

# Master Plan 2017



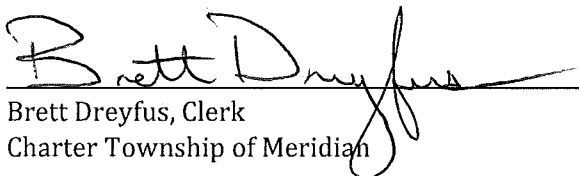
**A PRIME COMMUNITY**

November 21, 2017 - ADOPTED

This Plan was approved by the Meridian Township Planning Commission  
on October 23, 2017.

  
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Holly Cordill, Planning Commission Secretary  
Charter Township of Meridian

This Plan was adopted by the Meridian Township Board  
on November 21, 2017.

  
\_\_\_\_\_  
Brett Dreyfus, Clerk  
Charter Township of Meridian

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# Executive Summary

The Charter Township of Meridian 2017 Master Plan represents the vision, values, goals, and objectives for the future of the Township. The Master Plan is for Meridian residents, future residents, neighboring communities, schools, and developers. This Plan will help guide policy-making decisions of elected officials and boards and commissions.

The Master Plan is focused on preserving and enhancing the best characteristics of the Township while making the most of opportunities that come with new development.

## The Master Plan goals are:

- Preserve and strengthen residential neighborhoods
- Preserve open space and natural areas
- Enhance the viability of Township businesses
- Maintain and expand a diverse park system
- Maintain essential public services
- Provide and support an efficient, safe, and environmentally sensitive multi-modal transportation network
- Promote efficient and sustainable growth practices

The content of the plan outlines in detail the important strategies that will allow the Township to meet its goals and be a community of choice.

The Master Plan was updated with input from the public, developers, schools, neighboring communities, and elected officials. It promotes the most efficient use of land possible for a 21st century Meridian Township. Most notably, the Plan proposes the consolidation and simplification of Future Land Use Map (FLUM) categories, the introduction of "Potential Intensity Change Areas" (PICAs), and adoption of an Urban Services Boundary (USB).

Modernization of the FLUM categories acknowledges the importance of reducing distinctions among related land uses for purposes of flexibility and decision-making. The zoning ordinance retains its role as the primary tool for implementing the Master Plan.

Specifically, this FLUM calls for reduction in the number of single-family residential land use categories from four to three. The first single-family residential FLUM category, R1-Residential 0.0-0.5 dwelling units per acre, groups very low density zoning districts. The second, R2-Residential 0.5-3.5 dwelling units per acre, groups low, low-medium, and medium density zoning districts. R3-Residential, 1.25-3.5 dwelling units per acre, groups medium and high density single-family residential.

zoning districts with the one and two-family residential zoning district. Land designated R-3 is differentiated from R-2 by proximity to Mixed Use Core areas and characterized by infill development, flexible housing options, pedestrian movement, and possible density bonuses for accessory dwelling units. All strictly multiple-family zoning districts are grouped into a single multiple family land use category, MR-Residential 5-14 dwelling units per acres.

This consolidation of FLUM categories should support infill development in residential land use categories as well as the integration of a wider range of housing opportunities in all residential land use categories. The strategy also promotes more flexible land use options for development by expanding the zoning district options covered by a single FLUM category.

A single "Commercial" FLUM category includes the C-1, C-2 and C-3 commercial zoning districts plus the Professional and Office (PO) and the Commercial Recreation (CR) zoning districts.

The Business/Technology land use category is intended to represent areas appropriate for Professional and Office (PO), Research Park (RP), and the Light Industrial (I) zoning districts, representing a mixing of uses.

The Mixed-Use Planned Unit Development (MUPUD) identifies the location of projects developed, approved or proposed for development under the Mixed Use Planning Unit Development zoning overlay district.

The Mixed Use Core is an entirely new land use category for the Township, creating a new type of neighborhood and transforming primarily commercial areas into mixed use neighborhoods combining Smart Growth, compact development and multi-modal transportation amenities to the mix. This category applies to all three "Potential Intensity Change Area" (PICA) locations: Haslett, Okemos which includes the Meridian Mall and properties on the south side of Central Park Drive, and Carriage Hills. Described as the "primary areas of future growth within the Township" these three areas are targeted for redevelopment and revitalization as Town Center type neighborhoods characterized by compact design, clustered and higher density housing, walkable and multi-modal streetscapes, all in close proximity to clustered neighborhoods, community services, amenities and resources.

An Urban Service Boundary promotes efficiency by directing development to areas where public services are in place or nearby, in this case the western two-thirds of the Township. Thus, the eastern third will be preserved as an expansion area once opportunities for redevelopment and infill have been exhausted within the urban services area.

Ultimately, this Master Plan directs the Township to a simpler, though well-described Zoning Plan, calling for adoption of a new type of land use and redefined land use categories. This promotes better mixing and integration of residential options and housing types within other compatible zoning categories thus mixing uses more compactly and efficiently.

Adoption of this Master Plan supports the redesign of our land use philosophy, land use policies and planning strategies to incorporate managed Smart Growth through more compact, pedestrian-scaled, walkable design elements.

Following adoption, the Master Plan should be implemented by amending the zoning ordinance and zoning map, by preparing a form-based code or codes for the three PICA areas, and by consolidating and simplifying all zoning districts, while integrating the new districts and expanded options into the fabric of the Township. This will result in more and better connection with other neighborhoods, amenities, and resources via carefully designed transportation, transit, pathways, trails and communication systems.

Finally, the Master Plan prescribes new tools for managing our progress towards the ultimate goals and objectives of this Plan. By adopting a prescribed plan for evaluating projects and activities against our targeted achievements we become more efficient and effective at planning, thus moving closer to adopting form-based code for future development in the Township.



# Action Plan

The Meridian Township Master Plan sets goals, objectives, and strategies to lead the Township into the future. The Plan contains sound land use, transportation, and infrastructure guidance and identifies metrics to evaluate progress.





*Land-use decisions have a fundamental impact on the character and quality of life in the Township. In 1950, the Township was largely rural and agricultural. The population of 9,000 was concentrated in two small settlements, Okemos and Haslett, and along Grand River Avenue. Today, the 2014 American Community Survey (Census) 5-year population estimate is 40,635, up from 39,688 in the year 2010.*

## Master Planning History

The central planning goal for these past several decades has been to maintain and improve the quality of life for Township residents, particularly the quality of residential life, schools and other public services, and the rich and diverse natural environment. This Plan is intended to preserve these aspects on which residents place such great value.

The Master Plan has roots in a long-standing commitment by the Meridian Township community to the importance of high quality land use planning. The Township's planning and zoning program was initiated in 1948, when the Township adopted its first zoning ordinance. The 1948 zoning ordinance was superseded by ordinances adopted in 1960 and 1963. The Township's first Comprehensive Development Plan was adopted in 1970, and a major revision to the 1963 zoning ordinance occurred in 1972. The future land use map was revised in 1974, and in 1987 and 1993 when both the text and map were updated. Between 1993 and today, the text and map were amended many times to reflect changing conditions and policies thus keeping the Plan up-to-date. The zoning ordinance has also been amended during these years to keep pace. A recodification took place in 2002. The latest Master Plan update was completed in 2005.





## Legal Basis for a Master Plan

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The Michigan Planning Act of 2008, as amended, expressly authorizes local units of government to engage in planning and zoning. For communities to engage in planning, a Planning Commission must be appointed. The Michigan Planning Act requires the Planning Commission, "Make careful and comprehensive surveys and studies of present conditions and future growth within the planning jurisdictions with due regard to its relation to neighboring jurisdictions." The Township Board of Meridian Township has asserted the right to approve the Master Plan and has been an active participant in the Township's Master Planning processes with the Planning Commission since 2005.

The Master Plan, as the official land use policy document of the Meridian Township Board and Planning Commission, establishes a cohesive decision-making strategy for the community. The Plan provides a statement of the Township's plans and policies for future development and redevelopment. The Plan considers the social, economic and environmental conditions that currently prevail. It promotes development and redevelopment consistent with community goals, and tries to anticipate future demands for facilities and services. Additionally, the Plan allows the Township to make decisions, spend funds, and assess programs and services in an informed rational manner.

The Meridian Township 2017 Master Plan presents the Township's vision for the future. It serves as a policy guide for the community and will inform the decisions of Township officials and administrators, governmental agencies, organizations, and private individuals. It is designed to provide a flexible road map for future development and to ensure that new growth is consistent with the Township's goals and objectives.

This 2017 Master Plan is long range in that it examines past trends and envisions development possibilities for the next five to twenty years. This allows the Township to plan ahead and anticipate future needs. One of the most important functions of the Plan is to provide a solid foundation for future land use decisions. The recommendations presented in the text and shown graphically on the maps will provide a legal basis for zoning and other land use controls utilized by the Township.

*The Michigan Planning Enabling Act of 2008, as amended, expressly authorizes local units of government to engage in planning and zoning. For communities to engage in planning, a Planning Commission is to be appointed.*

*The Master Plan is divided into five chapters:  
1) Action Plan,  
2) Future Land Use,  
3) Future Transportation,  
4) Community Profile, and  
5) Attachments.*

## Organization of the Master Plan

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### 1 | Action Plan

The first chapter of this Plan presents the goals and objectives that answer the questions, "Where do we want to be?" and "How do we get there?" This chapter includes strategic actions organized around the Township's goals and concludes with the zoning plan and recommendations to update the ordinance to implement this Plan.

### 2 | Future Land Use

The second chapter of this Plan outlines the course for future land use and regulation in Meridian Township and answers the question, "How should we grow?" Chapter 2 describes desired development patterns, areas for preservation, areas desired for new development, and suggested patterns and standards for new developments.

### 3 | Future Transportation

The third chapter of this Plan describes the recommendations for the Township's transportation system and its interface with the design of public space. Recommendations for the Township's Pedestrian and Bicycle Pathways, Vehicle System, and Public Transit Connections are introduced in this chapter.

### 4 | Community Profile

The fourth chapter of this Plan is the inventory and analysis that answers the question, "Where are we today?" This part provides an inventory of the demographic profile, population, and analysis of the key places that make up Meridian Township. Maps describing Community Features, Existing Land Uses, and Natural Features are included in this chapter.

### 5 | Attachments

The fifth chapter of this Plan includes such items as a synopsis of the May 21, 2015 public input session; base data and information supporting conclusions made in the first four chapters; examples of Metrics, Measures, Benchmarks, and Targets to develop into a monitoring program to evaluate the Plan's success; examples of building types for development in PICAs and graphics showing the actual PICA boundaries.

## Goals, Objectives, and Strategies

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The Planning Commission established a detailed set of Goals, Objectives, and Strategies to guide the formulation of specific policy decisions. The Planning Commission presents the following set of specific goals that are derived from the statements of community values (no priority is implied):

- Goal 1: Preserve and strengthen residential neighborhoods.
- Goal 2: Preserve open space and natural areas.
- Goal 3: Enhance the viability of Township businesses.
- Goal 4: Maintain and expand a diverse park system.
- Goal 5: Maintain essential public services.
- Goal 6: Provide and support an efficient, safe, and environmentally sensitive multi-modal transportation network.
- Goal 7: Promote efficient and sustainable growth practices.

For each of these goals, a series of objectives is stated, and for most of the objectives one or more strategies for achieving this objective are specified.

*The fundamental statement of community values, the personal values, the values relating to government and the vision for the future provide the foundation upon which subsequent policy decisions in this Plan rests.*

## 1

## GOALS AND OBJECTIVES

## Preserve and Strengthen Residential Neighborhoods

### A Maintain a community of desirable, attractive residential neighborhoods.

## STRATEGIES:

1. Prevent inconsistent uses from encroaching into residential areas.
2. Continue to support the designation and preservation of historic neighborhoods and residences.
3. Designate appropriate neighborhoods as special land use areas and adopt zoning specific to their needs.
4. Encourage cluster developments, mixed use and other compact residential choices closer to shopping, public transit and other services.
5. Ensure that the Future Land Use Map has a range of residential densities that will result in a diversity of housing that meets the needs of various income levels and household types.

### B Ensure new residential developments meet high standards of visual attractiveness, health and safety, and environmental sensitivity.

## STRATEGIES:

1. Minimize erosion and the intrusion of roads, pathways, houses, and driveways into wetlands and floodplains in residential developments.
2. Continue to require the planting of trees along rights-of-way, and the replacement of trees when they are damaged, destroyed, or diseased.
3. Encourage residential design that enhances use of outdoor areas for recreation, community walkability and integration with public transit.
4. Lay out new residential developments to accommodate public transit, for example, by providing pedestrian connections to bus stops and by designing for convenient curbside bus stops.
5. In all subdivisions and residential developments, encourage layouts that maintain maximum green space and/or common open space.

## 2

## GOALS AND OBJECTIVES

## Preserve Open Space and Natural Areas

### A Adopt policies and programs that maximize the preservation of open spaces, natural areas, other undeveloped areas, and agricultural land uses in the Township.

## STRATEGIES:

1. Continue to develop and implement Township policies regarding the protection of open space land and natural areas via zoning, the public purchase of land, conservation easements, development rights, and other appropriate techniques.
2. Encourage landowners to donate natural areas or open spaces to the Township, and to place their properties under the protection of the Farmland and Open Space Preservation (Part 361) or the Conservation and Historic Preservation Easement (Part 21) of PA 451 of 1994 Natural Resources and Environmental Protection Act, where appropriate.

3. Encourage landowners to donate land or development rights to non-profit land trusts.
4. Continue to coordinate efforts with the Park Commission to support and promote the preservation of open space and environmentally sensitive lands in Meridian recreation areas through donations of land with natural, open space, and ecological and/or historical significance.
5. Preserve the ecological integrity of the Red Cedar River through zoning, voluntary agreements with landowners, donation of land to the Township, or the purchase of land, scenic easements, and development rights, where appropriate.
6. Develop a tree preservation ordinance to protect significant mature trees.
7. Work with the Park Commission, Department of Public Works and Engineering, and the school districts, where appropriate, to encourage developers and builders to maximize the amount of land left in a natural state as common open space.

### **B Conserve wetlands, floodplains, and other water retention areas.**

#### STRATEGIES:

1. Identify all wetlands, floodplains, and other water retention areas.
2. Continue to communicate and coordinate with the Michigan Department of Environmental Quality on activities affecting lakes, streams, and wetlands.
3. Discourage development within wetlands, floodplains, floodplain fringe areas, and water retention areas.
4. Support the Environmental Commission's educational efforts to minimize infiltration of salt, fertilizer, herbicide, and pesticide.

### **C Link open spaces and natural areas into a network of continuous greenways throughout the Township.**

#### STRATEGIES:

1. Continue to use the Greenspace Plan as a guide for determining how natural areas can be linked into continuous greenways throughout the Township.
2. Work with the Land Preservation Board and Park Commission to continue the establishment of continuous greenways along the Red Cedar River through the identification of additional parcels of land that are important to the ecological and visual integrity of the Red Cedar River.
3. Utilize land planning methods, purchases of land and development rights, and plat, site plan, and other review processes to create and maintain continuous greenways.
4. Encourage the Environmental Commission to develop educational programs about the importance of protecting endangered animals and plants, ecosystems, and other unique or sensitive natural features.

### **D Protect groundwater recharge areas in the Township.**

#### STRATEGIES:

1. Support regional efforts to protect groundwater recharge areas.
2. Continue to educate citizens about the importance of protecting groundwater recharge areas.
3. Use zoning and other appropriate land management techniques to protect important groundwater recharge areas.

### **E Preserve greenbelts, open spaces, and natural areas and create pathways by encouraging the use of planned unit development or other suitable zoning strategies for new residential developments.**

## 3

## GOALS AND OBJECTIVES

## Enhance the Viability of Township Businesses

### A Upgrade commercial areas.

**STRATEGIES:**

1. Participate in regional efforts to redevelop the Grand River corridor, such as the Grand River Corridor Improvement Authority, and incorporate results where appropriate.
2. Improve and enhance the Haslett Road commercial area while maintaining its traditional character.
3. Encourage redevelopment of the downtown Okemos area using the Downtown Development Authority (DDA) Integrated Plan as a guide.
4. Evaluate opportunities for walkable urban design in commercial areas, including wayfinding solutions that improve usability.
5. Encourage the use of the commercial planned unit development ordinance.
6. Identify specific areas where the form-based code technique may be appropriately applied.

### B Develop the Township's mixed use core into a viable and vibrant district.

**STRATEGIES:**

1. Explore the viability of upper floor(s) residences in the mixed use core.
2. Continue to engage the public in deciding the direction for development in the mixed use core.
3. Explore options for public-private partnerships to revitalize the Township's mixed use core.

### C Improve the attractiveness of the Township's entrances and transportation corridors.

**STRATEGIES:**

1. Investigate grant-based funding opportunities to improve landscaping along major thoroughfares.
2. Create well-designed entrances along the main roads entering the community.
3. Promote opportunities for public art.

### D Promote economic development.

**STRATEGIES:**

1. Communicate with and utilize the resources of the Economic Development Corporation, Downtown Development Authority, Meridian Area Business Association, and Meridian Asset Resource Center to encourage economic development.
2. Provide businesses with the information necessary to invest in the community.
3. Continue to adopt Township ordinances and zoning practices to facilitate efficient decision-making and to incorporate greater flexibility where appropriate.



# 4

## GOALS AND OBJECTIVES

# Maintain and Expand a Diverse Park System

### **A** Continue to expand the Meridian Township park and recreational system to meet the recreational needs of residents into the future.

#### STRATEGIES:

1. Pursue acquisitions that target current and future demands of residents.
2. Employ acquisition strategies that leverage available dollars to secure maximum property for the value.
3. Support Pedestrian/Bicycle Pathway linkages to parks and recreation facilities.
4. Provide accessible facilities and leisure opportunities for persons of various physical and socio-economic capabilities.
5. Develop a Wayfinding Program to support park and trail connectivity, and improve usability while implementing the Township Brand strategy.

### **B** Develop and support Meridian Township park development and recreation programming that is diverse, widely distributed, fiscally responsible, and represents community needs.

#### STRATEGIES:

1. Support the Park Commission's continuing efforts to pursue public input in determining park and recreation development needs.
2. Utilize cooperative methods of providing recreation facilities by working with local recreation associations, schools, businesses, neighborhood groups and associations to provide diverse recreation programs.
3. Increase coordination between the Township Board, Park Commission, and Land Preservation Advisory Board to maximize the potential benefits and enhance stewardship of open space, natural areas and park lands.
4. Encourage developers to incorporate parks and recreation amenities in new developments to complement the efforts of the Park Commission.
5. Continue to promote fiscal responsibility through partnerships and collaborative opportunities, grant support, sponsorships and donations, and encouraging volunteerism.
6. Provide resources to deliver a high quality of life for our community residents and necessary support for maintenance and operation of these amenities.

## 5

## GOALS AND OBJECTIVES

## Maintain Essential Public Services

- A** Ensure that any future growth is consistent with the Township's present or planned capacity for sewage treatment, public water, and other utility systems.

**STRATEGIES:**

1. Focus growth into an urban services district to ensure efficient and fiscally responsible use of public services.
2. Routinely assess the demands on the utility systems from developments to determine available capacity for future development based on demographics.
3. Routinely inventory water, sewer, and other utility systems capacity.
4. Maintain and upgrade the infrastructure (water, sewers, roads, community facilities) of the Township through the Capital Improvements Program's systematic scheduling of infrastructure construction, maintenance, and renovation.
5. Continue to use Special Assessment Districts to finance infrastructure projects.
6. Incorporate appropriate recommendations from Tri-County Regional Planning Commission's Wellhead Protection Audit for regional best practices to protect the public water supply.

- B** Maintain police, fire, and ambulance service to all areas of the community.

- C** Maintain quality library service for the community.

- D** Use land use policies to assist the public school districts, which are a valued community asset that makes Meridian Township a unique and desirable place to live.

**STRATEGIES:**

1. Continue and/or initiate land use policies that attract families with students.
2. Support the Park Commission's agreement with the School Districts to coordinate park facilities and programs.
3. Support street and pathway improvements that provide safe access routes for school children.

- E** Promote cooperation between adjoining communities, school districts, and appropriate agencies.

# 6

## GOALS AND OBJECTIVES

# Provide and Support an Efficient, Safe, and Environmentally Sensitive Multi-modal Transportation Network

- A Evaluate the existing transportation network and identify problems, including traffic congestion, safety, environment, and aesthetics, which can be solved at acceptable cost.**

### STRATEGIES:

1. Cooperate with county, regional, and state entities to develop strategies to improve traffic flow.
2. Consider zoning and other design strategies such as Complete Streets as effective means of ensuring safe and efficient travel for all modes of transportation.

- B Maintain local roads.**

### STRATEGIES:

1. Support improvements to local streets when a special assessment district request has been received from local residents.
2. Review reconstruction and expansion of local non-subdivision streets through the Capital Improvements Program process, when 50 percent of the improvement's funding will be paid for by the Township or its residents through special assessment districts.

- C Support the Township's Complete Streets Ordinance.**

### STRATEGIES:

1. Share the Township's vision and work with transportation and road authorities.
2. Review current policies to identify inconsistencies and impediments to implementing the Complete Streets ordinance.
3. Conduct planning, regulatory, and physical audits of current street designs as needed and financially feasible.
4. Coordinate the Pedestrian/Bicycle Pathway Plan with Safe Routes to School policies and other Township plans.

- D Expand and improve the Pedestrian/Bicycle Pathway Plan.**

### STRATEGIES:

1. Continue to implement the requirement for sidewalks as determined necessary.
2. Continue to implement the pedestrian/bicycle pathway system through site plan review.
3. Continue to support the pedestrian/bicycle pathway millage for construction and maintenance of the Township's pedestrian/bicycle pathway system.
4. Investigate alternative surfacing materials to reduce the amount of impervious surface materials used in the construction of the pedestrian/bicycle system.
5. Continue to investigate strategies for safe and efficient travel for bicyclists and pedestrians.
6. Coordinate the Pedestrian/Bicycle Pathway Plan with parks, schools, preserves, Greenspace Plan, neighborhoods, and other destinations.

**E Encourage the use of public transportation.**

**STRATEGIES:**

1. Encourage and promote public transportation service to any new developments and in conjunction with redevelopment via site plan review.
2. Institute design standards for site plan review to ensure public transportation access to all segments of the population but particularly those with physical disabilities.

**F Coordinate Meridian Township's transportation planning with regional planning efforts administered by the Tri-County Regional Planning Commission and recorded in the 2035 Regional Transportation Plan.**

**STRATEGIES:**

1. Coordinate transportation planning and road improvements for all non-local streets with the region's long-range plan.
2. Advocate and promote the Township's needs and interests in transportation improvements with transportation and road authorities.



**GOALS AND OBJECTIVES**

**Promote efficient and sustainable growth practices**

**A Implement sustainable energy and environmental practices throughout the Township by utilizing the most current best practices.**

**STRATEGIES:**

1. Budget funds to have Township buildings assessed for energy efficiency a minimum of once every five years.
2. For Meridian Township procurement purposes, when equivalent products or services are available, preference should be given to the more sustainable services or products.
3. Encourage electric car charging stations.
4. Establish a minimum level of LEED certification or the equivalent for all projects undertaken by the Township.
5. Establish ordinances providing incentives for development that emphasize redevelopment, infill development, alternative energy, and building material reuse.
6. Increase the use of alternative transportation modes for commuting and recreation by encouraging the use of mixed use planned unit developments and implementing the Greenspace Plan.
7. Explore methods, through ordinances or by providing incentives for existing businesses, to upgrade their parking lots and landscaping to increase tree cover and shade, to be energy efficient, and environmentally friendly.
8. Explore incentives for new or redeveloped projects to be LEED certified or equivalent.
9. Work with developers to consider alternative energy use in site plan and construction of new development.
10. Encourage the use of alternative energy throughout the Township and develop a coordinated, integrated vision to incorporate renewable energy into the energy mix.

11. Pursue the tenets established in the Meridian Township Climate Sustainability Plan such as energy efficiency, renewable energy, water and waste management, and public education to illustrate a commitment to being a “green” community, maintaining a healthy ecosystem, and reducing the Township’s carbon footprint.

**B Develop Township policies to balance and manage growth.**

**STRATEGIES:**

1. Integrate information technology including geographic information systems to facilitate continuous improvement of the Master Plan.
2. Use the Self-Assessment of Sustainability Toolkit as a guide to evaluate growth in the Township.

**C Maintain open spaces and natural features in suburban and rural areas of the Township.**

**STRATEGIES:**

1. Continue to develop zoning standards and Township policies.
2. Continue to encourage and support voluntary citizen land conservancy efforts that maintain the Township’s open spaces, natural features, and rural areas.

**D Define an urban services district to promote walkable community development and dynamic community improvement through redevelopment.**

**STRATEGIES:**

1. Promote land use policies that emphasize compact infill development.
2. Investigate opportunities to maximize the use of existing infrastructure through development and redevelopment within the urban services district.
3. Investigate additional strategies to provide incentives for development and redevelopment within the urban services district.

**E Encourage development in Meridian Township that leads to sustainable land use.**

**STRATEGIES:**

1. Engage all stakeholders to study new techniques for the control and management of development.
2. Review the legality and suitability of these techniques for Meridian Township.

**F Prepare and implement a redevelopment strategy.**

**STRATEGIES:**

1. Eliminate inflexible or obsolete zoning regulations.
2. Identify priority redevelopment sites.
3. Expand public participation.
4. Prepare annual reports to the Township Board reporting progress towards the stated benchmarks and recommending any needed changes.

## Zoning Plan

The Zoning Plan consists of the Future Land Use Map and the land use designations outlined in this chapter. It suggests the Township adopt the recommendations for revisions to the Zoning Ordinance and Zoning Map.

A Zoning Plan is required by the Michigan Planning and Zoning Enabling Acts. Section 33(d) of the Michigan Planning Enabling Act, PA 33 of 2008, as amended, requires that the Master Plan prepared under that act shall serve as the basis for the community's Zoning Plan. The Michigan Zoning Enabling Act, PA 110 of 2006, as amended, requires a zoning plan to be prepared as the basis for the zoning ordinance. The Zoning Plan must be based on an inventory of conditions pertinent to zoning in the municipality and the purposes for which zoning may be adopted (as described in Section 201 of the Michigan Zoning Enabling Act). This Zoning Plan consists of the Future Land Use Map, the land use designations outlined in this chapter, and the suggestions that the Township adopt the recommendations for revisions to the zoning ordinance and map.

The following table presents the Meridian Township Zoning districts that apply to each of this Plan's Future Land Use designations.

**Table 1. Future Land Use and Zoning Map Correlation**

Future Land Use Designation	Zoning Districts
R1 Residential	RR, RRR, AG, CV
R2 Residential	RRA, RAAA, RAA, RA
R3 Residential	RA, RB, RX
MR Residential	RX, RD, RDD, RC, RCC, RN, PRD, MP, PUD
Business/Technology	PO, RP, I
Commercial	C-1, C-2, C-3, PO, CR
Mixed Use Planned Unit Development	C-PUD, MUPUD
Mixed Use Core	C-PUD, PUD, MUPUD
Institutional	All Districts
Parks and Open Space	All Districts

Source: McKenna Associates 2016

Not all of the Master Plan's future land use categories will match up with the current location or regulations of the Zoning District to which they most closely correspond. Zoning Ordinance text amendments, map amendments, or new Zoning Districts will be necessary to implement the Future Land Use Plan. The key revisions of the Zoning Ordinance are discussed on the following page.

*The Zoning Ordinance is the major tool available to local government to implement the land use mapping element of the Master Plan. The Meridian Township Future Land Use Map indicates residential growth areas of different densities and provides locations for commercial and industrial uses.*





## Recommendations for Revisions to the Zoning Ordinance and Map

In order to meet the goals of this plan, the following revisions to the Zoning Ordinance and Map are recommended:

- A new Zoning District that incorporates form-based regulations should be created for the Mixed Use Core areas.
- The Commercial Districts, C-1, C-2, and C-3, should be simplified and consolidated.
- The nine One-Family Residential Districts should be simplified and consolidated.
- The four Multiple-Family Residential Districts should be simplified and consolidated.
- Regulatory standards for inclusionary zoning of affordable housing and accessory dwelling units in the One-Family and Multiple-Family Residential Districts should be pursued per the recommendations of the Future Land Use Plan.
- Regulatory standards for the preservation of land outside the Urban Service Boundary should be established.
- The three PUD districts should be simplified and consolidated.

study area

## SHAPING THE AVENUE

UNIQUE PLACES AND COMMUNITY SPACES



- Meridian Township
- City of East Lansing
- Lansing Township
- City of Lansing





# Future Land Use 2

Restroom and concession plaza serves soccer and ball fields. Dense vegetation is cleared to open up space for additional volleyball, badminton, and other games and activities.

16' wide paved promenade with benches and tree canopy follows alignment of existing trail and connects amenities and play fields.

Boardwalk and barrier-free nature trail creates loop at north end of park.

Non-motorized park entry plaza with special paving, signage, benches and new bridge over drain is outside of park boundary.

8' wide paved trail with confluence at ball fields.

8' wide paved path connection to new bridge and barrier-free nature trails.

Restroom is opened up and path connection moved away from edge of fields to create usable park space.

Consistent with the Goals and Objectives in this plan, Meridian Township intends to remain an attractive, desirable, predominantly residential community with an emphasis on providing a high quality of life for its residents. Focused development patterns, coupled with the preservation of natural resources and the provision of recreational opportunities, will ensure that the Township is positioned to continue to offer residents the best possible blend of amenities and character.

Barrier-free nature trails.

Promenade with benches runs north-south through the park, connecting all areas and influencing nodes for park continuity.

Nature trails, paved paths, and boardwalks away from the main park promenade are defined with benches and signage in a variety of smaller and simpler barrier-free paved or decked plazas.

**SEE NANCY MOORE PARK PLAN ENLARGEMENT**

6' wide boardwalk connects sidewalks and terminates in park entry plazas with signage, lighting, and benches at both ends.

Non-motorized park entry plaza.

6' wide paved path connection.

Dense vegetation along the main promenade is cleared and space created for fitness stations.

6' wide boardwalk.

**SEE CENTRAL PARK SOUTH PLAN ENLARGEMENT**

**SEE HISTORIC VILLAGE PLAN ENLARGEMENT**

16' wide paved promenade with benches connects the Historic Village and Central Park South. Boardwalk through wetland area.



*In an effort to concentrate development, three existing enclaves should serve as the primary areas of future growth within the Township: Okemos, Haslett, and Carriage Hills. These centers should be redeveloped into higher-density mixed use cores of activity, filling a regional void in walkable neighborhoods and providing new retail and entertainment opportunities that are not common in the Township today.*

## Future Land Use Plan

The following summarizes the planned future land use by area:

- Agricultural / Educational – 1,470 Acres
- Residential
  - » R1: 0 - 0.5 Du/A – 4,432 Acres
  - » R2: 0.5 – 3.5 Du/A – 5,759 Acres
  - » R3: 1.25 – 3.5 Du/A With Bonus Density Up To 5 Du/A – 780 Acres
  - » MR: 5 – 14 Du/A – 853 Acres
- Business / Technology – 299 Acres
- Commercial – 524 Acres
- Mixed Use PUD Sites – 121 Acres
- Institutional – 1,227 Acres
- Parks / Land Preservation – 2,000 Acres
- Mixed Use Core – 306 Acres

(DU/A means dwelling units per acre)



Ingham County Medical Care Facility - Short Term Sub-Acute Rehabilitation Services and Outpatient Therapy Addition Rendering  
Coming Summer 2018!

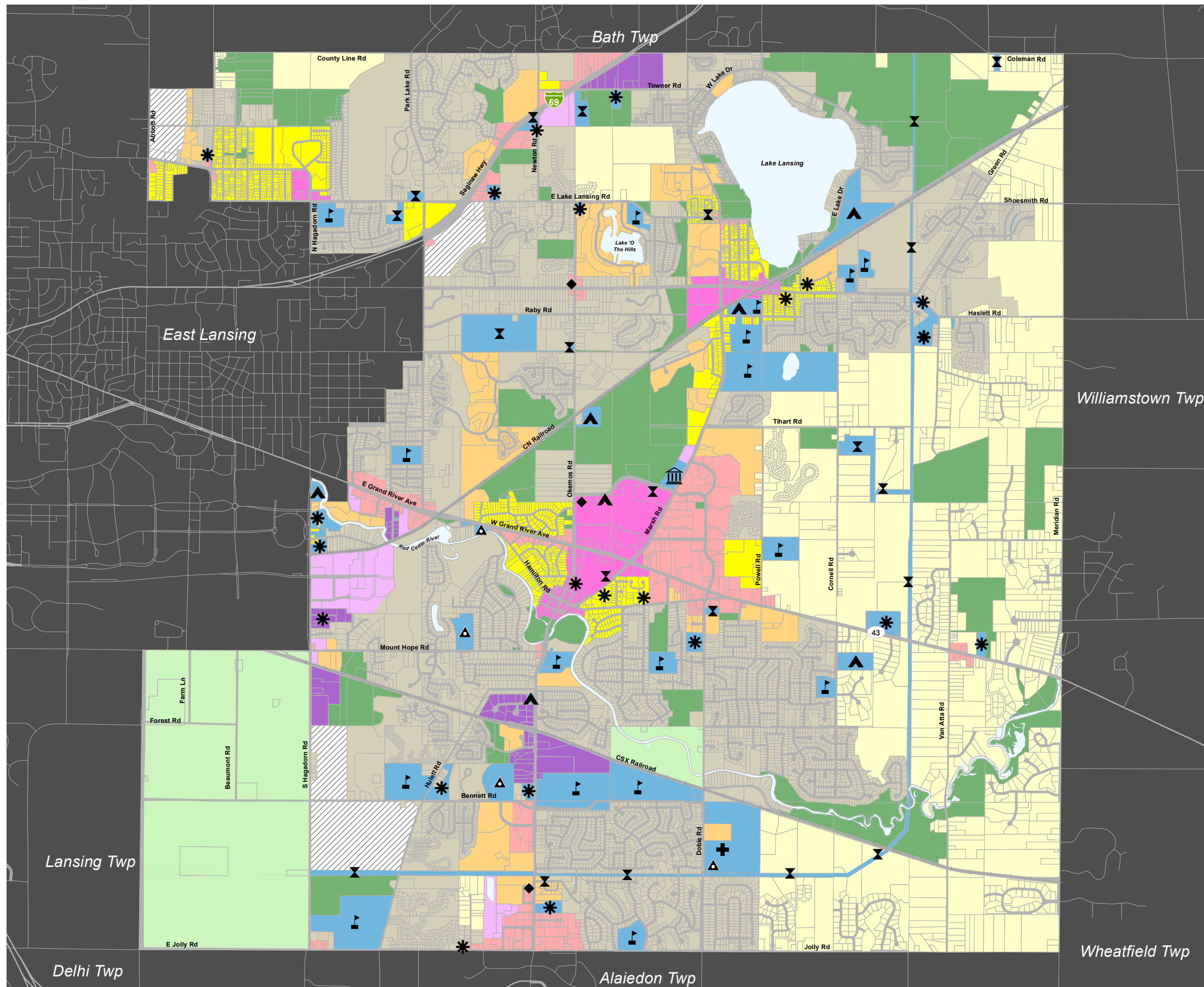
# Future Land Use

Meridian Charter Township  
Ingham County, Michigan

September 22, 2017

### Legend

- AGRICULTURE/EDUCATIONAL
- R1-RESIDENTIAL 0.0-0.5 DU/A
- R2-RESIDENTIAL 0.5-3.5 DU/A
- R3-RESIDENTIAL 1.25-3.5 DU/A with Bonus Density Up to 5 DU/A
- MR-RESIDENTIAL 5.0-14.0 DU/A
- BUSINESS/TECHNOLOGY
- COMMERCIAL
- MUPUD
- MIXED USE CORE
- INSTITUTIONAL
- Cemetery
- County Medical Center
- Fire Station
- Meridian Township Municipal Center
- Public
- Religious Institution
- School
- Utility
- PARKS/LAND PRESERVATION
- COOPERATIVE AGREEMENT
- WATER



0 2,000 4,000 FEET

# MCKenna ASSOCIATES

Map Feature Source: Meridian Charter Township, 2016



## Agricultural/Educational

Preserving agricultural character that was once prevalent throughout the Township. Michigan State University owns and operates this land and uses it for research and living classrooms.

## Residential

In an effort to encourage land preservation, densifying residential development is encouraged instead of expansion to the east. For example, in neighborhoods adjacent to the mixed use centers, the Township is interested in pursuing strategies that would permit accessory dwelling units without altering the existing character of the neighborhoods. Also, the Urban Service Boundary has been redefined to clarify the intended extent of utility service provided by the Township and to help prevent undesired residential sprawl into the natural and agricultural landscapes to the east.

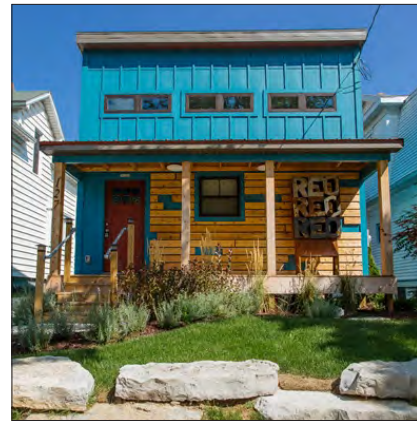
**R1: 0 – 0.5 DU/A.** Preserving rural and agricultural character through low density. These areas, characterized by agricultural fields, natural settings, wetlands, and stands of vegetation, are generally found in the eastern one-third of the Township. No water and sewer service should be extended to these locations.

**R2: 0.5 – 3.5 DU/A.** Providing suburban amenities in a medium density environment. The most prevalent residential category in the Township, these areas are characterized by planned aesthetic, proximity to retail and cultural centers, and personal vehicle-centric transportation. These areas are found throughout the western two-thirds of the Township.

**R3: 1.25 – 3.5 DU/A, with bonus density of up to 5 DU/A.** Encouraging residential infill near activity centers to promote density and walkability. This single-family residential category is similar in feel and function to the R2, but has the additional benefit of proximity to mixed use cores of activity. Accessory dwelling units and prioritization of pedestrian movement should be encouraged in these areas. Meridian Township should develop regulations for granting bonus densities to encourage accessory dwelling units on appropriate sites.

As the densest of the single-family residential designations, planned and redeveloped R3 Residential districts should provide more flexible housing options than other single-family residential districts. Planned R3 areas should incorporate into the Township’s Zoning Ordinance regulations intended to provide a consistent transition from the Mixed Use Core.

**MR: 5 – 14 DU/A.** Providing varying design, density, and amenities for multiple-family housing. The multi-family residential category provides housing options of varying intensity. These areas are found throughout the western two-thirds of the Township, between high-intensity commercial uses and low-intensity single-family housing. Bonus densities should be considered for developers that can incorporate inclusionary housing units into 20% of the development.







Tables 2 and 3 represent model schedules of regulations for Single-Family and Multiple-Family districts and should be incorporated into the Township's Zoning Ordinance.

Table 2. Model Regulations for Single-Family Residential Districts

BUILDING TYPE	FRONT SET-BACK	SIDE SETBACK	REAR SETBACK	HEIGHT	MINIMUM LOT SIZE
Single-Family House	Min. 25' / Porches may encroach 12' into Setback	Min. 10'	Min. 10'	42' Max. / 2 ½ Stories	50' Width 150' Depth
Detached Garage / Accessory Dwelling	Min. 10' from main building	Min. 3'	Min. 3'	42' Max. / 2 ½ Stories	Corresponds to lot of main building on site

Table 3. Model Regulations for Multiple-Family Residential Districts

BUILDING TYPE	FRONT SET-BACK	SIDE SETBACK	REAR SETBACK	HEIGHT	MINIMUM LOT SIZE
Apartment	Min. 10'	Min. 10' / Min. 0' at Secondary Frontages	Min. 10' / Min 0' at Alley Easements	42' Max. / 3 ½ Stories	100' Width 150' Depth
Rowhouse	Min. 25' / Porches may encroach max. 12'	Min. 10' / Min. 0' at Secondary Frontages	Min. 10' / Min. 4' at Alley Easements	42' Max. 3 Stories	140' Width 150' Depth
Duplex	Min. 25' / Porches may encroach 12'	Min. 10'	Min. 10'	42' Max. / 2 ½ Stories	50' Width 150' Depth



## Commercial

Large, national retailers and restaurants mixed with regional draws and specialty stores at varying scales. Retail opportunities exist in indoor malls, stores requiring large lots, and smaller strip malls. Service providers, professional offices, banks, and other regional office uses should be encouraged.

Larger community and regional commercial services and resources should be encouraged to develop along major transportation corridors and include vehicular and pedestrian connections to the mixed use centers. Grand River Avenue, Marsh Road, and Okemos Road on the southern side of the Township will remain the locations for ideal large-scale commercial opportunities, and emphasis on connections to the public transportation network will continue to grow.



## Business/Technology

Employment centers for the Township and region. These areas should serve the community's need for research facilities, light industrial opportunities, or corporate campuses.

Several locations have been identified for continuing research and technology facilities, including corporate headquarters and light industrial operations. Okemos Road near the Canadian National (CN) Railroad, Hagadorn Road near the Michigan State University campus, and Saginaw Road northwest of Lake Lansing are all planned locations for ongoing non-retail business use. These areas are not intended to directly provide goods and services to the community.



## Institutional

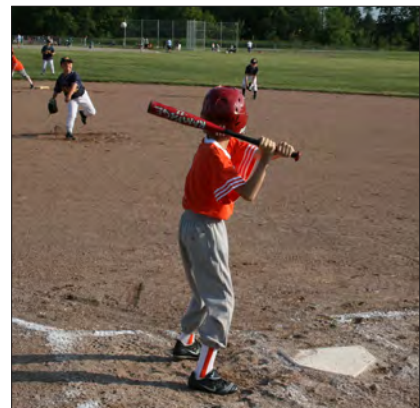
Publicly or privately owned facilities providing recreational, educational, religious, governmental, and other services to the community. The Township continues to encourage opportunities to enrich the lives of its citizens by offering varied services.



## Parks / Land Preservation

Land preservation, open spaces, public park facilities, and the programming that brings them to life. Intended for active and passive recreation, outdoor spaces and the connections between them continue to be a priority for the Township.

Where appropriate and prudent, the Township will continue to pursue the acquisition of parkland and prospective connections between open spaces, in accordance with the Township's 2004 Greenspace Plan. A complete trail system will contribute to the well-being of the community by providing connections between recreational facilities and activity centers.







## Mixed Use Core

The mixed use core area envisions walkable and engaging streetscapes with varied storefronts and activities. Residential housing is encouraged with a mix of townhomes, upper-story lofts, and apartments. Easy access to public transit and on-street parking should be prioritized in development. Off-street parking and other essential infrastructure should be hidden from the street.

Regulations for mixed use buildings in the Core should encourage a walkable scale of lots and buildings. Table 4 shows the model schedule of regulations for how this type of use should be incorporated into the Township’s Zoning Ordinance to encourage walkable design in these districts. Residential building types listed in the following sections may also be used in the Mixed Use Core on side streets.

Three distinct town centers are recommended for redevelopment as mixed use core areas: Haslett, Okemos, and Carriage Hills. A Potential Intensity Change Area (PICA) analysis for each area is included in the following pages.

Table 4. Model Regulations for Mixed Use Districts

BUILDING TYPE	FRONT SET-BACK	SIDE SETBACK	REAR SETBACK	HEIGHT	MAXIMUM LOT SIZE
Mixed Use	Max. 0'	Min. 0'	Min. 0'	42' Max. / 3-Stories	264' Width 120' Depth
Retail	Max. 0'	Min. 0'	Min. 0'	18' Max. / 1-Story	50' Width 150' Depth
Liner	Max. 0'	Min. 0'	Min. 0'	30' Max. / 2-Stories	Corresponding to size of parking lot screened
Apartment	Min. 10'	Min. 10' / Min 0' at Secondary Frontages	Min. 10' / Min 0' at Alley Easements	42' Max. / 3 ½ Stories	100' Width 150' Depth
Cottage Retail	Min. 0'	Min. 10'	Min. 10'	42' Max. / 2 ½ Stories	100' Width 150' Depth

Definitions of the building types in Table 4 can be found at the Building Types – Examples web link located in the Attachments chapter on page 84.



**Haslett PICA.** Bisected by Haslett and Marsh Roads and disconnected from Haslett by the railroad, the plazas that make up this PICA--Shop Town, Haslett Village Square and Haslett Commerce Center--are a mix of highly successful and vacant retail space.

**Haslett Today.** East of Marsh Road, Shop Town is successful despite aging infrastructure and a disorganized development pattern. To the west, underutilized retail space in Haslett Village Square is hidden behind expanses of parking lot. Marsh Road divides the sides with five lanes of heavy traffic, creating a barrier for any potential pedestrian connection between the two sites. Haslett Road similarly deters residents from walking into the site from the north.

**A Walkable Community Center Tomorrow.** The Haslett mixed use core will benefit from an influx of residential development that places walkability and human scale above traditional suburban living.

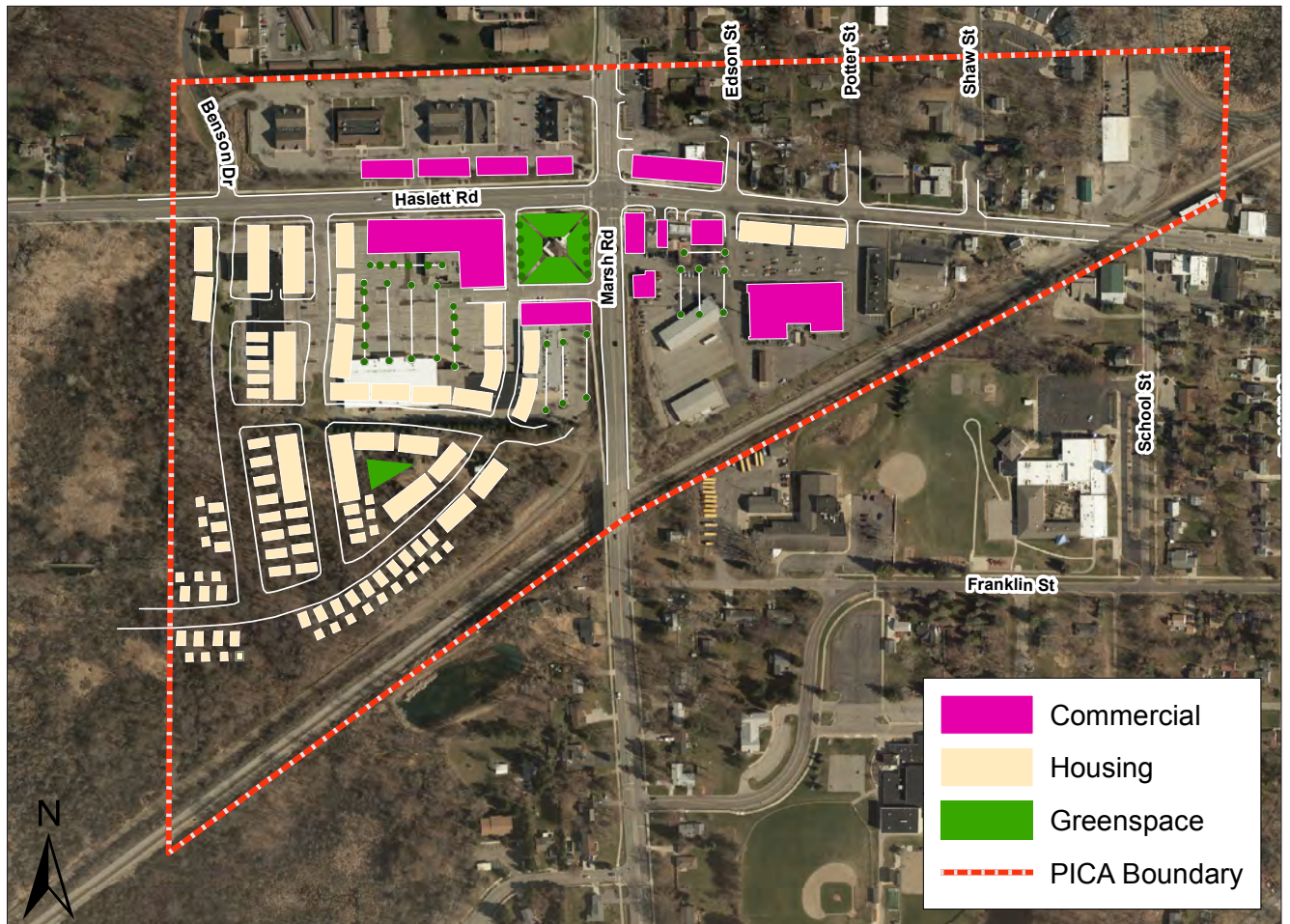
By providing housing on-site with existing commercial buildings, the revitalized area will provide residents with the amenities they need, while retailers will benefit from an invested customer base within easy walking distance.



Perspective View ▲  
 Bird's Eye View ►







The rendering depicted above is an example of one potential redevelopment scenario and is not intended to impair the ability of current land owners to use and maintain their properties in accordance with current zoning and building regulations. The rendering is conceptual in nature and for example purposes only.

## Haslett PICA Analysis

### RETAIL

- 87,428 Square Feet of Retail
- 17.9% of demand for new retail in Meridian
- 10.7% of demand for new walkable retail in Meridian
- Possible Retail Tenants:
  - » Specialty Food Stores
  - » Health and Personal Care Stores
  - » General Merchandise Stores
  - » Used Merchandise Stores
  - » Beer/Wine/Liquor Stores
  - » Bars/Restaurants
  - » Florists

### HOUSING

- 320 Housing Units
- 12.8% of demand for walkable housing in Meridian

**Okemos PICA.** Located along Okemos Road a short distance south of Grand River Avenue, this once-thriving historic activity center is utilized as a vehicular cut-through.

**Okemos Today.** The street grid is desirable in scale and has the potential to support mixed use infrastructure of a walkable urban form. In its current form, Okemos lacks true connection to the active commercial corridor just minutes to the north. The center is missing an identity and purpose, even though visibility and accessibility are high.

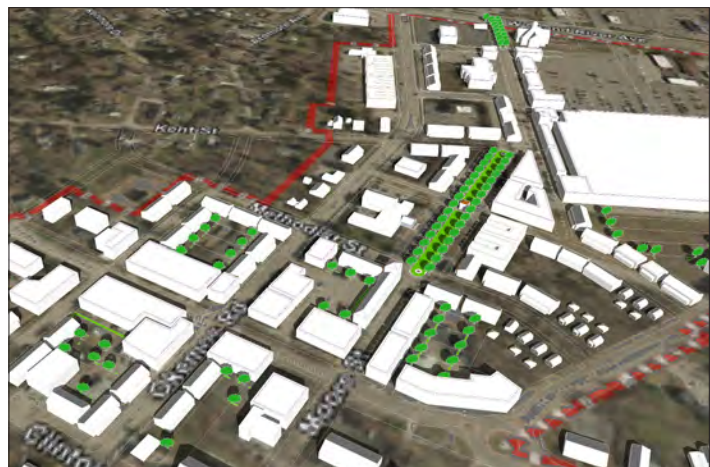
**A Bustling Downtown Tomorrow.** The Okemos core will embody traditional urban living, with emphasis on creating spaces for living, working, and recreation within the neighborhood.

New development in Okemos will take advantage of its location to provide residents great access to regional transportation systems and draw in visitors with unique retail and service amenities. First floor storefronts and upper-level apartments and condos will provide an eclectic mix of users that will take advantage of plazas and street cafes to create an active streetscape.

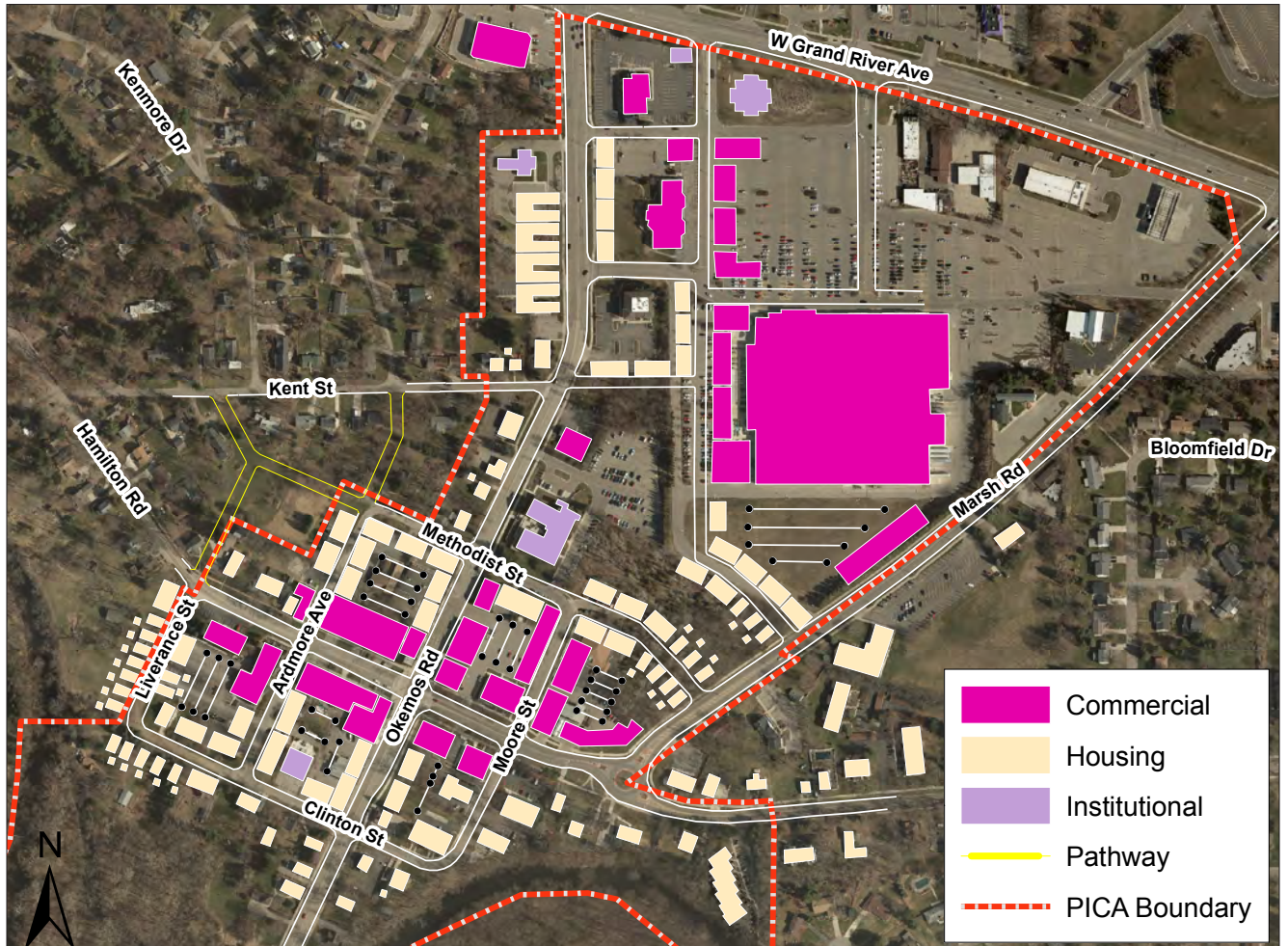


Perspective View ▲

Bird's Eye View ▶







The rendering depicted above is an example of one potential redevelopment scenario and is not intended to impair the ability of current land owners to use and maintain their properties in accordance with current zoning and building regulations. The rendering is conceptual in nature and for example purposes only.

Note: This conceptual build-out scenario shows buildings in floodplain areas. All future development must be consistent with Meridian Township floodplain policies.

## Okemos PICA Analysis

### RETAIL

- 191,458 Square Feet of Retail
- 39.2% of demand for new retail in Meridian
- 23.4% of demand for new walkable retail in Meridian
- Possible Retail Tenants:
  - » Furniture Stores
  - » Home Furnishings Stores
  - » Electronics Stores
  - » Specialty Food Stores
  - » Beer/Wine/Liquor Stores
  - » General Merchandise Stores
  - » Bars/Restaurants

### HOUSING

- 695 Housing Units
- 27.9% of demand for walkable housing in Meridian

**Carriage Hills PICA.** The northwest corner of Hagadorn and Lake Lansing is a commercial center surrounded by family-oriented residential neighborhoods. Updates to retail and office buildings continue, but a cohesive vision is not apparent.

**Carriage Hills Today.** Underutilized retail space and an expansive parking lot characterize the interior of the shopping center. The credit union and gas station along the periphery have been modernized, yet a main draw of commercial or recreational interest remains absent from the area. With a large population living in close proximity to the center, there is great potential for retail and activity in a close-knit mixed use development.

**A Re-Imagined Mixed Use Destination tomorrow.** Taking advantage of the surrounding population, the Carriage Hills plan brings life in the form of resident-focused activity nodes surrounded by family-oriented retail and restaurants.

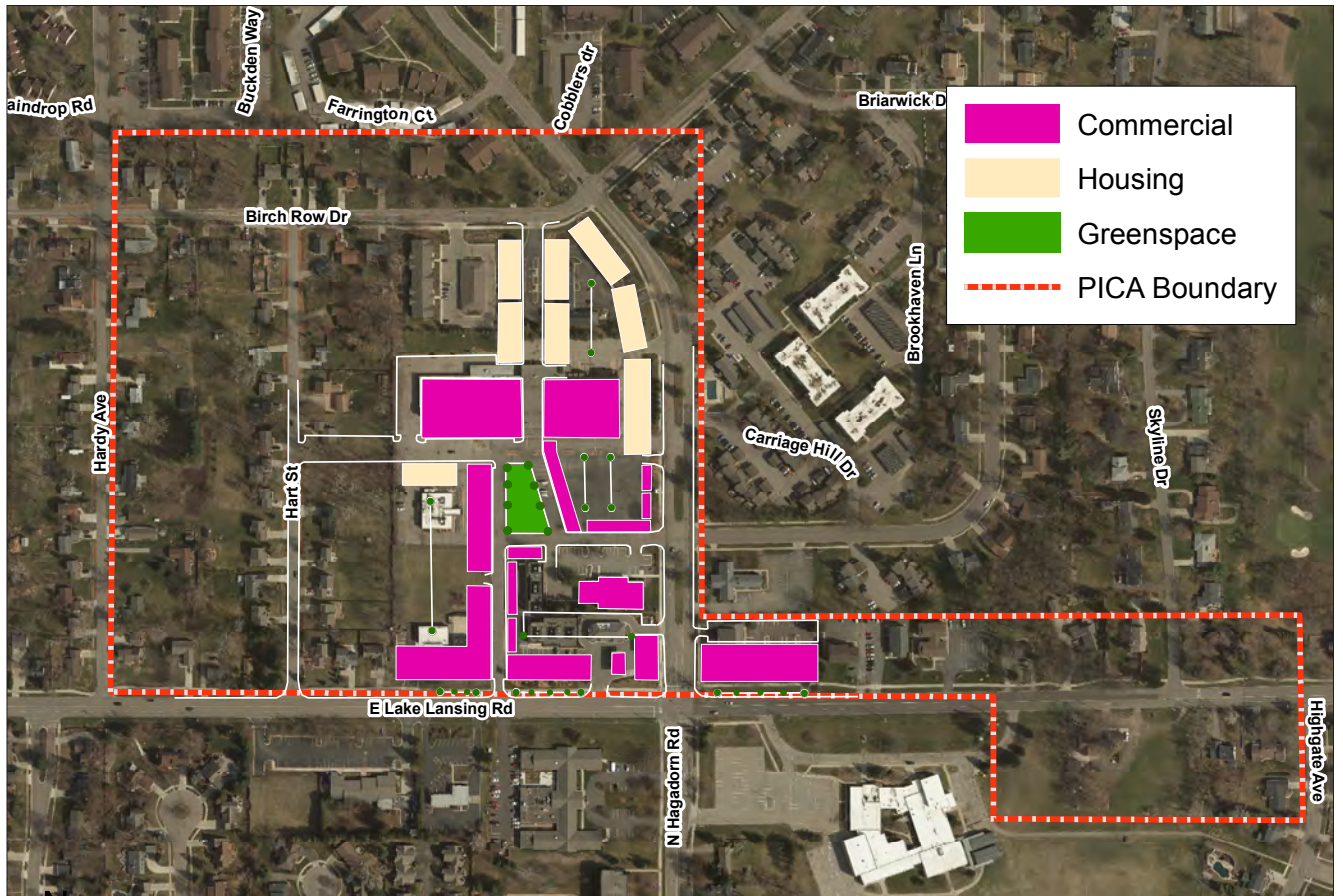
The updated street grid and building forms will encourage walkable living for existing residents on the periphery as well as new residents living above storefronts and offices. Carriage Hills will provide the amenities necessary for families to live within the center, and the excitement necessary to draw in visitors from the Lansing region.



Perspective View ▲  
 Bird's Eye View ►







The rendering depicted above is an example of one potential redevelopment scenario and is not intended to impair the ability of current land owners to use and maintain their properties in accordance with current zoning and building regulations. The rendering is conceptual in nature and for example purposes only.

## Carriage Hills PICA Analysis

### RETAIL

- 70,437 Square Feet of Retail
- 14.42% of demand for new retail in Meridian
- 8.62% of demand for new walkable retail in Meridian

#### • Possible Retail Tenants:

- » Specialty Food Stores
- » Health and Personal Care Stores
- » General Merchandise Stores
- » Used Merchandise Stores
- » Beer/Wine/Liquor Stores
- » Bars/Restaurants
- » Florists

### HOUSING

- 131 Housing Units
- 5.3% of demand for walkable housing in Meridian

# Architectural Standards

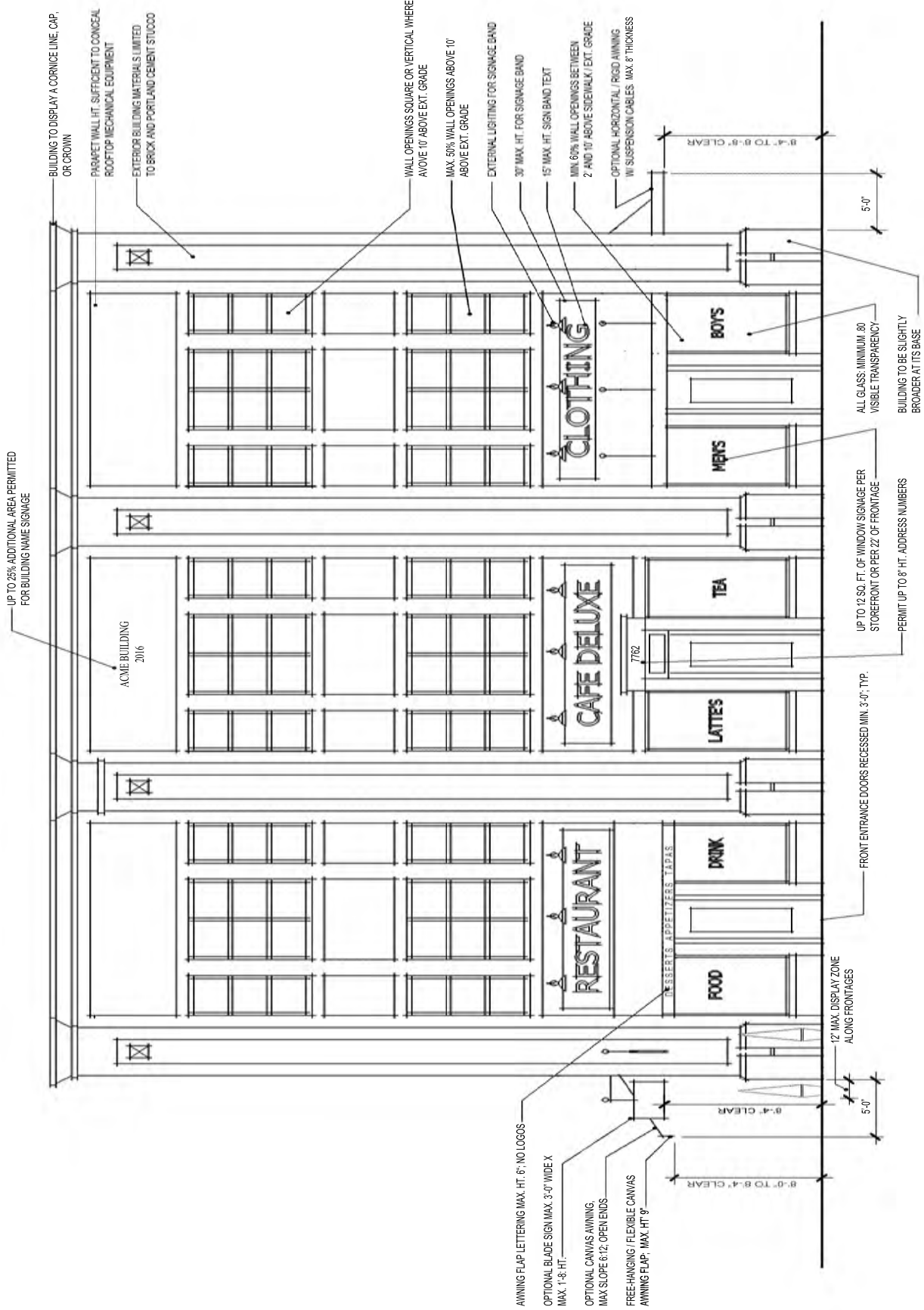
The following general architectural standards are strongly encouraged for development in Meridian Township.

## General Architectural Standards:

1. Storefronts, where applicable to particular Building Types, are always located at grade-level and consist of minimum 60% glass (between 2 feet and 10 feet above finish grade or sidewalk) and doorways (main entrances) recessed minimum 3-feet and 6-inches. Refer to the Mixed Use Architectural Standards diagram (ground floor level), for additional storefront requirements.
2. Exterior finish materials on all facades shall be limited to brick, cut stone, wood siding or shingles, cementitious siding or shingles, and/or Portland Cement stucco (no E.I.F.S.), or other synthetic stucco or rusticated elements).
3. All window glass shall have a minimum transparency of 80%.
4. Wall materials may be combined on each facade only horizontally (one above the other, not side-by-side), with the heavier material below the lighter.
5. Use fine and smooth textured surfaces when using materials such as architectural pre-cast concrete, textured block, or stucco for exterior cladding. Rusticated stone is prohibited.
6. Allow any natural color of primary materials such as stone or brick to dominate the majority of façade surface as its base color.
7. Use accent colors for elements such as pilasters, horizontal bands, cornices and window frames to complement the shade of the base color.
8. Flat roofs shall be enclosed by parapets, a minimum of 42 inches above the roof surface, or as required to conceal rooftop mechanical equipment.
9. All wall openings, including porches, galleries, arcades and windows (with the exception of storefronts) shall be square or vertical in proportion.
10. Excluding storefronts at grade, wall openings shall be punched through an opaque façade and not exceed 50% of the total building wall area, with the façade corresponding to each structural bay calculated independently.
11. Doors and windows that operate as sliders are prohibited along frontages.
12. Pitched roofs, if provided, shall be symmetrically sloped no less than 5:12, except that roofs for porches and attached sheds may be no less than 2:12.
13. Balconies and porches shall be made of painted wood or decorative iron or steel.
14. Along Mixed Use, Liner, and Retail Building Type frontages, include a minimum 72 inch height manicured hedge, a low brick wall with a 4 inch concrete cap (between 32 and 36 inches above sidewalk in height, including wall and cap), or decorative metal fencing inset between capped brick piers as a parking screen where said frontage line is not already occupied by the corresponding building façade.
15. Pertaining to sites with other than Mixed Use, Liner, or Retail Building Types, fences within the first 25 feet of the primary building frontage shall be painted wood or decorative metal and be 30 to 36 inches in height. Fences otherwise may be of wood board or chain link up to 6 feet in height.

*To create an architectural style that is harmonious with adjacent structures, sensitive to the natural environment, and supports a recognizable Township identity general architectural standards are proposed to provide a reasonable range of exterior facade alternatives.*

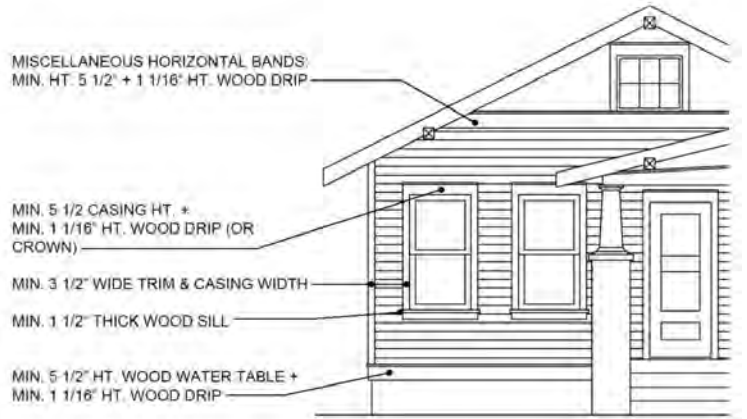
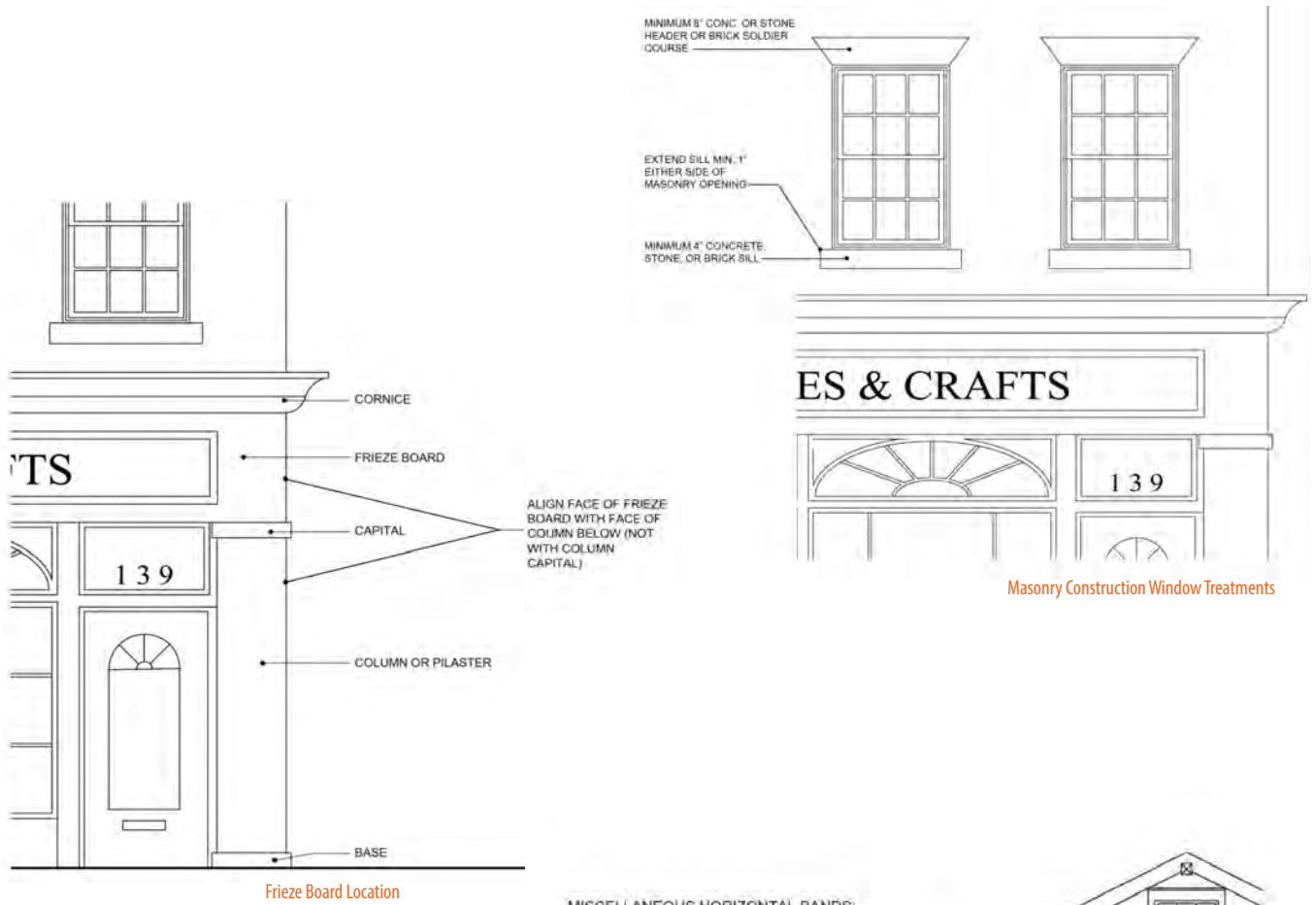
16. Additionally, street screens should be constructed of a material matching the adjacent building facade
17. Employ a minimum 11 feet and maximum 15 feet height floor to floor height between finish grade and/or sidewalk surface at the primary frontage of the building and the second floor finish floor line. Employ a maximum 10.5 feet floor to floor height between upper floors.
18. Accessory Dwelling Units excluded, locate the main entrance and any signage of all buildings so as to address a street (not at the rear of building or addressing a parking lot).
19. Construct all facades and facade segments parallel with a street at the corresponding frontage line (or, in cases where there is a building setback along minimum 25-feet, alternately provide decorative metal fencing inset between capped brick piers at the right-of-way (R.O.W.) line.
20. Pertaining to Mixed Use Building Types, create a sense of scale and proportion with the street level façade by using storefront spacing and rhythm that provides for a visually interesting façade. Rhythm implies that storefront spacing repeats and that pilasters and entryways have been provided to accommodate repetition. Provide a hierarchy of architectural details and features with the emphasis on the street level.
21. Flat-roofed buildings should have a base, shaft, and capital similar to that of a column. A building base can be created minimally with the use of storefronts while a building capital can be achieved with the inclusion of a building cornice line. The shaft, in this case, would be implied by the remaining body of the building itself. See the Mixed Use Architectural Standards diagram for an example of a flat roofed building with a base, shaft, and capital.
22. Set storefront window frames 15 to 30 inches above the finished grade to provide durability and to accommodate traditional main street building features, such as base panels, sills, and display windows.
23. Recess all window frames (including at storefronts) 4 to 8-inches to provide a shadow line and accentuate exterior wall thickness and, correspondingly, employ exterior wall thicknesses sufficient to provide such a shadow line.
24. Storefront glass excepted, all building windows should be operable.
25. Provide awnings or building overhangs to shade storefront glass.
26. For storefront and display windows along frontages, provide and maintain at least 80% of the storefront and display windows as free from visual obstructions such as signs, logos, advertisements, window screens, security grille, blinds or window covering.
27. Employ awning and canopy materials such as canvas, metal, or glass. Vinyl and plastic are unacceptable materials for awnings and canopies.
28. Internally illuminated awnings are unacceptable.
29. Use awnings to define individual storefront openings only. The continuation of awnings along blank walls is unacceptable.
30. First floors not associated with storefronts (or contiguous with lobbies) should be elevated minimum 18 inches above exterior finish grade.
31. Sloped roof materials may include slate, terra cotta, cedar shingles, standing seam metal, dimensional (or solid dark green, dark red, or dark grey) asphalt shingles.





## Miscellaneous Building Detail Requirements

- **Frieze Board Location.** For roofs and upper floors that are supported by, or appear to be supported by, columns or pilasters
- **Masonry Construction Window Treatments**
- **Non-Masonry Construction Window Treatments and Building Trim**



Non-Masonry Construction Window Treatments and Building Trim

*The urban service boundary limits the extent of water and sewer service in the Township. It preserves high-quality open space and the rural character of the eastern one-third of the Township while focusing new development into the mixed use core areas of Haslett, Okemos, and Carriage Hills.*

## Urban Service Boundary

The urban service boundary demarcates the line where the Township will limit the provision of public utilities such as water and sewer. This boundary will help the Township focus development efforts inward rather than sprawling out, allowing more cost-effective delivery of public services and the preservation of open space and natural resources.

The Township has committed to reviewing the urban service boundary every five years, concurrent with the Master Plan, in an effort to be responsive to changing conditions and needs. When reviewing proposed updates, the following criteria must be considered:

- Whether the amount of available land within the urban services district is adequate for all land use types for the ensuing 20 years.
- Current demographic and economic projections.
- The ability of the Township to maintain acceptable levels of service and quality of life for existing and new residents.
- Analyses of soil type, vegetation, topography, availability of public water and sewer services, existing property lines, existing land use, and potential for development.
- Proposed boundaries are preferred along roads or other natural boundaries.

The Township will also consider requests from private property owners and developers for amendments to the boundary. The applicant must provide the following for consideration:

- Location in relation to the existing urban services area.
- Documentation from the applicant there are no suitable development sites within the urban services district.
- Documentation that a compelling public health and/or safety issue exists for which the only solution is amending the urban services district boundary.
- Weigh the benefits and economic burdens for the Township.

Much of the western two-thirds of the Township is within the Urban Services District. Many of the residential developments therein are served by both water and sewer services, although some do exist without one or both of those services. As long as capacities for both systems are adequate and quality of service will not drop as a result of increased development, expansion of the utility systems within the urban services district can be accommodated without further amendment of the urban service boundary.

### Exemption to the Urban Services District

Property located within the 2009 Georgetown Sanitary Sewer Interceptor Payback District and subject to the Georgetown Sanitary Sewer Interceptor Benefit Charge shall be exempt from the Urban Services District Boundary and Policies, only for sewer extensions, until July 7, 2024 or until the Eyde Company is reimbursed the amount in the July 7, 2009, Board Resolution entitled Georgetown Sanitary Sewer Interceptor Benefit Charge and Reimbursement, whichever occurs first.



HARRIS NATURE CENTER

3998







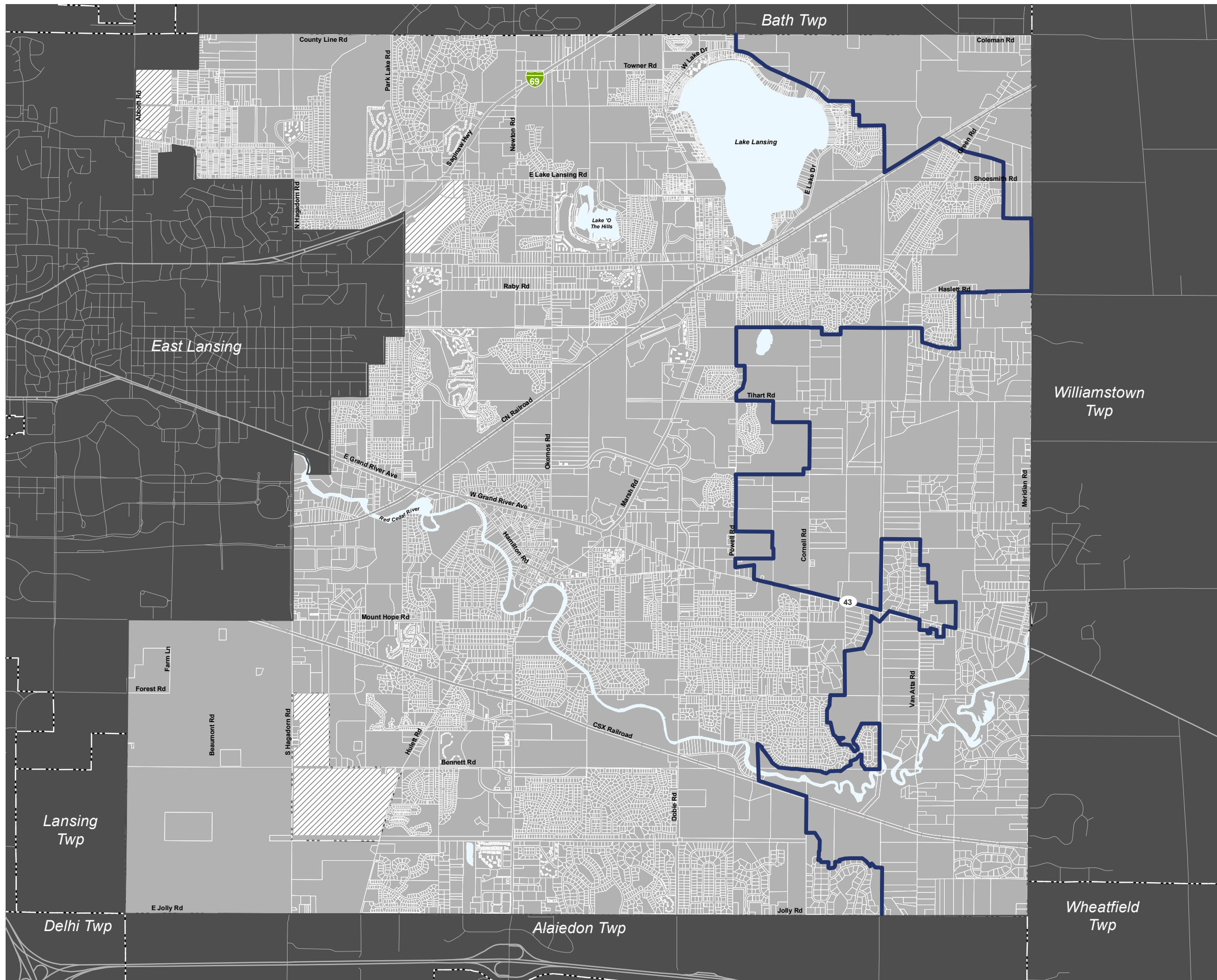
# Urban Services District

Meridian Charter Township  
Ingham County, Michigan

June 6, 2017

### Legend

-  Urban Services Boundary
-  Cooperative Agreement



0 2,000 4,000 FEET



# Future Transportation

# 3

Consistent with the Goals and Objectives in this plan, Meridian Township intends to develop a walkable, bikable, and transit supported transportation network that serves the development of mixed use core areas in Haslett, Okemos, and Carriage Hills. The vehicle network and extensive pathways that link Meridian Township neighborhoods are essential to maintaining local quality of life and regional economic prosperity.





*The future transportation plan sets forth recommendations for the development of public right-of-way in a manner consistent with and supportive of recommendations for future land use.*

## Future Transportation

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This chapter proposes a Future Transportation Plan that maintains the existing functional classification designations, as well as adopting by reference, the Township Pedestrian / Bicycle Pathway Plan and the Capitol Corridor: A Vision for Michigan Avenue / Grand River Plan.

Future Transportation Plan recommendations focus on pathways, crossing improvements, gateway creation, and creating complete streets with pedestrian, bus transit, and bicycle facilities. The network is designed to establish easy to navigate connections for people to walk, bike, drive, and take transit in their neighborhoods and around the Township.

### Transportation Corridors

Existing transportation corridors, including roads, streets, highways, and railroads, offer residents an automotive-centric transportation network. Future emphasis will incorporate pedestrian, bicycle, and public transit options.





## Pedestrian / Bicycle Pathways

The Township has an extensive network of pedestrian/bicycle pathways. These trails and pathways are largely funded through the Pedestrian/Bicycle Pathway Millage and are maintained by the Township's Parks and Grounds Maintenance Staff.

Not all pathway segments are constructed with millage funds. Federal grants or matching funds programs have been awarded for specific projects such as the pedestrian/bicycle bridge over the CN Railroad on Marsh Road and conversion of a portion of the old interurban line from Burcham Drive to Okemos Road. Since 1975, the Township has required, by ordinance, that developers construct pedestrian/bicycle pathways along the street frontage of new developments where the Plan indicates a future pathway.

### Mode Accommodation

Improvements to the pedestrian and bicycle pathway network in Meridian Township with new connections to employment and shopping destinations will support residents' health and wellness. With bicycle network improvements, more Township residents will be able to make safe, short trips to parks, schools, and even downtown entertainment and shopping, all without getting in the car.

The pathway plan currently focuses on off-street shared use pathways and on-street paved shoulders for connections. Looking forward, Meridian Township should work to identify streets that can be formalized with on-street bike lanes and marked shared lanes. Non-motorized facilities should be designed to meet current recommended design practices of the American Association of State Highway Transportation Officials (AASHTO) or the National Association of City Transportation Officials (NACTO).

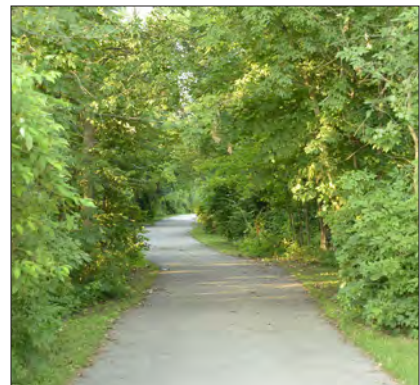
### Shared Use Paths and Trails

Shared use paths and trails are paved concrete or asphalt paths wide enough to accommodate both pedestrians and bicyclists. They are typically a minimum of 10 feet wide with two (2) feet of clearance on either side of the path. Shared use paths offer cyclists a safe place to bike off-street when there is no space for a bike lane, or it is unsafe to bike on the street.

### Bike Lanes and Paved Shoulders

Bike lanes create a dedicated space for cyclists on a roadway. They are appropriate on streets with moderate to heavy traffic. Bike lanes are indicated by on-street markings, which can be supplemented with signage. Bike lanes reinforce proper roadway etiquette, raise the visibility of bicyclists, and help both bicyclists and drivers behave predictably when sharing road space. For safe cycling, bike lanes should be four (4) feet to six (6) feet wide. Buffered bike lanes and protected bike lanes can be designed to provide additional separation from vehicle traffic for on-street cyclists.

*Pedestrian/bicycle pathways are a means of transportation for which the Township has taken a lead role in system development. The Township has its own pathway construction and maintenance program, funded by a .33 mill tax approved by voters in 1974 under Michigan Public Act 35 of 1966. Voters have renewed this dedicated millage several times since 1974.*





### Marked Shared Lanes or Sharrow

Marked shared lanes use a double chevron and bicycle marking, or “sharrow,” in a lane intended for the joint use of motorized and bicycle traffic. Chevron symbols direct bicyclists to ride in the safest location within the lane, outside of the door zone of parked cars and areas where debris is likely to collect. Generally, marked shared lanes are a low-cost treatment suitable for lightly traveled collector and arterial roads.

### Improved Pedestrian Crossings

Improved and frequent pedestrian crossings are recommended to support safety, comfort, speed, and convenience of walking trips. An example of a possible improvement is the mid-block crossing consisting of striped crosswalks with pedestrian refuge islands between two-way traffic lanes. Haslett Road and Hamilton Road should be considered for such improvements. Mid-block crossings are recommended by Complete Streets advocates. Pedestrian crossings also serve bicyclists.



### Road Diets

A road diet is recommended for consideration along Lake Lansing Road between Hagadorn Road and Marsh Road and Haslett Road between Okemos Road and Marsh Road. A lane reduction can be used to accommodate bikeways and improve the safety of all potential users. The most recent traffic counts for Lake Lansing Road are approximately 10,015 cars per day and for Haslett Road are approximately 13,650 cars per day. Currently, these streets have four-lane profiles with two travel lanes for through traffic in each direction, that go into sections of roadway with two lanes, one in each direction. A four-lane profile can increase the potential for rear-end crashes and left-turn crashes from drivers attempting to maneuver behind or around turning traffic. A road diet feasibility study should be conducted that includes recommended best practices of the Federal Highway Administration (FHWA), including the following components:

- A safety analysis of crash frequency, multimodal crossings, and driveway access
- Complete streets design considerations including land use, community context, public support, and mode accommodation
- An operations analysis of turning frequency, speed, signal timing, and comparative trip delay
- Cost, alternative routing, and parking considerations



### Complete Streets

Complete Streets are designed and operated to improve safe access for all users. Pedestrians, bicyclists, motorists, and transit riders of all ages and abilities must be able to safely move along and across a Complete Street.

In 2012, the Township adopted a Complete Streets Ordinance. The Complete Streets Ordinance demonstrates that elected officials and decision makers are dedicated to providing multimodal access to all residents. Creating the Ordinance required the coordination and input of multiple jurisdictions, including the Ingham County Road Department, as well as the dedication of the Township administration and officials.



## MDOT University Region Non-Motorized Plan

Finalized in 2015, the Michigan Department of Transportation created a plan focusing on pedestrian and bicycle pathways throughout Michigan. Meridian Township was a part of the University Region in this study, which inventoried existing dedicated and shared use pathways available to non-motorized transportation users from the Lansing area to the southern Michigan state border. This plan also identified strategies that communities should consider when updating policy documents that may encourage alternative modes of transportation.

### Grid Retrofits

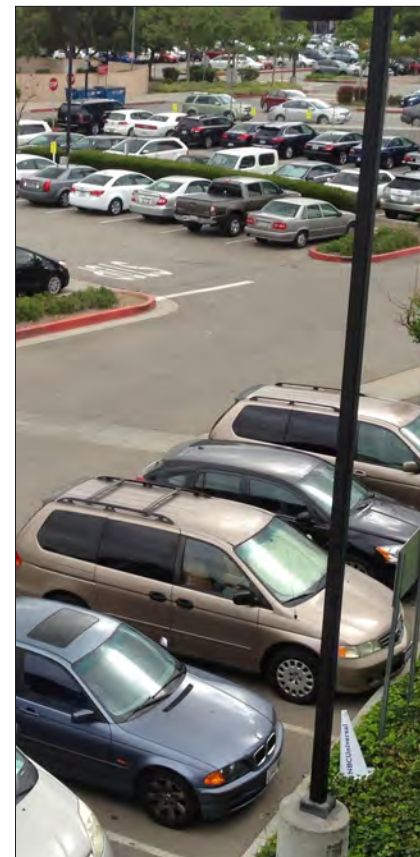
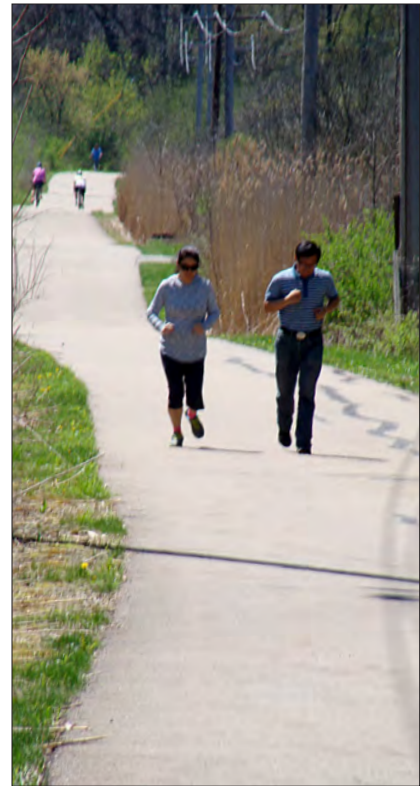
Currently, there are some limitations in the intersection density of the street grid in the Okemos, Haslett, and Carriage Hills area that could impede their development as walkable centers, as discussed in the Future Land Use Chapter. A desirable standard block length for walkability and vehicle circulation in a downtown area is 300 feet to 600 feet.

With new development, it may be possible to retrofit the street grid to create more pedestrian scale block lengths and improve network connections. The Pedestrian / Bicycle Pathway Map shows a few key retrofits to the network to eliminate the mega-blocks and create walkable urban centers.

- **Okemos Mixed Use Core Area:**
  - » New public street system to link the Meijer site and Grand River Avenue bus service into the Okemos hamlet. Additionally, a new street link to address the existing grid deficiencies in the northeast quadrant of Hamilton Road and Okemos Road
- **Haslett Mixed Use Core Area:**
  - » New public streets system to link into existing streets on the southwest corner of Haslett Road and Marsh Road
- **Carriage Hills Mixed Use Core Area:**
  - » New public streets system to link into existing streets on the northwest corner of Lake Lansing Road and Hagadorn Road

New connections should be two-way streets with target vehicle speeds of 15 mph to 20 mph and 16 to 22 feet total vehicle travel way. On-street parking, shared biking and pedestrian access should be required.

Currently, every site in these districts manages their own parking, with limited on-street parking, shared parking, or cross site access. Adding new streets will provide circulation and access to new on-street parking, shared private parking, and new public parking areas.





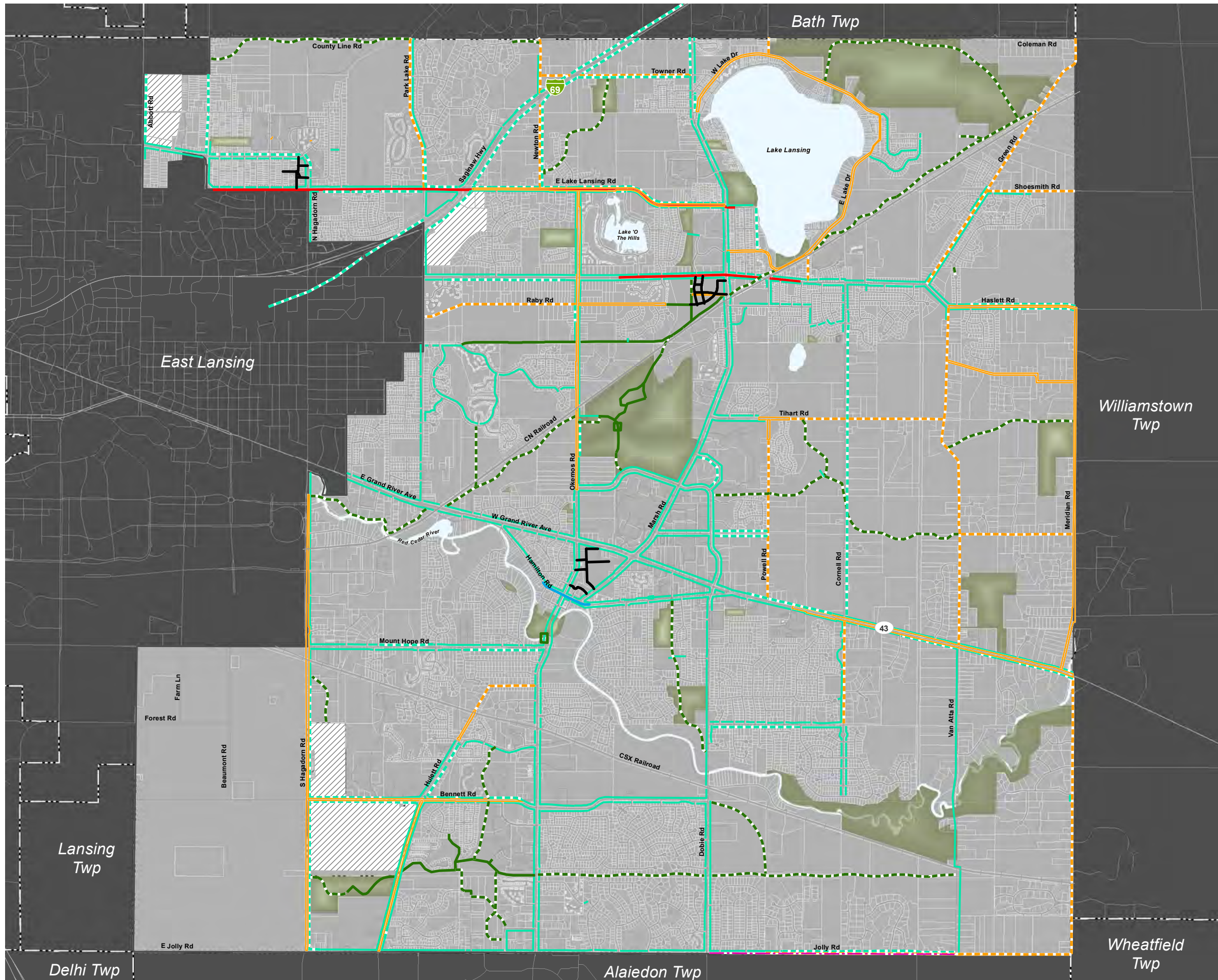




# Pedestrian/Bicycle Pathways

Meridian Charter Township  
Ingham County, Michigan

January 17, 2017



## Legend

- Existing Cross Country
- Proposed Cross Country
- Existing Pathway
- Proposed Pathway
- Existing Paved Shoulder
- Proposed Paved Shoulder
- Bike Lane (Road diet)
- On-Street parking (Road diet)
- New Streets
- Parks
- Cooperative Agreement

0 2,000 4,000 FEET

**McKENNA**  
ASSOCIATES

Map Feature Source: Meridian Charter Township, 2016



## Public Transit

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The Capitol Corridor Plan envisioned streetscape reorganization and beautification, improved environments for bikes and pedestrians, mixed use street-oriented buildings, and transit. The Township played a key role in this plan, as the Grand River Avenue /Marsh Road intersection was identified as a location for improved bus stops, with significant upgrades to the surrounding built environment.

Meridian Township supports efforts to improve public transportation along Grand River Avenue and in other areas of the Township. This plan, including the Mixed Use Core land use designation and the corresponding development vision for the Okemos hamlet, Meijer site, and Meridian Mall, envisions continued planning efforts to explore expansion and improvement of public transit service in the Township.

### Railroads

There are two active railroads transecting the Township. The Canadian National (CN) line runs from the center of the Township's western border to the northeast, exiting near the northeast corner of the Township. The CN line runs directly through downtown Haslett. The other rail, CSX Transportation, runs from the center of the Township's western border to the southeast corner of the Township.

## Vehicle System

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The most recent study of roads in the Township was conducted during preparation of the Tri-County Regional Planning Commission's Regional Transportation Plan 2040 (2015). The Township's 53 miles of primary roads and 150 miles of local roads largely fall in the jurisdictions of the Michigan Department of Transportation (MDOT) and Ingham County Road Department (ICRD). However, the Township contributes additional funding for improvements to roads classified as Local, including subdivision streets and low-traffic county roads.

*Meridian Township recently collaborated in the Capitol Corridor: A Regional Vision for Michigan Avenue / Grand River, completed in 2014. The Capitol Corridor project was a joint effort between federal, state, and local partners to plan a sustainable future for the Lansing region.*





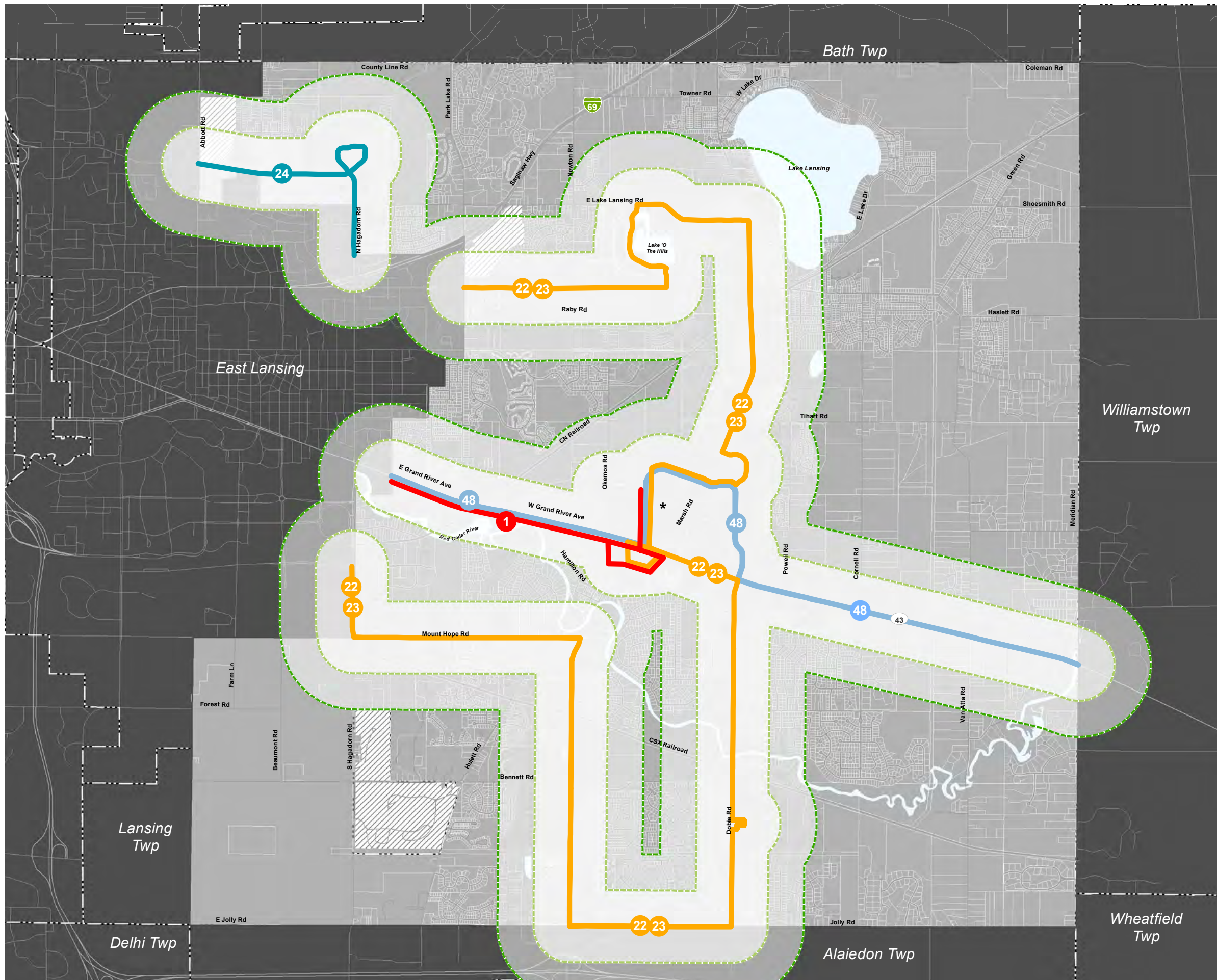




# Public Transit

Meridian Charter Township  
Ingham County, Michigan

October 31, 2017



### Legend

- 1
- 22/23
- 24-S/24
- 48
- 1/4 mile radius of Bus Routes
- 1/2 mile radius of Bus Routes
- Cooperative Agreement

\*CATA Routes 1, 22, 23, and 48 stop at the dedicated CATA station outside the Meridian Mall west entrance

0 2,000 4,000 FEET

**MCKenna**  
ASSOCIATES

Map Feature Source: Meridian Charter Township, 2016








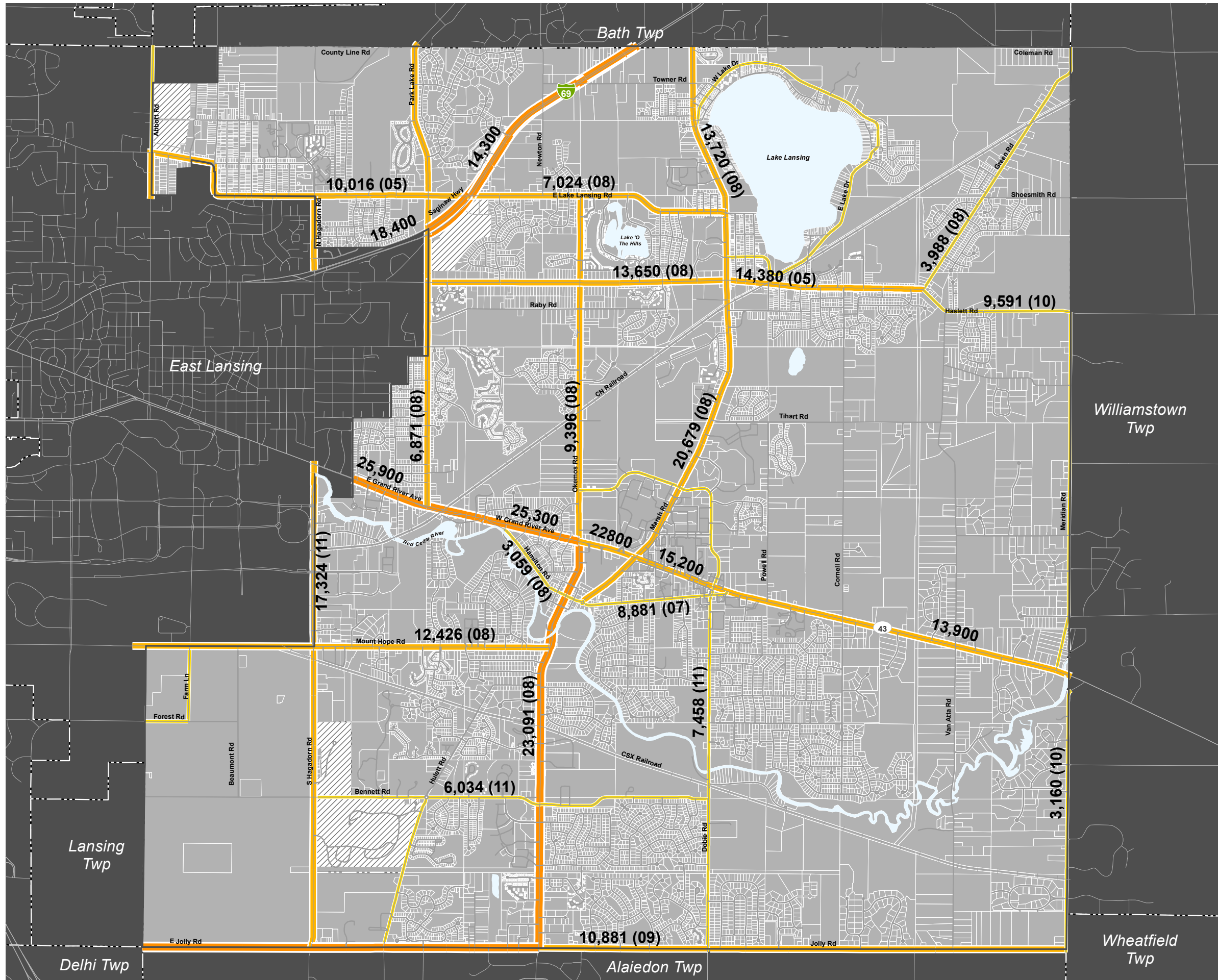
# National Functional Classification

Meridian Charter Township  
Ingham County, Michigan

January 17, 2017

### Legend

-  Principal Arterial
-  Minor Arterial
-  Collector
-  Local
-  Cooperative Agreement



**MCKenna**  
ASSOCIATES

Map Feature Source: Meridian Charter Township, 2016



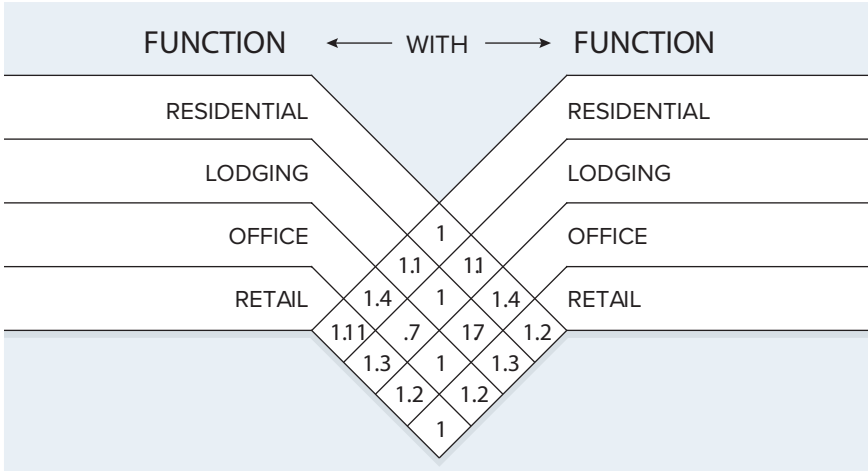
**Access Management**

Another way to improve pedestrian, bicycle, and vehicle circulation in the Township is through the application of access management. Access management reduces the number of points of access to the street from adjacent properties. This benefits pedestrians and bicyclists by reducing the number of points along a sidewalk where they may encounter a vehicle, and it benefits vehicles by reducing the number of points for other vehicles to enter the street. Cross access should be required in new developments and the total number of driveways should be reduced as sites are redeveloped. Rear drives and alleys are preferred over frontage roads for cross access when feasible.

**Off-Street Parking**

Meridian Township should revise standards to incentivize shared parking for mixed use developments or proximate complementary uses. Many complementary uses have differing parking demand peaks. Shared parking is permitted when the proposed uses within a development have their highest demand for parking at different times of day and / or different days of the week. A straight-forward method for determining shared parking requirements is included in the following tables. The first table provides required parking based upon use. The second table provides a denominator for every combination of those use categories. Dividing the combined totals from the first table by the denominator derives the required parking totals. This methodology reduces the required parking total based upon the sharing of those particular uses.

Building Use / Zone or Land Use	Commercial Designation	Mixed Use Core Designation
Residential	1.5 / dwelling	1.0 / dwelling
Lodging	1.0 / bedroom	1.0 / bedroom
Office	3.0 / 1000 sq. ft.	2.0 / 1000 sq. ft.
Retail	4.0 / 1000 sq. ft.	3.0 / 1000 sq. ft.
Civic	To be determined	To be determined
Other	To be determined	To be determined







# Community Profile

# 4

Meridian Township functions as a complex system of intertwined elements with limited and sometimes conflicting resource needs. While the goals and objectives of this Plan create a framework for the future, it is essential to have a picture of today. The Community Profile provides a snapshot of essential resources and infrastructure in the Township, most notably, its people.





*Meridian Township is a community that continues to grow in the heart of Mid-Michigan. The demographic and housing data tell the story of a community that has large numbers of established older residents as well as younger, transient adults. The Township has put effort into providing services and recreational opportunities for all to enjoy.*

## Demographics

The demographic data shows and the housing market analysis confirms, there is high demand in the Greater Lansing region for walkable communities that are well suited to growing families and young professionals. Moving forward, the Township is also aware of a need for work-force housing. Coupled with the Township's goals and objectives to focus growth in several key areas within its boundaries, this data provides a framework from which to formulate a plan for long-term successful development.

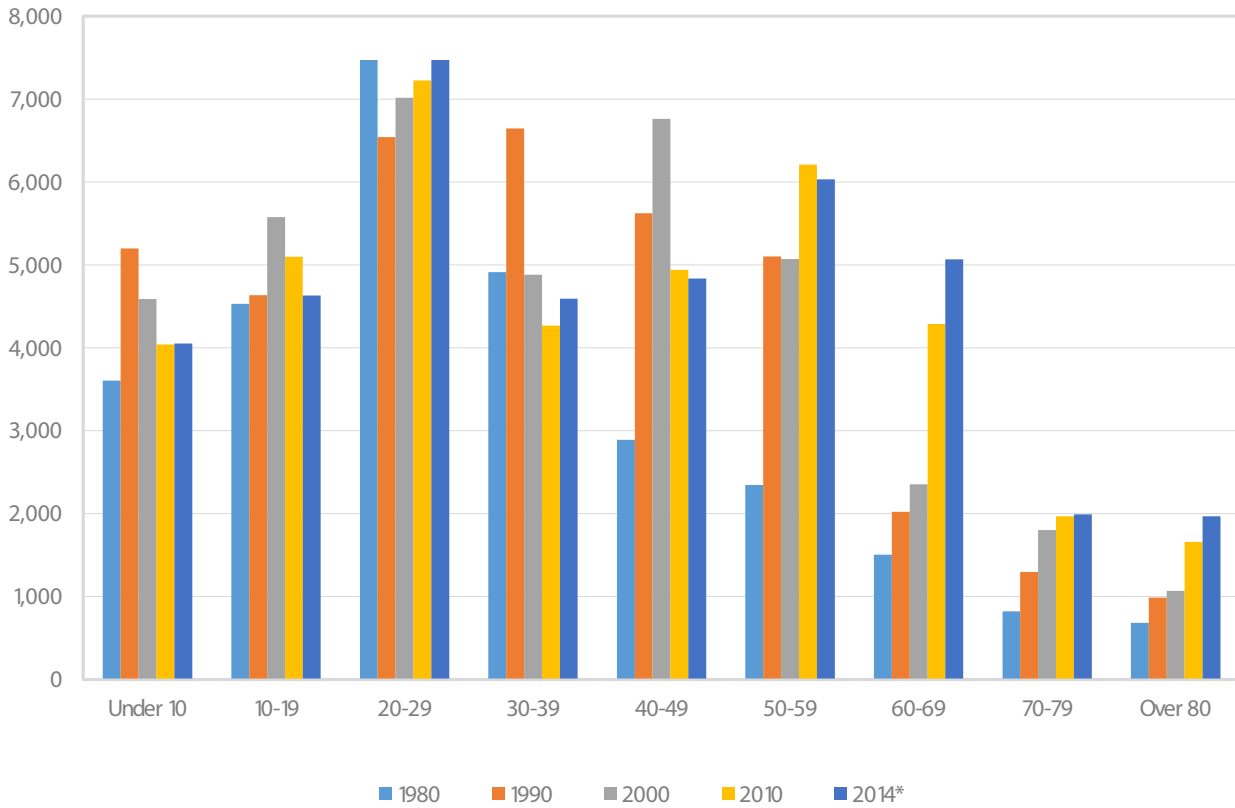


## Aging Population

The population reached an all-time high in 2014, with an estimated population of just over 40,000. As the population grows older as a whole, it is extraordinarily important to plan for amenities, recreational opportunities, and housing types that will support an older population.

*The median age of residents is 39.1 years old, up from 35.4 years old in 2000. Nearly 30% of the population is between 50 and 70 years old.*

Table 5. Age of Population – Meridian Township, 1980-2014



\*Estimate

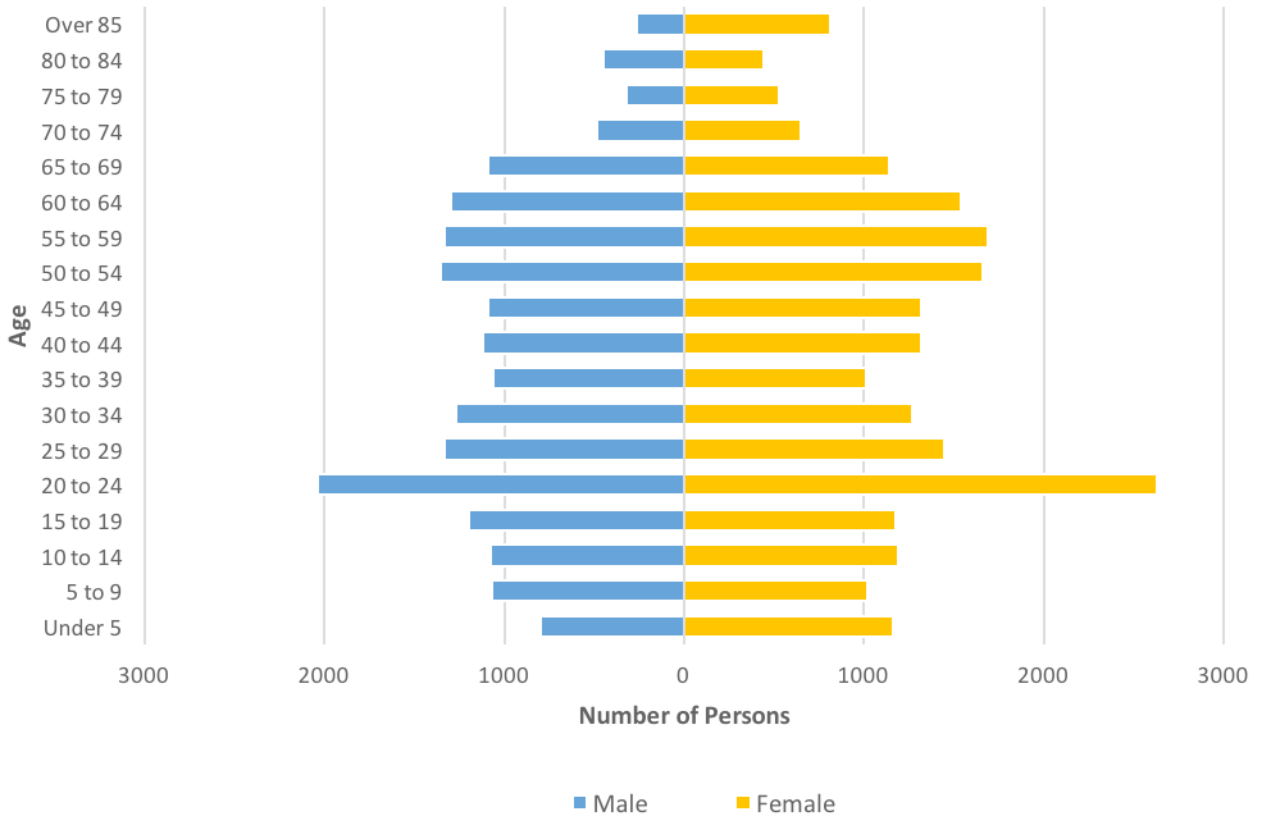


*College-aged adults make up nearly 12% of the Township's population. This demographic is highly transient; half have moved here in the last five years.*

### Mobile Young Adults

The unusually large population of young adults is likely due to the proximity to Michigan State University. Since 1980, the Township has consistently had between 10 and 12% of its population come from the 20 to 24-year-old age group, which is significantly higher than any other single age group.

Figure 1. Age Pyramid – Meridian Township, 2014

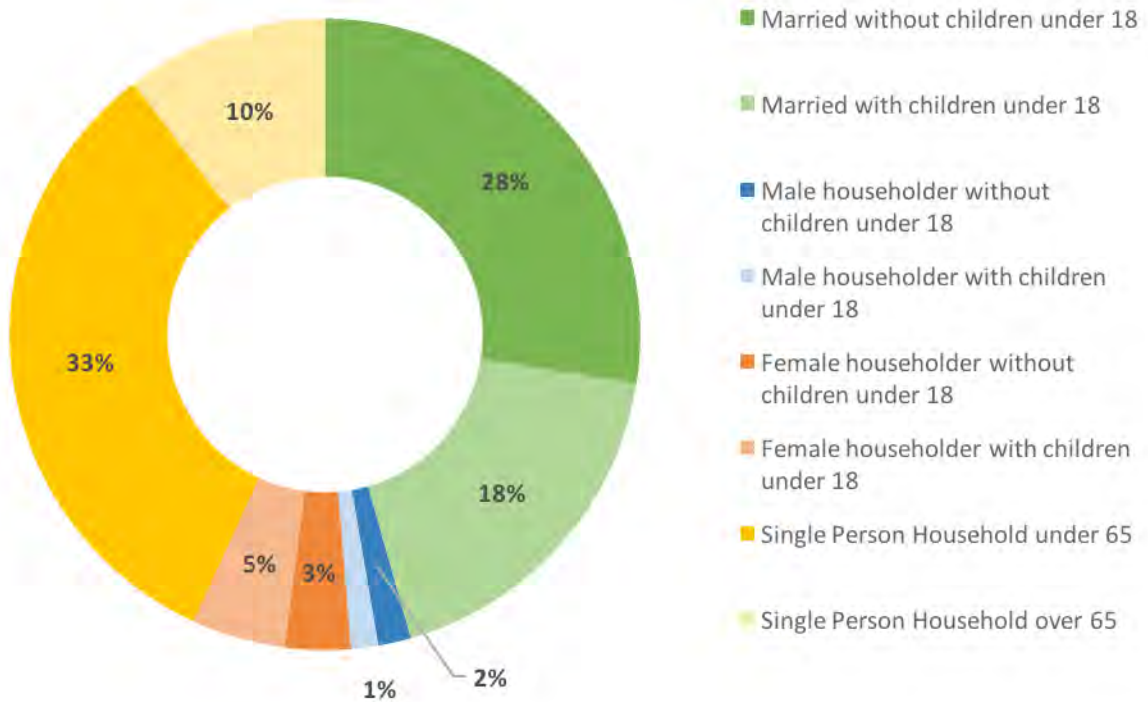


## Households are Shrinking

32.8% of the population under 65 years old is single without any children, another 27.5% are married without any children, and 10.4% of the population is over 65 years of age and living alone. The effects of smaller households with fewer children are noticeable in K-12 school districts where overall enrollment has declined over the past decade.

*Meridian Township has a smaller household size (2.29 people) than the Tri-County Region and Michigan. Over 70% of households do not have children.*

Figure 2. Household Composition – Meridian Township



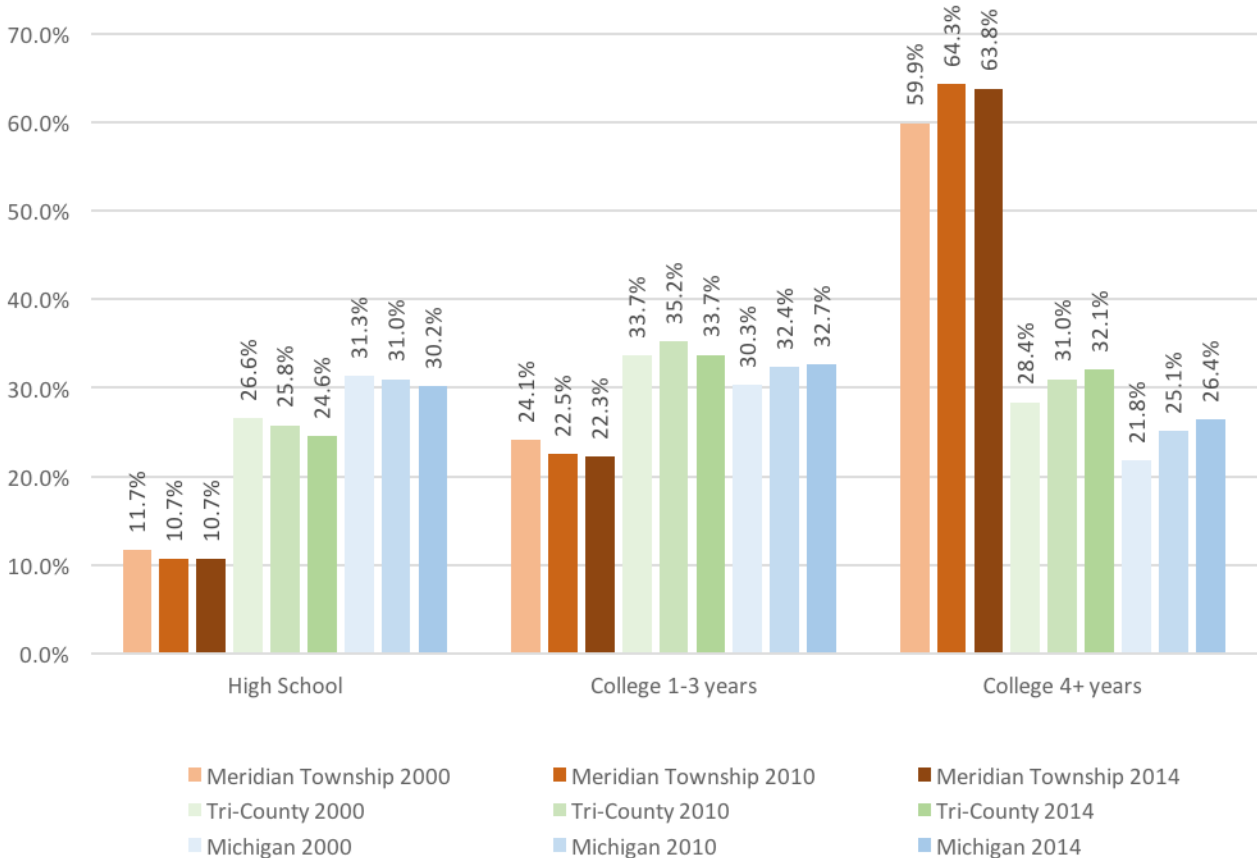


*Education is a priority to residents. 63.8% of the Township's adults have attended four or more years of college.*

### Education is a Priority

The high levels of educational attainment are highlighted in the types of occupations common of Meridian Township residents. Nearly 60% of the working population works in a management, professional, or related field. Natural resource, construction, and maintenance jobs are less common than across the region and the State.

Figure 3. Highest Level of Education Attained Comparison — Meridian Township, Tri-County, and Michigan, 2000-2014

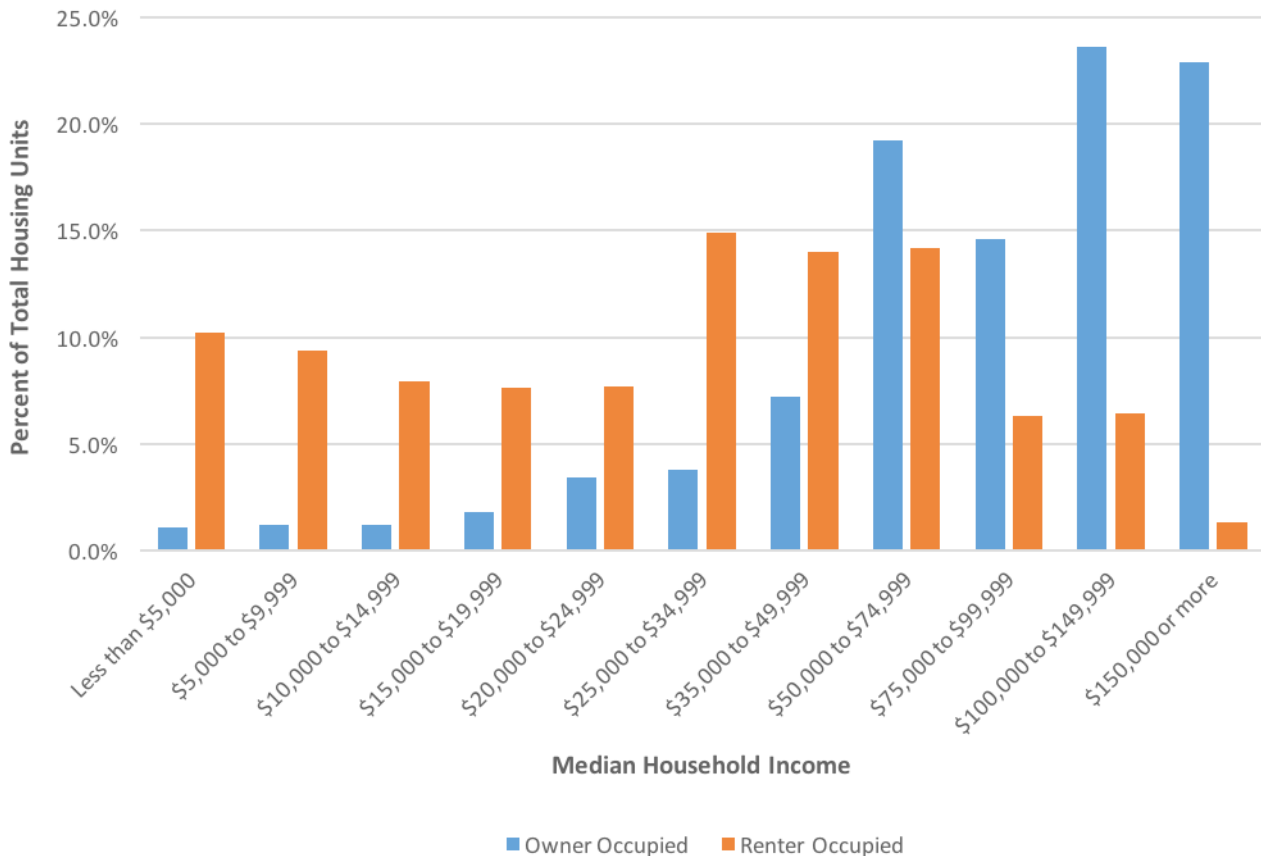


## Income Disparity

Approximately 60% of the population owns their home, while 40% rent. Homeowners tend to have higher income, be older in age, and have long tenures in the community. Alternately, renters are generally younger, have been in the community for shorter periods-of-time, and have lower levels of income. While the median home value in the Township is \$181,300, the number of housing options valued between \$50,000 and \$200,000 are declining in the Township, making it more difficult for young professionals and families to move into the community.

*Median household income for homeowners was \$92,971 in 2014. Renter-occupied households earned \$30,023. Homeowners spend nearly \$1,400 per month on housing; renters spend \$800.*

Figure 4. Occupancy Type by Income — Meridian Township





*Meridian Township is considered a desirable community in which to live in part because of the quality of public services and facilities, including parks and recreation, schools, administrative services, police and fire, and public utility services.*

## Community Facilities

Community facilities and the services they house are provided by several public entities including the Township, various agencies at the County level, local school districts, and the federal government. The Township provides many of the residents' basic needs and desired services including for example, police and fire protection, parks and recreation, HOMTV, and cemeteries to name some. The people and equipment necessary to provide these services are housed in several facilities—the Meridian Municipal Building, Public Safety Building, three fire stations, the Municipal Service Center, and various park and recreation sites including the Harris Nature Center.

The Township has invested considerable effort in planning and developing the parks and open space system. The Park Commission updates the Community Park and Recreation Plan every five years to guide acquisition and development.

Four school districts—Haslett, Okemos, East Lansing, and Williamston— independently serve Township residents. All facilities of the Haslett and Okemos districts are located in the Township while only one of East Lansing's schools and none of Williamston's schools are located here.



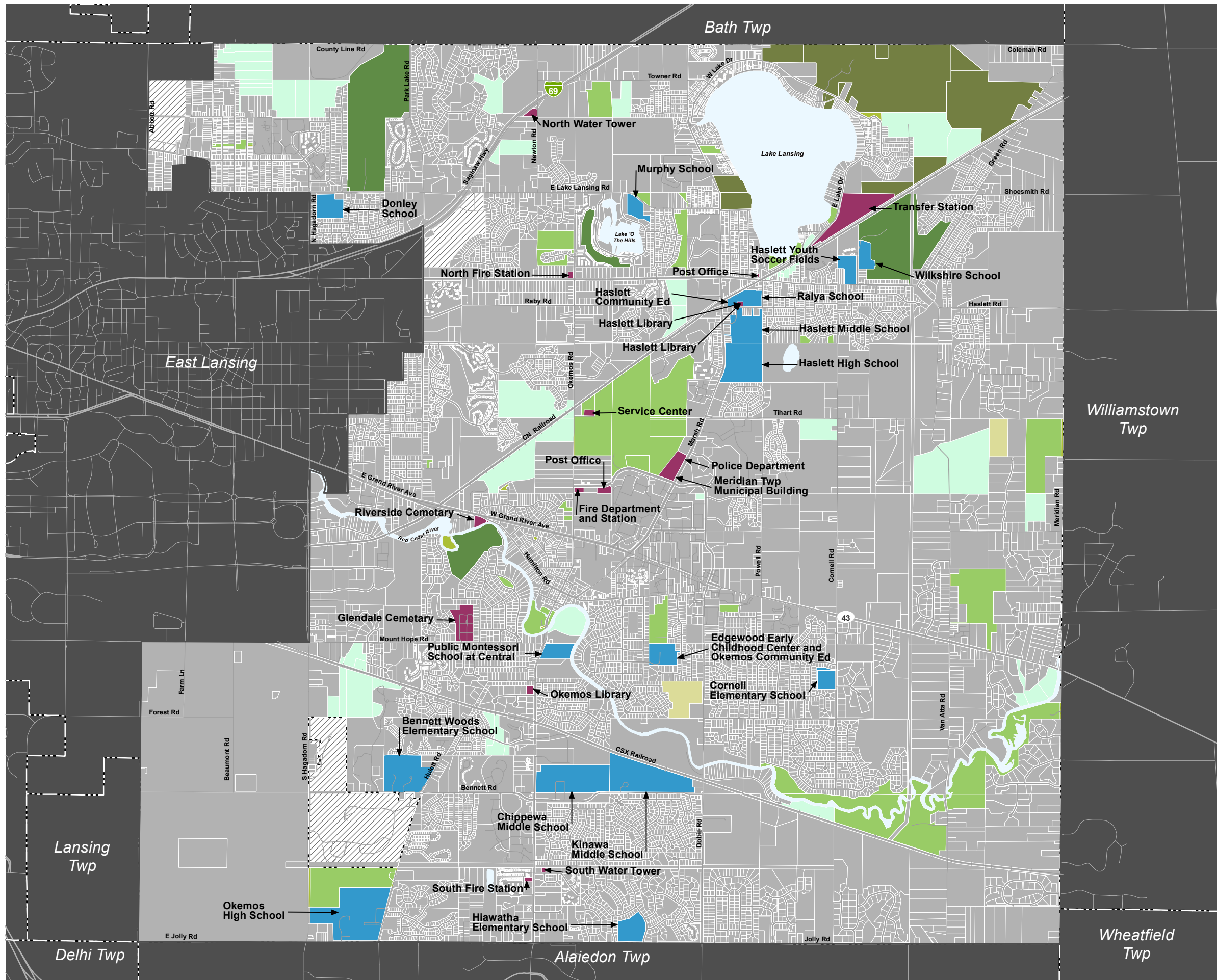
# Community Facilities

Meridian Charter Township  
Ingham County, Michigan

November 2, 2017

### Legend

- Township Facilities
- Township Parks
- Land Preservation
- Farmland Preservation (Public Act 116)
- Ingham County Parks
- Public Schools
- Golf Courses
- Cooperative Agreement





## Water System

The East Lansing – Meridian Water and Sewer Authority was created in 1970 and supplies Meridian Township's residents with approximately 3.75 million gallons (MGD) of clean water per day. The water system is supplemented by the Lansing Board of Water and Light, which can supply up to 5 MGD. The system reaches many of the higher density developments within the Township's Urban Service Boundary. Properties not served by the public water system rely on on-site wells for the provision of water.

The Water Policies & Programs Guide (2015), a Township Master Plan attachment, is an effort by Tri-County Regional Planning Commission to outline standards, identify funding opportunities, and identify programs and activities by which communities can become engaged in order to protect freshwater resources. It provides direction to Tri-County communities on how best to incorporate practices for wastewater, groundwater, stormwater, and water quality management into their policy documents.

This plan establishes an Urban Service Boundary along the eastern third of the Township. Criteria to extend the water system outside the Boundary to facilitate development is discussed on page 35.

## Sanitary Sewer System

The Township sends an average of 4.4 MGD of wastewater to the treatment plant operated by the East Lansing – Meridian Water and Sewer Authority. Twenty-eight pump and lift stations throughout the Township help carry the wastewater to the treatment plant.

As the Township is still growing, it needs to plan for capacity demands to increase. It can do so by implementing conservation efforts, renegotiating the capacity contract with East Lansing, participating in the development of additional capacity, and supplementing capacity needs by contracting with the City of Lansing. As with the water system, criteria to extend the sanitary sewer system outside the Boundary to facilitate development is discussed on page 35.

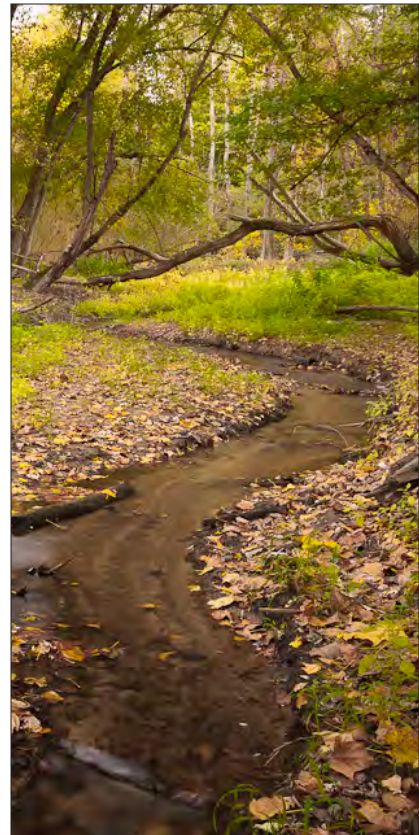
## Storm Sewer

The Township's stormwater system is administered by the Ingham County Drain Commissioner, who constructs and maintains the system. Much of the stormwater in the Township flows to the Red Cedar River, but areas surrounding the Remy-Chandler Drain flow into the Looking Glass River.

## Power and Communications

Consumers Energy is a private company serving the entire Township with natural gas service. Consumers Energy also serves the eastern 4/5 of the Township with electric power service. Lansing Board of Water and Light provides the western 1/5 of the Township with electricity.

The Township has a 10 year uniform video service franchise agreement with AT&T Uverse and Comcast to provide video services using the public rights-of-way. In exchange, the Township receives 5% franchise fee and 1% PEG fee of annual gross revenue from Comcast and 5% franchise fee and 3.36% PEG fee of annual gross revenue from AT&T Uverse.









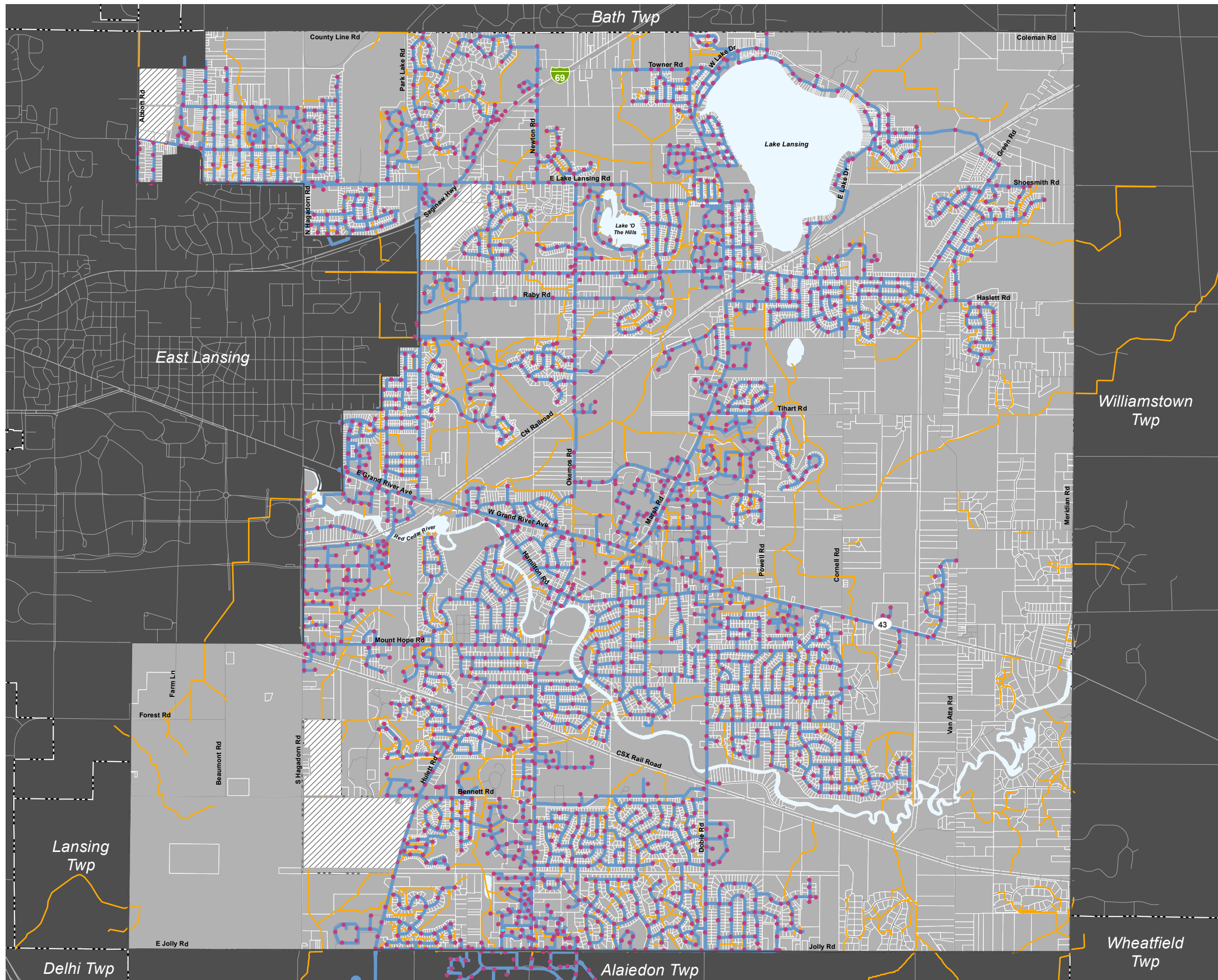
# Water System

Meridian Charter Township  
Ingham County, Michigan

January 17, 2017

## Legend

- Hydrants
- Water\_Mains
- Drains
- ▨ Cooperative Agreement





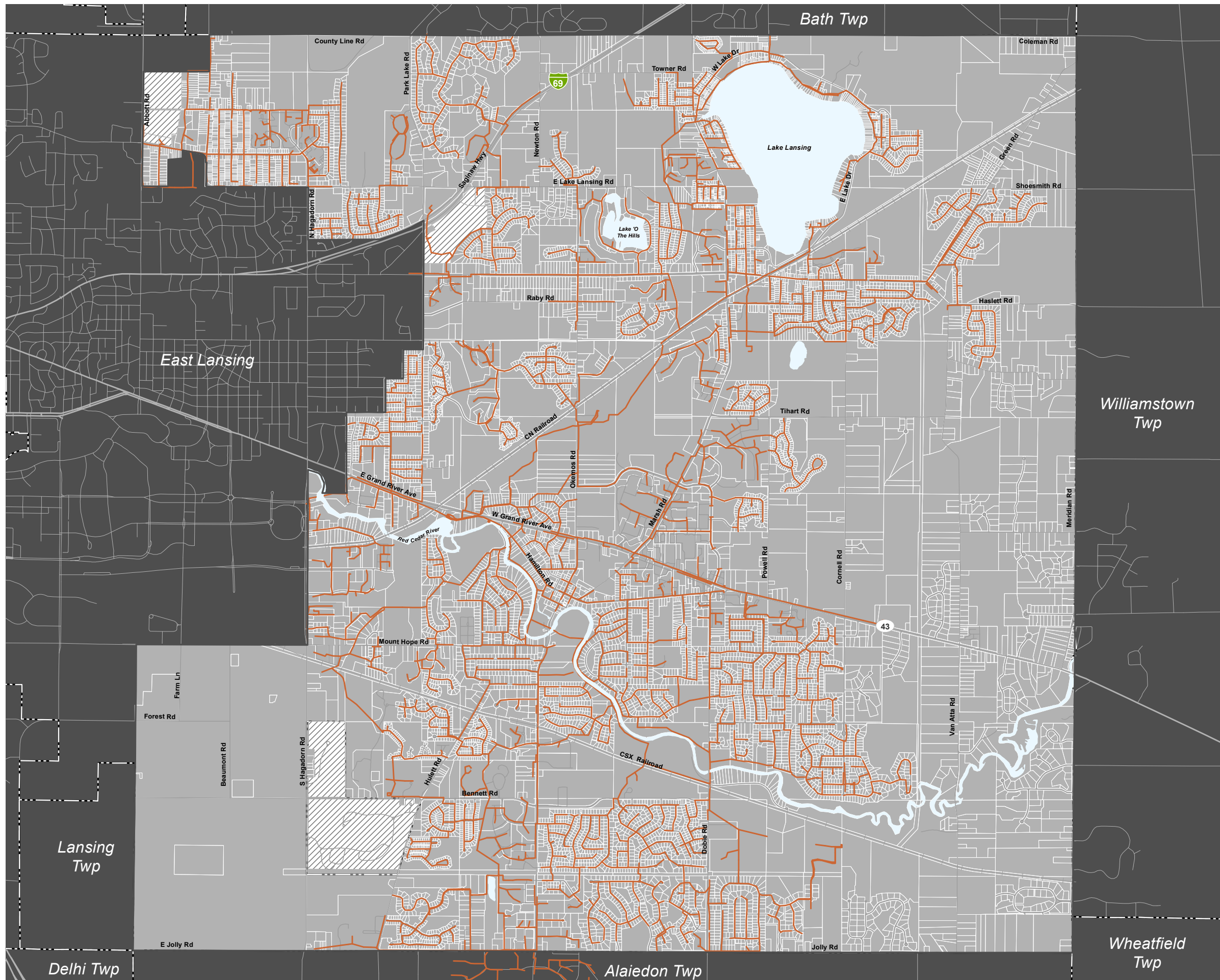
# Sanitary Sewer Systems

Meridian Charter Township  
Ingham County, Michigan

January 17, 2017

### Legend

- Sanitary
- COOPERATIVE AGREEMENT








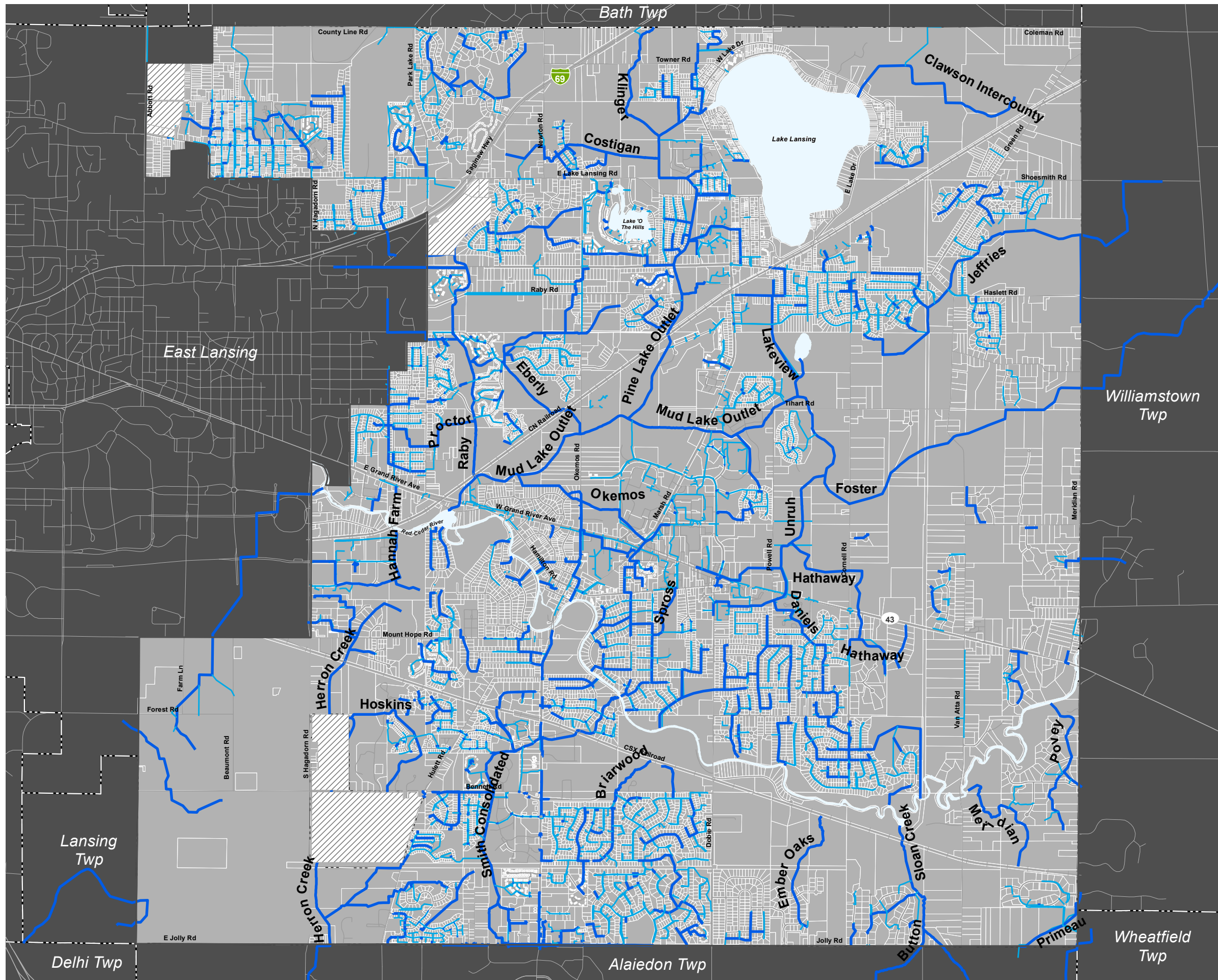
# Storm Drain Systems

Meridian Charter Township  
Ingham County, Michigan

January 17, 2017

### Legend

-  Storm Drains
-  Main Drains
-  Cooperative Agreement



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# Existing Land Use

Single-Family Residential development utilizes the most land, at 35.8%, followed by Recreation and Open Space, with 22.8% and Institutional (government, education complexes), at 14.9%. Other prominent developed uses include Road and Railroad Right-of-Ways and Multi-Family Residential. Only 11% of the 2,281 acres of potentially developable land is used for agriculture; the remaining area is left natural or unimproved.

Since 2002, the Township has used nearly 39% of its total developable land. Institutional land uses have grown the most significantly, but Multi-Family Residential land uses have increased in scope in the last 13 years. A land use category that was not present in 2002 and now covers 95 acres in the Township is Mixed Use. Mixed Use, while still a low percentage of the total land use coverage, has likely emerged due to efforts from the Township to encourage creatively combining compatible land uses, such as Smart Growth principles that influence the Master Plan and implementation mechanisms like the Mixed Use Overlay Zoning District.

*Land use in Meridian Township has reached new levels of developed land as a result of residential and commercial growth over the past decade. Over 85% of the Township has been developed or improved. With Township preservation efforts, infill development is a viable option to pursue in the future.*

Figure 5. Developed Land— Meridian Township, 2002 and 2015





Figure 6. Land Use Composition— Meridian Township, 2016

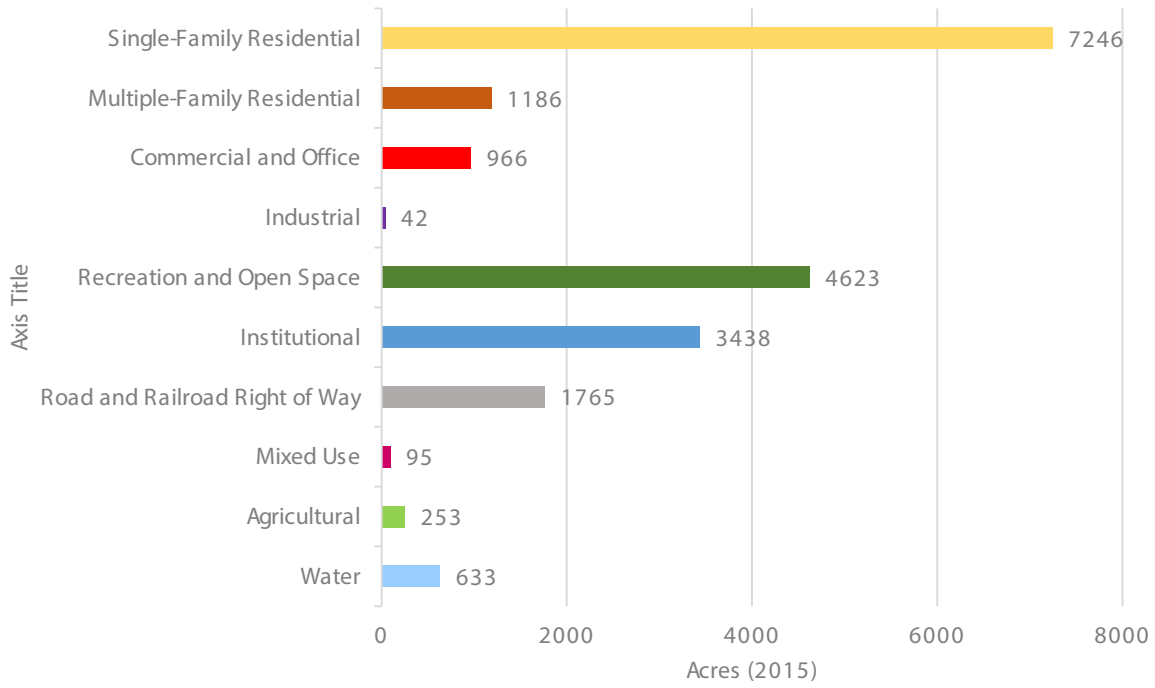
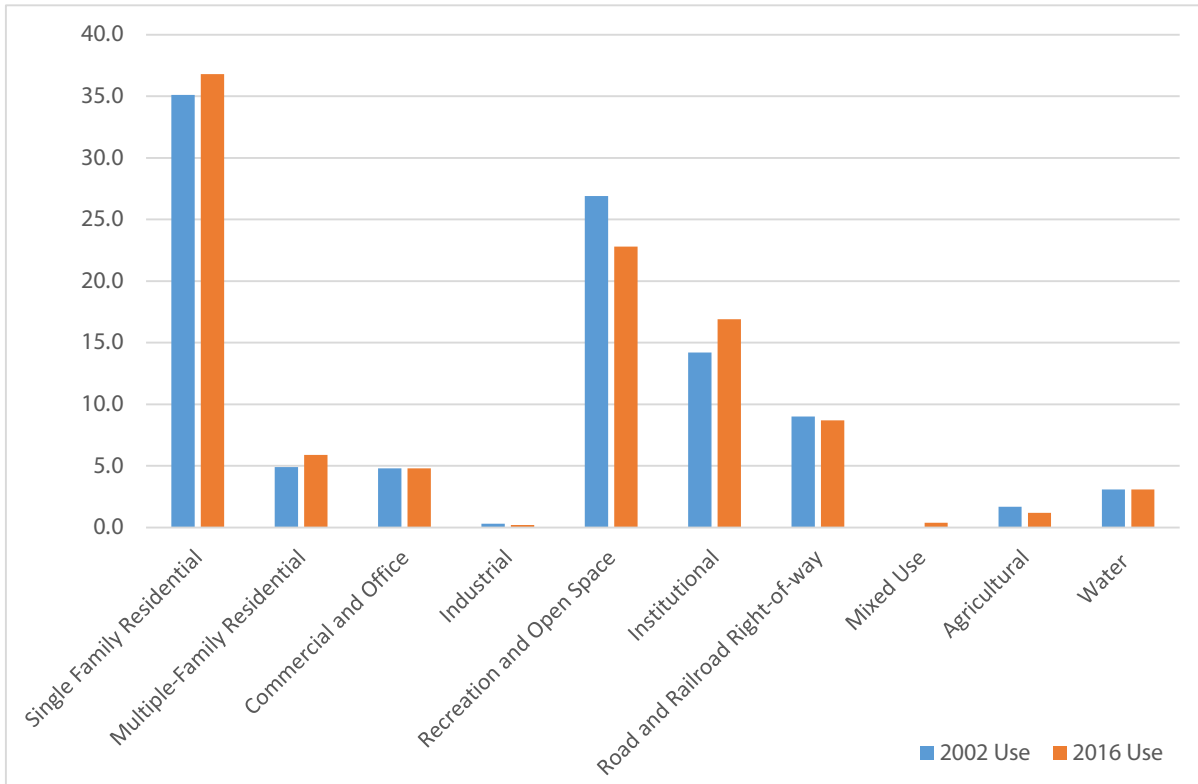


Figure 7. Land Use Changes— Meridian Township, 2002 to 2016









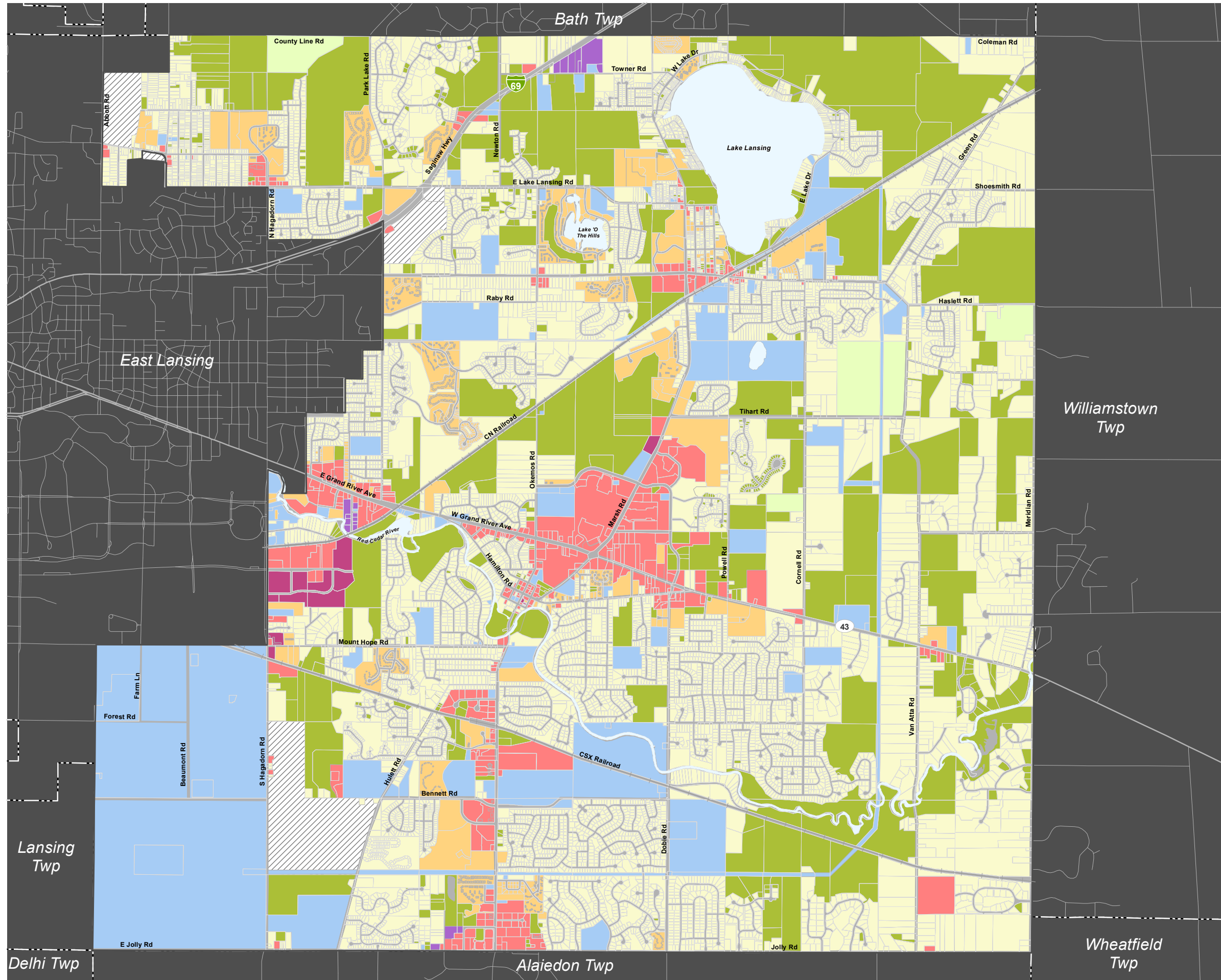
# Existing Land Use

Meridian Charter Township  
Ingham County, Michigan

January 17, 2017

## Legend

- Single Family Residential
- Multiple Family Residential
- Commercial and Office
- Mixed Use
- Industrial
- Institutional
- Agricultural
- Recreation & Open Space
- Cooperative Agreement
- Right of Way



Map Feature Source: Meridian Charter Township, 2016



## Natural Features and Open Space

Water resources are abundant, comprising more than 5,000 acres. They include the 450-acre Lake Lansing, the Red Cedar River with its tributaries and floodplain, wetlands and subsurface water. The Red Cedar River has four main drains: Herron Creek, Smith, Sloan Creek, and the Mud Lake Outlet (includes the Raby, Eberly, Pine Lake, and Mud Lake). The Township has enacted ordinances and established rules for protecting its water resources and wetlands, and it participates in the Federal Emergency Management Program. The Township has additionally worked with the Lake Lansing Property Owners Association to improve water quality that declined due to development that occurred prior to modern environmental protection laws.

Much of the remaining undeveloped land within the Township contains wetlands or exists in a floodplain. The Township has approved millages to purchase parkland and open spaces, and has cooperated with other municipal governments in the area to preserve natural resources. The Land Preservation Program, established in 2000, acquires, preserves, and protects natural areas with unique or special features.

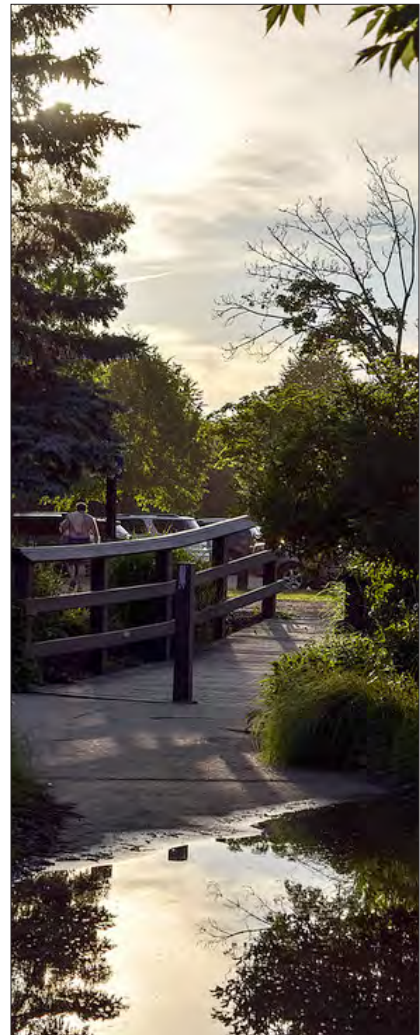
The Township contains a mix of grassy open spaces, woods, lakes, streams and wetlands, which provide habitat for a wide variety of plants and wildlife. The Land Preservation Trust, Land Clearing Ordinance, and Wetland Protection and Restoration Ordinance have been enacted to help ensure that these resources are protected for the future enjoyment of Township residents.

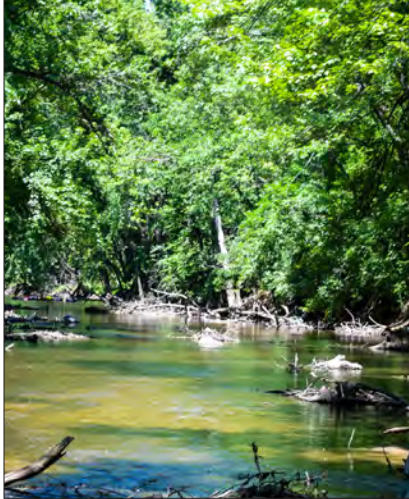
Throughout Meridian Township, there is a variety of open space and natural area resources under both public and private ownership. These areas include the remaining woodlands, fields, wetlands, and habitats associated with rivers, streams, and ponds that have not been developed.

### Lake Lansing

Lake Lansing is unique because it is fed almost entirely by surface water and not groundwater; this means its water quality is directly a function of its watershed. The shallowness of the lake (average of five to seven feet) and reduced oxygen content make it particularly susceptible to weed and algae growth.

*Meridian Township has a temperate climate, rolling topography, and a geology determined by glacial deposits over a base of sedimentary rock. Its soils include sandy loam, clay, and muck. Most of the soils are suitable for some type of use, but many are not suitable for septic systems.*





## Watershed Management

The three sub-watersheds identified within the Lansing urbanized area are the Red Cedar River, the Looking Glass River, and the Grand River. All of Meridian Township except the northwest corner is located in the Red Cedar River watershed. Portions of Sections 4, 5, 6, and 8 are part of the Looking Glass River watershed.

## Floodplains

Floodplains, the low lying areas adjacent to rivers, streams, drains, and lakes, are important considerations in land use planning. Besides focusing attention on the dangers associated with flooding, floodplain boundaries are good indicators of water recharge areas and sensitive environmental areas.

In areas exposed to 100-year floods, the Flood Insurance Program requires that new or substantially improved dwellings have the lowest floor elevated to or above the base flood level. The Township monitors construction in the flood prone areas through the zoning ordinance. Restriction on development in the floodplain is necessary to protect the integrity of natural ecosystems, but also to protect life and property.

## 2004 Meridian Township Greenspace Plan

The 2004 Meridian Township Greenspace Plan grew out of Township residents' desire to protect the area's natural resources while accommodating new development. This plan is the guiding document for natural features, greenspace, and habitat protection in Meridian Township and should be updated regularly. This plan could also be updated to include detailed goals, objectives, and strategies for sustainable energy practices in the Township.

The 2004 Greenspace Plan outlines ways in which growth and development in the Township can continue to occur while simultaneously protecting the natural systems and community character of the Township.

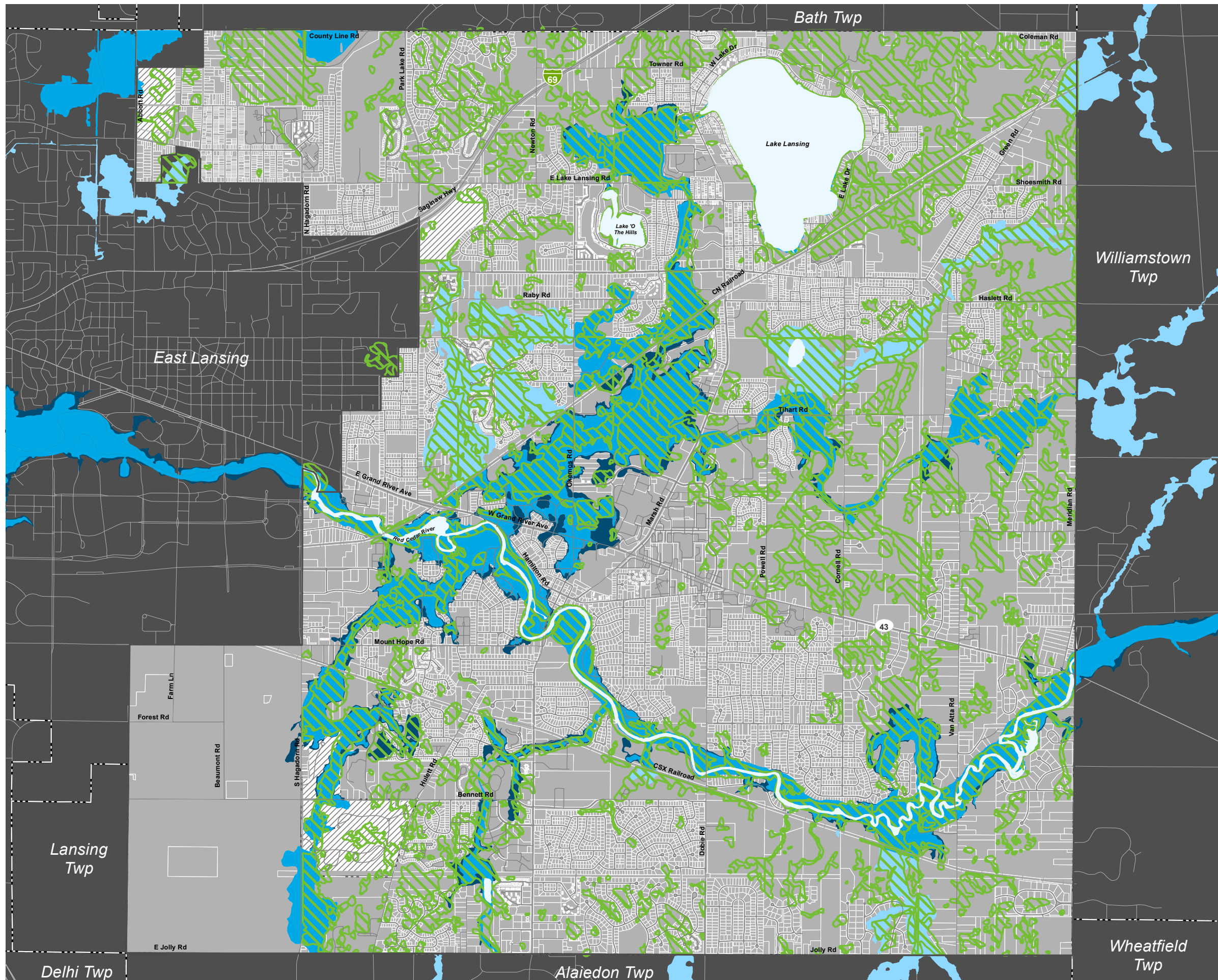
The Plan defines what should be protected based on public input and a detailed ecological assessment, and how it should be protected through a number of implementation tools that fit a variety of situations. It indicates important riparian corridors and upland areas that are critical for maintaining healthy wildlife populations. The Plan also identifies scenic roadways with view of the Township's natural resources, and strategies for protecting those views, priority links for trails, pathways, sidewalks, and bike lanes for recreation and transportation uses.



# Natural Features

Meridian Charter Township  
Ingham County, Michigan




January 17, 2017




### Wetlands

 Wetlands

### Flood Hazard Areas

-  No Base Flood Elevations Determined
-  Base Flood Elevations Determined
-  500-year Flood Plain

 Cooperative Agreement

0 2,000 4,000 FEET



Map Feature Source: Meridian Charter Township, 2016





# Attachments 5



## LINKS

### Target Housing Analysis Report

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Target\\_Housing\\_Analysis\\_5-23-16.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Target_Housing_Analysis_5-23-16.pdf)

### Retail Market Analysis Report

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Retail\\_Market\\_Analysis\\_5-23-16.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Retail_Market_Analysis_5-23-16.pdf)

### Draft Land Use Analysis

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Draft\\_Land\\_Use\\_Analysis\\_5-23-16.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Draft_Land_Use_Analysis_5-23-16.pdf)

### Draft Infrastructure Analysis

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Draft\\_Infrastructure\\_Analysis\\_5-23-16.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Draft_Infrastructure_Analysis_5-23-16.pdf)

### Development Project Evaluation Checklist - Metrics

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Development\\_Project\\_Evaluation\\_Checklist\\_-\\_Metrics.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Development_Project_Evaluation_Checklist_-_Metrics.pdf)

### Building Types – Examples

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Building\\_Types\\_\\_7-25-16.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Building_Types__7-25-16.pdf)

### Enlargements of PICA Boundaries

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/PICA-Carriage\\_Hills.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/PICA-Carriage_Hills.pdf)

<https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/PICA-Haslett.pdf>

<https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/PICA-Okemos.pdf>

### **May, 2015 Public Input Meeting Summaries**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/5-21-15\\_Public\\_Work\\_Session\\_-\\_General\\_Comments.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/5-21-15_Public_Work_Session_-_General_Comments.pdf)

### **Selected U. S. Census Data - 2010 and 2014 (estimate)**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Selected\\_U.\\_S.\\_Census\\_Data.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Selected_U._S._Census_Data.pdf)

### **Tri-County Water Policies and Program Guide (referred to on P. 65)**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Tri-Co\\_Water\\_Policies\\_and\\_Programs\\_Guide\(1\).pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Tri-Co_Water_Policies_and_Programs_Guide(1).pdf)

### **Meridian Township Greenspace Plan**

<http://greenwaycollab.com/projects/meridan-township-greenspace-plan/>

### **2015 National Citizen Survey (NCS) Survey**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/2015\\_NCS\\_Survey.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/2015_NCS_Survey.pdf)

### **Capitol Corridor Final Report**

<http://www.doverkohl.info/reports/CapitolCorridor.pdf>

### **Corridor Design Portfolio - Building More Livable Communities**

[http://landpolicy.msu.edu/resources/mmpgs\\_corridor\\_design\\_portfolio](http://landpolicy.msu.edu/resources/mmpgs_corridor_design_portfolio)

### **Fair and Affordable Housing Initiatives: The Next Five Years (Greater Lansing Housing Coalition Report)**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Fair\\_and\\_Affordable\\_Housing\\_Initiatives\\_\(Greater\\_Lansing\\_Housing\\_Coalition\).pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Fair_and_Affordable_Housing_Initiatives_(Greater_Lansing_Housing_Coalition).pdf)



### **Mid-Michigan Regional Affordable Housing Final Report**

[http://www.midmichigansustainability.org/Portals/0/Documents/Presentations%20and%20Reports/Regional%20Study%20of%20Affordable%20Housing/HUD\\_%20Regional%20Affordable%20Housing%20Study%20Report\\_Final.pdf](http://www.midmichigansustainability.org/Portals/0/Documents/Presentations%20and%20Reports/Regional%20Study%20of%20Affordable%20Housing/HUD_%20Regional%20Affordable%20Housing%20Study%20Report_Final.pdf)

### **A Self-Assessment of Sustainability in Your Community: Meridian Charter Township. Summary Findings and Recommendations**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/MeridianTwp\\_FINAL\\_Sustainability\\_Assessment\\_\\_Report\\_12-08-14.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/MeridianTwp_FINAL_Sustainability_Assessment__Report_12-08-14.pdf)

### **Housing Development Toolkit September 2016**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Housing\\_Development\\_Toolkit\\_White\\_House\\_9-16.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Housing_Development_Toolkit_White_House_9-16.pdf)

### **Tri-County Urban Service Management Study March 2011**

[https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Urban\\_Service\\_Management\\_Study\\_Final.pdf](https://meridiantwpmi.govoffice3.com/vertical/Sites/%7B1800D46E-0900-43BD-B3FA-10A5660870B1%7D/uploads/Urban_Service_Management_Study_Final.pdf)

### **Regional Growth: Choices for Our Future Summary Report (Tri-County Regional Planning Commission) September, 2005**

[http://www.tri-co.org/HUD/RegionalGrowthProjectSummary\\_9-13-05.pdf](http://www.tri-co.org/HUD/RegionalGrowthProjectSummary_9-13-05.pdf)

### **Meridian Township Climate Sustainability Plan**

[www.meridian.mi.us/government/township-projects](http://www.meridian.mi.us/government/township-projects)



