



CAPITAL IMPROVEMENTS PLAN

CHARTER TOWNSHIP OF LYON, OAKLAND COUNTY, MICHIGAN

ADOPTED · OCTOBER 5, 2020

Prepared by
McKenna and Civil Engineering Solutions, Inc.



Acknowledgments

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Introduction

A Capital Improvements Plan (CIP) is a multi-year planning tool used to identify needs and financing sources for public infrastructure improvements. The purposes of a CIP are to facilitate the orderly planning of infrastructure improvements; maintain, preserve, and protect the Township's existing infrastructure; and, provide for the acquisition or scheduled replacement of equipment to ensure efficient and uninterrupted delivery of services to the Township. The CIP is also used to ensure that capital improvements are fiscally sound and consistent with the plans, goals, and policies of the Township.

The CIP informs residents and other stakeholders how the Township plans to address significant capital needs over the next six years. The CIP provides tables, text, and maps that describe the community's needs and outlines the timing, sequence, location, and cost of capital projects. The CIP can influence growth and development because infrastructure can impact development patterns.

Completion of a CIP yields many benefits, including the following:

- Optimization of the use of municipal revenue
- Focusing attention on community goals, needs, and capabilities
- Guiding future growth and development
- Encouraging efficient government
- Improving intergovernmental and regional cooperation
- Helping maintain a sound and stable financial program
- Enhancing opportunities for the participation in federal and state grant programs.

Legislative Authority

Preparation of the CIP is done under the authority of the Michigan Planning Enabling Act (Public Act 33 of 2008, as amended). Section 65 of the Act states that "To further the desirable future development of the local unit of government under the master plan, a planning commission, after adoption of a master plan, shall annually prepare a capital improvements program of public structures and improvements . . ."

Section 65 further specifies that "The capital improvements program shall show those public structures and improvements, in the general order of their priority, that in the commission's judgment will be needed or desirable and can be undertaken within the ensuing 6-year period. The capital improvements program shall be based upon the requirements of the local unit of government for all types of public structures and improvements."

Section 65 further indicates that "Any township may prepare and adopt a capital improvement program. However, [preparation of a capital improvement program] is only mandatory for a township if the township, alone or jointly with 1 or more other local units of government, owns or operates a water supply or sewage disposal system."

Definition of a Capital Improvement Project

Capital improvement projects include new or expanded physical facilities that are **relatively large in size, expensive, and permanent**. Some common examples include roads, libraries, water and sewer facilities, building additions, and certain parks and recreation facilities. Capital improvements do not include expenditures for equipment or services that prudent management defines as operating budget items that ought to be funded out of current revenues. In Lyon Township, a project must be **valued at \$25,000 or above** to be considered a capital improvement. The CIP project threshold may be increased in the future.

Program Areas

For the purposes of this capital improvements plan, projects have been sorted into seven program categories, as follows:

Label	Program Title	Description
BE	Buildings and Equipment	Township-owned buildings and equipment
FD	Fire Department	Fire protection facilities and apparatus
DDA	Downtown Development Authority	Project under the domain of the DDA
PK	Parks and Recreation	Parks, bike paths, sidewalks
RI	Roads and Intersections	Road paving, signalization, etc.
SS	Sanitary Sewer	Sanitary sewer and wastewater treatment
WS	Water System	Water supply system

Although roads in Michigan townships are under the jurisdiction of the county road commission (in this case, the Road Commission for Oakland County), Lyon Township undertakes and funds a number of road projects itself or in cooperation with the County. Consequently, Roads and Intersections is included as a program category in the Lyon Township capital improvements plan.

Public safety projects are not typically included in the capital improvements plan because the Township receives police protection under contract from the Oakland County Sheriff. However, from time to time there are public safety projects that overlap with other Township projects and will appear in the CIP. Public safety projects are not funded from the Township's general funds.

Data Sources

The sources of data for the capital improvements programs comes in part from township policy documents, such as the Master Plan, Parks and Recreation Master Plan, Water System Master Plan, and Wastewater Treatment Master Plan. Equally important, department heads, consultants, and chief elected officials are key sources of data.

To solicit information from department heads and others, the project team prepared a Capital Improvement Plan Project Application, a copy of which is included in the Appendix. Unfortunately, this application did not generate the desired response, so the project team turned to other methods of obtaining required data, such as personal interviews. The application will probably be more useful in future years after people become familiar with the CIP and its importance in the budgeting process.

Funding Sources

Following is a summary of funding sources for projects included in the capital improvements plan.

General Fund

The General Fund is the primary, basic fund of the Township, which records all assets and liabilities that are not assigned to a special purpose fund. It provides the resources necessary to sustain the day-to-day activities and thus pays for all administrative and operating expenses.

Enterprise Funds

In enterprise financing, funds are accumulated in advance for capital requirements. Enterprise funds not only pay for capital improvements, but also for the day-to-day operations of the community services and the debt payment on revenue bonds. Enterprise fund dollars can only be used on projects related to that particular enterprise fund, i.e., water system funds can be only used on water system projects.

Bonds

When the Township sells bonds, purchasers are, in effect, lending the Township money. The money is repaid, with interest, from taxes or fees over the years. The logic behind issuing bonds for capital projects is that the citizens who benefit from the capital improvements over a period of time should help the community pay for them.

Tax Increment Financing

Tax Increment Financing (TIF) is a municipal financing tool that can be used to renovate or redevelop a declining area while improving its tax base. TIF applies to the increase in various state and local property taxes that result from a redevelopment project to pay for project-related improvements. TIF is the primary means of financing the activities of the Lyon Township Downtown Development Authority.

Adoption Process

Although most of the legwork of preparing the capital improvements plan is done by others, officially the responsibility for completing the plan rests with the Planning Commission. Consequently, the Planning Commission must be involved in the review and adoption process. This involvement includes initial review and comment of the draft plan, Planning Commission and public comment, and finally official action in the form of a recommendation to the Township Board for consideration in long-term budgeting and fiscal planning.

After receiving the draft plan from the Planning Commission, it is the Township Board's responsibility to review and grant final approval to the capital improvements plan.

Millages

Property tax is one of the most important sources of Township revenue. The property tax rate is stated in mills (one dollar per \$1,000 of valuation). This rate is applied to a property's net value, following the application of all exemptions and a 50 percent equalization ratio. Millages are voter-approved taxes that are specifically earmarked for a particular purpose. For example, fire millage supports fire protection services and capital projects.

Federal and State Funds

The federal and state governments make funds available to communities through numerous grants and aid programs. Examples include the Transportation Alternatives Program (TAP), a grant program using federal funds, which is administered by the Michigan Department of Transportation (MDOT), and the Michigan Natural Resources Trust Fund (MNRTF) grant program, which is administered by the Michigan Department of Natural Resources (MDNR).

Special Assessments

Capital improvements that benefit particular properties, rather than the community as a whole, may be financed more equitably by special assessment. Local improvements that may be financed by this method include new street improvements, sanitary and storm sewers, and water mains.

Developer Contributions

Sometimes capital improvements are required to serve new development. Where funding is not available for the community to construct the improvements, developers may agree to voluntarily contribute their share or install the facilities themselves so the development can move forward.

Capital Improvement Project Locations

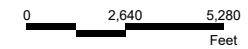
Charter Township of Lyon, Michigan

September 30, 2020

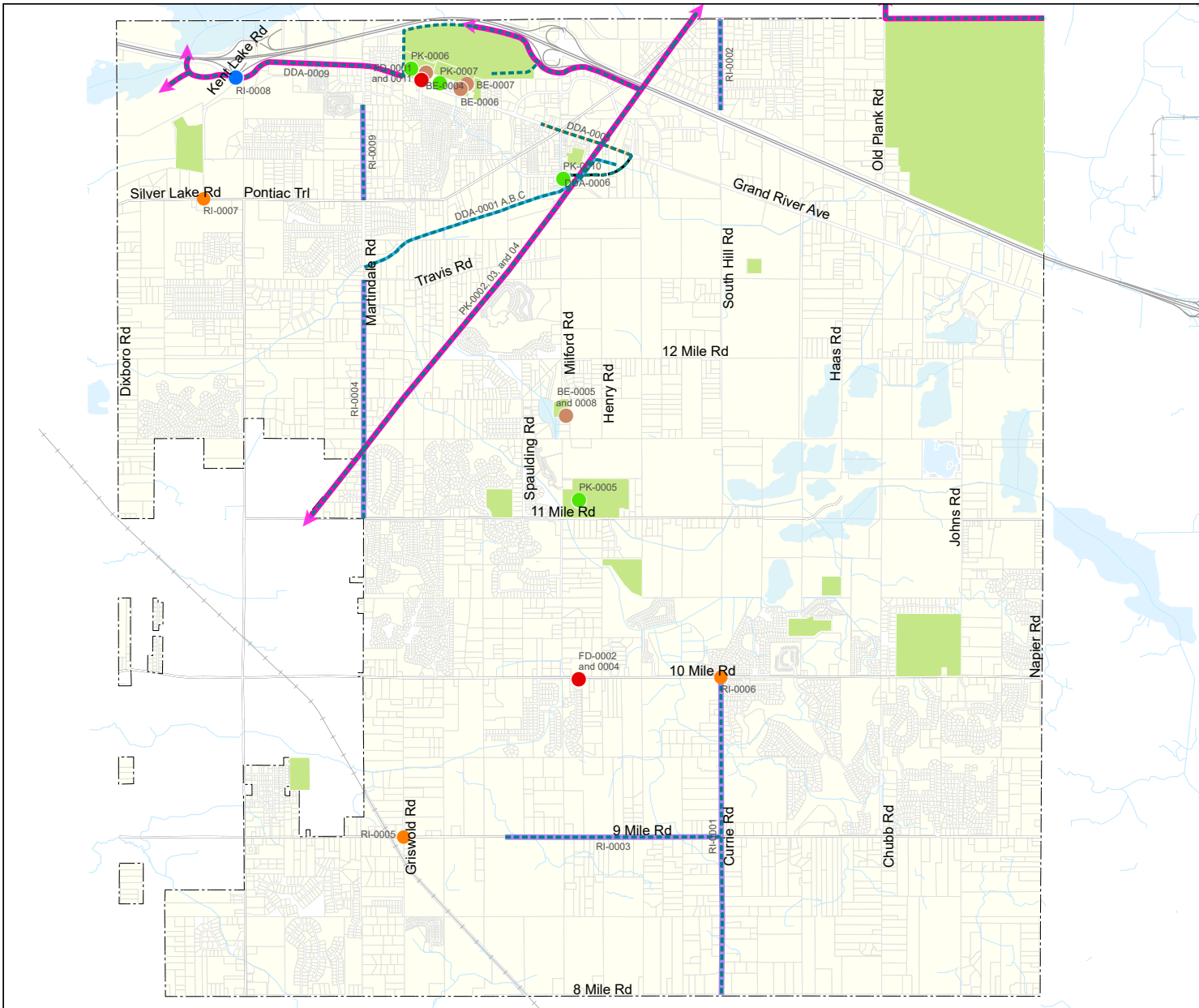
Note: Water and Sewer CIP Projects are noted on separate maps in this document.

Legend

- Parks Projects
- Fire Department Projects
- Building Projects
- Intersection Improvements
- Proposed Signal
- - - Bike Path Improvement Project
- - - Grand River Ave. Streetscape Improvements
- - - New Hudson Drain Improvements
- - - Relocation of I-96 ROW Fence
- - - Southeast Segment of Ring Road
- - - Huron Valley Trail
- - - New Sidewalk
- - - Road Project
- Public/Quasi Public Property
- Township Boundary
- Roads
- Railroads
- Water Bodies
- Parcels



Basemap Source: Michigan Center for Geographic Information, Version 17a... Access Oakland
Data Source: McKenna 2020.





CIP PROJECTS *and* DESCRIPTIONS

Building and Equipment Projects

Project No.	Project Title	Project Type	Funding Source(s)	Total Project Cost	Township Cost	Year	Notes	Ranking
BE-0001	SUV or Pick-up Truck	Equipment Replacement	BLDG	\$30,000	\$30,000	2022	Building Department Vehicle	63
BE-0002	SUV or Pick-up Truck	Equipment Replacement	BLDG	\$30,000	\$30,000	2023	Zoning Administrator Vehicle	63
BE-0003	SUV or Pick-up Truck	New Equipment	GF	\$30,000	\$30,000	2024	DPW Director Vehicle	75
BE-0004	Enclose Patio at Storage Building	Building Upgrade	GF	Unknown	Unknown	2021		61
BE-0005	Kitchen Upgrade at Community Center	Building Upgrade	GF	\$25,000	\$25,000	2021		61
BE-0006	Police Sub-station Renovation	Renovation	POL	In bid process	In bid process	2020	Plan to break ground in fall of 2020	96
BE-0007	Township Hall Addition	New Construction	GF BLDG DDA	In bid process	In bid process	2020	Plan to break ground in fall of 2020	103
BE-0008	Community Center furnace	Equipment Replacement	GF	\$25,000	\$25,000	2020		88
BE-0009	PDR Fund - development rights acquisition	Acquisition	GF	\$40,000	\$40,000	2021	Funding should be planned for annually	62

FUNDING SOURCE KEY
 BLDG Building Department Funds
 GEN General Fund
 POL Police Funds

Buildings and Equipment Projects

Project Descriptions

BE-0001 SUV or Pick-up Truck

Acquire a new SUV or pick-up truck to replace the 2014 Chevrolet Tahoe currently used by David Herriman for Building Department purposes.

BE-0002 SUV or Pick-up Truck

Acquire a new SUV or pick-up truck to replace the 2014 Ford 4-door SUV currently used on a daily basis for Zoning Enforcement.

BE-0003 SUV or Pick-up Truck

Acquire a new SUV or pick-up truck for use by DPW Staff.

BE-0004 Enclose Patio at Storage Building

Enclose the patio at the storage building located to the rear of Fire Station No. 1 for the purposes of providing additional storage for Lyon Events Organization (LEO) and others.

BE-0005 Kitchen Upgrade at Community Center

Renovate the kitchen at the Community Center located adjacent to the library on Milford Road.

BE-0006 Police Substation Renovation

Renovate existing substation with new layout to improve safety of facility, add storage, upgrade locker rooms and other amenities for public safety officials. To be completed in concert with Township Hall Expansion.

BE-0007 Township Hall Addition

Construct an addition to the existing Township Hall facility, including new office space, new basement storage space, updates to existing finishes, provide new employee kitchen/lounge space, improve meeting rooms.

BE-0008 Furnace Replacement at Community Center

Replace furnace at the Community Center.

BE-0009 PDF Fund - Development Rights Acquisition

Provide an acquisition budget for development rights in support of the Township's Purchase of Development Rights (PDR) ordinance. Funding would allow the Township to purchase rights to residential density in an effort to retain rural character.

Downtown Development Authority Projects

Project No.	Project Title	Project Type	Funding Source(s)	Total Project Cost	Township Cost	Year	Notes	Ranking
DDA - 001A	New Hudson Drain Improvements - East of Milford Rd. to Huron Valley Trail	County Drain Improvements	TBD	\$402,000	\$402,000	2022		140
DDA - 001B	New Hudson Drain Improvements - East of Milford Rd. (Bypass Drain)	County Drain Improvements	TBD	\$488,000	\$488,000	2022		140
DDA - 001C	New Hudson Drain Improvements - East of Milford Rd. (Cleanout Alternative)	County Drain Improvements	TBD	\$962,000	\$962,000	2022		140
DDA - 002A	New Hudson Drain Improvements - Milford Road to Martindale Road	County Drain Improvements	TBD	\$920,000	\$920,000	2022		135
DDA - 002B	New Hudson Drain Improvements - Milford Road Culvert Replacement	County Drain Improvements	TBD	\$602,000	\$602,000	2022		135
DDA - 003	Southeast Segment of Ring Road	Construction	TIF	\$4,486,000	\$4,486,000	2023		91
DDA - 004	Public Parking Lot (s)	Construction	TIF PVT			2023	Estimate to be completed once scope is known	89
DDA - 005	Property Acquisition	Purchase	TIF			2023	Estimate to be completed once scope is known	75
DDA - 006	Stormwater Management - North of Grand River Ave.	Construction	TIF			2024	Estimate to be completed once scope is known	114
DDA - 007	Stormwater Management - South of Grand River Ave.	Construction	TIF			2024	Estimate to be completed once scope is known	114
DDA - 008	Reconstruct Grand River Ave. and Install Streetscape	Construction	TIF TAP	\$5,670,000	\$5,670,000	2024		106
DDA-009	Complete Sidewalk Network	Construction	TIF PF			2022	Estimate to be completed once scope is known	72

FUNDING SOURCE KEY

- BUS Business Contributions
- PVT Private Sector
- TAP TAP Grant
- TBD To Be Determined
- TIF Tax Increment Financing

Downtown Development Authority Projects

Project Descriptions

DDA-0001A through DDA-0001C New Hudson Drain Improvements – East of Milford Road

Clean out the New Hudson County Drain between Milford Road and the point where the storm system from Lyon Center Drive East connects to the New Hudson Drain. The purpose of this project is to improve drainage conditions in New Hudson and facilitate downtown development.

DDA-0002A and DDA-0002B New Hudson Drain Improvements – West of Milford Road

Clean out the New Hudson County Drain between the confluence with the Novi-Lyon Drain (just west of Martindale Road) and Milford Road. The purpose of this project is to improve drainage conditions in New Hudson and facilitate downtown development.

DDA-0003 Southeast Segment of Ring Road

Construct the southeast segment of the ring road, extending from the east roundabout to Milford Road (approximately 2,560 linear feet).

DDA-0004 Public Parking Lot(s)

Construct one or more public parking lots to accommodate new development in New Hudson.

DDA-0005 Property Acquisition

Acquire property for parking lots or to further other economic development initiatives in New Hudson.

DDA-0006 Stormwater Management – North of Grand River Avenue

Construct detention facilities and stormwater sewer mains to manage stormwater on the north side of Grand River Avenue to facilitate downtown development.

DDA-0007 Stormwater Management – South of Grand River Avenue

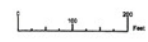
Construct detention facilities and stormwater sewer mains to manage stormwater on the south side of Grand River Avenue to facilitate downtown development.

DDA-0008 Reconstruct Grand River Avenue and Install Streetscape

Implement design plans for Grand River Avenue, from west of Milford Road to the east roundabout, which call for new paving, curbs and gutters, on-street parallel parking, street trees, properly-scaled lighting fixtures, street furniture, sidewalks, appropriate signage and other amenities.

DDA-0009 Complete Sidewalk Network

Identify gaps in the sidewalk network and needed crosswalks and construct new sidewalks/pathways to complete the pedestrian circulation network. Bundle many small installations into a larger project to maximize value to Township.



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 tzowade@civilengineeringsolutions.us



**LYON TOWNSHIP
 SOUTH EAST
 RING ROAD**

NO.	DATE	SUBMITTAL	NO.	DATE	REVISION
1	8-18-2016	--	8	--	--
2	3-30-2017	--	9	--	--
3	--	--	10	--	--
4	--	--	11	--	--
5	--	--	12	--	--
6	--	--	13	--	--
7	--	--	14	--	--

PROJECT NO.: 2016-0027	SCALE: 1"=100'	SHEET NO. 1
DRAWING NO.: ROAD LAYOUT	DATE: 8-18-2016	
DRAWN BY: TAC	DATE: --	
CHECKED BY: --	DATE: --	
SECTION 3 - TOWN OF N	RANGE OF E	
CITY/TOWNSHIP TOWNSHIP	OSHTON	

Fire Department Projects

Project No.	Project Title	Project Type	Funding Source(s)	Total Project Cost	Township Cost	Year	Notes	Ranking
FD-0001	Roof Replacement - Station 1	Regular Maintenance	GF	\$100,000	\$100,000	2020	Existing roof was installed in 2001.	87
FD-0002	Roof Replacement - Station 2	Regular Maintenance	GF	\$60,000	\$60,000	2021	Existing roof was installed in 2001.	87
FD-0003	Brush 1 Replacement	Apparatus Replacement	FIRE	\$65,000	\$65,000	2021		92
FD-0004	Brush 2 Replacement	Apparatus Replacement	FIRE	\$65,000	\$65,000	2022		92
FD-0005	Fire Station No. 3	New Building	GF/FIRE	\$1.5 million approx.	\$1.5 million approx.	2024		88
FD-0006	Ladder/Aerial	New Apparatus	FEMA FIRE	\$1.5 million	\$0	2021	A ladder truck will significantly enhance fire protection for residential and commercial properties in the Township	90
FD-0007	Property Acquisition	New Acquisition	FIRE	\$400,000	\$400,000	2023		83
FD-0008	SCBA Air Packs	Equipment Replacement	FEMA FIRE	\$270,000	\$270,000	2021	Existing air packs will be outside of hydrostatic date; must be replaced. Grant pending. 30 packs @ \$9K each.	123
FD-0009	Engine No. 2 Replacement	Apparatus Replacement	FIRE	\$680,000	\$680,000	2022		97
FD-0010	Command Vehicle Replacement	Vehicle Replacement	FIRE	\$50,000	\$50,000	2020	Vehicle at 80,000 miles.	70
FD-0011	Pavement Replacement and Repair - Station 1	Rehabilitation	GF	\$80,000	\$80,000	2021	Concrete not replaced in 2017 falling apart.	86

FUNDING SOURCE KEY

- GF General Fund
- FEMA FEMA Grant
- FIRE Fire Millage

Fire Department Projects

Project Descriptions

FD-0001 Roof Replacement - Station 1

Replace the roof on Station 1.

FD-0002 Roof Replacement - Station 2

Replace the roof on Station 2.

FD-0003 Brush 1 Replacement

Replace brush truck 1, which is at the end of its useful life.

FD-0004 Brush 2 Replacement

Replace brush truck 2, which is at the end of its useful life.

FD-0005 Fire Station No. 3

Planning for a new Fire Headquarters by 2024 to continue to keep up with continuing population growth.

FD-0006 Ladder/Aerial

Acquire a ladder/aerial truck to significantly enhance fire protection operations.

FD-0007 Property Acquisition

Acquire approximately eight acres in the south part of the Township for a third fire station.

FD-0008 SCBA Air Packs

Replace existing air packs which are outside of their hydrostatic date.

FD-0009 Engine No. 2 Replacement

Replace Engine No. 2, which is at the end of its useful life.

FD-0010 Command Vehicle Replacement

Vehicle has reached 80,000 miles and should be replaced in fall/winter of 2020.

FD-0011 Pavement Replacement and Repair - Station 1

The remainder of the pavement that was not replaced in 2017 is in poor condition and continues to degrade. Replacement is necessary.

Parks and Recreation-Related Projects

Project No.	Project Title	Project Type	Funding Source(s)	Total Project Cost	Township Cost	Year	Notes	Ranking
PK-0001	Atchison Park Trail Improvements	New Construction and Rehabilitation	GF	\$150,000	\$150,000	2025	Cost based on engineer's estimate	103
PK-0002	Huron Valley Trail, Phase 1	Rehabilitation	GF TAP	\$550,000	\$550,000	2020	Cost based on engineer's estimate + 5% rate of inflation increase each year.	106
PK-0003	Huron Valley Trail, Phase 2	Rehabilitation	GF TAP	\$500,000	\$500,000	2021	Approximate estimate.	106
PK-0004	Huron Valley Trail, Phase 3	Rehabilitation	GF TAP	\$500,000	\$500,000	2022	Approximate estimate.	106
PK-0005	11 Mile Park	New Construction	GF MNRTF DEV	\$2,300,000	\$1,400,000	2022	Cost based on engineer's estimate, 2020.	91
PK-0006	Safety Town	New Construction	GF BUS	\$50,000	\$10,000	2021	Business expected to cover most of the costs.	79
PK-0007	Property Acquisition, Phase 1	Acquisition	GF MNRTF	\$300,000	\$120,000	2025	Property appraisals required.	49
PK-0008	Property Acquisition, Phase 2	Acquisition	GF MNRTF	\$3,000,000	\$3,000,000	2025	Based on acquisition of 40 acres of residentially-zoned land.	77
PK-0009	Bike Path Gaps	New Construction	SBP	\$300,000/yr	\$300,000/yr	2021	Costs to be allocated on a per-section bases rather than all on one project.	98
PK-0010	Huron Valley Trail Trailhead Park	New Construction	GF MNRTF DEV	\$376,912	\$188,456	2022	Cost based on engineer's estimate, 9/15/2017 + 5% rate of inflation increase each year.	87
PK-0011	Historic preservation acquisition	Acquisition	GF MNRTF	Unknown	Unknown	2023	Acquire historically significant structure/ property only where fiscally prudent.	75

FUNDING SOURCE KEY
 BUS Business Contributions
 DEV Developer Contributions
 GF General Fund
 MNRTF Michigan Natural Resource Trust Fund
 SBP Sidewalk and Bike Path Development Fund
 TAP TAP Grant

Parks and Recreation-Related Projects

Project Descriptions

PK-0001 Atchison Park Trail Improvements

Re-construct and widen the existing trail on the north and west sides of James F. Atchison Community Park. Construct a new segment of trail in the southeast part of the park to provide a continuous loop around the park.

PK-0002 Huron Valley Trail Rehabilitation - Phase 1

Repave the portion of the Huron Valley Trail that is located in Lyon Township. Milford to 11 Mile.

PK-0003 Huron Valley Trail Rehabilitation - Phase 2

Repave the portion of the Huron Valley Trail that is located in Lyon Township. Improve another section of the Trail.

PK-0004 Huron Valley Trail Rehabilitation - Phase 3

Repave the portion of the Huron Valley Trail that is located in Lyon Township. Improve the remainder of the Trail.

PK-0005 11 Mile Road Park

Construct a new park at the northeast corner of Milford and 11 Mile Roads, consisting of two multi-purpose fields, one baseball field, a pavilion, an amphitheater, restrooms, two play structures for different age groups, a nature trail, and gravel parking.

PK-0006 Safety Town

Construct a small-scale city with buildings, streets and sidewalks, the purpose of which is to teach children about the many aspects of safety and how to avoid injury. Designed for children entering kindergarten.

PK-0007 Property Acquisition, Phase 1

Acquire property between Fire Station No. 1 and the Township Hall to accommodate expanding recreation programs and needs.

PK-0008 Property Acquisition, Phase 2

Acquire unidentified property in the Township to accommodate existing need for sports fields and other recreation venues.

PK-0009 Bike Path Gaps

Construct missing bike path segments along Ten Mile Road, around the 9 Mile and Napier intersection, along Grand River west of New Hudson, and other priority pedestrian routes.

PK-0010 Huron Valley Trail Trailhead Park

Construct a trailhead park adjacent to the Huron Valley Trail, where the Trail intersects the proposed southeast segment of the New Hudson ring road. The park is proposed to contain parking, a shelter, a bike repair station, benches, and restrooms.

PK-0011 Historic Preservation Acquisition

Acquire historically significant structures or property to be converted to a Township asset. Should only be purchased if it is determined financially viable for long-term success.

Bike Path and Sidewalk Inventory

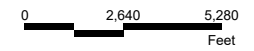
Charter Township of Lyon, Michigan

October 5, 2020

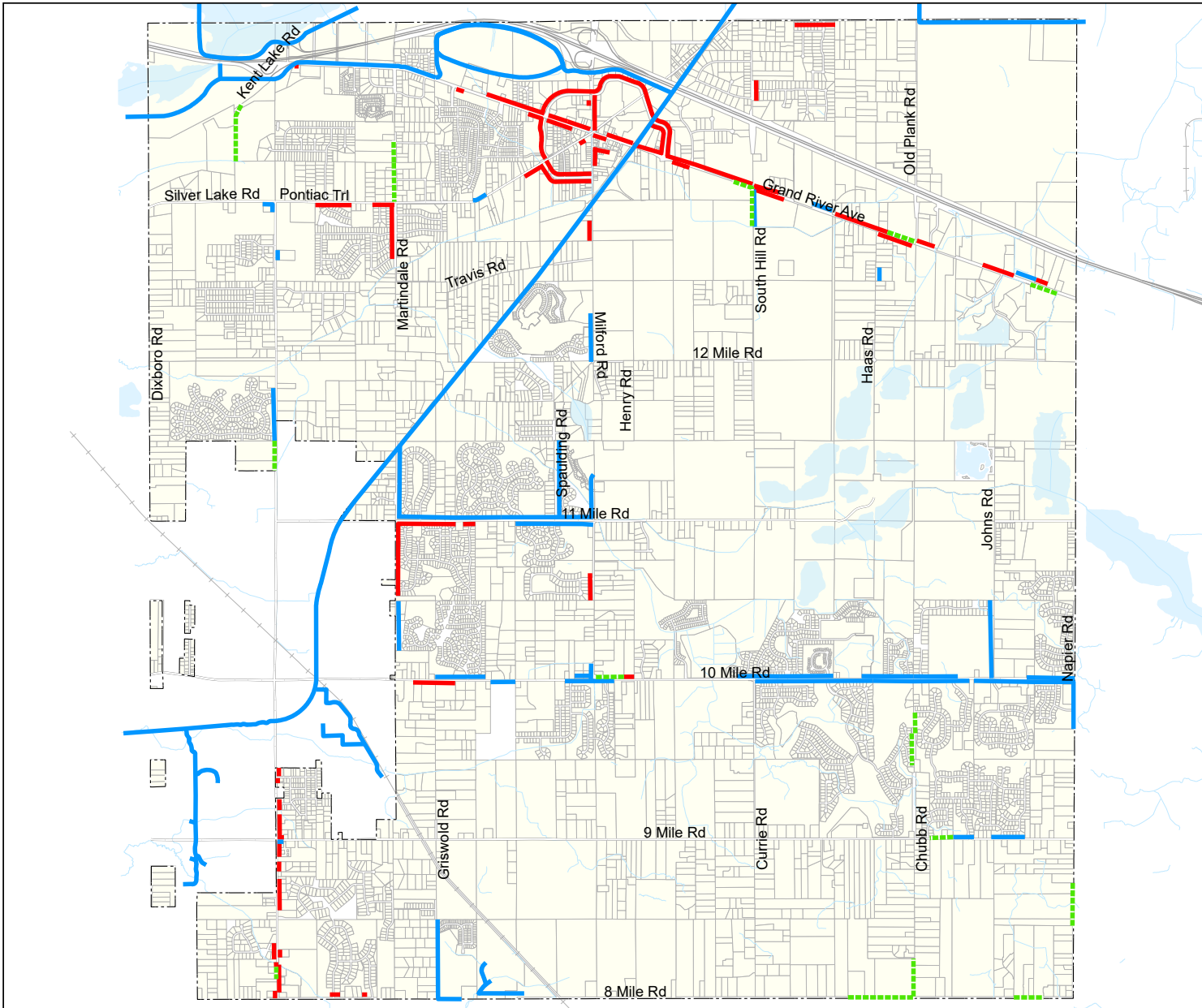
Legend

- Existing Sidewalk
- Existing Bike Path
- Commitment to Build Bike Path or Sidewalk
- Township Boundary
- Roads
- Railroads
- Water Bodies

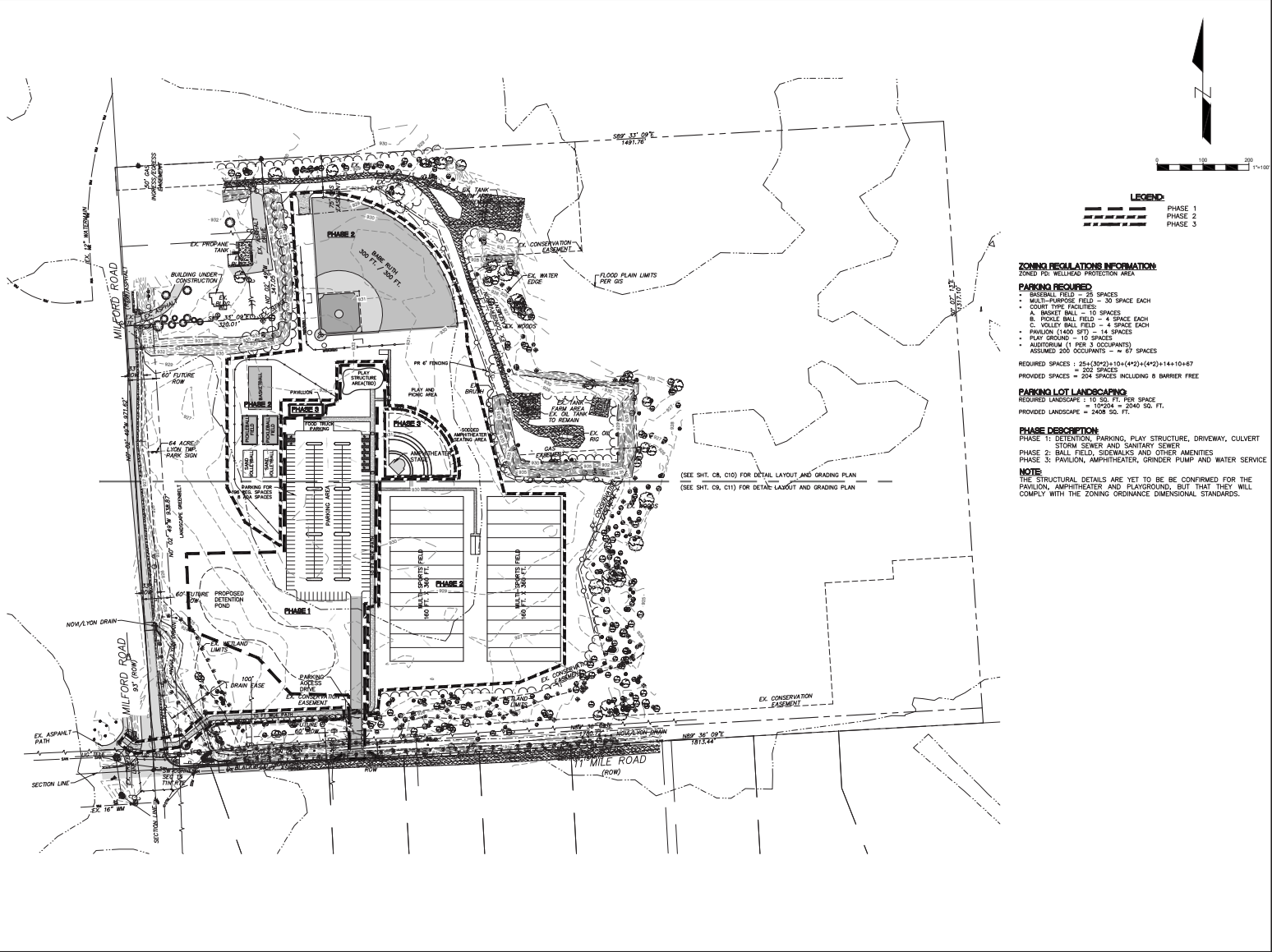
See Master Plan maps for planned pathway and sidewalk routes.



Basemap Source: Michigan Center for Geographic Information, Version 17a., Access Oakland
Data Source: McKenna 2020, Lyon Township



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LEGEND:
 --- PHASE 1
 --- PHASE 2
 --- PHASE 3

ZONING REGULATIONS INFORMATION:
 ZONED FOR: WELLHEAD PROTECTION AREA

PARKING REQUIRED:
 • BASEBALL FIELD - 20 SPACES
 • MULTI-PURPOSE FIELD - 30 SPACES EACH
 • COURT TYPE FACILITIES:
 A. BASKET BALL - 10 SPACES
 B. RICKLE BALL FIELD - 4 SPACES EACH
 C. VOLLEY BALL FIELD - 4 SPACES EACH
 • PLAY GROUND - 10 SPACES
 • AUDITORIUM (1 PER 5 OCCUPANTS)
 • ASSUMED 200 OCCUPANTS - = 67 SPACES

REQUIRED SPACES = 25+(30*2)+10+(4*2)+(4*2)+14+10+67
 = 202 SPACES
 PROVIDED SPACES = 204 SPACES INCLUDING 8 BARRIER FREE

PARKING LOT LANDSCAPING:
 REQUIRED LANDSCAPE: 10 SQ. FT. PER SPACE
 = 1020 SQ. FT. = 2540 SQ. FT.
 PROVIDED LANDSCAPE = 2408 SQ. FT.

PHASE DESCRIPTION:
 PHASE 1: DETENTION, PARKING, PLAY STRUCTURE, DRIVEWAY, CULVERT, STORM SEWER AND SANITARY SEWER
 PHASE 2: BALL FIELD, SIDEWALKS AND OTHER AMENITIES
 PHASE 3: PAVILION, AMPHITHEATER, GRINDER PUMP AND WATER SERVICE

NOTE:
 THE STRUCTURAL DETAILS ARE YET TO BE CONFIRMED FOR THE PAVILION, AMPHITHEATER AND PLAYGROUND, BUT THAT THEY WILL COMPLY WITH THE ZONING ORDINANCE DIMENSIONAL STANDARDS.

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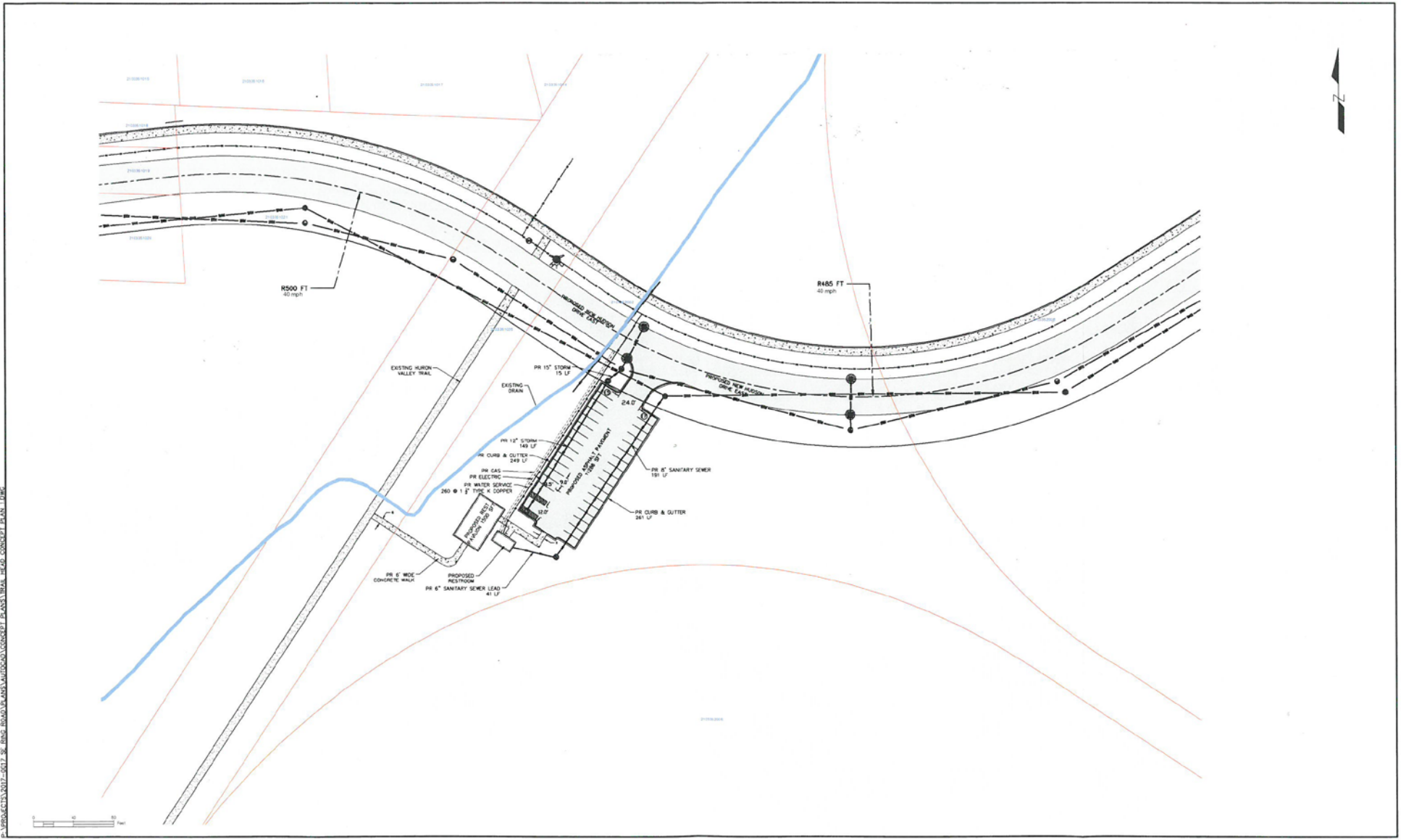
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CHARTER TOWNSHIP OF LYON
 FUTURE 11 MILE AND MILFORD PARK
 LAYOUT PLAN OVERALL

NO.	DATE	SUBMITTAL	NO.	DATE	REVISION
1	11-12-2018	1ST SITE PLAN SUBMITTAL	8	-	-
2	-	-	9	-	-
3	-	-	10	-	-
4	-	-	11	-	-
5	-	-	12	-	-
6	-	-	13	-	-
7	-	-	14	-	-

PROJECT NO: 2018-0003	SCALE: 1"=100'
DRAWING NO: -	DATE: 02-12-2018
DRAWN BY: MLH	DATE: 02-20-2018
CHECKED BY: LZ	DATE: 02-20-2018
SECTION 15	TOWN 1N RANGE 7E
CITY/TOWNSHIP: CHARTER TOWNSHIP OF LYON OAKLAND COUNTY, MI	



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 SOLUTIONS, Inc.

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CHARTER TOWNSHIP OF LYON
 TRAIL HEAD
 CONCEPT PLAN - 1

NO.	DATE	SUBMITTAL	NO.	DATE	REVISION
1			2		
2			3		
3			4		
4			5		
5			6		
6			7		
7			8		

PROJECT NO. 2017-2017	SCALE: 1"=40'
DRAWING NO. #	DATE: 6-18-2017
DRAWN BY: E. MOHAMMED	DATE: #
CHECKED BY: TAC	RANGE 7E
SECTION 3 TOWN 14	CITY/TOWNSHIP TOWNSHIP
	OKLAHOMA COUNTY

Road and Intersection Projects

Project No.	Project Title	Project Type	Funding Source(s)	Total Project Cost	Township Cost	Year	Notes	Ranking
RI-0001	Currie Road Improvements	Gravel road paving	GF MDOT	\$5,000,000	\$2,000,000	2020	Federal Aid eligible; recommended for funding	85
RI-0002	South Hill Road Improvements	Gravel road paving	GF MDOT (if Category A funding is restored)	\$3,000,000	\$600,000	2021 or later		81
RI-0003	Nine Mile Road Improvements	Gravel road paving	GF, RCOC and MDOT*	\$4,000,000	\$1,600,000	2022	Federal Aid eligible	77
RI-0004	Martindale Road Improvements (1)	Gravel road paving	GF RCOC and MDOT**	\$4,500,000	\$1,800,000	2023		77
RI-0005	Signal on 9 Mile Road at Griswold Road	Signal installation	GF DEV*	\$150,000	\$0	2022		90
RI-0006	Signal at Ten Mile Road at Currie Road	Signal installation	GF	\$150,000	\$150,000	2020		90
RI-0007	Kent Lake Road at Silver Lake Road Upgrades	Signal Installation and intersection improvements	GF	\$160,000	\$160,000	2021		90
RI-0008	Grand River Avenue and Kent Lake Road Intersection Improvements	Signal timing and related intersection improvements	GF	\$200,000	\$200,000	2022		86
RI-0009	Martindale Road Improvements (2)	Gravel Road Paving	GF DEV RCOC* MDOT*	\$1,600,000	\$800,000	2021		77
RI-0010	Road Improvement Discretionary Projects	Re-gravel, signal installation, or pavement assistance	GF	Unknown	Unknown	2021 - 2026	Provide assistance to Road Commission on high-priority safety and condition improvements associated with roads.	86

FUNDING SOURCE KEY

DDA Lyon Downtown Development Authority
 DEV Developer Contributions
 GF General Fund

FA Federal Aid
 MDOT Michigan Department of Transportation
 RCOC Road Commission of Oakland County
 SLCS South Lyon Community Schools
 * Possible Funding Source

Road and Intersection Projects

Project Descriptions

RI-0001 Currie Road Improvements

Pave a two-mile segment of Currie Road, between 8 and 10 Mile Roads. The purpose of this project is to provide another paved north-south route.

RI-0002 South Hill Road Improvements

Pave approximately three-quarters of a mile of South Hill Road, between the New Hudson Drain and Grand River Avenue and between I-96 and Pontiac Trail. The purpose of this project is to provide an alternate means of access to the I-96 interchange at Milford Road.

RI-0003 Nine Mile Road Improvements

Pave approximately one and one-quarter miles of Nine Mile Road, beginning on the west at the point where the Woodlands of Lyon paving stops to Currie Road on the east. The purpose of this project is to alleviate traffic on 10 Mile Road.

RI-0004 Martindale Road Improvements (1)

Pave approximately one and one-half miles of Martindale Road, from 11 Mile Road to Travis Road. The purpose of this project is to provide another paved north-south route. It will have the side benefit of eliminating cut-through traffic in Hornbrook Estates.

RI-0005 Signal on 9 Mile Road at Griswold Road

Install a traffic signal at the intersection of 9 Mile Road and Griswold Road. Traffic impact studies completed for Meadows of Lyon and Hutsfield Estates revealed that a signal is warranted at the intersection.

RI-0006 Signal at Ten Mile Road at Currie Road

Install a traffic signal at the intersection of Ten Mile Road and Currie Road. The signal will provide for safe turning movement at the intersection and provide gaps in the stream of traffic, which will facilitate turning movements to the east and west along Ten Mile Road.

RI-0007 Kent Lake Road at Silver Lake Road Upgrades

Reconstruct the intersection of Kent Lake Road and Silver Lake Road to accommodate a traffic signal. Traffic studies have been completed showing a signal is warranted for the intersection and the Township Board has approved upgrades.

RI-0008 Grand River Avenue and Kent Lake Road Intersection Improvements

The traffic impact analysis for The Cottages at Turtle Creek revealed the need for signal timing and related intersection improvements.

RI-0009 Martindale Road Improvements (2)

Pave approximately one-half mile of Martindale Road, from Pontiac Trail north to the paved surface at Twin Pines. The purpose of this project is to provide another paved north – south route between Pontiac Trail and Grand River Avenue. This project has been approved by the Township Board, including sidewalks.

RI-0010 Road Improvement Discretionary Projects

Consider continuing financial support for road projects within the Township. Re-graveling roads, funding intersection improvements, paving projects, or others could be considered as part of this project.

Water System Projects

Project No.	Project Title	Project Type	Funding Source(s)	Total Project Cost *	Township Cost	Year	Notes	Ranking
WS-0001	Paint Elevated Tank at Fire Station	Maintenance	WEF	\$350,000	\$350,000	2020	In process (getting quotes)	58
WS-0002	Section 36 Water main	New Construction	DEV	\$2,648,000	\$2,648,000	2021	Expected to be completed by early 2021	89
WS-0003	Booster Pump	New Construction	WEF	\$650,000	\$650,000	2021	In process	90
WS-0004	Rainbow Circle and Golden Valley Drive Water main	New Construction	WEF	\$471,950	\$471,950	2021	Pending	95
WS-0005	9 Mile Water main between Griswold Road and Chubb Road	New Construction	WEF	\$4,939,255	\$4,939,255	2021	Pending	89
WS-0006	9 Mile Road Water main Between Griswold and Pontiac Trail	New Construction	WEF	\$1,888,175	\$1,888,175	2022	In process	89
WS-0007	Pontiac Trail Water main through Lillian Street, Kay Street, and Marjorie Ann Street	New Construction	WEF	\$660,000	\$660,000	2022	Pending	89
WS-0008	Pontiac Trail Water main between Tim Hortons (21725 Pontiac Trail), and Lillian Street	New Construction	WEF	\$1,414,415	\$1,414,415	2022	Pending	89
WS-0009	Bramley Circle Water main	New Construction	WEF	\$704,815	\$704,815	2022	Pending	89
WS-0010	12 Mile Water main between South Hill Road and Milford Road	New Construction	WEF	\$2,590,325	\$2,590,325	2025	Pending	89
WS-0011	12 Mile Water main between South Hill Road and Johns Road	New Construction	WEF	\$3,379,160	\$3,379,160	2025	Pending	89
WS-0012	South Hill Road Water main	New Construction	WEF	\$500,000	\$500,000	2025	Pending	95

FUNDING SOURCE KEY

DEV Developer Contributions

WEF Water Enterprise Fund

*Based on 2019 and 2020 MDOT Bid Results

Water System Projects

Project Descriptions

WS-0001 Paint Elevated Tank at Fire Station

Paint the elevation storage tank behind Fire Station No. 1.

WS-0002 Section 36 Water Main

Construct 16" water main in Section 36.

WS-0003 Booster Pump

This project may be necessary due to future low pressure are in south-east quarter of Township.

WS-0004 Rainbow Circle and Golden Valley Dr Water Main

Construct 1665 feet of 8" water main on Rainbow Circle, and Golden Valley Dr along Grand River Avenue.

WS-0005 9 Mile Road Water Main between Griswold Road, and Chubb Road

Construct 12,500 feet of 16" water main along 9 Mile Road, between Griswold Road, and Chubb Road.

WS-0006 9 Mile Water Main between Griswold Road, and Pontiac Trail

Construct 5,180 feet of 12" water main along 9 Mile Road, between Griswold Road, and Pontiac Trail.

WS-0007 Pontiac Trail Water Main through Lillian Street, Kay Street, and Marjorie Ann Street

Construct 1,865 feet of 12" water main along Pontiac Trail, through Lillian Street, Kay Street, and Marjorie Ann Street.

WS-0008 Pontiac Trail Water Main between Tim Hortons (21725 Pontiac Trail) and Lillian Street

Construct 3,116 feet of 12" water main along Pontiac Trail, between Tim Hortons (21725 Pontiac Trail) and Lillian Street.

WS-0009 Bramley Circle Water Main

Construct 2,290 feet of 8" water main through Bramley Circle and 12" along Grand River Avenue.

WS-0010 12 Mile Road Water Main between South Hill Road and Milford Road

Construct 5,300 feet of 16" water main along 12 Mile Road, between South Hill Road and Milford Road.

WS-0011 12 Mile Road Water Main between South Hill Road and Johns Road

Construct 8,050 feet of 16" water main along 12 Mile Road, between South Hill Road and Johns Road.

WS-0012 South Hill Road Water Main

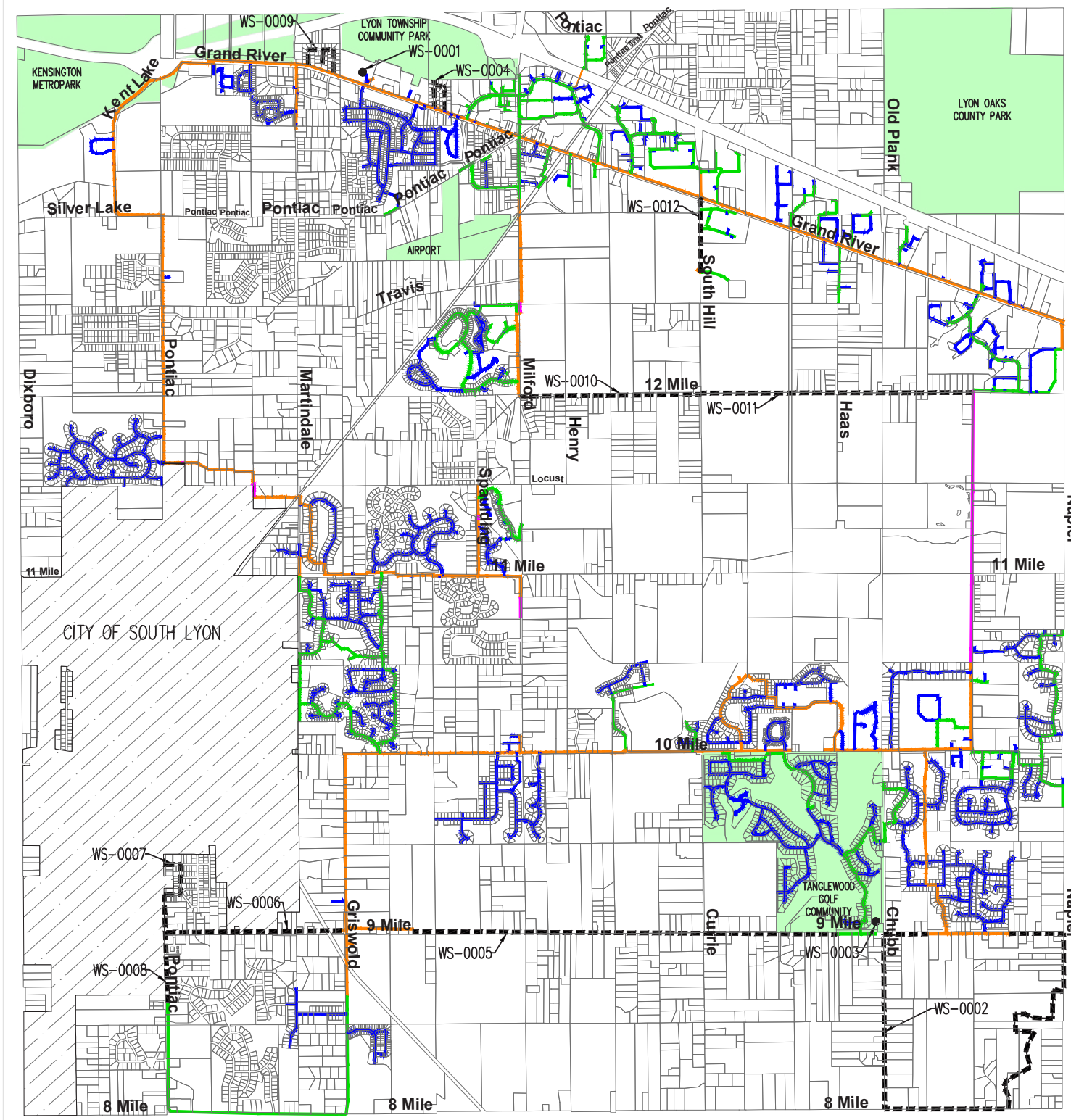
The purpose of this project is constructing 1,865 feet of 12" parallel watermain along South Hill Road for future South Hill Pump upgrade.

CHARTER TOWNSHIP OF LYON WATER SYSTEM PROJECTS



LEGEND

- EXISTING 8" DIA. WATERMAIN
- EXISTING 12" DIA. WATERMAIN
- EXISTING 16" DIA. WATERMAIN
- EXISTING 20" DIA. WATERMAIN
- WATER SYSTEM PROJECTS
- WS-0000 PROJECT NO.
- SOUTH LYON BORDER



Sewer System Projects

Project No.	Project Title	Project Type	Funding Source(s)	Total Project Cost	Township Cost	Year	Notes	Ranking
SS-0001	12,400 LF of parallel forcemain per master plan (from WWTP to Eleven Mile Road)	New Construction	SEF	\$5,424,110	\$5,424,110	2021/2022	Pending	106
SS-0002	Meter Vault at WWTP	New Construction	SEF	\$250,000	\$250,000	2020	In Process	106
SS-0003	South Hill Forcemain structure re-construction	Maintenance	SEF	\$50,000	\$50,000	2020	In Process	106
SS-0004	Pump Station Generators	Maintenance	SEF	\$890,000	\$890,000	2021	On Going	104
SS-0005	4th SBR, and 2nd Screen	New Construction	SEF	\$1,500,000	\$1,500,000	2021	Pending	103
SS-0006	Aerzen blower	Maintenance	DEV	\$275,000	\$275,000	2021	Pending	103
SS-0007	Effluent Pump Station Upgrade	Maintenance	SEF	\$200,000	\$200,000	2021	In Process	108
SS-0008	Access Drive to Lyon WWTP	New Construction	SEF	\$300,000	\$300,000	2021	Detailed estimate to be completed once scope is defined. Oak Ridge developer to complete.	91
SS-0009	Anticipated Pump Replacement	Maintenance	SEF	\$250,000	\$250,000	2021	Pending	96
SS-0010	Manhole Repairs	Maintenance	SEF	\$300,000	\$300,000	2021	In Process	90
SS-0011	Phosphorus removal	New Construction	SEF	\$1,500,000	\$1,500,000	2022	Pending	87
SS-0012	Meters in Pump Station to Monitor actual flow	New Construction	SEF	\$1,800,000	\$1,800,000	2022	Pending	86
SS-0013	7,800 LF of parallel forcemain (W of South Hill Rd. & alongside Milford Rd.)	New Construction	SEF	\$3,844,850	\$3,844,850	2023/2025	Pending	106
SS-0014	6,900 LF of parallel forcemain (W of 11 Mile Rd. from South Hill Rd. & 11 Mile Rd. intersection)	New Construction	SEF	\$3,688,955	\$3,688,955	2024/2025	Pending	106

FUNDING SOURCE KEY

DEV	Developer Contributions
SEF	Sewer Enterprise Fund

Sanitary Sewer System Projects

Project Descriptions

SS-0001 12,000 LF of Forcemain

The Township's sanitary sewer master plan proposed parallel force mains to be constructed in the future. Based on tracking of connections to the system for each sewer district, it has been determined that construction of those mains should begin in 2021/2022. The force main that is the furthest downstream (closest to the treatment plant) must be constructed first. This main extends from the waste water treatment plant north to South Hill Road.

SS-0002 Meter Vault at WWTP

The purpose of this project is to install a meter vault to read the flow going into east rapid infiltration beds at WWTP and limit the flow to 750,000 gallons. The vault will automatically direct flow over 750,000 to the west rapid infiltration beds.

SS-0003 South Hill Forcemain Structure Re-construction

The purpose of this project is to replace the structure that has been compromised due to hydrogen sulfide attack.

SS-0004 Pump Station Generators

The purpose of this project is to install permanent generators in sanitary sewer pump stations.

SS-0005 4th SBR and 2nd Screen

The purpose of this project to expand WWTP by adding 4th Sequencing Batch Reactor (SBR), and 2nd screening.

SS-0006 Aerzen Blower

The purpose of this project to upgrade the original blowers to the new Aerzen blowers which are much more efficient.

SS-0007 Effluent Pump Station Upgrade

The purpose of this project is to upgrade the pump stations located at the WWTP.

SS-0008 Access Drive to Lyon WWTP

The purpose of this project to provide an access drive from Oak Ridge development for maintenance and services. Developer responsible for the completion of this item.

SS-0009 Anticipated Pump Replacement

The purpose of this project is to repair or replace pump stations.

SS-0010 Manhole Repairs

The purpose of this project to start repairing the sanitary sewer manholes which are in bad condition.

SS-0011 Phosphorus Removal

See description of project SS-0011.

SS-0012 Meters in Pump Station to Monitor Actual Flow

The purpose of this project to start monitoring the flow data at pump stations.

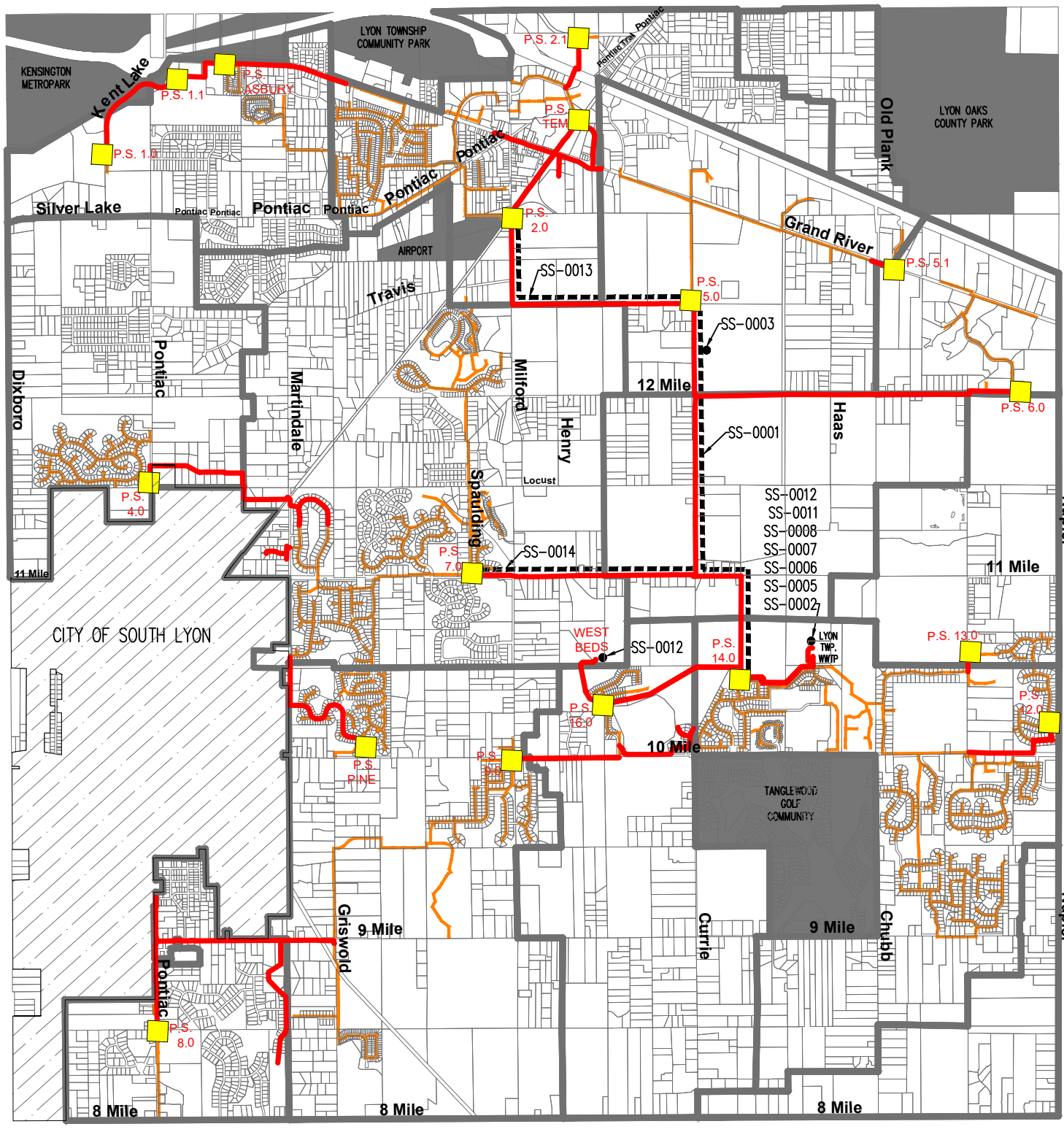
SS-0013 7,800 LF of Forcemain

7,800 LF of parallel Forcemain (West of South Hill Road and alongside Milford Road).

SS-0014 6,900 LF of Forcemain

6,900 LF of parallel Forcemain (West of 11 Mile Road from South Hill Road & 11 Mile Road intersection).

CHARTER TOWNSHIP OF LYON SEWER SYSTEM PROJECTS



LEGEND

- EXISTING FORCEMAIN
- EXISTING SEWER GRAVITY
- PUMP STATION DISTRICT
- EXISTING PUMP STATION
- NOT SERVICED PARCELS
- SEWER SYSTEM PROJECTS
- SS-0000 PROJECT NO.
- SOUTH LYON BORDER

- SS-0004 NEW GENERATORS AT ALL PUMP STATIONS
- SS-0009 ANTICIPATED PUMP REPLACEMENT OR REPAIR
- SS-0010 MANHOLE REPLACEMENT OR REPAIR

A photograph of four people (two men and two women) standing in front of a control panel for a water treatment system. The panel features four gauges and a sign that reads "LYON CHARTER TOWNSHIP WOODWIND FACILITY 2018 AOP ARTESIAN OF PIONEER Water Treatment Systems". The entire image has a blue tint.

COMPLETED CIP PROJECTS

Completed Projects

As part of the Township's long-term planning process, it is important to reflect on the successes of staff, elected officials, and our community partners in each iterative plan. The following capital improvement projects have been completed since the Township's first CIP in 2017:

Building and Equipment Projects

Township Hall Back-up Generator

Township Hall Security System

Library/Community Center Roof

Parking at Fire Station 2

Township Hall Audio/Visual Equipment

Township Hall Microphones

Pickup Truck with Plow

Fire Department Projects

Engine No. 1 Replacement

Administrative Vehicle Replacement

Pavement Replacement and Repair

Apparatus Floor Resurfacing

Rescue 2 Replacement

Exhaust Removal System

Sewer System Projects

Pump Station Generators

Parks and Recreation Projects

Tractor Purchase

11 Mile Pathway Completion

Safe Routes to School Signal at Marjorie Ann

Road and Intersection Projects

10 Mile and Napier Roundabout

Grand River and South Hill Improvements

Chubb Road Improvements

Dixboro Road Improvements

10 Mile Road and Johns Road Improvements

11 Mile Signal at Pearson Elementary

Signal at South Hill Road and Grand River Avenue

Signal at 8 Mile Road and Griswold Road

Water System Projects

South Hill Well Improvements

Johns Road Watermain

Storage Tank Altitude Valves

Elevated Storage Tank

Property Acquisition for Woodwind Well