maintenance building (“chicken coop”) (Bldg 5) 1960
- Trailer office (former nature center) (Bldg 8) 2003
- Golf course maintenance building – north (Bldg 25) 2002
- Golf course maintenance building – south (Bldg 26) 2005
- Golf course maintenance yard

Park Trails and Regional Connectivity

- Huron Valley Trail
- Park trails and boardwalks

- Cart paths and boardwalks

Golf Course

- Golf course
- Driving range
- On course restrooms – 5th tee (Bldg 16) 2002
- On course restrooms – 15th tee (Bldg 17) 2002
- Driving range restrooms (Bldg 24) 2002

Clubhouse

- Clubhouse (Bldg 23) 2002

Dog Park

- Main pavilion (Bldg 7) 2004
- Pavilion A (Bldg 18) 2002
- Pavilion B (Bldg 19) 2002/2015
- Enclosures

Woodside Picnic Area

- Picnic pavilion (Bldg 13) 2002/2010
- Restrooms (Bldg 12) 2002
- Play structure

Sports Fields

- Soccer fields
- Cricket pitch
- Cricket batting cages
- Cricket pavilion (Bldg 6) 2004

Park Maps

A standard set of planning maps are provided in a separate document - the *Planning Map Set*. This section provides other park maps, such as trails, campsites, and golf course features, which are specific to this park.

Figure D: Park map showing locations of selected planning units



Figure E: Acquisition Grant Map

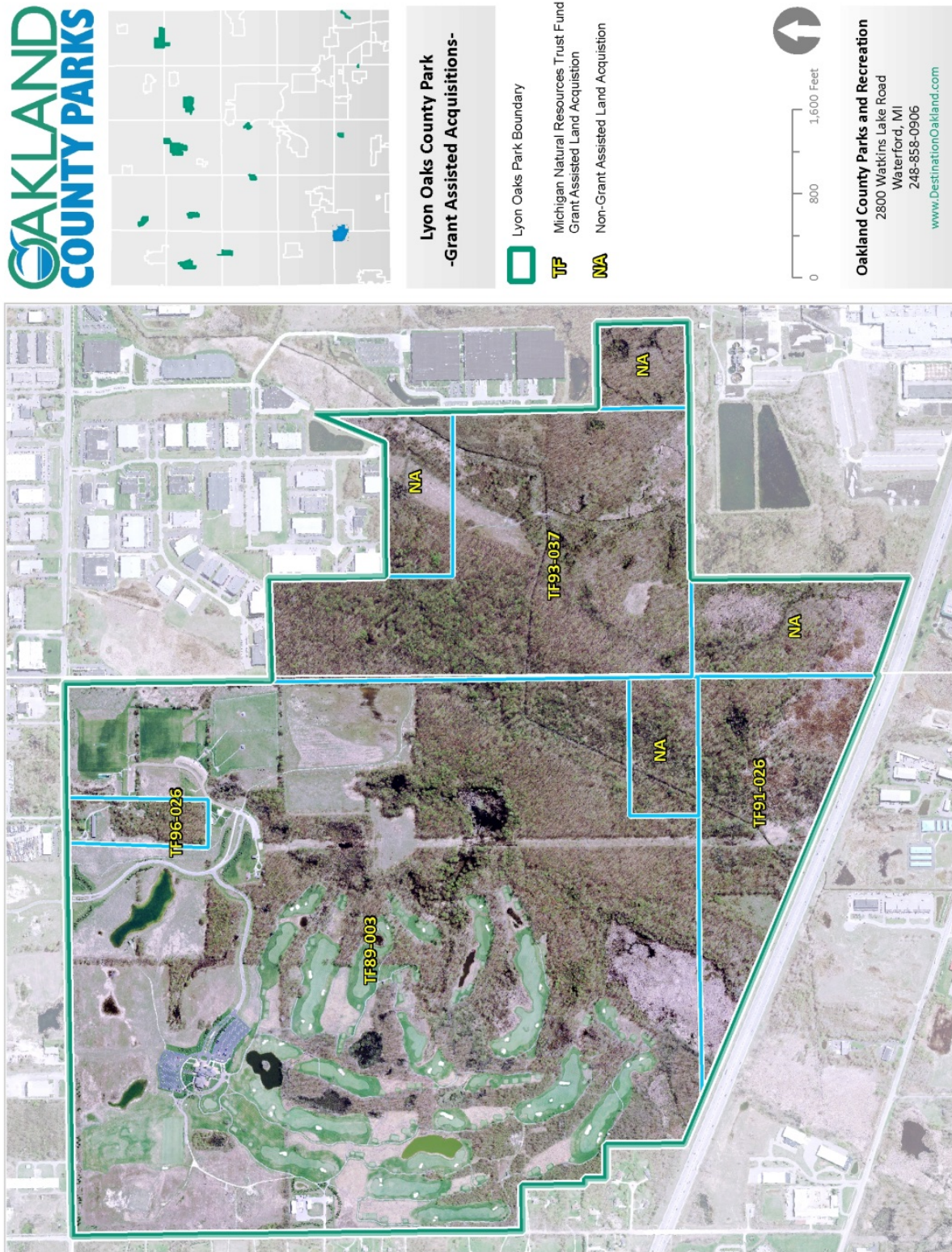
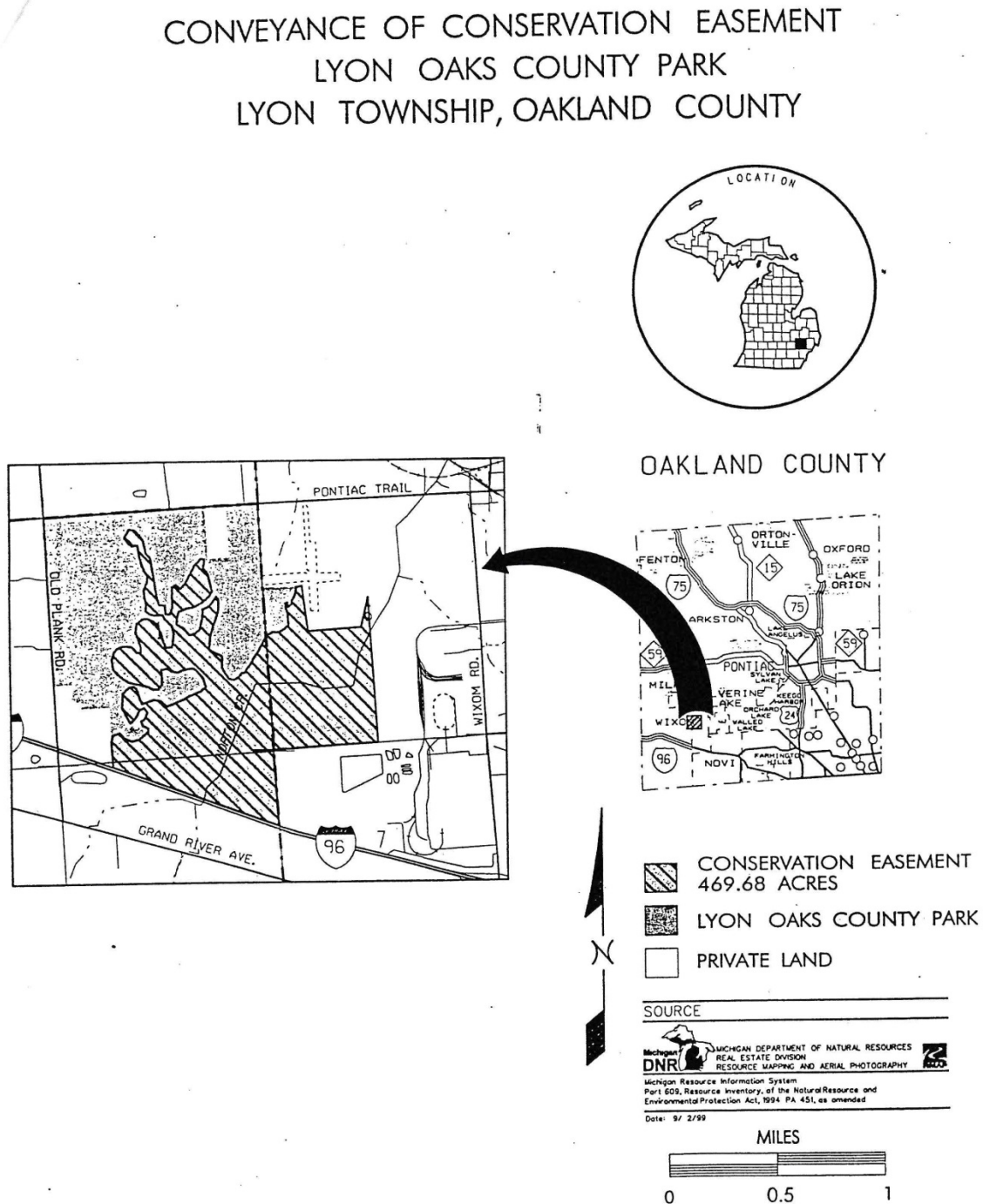


Figure F: Location of MDNR Conservation Easement



74

Figure G: Survey of MDEQ Conservation Easement

(Page 8 of 9)

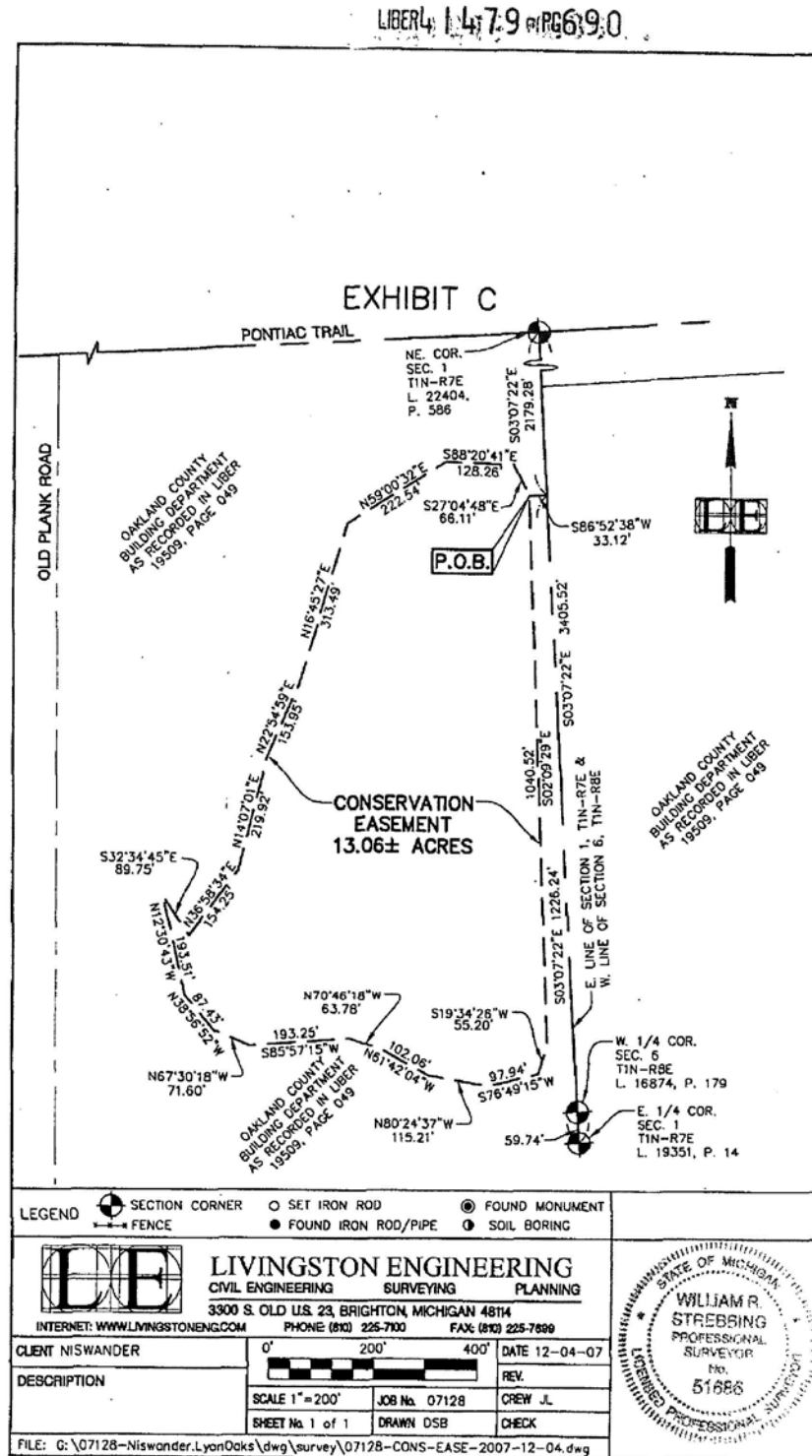


Figure H: Lyon Oaks Trail Map

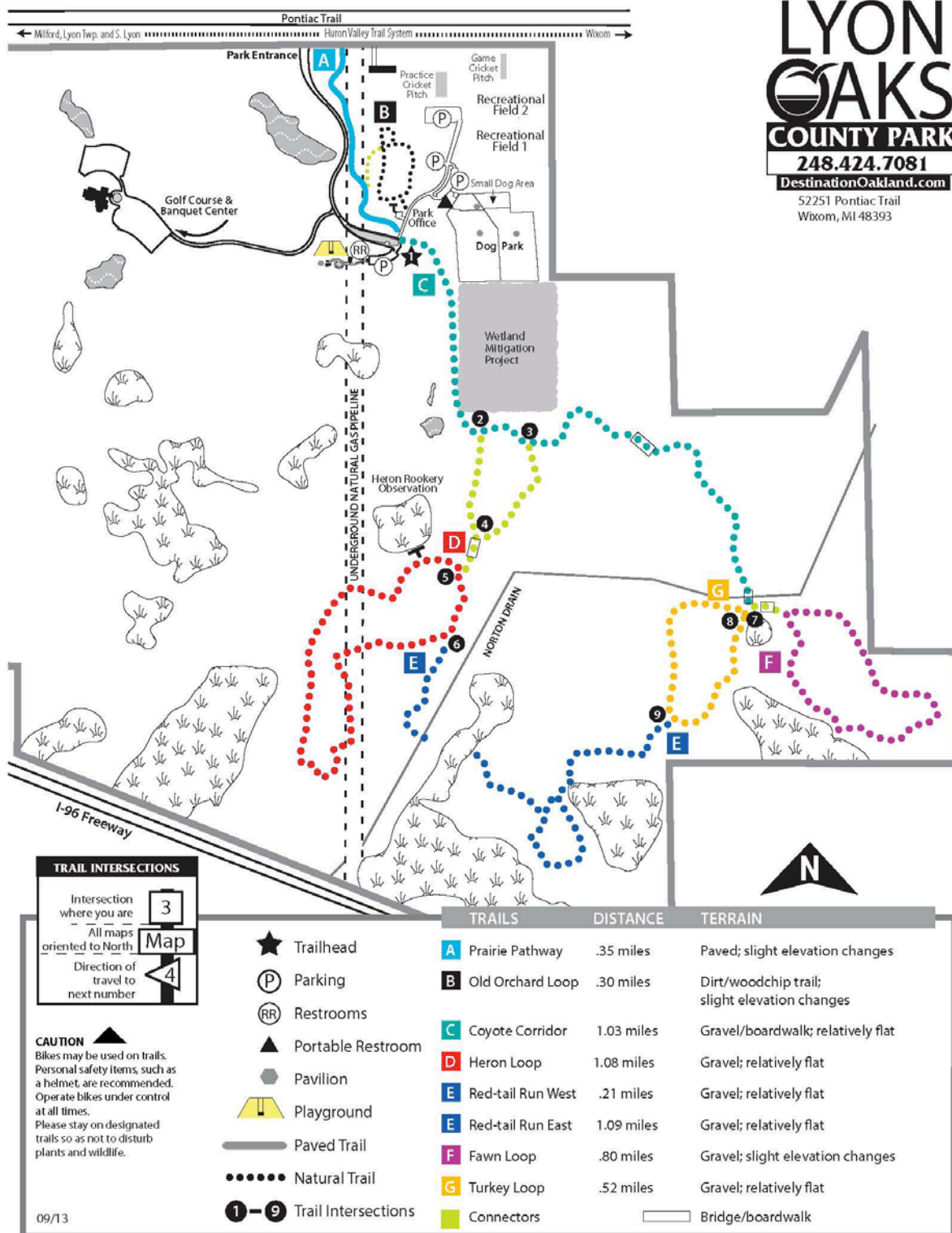
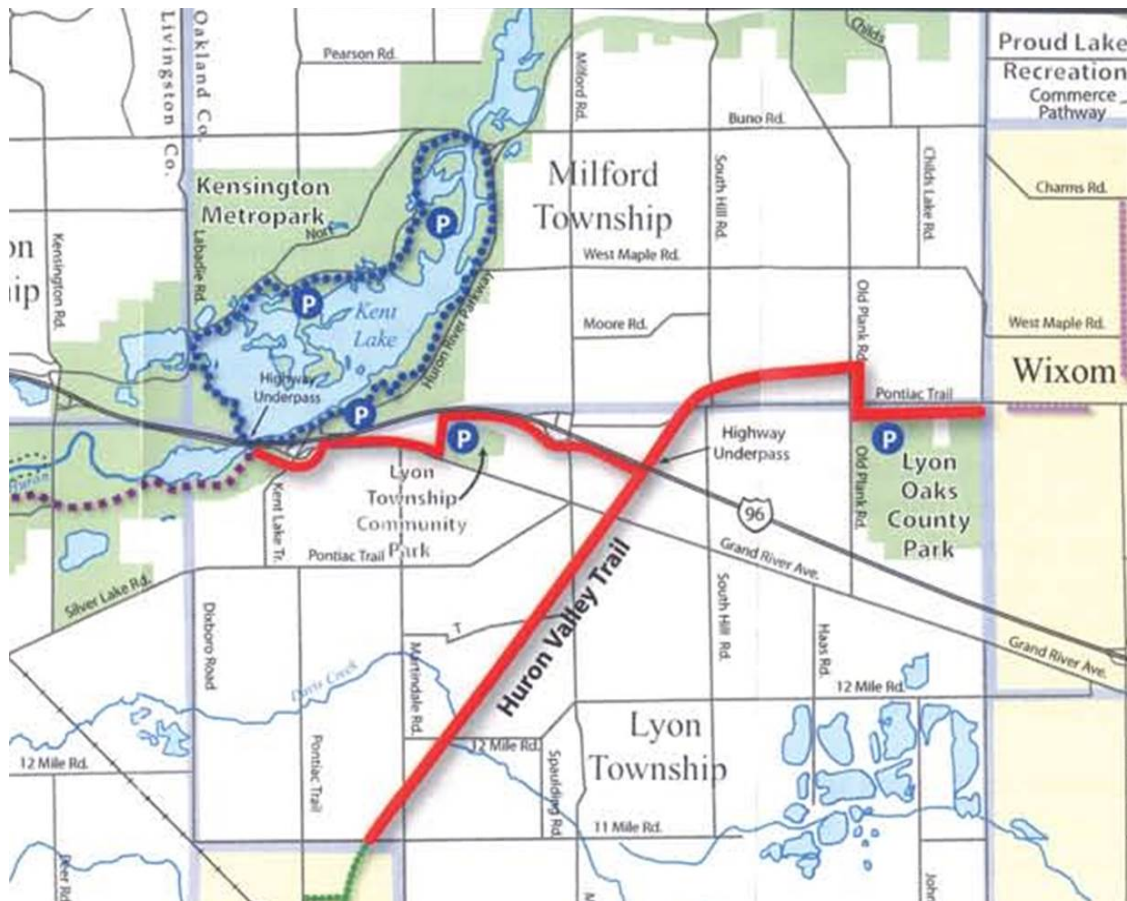


Figure I: Huron Valley Trail Map



References

- Beckett and Raeder, Inc. (December 1997). *Master Plan for Lyon Oaks County Park*. Waterford: Oakland County Parks and Recreation Commission.
- Comer, P., & Albert, D. (1997). *Vegetation circa 1800 Maps*. Michigan Natural Features Inventory.
- ECT/HRM. (2015). *Herpetological Resource and Management Technical Report*. Chelsea, MI: Environmental Consulting & Technology and Herpetological Resource and Management. 2015. Oakland County Parks Herpetological Inventory.
- EDCA. (n.d.). *Facts & Stats*. Retrieved from Advantage Oakland - Economic Development & Community Affairs: <https://www.oakgov.com/advantageoakland/business/Pages/county-profile-default.aspx>
- Kent Lake Subwatershed Workgroup. (2002). *Kent Lake Subwatershed Management Plan*. Lansing, MI: Michigan Department of Environmental Quality.
- Kost, M. (2010). Report Number 2007-21. Version 1.2. *Natural Communities of Michigan: Classification and Description*. Lansing, MI: Michigan Natural Features Inventory.
- McKenna Associates. (2012). *Master Plan for the Charter Township of Lyon*. New Hudson MI: Charter Township of Lyon.
- Oakland County. (2012). *Advantage Oakland Community Profiles*. Retrieved 02 12, 2015, from <http://www.advantageoakland.com/Expand/CountyProfile/Pages/County-Profile-Summaries.aspx>
- OCPRC. (2013). *Five-Year Parks and Recreation Master Plan 2013-2017*. Waterford, MI: Oakland County Parks and Recreation Commission.
- SEMCOG. (2015). *Community Profiles*. Retrieved from Southeast Michigan Council of Governments: <http://semcog.org/Data-and-Maps/Community-Profiles>
- U.S. Census Bureau. (2014). *Quick Facts*. Retrieved 02 12, 2015, from <http://www.census.gov/quickfacts/>
- U.S. Census Bureau. (2015). *Quick Facts*. Retrieved from United States Census Bureau: <http://www.census.gov/quickfacts/>