

FAHEY SOUTH
URBAN SERVICE AREA AMENDMENT APPLICATION
CITY OF FITCHBURG

March 3, 2020
Revised June 8, 2020

PREPARED BY

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18-04-112

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Fahey South Amendment Area:

The City of Fitchburg is requesting an Urban Service Area (USA) amendment to add approximately 87 acres to the Central Urban Service Area. Lands included in this amendment area located within the City's McGaw Park Neighborhood Plan. The amendment area will be referred to as "Fahey South", and in fact includes Outlot 8 of the Fahey Fields plat.

Plan Consistency and Need:

Fahey South is located within the City's McGaw Park Neighborhood Plan, located south of Lacy Road and west of Syene. This plan was adopted by the Council in June of 2009, and the northern half of the neighborhood was brought into the CUSA in 2010 following approval by CARPC and the DNR.

The Neighborhood Plan has various land uses planned throughout. The link below will provide easy access to the full plan, and the attached Figure 1.3 from the plan shows the Growth Model that was adopted. [fitchburgwi.gov/727/Mcgaw-park-neighborhood-plan]

In February of 2019, the City adopted the "Fitchburg Housing Plan", to identify the goals and strategies for building healthy neighborhoods. The executive summary is included within this document. That Plan projects a population growth of 6,000 residents and 2700 households over the next 12 years. Fahey South includes areas for both medium density and higher density residential, as well as institutional, that will be an integral part of Fitchburg's growth in satisfying their housing needs. The proposed USA Amendment is consistent with the City's Comprehensive Plan.

Intergovernmental Cooperation:

The McGaw Park Neighborhood is situated geographically in the middle of the City of Fitchburg. Since it is not near any of the borders, there are no intergovernmental agreements with any of the surrounding municipalities that impact Fahey South.

Land Use:

The proposed land uses within Fahey South will follow the McGaw Park Neighborhood Plan Growth Model. This includes a mixture of residential housing types, a block of Institutional land, along with a small addition to McGaw Park (adjacent to the 11 acres of McGaw Park that were dedicated with the Fahey Fields plat). The proposed USAA boundary is shown on Figure 1.3. That same map shows the proposed land uses to the east to be a mix of residential; to the south is planned open space; to the west there is some additional residential lands on the Bowman farm, and beyond that is a 57 acre Mixed Use area, balancing employment and residential uses.

The existing land use within Fahey South is currently all farm land. Fahey Fields is on the north side, and to the east, west, and south is all farm land. There are no streets, public utilities, or homes within the subject lands. On the south edge is a high voltage power line, and that will remain in place and frame the south side.

The attached table lists the proposed acreage for the various land uses. It is estimated that there will be a minimum of 350 housing units, consisting of a variety of single family lot sizes, townhouse condominiums, and apartments.

Natural Resources:

The parcels contain various types of silt loam soils such as St. Charles, McHenry, and Dodge, which are good for farming. These soils are generally located on less than six (6) percent slopes, with a small portion of McHenry silt loam located on 6 to 12 percent slopes.

There are no known archeological sites and it is presumed to not have inhabits near this area as there is not a significant water resource.

Currently, the property is farmed and will continue to be farmed until a development project is constructed on the property. As part of the land division process, environmental corridors will be designated on the property at that time. There are no known wetlands, forest, floodplains, or other physical constraints that would lead to an environmental corridor designation at this time. Future stormwater ponds and park spaces will be designated as environmental corridors.

Utilities & Stormwater Management:

Sanitary Sewer System

The Madison Metropolitan Sewerage District (MMSD) Nine Springs regional wastewater treatment plant serves the City of Fitchburg and will provide wastewater treatment for development within the amendment area. Capacity information for the Nine Springs treatment plant can be obtained from <https://madsewer.org>. The McGaw Park Neighborhood flows to MMSD Pump Station 11, which was recently upgraded to provide more pumping capacity. MMSD is now analyzing how to increase the sewer main capacity from Pump Station 11 to Pump Station 12, and when that will fit into their Capital Improvement Program.

The McGaw Park Neighborhood will be served by the Woods Hollow and Syene Interceptors per Figure 5.19 in the Neighborhood Plan. Fahey South is situated on the divide line of these two interceptors. Approximately 28% of the western portion of Fahey South, along with the Bowman lands to the west, will be serviced by the Woods Hollow Interceptor through the 10" sanitary sewer with Fahey Fields. Approximately 72% of the eastern portion of Fahey South will be serviced by the Syene interceptor through the 8" sanitary sewer within the Crossing.

The City uses an average daily wastewater flow of 100 gallons per capita per day, with a peaking factor of 4 for residential areas. The 10 acres of institutional is estimated to generate 2,230 gallons per day, based on usage at Savana Oaks School. For Fahey South, the average daily flow is computed to be 87,230 gallons per day, with a peaking factor = 348,920 gallons per day. This flow will be split between the Woods Hollow and Syene interceptors as noted above.

The City is in the process of extending the 12" East Meadow branch of the Woods Hollow Interceptor on Fahey Glen between East Cheryl Parkway and Lacy Road. An existing 8" main on Lacy that is currently draining to the Syene Interceptor was re-routed to this new 12" main, along with the existing 10" main on Fahey Glen. The enclosed map indicates the network of existing sewer mains. Both the Bowman Farm to the west of Fahey South, along with the western portion of Fahey South, will flow to this new 12" main.

A detailed analysis by the City of the proposed peak sewer flows versus the capacity of existing downstream pipes shows that there are several critical sections of sewer. Within the Woods Hollow sewer shed, the existing 10" sewer at 0.4% on Fahey Glen is the limiting factor. Based on the proposed uses from the McGaw Park Neighborhood Plan, that critical section of sewer can handle all of the flow as noted above, with all of the Bowman farm and the western portion of the Fahey South project being routed that way. Fahey South will be limited to a maximum of 68 GPM (peak) flowing to Woods Hollow.

Within the Syene subinterceptor sewer shed, the 8" pipe at 0.4% at the low end of the Crossings sewer system is the critical pipe. Calculations show that it has the capacity to serve the area planned for it, including the eastern portion of Fahey South. Based on 68 GPM directed to Woods Hollow, the flow to Syene will be 174 GPM (peak).

The third critical pipe is the existing 12" sewer @ 0.14% under Syene Road. This pipe serves the Swan Creek Neighborhood, and also the SW quadrant of the Syene Road/Lacy Road intersection. At this time, the 12" sewer under Syene Road is at capacity. Expansion of the urban service area for Fahey South will necessitate the Fahey South Subdivider to replace the existing 12" sewer under Syene with a 15" sewer.

Water Distribution

The McGaw Park Neighborhood is located in three pressure zones of the Fitchburg water distribution system; the West, East, and Northeast Zones per Figure 5.17 from the neighborhood plan. Fahey South is primarily in the West zone, with approximately 25% of the east side within the East Zone.

Connections to the water distribution system will be through the Fahey Fields plat, via extensions of existing water mains on Nobel Drive, Fahey Glen, and Notre Dame Drive. Water mains will be extended throughout the road network in Fahey South, and eventually extended both east and west into neighboring properties.

The proposed zone lines have been shown on the enclosed map. Within Fahey Fields to the north, the water main on Notre Dame Drive is in the east pressure zone, and that is expected to continue as Notre Dame Drive is extended through Fahey South. The east pressure zone can serve elevations up to 1038, and the highest elevation planned for Fahey South for the east zone is 1030.

A new reservoir is planned for the high ground in the Neighborhood. A specific site has not yet been determined, but the highest ground in the neighborhood is at the west end of the Bowman Farm.

Stormwater Management

The City of Fitchburg criteria for stormwater management meets the thresholds established by Dane County and the DNR. Stormwater basins that are in place or to be built as part of Fahey South will be owned and maintained by the City. The Public Works Department has employees who are responsible for insuring that the public stormwater management facilities are being managed and maintained according to the approved management plans for these facilities.

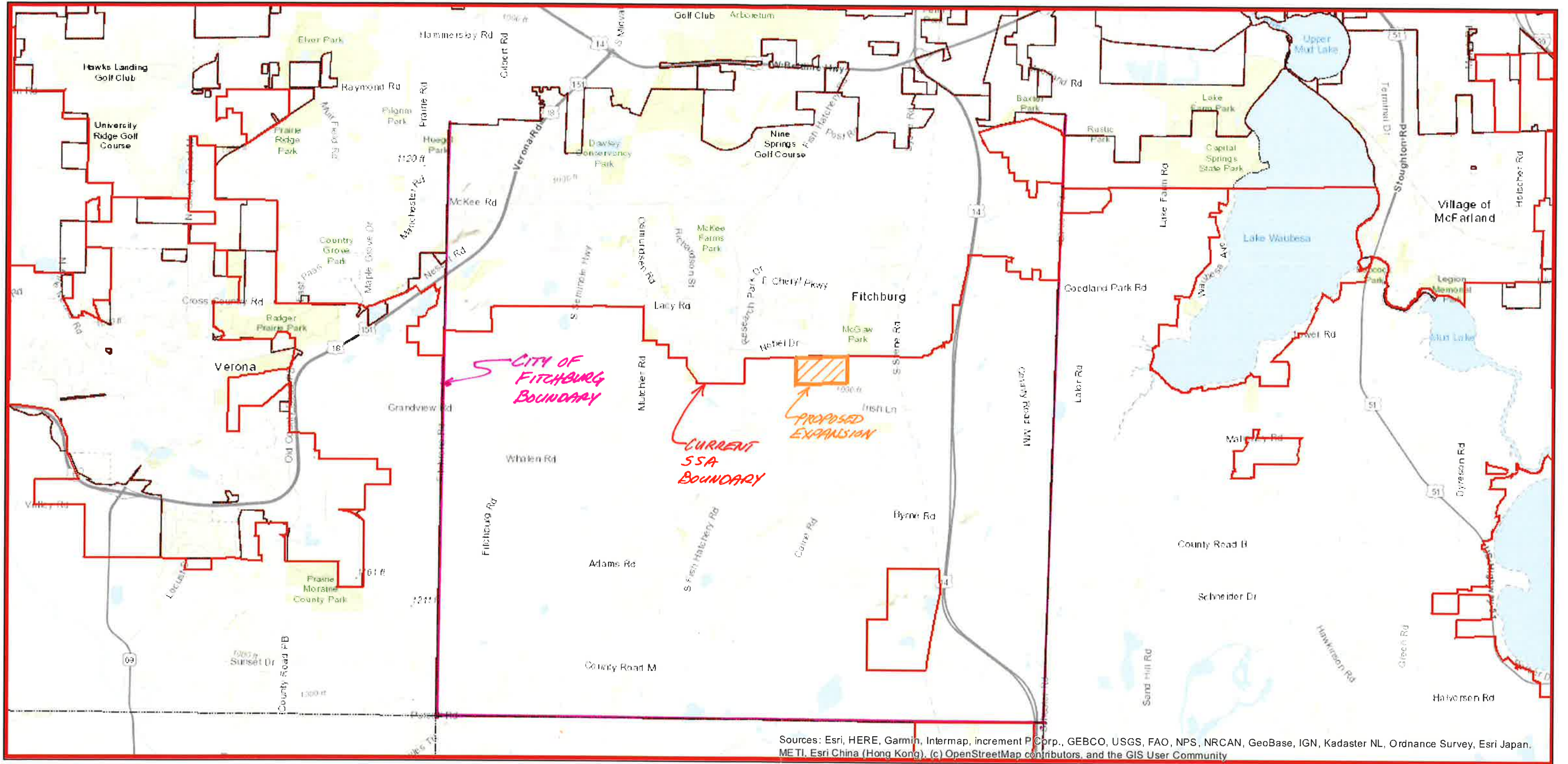
For Fahey South, stormwater management will be met in a variety of ways, due to the various proposed land uses, and the fact that it is situated on a hilltop with some of the runoff going to the north and a portion of the area draining to the south. Stormwater basins will be incorporated into the neighborhood, and will meet the performance criteria for peak control, sediment reduction, infiltration, thermal protection, and oil/grease control.

The high density area(s) will provide on-site storm water management, as will the institutional. The medium density residential is anticipated to have several basins that will be publicly owned and maintained.

Urban Service Area Amendment Application Checklist

Table 1: Fahey South Urban Service Area Amendment Data				
Proposed Land Use	Number of Acres			# of Housing Units
	Total Area	Existing Development	Environmental Corridor	
R1 Single Family Residential	35	0		150
R2 Residential	20			200
Residential Total	50			350
Institutional	10			
Street R-O-W	19	0		
Parks	1		1.0	
Stormwater Management	4		4.0	
TOTAL	89	0	5.0	
1. All lands are in the City of Fitchburg				
2. 18.0 Acres is within Fahey Fields, as Outlot 8.				

current and proposed SSA boundaries within the City of Fitchburg



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

June 4, 2020

Urban Service Areas

Dane County Mask

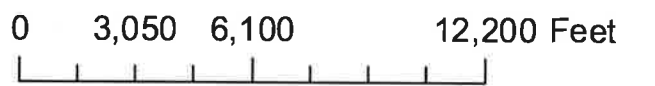
Dane County Mask

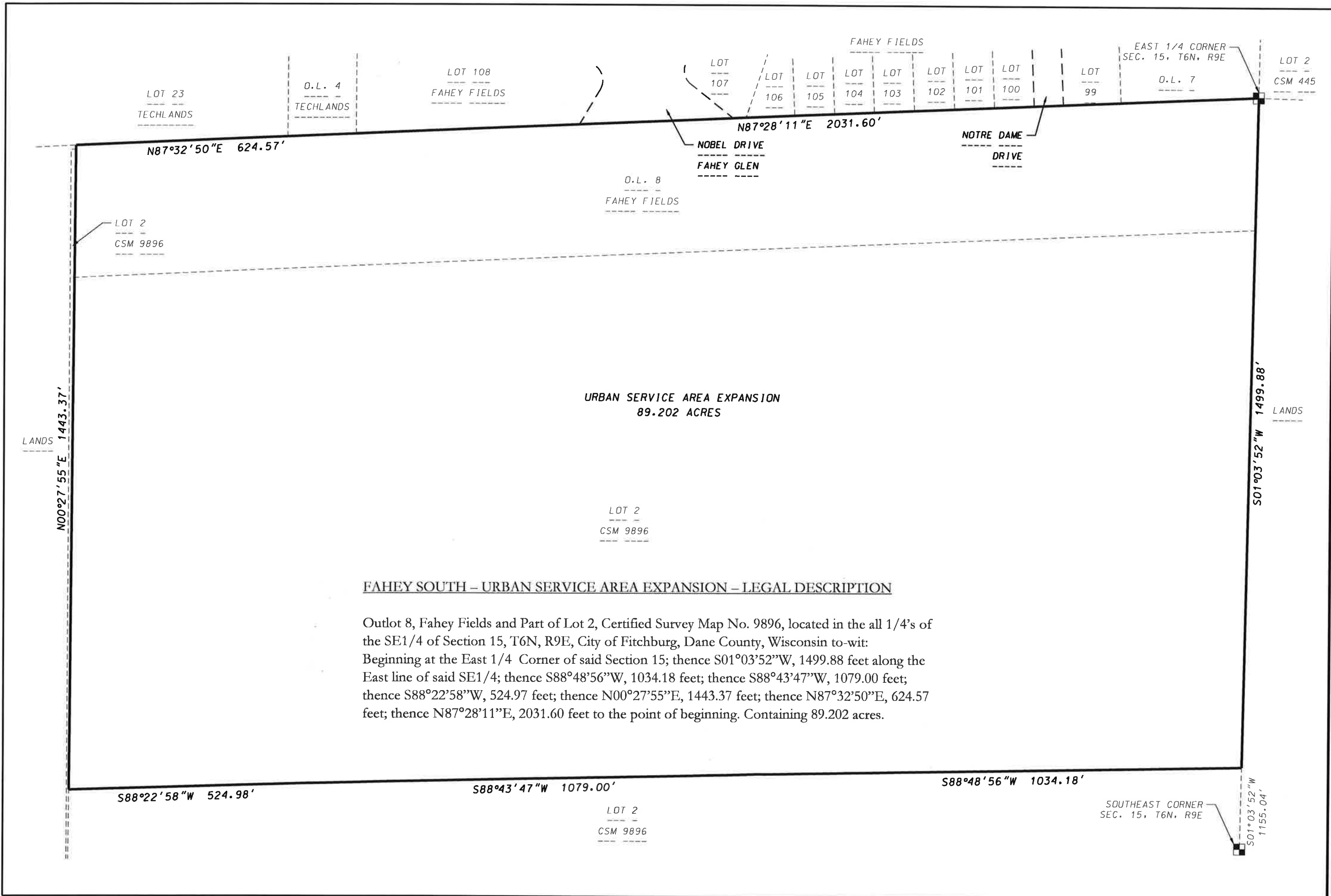
Municipalities

City

Village

Town





FAHEY SOUTH – URBAN SERVICE AREA EXPANSION – LEGAL DESCRIPTION

Outlot 8, Fahey Fields and Part of Lot 2, Certified Survey Map No. 9896, located in the all 1/4's of the SE1/4 of Section 15, T6N, R9E, City of Fitchburg, Dane County, Wisconsin to-wit: Beginning at the East 1/4 Corner of said Section 15; thence S01°03'52"W, 1499.88 feet along the East line of said SE1/4; thence S88°48'56"W, 1034.18 feet; thence S88°43'47"W, 1079.00 feet; thence S88°22'58"W, 524.97 feet; thence N00°27'55"E, 1443.37 feet; thence N87°32'50"E, 624.57 feet; thence N87°28'11"E, 2031.60 feet to the point of beginning. Containing 89.202 acres.

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 7530 Westwood Way, Madison, WI 53717
 Phone: 608.833.7530 • Fax: 608.833.1089
YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

URBAN SERVICE AREA MAP
FAHEY SOUTH
 CITY OF FITCHBURG, DANE COUNTY, WISCONSIN

THE EAST LINE OF THE SE1/4 OF SECTION 15, T6N, R9E BEARS S01°03'52"W

SCALE: 1" = 200'

DATE: 06-05-20
 REVISED:

FN: 18-04-112
 Sheet Number:
 1 of 1

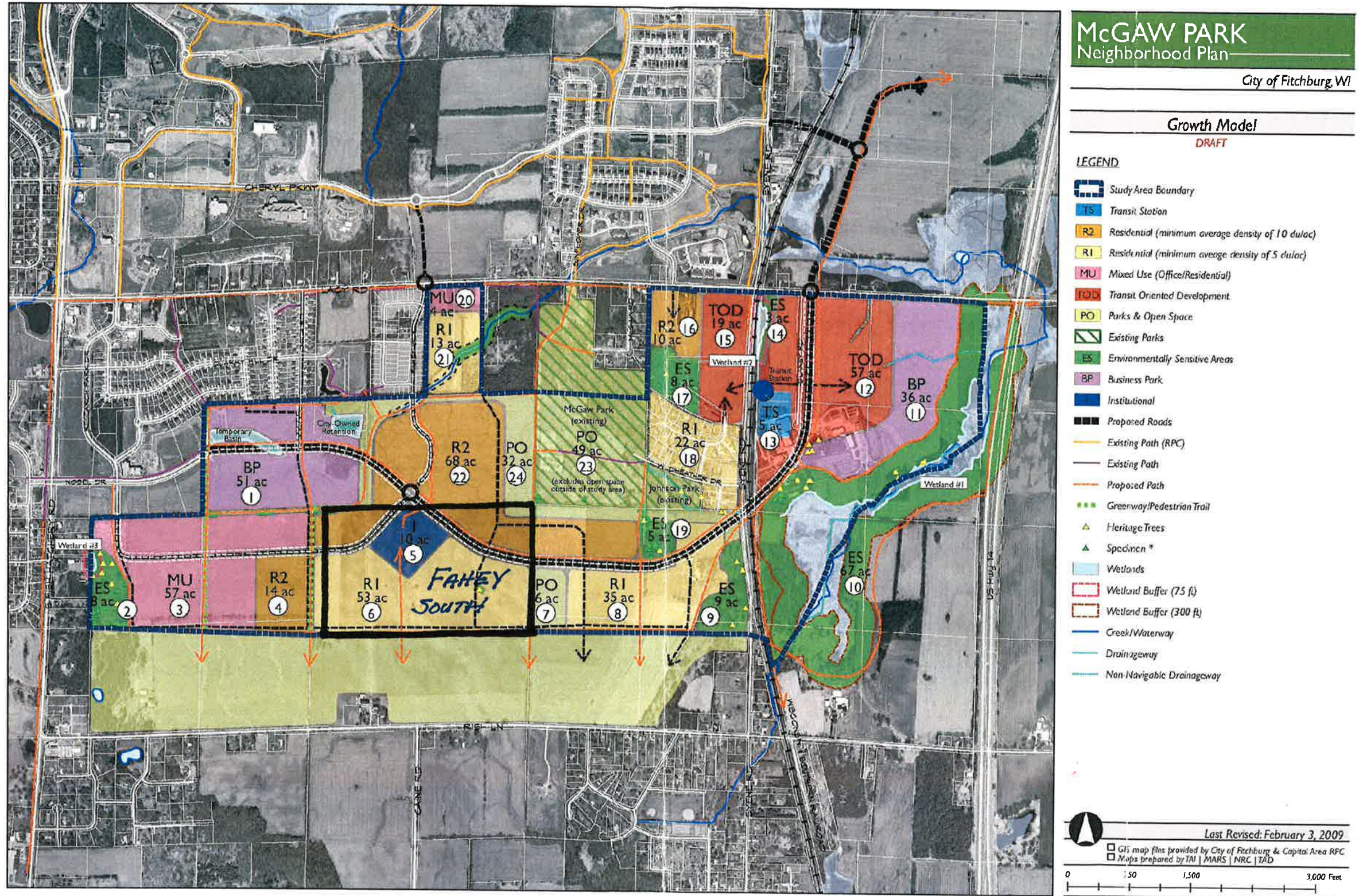


Figure 1.3: Growth Model



FITCHBURG HOUSING PLAN

Goals, Strategies, and Implementation Toolkit

Prepared by MSA Professional Services and Urban Assets



Adopted February 12, 2019

Executive Summary

With this Plan the City of Fitchburg offers a guide for housing investment in the City, including reinvestment in existing units, through a variety of policy changes, funding tools, and partnerships. The City of Fitchburg intends to be proactive in the pursuit of healthy, balanced neighborhoods that meet diverse housing needs.

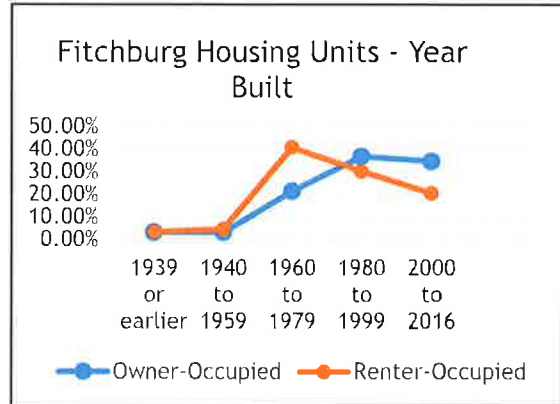
Originally an unincorporated rural town, Fitchburg grew dramatically in the 1960's and 1970's while approving multifamily, rental housing development. After incorporation in 1983, local housing and neighborhood development focused primarily on single-family, owner-occupied detached housing. Today the City's housing market is equally split between owner-occupied and renter-occupied housing, and there are unusually large differences between owner households and renter households. Whereas rental units are older and relatively affordable within the Madison-area housing market, the City's average single-family home is more expensive than in most other communities in the region. Related to this, the household income of owner households is, at \$97,000, approaching triple that of renter households, which averages \$37,000. This gap in incomes reflects gaps in the housing market - there are too few ownership units affordable to households earning less than the median income, and arguably too few rental units desirable to households earning above the median income.

The City encourages housing that is desirable, accessible and affordable to people at every stage in life. If successful, the City will have housing that enables people to transition into desirable new housing as life circumstances change without needing to leave the City. More people will be able to live closer to jobs in the City, and resident turnover will be lower.

Key Findings

Interviews and review of data from the Census Bureau, City of Fitchburg, Realtors and other sources led to the following noteworthy findings about the Fitchburg housing market (see the rest of the analysis in the plan for more details).

1. **Fitchburg's owner and renter households are spatially and economically segregated.** The median household income in the City is about \$66,000, but owner households are roughly \$30,000 higher and renter households \$30,000 lower. Renter-occupied housing is still largely concentrated in a few neighborhoods close to the Beltline, while most other neighborhoods lack rental housing.



About this Plan

This plan was commissioned by the Fitchburg Community and Economic Development Authority (CEDA) in 2017. A large and diverse Housing Task Force offered input and ideas throughout 2018. A series of interviews with realtors, developers, City staff and others informed the process. The plan was reviewed, refined, and recommended for approval by the Housing Task Force, the Committee on Aging Well, CEDA, Plan Commission, and, on February 12, 2019, City Council.

This plan will be used to inform the update of the City's Comprehensive Plan and to guide various housing-related initiatives. Responsibility for implementation falls to a variety of entities. If created, a Housing Committee will have a leading role in many of these efforts.

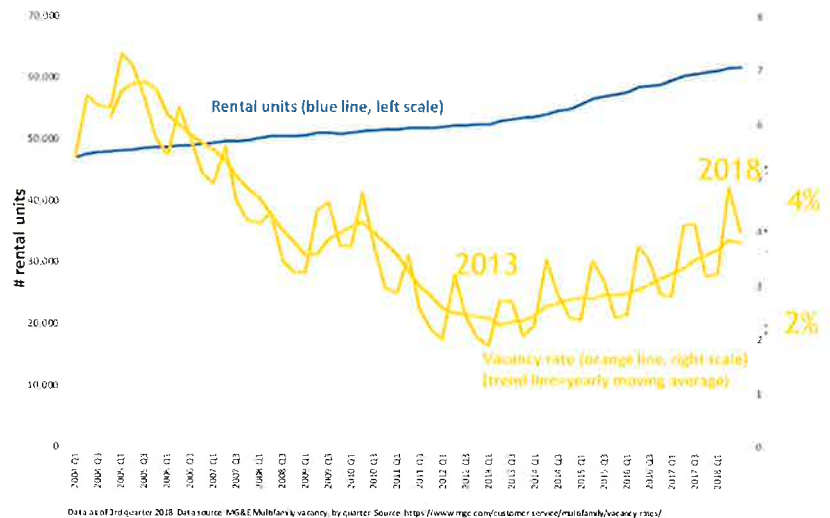
2. **Fitchburg’s owner-occupied housing stock is expensive** - the average sale price in 2017 was \$325,000. The area median income (AMI) for Dane County was about \$81,000 for a family of four in 2018. It is estimated that for a family at 80% of AMI, or about \$65,000, only 5% of Fitchburg’s ownership housing stock is affordable.



3. **The construction of new homes in Fitchburg was persistently low from 2008 to 2017** - at no point in that decade did annual building permits exceed 50. This changed in 2018 with at least 100 approved permits. For context, there were 100-150 homes built in Fitchburg each year 2002-2007, and regional housing construction began growing again back in 2013. This lack of new homes has contributed to high purchase prices for homes in the City.

4. **The apartment vacancy rate is still low, but rising.** After years of persistently low rental vacancy across the region, a surge of construction has started to catch up with strong demand for units. The fall 2018 vacancy rate was estimated to be between 3.7% and 5.2% in Fitchburg. This likely predicts a slowing of new apartment construction in the coming years.

Changes in Multifamily Rental Supply and Vacancy Rates for Select Madison Gas and Electric Service Areas



5. **Fitchburg has relatively high fees charged to the development of new housing units,** compared to key peer communities across the metro area. The largest portion of these fees is park land and improvement fees.

6. **Developers of all types of housing described challenges in the development process in Fitchburg.** Developers would like to see a more consistent and timely staff review process and a more consistent and engaged response from elected officials.

7. **Population and housing growth is strong across the region.** As we saw in the Great Recession, growth can continue in the Madison area even if the wider economy cools off. The City can expect to grow by about 6,000 people and 2,700 households by 2030. Assuming a continued 50/50 split of rental and owner housing, and assuming vacancy rates of 5% in rental and 1% in owner, there is a need to keep building housing of all types, including 108 owner-occupied units and 117 renter-occupied units each year.

Goals and Strategies

The Plan establishes several high-level goals and strategies addressing needs in the local housing market.

1. Prioritize neighborhood health in all decisions, including a mix of housing types.

Public policy and investment in housing should do more than just modify the average mix and affordability of units across the entire City. It should also result in better neighborhoods that are more likely to attract residents and reinvestment in future decades.

2. Add more housing of all types near North Fish Hatchery Road, especially owner-occupied housing.

The City should actively encourage the development of townhomes, duplexes, fourplexes, etc. When planning neighborhoods, these units are often appropriate as a transitional form between commercial and single family residential uses, or between higher-density residential buildings and single-family residential areas.

3. Build more owner-occupied homes, at various price points.

Maintaining balance in the market requires a return to pre-recession construction levels of 100-150 units per year.

4. Build more owner-occupied housing affordable below the median household income.

Fitchburg's housing market is "top heavy", with more units than typical valued above \$300,000 and fewer than typical valued below \$200,000. The plan encourages 30% of new ownership units affordable in the \$174,000-\$217,000 price range.

5. Build more attached, owner-occupied units.

Attached units are a potential solution to achieve affordable home ownership options. Among other strategies, the City should encourage the development of "zero lot line" attached units wherein each unit sits on its own parcel and there is no condo association or shared property.



6. Build more rental units, at various price points.

A total need for 1,400 net additional units is projected over the next 12 years.

7. Upgrade or replace existing rental housing, and maintain affordability.

Many Fitchburg rental units are relatively affordable and relatively old. There are concerns about their ability to generate the revenue necessary to maintain the units and support strong management practices.

8. Build more rental units with three or more bedrooms.

The City's number of rental units with 3+ units is the lowest in the region, and the people per room among the highest.

9. Support the housing needs of senior citizens.

Fitchburg will need approximately 640 new or redeveloped units to meet the needs of residents age 55+ between 2018 and 2030. Approximately 80% of these units, or 512, should be affordable.

Policies, Programs and Actions

There are many actions for the City to pursue in the next few years. See the Action Plan for recommendations about deadline and responsibility assignments.

Committee and Communication

- Form a standing committee to spearhead implementation of this plan
- Promote this plan and, provide brief reports on progress each year
- Establish guidelines to help Council members engage in the development process
- Make the development process clear and efficient for developers

Policy and Ordinance Changes

- Amend the Comprehensive Plan to reinforce this plan, including more flexibility for affordable housing projects, and consider more frequent than annual amendments
- Consider waiving or reducing various development fees
- Review Parks Fees and Land Dedication Requirements
- Enable Accessory Dwelling Units (ADUs)
- Streamline Approval Process for Affordable Housing
- Reduce Parking Requirements for Affordable Housing
- Review Development Oversight Costs

Local Program Initiatives

- Create a Revolving Loan Fund (RLF) for Housing Rehabilitation
- Create an Affordable Housing Competitive Grant Program
- Host a First-Time Homeowners Workshop
- Identify and Assemble Sites for Development

Local Sources of Funding to Support Housing Investment

- Affordable Housing Trust Fund (capitalized from various sources)
- Tax Increment Financing - Affordable Housing Incentives in active TIF districts
- Tax Increment Financing - Affordable Housing One-Year Extension as TIF districts are closed
- CEDA Bonding

Outside Sources of Funding to Support Housing Investment

- Federal Low Income Housing Tax Credit (LIHTC) - Section 42 Housing
- Wisconsin Low Income Housing Tax Credit (LIHTC)
- New Market Tax Credits (NMTC)
- Opportunity Zones Program

Partnerships

- Habitat for Humanity
 - Dane County Housing Authority
 - Movin' Out
 - Madison Development Corporation
 - Community Land Trusts
 - Cooperative Housing
 - Employer-Assisted Housing (EAH) Program
-

Sanitary Sewer Plan

Routing and service territory of interceptors

Three sanitary sewer interceptors serve the City of Fitchburg in the vicinity of the McGaw Park Neighborhood: the McKee, Woods Hollow, and Syene interceptors (**Figure 5.19**). The Woods Hollow and Syene interceptors will serve the McGaw Park Neighborhood. The Woods Hollow interceptor drains northward from the western end of the Neighborhood, including a substantial distance through the Nine Springs E-way owned by the Wisconsin Department of Natural Resources. The Syene interceptor is located along Syene Road and currently begins near Lacy Road, and a sub interceptor extends westward and serves areas along Lacy Road.

The existing Syene interceptor has a 36-inch diameter with adequate capacity to serve the development density planned for the McGaw Park Neighborhood. A planned extension of this interceptor (**Figure 5.19**) can also be sized to accommodate the planned density. The Syene sub interceptor and Woods Hollow interceptor are smaller sewers with more limited capacity. As a result, the existing sanitary sewer system can support gross densities of only 3 to 4 dwelling units per acre in much of the western portion of the McGaw Park Neighborhood. The exact locations of zones with limited capacity depend on the details of how the neighborhood is built out; some of the southern part of the neighborhood may be served by the Syene interceptor, providing additional capacity.

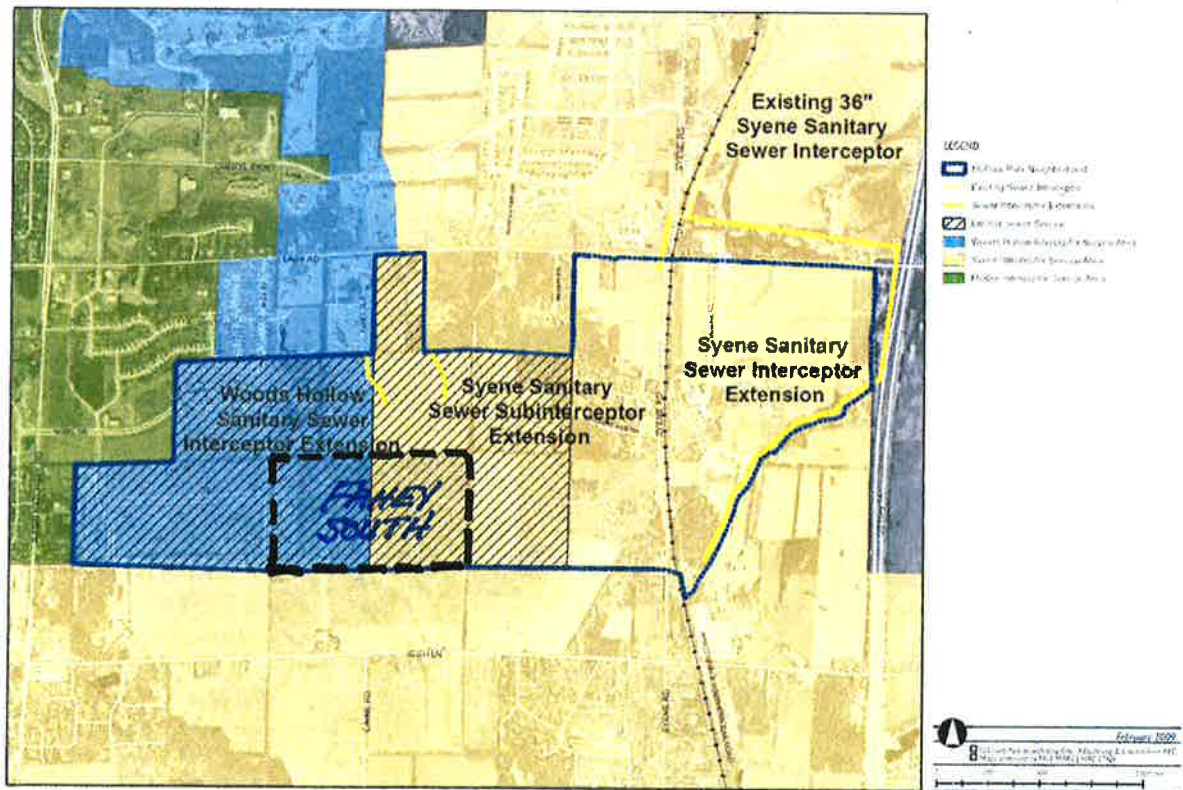
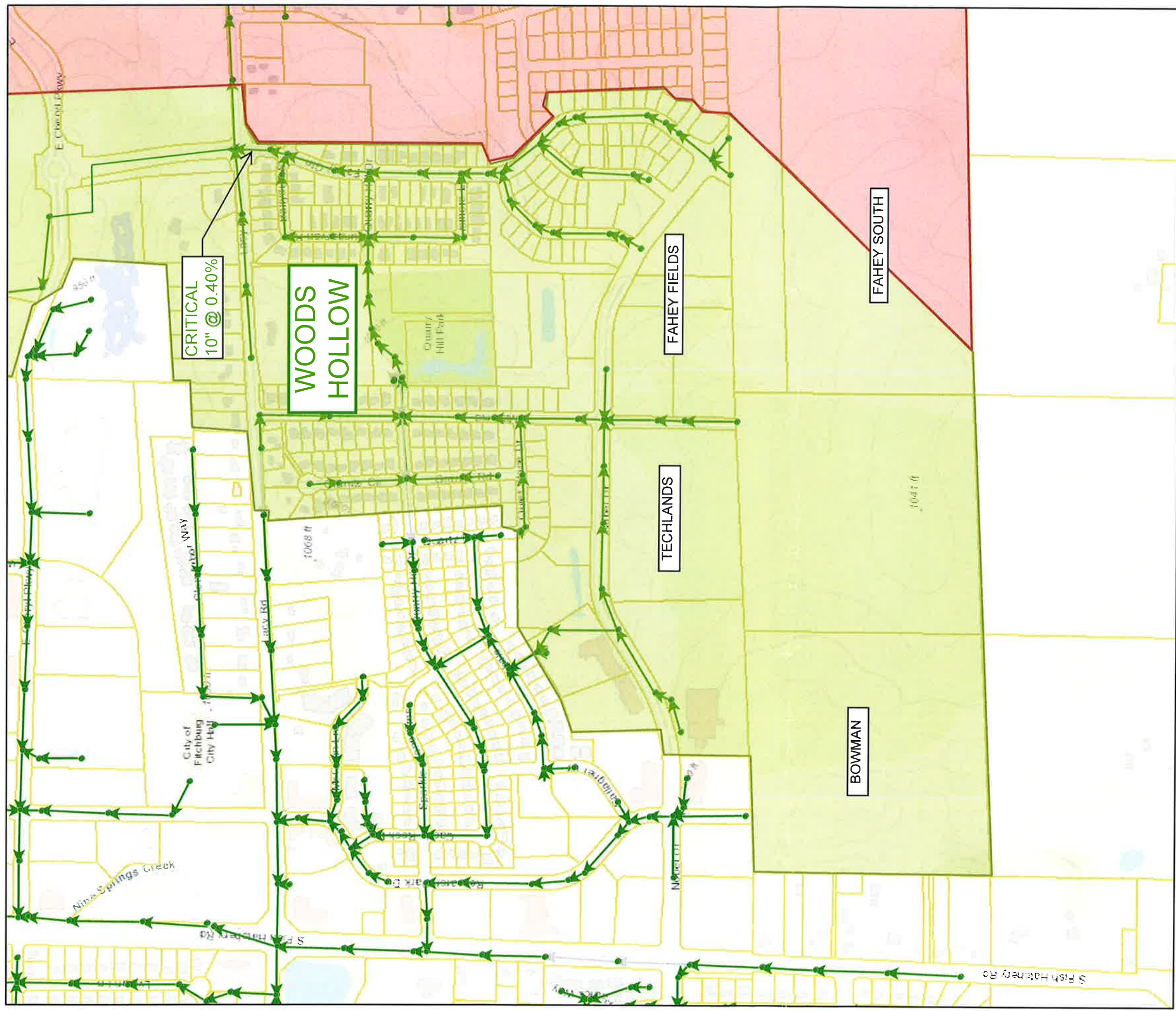


Figure 5.19: Existing and Approximate Future Sanitary Sewer Sheds

City of Fitchburg



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Fitchburg Sanitary Structures

Fitchburg Sanitary Sewer

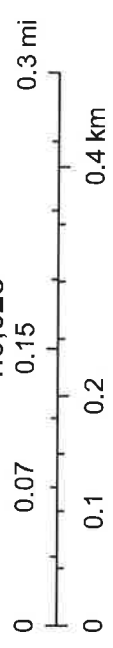
— Main

— Stub

— Abandoned

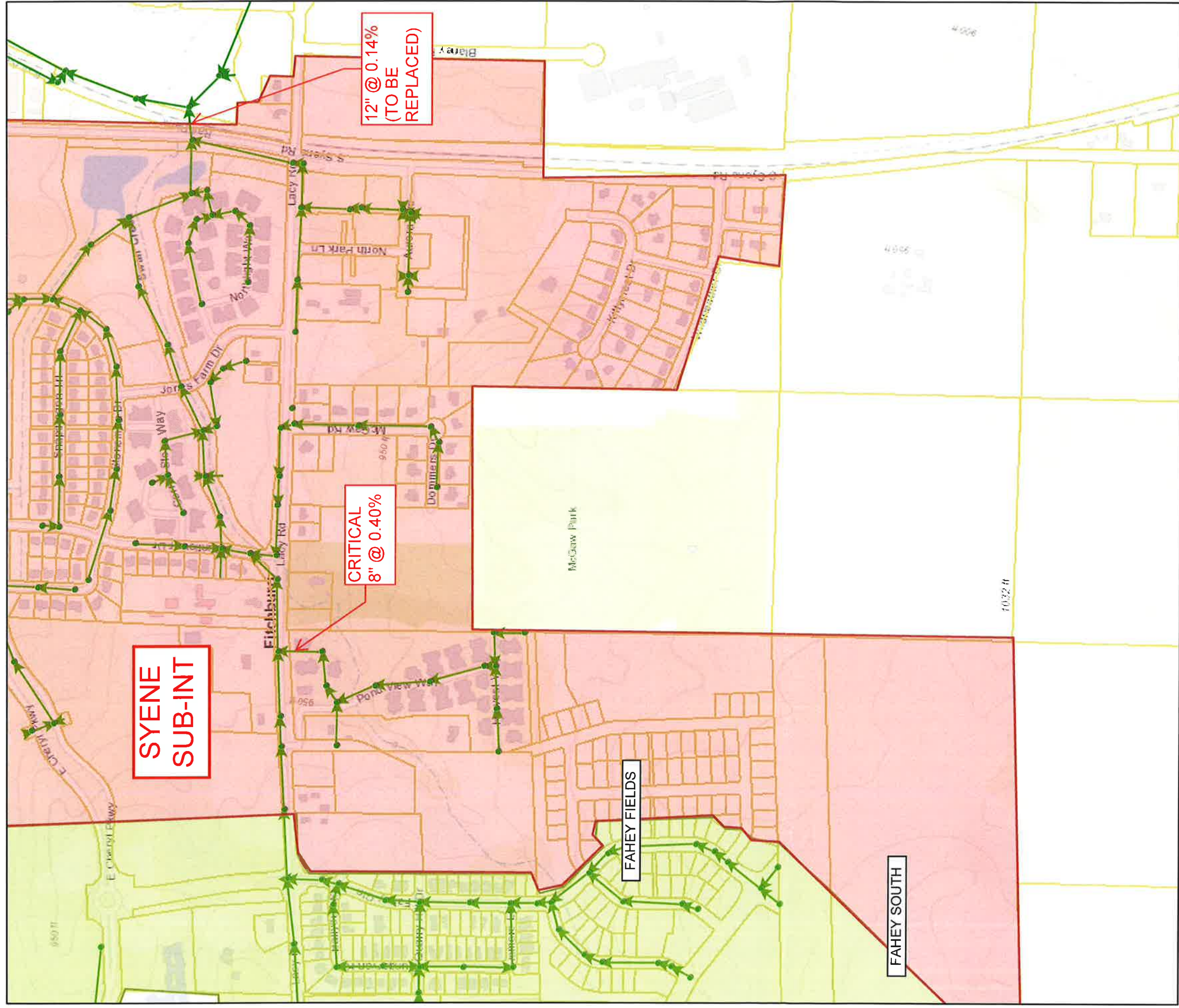
▭ Parcels

1:9,028



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

City of Fitchburg



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● Fitchburg Sanitary Structures

Fitchburg Sanitary Sewer

→ Main

→ Stub

□ Parcels

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0 0.07 0.15 0.3 mi

0 0.1 0.2 0.4 km

Swan Creek Sanitary Sewer Usage

Class	No. Units or SF	Usage per Day gpd/Unit or SF	Total Usage gpd	Total Peak Usage gpm (peak)
Single Family Residential	171	300	51,300	125
Condominiums	144	200	28,800	70
Apartments	232	200	46,400	129
North Park	66	300	19,800	55
	554	200	110,800	308
			6,049	17
Inspiration Point	70	200	14,000	39
Sunflower Estates Condos Northern Lights	62	200	12,400	34
Total:			289,549	776

Table 2: Swan Creek excluding Table 2

Class	No. Units or SF	Usage per Day gpd/Unit or SF	Total Usage gpd	Total Peak Usage gpm (peak)
Single Family Residential	8	300	2,400	7
Sunflower Estates Condos Cornerstone	48	200	9,600	27
Lacy Woods	30	300	9,000	25
Total:			21,000	58

Table 2: Swan Creek South of Stoneman & West of Jones Farm

Class	No.	Usage per Day gpd/Unit	Total Usage gpd	Total Peak Usage gpm (peak)
Single Family Residential (McGaw and Misc. Parcels)	30	300	9,000	25
Promega (104-8930 & 104-9850)	22	300	6,600	18
Reuden (151-8070)	30	200	6,000	17
Sam Cooke (151-8100)	18	300	5,400	15
Total:			27,000	75

Table 3: McGaw/Dommers and Miscellaneous Parcels along Lacy

Class	No.	Usage per Day gpd/Unit	Total Usage gpd	Total Peak Usage gpm (peak)
Condominiums (The Crossing)	62	200	12,400	34
Fahey Fields	57	300	17,100	48
Total:			29,500	82

Table 4: The Crossing and Fahey Fields

	Design Capacity gpm(peak)	Available Capacity gpm (peak)
Capacity of 12" sanitary Sewer @ Slope=0.14%, n=0.009, Peak Factor=3.5:	867	-1
Capacity of 12" Sanitary Sewer if relaid at Slope=0.59%, n=0.009, Peak Factor=3.5	1,779	911
Capacity of 10" sanitary sewer @ slope=0.62%, n=0.009, Peak Factor=4	1,121	906
Capacity of 8" sanitary sewer @ slope=0.40%, n=0.009, Peak Factor=4	497	415

Note: Total Peak Usage in all tables is calculated using a Peak Factor of 4.

Woods Hollow Interceptor Capacity

Class	~Acres	~Developable Acreage	Building S.F.	Dwellings per Acre	Units	Gallons per Day	Gallons per S.F. per Day	Total Usage gpd	Total Peak Usage gpm (peak)	CFS (peak)
Fitchburg Center	6.4	5		10	50	200		10,000	28	0.062
Lacy Road	12	11			10	300		3,000	8	0.019
Waterford Glen	20.6	14			72	300		21,600	60	0.134
Quarry Hill	23.4	18.5			73	300		21,900	61	0.136
Mottiff	9.6	7		5	35	300		10,500	29	0.065
Techlands	67	55			45	300		75,916	211	0.470
Fahey Fields Existing - Low Density	14	7.8			196	200		13,500	38	0.084
Fahey Fields Existing - High Density	48	25.8			150	300		39,200	109	0.243
Fahey South Proposed - Low Density	53	30		5	200	200		45,000	125	0.279
Fahey South Proposed - High Density	20	20		10	100	200		40,000	111	0.248
Fahey South Institutional (1)	10	7			400	200		2,230	6	0.014
Bowman Neighborhood Residential - Medium	14	10		10	100	200		20,000	56	0.124
Bowman Neighborhood - Mixed Use	57	40	441,634	10	400	200	0.038	96,782	269	0.599
	336.6	235.1						386,628	1,110	2.473

Table 1: Total Peak Usages.

Design Capacity gpm(peak)	Available Capacity gpm (peak)
1,110	635
900	393

East Cheryl/Fahey Glen capacity of 12" sanitary sewer @ Slope=0.23%, n=0.009, Peak Factor=3.5:
 Lacy/Fahey Glen capacity of 10" sanitary sewer at Slope=0.4%, n=0.009, Peak Factor=4:

Notes:

- (1) Institutional is based on 2018 Savanna Oaks highest quarter average day usage.
- (2) Techlands usage is based on actual 2018 usage of developed parcels multiplied by 2 for vacant parcels.
- (3) Total Peak Usage in all tables is calculated using a Peak Factor of 4.

Conclusion:

The Fahey South lands will be split between the Woods Hollow Interceptor and the Syene Subinterceptor as follows:
 68 GPM (peak) to Woods Hollow
 174 GPM (peak) to Syene Subinterceptor
 This will allow all of the Bowman lands to be served by the Woods Hollow Interceptor.

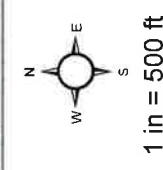
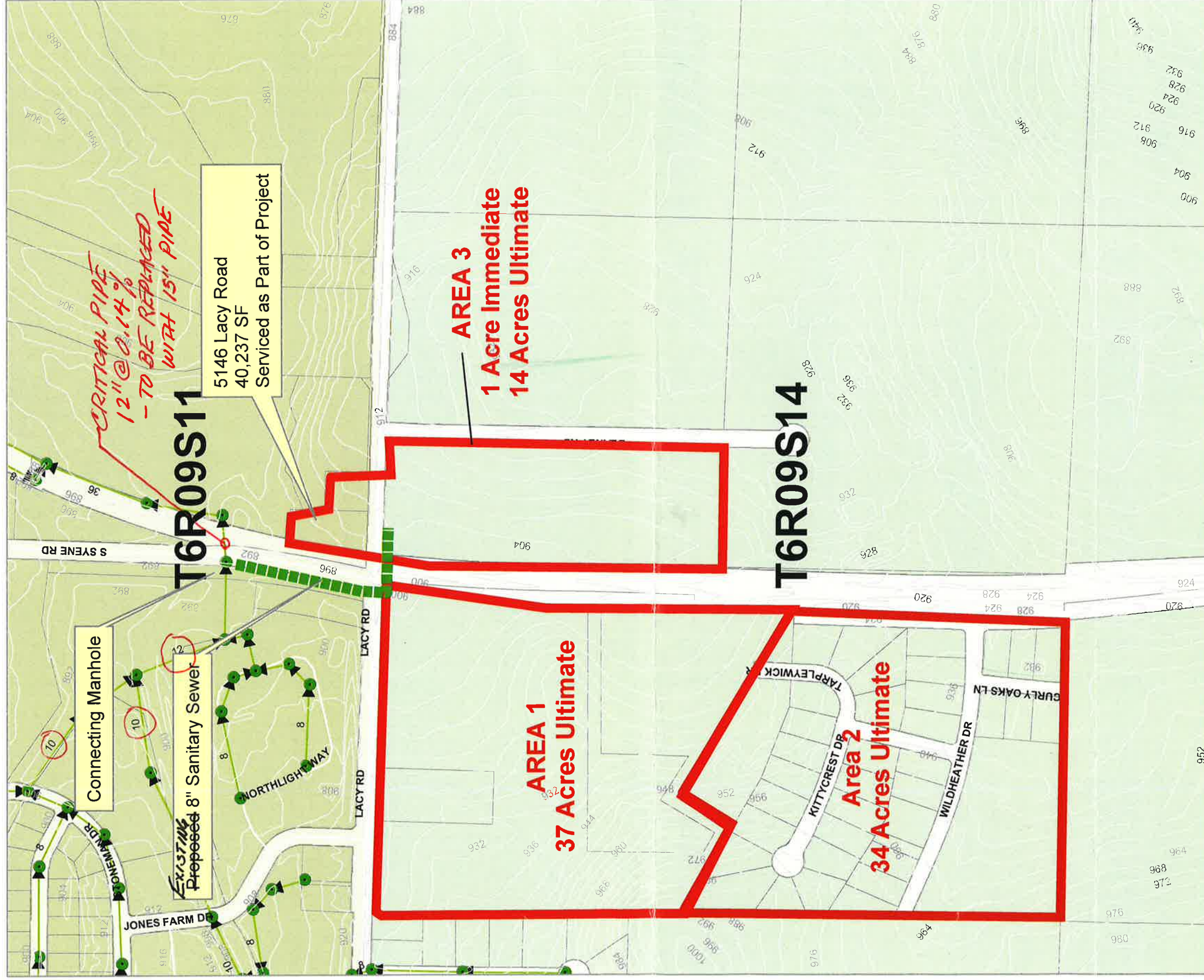


Exhibit A
Sanitary Service Area
E. Cheryl Parkway and Lacy Road RR Improvements

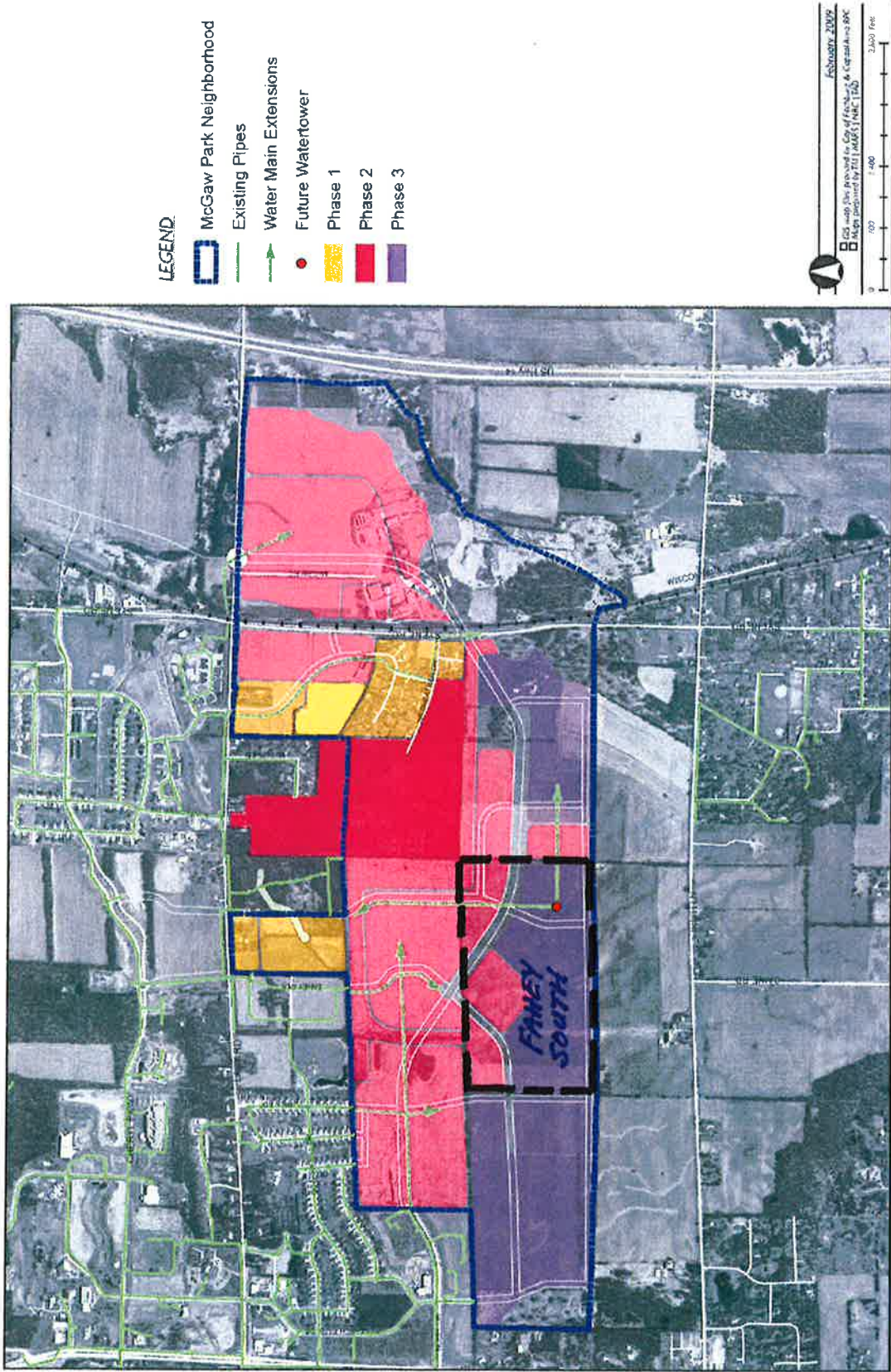
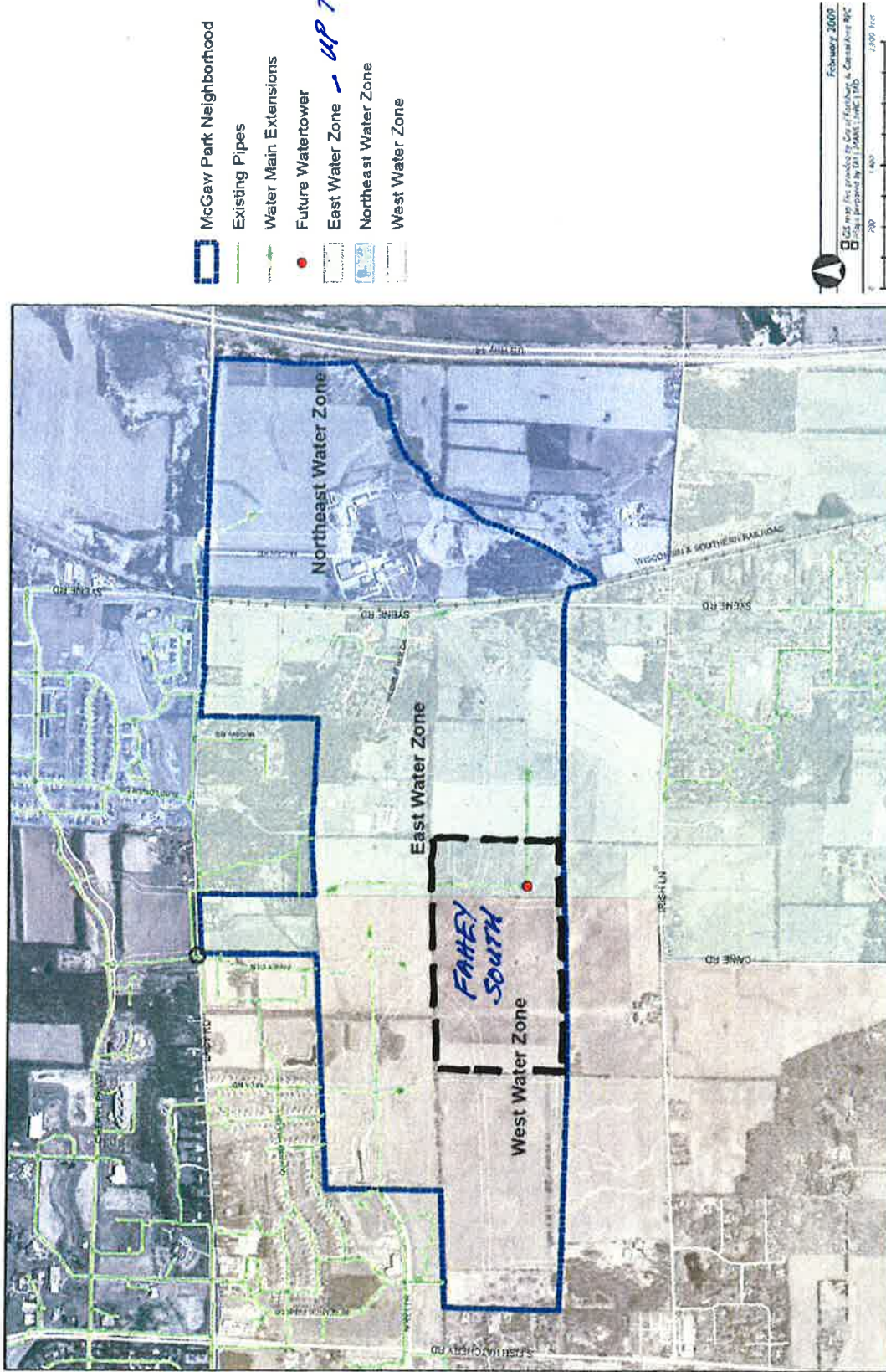


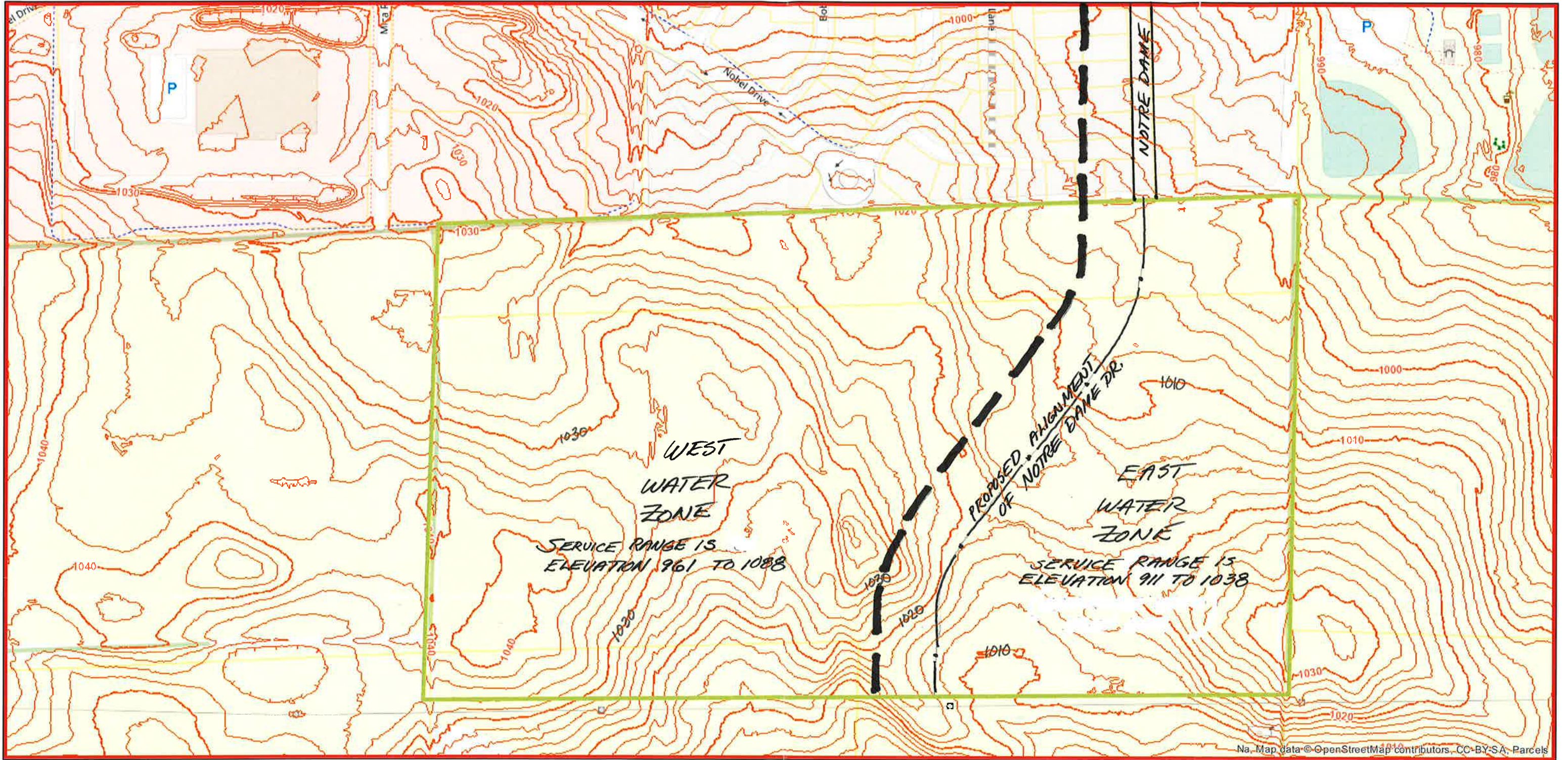
Figure 5.18: Water Supply Phasing



UP TO EAST. 1038

Figure 5.17: Water Supply Distribution System

Fahey South water supply zones



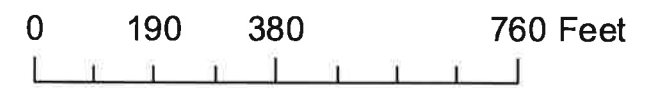
March 3, 2020

10 foot Intervals

- Index
- Index Depression

2 foot Intervals

- Intermediate
- Intermediate Depression
- Parcels



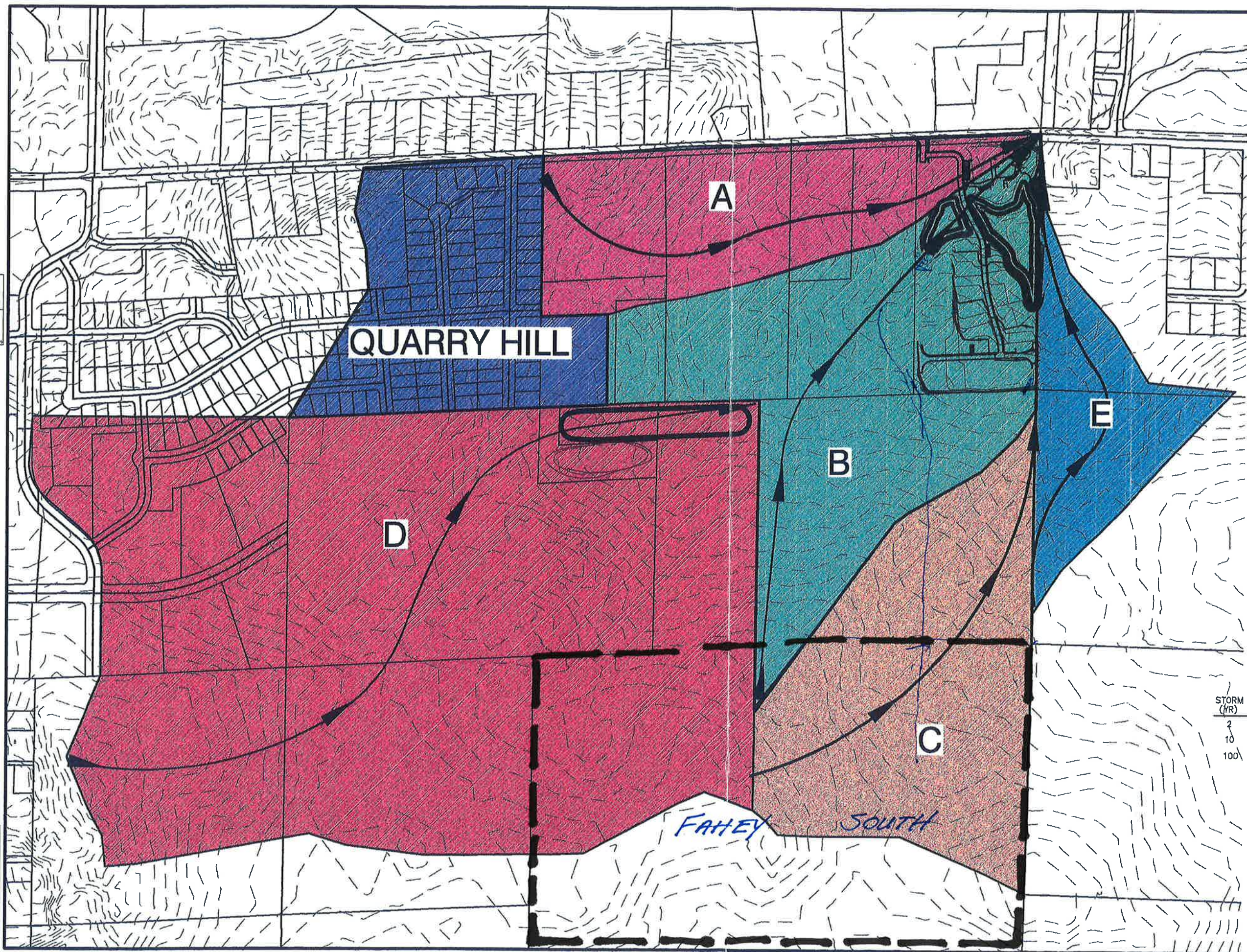
1" = 300'

N



Map data © OpenStreetMap contributors, CC-BY-SA, Parcels

MAYO Corporation
 Engineers - Surveyors - Architects - Planners, 600 Grand Canyon Dr., Madison, Wisconsin 53719 (608) 833-0628



DRAINAGE AREA INFORMATION

NAME	AREA (AC)	EX CN	EX TC (MIN)	PRO CN	PRO TC (MIN)
A	36.16	68	28.50	78	17.12
B	69.25	68	51.83	78	23.99
C	54.13	68	40.94	78	19.07
D	189.42	68	53.89	78	25.05
E	21.17	68	47.21	78	25.05
QUARRY HILL TO EX. POND	30.00	68	45.30	75	8.00

POND SIZE

TOP OF WEST POND = 949 = 44,907 sqft = 1.03 ac.
 TOP OF EAST POND = 947 = 115,904 sqft = 2.66 ac.

RESULTS USING TR-55

STORM (yr)	EX FLOW (CFS)	PRO FLOW (CFS)	WEST POND ROUTED FLOW (CFS)	POND ELEV.	EAST POND ROUTED FLOW (CFS)	POND ELEV.
2	101.08	186.98	107.63	944.72	87.92	943.43
10	306.95	393.70	234.71	946.09	248.98	945.09
100	577.36	714.33	440.18	948.47	575.45	946.01

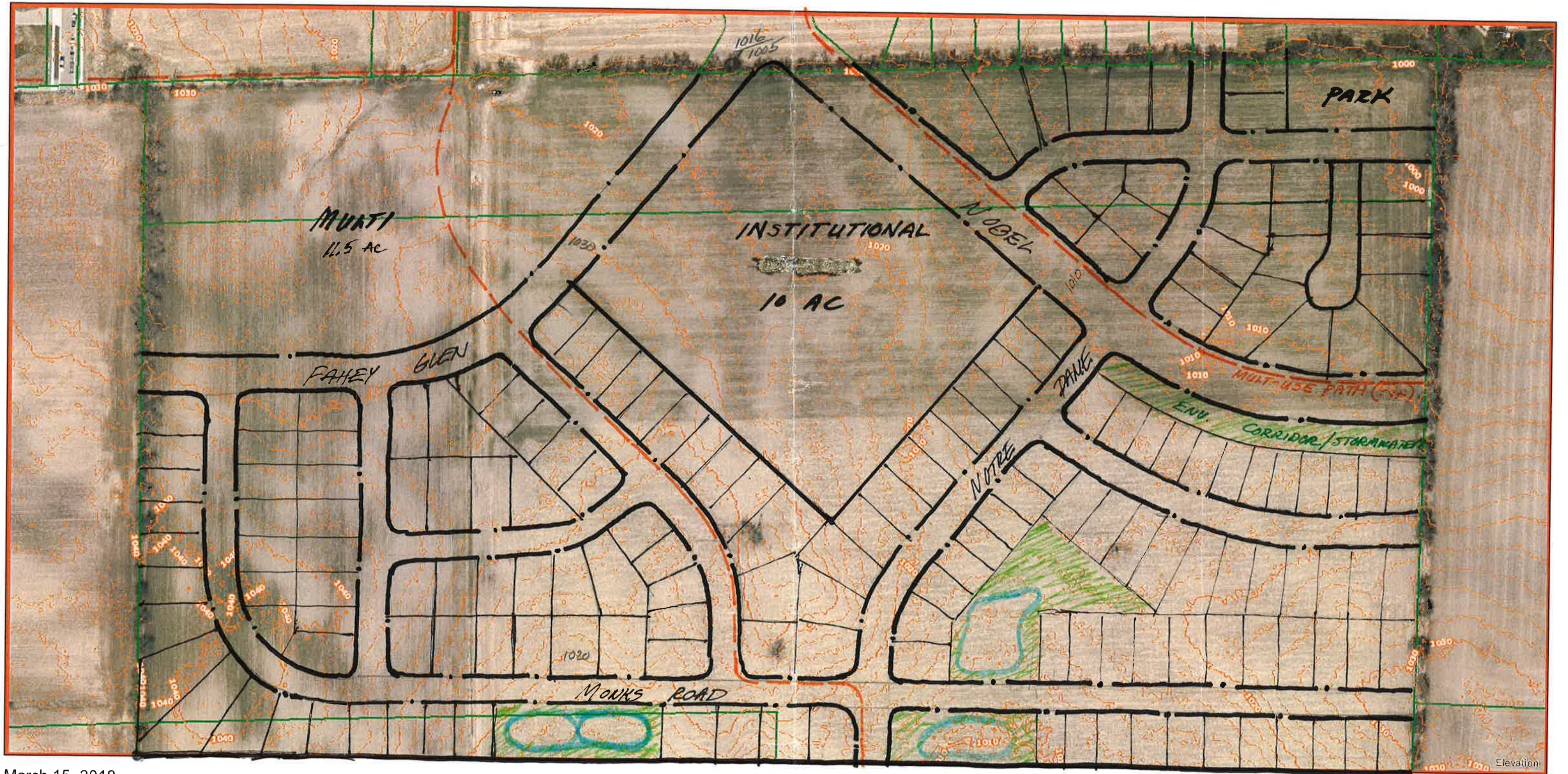
TR-55 WEST POND OUTLET STRUCTURES

3- 5'x4' RCP BOX CULVERTS @ 943.00

TR-55 EAST POND OUTLET STRUCTURES

2- 4' X 3' RCP BOX CULVERTS @ 941.00
 1- 55' TRAPAZOIDAL WEIR @ 944.50

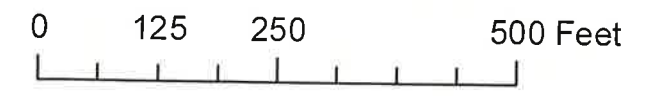
Fahey South

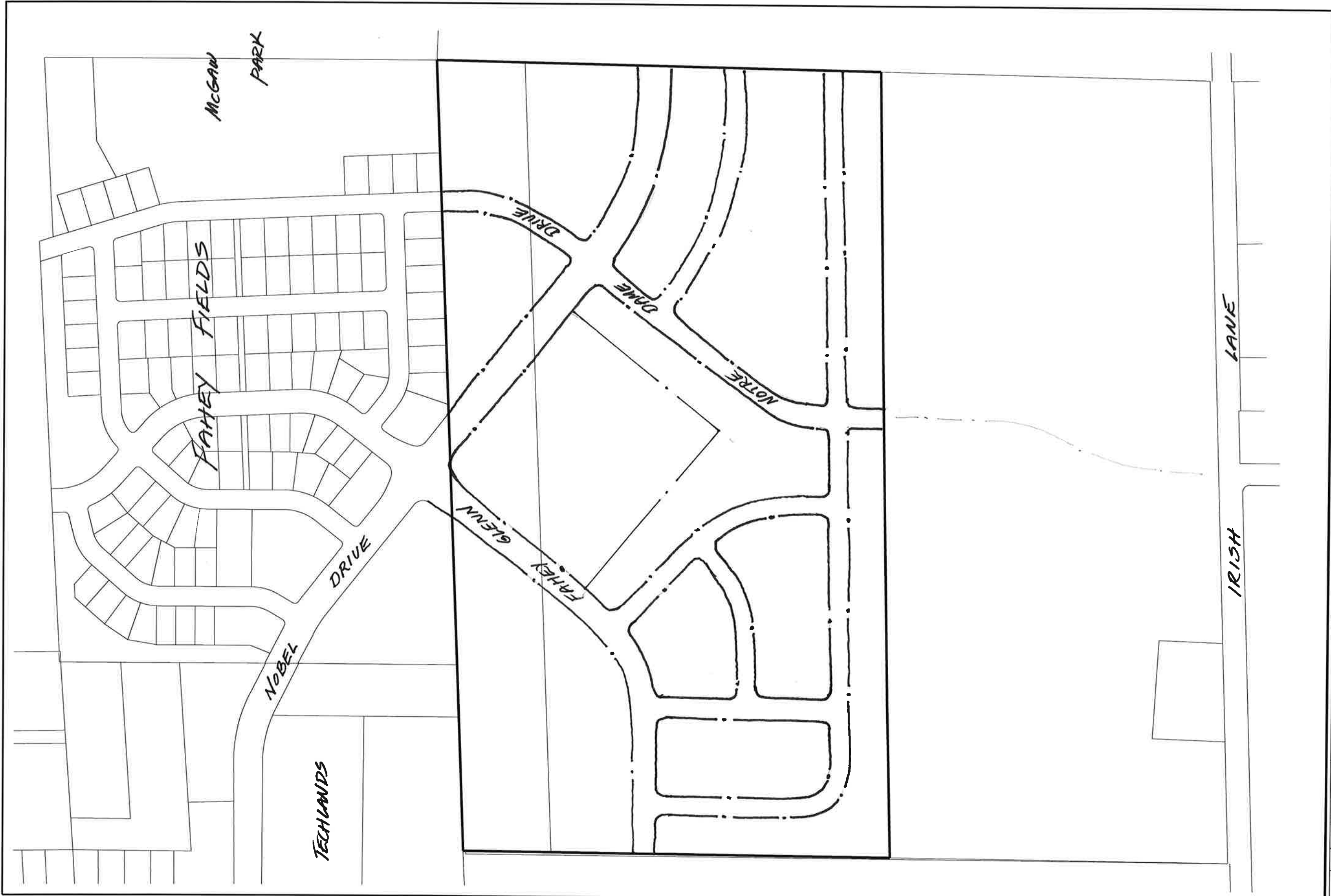


March 15, 2018

- Contours - 2 ft Intervals
- Contours - 10 ft Intervals
- Tax Parcels

1 inch = 200 feet







D'ONOFRIO KOTTKE AND ASSOCIATES, INC.
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YOUR NATURAL RESOURCE FOR LAND DEVELOPMENT

URBAN SERVICE AREA MAP
STREET NETWORK
 FAHEY SOUTH

CITY OF FITCHBURG, DANE COUNTY, WISCONSIN



SCALE: 1" = 300'



DATE: 06-05-20
 REVISED:

FN: 18-04-112
 Sheet Number:
 1 of 1