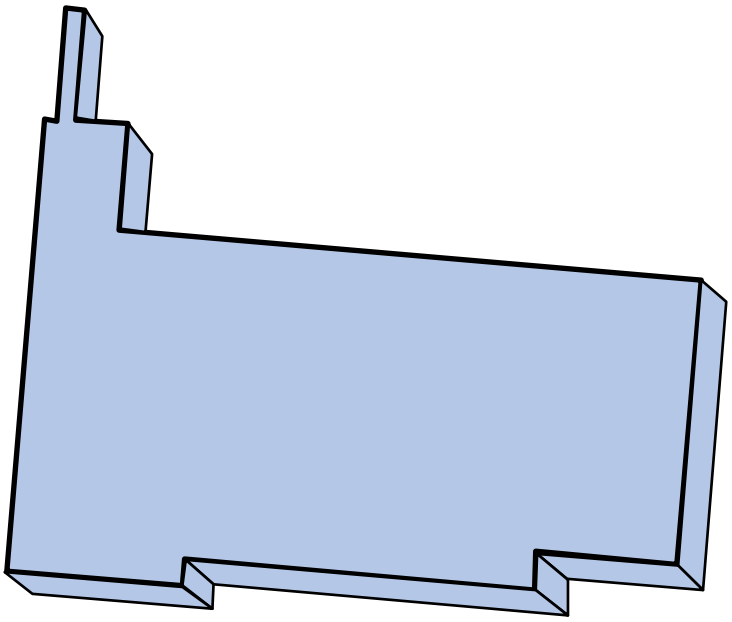
DEVELOPMENT FACTORS AND POSSIBILITIES FOR THE GLASS FARM

Yellow Springs, Ohio



MARCH 2017

PREPARED BY:
REGIONAL PLANNING AND COORDINATING COMMISSION OF GREENE COUNTY, OHIO

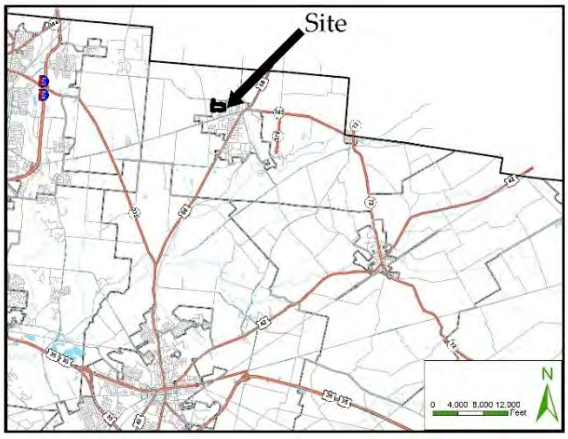
INTRODUCTION AND BACKGROUND

The purpose of this report is to describe factors relative to potential development of a property owned by the Village of Yellow Springs and known as the Glass Farm. The property has been a crop farm over the years and was annexed into the Village in 1996. It currently forms the northwest corner of the Village adjacent to built-up residential areas to the east. In response to storm water problems downstream from the site, a retention area was designed and built at the eastern edge of the property approximately 10 years ago. In an effort to look ahead, the Village requested RPCC staff identify pertinent considerations related to future use of the site and suggest a possible development scenario.

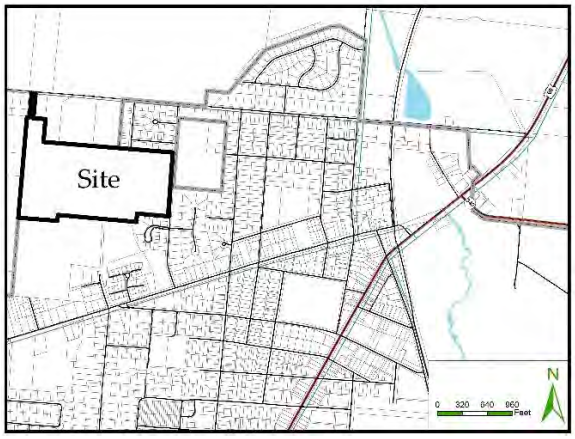
This report will investigate physical features, utility services and transportation factors to identify constraints and opportunities affecting the property. Existing municipal, county and regional plans for this area of the community will be examined and evaluated for current applicability. The final section will offer a suggested development pattern.

LOCATION OF THE SITE

The Glass Farm property forms the northwestern edge of the Village of Yellow Springs, as shown in Map 1. Regionally, the site has relatively good access to the Dayton urbanized area via both Yellow Springs-Fairfield Road and Dayton-Yellow Springs Road. Maps 2 shows a closer look at the location of the Glass Farm, about 7/10 mile from both the Village's downtown and the CBE. It is situated along the west side of King Street between Robinwood Drive and Kingsfield Drive.



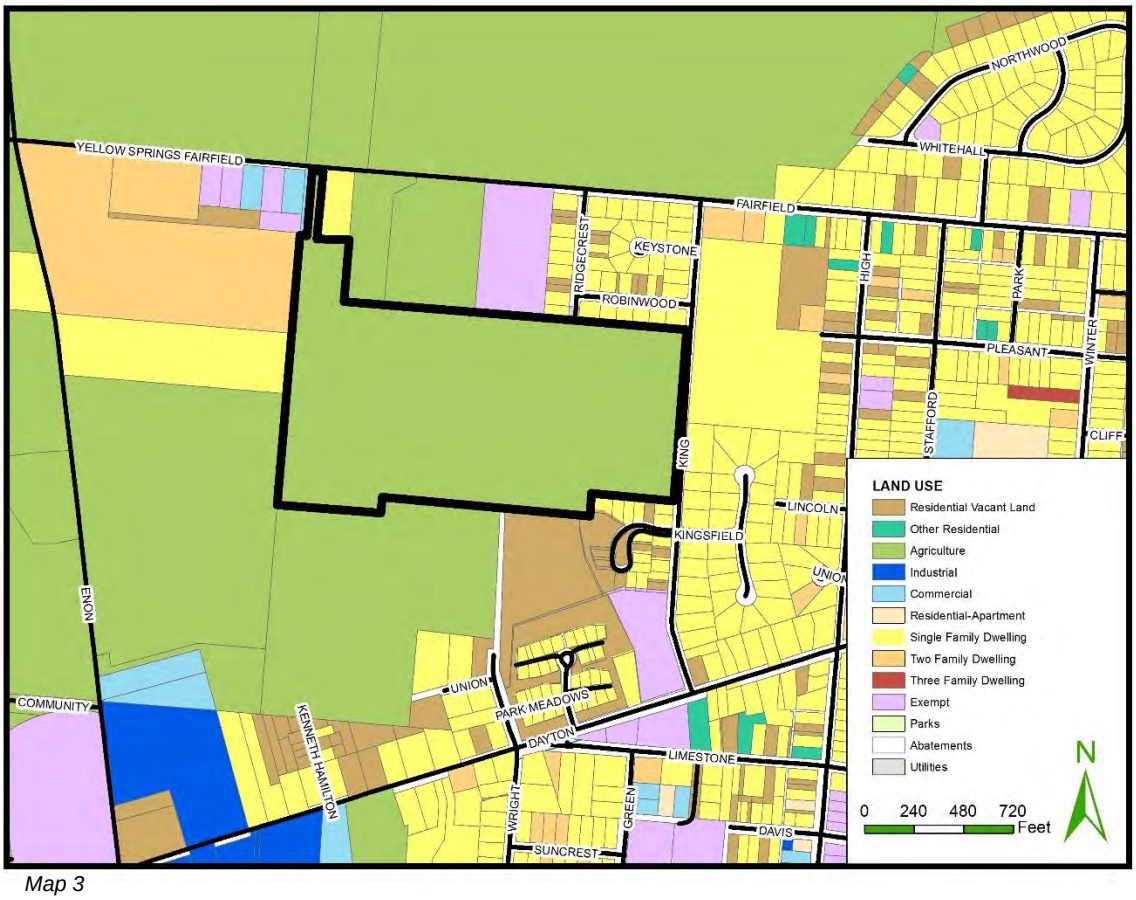
Map 1



Map 2

EXISTING LAND USES AND ZONING

The property has recently been under crop production. A retention pond/wetland area has been developed on the eastern part of the property. Currently, agricultural uses and cropland are found to the west and south of the site. A cluster of homes, a business and the Miami Township Garage are found near the northwestern corner of the property. The northeastern part of the site is bordered by a cemetery and the Westgate Plat with its 38 homes. The southeastern part of the site is bordered by a wooded 5-acre parcel and the Thistle Creek Subdivision with its 13 homes. East of the property across King Street are three homes in the Kingsfield Plat and a 10-acre parcel with mostly wooded land along mutual frontage with the parcel in question. These land uses can be seen in Map 3.

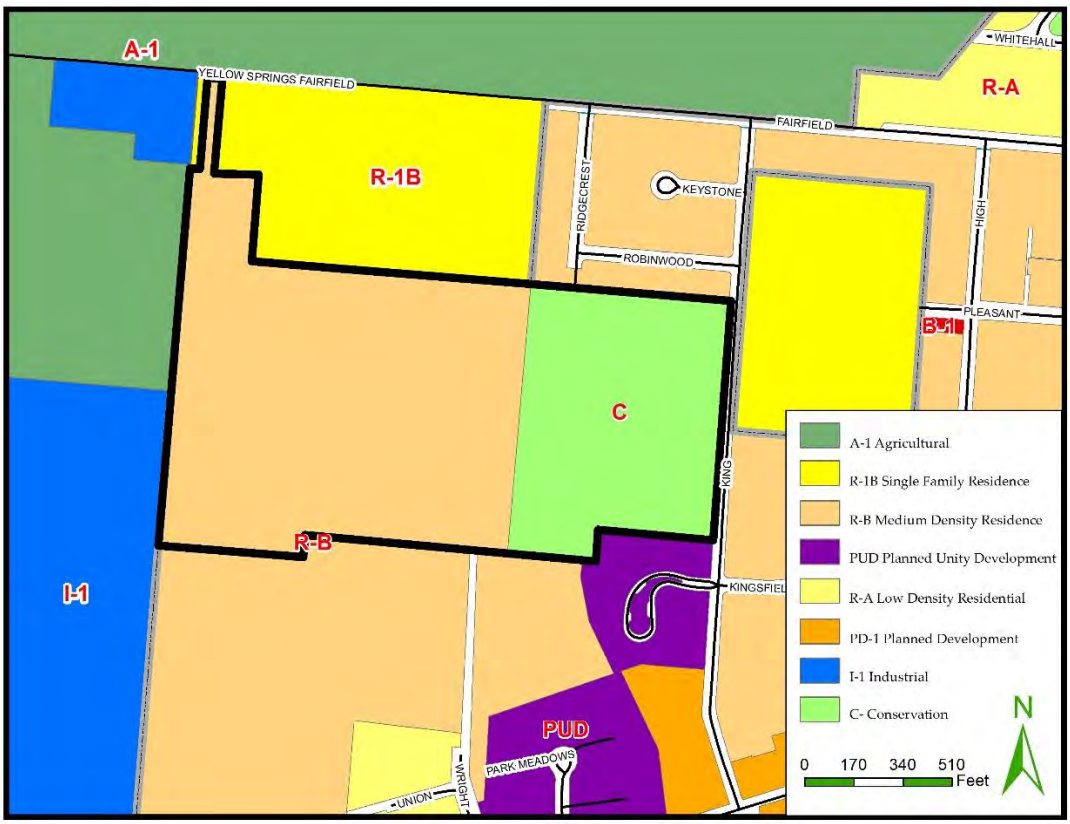


Map 3

As shown in Map 4 below, the western two-thirds of the Glass Farm property is currently zoned R-B Medium Density Residential. The R-B zone allows for densities up

to eight units per acre, as well as attached residential units and non-residential uses that are compatible and in scale with the established neighborhood character. The eastern third of the parcel is zoned for C Conservation, which prohibits the use of the land or construction of buildings, unless allowed through permitted use or conditional use.

Land to the south is currently zoned R-B Medium Density Residential. The small area zoned PUD Planned Unit Development to the southeast is the Thistle Creek Subdivision. Land to the north within Miami Township is currently zoned R-1B Single Family Residential (which requires a minimum lot area of 10,000 square feet) and R-B Medium Density Residential within Yellow Springs. Land to the east is currently zoned R-B Medium Density Residential in Yellow Springs and R-1B Single Family Residential in Miami Township. Land to the west lies entirely within Miami Township. It is zoned A-1 Agricultural, which is primarily for commercial agricultural production, and I-1 Industrial, which permits a number of uses that should be isolated from residential use.



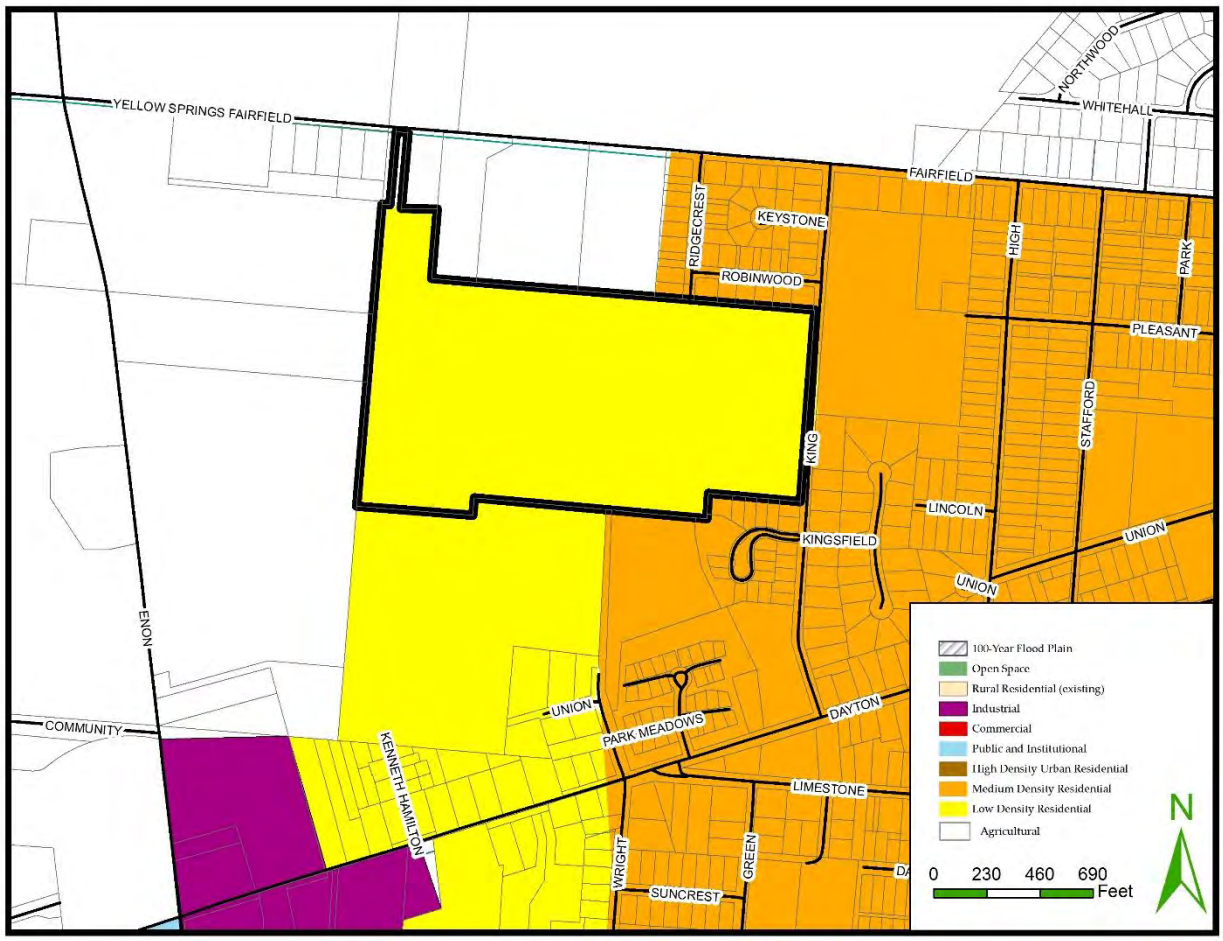
Map 4

DISCUSSION OF EXISTING PUBLIC PLANS

The Glass Farm site has been mentioned and discussed in two existing public plans: The Yellow Springs Village Comprehensive Plan (2010) and Perspectives 2020: A Future Land Use Plan for Greene County, Ohio (2001).

The Yellow Springs Village Comprehensive Plan, published in 2010, states "Development in this area is expected to be residential with various densities consistent with the existing subdivisions in the general area, which include Park Meadows (high density), Kingsfield (low density), Stancliff Neighborhood (medium-high density) and Thistle Creek (medium-high density). The eastern third of the Village-owned Glass Farm was recently designated a conservation area, which includes a recently constructed retention pond that reduces the frequency of downstream flooding. Most of the undeveloped land in this planning area is west of the creek and consists of interior parcels such as the Kinney property and the western part of the Glass Farm. Access points for streets are limited to Wright Street extended, Kenneth Hamilton Way extended, one point on Fairfield Road and frontage on East Enon Road. Sanitary Sewer to serve the area must come from a new sewer in Wright Street beginning at Dayton Street. Proper storm water management will be important for this area. Although, the entire area drains to the Glass Farm retention pond, this pond was not intended for, or designed to accommodate, any new development. Planning for this area should include a Thoroughfare Plan and preliminary routing and design for sanitary trunk sewer that starts on Wright Street at Dayton Street and extends to East Enon Road. Storm water management may work best if undertaken jointly by multiple landowners and this should be encouraged. With existing commercial land uses on Yellow Springs-Fairfield Road just west of the Village limits, there could be consideration of compatible uses on part of the Glass Farm." (Pages 30-31).

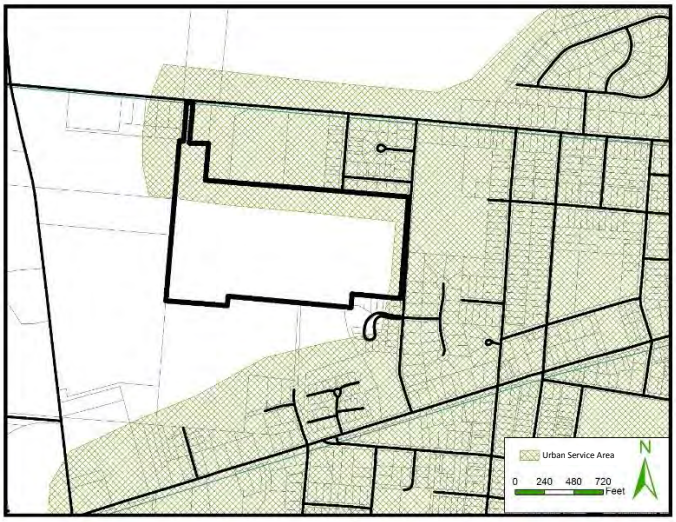
Perspectives: A Future Land Use Plan for Greene County, Ohio, updated in 2001, designates the area of the Glass Farm as Low Density Urban Residential (See Map 5). A mix of single-family and two-family dwellings with an overall density of 1-3 units per acre is recommended for such areas.



Map 5

URBAN SERVICE BOUNDARY

As shown on Map 6, the proposed rezoning site is situated partially within the Urban Service Boundary identified in Perspectives: A Future Land Use Plan for Greene County, Ohio. The plan calls for sustainable, urban-type development to be encouraged within the urban service area and preservation of agricultural activities outside the urban service area.



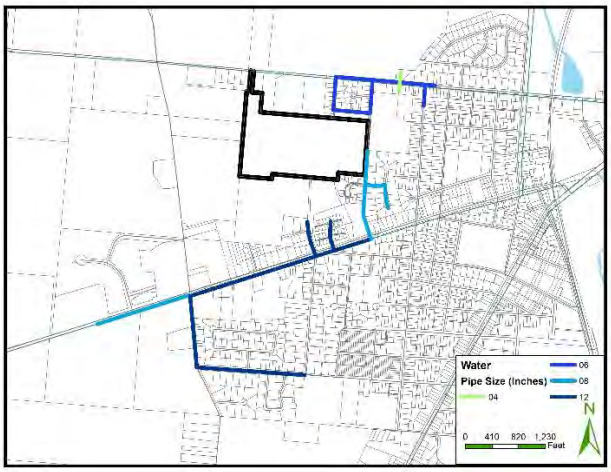
Map 6

UTILITIES

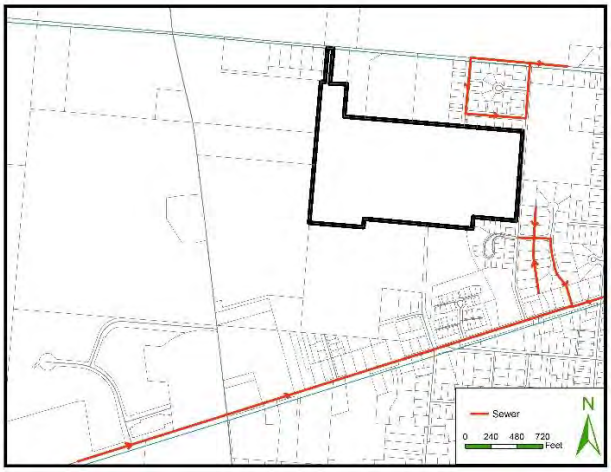
The nearest sources of public water supply are an 8-inch main along King Street and 6-inch and 4-inch mains along Yellow Springs-Fairfield Road. Currently, issues with water pressure exist in the mains along Yellow Springs-Fairfield Road, as a 4-inch main is positioned between two 6-inch mains feeding the Westgate Plat. The locations of these water lines are shown in Map 7.

The Facility Planning Area, designating the current possible service area of the Yellow Springs sanitary sewer system approved under the water quality planning program of Ohio EPA and MVRPC, extends west to East Enon Road. Sanitary sewer access to the Glass Farm is possible from Ridgecrest Drive, leading to Yellow Springs-Fairfield Road sewer (See Map 8). The Dayton Street sewer has capacity to accept sewage from the Glass Farm via connections to a sewer extending north to the intersection of King Street and Kingsfield Drive. Additional connections would be possible from sewers extending north from Dayton Street along Wright Street and Kenneth Hamilton Way. The latter two connections would require more extensive off-site improvements. In the case of the Kenneth Hamilton Way connection, crossing the undeveloped Kinney Farm would be required.

Future planned utility improvements in the area include a 6.25-acre area reserved for a 967.7 kW solar array and utility easement situated in southwestern part of the property.



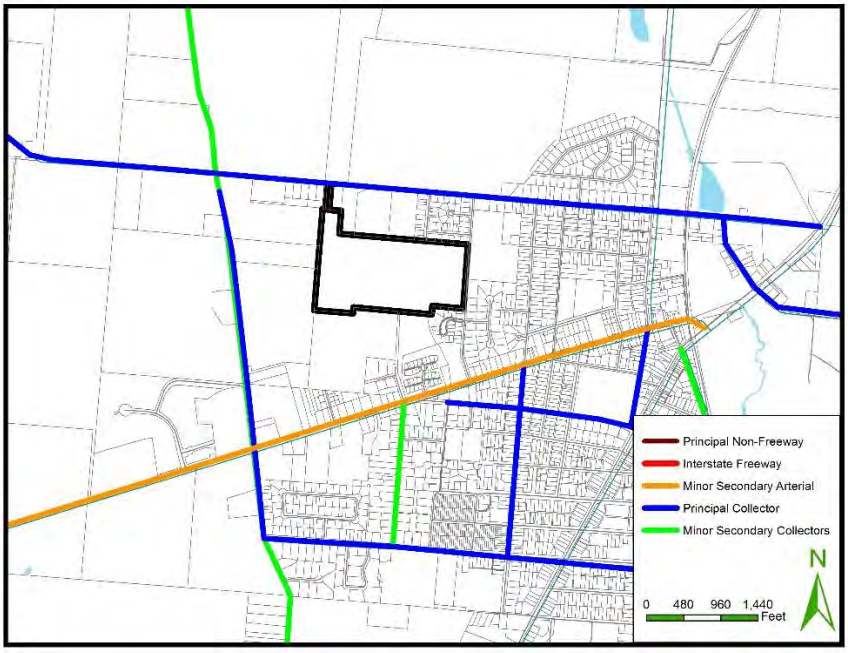
Map 7



Map 8

TRANSPORTATION

Primary existing access to the site is via King Street, which is designated as a local road on both the Greene County Thoroughfare Plan and MVRPC Regional Transportation Plan. Secondary access is through an existing subdivision via Ridgecrest Road. The third direct access point is on Yellow Springs-Fairfield Road, a Principal Collector. King Street is currently a 2-lane facility and would serve to funnel traffic south to Dayton Street, which is a Minor/Secondary Arterial, or north to Yellow Springs-Fairfield Road. To the west is East Enon Road, a Principal Collector. (See Map 9).



Map 9

The most current traffic count for Yellow Springs-Fairfield Road east of East Enon Road is 1,402 vehicles/day, taken in 2015. King Street does not have any traffic counts we are aware of. In addition to current traffic counts around the site, it is important to consider the amount of daily trips a new development will bring. Table 1 demonstrations the number daily trips associated with various development possibilities for the site.

TABLE 1: TRIP GENERATION RATES

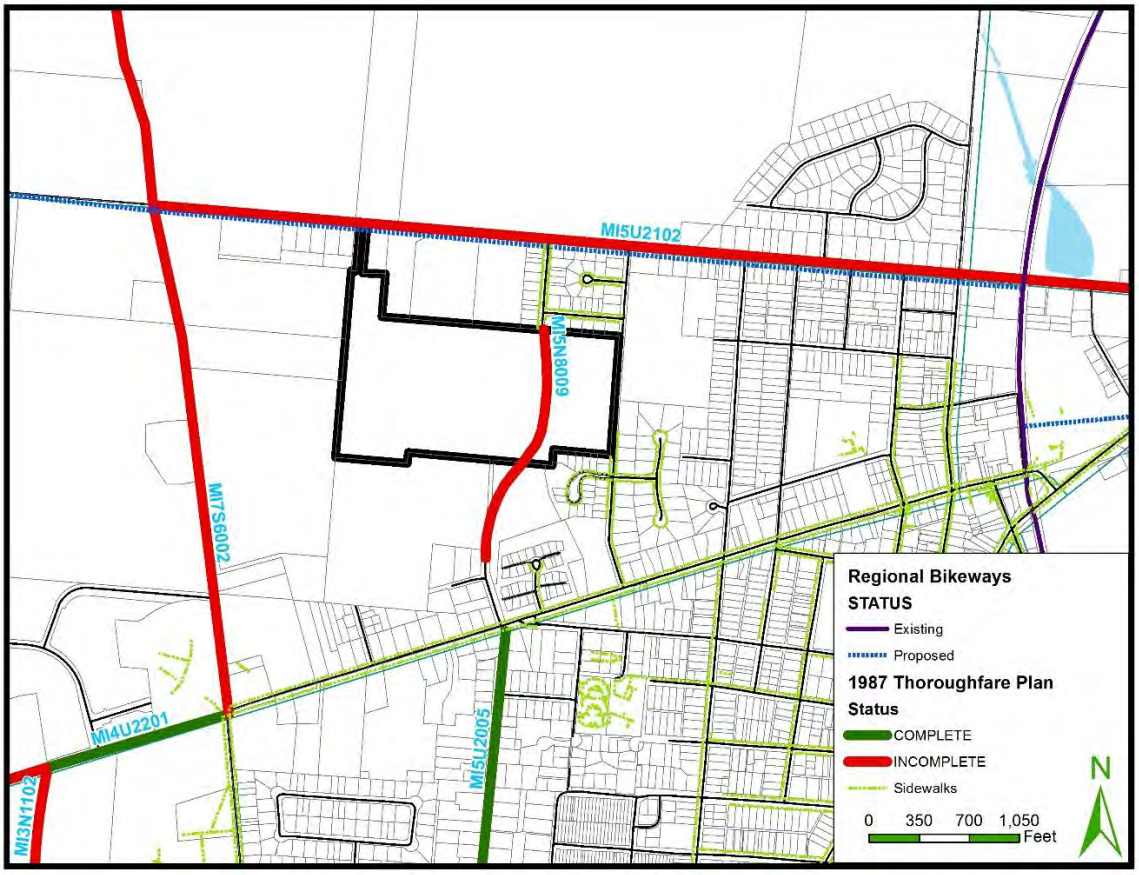
TYPE OF LAND USE	TRIPS PER DWELLING UNIT
Single-Family Detached Housing	9.57
Residential Planned Unit Development	7.50
Elderly Housing (Attached)	3.48

Number of Trips generated for a given land use from Miami Valley Regional Planning Commission.

With the property situated 7/10 mile from downtown and the CBE, walking and biking access should be considered important. Direct pedestrian access is present via sidewalks along the southern portion of King Street and along Ridgecrest Drive to the north. The sidewalk along King Street is currently limited to the area south of the Glass Farm. Sidewalks are also present along Dayton Street and the majority of local roads and collectors to the southeast near the Central Business District, as seen in Map 10. A multi-use path running north/south is planned along King Street between Dayton Street and Yellow Springs-Fairfield Road. Future long-range bikeway and pedestrian projects from the Miami Valley Regional Planning Commission include a Fairborn-Yellow Springs-Cedarville Connector trail running along Yellow Springs-Fairfield Road to the north of the Glass Farm property. This bikeway project as well as projects from the Greene County Thoroughfare Plan can be seen in Map 10.

Project Mi5N8009 in the county plan proposes extending Wright Street north to Yellow Springs-Fairfield Road at Ridgecrest. This proposal as planned is no longer recommended. The through street concept for Wright Street, if desired, should be

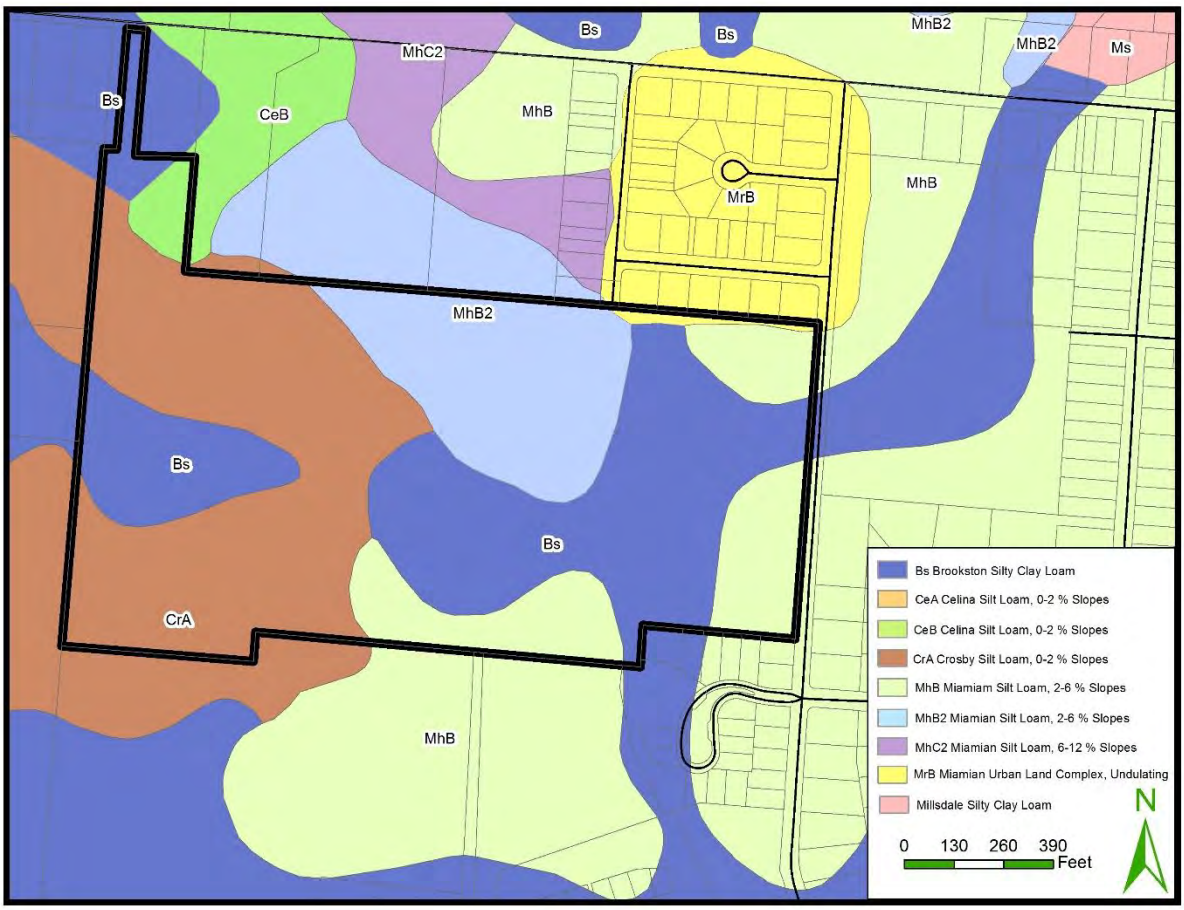
moved to connect with Yellow Springs-Fairfield Road further west at or closer to the Glass Farm access point. A minor access point at Ridgecrest Road should be maintained. In addition, access should be provided in the southwestern part of the site to allow eventual connection to Kenneth Hamilton Way through the Kinney Farm when it develops.



Map 10

SOILS AND SITE SUITABILITY

The property contains several soil types, including Brookston, Miamian, Celina and Crosby. Of these soils, Brookston presents the most challenges for development and building on the soil is not recommended without significant engineering consideration. Miamian and Crosby soils, which make up the majority of the site, are more suitable for building, but still have limitations. Map 12 below shows the layout of the soils that make up the site.

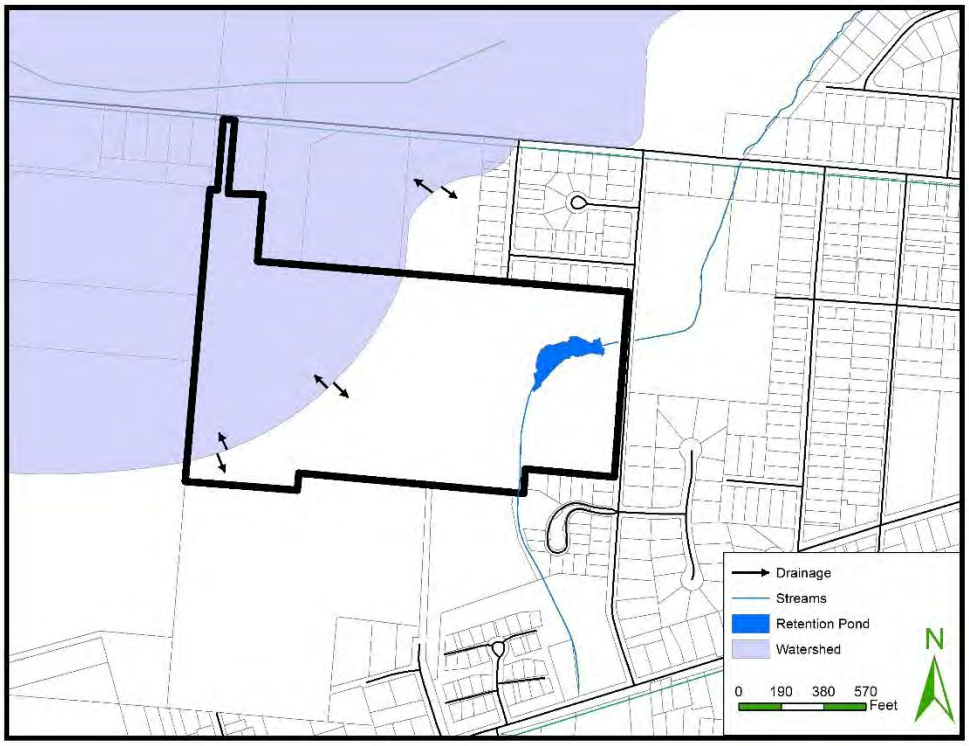


Map 12

A preliminary geotechnical engineering report by Terracon Consultants, Inc. was prepared for the Village in late 2016. The report was prepared to assess suitability of the soil conditions for development related to earthwork and the design and construction of foundations and floor slabs. An executive summary included in the report indicates the site has medium to high plasticity lean clay and fat clay soils possessing a high shrink-swell potential. Those soils, along with shallow groundwater conditions, can cause cracking in foundations and slabs without adequate subsurface water drainage and proper backfill. Larger structures with deeper foundations would be more problematic on this site. The report also recommends structures with basements be avoided. Therefore, smaller homes built on slab foundations would be best suited for the soils present at the site.

WATER AND DRAINAGE

The majority of the site drains to the east towards the retention pond at King Street, as seen in Map 13. The part of the site between the west property line and approximately 450-500 feet east drains to the west. The Yellow Springs Village Comprehensive Plan states, “A high level of storm water management must be included in all development in the northwest area that drains to the Glass Farm Branch of Yellow Springs Creek. While the recently constructed retention pond on the Glass Farm is reducing the frequency of flooding downstream, this retention pond was not designed or intended to substitute for proper storm water management by new development throughout the watershed.”



Map 13

While the site has poor natural drainage, there are no portions within the 100-year regulatory floodplain as identified by the Federal Emergency Management Agency. Additionally, there are no wetlands within the site presently identified on the National Wetlands Inventory. There is, however, one man-made retention pond positioned in the eastern part of the property. A conservation easement in the eastern part of the site should be pursued.

To prevent potential drainage issues that could come with development of the site, rain gardens and other on-site techniques should be implemented within the development to help alleviate stormwater runoff and reduce pollution. Any new development should be of low impact design.

GROUND WATER

The Glass Farm is situated atop an area designated upland management area of the regional aquifer system in the region. [A Groundwater Protection Strategy for the Miami Valley Region, Draft Vol. One Executive Summary, Dec. 1990, Page 33]. The site is an area in which groundwater yields of 10-20 gallons per minute may be developed. [Ground Water Resources of Greene County Ohio, ODNR, 1991]. This area is rated as having a medium ground water pollution potential. [Ground Water Pollution Potential of Greene County, Ohio, ODNR, 1995]. Since water supply and sanitary sewer service are available from the Village, groundwater supply and/or pollution should not be a problem.

RECOMMENDATIONS

The Glass Farm offers an opportunity for the Village of Yellow Springs to accommodate new growth adjacent to existing development in the community. The Village has a history of following good planning principles, which incremental expansion is one. After review of all the factors highlighted previously in this report, the following recommendations are offered regarding development of the Glass Farm. Map 14 illustrates some of the recommendations.

1. The existing residential zoning on most of the property and surrounding land uses make future use of the property for residential use appropriate. Smaller homes without basements are recommended, as noted in the geotechnical report. Size and bulk of the structures should be compatible with the soil conditions, precluding larger structures.

2. The southwest part of the property should remain devoted to the planned solar array field

3. The main access connection should be to King Street with a 60-foot right-of-way to accommodate a turn lane and pedestrian/bike facilities.

4. Ridgecrest Drive should be extended into the property to meet the proposed entrance road off King Street. This access should not be part of any continuous north-south route through the property to minimize traffic on existing Ridgecrest Drive.

5. Keep the options open for potential future access via extension of Wright Street and Kenneth Hamilton Way northward to this property via the proposed access points. These extensions should be incorporated into any development proposals on properties to the south.

6. Road access to Yellow Springs – Fairfield Road at the northwestern corner of the site is shown on the recommendation map. This access point will need further evaluation by the Greene County Engineer to insure adequate sight distance is secured.

7. A future road access out to East Enon Road via the access point north of the solar array area should be incorporated in any overall plan.

8. Given the poor natural drainage and limited capacity of the existing retention pond to accept additional storm water, development undertaken on the property should be designed with its own separate retention/detention areas. Two possible locations that might be considered are shown on the map. Additional suggestions are as follows:

9. The existing retention pond should be included in a conservation easement or similar protection to insure it remains functioning as planned.

10. Drainage in the eastern part of the site should be managed in both rate and quality to insure protection of the existing pond. Rain gardens and other green infrastructure management techniques should be used on the home sites and along drainage routes to minimize impacts on flow and water quality. The Greene County Soil & Water Conservation District has

a link on Green Infrastructure on their web page. Other information sources are listed below:

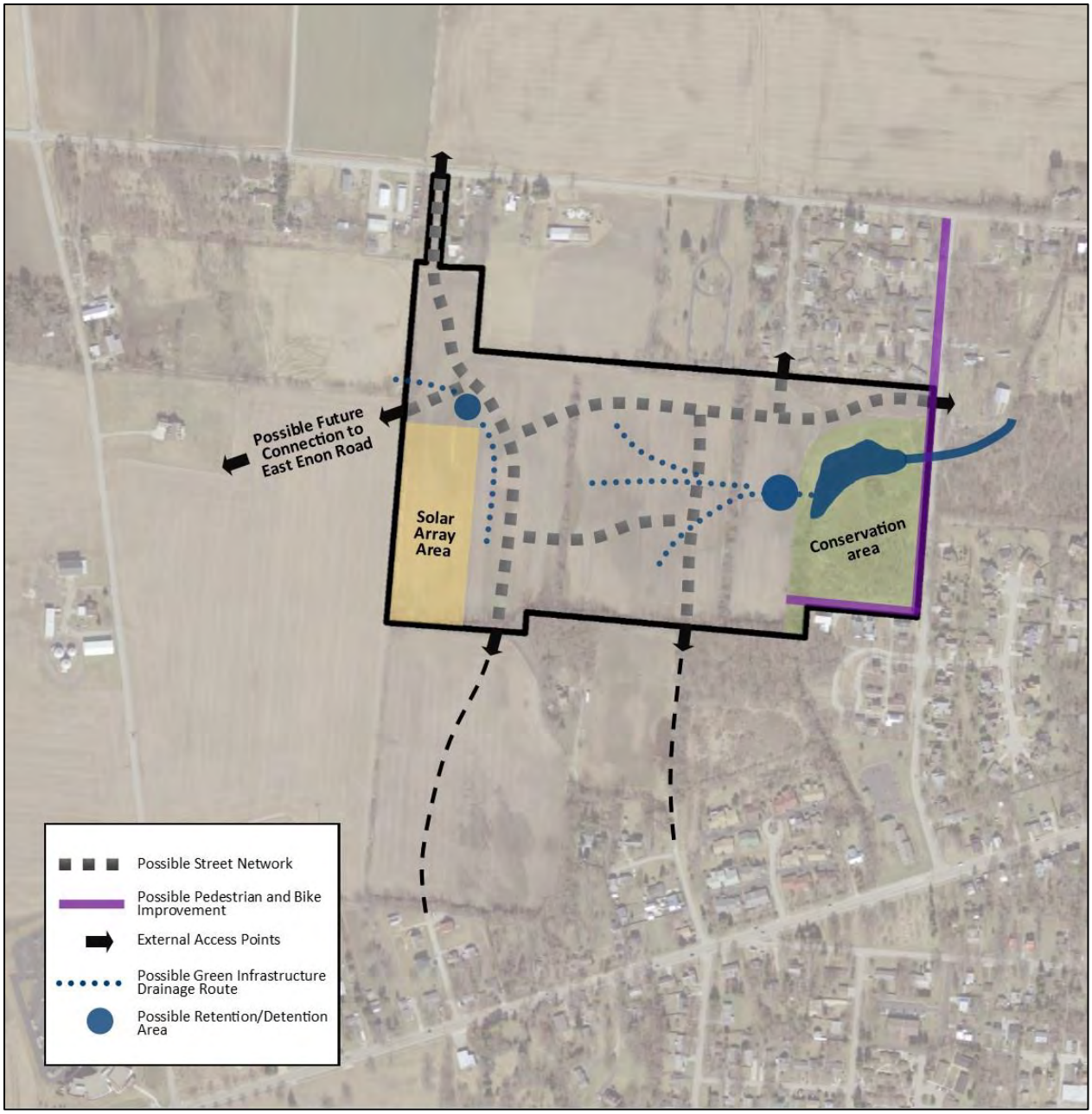
a. Ohio Rainwater and Land Development Manual (Ohio EPA)

b. Rain Garden Guidelines for Southwest Ohio (OSU Extension)

c. Rain Garden Manual for Homeowners (Northeast Ohio Public Involvement Public Education Committee)

11. Drainage in the western part of the site flows to just north of the solar array area. A retention/detention pond and green infrastructure drainage route in this area is recommended.

12. The development should be pedestrian and bike friendly internally with bike/pedestrian connections accompanying the previously mentioned street access points. A connection to King Street through the southern part of proposed conservation easement area is also recommended, trimming distance off any trip planned to the central area of the village.


Possible Future Connection to East Enon Road
Solar Array Area
Conservation area
Possible Street Network
Possible Pedestrian and Bike Improvement
External Access Points
Possible Green Infrastructure Drainage Route
Possible Retention/Detention Area

Map 14