



TOWNSHIP BOARD MEETING
LOCATION: 7527 HIGHLAND ROAD, WHITE LAKE - ANNEX BOARD ROOM
TUESDAY, MAY 17, 2022 – 7:00 PM

White Lake Township | 7525 Highland Rd | White Lake, MI 48383 | Phone: (248) 698-3300 | www.whitelaketwp.com

AGENDA

1. **CALL TO ORDER**
2. **PLEDGE OF ALLEGIANCE**
3. **ROLL CALL**
4. **APPROVAL OF AGENDA**
5. **PUBLIC COMMENT**
6. **CONSENT AGENDA**
 - A. [REVENUE AND EXPENSES](#)
 - B. [CHECK DISBURSEMENTS](#)
 - C. [DEPARTMENT REPORT - POLICE](#)
 - D. [DEPARTMENT REPORT - FIRE](#)
 - E. [DEPARTMENT REPORT - COMMUNITY DEVELOPMENT](#)
7. **MINUTES**
 - A. [APPROVAL OF MINUTES - SPECIAL BOARD MEETING, APRIL 13, 2022](#)
 - B. [APPROVAL OF MINUTES - REGULAR BOARD MEETING, APRIL 19, 2022](#)
8. **PRESENTATION**
 - A. [PLANTE MORAN - 2021 FINANCIAL REPORT](#)
9. **PUBLIC HEARING WITH RESOLUTION**
 - A. [PUBLIC HEARING; TO HEAR PUBLIC COMMENTS ON SANITARY SYSTEM IMPROVEMENTS 2022 CLEAN WATER STATE REVOLVING FUND \(CWSRF\) PROJECT PLAN](#)
 - B. [RESOLUTION 22-021; TO ADPOT A FINAL PROJECT PLAN FOR SANITARY SEWER SYSTEM IMPROVEMENTS AND DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE](#)
10. **OLD BUSINESS**
 - A. [SECOND READING; BLACK ROCK REZONING](#)
 - B. [SECOND READING; AMENDMENT TO TRAFFIC AND VEHICLES ORDINANCE, CHAPTER 36, ARTICLE II - VEHICLE CODES](#)
 - C. [SECOND READING; AMENDMENT TO FIRE CODE ORDINANCE, CHAPTER 18 - ARTICLE II - FIRE CODE](#)



11. NEW BUSINESS

- A. [CONSIDERATION OF PRELIMINARY SITE PLAN, HYPERSHINE CAR WASH](#)
- B. [REQUEST TO AWARD CONTRACT FOR PARKS & RECREATION MASTER PLAN UPDATE](#)
- C. [REQUEST TO APPROVE STANLEY PARK BIOLOGICAL ASSESSMENT CONTRACT](#)
- D. [REQUEST TO PURCHASE NEW GENERATOR FOR TOWNSHIP - 7525 HIGHLAND](#)
- E. [TREASURER'S ANNUAL REPORT - YEAR END 2021](#)
- F. [REQUEST TO APPROVE 2022 OPEB CONTRIBUTION](#)
- G. [REQUEST TO APPROVE MARINE PATROL SERVICES AGREEMENT WITH OAKLAND COUNTY SHERIFF'S OFFICE 2022 - 2024](#)
- H. [FIRST READING, AMENDMENT TO FEE ORDINANCE #129](#)
- I. [REQUEST TO APPROVE MASTER AGREEMENT WITH DTE FOR MUNICIPAL STREET LIGHTING - ELIZABETH LAKE ROAD ROUNDABOUTS AT TEGGERDINE AND OXBOW LAKE ROADS](#)

12. TRUSTEE COMMENTS

13. ADJOURNMENT

Procedures for accommodations for persons with disabilities: The Township will follow its normal procedures for individuals with disabilities needing accommodations for effective participation in this meeting. **Please contact the Township Clerk's office at (248) 698-3300 X-164 at least two days in advance of the meeting.** An attempt will be made to make reasonable accommodations.

Section 6, Item A.

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR	YTD BALANCE	2022	AVAILABLE	% BDGT
		MONTH 04/30/2022	04/30/2022	AMENDED BUDGET	BALANCE	USED
Fund 101 - GENERAL FUND						
Revenues						
TAX COLLECTIONS						
101-000-402.000	CURRENT PROPERTY TAX	1,186,401.74	1,186,401.74	1,183,595.00	(2,806.74)	100.24
101-000-403.001	SPECIAL ASSMT STREET LIGHTS	17,127.43	17,127.43	17,130.00	2.57	99.98
101-000-405.000	TRAILER PARK TAX	850.00	3,406.50	7,500.00	4,093.50	45.42
101-000-412.000	DELINQUENT PROPERTY TAX	3,064.77	3,591.94	0.00	(3,591.94)	100.00
101-000-445.000	PENALTIES	16,460.79	16,460.79	15,000.00	(1,460.79)	109.74
101-000-445.001	PRIN RESIDENCE DENIALS	0.00	945.19	2,000.00	1,054.81	47.26
TAX COLLECTIONS		1,223,904.73	1,227,933.59	1,225,225.00	(2,708.59)	100.22
OTHER LICENSE & PERMITS						
101-000-458.000	OTHER PERMITS	100.00	300.00	0.00	(300.00)	100.00
101-000-459.000	SOLICITOR PERMIT	0.00	0.00	500.00	500.00	0.00
101-000-481.000	DOG LICENSES	368.00	862.00	1,200.00	338.00	71.83
OTHER LICENSE & PERMITS		468.00	1,162.00	1,700.00	538.00	68.35
TRANSPORTATION						
101-000-651.000	SENIOR ACTIVITIES	1,616.00	4,779.00	20,000.00	15,221.00	23.90
101-000-652.001	SENIOR CENTER REVENUE	702.00	2,061.04	0.00	(2,061.04)	100.00
TRANSPORTATION		2,318.00	6,840.04	20,000.00	13,159.96	34.20
PLANNING REVENUE						
101-000-608.000	ZONING BOARD OF APPEALS	825.00	4,675.00	6,500.00	1,825.00	71.92
101-000-609.000	PLANNING COMMISSION FEES	0.00	4,955.00	4,250.00	(705.00)	116.59
101-000-622.000	ZONING APPLICATION FEES	0.00	0.00	4,500.00	4,500.00	0.00
101-000-622.002	PLANNING DEPARTMENT REVIEWS	750.00	3,062.00	2,500.00	(562.00)	122.48
101-000-622.003	LANDSCAPING INSPECTION FEES	0.00	0.00	750.00	750.00	0.00
101-000-622.004	PUNCH LIST ADMIN FEES	0.00	7,502.04	2,000.00	(5,502.04)	375.10
101-000-622.005	FINAL BACK CHECK FEES	0.00	0.00	500.00	500.00	0.00
101-000-625.000	SPECIAL MEETING FEES	0.00	0.00	500.00	500.00	0.00
PLANNING REVENUE		1,575.00	20,194.04	21,500.00	1,305.96	93.93
STATE SHARED						
101-000-576.000	STATE SHARED REV-CONSTITUTIONA	577,934.00	1,125,911.00	2,500,000.00	1,374,089.00	45.04
STATE SHARED		577,934.00	1,125,911.00	2,500,000.00	1,374,089.00	45.04
FEES FOR SERVICES						
101-000-621.000	PLATTING & LOT SPLIT FEES	110.00	275.00	2,000.00	1,725.00	13.75
101-000-623.000	N S F FEE	0.00	300.00	500.00	200.00	60.00
101-000-627.000	DUPLICATING & PHOTOSTAT	42.10	305.80	350.00	44.20	87.37
101-000-643.000	CEMETERY LOTS	1,000.00	3,400.00	15,000.00	11,600.00	22.67
101-000-644.000	GRAVESITE OPENINGS/CLOSINGS	2,825.00	11,900.00	20,000.00	8,100.00	59.50
101-000-644.001	MONUMENT FOUNDATIONS/BRICK PAVERS	864.00	3,801.00	10,000.00	6,199.00	38.01
101-000-650.000	OTHER MAPS, CODES, ETC	11.00	26.00	50.00	24.00	52.00
101-000-652.000	FIELD RENTAL	0.00	0.00	1,500.00	1,500.00	0.00
101-000-654.000	OC ENHANCED REVENUE	2,264.57	3,527.83	2,000.00	(1,527.83)	176.39
101-000-689.000	SUMMER TAX COLLECTION REIMB	0.00	0.00	75,000.00	75,000.00	0.00
101-000-695.001	OTHER CABLE TV	7,693.36	135,975.41	500,000.00	364,024.59	27.20
101-000-695.002	ADMINISTRATIVE FEES	0.00	32.00	1,200.00	1,168.00	2.67
101-000-695.003	ADMIN FEES - GARBAGE FUND	0.00	0.00	96,076.00	96,076.00	0.00
101-000-695.004	ADMIN FEES - TRUST & AGENCY	13,879.04	16,703.92	25,000.00	8,296.08	66.00
101-000-695.005	ADMIN FEES	0.00	344.90	0.00	(344.90)	100.00
101-000-695.007	ADMIN FEE SPECIAL ASSESSMENTS	0.00	368.00	5,000.00	4,632.00	7.36

PERIOD ENDING 04/30/2022

Section 6, Item A.

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 101 - GENERAL FUND						
Revenues						
FEEES FOR SERVICES		28,689.07	176,959.86	753,676.00	576,716.14	23.48
ORDINANCE FINES						
101-000-656.000	ORDINANCE FINES	1,145.00	1,245.00	0.00	(1,245.00)	100.00
ORDINANCE FINES		1,145.00	1,245.00	0.00	(1,245.00)	100.00
MISCELLANEOUS						
101-000-393.000	FUND BALANCE - DESIGNATED	0.00	0.00	559,530.00	559,530.00	0.00
101-000-531.000	OTHER GRANTS	0.00	0.00	5,527.00	5,527.00	0.00
101-000-575.001	METRO ACT REVENUE	0.00	0.00	16,000.00	16,000.00	0.00
101-000-590.000	CASH BONDS CONTRIBUTIONS	0.00	0.00	600,000.00	600,000.00	0.00
101-000-590.001	GRINDERS-CONTRIBUTIONS	0.00	0.00	300,000.00	300,000.00	0.00
101-000-664.000	INTEREST INCOME	407.61	3,102.01	20,000.00	16,897.99	15.51
101-000-664.001	INTEREST - TRUST AND AGENCY	0.00	162.91	2,000.00	1,837.09	8.15
101-000-673.000	SALE OF FIXED ASSETS	0.00	61.00	0.00	(61.00)	100.00
101-000-677.000	POSTAGE REVENUE	0.00	22.87	100.00	77.13	22.87
101-000-678.000	MISCELLANEOUS	1,666.94	8,650.24	2,000.00	(6,650.24)	432.51
101-000-695.000	OTHER SUNDRY	41.00	5,732.26	500.00	(5,232.26)	1,146.45
MISCELLANEOUS		2,115.55	17,731.29	1,505,657.00	1,487,925.71	1.18
REFUNDS & REBATES						
101-000-690.000	INSURANCE REBATES/CLAIMS	850.00	850.00	0.00	(850.00)	100.00
REFUNDS & REBATES		850.00	850.00	0.00	(850.00)	100.00
RENTS						
101-000-667.001	RENT COMMUNITY HALL	475.00	2,045.00	500.00	(1,545.00)	409.00
101-000-667.005	RENT-ORMOND RD TOWER	1,217.57	4,779.26	12,000.00	7,220.74	39.83
RENTS		1,692.57	6,824.26	12,500.00	5,675.74	54.59
TOTAL REVENUES						
		1,840,691.92	2,585,651.08	6,040,258.00	3,454,606.92	42.81
Expenditures						
TOWNSHIP BOARD						
101-101-703.000	SALARIES TRUSTEES	3,420.96	13,484.56	40,000.00	26,515.44	33.71
101-101-710.000	FEEES & PER DIEM	669.98	3,244.96	10,000.00	6,755.04	32.45
101-101-715.000	SOCIAL SECURITY	261.68	1,031.48	3,060.00	2,028.52	33.71
101-101-716.000	HOSPITAL & OPTICAL INS	0.00	0.00	150.00	150.00	0.00
101-101-717.000	GROUP LIFE INSURANCE	0.00	62.80	500.00	437.20	12.56
101-101-719.000	WORKERS' COMP INSURANCE	0.00	19.50	120.00	100.50	16.25
101-101-801.000	PROFESSIONAL FEEES - ACTUARIAL	0.00	8,832.50	8,000.00	(832.50)	110.41
101-101-801.001	PROFESSIONAL FEEES	0.00	0.00	10,000.00	10,000.00	0.00
101-101-807.000	AUDIT FEEES	0.00	3,772.50	35,000.00	31,227.50	10.78
101-101-860.000	CONFERENCEES & MILEAGE	0.00	1,164.00	4,000.00	2,836.00	29.10
101-101-957.000	SUBSCRIPTIONS	0.00	0.00	500.00	500.00	0.00
101-101-958.000	MEMBERSHIPS & DUES	0.00	465.00	17,000.00	16,535.00	2.74
101-101-962.000	MISCELLANEOUS	0.00	0.00	13,000.00	13,000.00	0.00
TOWNSHIP BOARD		4,352.62	32,077.30	141,330.00	109,252.70	22.70
SUPERVISOR						
101-171-703.000	SALARIES SUPERVISOR	7,246.80	32,188.52	91,465.00	59,276.48	35

User: EHomeister
DB: White Lake Twp

PERIOD ENDING 04/30/2022

Section 6, Item A.

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BGD USED
Fund 101 - GENERAL FUND						
Expenditures						
101-171-704.000	SALARIES, ADMIN ASSISTANT	5,158.64	23,964.40	65,110.00	41,145.60	36.81
101-171-706.000	SALARIES CLERICAL	3,852.15	18,054.19	49,395.00	31,340.81	36.55
101-171-708.000	SALARIES HR WAGES	10,692.74	33,900.56	83,055.00	49,154.44	40.82
101-171-709.000	OVERTIME	0.00	638.76	500.00	(138.76)	127.75
101-171-715.000	SOCIAL SECURITY	2,017.62	8,048.55	22,150.00	14,101.45	36.34
101-171-716.000	HOSP & OPTICAL INSURANCE	5,967.58	26,163.81	101,750.00	75,586.19	25.71
101-171-717.000	GROUP LIFE INSURANCE	0.00	62.80	435.00	372.20	14.44
101-171-718.000	PENSION	9,767.23	43,892.86	121,000.00	77,107.14	36.28
101-171-718.001	HEALTH CARE SAVINGS PROGRAM	200.00	800.00	2,400.00	1,600.00	33.33
101-171-719.000	WORKERS COMP INSURANCE	0.00	137.50	1,085.00	947.50	12.67
101-171-722.000	UNEMPLOYMENT INSURANCE	0.00	575.83	810.00	234.17	71.09
101-171-724.000	DENTAL INSURANCE	0.00	540.72	4,625.00	4,084.28	11.69
101-171-853.000	CELLULAR PHONE	50.54	151.66	800.00	648.34	18.96
101-171-864.000	CONFERENCES & MEETINGS	0.00	418.00	1,400.00	982.00	29.86
101-171-931.000	HR SERVICES ALLOCATION	0.00	0.00	(120,360.00)	(120,360.00)	0.00
101-171-957.000	SUBSCRIPTIONS	0.00	0.00	100.00	100.00	0.00
101-171-958.000	MEMBERSHIPS & DUES	100.00	100.00	400.00	300.00	25.00
101-171-959.000	COMMUNITY COMMUNICATIONS	0.00	0.00	20,000.00	20,000.00	0.00
101-171-960.000	TRAINING	0.00	0.00	300.00	300.00	0.00
101-171-960.001	TRAINING-HR	0.00	0.00	2,000.00	2,000.00	0.00
101-171-962.000	MISCELLANEOUS	0.00	237.75	500.00	262.25	47.55
SUPERVISOR		45,053.30	189,875.91	448,920.00	259,044.09	42.30
ELECTIONS						
101-191-706.000	PART TIME ELECTIONS	0.00	0.00	18,000.00	18,000.00	0.00
101-191-709.001	OVERTIME ELECTIONS	112.92	112.92	18,000.00	17,887.08	0.63
101-191-710.000	FEES & PER DIEM	0.00	30.00	40,010.00	39,980.00	0.07
101-191-715.000	SOCIAL SECURITY	0.00	0.00	2,750.00	2,750.00	0.00
101-191-722.000	UNEMPLOYMENT INSURANCE	0.00	0.00	700.00	700.00	0.00
101-191-730.000	POSTAGE-ELECTIONS	175.30	573.50	14,300.00	13,726.50	4.01
101-191-740.000	OPERATING SUPPLIES	3,499.60	3,499.60	10,100.00	6,600.40	34.65
101-191-860.000	MILEAGE	0.00	0.00	800.00	800.00	0.00
101-191-903.000	LEGAL NOTICES	870.68	870.68	2,700.00	1,829.32	32.25
101-191-934.000	EQUIPMENT MAINTENANCE	0.00	0.00	20,630.00	20,630.00	0.00
101-191-962.000	MISCELLANEOUS	0.00	0.00	1,850.00	1,850.00	0.00
101-191-977.000	EQUIPMENT ACQUISITIONS	0.00	0.00	2,200.00	2,200.00	0.00
ELECTIONS		4,658.50	5,086.70	132,040.00	126,953.30	3.85
ACCOUNTING						
101-192-701.000	SALARIES SENIOR ACCOUNT MANAGER	7,606.20	33,966.05	83,230.00	49,263.95	40.81
101-192-702.000	SALARIES BOOKKEEPER	5,329.51	24,749.10	67,270.00	42,520.90	36.79
101-192-709.000	OVERTIME	0.00	583.67	600.00	16.33	97.28
101-192-715.000	SOCIAL SECURITY	979.55	4,482.81	11,560.00	7,077.19	38.78
101-192-716.000	HOSP & OPTICAL INSURANCE	1,268.22	5,714.27	17,600.00	11,885.73	32.47
101-192-717.000	GROUP LIFE INSURANCE	0.00	31.40	220.00	188.60	14.27
101-192-718.000	PENSION	4,298.33	15,556.86	41,300.00	25,743.14	37.67
101-192-719.000	WORKERS COMP INSURANCE	0.00	126.75	660.00	533.25	19.20
101-192-722.000	UNEMPLOYMENT INSURANCE	0.00	381.16	540.00	158.84	70.59
101-192-724.000	DENTAL INSURANCE	0.00	124.08	800.00	675.92	15.51
101-192-957.000	SUBSCRIPTIONS	0.00	0.00	75.00	75.00	0.00
101-192-958.000	MEMBERSHIPS & DUES	0.00	0.00	450.00	450.00	0.00
101-192-960.000	TRAINING	0.00	0.00	300.00	300.00	0.00
101-192-962.000	MISCELLANEOUS	0.00	0.00	200.00	200.00	0.00
ACCOUNTING		19,481.81	85,716.15	224,805.00	139,088.85	38.5

PERIOD ENDING 04/30/2022

Section 6, Item A.

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 101 - GENERAL FUND						
Expenditures						
ASSESSING						
101-209-706.001	SALARIES ASSESSOR	7,391.85	39,009.15	98,080.00	59,070.85	39.77
101-209-706.002	SALARIES PROPERTY APPRAISER	9,286.82	43,215.84	118,955.00	75,739.16	36.33
101-209-706.003	SALARIES CLERICAL	3,653.70	14,731.45	53,250.00	38,518.55	27.66
101-209-707.000	SALARIES PART TIME	2,589.70	12,805.21	10,000.00	(2,805.21)	128.05
101-209-709.000	OVERTIME	0.00	3,849.88	1,500.00	(2,349.88)	256.66
101-209-715.000	SOCIAL SECURITY	1,727.73	8,545.75	21,550.00	13,004.25	39.66
101-209-716.000	HOSP & OPTICAL INSURANCE	9,145.30	30,730.42	91,250.00	60,519.58	33.68
101-209-717.000	GROUP LIFE INSURANCE	0.00	54.95	435.00	380.05	12.63
101-209-718.000	PENSION	3,016.51	14,827.24	45,200.00	30,372.76	32.80
101-209-718.001	HEALTH CARE SAVINGS PROGRAM	300.00	1,000.00	2,400.00	1,400.00	41.67
101-209-719.000	WORKERS COMP INSURANCE	0.00	377.50	2,950.00	2,572.50	12.80
101-209-722.000	UNEMPLOYMENT INSURANCE	131.10	1,129.22	1,080.00	(49.22)	104.56
101-209-724.000	DENTAL INSURANCE	0.00	580.26	3,475.00	2,894.74	16.70
101-209-801.000	PROFESSIONAL SERVICES	0.00	0.00	30,000.00	30,000.00	0.00
101-209-818.000	OC SOFTWARE SUPPORT FEES	0.00	1,832.34	2,000.00	167.66	91.62
101-209-820.000	LEGAL FEES	0.00	(1,260.00)	8,000.00	9,260.00	(15.75)
101-209-864.000	CONFERENCES & MEETINGS	0.00	50.00	200.00	150.00	25.00
101-209-903.000	LEGAL NOTICES	0.00	0.00	1,500.00	1,500.00	0.00
101-209-957.000	SUBSCRIPTIONS	0.00	0.00	200.00	200.00	0.00
101-209-958.000	MEMBERSHIPS & DUES	0.00	190.00	1,500.00	1,310.00	12.67
101-209-960.000	TRAINING	0.00	0.00	1,000.00	1,000.00	0.00
101-209-962.000	MISCELLANEOUS	0.00	77.92	1,000.00	922.08	7.79
ASSESSING		37,242.71	171,747.13	495,525.00	323,777.87	34.66
LEGAL FEES						
101-210-826.000	LEGAL FEES	6,639.00	22,307.00	80,000.00	57,693.00	27.88
101-210-826.001	TAX TRIBUNAL REFUNDS	0.00	0.00	2,000.00	2,000.00	0.00
101-210-826.002	LEGAL FEES-ORDINANCE	2,800.00	2,800.00	30,000.00	27,200.00	9.33
LEGAL FEES		9,439.00	25,107.00	112,000.00	86,893.00	22.42
CLERK						
101-215-703.000	SALARIES CLERK	6,731.86	29,901.25	84,970.00	55,068.75	35.19
101-215-704.000	SALARIES DEPUTY CLERK	5,611.05	25,551.96	70,819.00	45,267.04	36.08
101-215-706.001	SALARIES CLERICAL	8,364.61	39,140.78	105,573.00	66,432.22	37.07
101-215-709.000	OVERTIME	0.00	0.00	500.00	500.00	0.00
101-215-715.000	SOCIAL SECURITY	1,535.33	6,974.02	20,100.00	13,125.98	34.70
101-215-716.000	HOSP & OPTICAL INSURANCE	5,964.48	23,961.23	83,800.00	59,838.77	28.59
101-215-717.000	GROUP LIFE INSURANCE	0.00	62.80	435.00	372.20	14.44
101-215-718.000	PENSION	10,251.85	44,006.08	125,200.00	81,193.92	35.15
101-215-718.001	HEALTH CARE SAVINGS PROGRAM	532.02	2,314.63	6,660.00	4,345.37	34.75
101-215-719.000	WORKERS COMP INSURANCE	0.00	155.25	1,090.00	934.75	14.24
101-215-722.000	UNEMPLOYMENT INSURANCE	0.00	578.65	810.00	231.35	71.44
101-215-724.000	DENTAL INSURANCE	0.00	294.42	3,725.00	3,430.58	7.90
101-215-853.000	CELLULAR PHONE	102.30	306.98	0.00	(306.98)	100.00
101-215-864.000	CONFERENCES & MEETINGS	390.00	3,238.00	6,000.00	2,762.00	53.97
101-215-903.000	LEGAL NOTICES	666.90	2,380.48	5,500.00	3,119.52	43.28
101-215-957.000	SUBSCRIPTIONS	0.00	0.00	630.00	630.00	0.00
101-215-958.000	MEMBERSHIPS & DUES	40.00	165.00	790.00	625.00	20.89
101-215-960.000	TRAINING	1,236.91	1,267.75	1,100.00	(167.75)	115.25
101-215-962.000	MISCELLANEOUS	8.52	8.52	400.00	391.48	2.13
CLERK		41,435.83	180,307.80	518,102.00	337,794.20	34

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 101 - GENERAL FUND						
Expenditures						
101-247-710.000	FEES & PER DIEM	0.00	1,250.00	2,500.00	1,250.00	50.00
101-247-864.000	CONFERENCES & MEETINGS	0.00	0.00	150.00	150.00	0.00
101-247-903.000	LEGAL PUBLICATIONS	0.00	167.73	500.00	332.27	33.55
BOARD OF REVIEW		0.00	1,417.73	3,150.00	1,732.27	45.01
POSTAGE & MAILING						
101-248-730.000	POSTAGE	(358.53)	4,981.67	25,000.00	20,018.33	19.93
101-248-934.000	EQUIPMENT MAINTENANCE-POSTAGE METER	200.67	297.53	2,000.00	1,702.47	14.88
101-248-946.000	POSTAGE METER RENTAL	0.00	0.00	800.00	800.00	0.00
POSTAGE & MAILING		(157.86)	5,279.20	27,800.00	22,520.80	18.99
OFFICE SUPPLIES						
101-249-727.000	OFFICE SUPPLIES	2,985.90	9,781.61	40,000.00	30,218.39	24.45
OFFICE SUPPLIES		2,985.90	9,781.61	40,000.00	30,218.39	24.45
TREASURER						
101-253-703.000	SALARIES TREASURER	6,731.86	29,901.25	84,970.00	55,068.75	35.19
101-253-704.000	SALARIES DEPUTY TREASURER	5,335.41	24,518.06	70,820.00	46,301.94	34.62
101-253-706.001	SALARIES CLERICAL FT	8,254.66	38,646.22	104,575.00	65,928.78	36.96
101-253-709.000	OVERTIME	0.00	0.00	500.00	500.00	0.00
101-253-715.000	SOCIAL SECURITY	1,501.57	6,838.93	19,960.00	13,121.07	34.26
101-253-716.000	HOSP & OPTICAL INSURANCE	7,849.79	30,738.13	101,600.00	70,861.87	30.25
101-253-717.000	GROUP LIFE INSURANCE	0.00	62.80	435.00	372.20	14.44
101-253-718.000	PENSION	8,656.00	38,352.08	110,600.00	72,247.92	34.68
101-253-718.001	HEALTH CARE SAVINGS PROGRAM	386.75	1,631.86	3,600.00	1,968.14	45.33
101-253-719.000	WORKERS COMP INSURANCE	0.00	165.00	1,085.00	920.00	15.21
101-253-722.000	UNEMPLOYMENT INSURANCE	0.00	578.82	810.00	231.18	71.46
101-253-724.000	DENTAL INSURANCE	0.00	632.38	4,625.00	3,992.62	13.67
101-253-818.000	OC SOFTWARE SUPPORT FEES	0.00	2,254.78	2,500.00	245.22	90.19
101-253-860.000	MILEAGE	0.00	0.00	300.00	300.00	0.00
101-253-864.000	CONFERENCES & MEETINGS	0.00	325.00	2,500.00	2,175.00	13.00
101-253-903.000	LEGAL NOTICES	0.00	0.00	100.00	100.00	0.00
101-253-958.000	MEMBERSHIPS & DUES	0.00	0.00	1,000.00	1,000.00	0.00
101-253-960.000	TRAINING	0.00	0.00	500.00	500.00	0.00
101-253-962.000	MISCELLANEOUS	0.00	0.00	1,000.00	1,000.00	0.00
TREASURER		38,716.04	174,645.31	511,480.00	336,834.69	34.15
TOWNSHIP HALL & GROUNDS						
101-265-706.000	SALARIES MAINTENANCE	3,534.76	23,462.73	56,000.00	32,537.27	41.90
101-265-707.000	SALARIES CUSTODIAN	3,515.44	16,117.51	43,900.00	27,782.49	36.71
101-265-709.000	OVERTIME	424.17	3,445.65	8,000.00	4,554.35	43.07
101-265-715.000	SOCIAL SECURITY	558.07	3,217.24	8,300.00	5,082.76	38.76
101-265-716.000	HOSP & OPTICAL INSURANCE	2,157.92	12,434.98	30,300.00	17,865.02	41.04
101-265-717.000	GROUP LIFE INSURANCE	0.00	31.40	220.00	188.60	14.27
101-265-718.000	PENSION	1,321.17	6,710.97	15,000.00	8,289.03	44.74
101-265-718.001	HEALTH CARE SAVINGS PROGRAM	100.00	400.00	0.00	(400.00)	100.00
101-265-719.000	WORKERS' COMP INSURANCE	0.00	865.75	5,400.00	4,534.25	16.03
101-265-722.000	UNEMPLOYMENT INSURANCE	0.00	522.77	540.00	17.23	96.81
101-265-724.000	DENTAL INSURANCE	0.00	178.00	1,125.00	947.00	15.82
101-265-853.000	TELEPHONE	956.41	3,996.82	12,000.00	8,003.18	33.31
101-265-863.000	VEHICLE MAINTENANCE	412.75	1,868.41	8,000.00	6,131.59	23.33
101-265-867.000	GASOLINE	918.79	2,403.73	6,000.00	3,596.27	40.11
101-265-910.000	INSURANCE	0.00	43,604.34	58,000.00	14,395.66	75.00

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 101 - GENERAL FUND						
Expenditures						
101-265-921.001	ELECTRIC TWP HALL	2,405.70	10,335.20	40,000.00	29,664.80	25.84
101-265-922.000	UTILITIES-TWP HALL	137.88	1,645.62	6,000.00	4,354.38	27.43
101-265-923.000	HEAT TWP HALL	0.00	3,189.53	6,200.00	3,010.47	51.44
101-265-931.001	BLDG MAINTENANCE & SUPPLIES	2,568.90	15,599.81	17,000.00	1,400.19	91.76
101-265-931.002	GROUNDS MAINTENANCE	242.00	5,683.12	25,000.00	19,316.88	22.73
101-265-931.003	BLDG EQUIP MAINTENANCE	52.90	4,654.21	6,000.00	1,345.79	77.57
101-265-933.000	GROUNDS EQUIP MAINTENANCE	277.67	4,920.45	1,500.00	(3,420.45)	328.03
101-265-934.000	OFFICE EQUIP MAINTENANCE	0.00	0.00	3,000.00	3,000.00	0.00
101-265-940.000	TOWNSHIP RECORD RETENTION COSTS	120.64	540.52	3,000.00	2,459.48	18.02
101-265-971.000	TECHNOLOGY EQUIPMENT	2,394.76	6,812.48	110,000.00	103,187.52	6.19
101-265-974.000	IMPROVEMENTS & BETTERMENTS	0.00	17,290.42	165,000.00	147,709.58	10.48
101-265-977.000	EQUIPMENT ACQUISITIONS	0.00	9,900.00	110,000.00	100,100.00	9.00
TOWNSHIP HALL & GROUNDS		22,099.93	199,831.66	745,485.00	545,653.34	26.81
CEMETERY						
101-276-910.000	INSURANCE	0.00	46.84	200.00	153.16	23.42
101-276-921.000	ELECTRIC OXBOW	14.76	44.51	200.00	155.49	22.26
101-276-921.001	ELECTRIC WHITE LAKE	29.52	133.30	300.00	166.70	44.43
101-276-932.000	CEMETERY MAINT	2,322.89	2,322.89	30,000.00	27,677.11	7.74
101-276-935.000	CEMETERY-GRAVESITE OPENING/CLOSINGS	750.00	8,700.00	18,000.00	9,300.00	48.33
101-276-936.000	CEMETERY FOUNDATIONS/MONUMENTS EXPENSE	0.00	0.00	9,000.00	9,000.00	0.00
101-276-962.000	MISCELLANEOUS	0.00	0.00	400.00	400.00	0.00
101-276-974.000	LAND IMPROVEMENTS	0.00	0.00	5,000.00	5,000.00	0.00
CEMETERY		3,117.17	11,247.54	63,100.00	51,852.46	17.82
OTHER TOWNSHIP PROPERTIES						
101-269-853.001	TELEPHONE FISK FARM	30.20	120.12	360.00	239.88	33.37
101-269-910.001	INSURANCE COMM HALL	0.00	423.90	1,000.00	576.10	42.39
101-269-910.004	INSURANCE FISK	0.00	1,449.33	2,800.00	1,350.67	51.76
101-269-910.008	INSURANCE-ANNEX	0.00	4,562.99	7,500.00	2,937.01	60.84
101-269-921.001	ELECTRIC COMM HALL	98.57	262.58	700.00	437.42	37.51
101-269-921.004	ELECTRIC FISK	99.21	480.67	1,800.00	1,319.33	26.70
101-269-921.006	M59/BOGIE PROP STREET LIGHT	152.97	548.88	1,300.00	751.12	42.22
101-269-921.011	ELECTRIC-TWP ANNEX	655.06	2,201.63	10,000.00	7,798.37	22.02
101-269-922.004	UTILITIES FISK	51.92	438.52	1,800.00	1,361.48	24.36
101-269-922.010	UTILITIES-TWP ANNEX	0.00	749.12	4,000.00	3,250.88	18.73
101-269-923.001	HEAT COMM HALL	0.00	895.38	2,000.00	1,104.62	44.77
101-269-923.004	HEAT FISK	0.00	894.97	1,200.00	305.03	74.58
101-269-923.011	GAS-TWP ANNEX	0.00	2,898.57	5,000.00	2,101.43	57.97
101-269-931.001	BLDG MAINT COMM HALL	0.00	1,165.00	3,000.00	1,835.00	38.83
101-269-931.004	BLDG EQUIPMENT MAINT COMM HALL	0.00	0.00	500.00	500.00	0.00
101-269-931.007	BLDG MAINT FISK	0.00	0.00	7,000.00	7,000.00	0.00
101-269-931.008	EQUIP MAINT FISK	0.00	163.50	1,000.00	836.50	16.35
101-269-931.010	BLDG MAINTENANCE - 2444 PORTER RD	0.00	0.00	10,000.00	10,000.00	0.00
101-269-931.013	BUILDING MAINTENANCE-TWP ANNEX	433.86	6,420.84	0.00	(6,420.84)	100.00
101-269-931.014	10895 ELIZABETH LK PROPERTY MAINTENANCE	0.00	0.00	5,000.00	5,000.00	0.00
101-269-932.000	ANNEX GROUND MAINTENANCE	0.00	0.00	2,500.00	2,500.00	0.00
101-269-962.000	MISCELLANEOUS	0.00	0.00	500.00	500.00	0.00
OTHER TOWNSHIP PROPERTIES		1,521.79	23,676.00	68,960.00	45,284.00	34.33
HEALTH & WELFARE						
101-285-801.000	ENVIRONMENTAL PROFESSIONAL SERVICES	0.00	0.00	12,000.00	12,000.00	0.00
HEALTH & WELFARE		0.00	0.00	12,000.00	12,000.00	0.00

User: EHomeister
DB: White Lake Twp

PERIOD ENDING 04/30/2022

Section 6, Item A.

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 101 - GENERAL FUND						
Expenditures						
PLANNING						
101-402-706.001	COMMUNITY DEVELOPMENT DIRECTOR	7,915.96	36,256.56	93,295.00	57,038.44	38.86
101-402-706.002	SALARIES CLERICAL	4,219.04	19,902.29	53,251.00	33,348.71	37.37
101-402-707.000	SALARIES STAFF PLANNER	5,596.85	25,978.09	72,160.00	46,181.91	36.00
101-402-709.000	OVERTIME	251.78	657.42	6,000.00	5,342.58	10.96
101-402-710.000	PLANNING/ZBA BOARD FEES	2,275.00	4,075.00	11,000.00	6,925.00	37.05
101-402-715.000	SOCIAL SECURITY	1,494.00	6,408.48	17,900.00	11,491.52	35.80
101-402-716.000	HOSP & OPTICAL INSURANCE	1,545.59	6,168.56	26,550.00	20,381.44	23.23
101-402-717.000	GROUP LIFE INSURANCE	0.00	47.10	325.00	277.90	14.49
101-402-718.000	PENSION	3,259.11	11,971.90	34,540.00	22,568.10	34.66
101-402-718.001	HEALTH CARE SAVINGS PROGRAM	200.00	800.00	2,400.00	1,600.00	33.33
101-402-719.000	WORKERS COMP INSURANCE	0.00	264.75	2,110.00	1,845.25	12.55
101-402-722.000	UNEMPLOYMENT INSURANCE	0.00	573.04	810.00	236.96	70.75
101-402-724.000	DENTAL INSURANCE	0.00	319.12	725.00	405.88	44.02
101-402-729.000	PRINTING	0.00	0.00	1,500.00	1,500.00	0.00
101-402-757.000	OPERATING SUPPLIES	0.00	0.00	600.00	600.00	0.00
101-402-801.000	PROFESSIONAL FEES	(2,315.60)	7,408.60	46,000.00	38,591.40	16.11
101-402-853.000	CELLULAR PHONE	101.70	305.22	1,300.00	994.78	23.48
101-402-864.000	CONFERENCES & MEETINGS	0.00	0.00	3,900.00	3,900.00	0.00
101-402-903.000	LEGAL NOTICES	1,519.07	2,796.65	3,750.00	953.35	74.58
101-402-910.000	INSURANCE	0.00	4,179.46	4,200.00	20.54	99.51
101-402-957.000	SUBSCRIPTIONS	0.00	0.00	700.00	700.00	0.00
101-402-958.000	MEMBERSHIPS & DUES	0.00	0.00	2,200.00	2,200.00	0.00
101-402-960.000	TRAINING	0.00	0.00	4,100.00	4,100.00	0.00
101-402-962.000	MISCELLANEOUS	0.00	87.00	500.00	413.00	17.40
PLANNING		26,062.50	128,199.24	389,816.00	261,616.76	32.89
HIGHWAYS & STREETS						
101-446-930.000	TRAFFIC SIGNAL MAINTENANCE	5.02	15.06	1,000.00	984.94	1.51
101-448-926.000	STREET LIGHTING	3,482.15	9,199.46	65,000.00	55,800.54	14.15
101-451-970.000	ROAD CONSTRUCTION/TRI PARTY	0.00	62,500.00	150,000.00	87,500.00	41.67
HIGHWAYS & STREETS		3,487.17	71,714.52	216,000.00	144,285.48	33.20
TRANSPORTATION						
101-672-880.000	WOTA PARTICIPATION	0.00	220,000.00	185,000.00	(35,000.00)	118.92
TRANSPORTATION		0.00	220,000.00	185,000.00	(35,000.00)	118.92
SENIOR CENTER						
101-757-703.000	SALARIES SENIOR DIRECTOR	4,459.20	20,816.35	56,285.00	35,468.65	36.98
101-757-704.000	SALARIES PROGRAM DEVELOPER	3,913.35	18,360.10	49,400.00	31,039.90	37.17
101-757-709.000	OVERTIME	0.00	0.00	500.00	500.00	0.00
101-757-715.000	SOCIAL SECURITY	629.04	2,945.40	8,125.00	5,179.60	36.25
101-757-716.000	HOSP & OPTICAL INSURANCE	3,349.00	10,460.74	43,000.00	32,539.26	24.33
101-757-717.000	GROUP LIFE INSURANCE	0.00	31.40	220.00	188.60	14.27
101-757-718.000	PENSION	1,651.17	6,164.77	17,540.00	11,375.23	35.15
101-757-718.001	HEALTH CARE SAVINGS PROGRAM	100.00	400.00	1,200.00	800.00	33.33
101-757-719.000	WORKERS COMP INSURANCE	0.00	89.75	680.00	590.25	13.20
101-757-722.000	UNEMPLOYMENT INSURANCE	0.00	386.80	540.00	153.20	71.63
101-757-724.000	DENTAL INSURANCE	0.00	231.92	1,450.00	1,218.08	15.99
101-757-751.000	SENIOR ACTIVITIES	2,143.49	5,745.44	33,000.00	27,254.56	17.41
101-757-757.000	OPERATING SUPPLIES	44.95	494.95	2,000.00	1,505.05	24.75
101-757-853.000	TELEPHONE	173.10	673.57	3,000.00	2,326.43	22.45
101-757-864.000	CONFERENCES & MEETINGS	0.00	0.00	500.00	500.00	0.00
101-757-910.000	INSURANCE	0.00	1,874.82	3,350.00	1,475.18	55.99

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 101 - GENERAL FUND						
Expenditures						
101-757-921.000	ELECTRIC	462.56	1,908.17	5,000.00	3,091.83	38.16
101-757-922.000	UTILITIES	51.92	438.52	2,000.00	1,561.48	21.93
101-757-923.000	HEAT	0.00	1,180.34	2,300.00	1,119.66	51.32
101-757-931.000	BUILDING MAINTENANCE	129.00	2,282.52	10,000.00	7,717.48	22.83
101-757-957.000	SUBSCRIPTIONS	0.00	0.00	150.00	150.00	0.00
101-757-958.000	MEMBERSHIPS & DUES	0.00	0.00	150.00	150.00	0.00
101-757-962.000	MISCELLANEOUS	0.00	0.00	1,500.00	1,500.00	0.00
101-757-976.000	ADD & IMPROVEMENTS	0.00	0.00	7,000.00	7,000.00	0.00
SENIOR CENTER		17,106.78	74,485.56	248,890.00	174,404.44	29.93
RETIREE BENEFITS						
101-863-730.000	RETIREE HEALTH INSURANCE	8,173.12	32,962.71	100,000.00	67,037.29	32.96
101-863-730.003	OPEB FUNDING	0.00	0.00	270,000.00	270,000.00	0.00
RETIREE BENEFITS		8,173.12	32,962.71	370,000.00	337,037.29	8.91
OTHER						
101-299-956.000	UNALLOCATED MISCELLANEOUS	4,740.83	8,037.26	15,000.00	6,962.74	53.58
101-863-801.000	PAYROLL SERVICE	1,054.14	8,569.24	25,000.00	16,430.76	34.28
101-906-991.000	PRINCIPAL-CAPITAL LEASE	509.70	2,018.19	6,200.00	4,181.81	32.55
101-906-995.000	INTEREST-CAPITAL LEASE	43.30	193.81	750.00	556.19	25.84
OTHER		6,347.97	18,818.50	46,950.00	28,131.50	1.99
ORDINANCE						
101-372-706.001	SALARIES ORDINANCE OFFICER	4,764.45	22,189.79	60,135.00	37,945.21	36.90
101-372-706.002	PART-TIME ORDINANCE	0.00	840.00	0.00	(840.00)	100.00
101-372-709.000	OVERTIME	0.00	0.00	1,000.00	1,000.00	0.00
101-372-715.000	SOCIAL SECURITY	352.05	1,624.83	6,800.00	5,175.17	23.89
101-372-716.000	HOSP & OPTICAL INSURANCE	631.41	6,699.99	26,750.00	20,050.01	25.05
101-372-717.000	GROUP LIFE INSURANCE	0.00	15.70	110.00	94.30	14.27
101-372-718.000	PENSION	1,583.15	5,772.01	17,900.00	12,127.99	32.25
101-372-719.000	WORKERS COMP INSURANCE	0.00	87.75	890.00	802.25	9.86
101-372-722.000	UNEMPLOYMENT INSURANCE	0.00	192.57	270.00	77.43	71.32
101-372-724.000	DENTAL INSURANCE	0.00	203.16	1,300.00	1,096.84	15.63
101-372-744.000	UNIFORMS-ORDINANCE	0.00	0.00	500.00	500.00	0.00
101-372-757.000	OPERATING SUPPLIES	0.00	0.00	200.00	200.00	0.00
101-372-853.000	CELLULAR PHONE	51.15	153.49	800.00	646.51	19.19
101-372-863.000	VEHICLE MAINTENANCE	0.00	1,068.00	3,000.00	1,932.00	35.60
101-372-864.000	CONFERENCE & MEETINGS	0.00	0.00	750.00	750.00	0.00
101-372-867.000	GASOLINE	0.00	0.00	1,700.00	1,700.00	0.00
101-372-910.000	INSURANCE	0.00	648.63	900.00	251.37	72.07
101-372-955.000	ORDINANCE ENFORCEMENTS COSTS	0.00	1,246.00	5,000.00	3,754.00	24.92
101-372-958.000	MEMBERSHIPS & DUES	0.00	0.00	150.00	150.00	0.00
101-372-960.000	TRAINING	0.00	0.00	500.00	500.00	0.00
101-372-962.000	MISCELLANEOUS	0.00	0.00	250.00	250.00	0.00
101-372-963.000	DANGEROUS BLDG DEMOLITIONS	0.00	0.00	10,000.00	10,000.00	0.00
ORDINANCE		7,382.21	40,741.92	138,905.00	98,163.08	29.33
OTHER						
101-000-934.000	CASH BONDS DEDUCTIONS	0.00	0.00	600,000.00	600,000.00	0.00
101-000-934.001	GRINDERS-DEDUCTIONS	0.00	0.00	300,000.00	300,000.00	0.00
OTHER		0.00	0.00	900,000.00	900,000.00	

REVENUE AND EXPENDITURE REPORT FOR WHITE LAKE TOWNSHIP

Section 6, Item A.

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BGD USED
Fund 101 - GENERAL FUND						
Expenditures						
TOTAL EXPENDITURES		298,506.49	1,702,719.49	6,040,258.00	4,337,538.51	28.19
Fund 101 - GENERAL FUND:						
TOTAL REVENUES		1,840,691.92	2,585,651.08	6,040,258.00	3,454,606.92	42.81
TOTAL EXPENDITURES		298,506.49	1,702,719.49	6,040,258.00	4,337,538.51	28.19
NET OF REVENUES & EXPENDITURES		1,542,185.43	882,931.59	0.00	(882,931.59)	100.00

PERIOD ENDING 04/30/2022

Section 6, Item A.

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 206 - FIRE						
Revenues						
REVENUES						
206-000-393.000	FUND BALANCE - DESIGNATED	0.00	0.00	40,619.00	40,619.00	0.00
206-000-402.000	TAX COLLECTIONS	3,561,453.80	3,561,453.80	3,552,981.00	(8,472.80)	100.24
206-000-607.000	PERMIT AND INSPECTION FEES	0.00	0.00	1,000.00	1,000.00	0.00
206-000-626.000	COST RECOVERY REVENUE	0.00	2,015.00	0.00	(2,015.00)	100.00
206-000-630.000	AMBULANCE TRANSPORTATION REVENUE	(1.56)	462.54	0.00	(462.54)	100.00
206-000-665.000	INTEREST	1,223.61	3,716.90	17,000.00	13,283.10	21.86
206-000-695.000	MISC REVENUE	20.00	145.00	2,000.00	1,855.00	7.25
206-336-977.002	USE OF FUND BALANCE	0.00	0.00	570,000.00	570,000.00	0.00
REVENUES		3,562,695.85	3,567,793.24	4,183,600.00	615,806.76	85.28
TOTAL REVENUES						
		3,562,695.85	3,567,793.24	4,183,600.00	615,806.76	85.28
Expenditures						
OTHER						
206-336-801.001	HR SERVICES	0.00	0.00	42,700.00	42,700.00	0.00
OTHER		0.00	0.00	42,700.00	42,700.00	31.32
CIVIL SERVICE						
206-220-710.000	FEES & PER DIEM	0.00	0.00	1,000.00	1,000.00	0.00
206-220-727.000	SUPPLIES	0.00	0.00	500.00	500.00	0.00
206-220-903.000	LEGAL NOTICES	0.00	0.00	500.00	500.00	0.00
CIVIL SERVICE		0.00	0.00	2,000.00	2,000.00	0.00
SALARIES						
206-336-705.000	SALARIES CHIEF	7,873.92	34,506.36	92,330.00	57,823.64	37.37
206-336-705.001	SALARIES CAPTAIN	20,552.01	97,438.05	259,100.00	161,661.95	37.61
206-336-706.001	SALARIES FIRE SERGEANT	30,436.22	167,139.90	378,170.00	211,030.10	44.20
206-336-706.005	SALARIES FIREFIGHTERS	36,617.53	193,839.46	782,200.00	588,360.54	24.78
206-336-706.007	FIRE MARSHAL/DEPUTY CHIEF	6,772.80	32,553.02	85,475.00	52,921.98	38.08
206-336-709.000	OVERTIME	6,533.29	24,383.77	70,000.00	45,616.23	34.83
206-336-710.000	PAID ON CALL WAGES	2,884.95	9,699.27	50,000.00	40,300.73	19.40
206-336-720.000	HOLIDAY/PERSONAL PAY	0.00	7,745.84	212,600.00	204,854.16	3.64
SALARIES		111,670.72	567,305.67	1,929,875.00	1,362,569.33	29.40
PAYROLL BENEFITS						
206-336-715.000	SOCIAL SECURITY	8,311.67	42,367.80	148,000.00	105,632.20	28.63
206-336-716.000	HOSP & OPTICAL INSURANCE	25,338.85	99,663.15	459,725.00	360,061.85	21.68
206-336-716.002	RETIREE HEALTH CARE PREMIUMS	5,017.29	20,881.86	30,000.00	9,118.14	69.61
206-336-717.000	GROUP LIFE INSURANCE	0.00	290.45	2,500.00	2,209.55	11.62
206-336-718.000	PENSION	29,041.98	118,928.41	316,900.00	197,971.59	37.53
206-336-718.002	HEALTH CARE SAVINGS PLAN	1,492.70	6,773.26	22,500.00	15,726.74	30.10
206-336-718.003	OPEB FUNDING	0.00	0.00	150,000.00	150,000.00	0.00
206-336-719.000	WORKERS COMP INSURANCE	0.00	17,142.00	90,000.00	72,858.00	19.05
206-336-722.000	UNEMPLOYMENT INSURANCE	60.58	4,191.97	6,250.00	2,058.03	67.07
206-336-724.000	DENTAL INSURANCE	0.00	2,534.58	20,500.00	17,965.42	12.36
PAYROLL BENEFITS		69,263.07	312,773.48	1,246,375.00	933,601.52	25.09
OTHER						
206-336-727.000	OFFICE SUPPLIES	850.99	1,157.92	2,000.00	842.08	5

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 206 - FIRE						
Expenditures						
206-336-730.000	POSTAGE, SHIPPING	0.00	0.00	200.00	200.00	0.00
206-336-744.000	UNIFORMS	1,420.83	10,016.14	20,000.00	9,983.86	50.08
206-336-744.002	FOOD ALLOWANCE	0.00	1,848.19	11,050.00	9,201.81	16.73
206-336-757.000	OPERATING SUPPLIES	8,075.50	16,633.99	30,000.00	13,366.01	55.45
206-336-758.000	OXYGEN & AIR	177.75	567.25	2,500.00	1,932.75	22.69
206-336-767.000	MEDICAL SUPPLIES	907.48	3,534.26	20,000.00	16,465.74	17.67
206-336-801.000	CONSULTANT/PROFESSIONAL SERVICES	0.00	680.41	1,500.00	819.59	45.36
206-336-807.000	AUDIT FEES	0.00	0.00	5,000.00	5,000.00	0.00
206-336-826.000	LEGAL FEES	1,476.50	1,830.50	10,000.00	8,169.50	18.31
206-336-826.002	TAX TRIBUNAL REFUNDS	0.00	0.00	4,000.00	4,000.00	0.00
206-336-835.000	MEDICAL SERVICES	407.50	4,236.54	4,000.00	(236.54)	105.91
206-336-851.000	RADIO MAINTENANCE	0.00	0.00	2,000.00	2,000.00	0.00
206-336-853.000	CELL PHONES	243.03	727.91	3,500.00	2,772.09	20.80
206-336-853.001	TELEPHONE STATION 1	183.47	733.87	2,000.00	1,266.13	36.69
206-336-853.002	TELEPHONE STATION 2	72.83	298.39	1,200.00	901.61	24.87
206-336-853.003	TELEPHONE STATION 3	96.36	307.88	1,000.00	692.12	30.79
206-336-863.001	VEHICLE MAINTENANCE	1,090.26	6,258.76	60,000.00	53,741.24	10.43
206-336-863.002	TIRES	0.00	0.00	10,000.00	10,000.00	0.00
206-336-864.000	CONFERENCES & MEETINGS	(14.96)	2,686.80	1,500.00	(1,186.80)	179.12
206-336-867.000	GASOLINE	3,165.07	8,222.35	25,000.00	16,777.65	32.89
206-336-903.000	LEGAL NOTICES	0.00	0.00	200.00	200.00	0.00
206-336-910.000	INSURANCE	0.00	35,061.76	60,000.00	24,938.24	58.44
206-336-921.001	ELECTRIC STATION 1	1,018.50	4,283.47	13,500.00	9,216.53	31.73
206-336-921.002	ELECTRIC STATION 2	336.50	1,496.32	5,500.00	4,003.68	27.21
206-336-921.003	ELECTRIC STATION 3	165.01	714.24	2,500.00	1,785.76	28.57
206-336-923.001	HEAT STATION 1	0.00	1,986.94	5,000.00	3,013.06	39.74
206-336-923.002	HEAT STATION 2	0.00	1,124.06	3,000.00	1,875.94	37.47
206-336-923.003	HEAT STATION 3	0.00	903.11	3,000.00	2,096.89	30.10
206-336-931.001	MAINTENANCE STATION 1	1,392.34	8,130.51	15,000.00	6,869.49	54.20
206-336-931.002	MAINTENANCE STATION 2	53.76	9,947.42	10,000.00	52.58	99.47
206-336-931.003	MAINTENANCE STATION 3	553.76	820.80	5,000.00	4,179.20	16.42
206-336-933.000	EQUIPMENT MAINTENANCE	1,267.23	1,384.90	18,000.00	16,615.10	7.69
206-336-957.000	SUBSCRIPTIONS	0.00	89.00	4,500.00	4,411.00	1.98
206-336-958.000	MEMBERSHIPS & DUES	1,612.75	2,519.30	8,000.00	5,480.70	31.49
206-336-960.000	TRAINING	1,275.41	8,144.50	20,000.00	11,855.50	40.72
206-336-962.000	MISCELLANEOUS	0.00	0.00	3,000.00	3,000.00	0.00
OTHER		25,827.87	136,347.49	392,650.00	256,302.51	31.32
AQUISTITIONS						
206-336-977.000	EQUIPMENT ACQUISITIONS 04M	6,281.93	28,610.88	545,000.00	516,389.12	5.25
206-336-977.001	SUPPLY ACQUISITIONS 04M	12,418.98	13,184.73	25,000.00	11,815.27	52.74
AQUISTITIONS		18,700.91	41,795.61	570,000.00	528,204.39	7.33
TOTAL EXPENDITURES						
		225,462.57	1,058,222.25	4,183,600.00	3,125,377.75	25.29
Fund 206 - FIRE:						
TOTAL REVENUES		3,562,695.85	3,567,793.24	4,183,600.00	615,806.76	85.28
TOTAL EXPENDITURES		225,462.57	1,058,222.25	4,183,600.00	3,125,377.75	25.29
NET OF REVENUES & EXPENDITURES		3,337,233.28	2,509,570.99	0.00	(2,509,570.99)	10

PERIOD ENDING 04/30/2022

Section 6, Item A.

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 207 - POLICE						
Revenues						
REVENUES						
207-000-393.000	DESIGNATED FUND BALANCE	0.00	0.00	575,772.00	575,772.00	0.00
207-000-402.000	TAX COLLECTIONS	5,803,692.87	5,803,692.87	5,789,808.00	(13,884.87)	100.24
207-000-530.001	GRANTS - OTHER	0.00	10,280.55	0.00	(10,280.55)	100.00
207-000-546.000	CRIMINAL JUSTICE TRNG 302 FUNDS	0.00	0.00	4,500.00	4,500.00	0.00
207-000-577.000	LIQUOR LICENSES	55.00	68.75	11,000.00	10,931.25	0.63
207-000-601.000	LIASON OFFICER REIMBURSEMENT	0.00	0.00	30,000.00	30,000.00	0.00
207-000-607.000	SEX OFFENDERS REGISTRY FEE	500.00	1,500.00	1,500.00	0.00	100.00
207-000-608.001	WARRANT PROCESSING FEES	70.00	290.00	1,000.00	710.00	29.00
207-000-627.000	DUPLICATING & PHOTOSTAT	0.00	436.31	2,500.00	2,063.69	17.45
207-000-656.000	ORDINANCE FINES & COSTS	17,874.46	53,338.98	110,000.00	56,661.02	48.49
207-000-665.000	INTEREST	1,993.98	3,850.86	14,000.00	10,149.14	27.51
207-000-665.002	INTEREST INCOME-TAX FUND	0.00	(689.15)	1,500.00	2,189.15	(45.94)
207-000-673.000	SALE OF FIXED ASSETS	0.00	9,900.00	20,000.00	10,100.00	49.50
207-000-684.000	CROSSING GUARDS REIMBURSEMENT	0.00	0.00	4,000.00	4,000.00	0.00
207-000-685.000	OAKLAND CTY 911 REIMBURSEMENT	0.00	3,731.00	5,500.00	1,769.00	67.84
207-000-690.000	INSURANCE REBATES	320.57	320.57	0.00	(320.57)	100.00
207-000-695.000	MISCELLANEOUS REVENUE	4,576.84	6,737.84	1,000.00	(5,737.84)	673.78
REVENUES		5,829,083.72	5,893,458.58	6,572,080.00	678,621.42	89.67
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TOTAL REVENUES		5,829,083.72	5,893,458.58	6,572,080.00	678,621.42	89.67
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Expenditures						
OTHER						
207-301-801.001	HR SERVICES	0.00	0.00	64,000.00	64,000.00	0.00
OTHER		0.00	0.00	64,000.00	64,000.00	33.90
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CIVIL SERVICE						
207-220-710.000	FEES & PER DIEM-CIVIL SVC	0.00	0.00	1,000.00	1,000.00	0.00
207-220-727.000	SUPPLIES-CIVIL SVC	0.00	0.00	1,000.00	1,000.00	0.00
207-220-903.000	LEGAL NOTICES-CIVIL SVC	0.00	0.00	1,000.00	1,000.00	0.00
CIVIL SERVICE		0.00	0.00	3,000.00	3,000.00	0.00
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SALARIES						
207-301-705.000	SALARIES CHIEF	8,141.12	37,385.04	102,755.00	65,369.96	36.38
207-301-706.001	SALARIES LIEUTENANTS	13,624.75	65,949.14	277,518.00	211,568.86	23.76
207-301-706.002	SALARIES SERGEANTS	26,026.95	124,931.97	345,800.00	220,868.03	36.13
207-301-706.003	SALARIES POLICE OFFICERS	108,489.32	499,537.40	1,535,893.00	1,036,355.60	32.52
207-301-706.004	SALARIES DISPATCHERS	23,780.08	115,679.61	300,100.00	184,420.39	38.55
207-301-706.005	SALARIES CLERICAL	12,283.65	72,553.82	198,454.00	125,900.18	36.56
207-301-706.006	SALARIES CADET	4,200.00	15,187.50	46,800.00	31,612.50	32.45
207-301-709.001	OVERTIME	11,281.29	45,567.44	165,000.00	119,432.56	27.62
207-301-709.002	COURT TIME	1,000.19	2,454.40	45,000.00	42,545.60	5.45
207-301-709.003	SHIFT PREMIUM	0.00	0.00	25,000.00	25,000.00	0.00
207-301-720.000	HOLIDAY PAY	0.00	0.00	121,200.00	121,200.00	0.00
SALARIES		208,827.35	979,246.32	3,163,520.00	2,184,273.68	30.95
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PAYROLL BENEFITS						
207-301-715.000	SOCIAL SECURITY	15,580.58	74,292.30	241,000.00	166,707.70	33.91
207-301-716.000	HOSP & OPTICAL INSURANCE	49,346.11	206,910.85	747,000.00	540,089.15	29.98
207-301-716.001	RETIREE HOSP & OPTICAL INSURANCE	28,096.43	102,978.06	359,750.00	256,771.94	22.98

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 207 - POLICE						
Expenditures						
207-301-717.000	GROUP LIFE INSURANCE	0.00	573.05	4,320.00	3,746.95	13.27
207-301-718.000	PENSION	54,210.71	228,818.75	712,000.00	483,181.25	32.14
207-301-718.001	HEALTH CARE SAVINGS PROGRAM	4,255.13	18,409.41	57,200.00	38,790.59	32.18
207-301-718.003	OPEB FUNDING	0.00	0.00	250,000.00	250,000.00	0.00
207-301-719.000	WORKERS COMP INSURANCE	0.00	13,546.25	87,300.00	73,753.75	15.52
207-301-722.000	UNEMPLOYMENT INSURANCE	232.18	7,424.98	11,340.00	3,915.02	65.48
207-301-724.000	DENTAL INSURANCE	0.00	5,059.78	34,000.00	28,940.22	14.88
PAYROLL BENEFITS		151,721.14	658,013.43	2,503,910.00	1,845,896.57	26.28
OTHER						
207-301-727.000	OFFICE SUPPLIES	346.44	2,124.91	11,000.00	8,875.09	19.32
207-301-729.000	PRINTING	0.00	0.00	500.00	500.00	0.00
207-301-741.000	FIRE ARMS, TRNG & RANGE SUPPLIES	2,000.00	2,567.95	7,000.00	4,432.05	36.69
207-301-744.000	UNIFORMS	2,356.47	3,049.39	6,000.00	2,950.61	50.82
207-301-744.004	UNIFORM ALLOWANCE PAYOUT	0.00	20,400.00	24,000.00	3,600.00	85.00
207-301-757.000	OPERATING SUPPLIES	309.19	2,127.12	12,000.00	9,872.88	17.73
207-301-805.000	SEX OFFENDERS REGISTRY FEE	720.00	900.00	1,500.00	600.00	60.00
207-301-807.000	AUDIT FEES	0.00	0.00	4,500.00	4,500.00	0.00
207-301-818.000	COMPUTER SERVICES	0.00	5,629.24	10,000.00	4,370.76	56.29
207-301-826.000	LEGAL FEES-PROSECUTIONS	7,500.00	22,500.00	91,000.00	68,500.00	24.73
207-301-826.001	TAX TRIBUNAL REFUNDS	0.00	0.00	8,000.00	8,000.00	0.00
207-301-826.002	LEGAL FEES - LABOR RELATED	962.50	2,200.00	30,000.00	27,800.00	7.33
207-301-851.000	EQUIPMENT REPAIRS	0.00	0.00	3,000.00	3,000.00	0.00
207-301-853.000	TELEPHONE	656.92	1,880.16	15,000.00	13,119.84	12.53
207-301-860.000	MILEAGE	0.00	0.00	1,000.00	1,000.00	0.00
207-301-861.000	WITNESS FEES	0.00	0.00	1,000.00	1,000.00	0.00
207-301-863.001	VEHICLE MAINTENANCE	2,757.52	11,494.71	45,000.00	33,505.29	25.54
207-301-863.002	TIRES	819.96	1,631.92	4,000.00	2,368.08	40.80
207-301-864.000	CONFERENCES	1,281.04	1,774.36	7,000.00	5,225.64	25.35
207-301-867.000	GASOLINE	7,129.89	18,220.38	60,000.00	41,779.62	30.37
207-301-903.000	LEGAL NOTICES	0.00	0.00	500.00	500.00	0.00
207-301-910.000	INSURANCE	0.00	98,508.03	155,000.00	56,491.97	63.55
207-301-931.001	BLDG MAINTENANCE & SUPPLIES	556.44	2,183.26	11,000.00	8,816.74	19.85
207-301-933.000	EQUIP LEASE/ MAINT CONTRACTS	6,236.52	15,167.39	55,000.00	39,832.61	27.58
207-301-934.000	OFFICE EQUIP MAINTENANCE	0.00	80.00	6,000.00	5,920.00	1.33
207-301-958.000	MEMBERSHIPS & DUES	115.00	1,815.00	2,000.00	185.00	90.75
207-301-960.000	TRAINING	1,065.00	12,997.41	16,000.00	3,002.59	81.23
207-301-960.001	CRIMINAL JUSTICE TRNG 302 FUNDS	0.00	0.00	5,700.00	5,700.00	0.00
207-301-960.002	SNC (STATE 911) TRAINING FUNDS	0.00	0.00	5,400.00	5,400.00	0.00
207-301-962.001	MISCELLANEOUS	286.00	836.00	8,000.00	7,164.00	10.45
207-301-962.003	EVIDENCE COLLECTION	200.00	400.00	4,000.00	3,600.00	10.00
OTHER		35,298.89	228,487.23	610,100.00	381,612.77	33.90
AQUISTITIONS						
207-301-977.000	EQUIPMENT ACQUISITIONS	78,565.31	84,715.31	200,000.00	115,284.69	42.36
207-301-977.003	ACCREDITATION, SOFTWARE, MTCE	0.00	0.00	8,000.00	8,000.00	0.00
AQUISTITIONS		78,565.31	84,715.31	208,000.00	123,284.69	40.73
CROSSING GUARDS						
207-316-707.000	SALARIES PT - CROSSING GUARDS	1,260.00	6,090.00	16,800.00	10,710.00	36.25
207-316-715.000	SOCIAL SECURITY-CROSSING GUARDS	0.00	369.54	1,285.00	915.46	28.76
207-316-719.000	WORKERS COMP -CROSSING GUARDS	0.00	110.25	960.00	849.75	1
207-316-722.000	UNEMPLOYMENT INSUR CROSSING GUARDS	0.00	100.78	505.00	404.22	1
CROSSING GUARDS		1,260.00	6,670.57	19,550.00	12,879.43	34.12

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 207 - POLICE Expenditures						
TOTAL EXPENDITURES		475,672.69	1,957,132.86	6,572,080.00	4,614,947.14	29.78
Fund 207 - POLICE:						
TOTAL REVENUES		5,829,083.72	5,893,458.58	6,572,080.00	678,621.42	89.67
TOTAL EXPENDITURES		475,672.69	1,957,132.86	6,572,080.00	4,614,947.14	29.78
NET OF REVENUES & EXPENDITURES		5,353,411.03	3,936,325.72	0.00	(3,936,325.72)	100.00

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 208 - PARKS AND RECREATION FUND						
Revenues						
REVENUES						
208-000-393.000	FUND BALANCE - DESIGNATED	0.00	0.00	917,889.00	917,889.00	0.00
208-000-402.000	PARKS AND RECREATION TAX COLLECTIONS	373,452.45	373,452.45	372,611.00	(841.45)	100.23
208-000-652.000	FIELD RENTAL	3,615.00	5,825.00	6,000.00	175.00	97.08
208-000-665.000	INTEREST	128.31	413.64	3,500.00	3,086.36	11.82
REVENUES		377,195.76	379,691.09	1,300,000.00	920,308.91	29.21
TOTAL REVENUES						
		377,195.76	379,691.09	1,300,000.00	920,308.91	29.21
Expenditures						
EXPENSES						
208-000-710.000	FEE'S AND PER DIEM	219.94	753.87	2,250.00	1,496.13	33.51
208-000-715.000	SOC SEC & MEDICARE TAX	16.82	27.81	250.00	222.19	11.12
208-000-720.000	EVENT EXPENSES	0.00	0.00	3,000.00	3,000.00	0.00
208-000-722.000	MI UNEMPLOYMENT TAX	0.00	3.15	50.00	46.85	6.30
208-000-801.000	PROFESSIONAL SERVICES	0.00	0.00	35,000.00	35,000.00	0.00
208-000-903.000	LEGAL PUBLICATIONS	0.00	0.00	250.00	250.00	0.00
208-000-910.000	INSURANCE	0.00	3,454.50	5,000.00	1,545.50	69.09
208-000-921.000	ELECTRIC JUDY HAWLEY PARK	41.83	83.64	1,000.00	916.36	8.36
208-000-921.001	ELECTRIC - VETTER PARK	0.00	20.51	1,000.00	979.49	2.05
208-000-922.000	UTILITIES- PARKS	660.00	1,650.00	3,400.00	1,750.00	48.53
208-000-931.001	GROUNDS MAINTENANCE	0.00	8,181.98	60,000.00	51,818.02	13.64
208-000-932.000	PARK EQUIPMENT	0.00	0.00	25,000.00	25,000.00	0.00
208-000-958.000	MEMBERSHIPS AND DUES	0.00	0.00	800.00	800.00	0.00
208-000-962.000	MISCELLANEOUS	0.00	0.00	3,000.00	3,000.00	0.00
208-000-972.000	PATHWAY PROJECTS	2,560.00	26,881.25	600,000.00	573,118.75	4.48
208-000-973.000	BLOOMER PARK IMPROVEMENTS	0.00	0.00	10,000.00	10,000.00	0.00
208-000-974.000	PARK IMPROVEMENTS	0.00	0.00	550,000.00	550,000.00	0.00
EXPENSES		3,498.59	41,056.71	1,300,000.00	1,258,943.29	3.16
TOTAL EXPENDITURES						
		3,498.59	41,056.71	1,300,000.00	1,258,943.29	3.16
Fund 208 - PARKS AND RECREATION FUND:						
TOTAL REVENUES		377,195.76	379,691.09	1,300,000.00	920,308.91	29.21
TOTAL EXPENDITURES		3,498.59	41,056.71	1,300,000.00	1,258,943.29	3.16
NET OF REVENUES & EXPENDITURES		373,697.17	338,634.38	0.00	(338,634.38)	100.00

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 249 - BUILDING DEPARTMENT FUND						
Revenues						
REVENUES						
249-000-393.000	FUND BALANCE - DESIGNATED	0.00	0.00	120,638.00	120,638.00	0.00
REVENUES		0.00	0.00	120,638.00	120,638.00	0.00
BUILDING REVENUE						
249-000-452.000	CONTRACTORS GENERAL LICENSES	560.00	1,820.00	4,000.00	2,180.00	45.50
249-000-453.000	ELECTRICAL LICENSES	220.00	940.00	2,200.00	1,260.00	42.73
249-000-454.000	HEATING LICENSES	180.00	450.00	1,200.00	750.00	37.50
249-000-455.000	PLUMBING LICENSES	508.00	533.00	100.00	(433.00)	533.00
249-000-477.000	BUILDING PERMITS	34,555.81	144,996.96	350,000.00	205,003.04	41.43
249-000-478.000	ELECTRICAL PERMITS	9,402.50	29,202.50	72,000.00	42,797.50	40.56
249-000-479.000	HEATING PERMITS	11,305.00	35,760.00	105,000.00	69,240.00	34.06
249-000-480.000	PLUMBING PERMITS	4,785.00	14,442.00	45,000.00	30,558.00	32.09
249-000-482.000	PLOT PLAN REVIEWS	0.00	0.00	15,000.00	15,000.00	0.00
249-000-484.000	BUILDING PLAN REVIEWS	0.00	0.00	20,000.00	20,000.00	0.00
249-000-484.001	FIRE SAFETY REVIEWS	0.00	1,071.00	4,000.00	2,929.00	26.78
249-000-665.000	INTEREST	0.00	998.77	0.00	(998.77)	100.00
249-000-695.000	MISCELLANEOUS REVENUE	2,450.00	11,700.00	5,000.00	(6,700.00)	234.00
BUILDING REVENUE		63,966.31	241,914.23	623,500.00	381,585.77	38.80
TOTAL REVENUES						
		63,966.31	241,914.23	744,138.00	502,223.77	32.51
Expenditures						
SALARIES						
249-000-706.001	SALARIES BLDG OFFICIAL	6,444.30	29,630.83	81,335.00	51,704.17	36.43
249-000-706.002	SALARIES CLERICAL	8,132.40	38,113.71	102,643.00	64,529.29	37.13
249-000-706.003	CONTRACT BLDG INSPECTORS	3,390.00	15,090.00	60,000.00	44,910.00	25.15
249-000-706.005	BUILDING INSPECTOR	0.00	0.00	60,000.00	60,000.00	0.00
249-000-707.000	ELECTRICAL INSPECTOR	3,616.50	12,912.30	50,000.00	37,087.70	25.82
249-000-707.001	PLUMBING/MECHANICAL INSPECTOR	6,058.80	29,685.80	100,000.00	70,314.20	29.69
249-000-709.000	OVERTIME	0.00	0.00	10,000.00	10,000.00	0.00
SALARIES		27,642.00	125,432.64	463,978.00	338,545.36	27.03
PAYROLL BENEFITS						
249-000-715.000	SOCIAL SECURITY	1,089.85	5,063.02	20,200.00	15,136.98	25.06
249-000-716.000	HOSP & OPTICAL INSURANCE	2,592.81	10,269.94	62,115.00	51,845.06	16.53
249-000-717.000	GROUP LIFE INSURANCE	0.00	47.10	435.00	387.90	10.83
249-000-718.000	PENSION	793.81	3,242.49	10,565.00	7,322.51	30.69
249-000-718.001	HEALTH CARE SAVINGS PROGRAM	300.00	1,200.00	4,800.00	3,600.00	25.00
249-000-718.002	OPEB FUNDING	0.00	0.00	50,000.00	50,000.00	0.00
249-000-719.000	WORKERS COMP INSURANCE	0.00	499.75	4,220.00	3,720.25	11.84
249-000-722.000	UNEMPLOYMENT INSURANCE	0.00	574.43	685.00	110.57	83.86
249-000-724.000	DENTAL INSURANCE	0.00	275.52	4,240.00	3,964.48	6.50
PAYROLL BENEFITS		4,776.47	21,172.25	157,260.00	136,087.75	13.46
EXPENSES						
249-000-727.000	OFFICE SUPPLIES	1,135.86	1,642.46	2,000.00	357.54	82.12
249-000-730.000	POSTAGE	104.21	172.28	100.00	(72.28)	172.28
249-000-757.000	OPERATING SUPPLIES	145.00	184.99	2,500.00	2,315.01	
249-000-801.000	PROFESSIONAL FEES	3,208.12	14,615.62	35,000.00	20,384.38	4
249-000-801.001	HR SERVICES	0.00	0.00	4,600.00	4,600.00	18

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR	YTD BALANCE	2022	AVAILABLE	% BDGT
		MONTH	04/30/2022	AMENDED BUDGET	BALANCE	USED
Fund 249 - BUILDING DEPARTMENT FUND						
Expenditures						
249-000-807.000	AUDIT FEES	0.00	0.00	3,500.00	3,500.00	0.00
249-000-853.000	CELLULAR PHONE	84.00	252.00	1,000.00	748.00	25.20
249-000-863.000	VEHICLE MAINTENANCE	0.00	0.00	1,500.00	1,500.00	0.00
249-000-864.000	CONFERENCES & MEETINGS	0.00	0.00	2,000.00	2,000.00	0.00
249-000-867.000	GASOLINE	97.16	133.91	1,500.00	1,366.09	8.93
249-000-910.000	INSURANCE	0.00	2,552.75	3,700.00	1,147.25	68.99
249-000-957.000	SUBSCRIPTIONS	0.00	0.00	1,000.00	1,000.00	0.00
249-000-958.000	MEMBERSHIPS & DUES	240.00	240.00	2,000.00	1,760.00	12.00
249-000-960.000	TRAINING	0.00	0.00	2,000.00	2,000.00	0.00
249-000-962.000	MISCELLANEOUS	0.00	383.30	500.00	116.70	76.66
249-000-971.000	TECHNOLOGY EQUIPMENT	216.64	867.54	15,000.00	14,132.46	5.78
249-000-977.000	EQUIPMENT ACQUISITIONS	0.00	0.00	45,000.00	45,000.00	0.00
EXPENSES		5,230.99	21,044.85	122,900.00	101,855.15	17.12
TOTAL EXPENDITURES		37,649.46	167,649.74	744,138.00	576,488.26	22.53
Fund 249 - BUILDING DEPARTMENT FUND:						
TOTAL REVENUES		63,966.31	241,914.23	744,138.00	502,223.77	32.51
TOTAL EXPENDITURES		37,649.46	167,649.74	744,138.00	576,488.26	22.53
NET OF REVENUES & EXPENDITURES		26,316.85	74,264.49	0.00	(74,264.49)	100.00

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 591 - WATER						
Revenues						
REVENUES						
591-000-393.000	FUND BALANCE - DESIGNATED	0.00	0.00	510,170.00	510,170.00	0.00
591-000-445.000	PENALTIES	2,581.55	4,649.11	10,314.00	5,664.89	45.08
591-000-530.000	GRANT REVENUE	0.00	0.00	13,524.00	13,524.00	0.00
591-000-626.000	METERS	2,496.67	14,769.33	16,910.00	2,140.67	87.34
591-000-627.000	METER INSTALLATIONS	450.00	2,475.00	4,000.00	1,525.00	61.88
591-000-642.000	WATER	220,482.70	459,420.67	1,008,401.00	548,980.33	45.56
591-000-650.000	MISC SERVICE CHARGES	637.90	3,657.86	5,591.00	1,933.14	65.42
591-000-650.001	SPRINKLER SYSTEM	4,966.08	6,116.08	1,710.00	(4,406.08)	357.67
591-000-665.000	INTEREST EARNED	0.00	1,096.68	2,000.00	903.32	54.83
591-000-665.004	INTEREST - CAPITAL FUND	0.00	977.21	8,000.00	7,022.79	12.22
591-000-665.011	INTEREST INCOME M59 EAST (7)	0.00	458.91	0.00	(458.91)	100.00
591-000-665.015	INTEREST INCOME SIGNED AGREEMENTS	44.75	44.75	0.00	(44.75)	100.00
591-000-673.000	SALE OF FIXED ASSETS	0.00	0.00	25,000.00	25,000.00	0.00
591-000-674.001	CONNECTION FEES	11,375.00	65,975.00	107,432.00	41,457.00	61.41
591-000-695.000	MISCELLANEOUS INCOME	0.00	3,738.68	5,000.00	1,261.32	74.77
591-000-699.000	SEWER ADMIN FEES	0.00	0.00	155,000.00	155,000.00	0.00
REVENUES		243,034.65	563,379.28	1,873,052.00	1,309,672.72	30.08
TOTAL REVENUES		243,034.65	563,379.28	1,873,052.00	1,309,672.72	30.08
Expenditures						
OFFICE SUPPLIES						
591-000-727.000	OFFICE SUPPLIES	0.00	1,423.94	6,000.00	4,576.06	23.73
591-000-730.000	POSTAGE	155.41	170.78	3,000.00	2,829.22	5.69
OFFICE SUPPLIES		155.41	1,594.72	9,000.00	7,405.28	17.72
OTHER						
591-000-958.000	DUES & MISC	0.00	0.00	5,000.00	5,000.00	0.00
591-000-960.000	EDUCATION & TRAINING	169.43	837.65	5,000.00	4,162.35	16.75
591-000-962.000	MISCELLANEOUS	0.00	35.00	1,000.00	965.00	3.50
591-000-968.000	DEPRECIATION WATER SYSTEM	0.00	0.00	325,000.00	325,000.00	0.00
591-000-969.000	DEPRECIATION & AMORTIZATION	0.00	0.00	70,000.00	70,000.00	0.00
591-000-976.000	BOND INTEREST-DWRF	0.00	7,437.50	15,150.00	7,712.50	49.09
591-000-991.001	PRINCIPAL COPIER LEASE	139.22	546.70	1,650.00	1,103.30	33.13
591-000-995.000	MISC SERVICE CHARGES	0.00	517.10	0.00	(517.10)	100.00
591-000-995.001	WELL HEAD PROTECTION PROGRAM	9,060.00	10,087.50	33,000.00	22,912.50	30.57
591-000-995.002	INTEREST COPIER LEASE	8.78	45.30	135.00	89.70	33.56
OTHER		9,377.43	19,506.75	455,935.00	436,428.25	4.38
SALARIES						
591-000-703.000	MANAGER SALARIES	7,104.00	32,718.14	89,665.00	56,946.86	36.49
591-000-706.000	WAGES CLERICAL	7,704.46	35,561.41	95,700.00	60,138.59	37.16
591-000-707.000	WAGES MAINTENANCE	5,686.50	29,232.76	145,825.00	116,592.24	20.05
591-000-707.001	WAGES PART TIME	0.00	0.00	10,000.00	10,000.00	0.00
591-000-707.002	WEEKEND ON CALL WATER OPERATOR	133.80	397.50	4,000.00	3,602.50	9.94
591-000-709.000	WAGES OVERTIME	970.05	3,560.38	5,000.00	1,439.62	71.21
SALARIES		21,598.81	101,470.19	350,190.00	248,719.81	28.98
PAYROLL BENEFITS						
591-000-715.000	SOCIAL SECURITY	1,631.02	7,652.43	26,790.00	19,137.57	2

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BGD USED
Fund 591 - WATER						
Expenditures						
591-000-716.000	HOSP & OPTICAL INSURANCE	4,922.04	19,106.18	129,820.00	110,713.82	14.72
591-000-717.000	GROUP LIFE INSURANCE	0.00	54.95	650.00	595.05	8.45
591-000-718.000	PENSION	1,217.08	5,501.26	15,550.00	10,048.74	35.38
591-000-718.001	HEALTH CARE SAVINGS PLAN	400.00	1,900.00	7,200.00	5,300.00	26.39
591-000-719.000	WORKERS COMP INSURANCE	0.00	1,584.50	12,220.00	10,635.50	12.97
591-000-720.000	OTHER POST RETIREMENT BENEFITS	0.00	0.00	70,000.00	70,000.00	0.00
591-000-722.000	UNEMPLOYMENT INSURANCE	0.00	994.28	1,890.00	895.72	52.61
591-000-724.000	DENTAL INSURANCE	0.00	412.18	4,600.00	4,187.82	8.96
PAYROLL BENEFITS		8,170.14	37,205.78	268,720.00	231,514.22	13.85
OTHER						
591-000-976.005	BOND INTEREST NORDIC DR MAIN	0.00	489.60	950.00	460.40	51.54
OTHER		0.00	489.60	950.00	460.40	4.38
OPERATING EXPENSES						
591-000-740.000	OPERATING SUPPLIES	304.07	6,278.43	9,000.00	2,721.57	69.76
591-000-744.000	SAFETY GEAR AND CLOTHING	789.41	8,386.73	4,000.00	(4,386.73)	209.67
591-000-745.000	SYSTEM CHEMICALS	0.00	14,574.88	50,000.00	35,425.12	29.15
591-000-748.000	TESTING WATER SYSTEMS	1,646.50	3,365.60	13,800.00	10,434.40	24.39
591-000-748.004	TESTING VILL ACRES	892.00	892.00	0.00	(892.00)	100.00
591-000-750.000	OPERATING SUPPLIES METERS	0.00	15,765.77	100,000.00	84,234.23	15.77
591-000-750.001	OPERATING SUPP METER TRANSMITT	0.00	0.00	40,000.00	40,000.00	0.00
591-000-755.000	OPERATING SUPPLIES TOOLS	0.00	218.10	8,000.00	7,781.90	2.73
591-000-801.000	FINANCIAL CONSULT FEES	0.00	0.00	5,000.00	5,000.00	0.00
591-000-801.001	HR SERVICES	0.00	0.00	9,150.00	9,150.00	0.00
591-000-802.000	ENG & ARCH FEES	13,777.50	21,477.75	50,000.00	28,522.25	42.96
591-000-803.000	IRON FILTRATION EXPENSES	0.00	4,359.65	16,400.00	12,040.35	26.58
591-000-807.000	ACCOUNTING & AUDITING	0.00	0.00	4,000.00	4,000.00	0.00
591-000-818.000	CONTRACTED SERVICES	1,882.43	4,740.73	40,000.00	35,259.27	11.85
591-000-826.000	ATTORNEY FEES	462.00	1,330.00	6,000.00	4,670.00	22.17
591-000-853.000	TELEPHONE/CELL PHONE SERVICES	670.36	1,988.19	6,000.00	4,011.81	33.14
591-000-867.000	GASOLINE/FUEL	913.29	1,921.55	5,000.00	3,078.45	38.43
591-000-903.000	LEGAL NOTICES	0.00	0.00	2,000.00	2,000.00	0.00
591-000-911.000	GENERAL LIAB INSURANCE	0.00	23,671.06	35,000.00	11,328.94	67.63
OPERATING EXPENSES		21,337.56	108,970.44	403,350.00	294,379.56	27.02
MAINTENANCE						
591-000-863.000	REPAIRS & MAINT VEHICLES	42.90	3,014.68	3,200.00	185.32	94.21
591-000-931.000	REPAIR & MAINT BLDG & EQUIP	1,874.82	8,835.52	50,000.00	41,164.48	17.67
591-000-931.001	GROUND MAINTENANCE	0.00	775.00	15,000.00	14,225.00	5.17
591-000-934.000	REPAIR & MAINT WATER SYSTEM	776.00	8,629.65	50,000.00	41,370.35	17.26
591-000-934.001	REPAIR & MAINT TOWER 1	0.00	856.00	25,000.00	24,144.00	3.42
591-000-934.002	REPAIR & MAINT TOWER 2	0.00	0.00	140,000.00	140,000.00	0.00
591-000-935.000	REPAIR METERS	0.00	0.00	1,000.00	1,000.00	0.00
MAINTENANCE		2,693.72	22,110.85	284,200.00	262,089.15	7.78
UTILITIES						
591-000-921.000	ELECTRICITY TOWER	41.71	274.52	1,000.00	725.48	27.45
591-000-921.001	ELECTRICITY TL	1,053.19	2,012.75	4,000.00	1,987.25	50.32
591-000-921.002	ELECTRICITY HILLVIEW	238.45	1,307.56	18,107.00	16,799.44	7.22
591-000-921.004	ELECTRICITY VILLAGE ACRES	2,423.85	10,260.37	46,000.00	35,739.63	2
591-000-921.005	ELECTRICITY SUBURBAN KNOLLS	11.32	50.56	0.00	(50.56)	10
591-000-921.006	ELECTRICITY GRASS LAKE	928.93	4,854.39	23,000.00	18,145.61	2

PERIOD ENDING 04/30/2022

GL NUMBER	DESCRIPTION	ACTIVITY FOR MONTH 04/30/2022	YTD BALANCE 04/30/2022	2022 AMENDED BUDGET	AVAILABLE BALANCE	% BDGT USED
Fund 591 - WATER						
Expenditures						
591-000-921.007	ELECTRICITY TOWER #2	176.40	783.48	1,300.00	516.52	60.27
591-000-921.008	ELECTRICITY-HURONDALE	130.95	744.72	2,500.00	1,755.28	29.79
591-000-921.010	ELECTRICITY 933 WILLIAMS-HURONDALE	28.51	125.97	300.00	174.03	41.99
591-000-923.001	GAS TWIN LAKES	167.08	471.19	1,000.00	528.81	47.12
591-000-923.002	GAS HILLVIEW	96.29	373.23	1,000.00	626.77	37.32
591-000-923.004	GAS GRASS LAKE	143.48	411.92	1,000.00	588.08	41.19
591-000-923.005	GAS VILLAGE ACRES-SATELITE RD	514.12	514.12	1,500.00	985.88	34.27
UTILITIES		5,954.28	22,184.78	100,707.00	78,522.22	22.03
TOTAL EXPENDITURES		69,287.35	313,533.11	1,873,052.00	1,559,518.89	16.74
Fund 591 - WATER:						
TOTAL REVENUES		243,034.65	563,379.28	1,873,052.00	1,309,672.72	30.08
TOTAL EXPENDITURES		69,287.35	313,533.11	1,873,052.00	1,559,518.89	16.74
NET OF REVENUES & EXPENDITURES		173,747.30	249,846.17	0.00	(249,846.17)	100.00
TOTAL REVENUES - ALL FUNDS						
TOTAL EXPENDITURES - ALL FUNDS		11,916,668.21	13,231,887.50	20,713,128.00	7,481,240.50	63.88
NET OF REVENUES & EXPENDITURES		1,110,077.15	5,240,314.16	20,713,128.00	15,472,813.84	25.30
NET OF REVENUES & EXPENDITURES		10,806,591.06	7,991,573.34	0.00	(7,991,573.34)	100.00

WHITE LAKE TWP.
 APRIL 2022 CHECK DISBURSEMENTS

Section 6, Item B.

Check Date	Bank	Check #	Payee	Description	GL #	Account Name	Amount
04/05/2022	GEN	89595	WHITE LAKE TOWNSHIP	2021 OAK COUNTY DRAIN AT LARGE	101-299-956.000	UNALLOCATED MISCELL	3,375.00
04/07/2022	GEN	89596	AMAZON	FILE CABINET REPLACEMENT KEYS	101-249-727.000	OFFICE SUPPLIES	159.51
04/07/2022	GEN	89596	AMAZON	ANNEX, WALL DIVIDER	101-269-931.013	BUILDING MAINTENANC	167.99
04/07/2022	GEN	89596	AMAZON	LAMINATING MACHINE, SUPPLIES, CALENDAR	206-336-727.000	OFFICE SUPPLIES	185.01
04/07/2022	GEN	89596	AMAZON	FD, MATTRESS PROTECTOR/LAMINATING MACHINE	206-336-757.000	OPERATING SUPPLIES	127.84
04/07/2022	GEN	89596	AMAZON	FD, VDC BACK UP ALARM	206-336-863.001	VEHICLE MAINTENANCE	61.83
04/07/2022	GEN	89597	BELFOR PROPERTY RESTORATION	1328 CLEARWATER EMERGENCY SERVICES	249-000-801.000	PROFESSIONAL FEES	708.12
04/07/2022	GEN	89598	BOUND TREE MEDICAL LLC.	MEDICAL SUPPLIES	206-336-767.000	MEDICAL SUPPLIES	575.98
04/07/2022	GEN	89599	CDW GOVERNMENT	(2) DESK TOP SCANNERS, BLDG & SUPERVISOR'S	101-265-971.000	TECHNOLOGY EQUIPME	2,031.90
04/07/2022	GEN	89599	CDW GOVERNMENT	(2) DESK TOP SCANNERS, BLDG & SUPERVISOR'S	249-000-727.000	OFFICE SUPPLIES	1,015.95
04/07/2022	GEN	89600	COMCAST	04/06/22-05/05/22 FD STA 2 CHARGES	206-336-757.000	OPERATING SUPPLIES	258.74
04/07/2022	GEN	89601	DARWEL ENTERPRISES LLC	PD, FLOOR MATS, BLANKETS	207-301-931.001	BLDG MAINTENANCE & !	104.82
04/07/2022	GEN	89602	DTE ENERGY	03/01/22-03/31/22 STREET LIGHTING	101-448-926.000	STREET LIGHTING	3,482.15
04/07/2022	GEN	89603	DLZ MICHIGAN, INC.	920 PRESERVE PLOT PLAN REVIEW	249-000-801.000	PROFESSIONAL FEES	1,500.00
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-000-080.716	DUE FROM WATER HOSI	45.13
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-171-716.000	HOSP & OPTICAL INSUR/	48.74
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-192-716.000	HOSP & OPTICAL INSUR/	10.38
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-209-716.000	HOSP & OPTICAL INSUR/	48.74
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-215-716.000	HOSP & OPTICAL INSUR/	44.06
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-253-716.000	HOSP & OPTICAL INSUR/	53.37
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-265-716.000	HOSP & OPTICAL INSUR/	10.38
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-372-716.000	HOSP & OPTICAL INSUR/	14.50
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-402-716.000	HOSP & OPTICAL INSUR/	9.87
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-757-716.000	HOSP & OPTICAL INSUR/	19.74
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	101-863-730.000	RETIREE HEALTH INSUR/	82.53
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	206-336-716.000	HOSP & OPTICAL INSUR/	210.99
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	206-336-716.002	RETIREE HEALTH CARE P	24.93
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	207-301-716.000	HOSP & OPTICAL INSUR/	396.59
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	207-301-716.001	RETIREE HOSP & OPTICA	218.01
04/07/2022	GEN	89604	FIDELITY SECURITY LIFE INS/EYEMED	APRIL EYEMED PREMIUMS	249-000-716.000	HOSP & OPTICAL INSUR/	19.69
04/07/2022	GEN	89605	FIRST CHOICE COFFEE SERVICES	STA #1 & STA #2, WATER PURIFIER FILTERS	206-336-931.001	MAINTENANCE STATION	35.00
04/07/2022	GEN	89605	FIRST CHOICE COFFEE SERVICES	STA #1 & STA #2, WATER PURIFIER FILTERS	206-336-931.002	MAINTENANCE STATION	35.00
04/07/2022	GEN	89605	FIRST CHOICE COFFEE SERVICES	STA #3 MONTHLY CHARGES	206-336-931.003	MAINTENANCE STATION	35.00
04/07/2022	GEN	89606	FLINT WELDING SUPPLY COMPANY	OXYGEN AND AIR	206-336-758.000	OXYGEN & AIR	177.75
04/07/2022	GEN	89607	GLOBAL OFFICE SOLUTIONS	MARKER, PERM, SHARPIE	101-249-727.000	OFFICE SUPPLIES	73.51
04/07/2022	GEN	89608	J&B MEDICAL SUPPLY INC	FLOW-SAFE 11 EZ CPAP SYSTEM	206-336-767.000	MEDICAL SUPPLIES	331.50
04/07/2022	GEN	89609	ALERUS FINANCIAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-000-080.962	DUE FROM WATER MISC	500.00
04/07/2022	GEN	89609	ALERUS FINANCIAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-000-232.005	PAY DEDUCT HOSP	811.06
04/07/2022	GEN	89609	ALERUS FINANCIAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-171-718.001	HEALTH CARE SAVINGS I	200.00

WHITE LAKE TWP.
 APRIL 2022 CHECK DISBURSEMENTS

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Check Date	Bank	Check #	Payee	Description	GL #	Account Name	Amount
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-209-718.001	HEALTH CARE SAVINGS I	300.00
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-215-718.001	HEALTH CARE SAVINGS I	759.00
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-253-718.001	HEALTH CARE SAVINGS I	487.23
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-265-718.001	HEALTH CARE SAVINGS I	100.00
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-402-718.001	HEALTH CARE SAVINGS I	200.00
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	101-757-718.001	HEALTH CARE SAVINGS I	100.00
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	206-000-232.005	PAY DEDUCT HOSP	1,897.06
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	206-336-718.002	HEALTH CARE SAVINGS I	2,213.24
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	207-000-232.005	PAY DEDUCT HOSP	5,090.49
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	207-301-718.001	HEALTH CARE SAVINGS I	6,038.91
04/07/2022	GEN	89609	ALERUS FINANICAL	03/01/22-03/31/22 EE & ER HCSP CONTRIBUTIONS	249-000-718.001	HEALTH CARE SAVINGS I	300.00
04/07/2022	GEN	89610	180 CONTRACTORS	142 CRANBERRY BEACH BLVD, REPLACE ROOF	101-000-087.274	DUE FROM CDBG	5,000.00
04/07/2022	GEN	89611	MICHIGAN POLICE EQUIPMENT CO	AMMUNITION	207-301-741.000	FIRE ARMS, TRNG & RAN	2,000.00
04/07/2022	GEN	89612	NICHOLS PAPER & SUPPLY CO	FD-PAPER & CLEANING SUPPLIES	206-336-931.001	MAINTENANCE STATION	222.13
04/07/2022	GEN	89613	PRINTING SYSTEMS INC	AV BALLOT OUTER ENVELOPES	101-191-740.000	OPERATING SUPPLIES	3,499.60
04/07/2022	GEN	89614	SAFWAY SHREDDING	GEN, MONTHLY CHARGES	101-249-727.000	OFFICE SUPPLIES	74.95
04/07/2022	GEN	89614	SAFWAY SHREDDING	PD, MONTHLY CHARGES	207-301-727.000	OFFICE SUPPLIES	54.95
04/07/2022	GEN	89615	SUBURBAN FORD	PD 2017 FUSION, OIL CHANGE	207-301-863.001	VEHICLE MAINTENANCE	853.31
04/07/2022	GEN	89616	TRANSUNION RISK AND ALTERNATIVE DA	03/01/22-03/31/22 - MONTHLYCHARGES	207-301-962.001	MISCELLANEOUS	75.00
04/07/2022	GEN	89617	TRUSTMARK VOLUNTARY BENEFIT SOLU	03/01/22-03/31/22 MONTHLY PREMIUMS	101-000-232.002	PAY DEDUCT VOLUNTAR	298.04
04/07/2022	GEN	89617	TRUSTMARK VOLUNTARY BENEFIT SOLU	03/01/22-03/31/22 MONTHLY PREMIUMS	206-000-232.002	PAY DEDUCT LIFE INS	174.56
04/07/2022	GEN	89617	TRUSTMARK VOLUNTARY BENEFIT SOLU	03/01/22-03/31/22 MONTHLY PREMIUMS	207-000-232.002	PAY DEDUCT LIFE INS	387.10
04/07/2022	GEN	89617	TRUSTMARK VOLUNTARY BENEFIT SOLU	03/01/22-03/31/22 MONTHLY PREMIUMS	249-000-232.008	PAY DEDUCT VOL INS	86.88
04/07/2022	GEN	89618	TRACTOR SUPPLY CO.	SALT PELLETS	206-336-931.001	MAINTENANCE STATION	18.76
04/07/2022	GEN	89618	TRACTOR SUPPLY CO.	SALT PELLETS	206-336-931.002	MAINTENANCE STATION	18.76
04/07/2022	GEN	89618	TRACTOR SUPPLY CO.	SALT PELLETS	206-336-931.003	MAINTENANCE STATION	18.76
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-000-080.716	DUE FROM WATER HOSI	42.75
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-171-716.000	HOSP & OPTICAL INSUR/	34.20
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-192-716.000	HOSP & OPTICAL INSUR/	17.10
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-209-716.000	HOSP & OPTICAL INSUR/	42.75
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-215-716.000	HOSP & OPTICAL INSUR/	34.20
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-253-716.000	HOSP & OPTICAL INSUR/	34.20
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-265-716.000	HOSP & OPTICAL INSUR/	17.10
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-372-716.000	HOSP & OPTICAL INSUR/	8.55
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-402-716.000	HOSP & OPTICAL INSUR/	25.65
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	101-757-716.000	HOSP & OPTICAL INSUR/	17.10
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	206-336-716.000	HOSP & OPTICAL INSUR/	222.30
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	207-301-716.000	HOSP & OPTICAL INSUR/	324.90
04/07/2022	GEN	89619	ULLIANCE, INC	2ND QTR EMPLOYEE ASSISTANCE PROGRAM	249-000-716.000	HOSP & OPTICAL INSUR/	25.65

WHITE LAKE TWP.
 APRIL 2022 CHECK DISBURSEMENTS

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Check Date	Bank	Check #	Payee	Description	GL #	Account Name	Amount
04/07/2022	GEN	89620	U.S. BANK EQUIPMENT FINANCE	MNTLHY COPIER RENTAL-DUBLIN	101-757-931.000	BUILDING MAINTENANC	129.00
04/07/2022	GEN	89620	U.S. BANK EQUIPMENT FINANCE	MTHLY COPIER RENTAL-BLDG	249-000-971.000	TECHNOLOGY EQUIPME	135.00
04/07/2022	GEN	89621	WALMART - CAPITAL ONE	02/28/22-03/20/22 CHARGES	206-336-727.000	OFFICE SUPPLIES	52.92
04/07/2022	GEN	89621	WALMART - CAPITAL ONE	02/28/22-03/20/22 CHARGES	206-336-757.000	OPERATING SUPPLIES	8.46
04/07/2022	GEN	89621	WALMART - CAPITAL ONE	02/28/22-03/20/22 CHARGES	206-336-931.001	MAINTENANCE STATION	29.24
04/07/2022	GEN	89622	WEX BANK	MARCH FUEL CHARGES	101-000-080.867	DUE FROM WATER GASC	913.29
04/07/2022	GEN	89622	WEX BANK	MARCH FUEL CHARGES	101-265-867.000	GASOLINE	918.79
04/07/2022	GEN	89622	WEX BANK	MARCH FUEL CHARGES	206-336-867.000	GASOLINE	3,165.07
04/07/2022	GEN	89622	WEX BANK	MARCH FUEL CHARGES	207-301-867.000	GASOLINE	7,129.89
04/07/2022	GEN	89622	WEX BANK	MARCH FUEL CHARGES	249-000-867.000	GASOLINE	97.16
04/07/2022	GEN	89623	WHITE LAKE TOWNSHIP	01/04/22-04/01/22 TWP QUARTERLY WATER BILLIN	101-265-922.000	UTILITIES-TWP HALL	137.88
04/07/2022	GEN	89623	WHITE LAKE TOWNSHIP	01/04/22-04/01/22 FISK QUARTERLY WATER BILLIN	101-269-922.004	UTILITIES FISK	51.92
04/07/2022	GEN	89623	WHITE LAKE TOWNSHIP	01/04/22-04/01/22 DUBLIN QUARTERLY WATER BIL	101-757-922.000	UTILITIES	51.92
04/07/2022	GEN	89624	BRENDEL'S SEPTIC TANK SERVICE	03/27/22-04/23/22 VETTER PARK CHGES	208-000-922.000	UTILITIES- PARKS	330.00
04/07/2022	GEN	89625	DLZ MICHIGAN, INC.	CIVIC CENTER LOOP PATHWAY	208-000-972.000	PATHWAY PROJECTS	2,560.00
04/07/2022	GEN	89626	JEANNE EAGEN	INSTRUCTOR FEES	101-757-751.000	SENIOR ACTIVITIES	148.00
04/07/2022	GEN	89627	LEISURE UNLIMITED LLC	INSTRUCTOR'S FEE	101-757-751.000	SENIOR ACTIVITIES	154.00
04/07/2022	GEN	89628	MARLENE TURNER	INSTRUCTOR FEES	101-757-751.000	SENIOR ACTIVITIES	60.00
04/07/2022	GEN	89629	PHOENIX SAFETY OUTFITTERS	20" HIGH FLOW JET FAN	206-336-977.000	EQUIPMENT ACQUISITIC	4,000.00
04/14/2022	GEN	89630	THE HUNTINGTON NATIONAL BANK	TWIN LKS RD BOND - ANNUAL ADMIN 05/01/22-04/	852-000-992.000	TWIN LAKES BOND INTEI	500.00
04/14/2022	GEN	89631	MARK CARLSON	03/26/22-04/08/22 - ELECTRICAL INSPECTIONS	249-000-707.000	ELECTRICAL INSPECTOR	2,383.50
04/14/2022	GEN	89631	MARK CARLSON	03/26/22-04/08/22 - ELECTRICAL INSPECTIONS	249-000-801.002	RENTAL INSPECTIONS	150.00
04/14/2022	GEN	89632	SCOTT HERZBERG	03/26/22-04/08/22 - BUILDING INSPECTIONS	249-000-707.001	PLUMBING/MECHANICA	3,220.50
04/14/2022	GEN	89633	ABC PRINTING	ENVELOPES	101-249-727.000	OFFICE SUPPLIES	189.00
04/14/2022	GEN	89634	ANTHONY SORGE INSPECTIONS, LLC	03/26/22-04/08/22 - BUILDING INSPECTIONS	249-000-706.003	CONTRACT BLDG INSPEC	1,590.00
04/14/2022	GEN	89635	AT & T	FD, STA #3 APRIL CHARGES	206-336-853.003	TELEPHONE STATION 3	43.70
04/14/2022	GEN	89636	BETTER MAID SERVICES, LLC	REIMBURSE FOR CLEANING SERVICES	101-265-931.001	BLDG MAINTENANCE & :	1,600.00
04/14/2022	GEN	89637	BROWNING SURVEILLANCE COMPANY	INSTALL NEW SERVER (16) LICENSES	207-301-977.000	EQUIPMENT ACQUISITIC	4,961.56
04/14/2022	GEN	89638	COMCAST	04/15/22-05/14/22 - STA #3 MONTHLY CHARGES	206-336-757.000	OPERATING SUPPLIES	197.04
04/14/2022	GEN	89639	DTE ENERGY	STA #2 03/10/22-04/07/22 MONTHLY CHARGES	206-336-921.002	ELECTRIC STATION 2	336.50
04/14/2022	GEN	89640	DOUG UTTER	UTTER, REIMBURSE FOR BOOTS	101-265-931.001	BLDG MAINTENANCE & :	150.00
04/14/2022	GEN	89641	EAGLE ROOFING & SHEET MET	21-4 REMOVE VINYL/ADHESIVE	207-301-863.001	VEHICLE MAINTENANCE	** VOIDED **
04/14/2022	GEN	89642	EAGLE GRAPHICS & DESIGN	21-4 GRAPHIC WRAP	207-301-977.000	EQUIPMENT ACQUISITIC	1,900.00
04/14/2022	GEN	89643	FIRE SAVVY CONSULTANTS	SPRINGFIELD URGENT 1 TO 20 SPRINKLER REVIEW	249-000-801.000	PROFESSIONAL FEES	1,000.00
04/14/2022	GEN	89644	GLOBAL OFFICE SOLUTIONS	TRAY	101-249-727.000	OFFICE SUPPLIES	9.61
04/14/2022	GEN	89644	GLOBAL OFFICE SOLUTIONS	CRTDG, WALLET XWIDE, RECEIPTS	207-301-727.000	OFFICE SUPPLIES	37.16
04/14/2022	GEN	89645	GRAINGER	HAND CLEANER	101-265-931.001	BLDG MAINTENANCE & :	47.42
04/14/2022	GEN	89646	HURON CEMETERY MAINTENANCE INC.	CREMAINS/FOUNDATION INSTALL	101-276-935.000	CEMETERY-GRAVESITE C	750.00
04/14/2022	GEN	89647	HURON VALLEY GUNS	GRUBB, NEW HIRE FLEECE	207-301-744.000	UNIFORMS	32.99

WHITE LAKE TWP.
 APRIL 2022 CHECK DISBURSEMENTS

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Check Date	Bank	Check #	Payee	Description	GL #	Account Name	Amount
04/14/2022	GEN	89648	I. T. RIGHT	PD, WILDCARD RENEWAL 1 YR	207-301-933.000	EQUIP LEASE/ MAINT CC	250.00
04/14/2022	GEN	89649	LISA MARIE KANE	04/07/22 PLANNING COMMISSION MEETING	101-402-710.000	PLANNING/ZBA BOARD I	175.00
04/14/2022	GEN	89650	LOWES BUSINESS ACCOUNT	03/24/22- MONTHLY CHARGES	101-265-931.001	BLDG MAINTENANCE & :	140.55
04/14/2022	GEN	89651	MI ASSOC OF MUNICIPAL CEMETERIES	2022 MEMBERSHIP DUE, NOBLE, SANTIAGO	101-215-958.000	MEMBERSHIPS & DUES	40.00
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	101-000-231.001	PAY DEDUCT PENSION	2,953.84
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	101-171-718.000	PENSION	38.52
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	101-402-718.000	PENSION	56.93
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	206-000-231.001	PAY DEDUCT PENSION	2,032.51
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	206-336-718.000	PENSION	234.03
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	207-000-231.001	PAY DEDUCT PENSION	937.40
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	249-000-231.001	PAY DEDUCT PENSION	350.00
04/14/2022	GEN	89652	ALERUS FINANCIAL	04/13/22-MERS 457 CONTRIBUTIONS	249-000-718.000	PENSION	39.13
04/14/2022	GEN	89653	MUNICIPAL EMERGENCY SERVICES	FIRE-DEX GLOVES	206-336-757.000	OPERATING SUPPLIES	198.61
04/14/2022	GEN	89654	WATER DEPOT OAKLAND LLC	GEN, MONTHLY CHARGES	101-265-931.001	BLDG MAINTENANCE & :	105.50
04/14/2022	GEN	89654	WATER DEPOT OAKLAND LLC	PD, MONTHLY CHARGES	207-301-931.001	BLDG MAINTENANCE & :	70.50
04/14/2022	GEN	89655	AMERICAN RED CROSS TRAINING SERVIC	LYNCH, CPR/AED, PEDICATRIC CPR AND FIRST AID	207-301-960.000	TRAINING	245.00
04/14/2022	GEN	89656	CERTIFIED FLOORING INSTALLATION	CANCEL PERMIT/675 OXHILL	249-000-477.000	BUILDING PERMITS	156.60
04/14/2022	GEN	89657	OVERHEAD INC.	CANCEL PERMIT/320 VIEW	249-000-477.000	BUILDING PERMITS	90.00
04/14/2022	GEN	89658	FLY CONSULTING LLC	MARCH 2022 SERVICES	101-265-971.000	TECHNOLOGY EQUIPME	212.50
04/14/2022	GEN	89659	MICHIGAN EMS EXPO	D. MILLS ONE DAY CONFERENCE	206-336-864.000	CONFERENCES & MEETII	175.00
04/14/2022	GEN	89660	MICHELLE PAYNE	PAYNE, REIMBURSE FOR SHOES	207-301-744.000	UNIFORMS	50.00
04/14/2022	GEN	89661	MICHIGAN POLICE EQUIPMENT CO	(3) GLOCK 23 GEN 4 PISTOLS	207-301-977.000	EQUIPMENT ACQUISITIC	1,227.00
04/14/2022	GEN	89662	STATE OF MICHIGAN (FEDERAL ID #38-6	ENDING REGISTRATION DATE 03/31/22	207-301-805.000	SEX OFFENDERS REGISTF	720.00
04/14/2022	GEN	89663	OAKLAND COMMUNITY COLLEGE	MOORE, DIGITAL PHOTO TRAINING	207-301-960.000	TRAINING	300.00
04/14/2022	GEN	89664	PURCHASE POWER	MONTHLY CHARGES	101-248-934.000	EQUIPMENT MAINTENA	200.67
04/14/2022	GEN	89665	PRO COMM INC	DODGE DURANGO, TELESCOPING POLE AND ADAPT	207-301-863.001	VEHICLE MAINTENANCE	536.60
04/14/2022	GEN	89666	RICOH USA INC.	FINAL PMT ON COPIER	206-336-933.000	EQUIPMENT MAINTENA	24.73
04/14/2022	GEN	89666	RICOH USA INC.	PD, MONTHLY COPIER CHARGES	207-301-933.000	EQUIP LEASE/ MAINT CC	498.98
04/14/2022	GEN	89667	RUGGLES FARM	STA #1, (3) YARDS BROWN	206-336-931.001	MAINTENANCE STATION	126.00
04/14/2022	GEN	89668	SAFEBAY SHREDDING	SHREDDING-DUBLIN	101-757-757.000	OPERATING SUPPLIES	44.95
04/14/2022	GEN	89669	SPINAL COLUMN NEWSWEEKLY & LAKEFI	03/16/22-WHITE LAKE PUBLIC ACCURACY	101-191-903.000	LEGAL NOTICES	870.68
04/14/2022	GEN	89669	SPINAL COLUMN NEWSWEEKLY & LAKEFI	03/30/22 WHITE LAKE SYNOPSIS	101-215-903.000	LEGAL NOTICES	666.90
04/14/2022	GEN	89669	SPINAL COLUMN NEWSWEEKLY & LAKEFI	03/09/22-LEGAL WHITE LAKE ZBA	101-402-903.000	LEGAL NOTICES	583.54
04/14/2022	GEN	89670	SHARON'S HEATING & AIR CONDITIONIN	REFUND CANCELED PERMIT FOR 166 DANFORTH	249-000-478.000	ELECTRICAL PERMITS	** VOIDED **
04/14/2022	GEN	89670	SHARON'S HEATING & AIR CONDITIONIN	REFUND CANCELED PERMIT FOR 166 DANFORTH	249-000-479.000	HEATING PERMITS	** VOIDED **
04/14/2022	GEN	89671	HOWARD L. SHIFMAN P.C.	MARCH LEGAL LABOR SERVICES	101-210-826.000	LEGAL FEES	1,725.00
04/14/2022	GEN	89671	HOWARD L. SHIFMAN P.C.	MARCH LEGAL LABOR SERVICES	206-336-826.000	LEGAL FEES	62.50
04/14/2022	GEN	89671	HOWARD L. SHIFMAN P.C.	MARCH LEGAL LABOR SERVICES	207-301-826.002	LEGAL FEES - LABOR REL	962.50
04/14/2022	GEN	89672	STAR EMS	MARCH 2022 SERVICES	206-000-630.000	AMBULANCE TRANSPOR	1.56

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04/14/2022	GEN	89673	SUBURBAN FORD	21-6 , OIL CHANGE, FILTER, INSPECT	207-301-863.001	VEHICLE MAINTENANCE	119.85
04/14/2022	GEN	89674	SZOTT M59 DODGE	2022 DODGE DURANGO 1C4RDJFG7NC136749	207-301-977.000	EQUIPMENT ACQUISITIC	70,268.00
04/14/2022	GEN	89675	TELEGRATION INC.	03/01/22-03/31/22 MONTHLY CHARGES	101-000-080.853	DUE FROM WATER PHOI	11.78
04/14/2022	GEN	89675	TELEGRATION INC.	03/01/22-03/31/22 MONTHLY CHARGES	101-265-853.000	TELEPHONE	89.38
04/14/2022	GEN	89675	TELEGRATION INC.	03/01/22-03/31/22 MONTHLY CHARGES	101-757-853.000	TELEPHONE	11.43
04/14/2022	GEN	89675	TELEGRATION INC.	03/01/22-03/31/22 MONTHLY CHARGES	206-336-853.001	TELEPHONE STATION 1	2.07
04/14/2022	GEN	89675	TELEGRATION INC.	03/01/22-03/31/22 MONTHLY CHARGES	207-301-853.000	TELEPHONE	41.09
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	101-000-080.853	DUE FROM WATER PHOI	461.99
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	101-000-214.016	DUE TO OTHERS	5.97
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	101-171-853.000	CELLULAR PHONE	50.54
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	101-215-853.000	CELLULAR PHONE	102.30
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	101-265-853.000	TELEPHONE	41.15
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	101-372-853.000	CELLULAR PHONE	51.15
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	101-402-853.000	CELLULAR PHONE	101.70
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	206-336-853.000	CELL PHONES	243.03
04/14/2022	GEN	89676	VERIZON WIRELESS	03/02/22-04/01/22 MONTHLY CHARGES	249-000-853.000	CELLULAR PHONE	84.00
04/14/2022	GEN	89677	WHITE LAKE TOWNSHIP	PERMIT FOR MINOR REMODEL-ANNEX (FROM 2020	101-269-931.013	BUILDING MAINTENANC	150.00
04/14/2022	GEN	89678	SHARON'S HEATING & AIR CONDITIONIN	REFUND CANCELED PERMIT FOR 166 DANFORTH	249-000-477.000	BUILDING PERMITS	54.00
04/14/2022	GEN	89678	SHARON'S HEATING & AIR CONDITIONIN	REFUND CANCELED PERMIT FOR 166 DANFORTH	249-000-479.000	HEATING PERMITS	135.00
04/21/2022	GEN	89679	JENNIFER EDENS	04/13/22 SPECIAL BOARD MEETING	101-101-710.000	FEES & PER DIEM	175.00
04/21/2022	GEN	89680	APOLLO FIRE	TURN OUT GEAR, MILLS, SIMPSON, PAGE, COMBS	206-336-977.001	SUPPLY ACQUISITIONS 0	12,340.00
04/21/2022	GEN	89681	BASIC	04/01/22-04/30/22 COBRA ADMINISTRATION	101-299-956.000	UNALLOCATED MISCELL	246.76
04/21/2022	GEN	89682	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 FIRE ACTIVE PREMIUMS	206-336-716.000	HOSP & OPTICAL INSUR/	23,390.52
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-000-080.716	DUE FROM WATER HOSI	4,181.54
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-171-716.000	HOSP & OPTICAL INSUR/	6,141.64
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-192-716.000	HOSP & OPTICAL INSUR/	1,306.74
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-209-716.000	HOSP & OPTICAL INSUR/	9,277.81
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-215-716.000	HOSP & OPTICAL INSUR/	6,141.64
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-253-716.000	HOSP & OPTICAL INSUR/	7,448.37
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-265-716.000	HOSP & OPTICAL INSUR/	2,221.44
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-372-716.000	HOSP & OPTICAL INSUR/	1,960.10
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-402-716.000	HOSP & OPTICAL INSUR/	1,568.07
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	101-757-716.000	HOSP & OPTICAL INSUR/	3,136.14
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	207-301-716.000	HOSP & OPTICAL INSUR/	2,613.47
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	207-301-716.001	RETIREE HOSP & OPTICA	2,613.48
04/21/2022	GEN	89683	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NON UNION ACTIVE PR	249-000-716.000	HOSP & OPTICAL INSUR/	1,960.10
04/21/2022	GEN	89684	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 FIRE RETIREE	206-336-716.002	RETIREE HEALTH CARE P	2,874.81
04/21/2022	GEN	89685	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NONUNION RETIREES	101-863-730.000	RETIREE HEALTH INSURA	2,613.48
04/21/2022	GEN	89685	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NONUNION RETIREES	207-301-716.000	HOSP & OPTICAL INSUR/	1,960.10

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04/21/2022	GEN	89685	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 MAPE & NONUNION RETIREES	249-000-716.000	HOSP & OPTICAL INSUR/	653.37
04/21/2022	GEN	89686	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 POLICE COMMAND	207-301-716.000	HOSP & OPTICAL INSUR/	11,629.91
04/21/2022	GEN	89687	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 PD COMMAND RETIREE	207-301-716.001	RETIREE HOSP & OPTICA	6,272.28
04/21/2022	GEN	89688	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 PATROL ACTIVE	207-301-716.000	HOSP & OPTICAL INSUR/	33,713.69
04/21/2022	GEN	89689	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 PATROL RETIRED	207-301-716.001	RETIREE HOSP & OPTICA	9,983.42
04/21/2022	GEN	89690	BLUE CROSS BLUE SHIELD OF MICHIGAN	05/01/22-05/31/22 PATROL RETIRED	207-301-716.001	RETIREE HOSP & OPTICA	1,694.54
04/21/2022	GEN	89691	BCBS OF MICHIGAN	05/01/22-05/31/22 MEDICARE ADVANTAGE	101-000-080.716	DUE FROM WATER HOSI	826.62
04/21/2022	GEN	89691	BCBS OF MICHIGAN	05/01/22-05/31/22 MEDICARE ADVANTAGE	101-863-730.000	RETIREE HEALTH INSURA	5,373.03
04/21/2022	GEN	89691	BCBS OF MICHIGAN	05/01/22-05/31/22 MEDICARE ADVANTAGE	206-336-716.002	RETIREE HEALTH CARE P	2,066.55
04/21/2022	GEN	89691	BCBS OF MICHIGAN	05/01/22-05/31/22 MEDICARE ADVANTAGE	207-301-716.001	RETIREE HOSP & OPTICA	6,612.96
04/21/2022	GEN	89692	BELLE TIRE	2020 INTERCEPTOR 21-1 NEW WINDSHIELD	207-301-863.001	VEHICLE MAINTENANCE	844.55
04/21/2022	GEN	89693	COMCAST	04/22/22--05/21/22 TWP CHARGES	101-000-080.962	DUE FROM WATER MISC	81.65
04/21/2022	GEN	89693	COMCAST	04/22/22--05/21/22 TWP CHARGES	101-265-971.000	TECHNOLOGY EQUIPME	116.94
04/21/2022	GEN	89693	COMCAST	04/22/22--05/21/22 TWP CHARGES	206-336-757.000	OPERATING SUPPLIES	152.23
04/21/2022	GEN	89693	COMCAST	04/22/22--05/21/22 TWP CHARGES	207-301-757.000	OPERATING SUPPLIES	105.17
04/21/2022	GEN	89693	COMCAST	04/22/22--05/21/22 TWP CHARGES	249-000-971.000	TECHNOLOGY EQUIPME	81.64
04/21/2022	GEN	89694	CORRIGAN RECORD STORAGE	04/01/22-04*30//22 STORAGE SERVICES	101-265-940.000	TOWNSHIP RECORD RET	120.64
04/21/2022	GEN	89695	DARWEL ENTERPRISES LLC	PD, MATS, BLANKETS	101-265-931.001	BLDG MAINTENANCE & :	283.41
04/21/2022	GEN	89696	DTE ENERGY	03/11/22-04/08/22 TWP HALL	101-265-921.001	ELECTRIC TWP HALL	2,405.70
04/21/2022	GEN	89696	DTE ENERGY	03/11/22-04/08/22 FISK FARM	101-269-921.004	ELECTRIC FISK	76.94
04/21/2022	GEN	89696	DTE ENERGY	03/11/22-04/08/22 M59/BOGIE STREET LAMP	101-269-921.006	M59/BOGIE PROP STREE	152.97
04/21/2022	GEN	89696	DTE ENERGY	03/11/22-04/08/22 ANNEX	101-269-921.011	ELECTRIC-TWP ANNEX	655.06
04/21/2022	GEN	89696	DTE ENERGY	03/11/22-04/08/22 OXBOW CEMETERY	101-276-921.000	ELECTRIC OXBOW	14.76
04/21/2022	GEN	89697	EAGLE SECURITY FIRE & LIFE SAFETY	TOWNSHIP SECURITY SWIPE CARD	101-265-931.001	BLDG MAINTENANCE & :	88.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-000-080.716	DUE FROM WATER HOSI	51.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-171-716.000	HOSP & OPTICAL INSUR/	68.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-192-716.000	HOSP & OPTICAL INSUR/	34.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-209-716.000	HOSP & OPTICAL INSUR/	51.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-215-716.000	HOSP & OPTICAL INSUR/	69.58
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-253-716.000	HOSP & OPTICAL INSUR/	688.85
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-265-716.000	HOSP & OPTICAL INSUR/	34.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-372-716.000	HOSP & OPTICAL INSUR/	(1,251.74)
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-402-716.000	HOSP & OPTICAL INSUR/	17.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-757-716.000	HOSP & OPTICAL INSUR/	326.02
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	101-863-730.000	RETIREE HEALTH INSURA	104.08
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	206-336-716.000	HOSP & OPTICAL INSUR/	2,840.04
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	206-336-716.002	RETIREE HEALTH CARE P	51.00
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	207-301-716.000	HOSP & OPTICAL INSUR/	1,382.45
04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	207-301-716.001	RETIREE HOSP & OPTICA	1,957.60

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04/21/2022	GEN	89698	EMPLOYEE HEALTH INSURANCE MANAGI	APRIL ADMIN FEES	249-000-716.000	HOSP & OPTICAL INSUR/	34.00
04/21/2022	GEN	89699	GLOBAL OFFICE SOLUTIONS	TAPE	101-249-727.000	OFFICE SUPPLIES	1,506.92
04/21/2022	GEN	89699	GLOBAL OFFICE SOLUTIONS	PD, BATTERIES	207-301-727.000	OFFICE SUPPLIES	9.30
04/21/2022	GEN	89700	I. T. RIGHT	CASE FAN, 50 FT CAT 6 CORD	101-265-971.000	TECHNOLOGY EQUIPME	33.42
04/21/2022	GEN	89701	MCDONALD'S	(20) EXTRA VALUE MEALS	207-301-962.001	MISCELLANEOUS	80.00
04/21/2022	GEN	89702	MUNICIPAL EMERGENCY SERVICES	(16) H41 INTERCEPTOR HOOD	206-336-757.000	OPERATING SUPPLIES	3,179.98
04/21/2022	GEN	89703	PRX PERFROMANCE, LLC	STATION 2 WORKOUT EQUIPMENT	206-336-757.000	OPERATING SUPPLIES	3,341.67
04/21/2022	GEN	89704	NATIONAL ASSOCIATION OF SCHOOL RES	RACE, BASIC SRO	207-301-960.000	TRAINING	495.00
04/21/2022	GEN	89705	OAKLAND COUNTY	FD, JAN-MAR FRMS FEES	206-336-958.000	MEMBERSHIPS & DUES	1,332.75
04/21/2022	GEN	89705	OAKLAND COUNTY	PD, APR-JUN 2022 CLEMIS MEMBERSHIP	207-301-933.000	EQUIP LEASE/ MAINT CC	5,355.75
04/21/2022	GEN	89706	OAKLAND COUNTY ROAD COMMISSION	MONTHLY STREET LIGHTING	101-446-930.000	TRAFFIC SIGNAL MAINTE	5.02
04/21/2022	GEN	89707	RICOH	PD, COPIER MTHLY RENTAL FEE	207-301-933.000	EQUIP LEASE/ MAINT CC	131.79
04/21/2022	GEN	89708	ROSATI, SCHULTZ, JOPPICH	MARCH GEN TWP LEGAL CHARGES	101-210-826.000	LEGAL FEES	4,914.00
04/21/2022	GEN	89708	ROSATI, SCHULTZ, JOPPICH	MARCH ORDINANCE LEGAL FEES	101-210-826.002	LEGAL FEES-ORDINANCE	2,800.00
04/21/2022	GEN	89708	ROSATI, SCHULTZ, JOPPICH	MARCH FD LEGAL FEES	206-336-826.000	LEGAL FEES	1,414.00
04/21/2022	GEN	89708	ROSATI, SCHULTZ, JOPPICH	MARCH PROSECUTIONS	207-301-826.000	LEGAL FEES-PROSECUTIC	7,500.00
04/21/2022	GEN	89709	SAMS CLUB	2022 MEMBERSHIP FEES	101-171-958.000	MEMBERSHIPS & DUES	100.00
04/21/2022	GEN	89710	SPRINGFIELD URGENT CARE PLLC	FD, ASSESSING PREEMPLOYEMENT	101-299-956.000	UNALLOCATED MISCELL	120.00
04/21/2022	GEN	89710	SPRINGFIELD URGENT CARE PLLC	FD, ASSESSING PREEMPLOYEMENT	206-336-835.000	MEDICAL SERVICES	407.50
04/21/2022	GEN	89711	STAR EMS	BLOOD ALCOHOL DRAW	207-301-962.003	EVIDENCE COLLECTION	100.00
04/21/2022	GEN	89712	DTE ENERGY	03/11/22-04/08/22 HAWLEY PARK	208-000-921.000	ELECTRIC JUDY HAWLEY	41.83
04/21/2022	GEN	89713	WILLIAMS, WILLIAMS, RATTNER & PLUNF	LEGAL SERVICE THRU MARCH 2022 NEW TOWN HAL	246-000-970.005	CAPITAL OUTLAY-NEW T	21,584.88
04/21/2022	GEN	89714	JEANNE EAGEN	INSTRUCTOR FEES	101-757-751.000	SENIOR ACTIVITIES	102.00
04/21/2022	GEN	89715	ANYONE CAN PAINT LLC	INSTRUCTOR'S FEE	101-757-751.000	SENIOR ACTIVITIES	200.00
04/21/2022	GEN	89716	LEISURE UNLIMITED LLC	INSTRUCTOR'S FEE	101-757-751.000	SENIOR ACTIVITIES	82.00
04/21/2022	GEN	89717	MARLENE TURNER	INSTRUCTOR'S FEE	101-757-751.000	SENIOR ACTIVITIES	60.00
04/28/2022	GEN	89718	BRENDEL'S SEPTIC TANK SERVICE	04/24/22-04/21/22 - HIDDEN PINES RENTAL	208-000-922.000	UTILITIES- PARKS	330.00
04/28/2022	GEN	89719	GFL	10121 UNITS - CURBSIDE SERVICE	226-528-801.000	RUBBISH EXPENDITURE	158,003.67
04/28/2022	GEN	89720	1ST HEATING & COOLING CO	SERVICE CALL - NO HEAT	206-336-931.001	MAINTENANCE STATION	99.00
04/28/2022	GEN	89721	JENNIFER EDENS	04/19/22 REGULAR TOWNSHIP BOARD MEETING	101-101-710.000	FEES & PER DIEM	200.00
04/28/2022	GEN	89722	MARK CARLSON	04/09/22-04/22/22-ELECTRICAL/RENTAL INSP	249-000-707.000	ELECTRICAL INSPECTOR	1,233.00
04/28/2022	GEN	89722	MARK CARLSON	04/09/22-04/22/22-ELECTRICAL/RENTAL INSP	249-000-801.002	RENTAL INSPECTIONS	30.00
04/28/2022	GEN	89723	SCOTT HERZBERG	04/09/22-04/22/22 - MECHANICAL INSPECTIONS	249-000-707.001	PLUMBING/MECHANICA	2,838.30
04/28/2022	GEN	89724	ABC PRINTING	RECEIPT BOOKS FOR DUBLIN	101-757-751.000	SENIOR ACTIVITIES	469.47
04/28/2022	GEN	89725	ANTHONY SORGE INSPECTIONS, LLC	04/09/22-04/22/22 BUILDING/RENTAL INSPECTION:	249-000-706.003	CONTRACT BLDG INSPEC	1,800.00
04/28/2022	GEN	89725	ANTHONY SORGE INSPECTIONS, LLC	04/09/22-04/22/22 BUILDING/RENTAL INSPECTION:	249-000-801.002	RENTAL INSPECTIONS	30.00
04/28/2022	GEN	89726	APPLIED IMAGING	03/16/22-04/15/22 ADD'L COPY CHARGES	101-249-727.000	OFFICE SUPPLIES	194.93
04/28/2022	GEN	89726	APPLIED IMAGING	03/16/22-04/15/22 ADD'L COPY CHARGES	249-000-727.000	OFFICE SUPPLIES	119.91
04/28/2022	GEN	89727	AT & T	MAR 20 - ARP 19, 2022 CHARGES	101-000-080.853	DUE FROM WATER PHOI	196.59

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04/28/2022	GEN	89727	AT & T	MAR 20 - ARP 19, 2022 CHARGES	101-265-853.000	TELEPHONE	825.88
04/28/2022	GEN	89727	AT & T	MAR 20 - ARP 19, 2022 CHARGES	101-269-853.001	TELEPHONE FISK FARM	30.20
04/28/2022	GEN	89727	AT & T	MAR 20 - ARP 19, 2022 CHARGES	101-757-853.000	TELEPHONE	161.67
04/28/2022	GEN	89727	AT & T	MAR 20 - ARP 19, 2022 CHARGES	206-336-853.001	TELEPHONE STATION 1	181.40
04/28/2022	GEN	89727	AT & T	03/20/22-04/19/22 - STA #2 MONTHLY CHARGES	206-336-853.002	TELEPHONE STATION 2	72.83
04/28/2022	GEN	89727	AT & T	MAR 20 - ARP 19, 2022 CHARGES	207-301-853.000	TELEPHONE	615.83
04/28/2022	GEN	89728	AUTOZONE	PD, MOLDING TAPE	207-301-863.001	VEHICLE MAINTENANCE	12.08
04/28/2022	GEN	89729	AXON ENTERPRISE, INC.	MOLLE MOUNT, DOUBLE AXON RAPIDLOCK (5)	207-301-977.000	EQUIPMENT ACQUISITIC	208.75
04/28/2022	GEN	89730	BELLE TIRE	21-5 REPLACE TIRES	207-301-863.002	TIRES	819.96
04/28/2022	GEN	89731	BRILLIANT SYSTEMS LLC	GENERATOR RENTAL 03/14/22-04/24/22	206-336-931.001	MAINTENANCE STATION	141.57
04/28/2022	GEN	89732	CINTAS	MONTHLY UNIFORM CHARGES	101-000-080.962	DUE FROM WATER MISC	49.72
04/28/2022	GEN	89732	CINTAS	MONTHLY UNIFORM CHARGES	101-265-931.001	BLDG MAINTENANCE & :	42.44
04/28/2022	GEN	89733	COMCAST	05/01/22-03/31/22 DUBLIN CHGES	101-757-751.000	SENIOR ACTIVITIES	444.23
04/28/2022	GEN	89734	DARWEL ENTERPRISES LLC	FD, MONTHLY CHARGES	206-336-931.001	MAINTENANCE STATION	68.03
04/28/2022	GEN	89735	DTE ENERGY	03/19/22-04/19/22 COMM HALL	101-269-921.001	ELECTRIC COMM HALL	98.57
04/28/2022	GEN	89735	DTE ENERGY	03/23/22-04/21/22	101-269-921.004	ELECTRIC FISK	22.27
04/28/2022	GEN	89735	DTE ENERGY	03/19/22-04/19/22 WHITE LAKE CEMETERY	101-276-921.001	ELECTRIC WHITE LAKE	29.52
04/28/2022	GEN	89735	DTE ENERGY	685 UNION 03/23/22-04/21/22 CHARGES	101-757-921.000	ELECTRIC	462.56
04/28/2022	GEN	89735	DTE ENERGY	03/19/22-04/19/22 STA 1	206-336-921.001	ELECTRIC STATION 1	1,018.50
04/28/2022	GEN	89735	DTE ENERGY	03/19/22-04/19/22 STA 3	206-336-921.003	ELECTRIC STATION 3	165.01
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-000-080.962	DUE FROM WATER MISC	527.75
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-101-710.000	FEES & PER DIEM	14.99
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-215-960.000	TRAINING	1,236.91
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-249-727.000	OFFICE SUPPLIES	218.79
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-265-863.000	VEHICLE MAINTENANCE	400.00
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-265-931.001	BLDG MAINTENANCE & :	94.63
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-265-931.002	GROUND MAINTENANC	242.00
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	101-757-751.000	SENIOR ACTIVITIES	236.91
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	206-336-727.000	OFFICE SUPPLIES	565.40
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	206-336-744.000	UNIFORMS	54.09
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	206-336-757.000	OPERATING SUPPLIES	185.72
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	206-336-864.000	CONFERENCES & MEETII	255.00
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	206-336-958.000	MEMBERSHIPS & DUES	20.00
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	206-336-960.000	TRAINING	1,077.36
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	207-301-727.000	OFFICE SUPPLIES	110.75
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	207-301-863.001	VEHICLE MAINTENANCE	79.62
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	207-301-931.001	BLDG MAINTENANCE & :	281.12
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	207-301-958.000	MEMBERSHIPS & DUES	115.00
04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	249-000-757.000	OPERATING SUPPLIES	145.00

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04/28/2022	GEN	89736	FLAGSTAR BANK	03/15/22-04/12/22 CHARGES	249-000-958.000	MEMBERSHIPS & DUES	240.00
04/28/2022	GEN	89737	FRONTIER	STA #3 MONTHLY CHARGES	206-336-853.003	TELEPHONE STATION 3	52.66
04/28/2022	GEN	89738	GLOBAL OFFICE SOLUTIONS	42 NEW NAME PLATES	101-249-727.000	OFFICE SUPPLIES	512.88
04/28/2022	GEN	89738	GLOBAL OFFICE SOLUTIONS	PD, PEN, UB, VISION, NEEDLE	207-301-727.000	OFFICE SUPPLIES	78.11
04/28/2022	GEN	89739	GRAINGER	MOTOR WALL HEATER	101-269-931.013	BUILDING MAINTENANC	115.87
04/28/2022	GEN	89740	HOLLAND SUPPLY INC	(3) 8X12 SPEARHEAD FLAGS	101-276-932.000	CEMETERY MAINT	662.89
04/28/2022	GEN	89741	HOUSTON'S LAWN SERVICE	APRIL 7, APRIL 12 SPRING CLEANUP	101-276-932.000	CEMETERY MAINT	1,660.00
04/28/2022	GEN	89742	HURON VALLEY GUNS	HOLLAND, NECK TIE	206-336-744.000	UNIFORMS	131.96
04/28/2022	GEN	89742	HURON VALLEY GUNS	PAYNE, NEW HIRE UNIFORM	207-301-744.000	UNIFORMS	493.91
04/28/2022	GEN	89743	I. T. RIGHT	PC MID/EX SEC COMPUTER SYSTEM	206-336-977.000	EQUIPMENT ACQUISITIC	1,645.94
04/28/2022	GEN	89744	LISA MARIE KANE	04/21/22 PLANNING COMMISSION MEETING	101-402-710.000	PLANNING/ZBA BOARD I	300.00
04/28/2022	GEN	89745	MERGE LIVE	04/19/22 BOARD OF TRUSTEE'S MEETING	101-101-710.000	FEES & PER DIEM	265.00
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	101-000-231.001	PAY DEDUCT PENSION	2,985.82
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	101-171-718.000	PENSION	38.52
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	101-402-718.000	PENSION	57.18
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	206-000-231.001	PAY DEDUCT PENSION	1,995.24
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	206-336-718.000	PENSION	234.03
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	207-000-231.001	PAY DEDUCT PENSION	951.99
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	249-000-231.001	PAY DEDUCT PENSION	350.00
04/28/2022	GEN	89746	ALERUS FINANCIAL	04/27/22-MERS 457 CONTRIBUTIONS	249-000-718.000	PENSION	39.13
04/28/2022	GEN	89747	MILL VALLEY VACUUM & SEWING	BELT, CORD/CHECKUP RICCAR VIB	101-265-931.003	BLDG EQUIP MAINTENAI	52.90
04/28/2022	GEN	89748	LITE ELECTRIC	370 ROVEN CANCELED PERMIT	249-000-478.000	ELECTRICAL PERMITS	112.50
04/28/2022	GEN	89749	METRO DETROIT INTEGRATED SYSTEMS	FD, STA #1 WIRELESS BRIDGE CONNECTION	206-336-933.000	EQUIPMENT MAINTENA	1,242.50
04/28/2022	GEN	89750	NICHOLS PAPER & SUPPLY CO	TRUCK BRUSHES, FLOOR SQUEEGES	206-336-931.001	MAINTENANCE STATION	152.61
04/28/2022	GEN	89751	OAKLAND COUNTY	RADIO COMM PARTS/PREP HOLDER	207-301-757.000	OPERATING SUPPLIES	84.00
04/28/2022	GEN	89752	ON DUTY GEAR LLC	SHPATI/GROSSER-ARMOR EXPRESS RAZOR II	207-301-744.000	UNIFORMS	1,630.00
04/28/2022	GEN	89753	PETER'S TRUE VALUE HARDWARE	CARB REPAIRS	101-265-933.000	GROUND'S EQUIP MAINT	184.72
04/28/2022	GEN	89754	R & R FIRE TRUCK REPAIR INC.	E-3 GEARSHIFT SHAFT REPLACEMENT	206-336-863.001	VEHICLE MAINTENANCE	843.25
04/28/2022	GEN	89755	SPINAL COLUMN NEWSWEEKLY & LAKEFI	LEGAL-04/13/22 WHITE LAKE ZBA	101-402-903.000	LEGAL NOTICES	935.53
04/28/2022	GEN	89756	STAR EMS	MCBRIDE, SHAWN BLOOD DRAW	207-301-962.003	EVIDENCE COLLECTION	100.00
04/28/2022	GEN	89757	U.S. BANK EQUIPMENT FINANCE	GEN TWP MTHLY LEASE FEES	101-906-991.000	PRINCIPAL-CAPITAL LEAS	509.70
04/28/2022	GEN	89757	U.S. BANK EQUIPMENT FINANCE	GEN TWP MTHLY LEASE FEES	101-906-995.000	INTEREST-CAPITAL LEASI	43.30
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-000-080.718	DUE FROM WATER PENS	963.46
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-000-231.001	PAY DEDUCT PENSION	15,872.46
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-171-718.000	PENSION	15,185.50
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-192-718.000	PENSION	4,227.88
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-209-718.000	PENSION	3,384.56
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-215-718.000	PENSION	14,679.17
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-253-718.000	PENSION	13,016.71

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04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-265-718.000	PENSION	1,348.40
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-372-718.000	PENSION	1,554.13
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-402-718.000	PENSION	3,245.71
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	101-757-718.000	PENSION	1,718.60
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	206-000-231.001	PAY DEDUCT PENSION	9,304.11
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	206-336-718.000	PENSION	32,895.77
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	207-000-231.001	PAY DEDUCT PENSION	18,667.45
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	207-301-718.000	PENSION	68,630.55
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	249-000-231.001	PAY DEDUCT PENSION	1,136.64
04/07/2022	GEN	1230081(E)	MERS	03/01/22-03/31/22 MERS CONTRIBUTIONS	249-000-718.000	PENSION	984.12
GEN Total							818,551.89
04/14/2022	PA-CK	1870	WHITE LAKE TOWNSHIP	TRANSFER FUNDS TO T&A FOR GRINDER STATIONS	245-000-214.701	DUE TO TRUST & AGENC	6,582.49
04/14/2022	PA-CK	1871	WHITE LAKE TOWNSHIP	TRANSFER TO GEN FUND FOR ADMIN FEES	245-000-214.101	DUE TO GENERAL FUND	359.13
PA-CK Total							6,941.62
04/07/2022	SEWFD	4004	COMMERCE TOWNSHIP	MARCH COMMERCE SEWER CONNECTIONS	590-000-969.000	CONNECTION EXPENSE-(14,688.00
04/14/2022	SEWFD	4005	DLZ MICHIGAN, INC.	BOGIE LAKE WATER MAIN/DWRF	245-000-214.590	DUE TO SEWER FUND	(4,255.00)
04/14/2022	SEWFD	4005	DLZ MICHIGAN, INC.	BOGIE LAKE WATER MAIN/DWRF	245-000-965.999	TRANSFER TO SEWER FU	4,255.00
04/14/2022	SEWFD	4005	DLZ MICHIGAN, INC.	BOGIE LAKE WATER MAIN/DWRF	590-000-087.245	DUE FROM PA 188	4,255.00
04/14/2022	SEWFD	4005	DLZ MICHIGAN, INC.	BOGIE LAKE WATER MAIN/DWRF	590-000-158.000	CONSTRUCTION IN PROX	4,255.00
04/14/2022	SEWFD	4005	DLZ MICHIGAN, INC.	BOGIE LAKE WATER MAIN/DWRF	590-000-699.000	TRANSFER IN FROM PA-	(4,255.00)
04/21/2022	SEWFD	4006	PRINTING SYSTEMS INC	SEWER FUND CHECKING STOCK	590-000-962.000	MISCELLANEOUS	165.27
SEWFD Total							19,108.27
04/14/2022	TAX	6729	HIGHLAND TOWNSHIP	2021 FINAL SETTLEMENT - WL IMPROVEMENT	703-000-403.000	CURRENT TAX COLLECTI	45,805.00
04/14/2022	TAX	6730	STATE OF MICHIGAN	2021 COMMERCIAL FACILITY TAX (CFT)	703-000-403.000	CURRENT TAX COLLECTI	71,954.15
TAX Total							117,759.15
04/07/2022	TNA	14685	DLZ MICHIGAN, INC.	PRESERVE AT HIDDEN LAKE	701-000-286.407	PRESERVE AT HIDDEN LA	1,117.50
04/07/2022	TNA	14685	DLZ MICHIGAN, INC.	NEW HOPE WHITE LAKE	701-000-286.442	NEW HOPE WHITE LAKE	1,242.50
04/07/2022	TNA	14685	DLZ MICHIGAN, INC.	COMFORT CARE SERVICES THRU 2/11/22	701-000-286.453	COMFORT CARE ASSISTE	1,081.25
04/07/2022	TNA	14685	DLZ MICHIGAN, INC.	OXBOW LK PVT LAK ASSOC	701-000-286.454	OXBOW LAKE PRIVATE L	190.00
04/07/2022	TNA	14685	DLZ MICHIGAN, INC.	WHITE LAKE HILL	701-000-286.455	WHITE LAKE HILL/AVALC	1,573.75
04/07/2022	TNA	14686	OAKLAND COUNTY ANIMAL CONTROL	02/08/22-03/25/22 DOG TAG SALES	701-000-285.011	DUE TO OAKLAND CO DC	3,106.00
04/07/2022	TNA	14687	WHITE LAKE TREASURER	02/08/22-03/25/22 DOG TAG SALES	701-000-285.012	DUE TO G/F DOG LICENS	368.00
04/07/2022	TNA	14688	DuBOIS COOPER ASSOCIATES	9054 RHYAN GRINDER STATION	701-000-284.006	GRINDER PUMP INSTALL	10,550.00
04/07/2022	TNA	14689	OAKLAND COUNTY WATER RESOURCE CC	MARCH OAK COUNTY SEWER PERMITS	701-000-287.005	DUE TO OAKLAND CO SE	2,000.00
04/14/2022	TNA	14690	DLZ MICHIGAN, INC.	949 SLOANE CT GRINDER INSPECTION	701-000-284.006	GRINDER PUMP INSTALL	660.00
04/14/2022	TNA	14690	DLZ MICHIGAN, INC.	DUBLIN ELEMENTERY	701-000-286.443	DUBLIN SCHOOL RAZE/R	540.00
04/14/2022	TNA	14690	DLZ MICHIGAN, INC.	TACO BELL MEIJER OUTLOT	701-000-286.451	TACO BELL- BOGIE & M5	915.00
04/14/2022	TNA	14691	OAKLAND COUNTY TREASURER	MARCH 2022 TRAILER TAX	701-000-287.003	DUE TO OAKLAND CO TF	4,250.00
04/14/2022	TNA	14692	WHITE LAKE TOWNSHIP TREASURER	MARCH 2022 TRAILER TAX	701-000-285.013	DUE TO G/F TRAILER PAI	850.00

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04/20/2022	TNA	14693	OAKLAND COUNTY	9533 STEEP HOLLOW GRINDER STA EASEMENT	701-000-284.006	GRINDER PUMP INSTALL	30.00
04/20/2022	TNA	14694	48TH DISTRICT COURT	BOND FOR DAVID EARL WHITE	701-000-287.002	DUE TO COURTS	500.00
04/21/2022	TNA	14695	DTE ENERGY	03/11/22-04/08/22 LAKE ONA	701-000-250.001	LAKE ONA AERATION	221.23
04/21/2022	TNA	14696	DTE ENERGY	03/11/22-04/08/22 GRASS LAKE WELL	701-000-250.005	GRASS LAKE SAD	14.76
04/21/2022	TNA	14697	DTE ENERGY	03/12/22-04/11/22 ROUND LK IMPROV	701-000-250.006	ROUND LAKE IMPROVEN	14.76
04/21/2022	TNA	14698	DTE ENERGY	MANDON, 9600 GARFORTH DR 03/11/22-04/08/22	701-000-250.013	MANDON LAKE	14.76
04/21/2022	TNA	14699	DLZ MICHIGAN, INC.	TRAILSIDE MEADOWS	701-000-286.412	TRAILSIDE MEADOWS	8,636.25
04/21/2022	TNA	14700	MCKENNA ASSOCIATES	TACO BELL, FINAL SITE PLAN #1	701-000-286.451	TACO BELL- BOGIE & M5	480.00
04/21/2022	TNA	14701	LAURIE LOCASCIO	1243 PINECREST REFUND REMAINING ESCROW BAL	701-000-284.006	GRINDER PUMP INSTALL	3,525.00
04/21/2022	TNA	14702	OAKLAND COUNTY	1266 CASTLEWOOD DR GRINDER PUMP INSTALL	701-000-284.006	GRINDER PUMP INSTALL	30.00
04/21/2022	TNA	14703	ROSATI, SCHULTZ, JOPPICH	SPECIAL ASSESSMENT TAX APPEALS	701-000-250.008	PONTIAC LAKE WEED	1,114.28
04/21/2022	TNA	14703	ROSATI, SCHULTZ, JOPPICH	TRAILSIDE MEADOWS	701-000-286.412	TRAILSIDE MEADOWS	392.00
04/21/2022	TNA	14703	ROSATI, SCHULTZ, JOPPICH	TACO BELL DEVVELOPMENT AGREEMENT	701-000-286.451	TACO BELL- BOGIE & M5	84.00
04/28/2022	TNA	14704	C & E CONSTRUCTION CO INC	9533 STEEP HOLLOW DR GRINDER INSTALL	701-000-284.006	GRINDER PUMP INSTALL	7,577.00
04/28/2022	TNA	14705	DuBOIS COOPER ASSOCIATES	958 SLOANE COVER SHROUD RISER KIT	701-000-284.006	GRINDER PUMP INSTALL	315.00
04/28/2022	TNA	14706	ROSATI, SCHULTZ, JOPPICH	PRESERVE AT HIDDEN LAKES	701-000-286.407	PRESERVE AT HIDDEN LA	490.00
TNA Total							51,883.04
04/07/2022	WAT	7642	AQUATEST	BACTERIA TESTS	591-000-748.000	TESTING WATER SYSTEM	252.00
04/07/2022	WAT	7643	CONSUMERS ENERGY	02/23/22-03/23/22 STEEPHOLLOW	591-000-923.001	GAS TWIN LAKES	167.08
04/07/2022	WAT	7643	CONSUMERS ENERGY	02/22/22-03/23/22 FOX BAY DR	591-000-923.002	GAS HILLVIEW	96.29
04/07/2022	WAT	7643	CONSUMERS ENERGY	02/23/22-03/22/22 GRASS LAKE ROAD	591-000-923.004	GAS GRASS LAKE	143.48
04/07/2022	WAT	7644	HACH COMPANY	DR1900 SPECTROPKG HACH	591-000-748.000	TESTING WATER SYSTEM	1,394.50
04/07/2022	WAT	7645	HYDROCORP	INSPECTION & REPORTING SVCS MARCH 2022	591-000-818.000	CONTRACTED SERVICES	159.50
04/07/2022	WAT	7646	RS TECHNICAL SERIVCES, INC.	PERISTALTIC METERING PUMP	591-000-931.000	REPAIR & MAINT BLDG &	1,114.96
04/07/2022	WAT	7647	USA BLUEBOOK	CLASS 3 PREMIUM RAIN PANTS, YELLOW	591-000-744.000	SAFETY GEAR AND CLOT	110.95
04/14/2022	WAT	7648	AIR CENTER INC.	BELT SET, AIR FILTER	591-000-931.000	REPAIR & MAINT BLDG &	213.34
04/14/2022	WAT	7649	DLZ MICHIGAN, INC.	ASPEN MEADOWS IRON FILTRATION	591-000-160.000	CONST IN PROGRESS	7,640.00
04/14/2022	WAT	7649	DLZ MICHIGAN, INC.	SCADA PROGRAMMING	591-000-802.000	ENG & ARCH FEES	13,087.50
04/14/2022	WAT	7649	DLZ MICHIGAN, INC.	FY22 WHPP GRANT SVCS	591-000-995.001	WELL HEAD PROTECTIOI	60.00
04/14/2022	WAT	7650	U.S. BANK EQUIPMENT FINANCE	WATER COPIER MONTHLY CHARGES	591-000-991.001	PRINCIPAL COPIER LEASI	139.22
04/14/2022	WAT	7650	U.S. BANK EQUIPMENT FINANCE	WATER COPIER MONTHLY CHARGES	591-000-995.002	INTEREST COPIER LEASE	8.78
04/14/2022	WAT	7651	WHITE LAKE TOWNSHIP	REIMBURSE FOR MARCH 2022 SERVICES	591-000-214.101	DUE TO GENERAL FUND	65,187.82
04/21/2022	WAT	7652	CUMMINS INC	REFUND CREDITS FOR SALES TAXES	591-000-931.000	REPAIR & MAINT BLDG &	89.41
04/21/2022	WAT	7653	DLZ MICHIGAN, INC.	2023 WLT DWSRF PROJECT PLAN	591-000-802.000	ENG & ARCH FEES	690.00
04/21/2022	WAT	7654	ELHORN ENGINEERING CO	CARUS, EL-CHLOR	591-000-745.000	SYSTEM CHEMICALS	10,421.00
04/21/2022	WAT	7655	USIC LOCATING SERVICES, LLC	(130) LOCATING SERVICES	591-000-818.000	CONTRACTED SERVICES	1,301.69
04/28/2022	WAT	7656	CONSUMERS ENERGY	02/22/22-03/23/22 8935 SATELITE	591-000-923.005	GAS VILLAGE ACRES-SAT	514.12
04/28/2022	WAT	7657	CUMMINS INC	REFUND SALES TAX CREDITS	591-000-931.000	REPAIR & MAINT BLDG &	** VOIDED **
04/28/2022	WAT	7658	DTE ENERGY	03/10/22-04/07/22 360 WOODS EDGE	591-000-921.000	ELECTRICITY TOWER	41.71

WHITE LAKE TWP.
 APRIL 2022 CHECK DISBURSEMENTS

Section 6, Item B.

Check Date	Bank	Check #	Payee	Description	GL #	Account Name	Amount
04/28/2022	WAT	7658	DTE ENERGY	03/10/22-04/07/22 8906 HURON BLUFFS	591-000-921.001	ELECTRICITY TL	1,053.19
04/28/2022	WAT	7658	DTE ENERGY	03/10/22-04/07/22 8208 FOX BAY	591-000-921.002	ELECTRICITY HILLVIEW	238.45
04/28/2022	WAT	7658	DTE ENERGY	03/10/22-04/07/22 8935 SATELITE	591-000-921.004	ELECTRICITY VILLAGE AC	2,423.85
04/28/2022	WAT	7658	DTE ENERGY	03/11/22-04/02/22 603 OXHILL	591-000-921.005	ELECTRICITY SUBURBAN	11.32
04/28/2022	WAT	7658	DTE ENERGY	03/19/22-04/19/22 6260 GRASS LK RD	591-000-921.006	ELECTRICITY GRASS LAKI	928.93
04/28/2022	WAT	7658	DTE ENERGY	03/11/22-04/08/22 TOWER 2	591-000-921.007	ELECTRICITY TOWER #2	176.40
04/28/2022	WAT	7658	DTE ENERGY	03/10/22-04/07/22 145 HURONDALE	591-000-921.008	ELECTRICITY-HURONDAI	130.95
04/28/2022	WAT	7658	DTE ENERGY	03/10/22-04/07/22 933 WILLIAMS	591-000-921.010	ELECTRICITY 933 WILLIA	28.51
04/28/2022	WAT	7659	DLZ MICHIGAN, INC.	WHPP (WELL HEAD PROTECTION PLAN) DEVELOPM	591-000-995.001	WELL HEAD PROTECTIOI	9,000.00
04/28/2022	WAT	7660	NICHOLS PAPER & SUPPLY CO	CLEANING SUPPLIES	591-000-740.000	OPERATING SUPPLIES	86.33
04/28/2022	WAT	7661	ROSATI, SCHULTZ, JOPPICH	MARCH LEGAL MATTERS	591-000-826.000	ATTORNEY FEES	462.00
04/28/2022	WAT	7662	STATE OF MICHIGAN	WATER TESTS	591-000-748.004	TESTING VILL ACRES	892.00
04/28/2022	WAT	7663	SHERWIN-WILLIAMS	FIRE HYDRANT PAINT	591-000-934.000	REPAIR & MAINT WATEF	2,232.00
04/28/2022	WAT	7664	USA BLUEBOOK	YELLOW JACKET	591-000-744.000	SAFETY GEAR AND CLOT	133.99
			WAT Total				120,631.27
			Grand Total				1,134,875.24

WHITE LAKE TOWNSHIP POLICE DEPARTMENT

APRIL 2022

DETECTIVE BUREAU SUMMARY						
	Apr-22	Apr-21	% CHG.	YTD 22	YTD 21	% CHG.
ARRESTS	0	2	-100.0%	0	2	-100.0%
WARRANTS ISSUED	26	28	-7.1%	80	84	-4.8%
JUVENILE PETITIONS	5	3	66.7%	10	6	66.7%
COURT CASES	0	9	-100.0%	55	25	120.0%
PRISONERS ASSIGNED	5	8	-37.5%	27	24	12.5%
CASES ASSIGNED	7	34	-79.4%	82	116	-29.3%
CASES CLOSED BY ARREST	54	57	-5.3%	204	116	75.9%
CASES CLOSED OTHER	12	14	-14.3%	66	68	-2.9%
UNIFORM DIVISION SUMMARY						
	Apr-22	Apr-21	% CHG.	YTD 22	YTD 21	% CHG.
ARRESTS	73	78	-6.4%	303	282	7.4%
TRAFFIC WARNINGS	251	443	-43.3%	1,057	1,609	-34.3%
TICKETS ISSUED	313	445	-29.7%	1,433	1,408	1.8%
ACCIDENT - PROPERTY DAMAGE	28	19	47.4%	158	112	41.1%
ACCIDENT - PERSONAL INJURY	4	7	-42.9%	24	25	-4.0%
ACCIDENT - FATAL	0	0	0.0%	0	0	0.0%
ACCIDENT - PRIVATE PROPERTY	9	10	-10.0%	41	39	5.1%
CALLS FOR SERVICE	1,803	2,155	-16.3%	8,175	8,373	-2.4%
DISPATCH RUNS	755	886	-14.8%	2,837	3,410	-16.8%



Daniel T. Keller, Chief of Police

Monthly Summary of Offenses

All Offenses that were Attempted or Completed

CLASS	Description	Apr-22	Apr-21	YTD 2022	YTD 2021	YTD % CHG	ARRESTS			
							ADULT		JUV	
							Apr-22	YTD	Apr-22	YTD
100	Murder / Manslaughter	0	0	0	0	0.0%	0	0	0	0
200	Forcible Sexual Offenses	0	0	2	1	100.0%	0	0	0	0
300	Robbery	0	1	0	1	-100.0%	0	0	0	0
400	Assault Offenses	5	6	22	17	29.4%	4	13	0	0
500	Burglary / Home Invasion	1	0	5	1	400.0%	0	3	0	0
600	Larceny Violations	7	4	26	15	73.3%	1	1	0	0
700	Motor Vehicle Theft	0	2	2	3	-33.3%	0	1	0	0
800	Arson	0	0	0	0	0.0%	0	0	0	0
900	Kidnapping / Abduction	0	0	0	0	0.0%	0	0	0	0
GROUP A TOTALS		13	13	57	38	50.0%	5	18	0	0



Fire Department
Charter Township
of White Lake

7420 Highland Road, White Lake, MI 48383 Tel 248-698-3993

2022 Incident / Activity Summary

Incident Response breakdown

Medical/Rescue..... 158

Hostile Fires (Structure, Vehicle, Brush, and Other)..... 04

Hazardous Conditions..... 02

Public Service / Other..... 59

Mutual Aid –

- Given..... 01
- Received..... 01

Total Calls for Service: **223**

Activity Summary

Key box / safe access program..... 02

Community CPR..... 01

Home Safety Inspection..... 01

Fire Station Tour..... 01

John Holland
Fire Chief

Rik Kowall, Supervisor
Anthony L. Noble, Clerk
Mike Roman, Treasurer



Section 6, Item E.

Scott Ruggles
Liz Fessler Smith
Andrea C. Voorheis
Michael Powell

WHITE LAKE TOWNSHIP

7525 Highland Road • White Lake, Michigan 48383-2900 • (248) 698-3300 • www.whitelaketwp.com

Community Development Department Report

May 2022

Dear Township Board Members,

During the month of April, the department continued working on the Civic Center area and various park projects. In the coming months we intend to begin the process of updating both our Land Use and Parks & Recreation Master Plans, as well as the annual update of the Capital Improvements Plan (CIP). We look forward to beginning work on the Corridor Improvement Authority (CIA) Plan as well.

There are several active projects under review. The Elizabeth Lake Retail (M-59 & Elizabeth Lake Rd.) has a revised preliminary site plan and rezoning request that will soon be considered by the Planning Commission. The Comfort Care plan (Union Lake Rd, west of Independence Village) is under review for preliminary site plan and rezoning for their proposed Planned Development (PD) project. The Taco Bell project (Meijer out lot) has submitted their Final Site Plan and Development Agreement for review. The White Lake Hill project (Hill Rd & M-59) has submitted a site plan for consideration of both single and multiple family dwellings (490 total units) on their land. This project will return to the Planning Commission this spring. Black Rock restaurant submitted an application to rezone the property at 9501 Highland Road (M-59 & White Banks) from LB (Local Business) to GB (General Business), and just recently submitted their Preliminary Site Plan for review. Finally, Hypershine car wash has submitted a plan for new facility just west of Belle Tire. This plan was considered by the Planning Commission and ZBA in April and is on your May agenda for consideration.

As for approved projects, the Preserve at Hidden Lake and Trailside Meadow projects continue to progress on their projects. The New Hope White Lake assisted living project (Williams Lake Rd.) is nearing completion on their site work and building construction. The Eagles Landing project (Bogie Lake Rd.) will begin their site construction this month. The West Valley and Lakepointe projects (near Bocovina on either side of Union Lake Rd.) intend to begin construction this spring. The Pontiac Lake Overlook apartment project (Pontiac Lake Rd.) will begin their site construction this spring. The redevelopment of the old Sonic restaurant (at Fisk Corners) is continuing to move forward. The Oxbow Lake Private Launch (Lakeside Dr. & M-59) was approved and will begin work this summer. Finally, the Oakland Harvesters (White Lake Rd.) project received final site plan approval and will begin construction this fall.

Please find included in this monthly report the parks and recreation update as well as the permit and inspection activity report for building. If you have any questions or require any additional information from the Community Development Department, please contact us.

Respectfully,

Sean O'Neil

Rik Kowall, Supervisor
Anthony L. Noble, Clerk
Mike Roman, Treasurer



Trustees
Scott Ruggles
Liz Fessler Smith
Andrea C. Voorheis
Michael Powell

WHITE LAKE TOWNSHIP

7525 Highland Road • White Lake, Michigan 48383-2900 • (248) 698-3300 • www.whitelaketwp.com

Parks and Recreation May 2022

Dear Township Board,


Work on the Stanley Park grant application will continue this spring and summer. While the grant was tentatively awarded by the Michigan Department of Natural Resources (MDNR), federal agency review and approval is still in progress. The National Park Service (NPS) indicated there has been documented occurrences of Eastern Massasauga Rattlesnakes (EMR), which is a threatened/endangered species, in the project area. The project is being required to go through the U.S. Fish and Wildlife Service (USFWS) formal consultation process. The Township may be required to complete a biological assessment on the Stanley Park property. This assessment would need to be completed by a herpetology consultant to be acceptable by federal agencies. USFWS provided staff with guidelines for completing the assessment. Ultimately, the USFWS would review the assessment and issue a decision on the matter, which must be acceptable to the NPS to obtain compliance with federal requirements. The next MDNR window to provide information to the NPS opens in mid- June. If the Township misses this window, then it would push the project to the next open window and cause a delay, but not a cancellation, of the project. There are factors outside of the Township’s control, such as actions and timelines of the USFWS and NPS. For example, the USFWS indicated once receiving a biological assessment it had 135 days to review and issue a determination.

At its May meeting the Parks and Recreation Committee interviewed two consultants to assist with the preparation of the Parks and Recreation Master Plan update. In order for the Township to maintain eligibility for MDNR administered grants, a current 5-Year Recreation Plan must be completed and submitted to the MDNR. The Committee forwarded its recommendation on the preferred consultant to the Township Board, which will take action on the request at its regular May meeting. Due to the expansion of the park system with the acquisition of Stanley Park, the acquisition of the Hitchcock Road property, and the demand of residents to design and construct pathways, sidewalks, and trails (ITC Corridor Trail, Triangle Trail, “Blue” Trail on the Huron River, etc.) throughout the Township, a comprehensive review and update of the Plan is warranted. The Plan update is anticipated to take approximately seven months to complete. Staff’s goal is to finalize this project by years end.

The Committee continues to plan for the summer event on June 25, 2022. As details are finalized for the event, advertisement to the public will be distributed via the various Township Facebook pages, Township website, as well as the Spinal Column. Last month a resolution supporting both horse-crossing and tractor-crossing road signs was approved by the Committee; the resolution will be shared with the Road Commission for Oakland County (RCOC). The Committee is also working on updating the prohibited hunting areas and will forward its recommendation on the ordinance amendment to the Township Board.

If you have any questions, please contact me.

Sincerely,

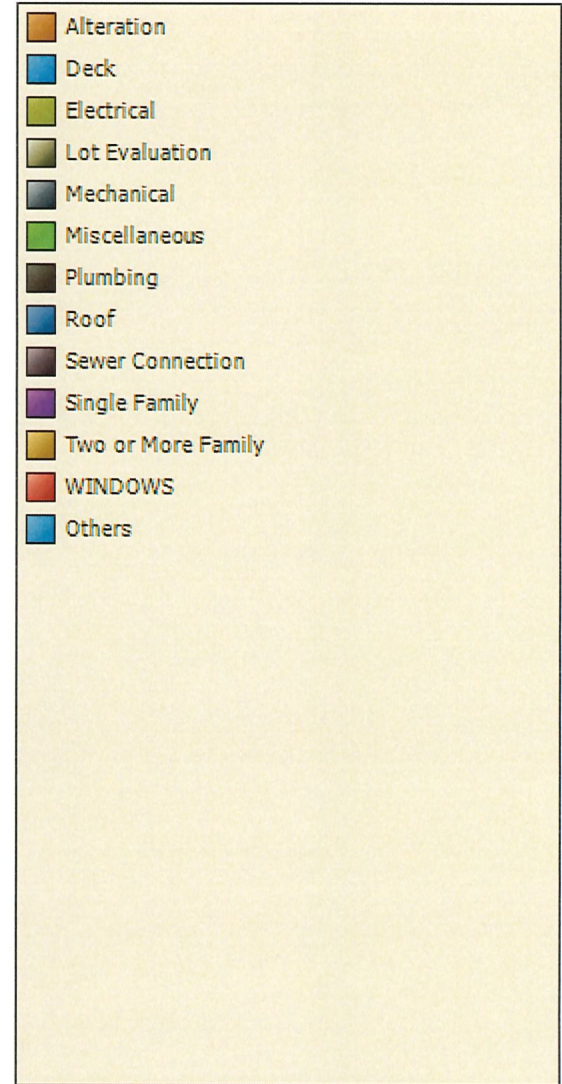
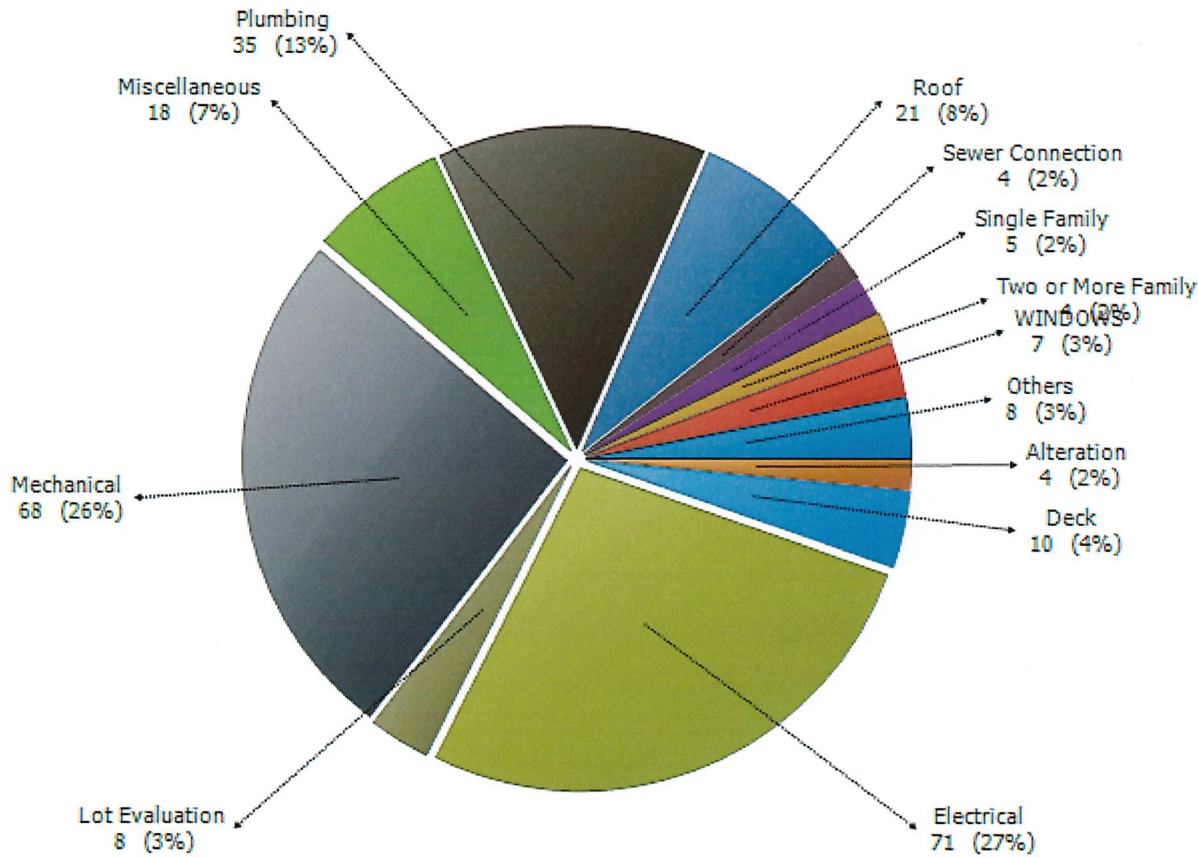
Justin Quagliata 
Staff Planner

Breakdown of Permits by Category

Section 6, Item E.

Current Chart Filter: All Records, Permit.DateIssued Between 4/1/2022 12:00:00 AM AND 4/30/2022 11:59:59 PM

Permits by Category



Charter Township of White Lake
Special Board Meeting
Unapproved Minutes of April 13, 2022

**CHARTER TOWNSHIP OF WHITE LAKE
Unapproved Minutes of the Special Board of Trustees Meeting
April 13, 2022**

Supervisor Kowall called the meeting to order at 5:00 p.m. He then led the Pledge of Allegiance.

Clerk Noble called the roll:

Present: Rik Kowall, Supervisor
Anthony L. Noble, Clerk
Mike Roman, Treasurer
Scott Ruggles, Trustee
Liz Smith, Trustee
Andrea Voorheis, Trustee
Michael Powell, Trustee

Also Present: Lisa Hamameh, Township Attorney
Sean O'Neil, Community Development Director
Jeanine Smith, Township Assessor
Jennifer Edens, Recording Secretary

AGENDA

Supervisor Kowall added Item 4A – Public Comment

It was MOVED by Treasurer Roman, SUPPORTED by Trustee Ruggles to approve the agenda, as amended. The motion PASSED by voice vote (7 yes votes).

PUBLIC COMMENT

No public comment.

CLOSED SESSION

A. APPROVAL TO RECESS INTO CLOSED SESSION TO CONSIDER ATTORNEY/CLIENT PRIVILEGED COMMUNICATIONS, IN ACORDANCE WITH MCL 15.268(1)(h)

It was MOVED by Supervisor Kowall, SUPPORTED by Clerk Noble to recess into closed session to consider attorney/client privileged communications, in accordance with MCL 15.268(1)(h). The motion PASSED by roll call vote (Kowall/yes, Noble/yes, Roman/yes, Voorheis/yes, Powell/yes, Smith/yes, Ruggles/yes).

Recess into Closed Session at 5:03 p.m.

Charter Township of White Lake
Special Board Meeting
Unapproved Minutes of April 13, 2022

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It was MOVED by Supervisor Kowall, SUPPORTED by Clerk Noble to return to regular session. The motion PASSED by voice vote (7 yes votes).

Returned to regular session at 6:17 p.m.

It was MOVED by Supervisor Kowall, SUPPORTED by Treasurer Roman to direct the attorney to proceed as directed in executive session. The motion PASSED by roll call vote (Kowall/yes, Noble/yes, Roman/yes, Powell/yes, Voorheis/yes, Smith/yes, Ruggles/yes).

NEW BUSINESS

A. REQUEST TO APPROVE AMENDMENT TO PLANNED DEVELOPMENT AGREEMENT PRESERVE AT HIDDEN LAKE

Director O'Neil indicated that before the Board tonight is another amendment to the development agreement. He reminded that this topic was before the Board in January to discuss pond level issues. He noted some of the issues are cited in the packet and are still ongoing. He stated that this has more to do with when the plans were reconciled, it was recognized that the plan in the form in which it was approved in, did not meet some of the requirements. Specifically, rear setbacks on units 69, 70, 71, 89 and portions of rear patios located in the storm sewers. He shared that this does not change anything, but that it was approved without checking the setbacks. The Planning Commission recommends that the final site plan and development agreement be amended to allow for what they are requesting. He pointed out that additional trees were asked for by the Planning Commission. He also shared that language was requested regarding personal injury liability on top of the other indemnification that the Township was already going to request, and that the applicant agreed to such language. He further stated that this would cover the Township into the future for patio damage that occurs while fixing a storm sewer, leaving the Township in a position to not have to fix it.

Director O'Neil further asked that if the Board makes a motion to approve this that it cites all the conditions recommended by the Planning Commission.

Trustee Powell questioned the setback from the subdivision to the west. He noted there is a thirty-foot setback to the building itself and a presumed setback to the proposed patio/decks. He does not know how far they are allowed to extend into the rear setbacks.

Director O'Neil indicated that he believes it is ten feet and he believes they will be patios.

Trustee Powell noted that he participated in a Zoom meeting today and that the applicant has agreed to and will provide specific direction to the HOA and hold the HOA responsible for any flooding that occurs in the future, and this will be part of the development agreement. He believes this was allowed previously to be approved administratively and he noted that he appreciated being put on that board as well.

Charter Township of White Lake
Special Board Meeting
Unapproved Minutes of April 13, 2022

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Director O'Neil indicated that the current Master Deed brings units 69-78 online and that they have parcel numbers and building permits can be issued, and in fact some have been. He shared that there are six units that the applicant would like building permits for.

Supervisor Kowall believes that inevitably they will receive building permits and he personally sees no reason from obstructing them from moving forward.

Trustee Powell as a point of interest asked Supervisor Kowall to announce that public comment will be received for each agenda item.

Supervisor Kowall asked those in the gallery if there were any comments regarding this topic. To which, there were none.

It was MOVED by Trustee Ruggles, SUPPORTED by Trustee Powell to approve the amended planned development agreement for Preserve at Hidden Lake, consisting of 38.33 acres; identified as parcel 12-36-101-001, 12-36-101-003, and 12-36-101-004 and to also include all the conditions set forth by the Planning Commission and consultants. The motion PASSED by voice vote (7 yes votes).

B. CONCEPTUAL PLAN REVIEW, 8300 PONTIAC LAKE ROAD

Director O'Neil indicated that Mr. Zeer is here tonight to present. He noted that when a high-profile piece of property comes up, he directs the applicant to the Planning Commission and then to the Township Board to get conceptual feedback. He shared that this has not been reviewed yet and ordinance standards have not been applied to this yet. He identified that this is just the applicant's idea. He further indicated that the applicant did appear at a planning commission meeting but did not receive a lot of feedback. He is looking for feedback from the Township Board. He reminded that this is the Pontiac Lake gateway district. He noted that Mr. Zeer is proposing fifty apartment units which is smaller than originally planned, and a restaurant area. He believes the property is approximately three-acres in size.

Trustee Ruggles shared that he was at the four-hour planning commission meeting and that Mr. Zeer did not get the full review of the Planning Commission, nor would he until he requests to appear before them. He further noted that Mr. Zeer was on the agenda at the last Township meeting when there were a number of residents present from Pontiac Lake. He notes tonight they are not here and suggests that it was difficult to make a 6:00 p.m. meeting. He further shared that he has been inundated with phone calls from lake residents who would like the opportunity to speak.

Trustee Smith would be in support of tabling this until the regular board meeting so that residents can attend as she too has been contacted by residents regarding this.

Charter Township of White Lake
Special Board Meeting
Unapproved Minutes of April 13, 2022

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Supervisor Kowall feels that since this is a conceptual idea, he does not think it would hurt the Board to have some idea or review of it.

Trustee Powell agrees if the public has an opportunity to speak and that the Board is not being bound by anything tonight.

Mr. Zeer indicated he is here tonight to receive this Board's feedback. He opined that this is a very unique project, and he believes this is one of the nicest parcels on the water. He would love the challenge and opportunity to bring something nice to the gateway district. He has been a developer for twenty-five years with developments in Waterford, Springfield Township and he has won awards for his developments. He noted that they do nice work and projects that their name is proud to be on and projects that are nice for the community as well. He noted there is 900 feet frontage on the water and that Director O'Neil shared with him that the Township would like to see a commercial component. He shared that he met with resident Mark Degroff. Mr. Degroff shared with him that a restaurant on the property would be a good fit. He also noted that he took into consideration cross access for future neighbors as suggested by Director O'Neil. He understands the density concerns, but notes that with a lake that size and a parcel that big that he would only be adding twenty to twenty-five families on the water, not all fifty units. He noted that there would be a common area/beach area and a restaurant where boats/snowmobiles could dock to use the facility. He also shared that they would like to do some sort of walking area. He further indicated that they would not mind doing a monument sign regarding the gateway district. He believes this will catapult what the Township wants to achieve and what he is looking to achieve and that they will look nice.

Mr. Zeer noted that it is good that the mobile home park is gone, but as he understands, he might be the third developer to come before the Board regarding this property. He declared that he knows what the expectations are, but also knows what is realistic from a developer standpoint. He welcomes the Board's comments.

Trustee Ruggles has an issue with the density, with apartments on the lake and the intent of or assignment of docks. He noted this drawing is different than the last drawing he saw and that the parking has changed. He also shared that he does not think of families in regard to apartments.

Mr. Zeer interjected that the rumor that these would be Section 8 apartments is untrue. He shared that this will be \$15,000,000.00 to \$20,000,000.00 investment in White Lake and that it will be an upscale development. He further indicated that these apartments would rent for \$2,000 to \$4,000 depending on the number of bedrooms. He believes it will be empty nesters and young professionals that will lease the apartments and not riffraff. He declared that they will be high end, nice units, with long term renters. He encouraged the Board to check out their website and see the awards they have received.

Clerk Noble noted that he is a stickler for showing up on time and questioned why Mr. Zeer did not last time.

Charter Township of White Lake
Special Board Meeting
Unapproved Minutes of April 13, 2022

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Mr. Zeer shared that the last time he was present for four to five hours and got five minutes of time. He further shared that he was only ten to fifteen minutes late. He respects the decision of the Supervisor to have the matter not heard but reminds that he was going by what happened prior.

Clerk Noble noted that it is not fair to put this on the Supervisor and to not have the residents present to speak as they were here last time.

Trustee Smith reminded that the Planning Commission and Township Board are two different boards.

Mr. Zeer reiterated in response to Clerk Noble's question, that rent will be between \$2,000 and \$4,000 based on number of rooms and boat slips. He based his numbers from what is happening at Four Corners, which is \$2 per square foot. He notes that being on the water he will get at least \$500 more a month.

Trustee Smith shares in the same concerns with the density and parking. She is not sure these fit in the Township's vision for the gateway, but noted she is in favor of a restaurant on this site. She further indicated that she definitely wants to hear from the residents on this.

Mr. Zeer opined that this must make sense for everyone and that the Board needs to decide what is best for the community. He understands that he cannot make everyone happy, but that there must be some give and take. He reminded that he has made changes and is trying to be sensitive to what the Township is looking for.

Trustee Voorheis clarified there are fifty units and one hundred and fifty-one parking spaces and that residents would be encouraged to park behind their residence. She loves the idea of a restaurant on the water. She questioned what the view would be.

Mark Degroff, 9776 Bonnie Briar. He interjected that the view would be looking more towards Skull Island and the park.

Trustee Powell agrees with his colleagues that the density is too high. He noted that it is sixteen units per acre and that the ordinance is nowhere close to that. He further shared that he is not a fan of apartments and prefers condominiums and homeownership. He is not a fan of all the docks on the lake and notes that a marina permit may be required from EGLE/DNR. He believes that the allowable boats are a lot in his opinion. He further opined that storm water will be a huge issue on this site and the tremendous amount of pavement on the drawing would be better used for rain gardens and clarity of storm water. He believes there is an engineering issue as well. He is not a fan of the building architecture and finds it to be too flat of a building. He was personally looking for something to be tied into the M-59 peninsula and this does not seem to be that. He suggests that it lacks landscaping as well. He also noted that the homes would be right on the road and that he would be looking for better buffering to the right of way and maintaining setbacks.

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He opined that he will be looking for something that is a giveback to the Township, and he sees nothing here except a project that enhances Mr. Zeer's bottom line. He sees no benefit to the Township. Mr. Zeer interjected that is why he would do a monument sign or a boardwalk/sidewalk. He is not sure what else Trustee Powell would be looking for on a three-acre parcel. He further asked how many boats Trustee Powell would want on there.

Trustee Powell noted there are developments that allow the first five renters to have a slip, and not the first thirty. He shared that he grew up on Union Lake and that it got to the point that he could not even take his boat out on a weekend because of how busy it was. He also shared that he was dragged as a scuba diver by a city person who did not know what a scuba buoy was. His bottom line is that it is way too many boats.

Treasurer Roman noted that it looks like a very difficult parcel to develop with only three acres. When he first looked at it, he only saw cement but notes that there must be parking. He likes the layout; he loves the restaurant and personally does not have an issue with the boat docks. He opined that the developer will have a hard time getting \$4,000 for an apartment. He personally would rather see condominiums or single-family homes in there.

Mr. Zeer indicated that would never happen with the commercial component there. He noted that the parking could be adjusted if a smaller restaurant is there.

Trustee Powell interjected that as a point of interest, that this is the advantage of developing the entire area all at once as the parking can be diversified and shared amongst the adjacent properties. He will be looking for Mr. Zeer to indicate he has approached the neighbors.

Mr. Zeer indicated that once the apartments are up, they can be converted into condominiums to sell.

Supervisor Kowall appreciates the timely attendance tonight and appreciates his understanding as to why it was removed from the agenda last time. He feels that it was the proper thing to do as the crowd that was here may have participated. He received twenty-seven emails that were opposed to the original concept presented by Mr. Zeer. He did note that while he received opposition, it was not that residents opposed something happening there. He shared that the residents of Pontiac Lake are passionate about what they have, as their greatest investment is the home they have. He declared that they are looking for a restaurant. He believes that condominiums are important as people who own have equity and an interest in what is going on. He continued that the GD district was originally set up to be mixed use and mixed, but that it does not mean that a string of sixteen condominiums could not be built around the water's edge. He further opined that all would sell.

Mark Degroff interjected that there is a condominium complex.

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Supervisor Kowall advised that what Mr. Zeer is proposing and what currently exists are miles apart. He opined that condominiums are in big demand right now, would go quickly, and would solve the puzzle for Mr. Zeer. He suggested that if he cannot sell the condominiums, he could rent them out. He strongly recommends a mix of condominiums, apartments, and a restaurant.

Mr. Zeer shared that it is hard to get funding for condominiums right now and that the banks are not lending for condominiums and therefore it is a lot of out of pocket.

Supervisor Kowall strongly recommends consideration for a mixed use and that Mr. Zeer go back to Director O'Neil. He believes he is heading int the right direction.

Mr. Zeer indicated that he does not want to be fighting either. He wants to be on a middle ground so that he is not another developer that walks away. He reminds that he will not be able to make everyone happy.

Supervisor Kowal indicated that having individuals who are responsible and have an invested interest in the property is key.

Mr. Zeer invited the Board to visit their website at www.Zeerco.com

Trustee Smith clarified that the processes are different between the Planning Commission and the Township Board.

C. REQUEST TO APPROVE CONTRACT TO HIRE NEW ASSESSOR TO REPLACE CURRENT ASSESSOR DUE TO RETIREMENT

Supervisor Kowall indicated that consideration to replace the current assessor with a qualified individual who has the background and knowledge. He shared that a search of the market was done, which resulted in two candidates. He opined that one candidate is more qualified than the other. He firmly believes that Assessor Smith has the insight into her job more than any other individual in the Township and/or on the Board. He noted that it is her recommendation and that of the human resources manager that the Board consider hiring David Heiber as assessor for a period of two-years. He explained that in that period of time, it is the Township's hope to have a current employee receive their accreditation and then hopefully retain that person as the assessor. He noted that the Township has always talked about promoting from within and this would be an opportunity to do so. He shared that he bumped into Johnnie (Lindsey) on the way to the meeting and she declared how grateful she is for the Township offering her this opportunity.

Supervisor Kowall further declared that this is an at-will limited contract. By example he indicated if he does not like the way Mr. Heiber sharpens his pencil, he can dismiss him.

Trustee Ruggles asked what the vetting process is for this position.

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Supervisor Kowall in response indicated to check referrals, do your homework, and have the labor attorney investigate.

Trustee Ruggles opined that the assessor position is one of the most critical positions in the Township. He believes that whoever is hired must do the job appropriately.

Trustee Powell asked the following questions regarding the contract and received the following answers from Supervisor Kowall:

Q: The phrase that this employee will get retiree benefits, what does that mean?

A: They will get a 401K.

Q: is there anyone else that has been offered only a two-year vesting to be 100% vested?

A: There has been a history of short vesting periods in the Township.

Q: is there any history of the Township having a 90% matching fund in a 401K?

A: Yes, and the information of such can be provided by Cathy Derocher.

Clerk Noble interjected that examples would be former Fire Chief Marinucci and DPS Director Aaron Potter.

Trustee Powell asked for public comment prior to his continuance.

Tim Smith, 1031 S. Holly Road, Holly Township. Spoke in opposition to the contract approval.

Bob Hoffman, 2521 Rose Center Road, Highland. He congratulated Jeanine on her retirement and wished her well. He spoke in opposition to the contract approval.

Trustee Powell noticed that in the employment agreement, this person will be an at-will employee, which means the Supervisor can at any time ask him to leave. He believes that Supervisor Kowall has done a great job so far controlling the Township and relation with the public. He shared that he did his own research, and that in his profession he deals with a great many assessors and appraisers. He also indicated that the complaints he has heard regarding Mr. Heiber are typically from those that have disagreed with decision he has made, which is not unusual. He can understand how they may have a particular view. However, he reached out to the professionals, assessors, and appraisers that he knows, and each of them spoke extremely highly of this gentleman. They were extremely impressed that White Lake has the ability to hire this person. He went into his investigation on the negative side based on what he had heard, and the professionals turned him around and said that the Township would be getting an extremely good employee with Mr. Heiber. He was impressed with the assessors and what they represented to him.

Trustee Smith certainly does not ever want to have a blemish on White Lake Township. She indicated the employees are stellar and she wants to keep that reputation for White Lake Township. She is not interested

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in having someone who deals directly with the public having some kind of misconduct or whatever the allegations might be, as she does not know of them firsthand. Her suggestion tonight would be to try Oakland County as a trial period and see how they work out as the assessor. She thinks that moving Johnnie up is a great plan but asked how long that process will take. She further indicated that Supervisor Kowall is the chief assessor of the Township as of now and with the plan of moving Johnnie up, she suggests the Township could bridge with the county as an option.

Treasurer Roman shared that he cannot give a number of how many people come to his counter and complain about their taxes. He noted that they are sent to the Assessor's Office and in many instances, they end up coming back and declare that they do not like the assessor. He cannot think of an assessor in the world that the general population likes. He shared that years ago he had an issue where he thought he was grossly over assessed. He was referred to Oakland County at the time and he was assisted by a gentleman named David Heiber. He shared that he was professional, responsible, and he did everything he could have asked. He further shared that Mr. Heiber even contacted the Township at which time Jeanine lowered his taxable value and assessed value. He had a good experience with David Heiber.

Trustee Voorheis shared that she googled him and made phone calls, but that she is relying on Jeanine as she knows the job and the department. She is relying on her.

Supervisor Kowall asked Assessor Smith to tell the Board about her Department, her position and why she thinks Mr. Heiber is the best candidate.

Assessor Smith shared that she has known Dave for as long as she has lived in White Lake as he was the equalization director the entire time, she has been the assessor. She has had nothing but good experiences working with him. She stated that he is professional, easy to work with, and always stays professional. She is not sure what the allegations against him were, but she has always seen him as up-front and an excellent equalization director. She spoke with some of his employees since he left and has only heard good things. She noted that none of his employees were talked to about him being let go and that she spoke with employees directly under him.

As to her thoughts of him as a mentor to Johnnie, she indicated that his employees shared that he was an excellent mentor to them. She shared that in his interview, he made it sound like his employees mentored each other, but his employees felt he was the mentor.

Trustee Smith asked how long it will take for Johnnie to complete the process.

Assessor Smith indicated she cannot even start the classes until October and that it will be a year before she receives certifications. She further indicated that in her opinion to put her in the position right after certification would be unfair to her as a few years doing the job or helping with the job is necessary. She opined that a two-year contract is shy of what the Township is going to need.

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Trustee Smith asked if Assessor Smith thought there would be a cost savings by using the Township,

Assessor Smith declared absolutely not. She shared that it was considered previously and that her department does more than most assessing departments. She noted that for just the basic assessing, there might be a cost savings, but they would not do all the jobs the department does. They would not handle all the questions and issues regarding garbage or the special assessments. She declared that the Township would have to hire another employee to do those two jobs.

Trustee Smith indicated that if the Township went with the County, that the other employees in the Assessor's Department could answer questions about garbage.

Supervisor Kowall does not believe the employees there could manage the special assessments and things of that nature and that it would be shorting the residents by doing so. He declared the Township would have to have someone who understands how this is done as the Township is doing more and more special assessment districts.

Assessor Smith interjected that the County did indicate that they could take over the other jobs, but that they would charge for the same and by the time it was all worked out, it was going to cost more than that of just keeping the staff at the Township.

In response to Trustee Ruggles and Trustee Smith, Assessor Smith indicated she is retiring at the end of May after eighteen and half years.

Clerk Noble thanked Jeanine for making such a big difference.

Trustee Ruggles had never heard of this individual and did his own research. He read the article about his dismissal from Oakland County. He shared that he spoke with people Mr. Heiber worked with and they did not have positive things to say, which makes him apprehensive. He indicated that it makes him uneasy even as a resident that if he were to vote no that he could have an agenda against his vote. He would hate for the assessor to be the kind of person that would act negatively when someone voted against him. He is not sure from the feedback he received that he is or is not that person, but he is uneasy with the vote. He understands that Jeanine speaks highly of hm but notes there were quite a few that did not. He questions how long the Township can go without filling the position and questioned if the Township could wait until someone without a blemish comes along. He indicated that he is not against second chances, but questions if this is the type of person the Township wants to invite in. He also noted that he has seen a number of times when at-will employees are asked to leave, and it ends in a lawsuit.

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Trustee Smith supports Trustee Ruggles comments and notes that she will be voting no because this was the Supervisor's decision on the vetting process, and she does not feel like she has enough information on that process, and she does not feel comfortable to have this person represent White Lake.

It was MOVED by Treasurer Roman, SUPPORTED by Clerk Noble to approve the employment agreement for assessor as presented. The motion PASSED by roll call vote (Kowall/yes, Roman/yes, Noble/yes, Ruggles/no, Smith/no, Powell/yes, Voorheis/yes)

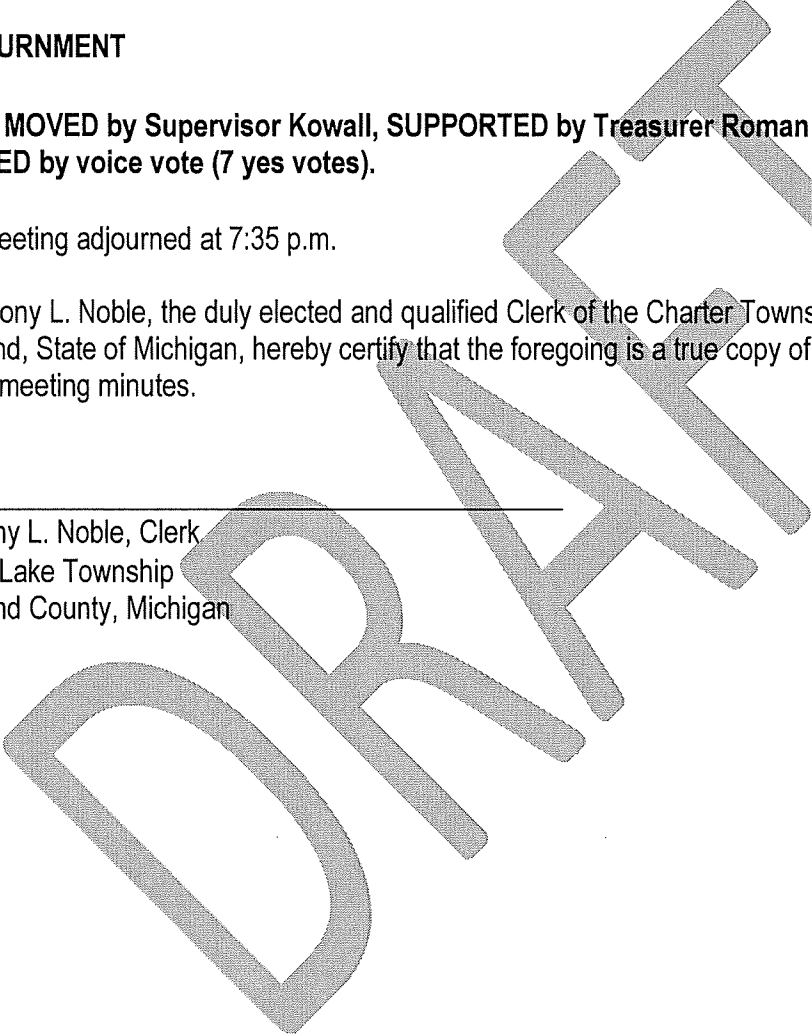
ADJOURNMENT

It was MOVED by Supervisor Kowall, SUPPORTED by Treasurer Roman to adjourn. The motion PASSED by voice vote (7 yes votes).

The meeting adjourned at 7:35 p.m.

I, Anthony L. Noble, the duly elected and qualified Clerk of the Charter Township of White Lake, County of Oakland, State of Michigan, hereby certify that the foregoing is a true copy of the April 13, 2022, special board meeting minutes.

Anthony L. Noble, Clerk
White Lake Township
Oakland County, Michigan



**CHARTER TOWNSHIP OF WHITE LAKE
Unapproved Minutes of the Regular Board of Trustees Meeting
April 19, 2022**

Supervisor Kowall called the meeting to order at 7:00 p.m. He then led the Pledge of Allegiance.

Clerk Noble called the roll:

Present: Rik Kowall, Supervisor
Anthony L. Noble, Clerk
Mike Roman, Treasurer
Scott Ruggles, Trustee
Liz Smith, Trustee
Andrea Voorheis, Trustee
Michael Powell, Trustee

Also Present: Lisa Hamameh, Township Attorney
Sean O'Neil, Community Development Director
Daniel T. Keller, Chief of Police
John Holland, Fire Chief
Debra Nigohosian, DPS Secretary
Jennifer Edens, Recording Secretary

Supervisor Kowall saluted Carol Burkhardt, former township clerk and board member, who passed away last week. A moment of silence was observed in her honor.

APPROVAL OF AGENDA

Supervisor Kowall amended the agenda to add:
10L – Four Corners License Agreement

It was MOVED by Treasurer Roman, SUPPORTED by Clerk Noble to approve the agenda, as amended. The motion PASSED by voice vote (7 yes votes).

PUBLIC COMMENT

Teresa Renaud from Senator Runestad's Office. She is here tonight to check in and see if there is anything her office can do to aid the Township, community, and residents.

CONSENT AGENDA

- A. REVENUE AND EXPENSES**
- B. CHECK DISBURSEMENTS**

- C. LIST OF BILLS
- D. DEPARTMENT REPORT – POLICE
- E. DEPARTMENT REPORT – FIRE
- F. DEPARTMENT REPORT – COMMUNITY DEVELOPMENT
- G. DEPARTMENT REPORT – TREASURER

It was MOVED by Trustee Ruggles, SUPPORTED by Clerk Noble to approve the Consent Agenda. The motion PASSED by voice vote (7 yes votes).

MINUTES

A. APPROVAL OF MINUTES REGULAR BOARD MEETING, MARCH 15, 2022

Trustee Smith asked for very minor grammatical changes which she will submit to the Clerk's Office.

Clerk Noble reminded of the problem when not submitted to be fixed prior to the meeting.

It was MOVED by Trustee Powell, SUPPORTED by Clerk Noble to approve the Minutes of the Regular Board Meeting, March 15, 2022, to include the non-substantive modifications as submitted by Trustee Smith.

PROCLAMATION

A. PROCLAMATION MENTAL HEALTH AWARENESS MONTH – MAY 2022

Supervisor Kowall stated that the emphasis on mental health in the country has started to change for the better due to heightened awareness. He shared that if someone has an issue or needs to seek help, they can call the Oakland County Health Department at 248-858-1280.

He indicated that the Oakland County Health Network (OCHN) is committed to being a zero-suicide organization. He noted that this is a problem that as a community must be remedied. He proclaimed that White Lake Township is declaring May 2022, Mental Health Awareness Month.

Trustee Voorheis, who works in the field, noted that OCHN has opened to the public. It is located at I-75 and Crooks. She further shared that April is Autism Awareness Month.

It was MOVED by Trustee Voorheis, SUPPORTED by Trustee Smith to proclaim Mental Health Awareness Month, May 2022. The motion PASSED by voice vote (7 yes votes).

PUBLIC HEARING

A. PUBLIC HEARING TO REVIEW THE SPECIAL ASSESSMENT ROLL AND RECEIVE PUBLIC COMMENT ON EMERGENCY SEWER CONNECTIONS 2022-01

Supervisor Kowall shared that this is a program that the Township runs to aid residents who may have a failed septic sewer system and that this is done annually, if not twice a year.

It was MOVED by Supervisor Kowall, SUPPORTED by Trustee Ruggles to open the public hearing to review the special assessment roll and receive public comment on Emergency Sewer Connections 2002-01.

Vibella Oaks, 9380 Buckingham St., White Lake. She questioned the income to qualify for funding.

Supervisor Kowall noted he did not have that information available at this time, but that it is usually persons with financial challenges. He indicated that it is important for the residents to know that they have that ability to meet the criteria of the health department and hook up to the sewers. He further shared that if she knows of someone in need or would like further information that she should contact the Township's DPS offices.

It was MOVED by Supervisor Kowall, SUPPORTED by Treasurer Roman, to close the public hearing. The motion PASSED by voice vote (7 yes votes).

Treasurer Roman indicated that the program was opened up to help individual needs of residents that need to hook up to the sewer. He continued that it is an expensive endeavor and that the Township recommends residents use their own financial means, but if a resident chooses not to, they are invited to become part of the district. He declared that it is not based on income and that they look at the value of the home.

Trustee Ruggles interjected that it is based on an emergency situation.

NEW BUSINESS

A. RESOLUTION #22-019; TO CONFIRM THE SPECIAL ASSESSMENT ROLL FOR THE SPECIAL ASSESSMENT DISTRICT DESIGNATED EMERGENCY SEWER CONNECTIONS 2022-01.

It was MOVED by Treasurer Roman, SUPPORTED by Clerk Noble to approve Resolution #22-019, confirming the special assessment roll for the emergency sewer connection. The motion PASSED by voice vote (7 yes votes).

B. REQUEST TO APPROVE TRAFFIC ENFORCEMENT AGREEMENT WITH CEDARBROOK ESTATES MANUFACTURED HOME COMMUNITY

Attorney Hamameh noted there are two items on the agenda, the agreement and then the amendment.

Supervisor Kowall noted that this would allow Chief Keller and his department have the right to write traffic citations by agreement on the private property. He further indicated this was at Cedarbrook's request.

It was stated that they will have the authority to write any type of citation.

Trustee Ruggles questioned what happened previously and further questioned if there are similar agreements like this with similar communities.

Supervisor Kowall indicated that with the Board accepting this agreement, the next step will be to amend the ordinance.

It was MOVED by Treasurer Roman, SUPPORTED by Trustee Powell to approve the Agreement with Cedarbrook Estates. The motion PASSED by voice vote (7 yes votes).

C. REQUEST TO AMEND AN ORDINANCE – CHAPTER 36, TRAFFIC AND VEHICLES, ARTICLE II – VEHICLE CODES

Supervisor Kowall noted that this will now add this community to a list of others.

Trustee Powell questioned why if the Township has been trying to eliminate specifics out of the ordinances that this specifically names a community rather than referring to an exhibit.

Attorney Hamameh noted there are two explanations. The first is that this traffic code ordinance is recommended to be adopted annually. She continued that this ordinance adopts the Michigan Vehicle Code, the Motor Carrier Act, snowmobile and off-road vehicle laws. She shared that when those ordinances change throughout the year and the Township's ordinances were previously adopted; and while the ordinances state, "as amended", the Township has been challenged in court. She noted that the Township has been successful, but by doing a routine adoption eliminates a lot of motions and arguments.

She further indicated that the communities do not need to be listed in the traffic code ordinance and that the statute only requires the traffic enforcement agreement. She went on to indicate that the problem is the agreements get lost or are challenged. She declared that by having it in both places, it simply reinforces. She compared it to insurance or double protection regarding everyone being on notice as to Township enforced traffic.

Supervisor Kowall noted that the challenges are the biggest thing.

Attorney Hamameh believes it has been more than ten years since the Township has been approached by a community.

Supervisor Kowall interjected that Ivy Glen was the last one to come in and that it was approximately four years ago.

It was MOVED by Trustee Powell, SUPPORTED by Clerk Noble to adopt the changes to the Chapter 36, Traffic and Vehicles, Article II – Vehicle Codes, as presented. The motion PASSED by voice vote (7 yes votes).

D. CONSIDERATION OF OXBOW LAKE PRIVATE LAUNCH ASSOCIATION (OLPLA) PLANNED DEVELOPMENT AGREEMENT

Director O’Neil shared there is a memorandum dated May 7, 2022 that outlines the details of this. He noted they have appeared before the Board several times already. They have gone through the planned development process and their final site plan was approved with minor clean-up. He shared that there is a recommendation from the planning commission that the Board give approval to the planned development agreement with minor modifications. He noted that an addition to the agreement will be language that states the Township is only responsible for maintenance for whatever improvements it makes in regard to the easement being granted to the Township. He opined from the staff level and from the planning commission that this is a great project as residents had a need for lake access and they pooled their funds, put a group together and did something about it. He applauds their efforts and wholeheartedly recommends approval.

Trustee Ruggles recalled that at the first meeting he noted that it would be a long road. He believes they have done well in navigating the process and he is in support of it.

Supervisor Kowall applauded the organization and its efforts. He noted in a sense, this is the closest thing to a lake association, and that these folks will be good stewards to the lake. He called out for the Board, Article 2, Section 2.2, bottom of first paragraph that reads:

“Only riparians will have the right to be members of OLPLA and keyhole access shall be permitted. No commercial use shall be permitted.”

He believes this addresses previous concerns of some of his Board members.

Rick Walklet 10835 Oxbow Lake Shore Drive. He noted that DTE is moving poles for safety and access. He indicated that OLPLA is moving forward and getting its ducks in order. He thanked the Board members for their consideration on this project. He shared that it has been a learning journey.

Trustee Powell asked for clarification, if there was an emergency on the lake, where would first responders access the lake at.

Supervisor Kowall noted as indicated in their documents, there will be Knox box access, which was part of the agreement. It will provide direct access to first responders, which is not currently available but for Sprader’s Bar’s access.

Director O’Neil indicated that access for first responders was cited as a public benefit in their plan. He further asked that the Board’s motion include subject to the review and comments of the planning commission.

It was MOVED by Trustee Smith, SUPPORTED by Treasurer Roman to approve the Planned Development Agreement Oxbow Lake Private Launch Association, Inc, to include comments made tonight, community development and notations made this evening and to authorize the Supervisor and Clerk to sign any necessary documents. The motion PASSED by voice vote (7 yes votes).

E. REQUEST TO AMEND AN ORDINANCE; CHAPTER 18, ARTICLE II – FIRE CODE

Chief Holland indicated before the Board is an amendment to the fee section of the fire ordinance. He stated the amendment consist of the addition of 113.11, which is the request for non-emergency assistance. It would give the fire department the right to collect a reasonable fee if necessary. He noted that it will only apply to commercial businesses. He explained that it is when they are called to a business that has paid staff present and they call the fire department to aid in matters they could have handled. He declared that the fire department cannot be part a corporation's business plan. He does not believe it is fair to put that on the tax payers of White Lake. He clarified that the amendment does not indicate that he will always charge, but rather he will look at and evaluate each situation.

Supervisor Kowall applauded Chief Holland for bringing this to the Board. He notes he is aware of other communities that have enacted such policies as the fire department should not be a part of their business plan. He noted it is one thing to aid in an emergency, but to aid in services in which the business is supposed to be providing is another thing.

Trustee Ruggles asked if there is something that prevents Chief Holland from doing this now. To which, Chief Holland indicated that it is not part of the fee ordinance as of now.

Chief Holland indicated they can charge restitution for reckless behavior, arson, hazardous material calls, and utility calls if manpower is provided.

Trustee Smith noted that she had a conversation with Chief Holland today and she asked Chief to bring back numbers of how often this happens before second reading. She also would like Chief Holland to go to corporate and ask them to provide adequate equipment in the facilities. She believes they need to have proper equipment to lift residents appropriately. She declared it a strange compliment that they call the fire department for their expertise. She wants the residents to be lifted properly. She further asked Chief Holland who would determine the cost. She asked of her colleagues if the Board wants to leave the determination of cost up to the Chief.

Attorney Hamameh made sure the Board is looking at the most recent version. As to the costs, she indicated the ordinance allows expenses to be recouped by utilizing a calculation of the cost of the equipment, personnel responding to the event.

Chief Holland agreed and indicated that he can't set a fee as it is all based on the response and how it goes.

Chief Holland stated for consistency; the shift captain would make the request to him for costs recovery. He then, would look at the call, the personnel there, and will determine if it is warranted. He noted that not all calls will be warranted. He shared that one facility was calling continuously and that they previously made a request that this facility get a Hoyer lift. He does not want the fire department to be used recklessly.

Supervisor Kowall thinks this is good especially with the additional facilities coming online in the near future.

Treasurer Roman asked Chief to recommend what he considers to be abuses in terms of the number of runs his department makes per week, month, or year.

Chief Holland does not think abusive is the word to use, but rather reckless use of the fire department. He notes that it takes resources as once they are engaged in a call they are not leaving. He explained that arriving to a call to find staff there that watches them perform is reckless. He will run the numbers for the last few years to show the Board. He defined that it is called a citizen assist, but they are running them for commercial.

Treasurer Roman suggests that each facility be given one use per month and thereafter they are charged.

Chief Holland indicated they have already been there. He shared that last year they received a request from a company who was short staffed, and a worker had a sore back, so they called the fire department to help them with their business practice to move something.

Trustee Powell questioned why the Township can't attribute a cost for the runs to these companies. He noted that they are for profit places, that charge people money to be there, and they rely on the fire department to do their jobs. He believes it could be a set standard price for a run to a facility. That way they would know the costs when they pick up the phone. He is concerned because even if they do have the equipment, they stash in a back of a closet/room and will rely on the fire departments equipment and staff.

Trustee Smith believes they need to be made aware that they need to have the right equipment.

Trustee Powell noted in the middle of the night, when someone falls, that the staff might not have the muscle to assist, but that they certainly should have sufficient equipment to do the job. He does not believe private sector companies should receive a break.

Supervisor Kowall knows of a situation where a very robust person was in need and it was necessary to call in other assistance to get this particular person up.

Trustee Smith reminded of the humane side of it. She further noted that CNA's are often women and are by nature smaller in size.

Trustee Powell declared that there is no reason for the Township to not recoup its cost.

Attorney Hamameh has concerns with unfettered discretion as it opens the door for unequal enforcement arguments. She suggests that she and Chief discuss this further before second reading.

Chief Holland clarified that they are not charging residents, just the facility.

Clerk Noble indicated that the hourly rate and apparatus use will be factored in, much like the police department in DUI cases.

It was MOVED by Supervisor Kowall, SUPPORTED by Trustee Powell to move the amend Ordinance Chapter 18, Article II – Fire Code to second reading. The motion PASSED by voice vote (7 yes votes).

F. FIRST READING, BLACK ROCK REZONING REQUEST

Director O'Neil indicated that on March 17th the Planning Commission held a public hearing for the request at 9501 Highland Road. It is a one-acre parcel currently zoned local business (LB) and the request is to rezone to general business (GB). He noted that the future land use map designation for this site is planned business which is consistent with the proposed GB. He further stated that there is no issue with the site's physical, geological, hydrological, or other environmental features that would limit the host use as GB. It is also compatible with the surrounding use and zoning given the extensive landscaping be provided to the residents adjacent to the outlying during site plan review. He declared that rezoning to GB is more appropriate than any other district. He also stated that rezoning the land to GB is more appropriate than amending the land uses as LB. Lastly, he indicated that rezoning to GB will not result in spot zoning.

Director O'Neil identifying the property at the corner of White Banks and M-59. He noted that lots 8, 9, and 10 comprise the corner property already zoned LB. The property at issue tonight is a narrow one-acre parcel purchased by Black Rock. He shared that there were some concerns about buffering to the neighbors and consideration of this will need to be given if the plan is to move forward.

He shared that at the planning commission public hearing, residents expressed concerns about buffering, traffic, and lighting. He has met with the applicant and has seen conceptual plans. He knows that they plan to enter the site both off of M-59 and White Banks and that a traffic study will be done regarding this. He shared that many years ago, it was noted that there was a traffic light at this intersection.

Trustee Powell noted that this will take TLC when it comes to site plan approval. He asked if there is any benefit at all to split zoning. He noted if the parcel is rezoned general business it means they can extend general business all the way down to residential structures. He doesn't know what their intentions are to the land to the south. He thinks it is opposed to the planning commission's position to split property. He wonders if it would impact what Black Rock is proposing to do on this site and further asked how the Board/Township protects the homes adjacent to that section, that could potentially be rezoned GB.

Director O'Neil indicated that the ordinance prescribes a few different methods for buffering. In this situation a masonry wall will be required, which is accepted by Black Rock. He further shared that it was indicated that Black Rock intends to put parking in the area near the homes, regardless of the expression to not having parking there. Their position is that it is absolutely necessary. He reminded that no plan has been submitted as of yet. He believes the parking spaces were between 135 and 155. He noted that buffering will be the biggest issue here and that no one debates that this is commercial property and can be developed as such.

He opined that the split zoning is interesting, and he noted that whether or not this went to GB, they would still have the right to use it as a parking lot and still would have the buffering issue.

Trustee Powell foresees three problems. A parking lot will have noise and traffic next to a very quiet residential neighborhood. He doesn't think any kind of landscaping will help that. As to the wall, it changes the ambiance of people's backyards. He would suggest that the planning department reach out to the owner and suggest putting the landscaping on the residential side of the masonry wall to soften the look. He further suggests that the lighting be low.

Supervisor Kowall interjected that while he respects Trustee Powell, he thinks the Board needs to let the planning commission do their duty.

Director O'Neil believes the plan was to hold the wall eight or ten feet off the property line and plant that area, leaving a five-foot area between the wall and the parking lot. He stated that it will be narrow on the inward side and more extensive on the outward side.

Attorney Hamameh reminded this was done with the Hebert property and it ended up dying because there was no water and no way to take care of the landscape.

Director O'Neil indicated that is a different situation.

Supervisor Kowall had thinks that it should be requested that employees park in that area as it would be less activity and movement. He advised the residents that the Board is acutely aware of this as there have been past business that were problematic.

Trustee Voorheis clarified that there will be entry points off of White Banks and M-59 and that their intention is to use all three of the lots.

Director O'Neil clarified that lots 8, 9, and 10 are one parcel.

Trustee Smith confirmed that when Director O'Neil state outside, that he meant neighbor. She also confirmed this is administration's request to rezone from LB to GB. Then she questioned if they can park there either way, why is it being suggested.

Director O'Neil indicated that it is preferred to not have split zoned parcels. He admitted there are some around the township, but it is difficult to deal with long term as you end up with two entirely different sets of regulations that govern. It is preferred to have uniform parcels.

Trustee Smith asked if there is any other major change that the Board should be aware of.

Director O'Neil indicated there is a whole host of uses that GB allows, that LB does not. He noted that the one-acre parcel is very narrow and almost unusable commercially by itself. It would be very limited if it is not combined to the other parcel. His thought is if the ownership is unified then the rezoning should be also.

Trustee Powell thanked Black Rock for even considering White Lake. He thinks the residents of White Lake Township are going to greatly reward them.

Treasurer Roman agreed with Trustee Powell. He also added that this lot already has sewer taps that are already paid, which is the biggest impediment of restaurants opening with the cost to hook-up to sewer. He understands the concerns but notes that the residents are living next to lots zoned business. He believes this is a rare opportunity for the Township and he would hate to see it die. He declared that White Lake needs sit down restaurants and that it would be wonderful to have a steakhouse.

Trustee Powell noted the tap fees are based on expected water use and not necessarily that there is a tap there. He indicated there still may be fees, but not full payment.

Trustee Smith noted that regardless of the Board's excitement, the Board is very consciences that this is butting up to a neighborhood.

Trustee Ruggles agrees with Director O'Neil's recommendation to rezone. He shared that a number of residents spoke at the planning commission hearing and much of what was said was not specific to the zoning request. There was mention of traffic issues and a remembrance of a former traffic light.

Supervisor Kowall reminded that ultimately the traffic decision is through MDOT.

John Hunt, 871 Oxhill Drive. He indicated he is on the corner lot and will be surrounded by the brick wall. He sarcastically stated that the one side that they want to make a parking lot and have their employees park there, is a great idea. That way the employees can come in two hours before the restaurant opens and then stay two hours after they close. This way his dog can bark around 3:00 a.m. As to the lights, he questioned how low can they put them. He feels they would have to be low enough for a car to drive underneath. He indicated that from his property to the property in question, is four or five feet. He declared that they can put the light next to his bedroom window. He doesn't mean to be a smart aleck, but everyone here knows the hell he has gone through.

As for the sewers that Treasurer Roman mentioned, he noted that he paid for them. He paid \$13,000 extra to have those and that they were the first sewers in White Lake Township. He continued that when the county decided to close up the sewer system, which worked wonderfully, then he paid for again with a special assessment that tore up his driveway. He advised Treasurer Roman if he wants to thank somebody for the tap of the sewer, it is him.

As to the street light, he indicated that it went away when they made M-59 a four-lane highway. He shared when he bought his home, it was only two lanes. He further stated that lot #8 was a special easement to remain one like Speedway. He declared it was the intent when it was subdivided by Jack White and when it was bought from Darrel Howard. He further stated that Darrel's son owned the house that Stan just sold to the restaurant. He noted that for as long as Stan owned it, it was assumed that it would be a residential area. He did not know that the property beside him was zoned commercial, but he did know that the Stan's house was out front. He declared that he nor anyone in the subdivision has any problem with the developing over to Brendel's property. The problem is in their backyard as it is low land will flood. He stated he has been down the road with the Township before and asked if it is going to give him another fifteen years of hell. He reminded that he dealt with Brendell's crap for thirty-years.

Mr. Hunt indicated he was there when it was the Diner, Chuckie Cheese, Little Caesars, and Big Boy. He saw all of those restaurants go broke.

Trustee Smith suggests that he could be instrumental as to how lights can work there since he has lived through it before.

Mr. Hunt indicated that the three houses that butt up to the property have a long enough yard and they will live with a parking lot like they did before, but to surround his house with the lights. He asked Trustee Smith if she would want to live with that. He shared that 60% of his property line is surround by them.

Supervisor Kowall interjected that it can be regulated better with the rezoning.

Mr. Hunt indicated that residents offered to buy it from them, but they don't want to talk about the residents buying it. He shared that he was elected by his neighbors to come tonight rather than the dog and pony show. Mr. Hunt declared that he will be dead in thirty years, as he won't live to 103 years old.

Supervisor Kowall assured him that the Township will look at this with a very close eye. He noted that he understands the concerns of the neighborhood and knows that it is important.

Mr. Hunt indicated that sooner or later the new car wash will go in and sooner or later someone will buy the Brendel property and it will get developed. He opined that no one will have a real problem with that, if the Township can just keep it on M-59. He declared that the restaurant parking lot does not belong in his subdivision. He indicated that is the bottom line, right, wrong, or indifferent.

Supervisor Kowall noted that Director O'Neil is very particular.

Mr. Hunt interjected that if you let them put a brick in there, he is screwed.

Supervisor Kowall referred to this as the "sins of our grandfathers". Things that were done and one might wonder why it was done that way. Now this Board is tasked with undoing things.

Mr. Hunt declared that this is home and that he loves White Lake Township. He shared that he moved from Cedar Island Lake and Oxbow Lake Road and that he has spent his whole life here. He has never lived anywhere else.

Trustee Ruggles asked if the applicant was present.

Bradley Gasser, representing Black Rock. He has spoken with Mr. Hunt on site and noted that they would like to do whatever they can to make it right for him.

It was moved by Trustee Powell, SUPPORTED by Clerk Noble to move the rezoning request by Black Rock to second reading. The motion PASSED by voice vote (7 yes votes).

G. RESOLUTION #22-016; WEST NILE VIRUS EXPENSE REIMBURSEMENT REQUEST

DPS Secretary Debra Nigohosian noted that the Township is 90% woods and water and that DPS has done this for five years at the request of the Board. She noted that half of the expenditures are for the pellets for the catch basins. She declared there is a definite need for that. She shared that the findings were the same as last year and that even with COVID there are only a few left on the counter. It is a very popular program and they will do whatever the Board wants.

Supervisor Kowall thinks everything has run very well and he appreciates it. He shared a couple of funny stories about the process. He is in full support and believes it is good that the Township is being proactive.

Trustee Voorheis loves giving it to her neighbors. She reminds them that they bought it and has never been denied. She loves it.

Trustee Powell is proud that the Township does not require this, but there are communities that require retention and detention basins to hold two to four feet of water at all time. He shared that he has not been able to convince them that they are feeding the mosquitos.

It was moved by Trustee Ruggles, SUPPORTED by Trustee Smith to approve Resolution #22-016 to participate in the West Nile Prevention Plan for 2022 with the funds of \$5,429.34 to be allocated from the General Fund. The motion PASSED by voice vote (7 yes votes).

H. RESOLUTION #22-017; TO AUTHORIZE TERMINATION OF GRANT OF WATERMAIN EASEMENT

Supervisor Kowall indicated this is essentially a termination of the grant of watermain easement for the Lakeland project. He shared that during the process it was discovered that the pipe was not where it was thought to be. This will rescind the easement and a new one will be conquered shortly.

DPS Secretary Debra Nigohosian shared that they are also going to reconstruct parts of the main that have been there since the 1970's. She shared that Director Potter is currently working with them on the new easement.

She further indicated that the agreement had to be signed as part of the DWRD closing.

It was moved by Trustee Powell, SUPPORTED by Clerk Noble to move Resolution #22-017 to authorize termination of grant of watermain easement. The motion PASSED by voice vote (7 yes votes).

I. RESOLUTION #22-020; TO APPROVE BALLOT LANGUAGE FOR POLICE AND FIRE MILLAGES

Clerk Noble indicated that before the Board is two ballot proposals:

- 1) That has all four millages – Fire, Fire, Police and Fire, and Police
- 2) Police and Fire

Tonight, the Board must vote to go with one of the two options. He noted that it is essentially the same question.

Attorney Hamameh clarified that there are two separate resolutions before the Board. One that proposes four renewals and a mild increase to recoup what the Township's lost in Headlee and the alternative resolution is two brand new millages.

Treasurer Roman indicated that the millages are the same regardless if it is done in four ballot items or two ballot items. In all, the Township is trying to restore a total of 7.5903 mils that were voted and approved by voters back in 2012 and 2018, that expired this past December. He continued that the language for all four

uses the words renew and restore. If the four are combined into two, by law, they are new millages regardless that the same thing is being done. He believes it is harsher as it uses the word increases. He noted that voter fatigue is one of the issues.

Clerk Noble noted that typically when a voter flips over the ballot they see the library and other millages. This would just be condensing it into two so that people don't skip over and then the departments are short funded.

Trustee Smith believes the responsibility to educate the residents is huge. She declared that the word increase is scary when you break it down to two from four and that the Board would need to make a very serious commitment to educate the voters of the difference.

Treasurer Roman believes Trustee Smith hit the nail on the head.

Supervisor Kowall interjected that there are public interest groups that can educate people.

Trustee Smith indicated this is a double edge sword. She opined that four on the back of the ballot will seem like too much to the residents and that they will pick and choose, and the other side of the sword is the word increase in the two. She declared with either, education is imperative.

Clerk Noble shared that he had a conversation with a resident and asked his opinion and it was that resident's opinion that he liked the two, better than the four.

Trustee Ruggles believes if he went in the box and saw the word renew, he would assume that the Chief has all his money and wants more. He thinks a lot of voters would think the same thing. Whereas, if they saw four, they would see renew, renew, renew, renew. He opined that someone would really have to work hard to educate and that is not the case with four.

Trustee Voorheis likes four because she saw the word increase and had the same thought.

Attorney Hamameh opined that even going with the two is a gamble. She believes that going with four, that people will pick and choose, but some will win. However, going with the two, it is all or nothing.

Chief Holland supports the idea of restoring. He shared that every year the calls for service increases, but he is expected to do more with the same.

Treasurer Roman interjected that by restoring Chief Holland brings additional \$200,000 back into his budget and police would bring an additional \$300,000. He further stated that it was all lost, year by year, because of Headlee.

Chief Holland said that the social media platform will be huge in educating the public. He doesn't understand if they are being restored, then aren't they both new.

Attorney Hamameh indicated that technically if you are only renewing the millage and only increasing the amount lost in the Headlee rollback from when the existing millage was first adopted, it is technically called a renewal. If you are doing a combination because the language in each of the four are slightly varying and the wish is to combine into two, then it has to be considered a new even though the dollar amount is the same. It is a requirement under the statute.

Chief Holland declared from his prospective that these have to pass. He wants to make it easy on the voters, so they are not picking and choosing.

Chief Keller fully believes that the police department millages will pass. He believes there is a strong enough relationship with the community that even with four, the voters will pass it. He believes the renew and restore is understood by people, but the word increase raises questions. He would rather see renew and restored. He doesn't like either, but if this was a four-year renewal and not a ten-year renewal, he might suggest the two because he would not want to deal with this in four years from now. He believes the odds are better with restore and renew.

Trustee Powell suggest a single millage.

Supervisor Kowall believed a single one shot divided evenly proposal would be easier. He opined that the community and Township are blessed to have its own police and fire departments. He declared that it is necessary to make people understand that the level of service they get from the community professionals is second to none. He reminded that the police department is not AAA, but they will help the residents if they have a problem (i.e. lockouts, safety check, passes out carbon monoxide and fire detectors, and educates the children). He opined it is the value that when you lay your head down at night there are people watching over you. He indicated it is important to build relationships with the youth today. It is important for these millages to pass.

Trustee Smith noted that the language in the four, reads: previously authorized increase. Whereas the two reads: imposed an increase. She stated that the first thing the voter is reading in both is increase. She asked if it can be worded any other way in the four. She understands it has to be in there but wonders if it could be worded gentler or moved to a different line. She is not trying to trick the voters, but for those that aren't plugged in, they could believe there is an increase in both scenarios.

Attorney Hamameh interjected that there is an increase in both scenarios. She further stated that it is statutory language. She shared that the inhouse elected and counsel went back and forth trying to negotiate the softest language and this is what they ended up with.

Supervisor Kowall indicated that this is statutorily dictated language.

Treasurer Roman shared that he has never gone into the ballot box and completely understood what he has voted for on any millage.

John Hunt indicated that the language should be the truth, whatever it is, do not try to hide that there is an increase. Put it on the back of the ballot and push people to vote absentee so they have time to sit at the kitchen table, turn it over and read it. He opined that the fire and police do a great job and that no one in the Township, in their right mind, would say no to them.

Trustee Smith interjected that she is not trying to hide, but rather make it less confusing.

Treasurer Roman will support the four millages for the simple reason that the language states what the Township is trying to do.

Chief Keller believes it is the best option of the two. He also agrees that getting the word out there is critical. He believes that the residents are supportive of the police and that education is important.

Clerk Noble confirmed that last millage renewal was at 74%.

Vibella Oaks, 9380 Buckingham St. She stated that if she went to the poll box and looked at all four, she would be concerned. She is confused with what the Board is saying is an increase but really isn't an increase. She would question what you are doing, what is the difference, what was the costs before, and what do you need it for. This would help her decide.

Supervisor Kowall questioned what she pays for a gallon of gas and notes it is across the line. It is all the cost as everything has gone up, but the revenue stream has gone down because of the Headlee Act.

It was MOVED by Treasurer Roman, SUPPORTED by Clerk Noble approve Resolution #22-020 to approve ballot language for police and fire millage renewals with the Exhibit A that has four millages on it. The motion PASSED by voice vote (7 yes votes).

J. REQUEST TO APPROVE TREASURER JOB RECLASSIFICATION – REVA GOUINE

Treasurer Roman noted a Township deficiency is a lack of cross training in many of the departments. Therefore, when someone leaves there is a void. He is trying to eliminate this in his department by promoting Reva to a position where she can function as his deputy does. He noted that Reva manages the front office and has helped train staff and even his new deputy. He stated that the Clerk's Office has an accounting position that makes more than Reva does and he believes she does every bit of accounting as that department, excluding Elaine. The Clerk's Office position is a payable position and his would be a receivable position. He identified that they both work with posting and general ledger. He shared that if approved, it would come to approximately a 13% pay increase for Reva.

Trustee Smith questioned if Treasurer Roman is mentoring Reva to replace the deputy in the future.

Treasurer Roman indicated no, that it would only be when his deputy is out of the office sick or on vacation.

Clerk Noble indicated that they are trying to create cross-training and retaining qualified people.

Trustee Powell is in favor of Reva getting a pay increase. He wonders however, if this is a soft shuffle and creating a new position just so she can have a pay raise or would this create a new position and leave an existing unfilled.

Treasurer Roman responded that his intention is neither. That he is creating a new position to keep the current position filled and add a skill to his department where two people can do what only one person can currently do. He clarified that all of the duties under senior treasury specialist will stay with Reva and his other staff member. He would be eliminating one job description for one person and replace it with this one.

Trustee Powell confirmed that he will promote Reva to an accounting clerk and leave one person as a senior treasury specialist, which in fact creates a new position that will have additional skills beyond the current position request. He noted since it would be a creation of a new position then Reva would start in her first year at the position and will accept the pay at a starting position.

It was MOVED by Trustee Ruggles, SUPPORTED by Clerk Noble to create the new position for Reva effective April 9, 2022. The motion PASSED by voice vote (7 yes votes).

K. RESOLUTION #22-018; MCLEOD USA TELECOMMUNICATIONS SERVICES METRO ACT PERMIT WITH ATTACHMENT A – REVISED RIGHT OF WAY TELECOMMUNICATIONS PERMIT

It was discussed amongst the board as to what this is for and determined that it is fiber optics.

Trustee Powell shared that this is covered by the Metro Act, which means that once this is approved, they don't have to pull permits. They have to submit plans but are covered by the Metro Act.

Supervisor Kowall noted that if not approved, they can essentially do it anyway, so therefore it is better to have a decent relationship.

Attorney Hamameh noted there are blank lines in Exhibit A, and she requests that these be filled in by the Supervisor before signing it. She indicated it is the existing lineal feed. She also shared that McLeod USA has been in the Township for a long time and that they allowed their permit to lapse and the Clerk's Office

was on them to submit a new application or remove all their fiber. She does not believe there is any intent for new construction.

It was MOVED by Trustee Smith, SUPPORTED by Trustee Powell to approve McLeod USA Telecommunication Services Metro Act Permit, Resolution #22-018. The motion PASSED by voice vote (7 yes votes).

L. FOUR CORNERS LICENSE AGREEMENT

Supervisor Kowall shared that this is the license agreement for the last building be put up and specifically for the placement of the patio. He noted that the patio will be on top of one of the Township's sewer lines. The only amendment to this it allows for 120 days' notice to remove instead of the 30 days' notice. He noted that the Township is also held harmless.

Attorney Hamameh clarified that this license has already been approved and that the only difference is that the Township requires them to remove the patio within 30 days and they have asked for 120 days, which DPW has no issue with.

Trustee Powell clarified with counsel that if the Township has to make a repair and destroys the patio, the owner has to reinstall on their dime.

It was MOVED Trustee Ruggles, SUPPORTED by Supervisor Kowall to approve the License Agreement, as amended. The motion PASSED by voice vote (7 yes votes).

OLD BUSINESS

A. CONSIDERATION OF REVISED AMENDMENT TO THE PLANNED BUSINESS DEVELOPMENT AGREEMENT – SZOTT AUTOMOTIVE GROUP

Director O'Neil reminded that the Szott Automotive group was before the Board on February 15, 2022 at which time the Board approved a new plan and amendment to the agreement that included eight wall signs for a total of 121 feet. He indicated that they miscalculated and did 132 square feet. He advised that there is no objection because the current site includes seven wall signs and 240 square feet, therefore there is still a reduction by approximately 100 square feet.

Megan Zoblocki, Szott Automotive. She clarified there has not been any change to the number of signs, location of signs, or overall area shown. It is simply a miscalculation and that this is to ensure that when they go to pull the permits for those signs that there isn't any confusion as to what was agreed to.

It was MOVED by Trustee Ruggles, SUPPORTED by Trustee Powell to approve the revised amendment to the Planned Business Development Agreement for Szott Automotive Group to allow

eight wall signs totally 132 square feet, subject to administrative review, Supervisor and Clerk are authorized to sign all necessary documents to execute the amendment. The motion PASSED by voice vote (7 yes votes).

TRUSTEE COMMENTS

Trustee Powell shared that the Board can no longer look out there and give best wishes to Carol Burkhardt. He noted that she was a blessing here and that she still had her heart here in the Clerk's Office. He declared that she is not feeling any pain and is dancing again.

He also pointed out that he met with the supervisors of both Springfield Township and Commerce Township and presented a concept of a north/south pathway that would run from Springfield, through White Lake and Commerce Township, to the Village of Wolverine Lake to the east/west Rails Trails Pathway. He noted that both expressed an interest in participating. He further noted that the request for a grant was denied, but the alternative is working with Parks and Recreation and uniting with the other two communities and apply to the DNR for part of their grant. He noted that the more participants increase the chances of funding. He offers his services to this.

He further mentioned that the residents off of Cooley Lake Road are having a hard time with the potholes at Cooley and Bogie Lake Roads.

Supervisor Kowall interjected that he has talked with the County and they will not do it as a maintenance program and that they will only do it as a projected project and it is on the list.

Trustee Voorheis congratulated Jeanine Smith for her eighteen plus years as Township Assessor. She also mentioned Denise Stefanick from the library is retiring after twenty plus years.

She shared that a family fun day is planned for June 25th at Hawley Park. She expects her fellow Board members to be there from 3 to 9pm. There will be live music, happy the clown, and a dunk tank.

She thanked Carol Burkhardt for her years of service and for being a good representative of White Lake Township, may she R.I.P.

Lastly, she congratulated Deb Darren for her twenty plus years of volunteer service to the Parks and Recreation Committee.

Treasurer Roman declared God bless you to Carol and thanked her for everything she has done. He noted she will always have a presence at the Board meetings.

He wished Jeanine Smith a happy retirement and thanked and welcomed David Heiber.

Trustee Smith noted that Carol Burkhardt was a friend and mentor to all. She did not have an opportunity to serve with her but has been friends with her for years. She will miss her phone calls, wisdom, and excitement that she continued to share with White Lake. She declared that she genuinely loved each person here on the Board. She noted that her heart and soul was right here in White Lake and she gave her sincerest condolences to her family and loved ones.

As to the library, she shared that Denise is retiring at the end of May. The library board is in the interview process to hire a new director. She also shared that the friends of the library are having a high tea and a fashion show fundraiser on May 1st and that information can be found on the website.

She thanked her colleagues for recognizing mental health awareness month. She noted that April is child abuse awareness month and sexual assault awareness month. She declared if anyone needs help in any of these areas to reach out for help. She asked that people be consciences and have open eyes and speak out. She shared that she has been a foster care parent for 21 years and it is near and dear to her heart.

Lastly, she noted that May 15th is police awareness celebration day and encouraged the community to support the police on this day, in any creative way.

She wished everyone to have a blessed Easter and Passover.

Trustee Ruggles noted the Planning Commission will be meeting on Thursday and will get its first look at the apartments on Hill Road, which is comprised of just over 400 apartments. He noted that there have been a lot of approaching for apartments and he believes it might be a good discussion to have as to what the Board/Township wants to see in White Lake.

He was saddened to hear of the passing of Carol. She sat to his left for two years and she was a great person who helped him a lot in his first term. He shared that he has been acknowledged a couple of times because of her involvement. He noted that she will be missed.

Clerk Noble thanked Jeanine for her years of dedicated service. She has been terrific and helpful to him. He welcomed Mr. Heiber and looks forward to working with him.

He shared that he hadn't had the chance to meet Carol but did speak with her many times on the phone. He noted that it was an honor to get to know her and that she is in a better place now.

Director O'Neil shared that he and Carol would joke a lot. He shared that she would get tickled at the fact that she would win every election she ever ran and would get the most votes. She was very proud of that. She was self-deprecating and quit the crack-up. He shared that she was in a hospital bed for the last number of years and he called her the kingmaker. She would say that she sits in the hospital bed every day, she doesn't go out, she doesn't spend any money, she doesn't go out on the campaign trail, she just

sends emails and makes phone calls and she wins elections. He noted that she said this in gest as the people who voted for her and knew her, knew that this embodied her. When he started here in 2003 which was prior to her accident, he got to know her a bit and he considers himself fortunate to have had that opportunity.

Supervisor Kowall noted that the realities are that it is another change faced by the Township. People come, go, leave, and retire. He welcomed Mr. Heiber. He shared that Carol was definitely a unique person who was always her. He declared that being around someone like that was very helpful in his terms as a trustee and she encouraged him to run for supervisor. She will be sorely missed.

He shared there are a couple different things going on in the township right now. One is the watermain down Bogie Lake Road and he noted that the black pipe is water pipe. He asked that residents to be mindful of the construction workers. Also going on is the sewer extension down Porter Road all the way down to Grass Lake Road, which will start soon. It will be the discharge line for the new iron filtration. He continued that on or about June 17th the roundabouts will commence on Elizabeth Lake Road. Additionally, there will also be a box/culver bridge repair on Cooley Lake Road, just west of Round Lake Road.

He shared that Bill Sweeney passed away. He was the Comcast liaison here in the township and also the avid woodworker. He was fortunate to see some of the things he made. He opined it will be interesting to see how we replace these people in our community with the value that they had and hopefully the next generation will have something positive to say about us.

Treasure Roman shared that Bill won a contest when he was kid in the 1950's and became the Detroit Tiger's bat boy who got to travel with the team. He declared God bless you Bill.

Supervisor Kowall closed with be mindful of yourself out there and watch out for all the construction out there, including the M-59 corridor from Milford Road to Pontiac Lake Road. He shared that he is trying to convince some people to fix the causeway over Pontiac Lake as it is falling apart. He declared goodnight, God bless, and goodnight Carol.

ADJOURNMENT

It was moved by Treasurer Roman, SUPPORTED by Supervisor Kowall to adjourn. The motion PASSED by voice vote (7 yes votes).

The meeting adjourned at 9:23 p.m.

I, Anthony L. Noble, the duly elected and qualified Clerk of the Charter Township of White Lake, County of Oakland, State of Michigan, hereby certify that the foregoing is a true copy of the April 19, 2022, regular board meeting minutes.

Anthony L. Noble, Clerk
White Lake Township
Oakland County, Michigan

May 4, 2022

To the Township Board of Trustees
Charter Township of White Lake

We have audited the financial statements of the Charter Township of White Lake (the "Township") as of and for the year ended December 31, 2021 and have issued our report thereon dated May 4, 2022. Professional standards require that we provide you with the following information related to our audit, which is divided into the following sections:

Section I - Required Communications with Those Charged with Governance

Section II - Legislative and Informational Items

Section I communicates significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process.

Section II presents legislative and informational items relevant to the Township.

We would like to take this opportunity to thank the Township's staff for the cooperation and courtesy extended to us during our audit. Their assistance and professionalism are invaluable.

This report is intended solely for the use of the Township's board of trustees and management of the Township and is not intended to be and should not be used by anyone other than these specified parties.

We welcome any questions you may have regarding the following communications, and we would be willing to discuss these or any other questions that you might have at your convenience.

Very truly yours,

Plante & Moran, PLLC



Pamela L. Hill, CPA
Partner



Chris Gilbert, CPA
Manager

Section I - Required Communications with Those Charged with Governance

Our Responsibility Under U.S. Generally Accepted Auditing Standards

As stated in our engagement letter dated January 4, 2022, our responsibility, as described by professional standards, is to express an opinion about whether the financial statements prepared by management with your oversight are fairly presented, in all material respects, in conformity with U.S. generally accepted accounting principles. Our audit of the financial statements does not relieve you or management of your responsibilities. Our responsibility is to plan and perform the audit to obtain reasonable, but not absolute, assurance that the financial statements are free of material misstatement.

As part of our audit, we considered the internal control of the Township. Such considerations were solely for the purpose of determining our audit procedures and not to provide any assurance concerning such internal control.

We are responsible for communicating significant matters related to the audit that are, in our professional judgment, relevant to your responsibilities in overseeing the financial reporting process. However, we are not required to design procedures specifically to identify such matters.

Planned Scope and Timing of the Audit

We performed the audit according to the planned scope and timing previously communicated to you in our meeting about planning matters on January 17, 2022.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. In accordance with the terms of our engagement letter, we will advise management about the appropriateness of accounting policies and their application. The significant accounting policies used by the Township are described in Note 1 to the financial statements.

As described in Note 11 to the financial statements, there was a change in reporting entity in which the accompanying financial statements for 2021 have been restated to include the Sewer Fund as an enterprise fund as of January 1, 2021.

We noted no transactions entered into by the Township during the year for which there is a lack of authoritative guidance or consensus.

There are no significant transactions that have been recognized in the financial statements in a different period than when the transaction occurred.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected.

The most sensitive estimates affecting the financial statements were net pension liability and net OPEB liability. Management's estimates of the net pension liability and net OPEB liability were based on an actuarial valuation. The significant assumptions used in the calculation include future rate of return on investments, employee eligibility rates, life expectancies, and projected salary increases. We evaluated the key factors and assumptions used to develop these estimates in determining that it is reasonable in relation to the financial statements taken as a whole.

The disclosures in the financial statements are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no difficulties in performing and completing our audit.

**Section I - Required Communications with Those Charged with Governance
(Continued)**

Disagreements with Management

For the purpose of this letter, professional standards define a disagreement with management as a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. The uncorrected misstatement identified by management of the financial statements that was not recorded by management was an adjustment to record the estimate for unbilled sewer receivables owed from Oakland County, Michigan for December 2021 sewer activity. The adjustment would result in an approximate increase in Sewer Fund receivables and revenue of \$42,000. Management has determined that their effects are immaterial, both individually and in the aggregate, to the financial statements taken as a whole. However, uncorrected misstatements or matters underlying those uncorrected misstatements could potentially cause future period financial statements to be materially misstated.

Significant Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, business conditions affecting the Township, and business plans and strategies that may affect the risks of material misstatement, with management each year prior to our retention as the Township's auditors. However, these discussions occurred in the normal course of our professional relationship, and our responses were not a condition of our retention.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated May 4, 2022.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a second opinion on certain situations. If a consultation involves application of an accounting principle to the Township's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Section II - Legislative and Informational Items

COVID-19 Resource Center and ARPA

Throughout the COVID-19 pandemic, Plante & Moran, PLLC's COVID-19 task force of leaders across the firm has monitored, addressed, and provided insight related to the virus and the unique challenges our local governments have faced while continuing to provide essential services to their communities through our COVID-19 resource center at <https://www.plantemoran.com/explore-our-thinking/areas-of-focus/covid-19-government-resource-center>. This will continue as our nation emerges from this crisis.

In March 2021, the president signed the American Rescue Plan Act (ARPA) into law, which included federal stimulus funding for state and local governments of all sizes. The largest of all funding streams, the Coronavirus State and Local Fiscal Recovery Funds (CSLFRF), represents a \$350 billion top-line allocation for state and local governments. Funding began to be distributed nationwide in May 2021, although smaller municipalities will need to wait for the funding to pass through their state governments. The U.S. Department of the Treasury recently published the interim final rule (IFR), which establishes a framework for determining the types of programs and services that are eligible uses of the CSLFRF funding.

The ARPA award terms provide that payments from the Fiscal Recovery Funds as a general matter will be subject to the provisions of Title 2 U.S. Code of Federal Regulations Part 200, *Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards* (the "Uniform Guidance"), including the cost principles and restrictions on general provisions for selected items of cost. The Township will need to understand these reforms and may be required to evaluate, document, and monitor internal procedures around compliance, including maintaining certain required policies.

The COVID-19 resource center is being continuously updated for the latest guidance and strategy related to CSLFRF and will help keep the Township running smoothly through our nation's recovery.

Want to receive relevant content directly to your email? Subscribe at <https://www.plantemoran.com/subscribe> where you can customize your subscription preferences based on your specific interests and industry selection.

Michigan's COVID-19 Updates and Related Grant Programs

The Michigan Department of Treasury has developed a webpage with numbered letters, memorandums, webinars, and resources regarding COVID-19 updates and related grant programs: https://www.michigan.gov/treasury/0,4679,7-121-1751_98769---,00.html.

Cybersecurity and Information Technology Controls

Cyberattacks are on the rise across the globe, and the cost of these attacks is ever increasing. Because of these attacks, municipalities stand to lose their reputation, the ability to operate efficiently, and proprietary information or assets. Communities potentially can also be subject to financial and legal liabilities. Managing this issue is especially challenging because even a municipality with a highly mature cybersecurity risk management program still has a residual risk that a material cybersecurity breach could occur and not be detected in a timely manner. We understand that the technology department continues to monitor and evaluate this risk, which are critical best practices. Additionally, periodic assessments of the system in order to verify that the control environment is working as intended are key parts of measuring associated business risk. We encourage administration and those charged with governance to work with the technology team on this very important topic. If we can be of assistance in the process, we would be happy to do so.

**Section II - Legislative and Informational Items
(Continued)**

Rules Governing Management of Federal Programs

The Office of Management and Budget (OMB) issued significant reforms to the compliance requirements that must be followed by nonfederal entities receiving federal funding related to awards on or after December 26, 2014. While these revisions were not too recent, the revisions were the most significant change to occur to federal grants management in recent history. While many communities have historically been below the \$750,000 single audit threshold, recent legislation provides for an increase in federal spending and, therefore, may be subject to an audit requirement; the Township will need to understand these reforms and may be required to make changes to internal procedures, processes, and controls.

- **Cost Principles** - There were certain changes made to allowable costs and significant changes in the area of time and effort reporting and indirect costs.
- **Administrative Requirements** - Nonfederal entities receiving federal funding must adhere to revised rules related to administering federal awards. Most notably, the requirements may impact the Township's procurement systems, including maintaining written conflict of interest policies and disclosures.

The Township will need to ensure that consideration of the implementation of these regulations has occurred; if it has not, the Township needs to work quickly to put the requirements into practice. Plante & Moran, PLLC has many experts in this area and welcomes any questions or needs you may have.

Federal Procurement Threshold Changes

The Office of Management and Budget has issued significant reforms to the compliance requirements that must be followed by nonfederal entities. The Office of Management and Budget recently issued Memorandum M-18-18, which provides guidance on changes to micropurchases and simplified acquisition threshold requirements. The key changes are as follows:

- Threshold for micropurchases is increased to \$10,000.
- Threshold for simplified acquisitions (small purchase procedures limit) increased to \$250,000.

Key adoption considerations for micropurchase and simplified acquisition thresholds include the following:

- During the original adoption of the Uniform Guidance (UG) procurement standards, were specific amounts included within the Township's procurement policy, or were references to the UG sections or amounts as adjusted referenced? If specific amounts were referenced, the procurement policy will need to be updated to take advantage of the changes.
- If the Township's procurement policy was written to allow for changes in amounts, the procedures will need to be updated to conform.
- If this change is inconsistent with other procurement policies within the organization, the Township must decide how the policy will be enacted. Remember local ordinances in place may limit full utilization of changes.
- If the Township has chosen not to fully adopt the change and maintain a lower threshold, then the Township is not required to use these thresholds but cannot exceed them.

**Section II - Legislative and Informational Items
(Continued)**

Upcoming Accounting Standards Requiring Preparation

GASB Statement No. 87 - Leases

This new accounting pronouncement will be effective for reporting periods beginning after December 15, 2019 (June 15, 2021 after extension within GASB Statement No. 95). This statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources.

We recommend beginning to accumulate information now related to all significant lease agreements in order to more efficiently implement this new standard once it becomes effective.

Plante & Moran, PLLC will be providing trainings and other resources to our clients in the coming months to help prepare for the implementation of all these new standards. In the interim, please reach out to your engagement team for assistance in getting started.

GASB Statement No. 92 - Omnibus 2020

This new accounting pronouncement has various effective dates that were postponed by one year after extension within GASB Statement No. 95. This statement addresses eight unrelated practice issues and technical inconsistencies in authoritative literature. The standard addresses leases, intraentity transfers of assets, postemployment benefits, government acquisitions, risk financing and insurance-related activities of public entity risk pools, fair value measurements, and derivative instruments.

GASB Statement No. 97 - Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans

Certain aspects of this standard impacting defined contribution pension and OPEB plans and other employee benefit plans were effective immediately in June 2020, but the provisions of this statement related to 457 plans clarifying when a 457 plan should be considered a pension plan or an other employee benefit plan to assist in the application of GASB Statement No. 84 are effective for reporting periods beginning after June 15, 2021.

Charter Township of White Lake

Oakland County, Michigan

Financial Report
with Supplemental Information
December 31, 2021

Charter Township of White Lake

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Independent Auditor's Report

To the Board of Trustees
Charter Township of White Lake

Opinions

We have audited the financial statements of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the Charter Township of White Lake (the "Township") as of and for the year ended December 31, 2021 and the related notes to the financial statements, which collectively comprise the Charter Township of White Lake's basic financial statements, as listed in the table of contents.

In our opinion, the accompanying financial statements referred to above present fairly, in all material respects, the respective financial position of the governmental activities, the business-type activities, each major fund, and the aggregate remaining fund information of the Charter Township of White Lake as of December 31, 2021 and the respective changes in its financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are required to be independent of the Township and to meet our other ethical responsibilities in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Emphasis of Matter

As described in Note 11 to the financial statements, there was a change in reporting entity in which the accompanying financial statements have been restated to include the Sewer Fund as an Enterprise Fund as of January 1, 2021. Our opinion is not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

Management is responsible for the preparation and fair presentation of the financial statements in accordance with accounting principles generally accepted in the United States of America, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about the Township's ability to continue as a going concern for 12 months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and, therefore, is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

To the Board of Trustees
Charter Township of White Lake

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Township's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Township's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.

Required Supplemental Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis and required supplemental information, as identified in the table of contents, be presented to supplement the basic financial statements. Such information is the responsibility of management and, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, which considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplemental information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Supplemental Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise Charter Township of White Lake's basic financial statements. The other supplemental information, as identified in the table of contents, is presented for the purpose of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the other supplemental information is fairly stated in all material respects in relation to the basic financial statements as a whole.

Plante & Moran, PLLC

May 4, 2022

Charter Township of White Lake

Management's Discussion and Analysis

As management of the Charter Township of White Lake (the "Township"), we offer readers this narrative overview and analysis of the financial activities for the year ended December 31, 2021.

Using This Annual Report

This annual report consists of a series of financial statements. The statement of net position and the statement of activities provide information about the activities of the Township as a whole and present a longer-term view of the Township's finances. This longer-term view uses the accrual basis of accounting so that it can measure the cost of providing services during the current year and whether the taxpayers have funded the full cost of providing government services.

The fund financial statements present a short-term view; they tell the reader how the taxpayers' resources were spent during the year, as well as how much is available for future spending. Fund financial statements also report the Township's operations in more detail than the government-wide financial statements by providing information about the Township's most significant funds. The fiduciary fund statements provide financial information about activities for which the Township acts solely as a trustee or agent for the benefit of those outside of the government.

Government-wide Overall Financial Analysis

As noted earlier, net position over time may serve as a useful indicator of a government's financial position. In the case of the Township, assets and deferred outflows of resources exceeded liabilities and deferred inflows by \$53,100,296 at the close of the most recent fiscal year.

Charter Township of White Lake

Management's Discussion and Analysis (Continued)

The Township's Net Position

The following tables show, in a condensed format, the current year's net position and changes in net position, compared to the prior year:

	Governmental Activities			
	2020	2021*	Change	Percent Change
Assets				
Current and other assets	\$ 54,317,590	\$ 56,913,001	\$ 2,595,411	4.8
Capital assets	22,619,386	11,070,020	(11,549,366)	(51.1)
Total assets	76,936,976	67,983,021	(8,953,955)	(11.6)
Deferred Outflows of Resources	3,270,727	4,350,525	1,079,798	33.0
Liabilities				
Current liabilities	2,433,440	3,677,780	1,244,340	51.1
Noncurrent liabilities	25,655,818	24,495,627	(1,160,191)	(4.5)
Total liabilities	28,089,258	28,173,407	84,149	0.3
Deferred Inflows of Resources	15,324,685	16,712,569	1,387,884	9.1
Net Position				
Net investment in capital assets	21,736,450	10,090,207	(11,646,243)	(53.6)
Restricted	15,829,603	16,332,963	503,360	3.2
Unrestricted	(772,293)	1,024,400	1,796,693	(232.6)
Total net position	\$ 36,793,760	\$ 27,447,570	\$ (9,346,190)	(25.4)

	Business-type Activities			
	2020	2021*	Change	Percent Change
Assets				
Current and other assets	\$ 4,861,094	\$ 7,389,609	\$ 2,528,515	52.0
Capital assets	8,442,297	19,734,405	11,292,108	133.8
Total assets	13,303,391	27,124,014	13,820,623	103.9
Deferred Outflows of Resources	58,549	56,151	(2,398)	(4.1)
Liabilities				
Current liabilities	36,233	127,697	91,464	252.4
Noncurrent liabilities	1,020,636	1,335,416	314,780	30.8
Total liabilities	1,056,869	1,463,113	406,244	38.4
Deferred Inflows of Resources	80,197	64,326	(15,871)	(19.8)
Net Position				
Net investment in capital assets	7,742,508	18,622,685	10,880,177	140.5
Restricted - Water operating ordinance	2,366,448	2,664,652	298,204	12.6
Unrestricted	2,115,918	4,365,389	2,249,471	106.3
Total net position	\$ 12,224,874	\$ 25,652,726	\$ 13,427,852	109.8

*The Township began reporting sewer activity as a business-type activity beginning on January 1, 2021. Fiscal year 2021 beginning fund balances and 2021 activity reflect this change in reporting (see Note 11).

Charter Township of White Lake

Management's Discussion and Analysis (Continued)

The Township's governmental activities net position was \$27.4 million at the close of the year ended December 31, 2021, which was a decrease from December 31, 2020 of approximately \$9.4 million. The decrease was primarily due to sewer fund activity that was previously recorded in governmental activities now being reported in business-type activities.

The Township's business-type activity consists of the Water and Sewer Fund. The change in net position from December 31, 2020 was an increase of approximately \$13.4 million, which was primarily due to Sewer Fund activity that was previously recorded in governmental activities now being reported in business-type activities.

The Township's Changes in Net Position

The following tables show, in a condensed format, changes in net position compared to the prior year:

	Governmental Activities			
	2020	2021*	Change	Percent Change
Revenue				
Program revenue:				
Charges for services	\$ 5,162,021	\$ 3,396,008	\$ (1,766,013)	(34.2)
Operating grants	1,477,962	261,790	(1,216,172)	(82.3)
Capital grants	2,037,231	1,745,535	(291,696)	(14.3)
General revenue:				
Taxes	10,943,116	11,307,511	364,395	3.3
Intergovernmental	2,782,754	3,291,065	508,311	18.3
Investment earnings	365,846	169,198	(196,648)	(53.8)
Other revenue	1,191,847	1,199,450	7,603	0.6
Total revenue	23,960,777	21,370,557	(2,590,220)	(10.8)
Expenses				
General government	3,914,132	3,594,659	(319,473)	(8.2)
Public safety	9,390,787	9,511,535	120,748	1.3
Public works	4,491,178	3,744,813	(746,365)	(16.6)
Health and welfare	189,659	204,461	14,802	7.8
Community and economic development	396,800	414,085	17,285	4.4
Recreation and culture	558,472	387,338	(171,134)	(30.6)
Debt service	542,020	555,809	13,789	2.5
Total expenses	19,483,048	18,412,700	(1,070,348)	(5.5)
Transfers	-	391,594	391,594	-
Change in Net Position	4,477,729	3,349,451	(1,128,278)	(25.2)
Net Position - Beginning of year, as previously reported	32,316,031	36,793,760	4,477,729	13.9
Cumulative Effect of Change in Reporting	-	(12,695,641)	(2,492,310)	-
Net Position - Beginning of year - As restated	32,316,031	24,098,119	(8,217,912)	(25.4)
Net Position - End of year	<u>\$ 36,793,760</u>	<u>\$ 27,447,570</u>	<u>\$ (9,346,190)</u>	(25.4)

Charter Township of White Lake

Management's Discussion and Analysis (Continued)

	Business-type Activities			
	2020	2021*	Change	Percent Change
Revenue				
Program revenue:				
Charges for services	\$ 1,221,882	\$ 4,030,589	\$ 2,808,707	229.9
Capital grants and collection fees	154,602	1,045,368	890,766	576.2
General revenue	49,174	57,173	7,999	16.3
Total revenue	1,425,658	5,133,130	3,707,472	260.1
Expenses - Program expenses	1,162,069	4,009,324	2,847,255	245.0
Transfers	-	(391,594)	(391,594)	-
Change in Net Position	263,589	732,212	468,623	177.8
Net Position - Beginning of year, as previously reported	11,961,285	12,224,874	263,589	2.2
Cumulative Effect of Change in Reporting	-	12,695,640	12,695,640	-
Net Position - Beginning of year - As restated	11,961,285	24,920,514	12,959,229	108.3
Net Position - End of year	<u>\$ 12,224,874</u>	<u>\$ 25,652,726</u>	<u>\$ 13,427,852</u>	109.8

*The Township began reporting sewer activity as a business-type activity beginning on January 1, 2021. Fiscal year 2021 beginning fund balances and 2021 activity reflect this change in reporting (see Note 11).

Governmental activities revenue was approximately \$21,370,000 for the year ended December 31, 2021, a decrease of approximately \$2,640,000 from 2020. Of this revenue, 53 percent was obtained through property taxes, 15 percent from state-shared revenue, and 16 percent from fees charged for services. Total governmental activities expenditures were approximately \$18,413,000, a decrease of approximately \$1,070,000 from 2020. The primary causes of the decrease was related to a decrease in public works costs due to sewer projects being recorded in business-type activities beginning in 2021.

Business-type activities revenue was approximately \$5,133,000 for the year ended December 31, 2021. Charges for services represented 79 percent of total revenue. At December 31, 2021, the Township was providing water to 2,090 customers. Business-type activities expenditures were approximately \$4,009,000, an increase of approximately \$2,847,000 over 2020. The primary cause of increased revenue and expenses in 2021 was due to sewer charges being recorded in business-type activities beginning in 2021.

Financial Analysis of Individual Funds

The analysis of the Township's major funds begins on page 11, following the government-wide financial statements. The fund financial statements provide detailed information about the most significant funds, not the Township as a whole. The township board creates funds to help manage money for specific purposes and to show accountability for certain activities, such as special property tax millages. The Township's major funds for 2021 include the General Fund, the Fire Fund, the Police Fund, the Solid Waste Special Assessment Fund, and the Improvement Revolving Fund.

The General Fund is the main operating fund of the Township. Total revenue and other financing sources for the year was approximately \$6,509,000. Of this revenue, state-shared revenue accounted for 50 percent, and property taxes accounted for 19 percent. Total expenditures and other financing uses for the year were approximately \$10,241,000. At December 31, 2021, the unassigned fund balance of \$1,608,548 represented 33 percent of the total General Fund expenditures and other financing uses for the year. The increase in fund balance is primarily due to the increase in property tax values.

Charter Township of White Lake

Management's Discussion and Analysis (Continued)

The Fire Fund is used to account for fire services to township residents. Total revenue and other financing sources for the year were approximately \$3,634,000. Of this revenue, property taxes accounted for 96 percent. Total expenditures for the year were approximately \$3,274,000. The fund balance of \$6,959,254 is restricted for future fire operating costs, equipment acquisitions, and new personnel.

The Police Fund is used to account for police services to township residents. Total revenue and other financing sources for the year were approximately \$6,118,000. Of this revenue, property taxes accounted for 92 percent. Total expenditures for the year were approximately \$5,880,000. The fund balance of \$4,864,698 is restricted for future police operating costs.

The Solid Waste Special Assessment Fund is used to account for the solid waste of the Township. Total revenue for the year was approximately \$1,951,000 and was earned through special assessment charges. Total expenditures for the year were approximately \$1,947,000. The fund balance of \$173,830 is restricted for solid waste expenditures.

The Improvement Revolving Fund is used to account for future capital projects of the Township. Total revenue and other financing sources for the year was approximately \$5,260,000. Of this revenue, transfers in accounted for 96 percent. Total expenditures for the year were approximately \$482,000. The fund balance of \$7,842,151 is assigned for future capital projects.

Capital Assets and Debt Administration

At the end of 2021, the Township had \$30,804,425 invested in a broad range of capital assets (net of accumulated depreciation), including buildings, police and fire equipment, and water and sewer lines. In addition, the Township has invested significantly in roads and related infrastructure within the Township. Although these roads are the property of the Oakland County Road Commission (along with the responsibility of maintaining them), the Township has invested in their construction and maintenance.

The Township's total long-term indebtedness as of December 31, 2021 is \$10,207,296. Of this amount, \$8,273,334 represents governmental general obligation bonds; \$74,000 represents a loan from Oakland County, Michigan; \$595,000 represents a loan from the State of Michigan's Drinking Water Revolving Fund; \$1,146,720 represents special assessment bonds; \$112,429 represents accumulated compensated absences; and \$5,813 represents governmental capital leases.

Economic Factors and Next Year's Budgets and Rates

The Township's budget for 2022 is reflective of anticipated revenue and costs. The Township has taken into consideration changes in the economy for housing values and sales taxes and their impact on revenue. The Township has budgeted for continuing to aggressively fund the retirement pension and health insurance liabilities.

The Township is receiving \$3,281,987 in American Rescue Plan funds and is in the process of planning for which projects that money will be used.

As we enter 2022 and with vaccines and reduction of COVID-19 cases, the Township does not currently foresee any continuing major impact from COVID-19. However, the township board remains vigilant and prepared to face the future.

Requests for Further Information

This financial report is intended to provide citizens, taxpayers, customers, and investors with a general overview of the Township's finances and to show the Township's accountability for the money it receives. If you have any questions or concerns about this report or need additional information, contact the clerk's office at the Charter Township of White Lake, 7525 Highland Road, White Lake, MI 48383.

Charter Township of White Lake

Statement of Net Position

December 31, 2021

	Governmental Activities	Business-type Activities	Total
Assets			
Cash and investments	\$ 40,856,274	\$ 3,465,246	\$ 44,321,520
Receivables:			
Property taxes receivable	4,855,302	-	4,855,302
Special assessments receivable	1,899,730	1,046,547	2,946,277
Receivables from sales to customers on account	-	342,526	342,526
Accrued interest receivable	-	4,443	4,443
Other receivables	281,249	12,734	293,983
Due from other governments	625,901	131,429	757,330
Internal balances	279,443	(279,443)	-
Prepaid expenses and other assets	127,724	1,475	129,199
Library receivable	7,987,378	-	7,987,378
Restricted assets	-	2,664,652	2,664,652
Capital assets: (Note 3)			
Assets not subject to depreciation	4,882,771	585,086	5,467,857
Assets subject to depreciation - Net	6,187,249	19,149,319	25,336,568
Total assets	67,983,021	27,124,014	95,107,035
Deferred Outflows of Resources			
Deferred pension costs (Note 8)	3,373,358	29,006	3,402,364
Deferred OPEB costs (Note 9)	977,167	27,145	1,004,312
Total deferred outflows of resources	4,350,525	56,151	4,406,676
Liabilities			
Accounts payable	405,761	111,884	517,645
Due to other governmental units	26,106	-	26,106
Refundable deposits, bonds, etc.	1,046,236	-	1,046,236
Accrued liabilities and other	558,683	15,813	574,496
Unearned revenue	1,640,994	-	1,640,994
Noncurrent liabilities:			
Due within one year:			
Compensated absences (Note 5)	22,486	-	22,486
Current portion of long-term debt (Note 5)	363,172	375,000	738,172
Due in more than one year:			
Compensated absences (Note 5)	89,943	-	89,943
Net pension liability (Note 8)	10,609,430	90,610	10,700,040
Net OPEB liability (Note 9)	4,790,621	133,086	4,923,707
Long-term debt (Note 5)	8,619,975	736,720	9,356,695
Total liabilities	28,173,407	1,463,113	29,636,520
Deferred Inflows of Resources			
Property taxes and special assessments levied for the following year	13,548,687	-	13,548,687
Deferred pension cost reductions (Note 8)	1,264,014	11,547	1,275,561
Deferred OPEB cost reductions (Note 9)	1,899,868	52,779	1,952,647
Total deferred inflows of resources	16,712,569	64,326	16,776,895
Net Position			
Net investment in capital assets	10,090,207	18,622,685	28,712,892
Restricted:			
Debt service	1,038,541	-	1,038,541
Fire	6,959,254	-	6,959,254
Police	4,864,698	-	4,864,698
Parks and recreation	976,108	-	976,108
Drug law enforcement	102,732	-	102,732
Building activity	2,153,100	-	2,153,100
Solid waste	173,830	-	173,830
Public access programming	64,700	-	64,700
Water operating ordinance	-	2,664,652	2,664,652
Unrestricted	1,024,400	4,365,389	5,389,789
Total net position	\$ 27,447,570	\$ 25,652,726	\$ 53,100,296

Charter Township of White Lake

	Program Revenue		
Expenses	Charges for Services	Operating Grants and Contributions	Capital Grants and Contributions
Functions/Programs			
Primary government:			
Governmental activities:			
General government	\$ 3,594,659	\$ 269,811	\$ 37,406
Public safety	9,511,535	1,007,759	124,621
Public works	3,744,813	2,110,833	-
Health and welfare	204,461	-	99,763
Community and economic development	414,085	975	-
Recreation and culture	387,338	6,630	50,000
Interest on long-term debt	555,809	-	-
Total governmental activities	18,412,700	3,396,008	261,790
Business-type activities:			
Water Fund	1,151,543	1,227,706	-
Sewer Fund	2,857,781	2,802,883	-
Total business-type activities	4,009,324	4,030,589	-
Total primary government	\$ 22,422,024	\$ 7,426,597	\$ 261,790

General revenue:
 Property taxes
 State-shared revenue
 Investment income
 Cable franchise fees
 Gain on sale of fixed assets
 Other miscellaneous income

Total general revenue

Transfers

Change in Net Position

Net Position - Beginning of year - As restated (Note 11)

Net Position - End of year

Statement of Activities

Year Ended December 31, 2021

Net (Expense) Revenue and Changes in Net Position		
Primary Government		
Governmental Activities	Business-type Activities	Total
\$ (3,287,442)	\$ -	\$ (3,287,442)
(8,379,155)	-	(8,379,155)
61,555	-	61,555
(104,698)	-	(104,698)
(413,110)	-	(413,110)
(330,708)	-	(330,708)
(555,809)	-	(555,809)
(13,009,367)	-	(13,009,367)
-	259,432	259,432
-	807,201	807,201
-	1,066,633	1,066,633
(13,009,367)	1,066,633	(11,942,734)
11,307,511	-	11,307,511
3,291,065	-	3,291,065
169,198	54,948	224,146
511,264	-	511,264
39,255	2,225	41,480
648,931	-	648,931
15,967,224	57,173	16,024,397
391,594	(391,594)	-
3,349,451	732,212	4,081,663
24,098,119	24,920,514	49,018,633
\$ 27,447,570	\$ 25,652,726	\$ 53,100,296

Charter Township of White Lake

Governmental Funds Balance Sheet

December 31, 2021

	Special Revenue Funds				Capital Project Fund	Nonmajor Funds	Total Governmental Funds
	General Fund	Fire Fund	Police Fund	Solid Waste Special Assessment Fund	Improvement Revolving Fund		
Assets							
Cash and investments	\$ 9,346,013	\$ 9,134,973	\$ 8,448,150	\$ 1,653,329	\$ 7,854,106	\$ 4,419,703	\$ 40,856,274
Receivables:							
Property taxes receivable	519,287	1,503,424	2,449,827	-	-	382,764	4,855,302
Special assessments receivable	-	-	-	713,965	-	1,185,765	1,899,730
Other receivables	182,605	26,923	68,374	-	-	3,347	281,249
Due from other governments	598,476	-	10,968	-	-	16,457	625,901
Due from other funds (Note 4)	278,287	-	-	-	-	199,472	477,759
Prepaid expenses and other assets	123,424	-	4,300	-	-	-	127,724
Total assets	\$ 11,048,092	\$ 10,665,320	\$ 10,981,619	\$ 2,367,294	\$ 7,854,106	\$ 6,207,508	\$ 49,123,939
Liabilities							
Accounts payable	\$ 192,411	\$ 57,539	\$ 127,935	\$ -	\$ 11,955	\$ 15,921	\$ 405,761
Due to other governmental units	19,524	-	-	-	-	6,582	26,106
Due to other funds (Note 4)	-	-	-	179,520	-	18,796	198,316
Refundable deposits, bonds, etc.	1,046,236	-	-	-	-	-	1,046,236
Accrued liabilities and other	225,060	71,700	160,370	-	-	8,673	465,803
Unearned revenue	1,640,994	-	-	-	-	-	1,640,994
Total liabilities	3,124,225	129,239	288,305	179,520	11,955	49,972	3,783,216
Deferred Inflows of Resources							
Unavailable revenue	49,605	-	-	-	-	1,120,804	1,170,409
Property taxes and special assessments levied for the following year	1,218,060	3,576,827	5,828,616	2,013,944	-	911,240	13,548,687
Total deferred inflows of resources	1,267,665	3,576,827	5,828,616	2,013,944	-	2,032,044	14,719,096
Total liabilities and deferred inflows of resources	4,391,890	3,706,066	6,116,921	2,193,464	11,955	2,082,016	18,502,312
Fund Balances							
Nonspendable - Prepays	123,424	-	4,300	-	-	-	127,724
Restricted:							
Police	-	-	4,860,398	-	-	-	4,860,398
Fire	-	6,959,254	-	-	-	-	6,959,254
Debt service	-	-	-	-	-	244,678	244,678
Solid waste	-	-	-	173,830	-	-	173,830
Drug law enforcement	-	-	-	-	-	102,732	102,732
Building activity	-	-	-	-	-	2,153,100	2,153,100
Parks and recreation	-	-	-	-	-	976,108	976,108
Public access programming	64,700	-	-	-	-	-	64,700
Assigned:							
Subsequent year's budget	559,530	-	-	-	-	-	559,530
Road improvements	2,500,000	-	-	-	-	-	2,500,000
Capital projects	1,000,000	-	-	-	7,842,151	648,874	9,491,025
OPEB contribution	800,000	-	-	-	-	-	800,000
Unassigned	1,608,548	-	-	-	-	-	1,608,548
Total fund balances	6,656,202	6,959,254	4,864,698	173,830	7,842,151	4,125,492	30,621,627
Total liabilities, deferred inflows of resources, and fund balances	\$ 11,048,092	\$ 10,665,320	\$ 10,981,619	\$ 2,367,294	\$ 7,854,106	\$ 6,207,508	\$ 49,123,939

Charter Township of White Lake

Governmental Funds
Reconciliation of the Balance Sheet to the Statement of Net Position

December 31, 2021

Fund Balances Reported in Governmental Funds	\$ 30,621,627
Amounts reported for governmental activities in the statement of net position are different because:	
Capital assets used in governmental activities are not financial resources and are not reported in the funds	11,070,020
Special assessments and grant revenue that are collected after year end, such that they are not available to pay bills outstanding as of year end, are not recognized in the funds	1,170,409
Long-term receivables are not receivable in the current period and are not reported in the funds	7,987,378
Long-term liabilities are not due and payable in the current period and are not reported in the funds	(8,983,147)
Accrued interest is not due and payable in the current period and is not reported in the funds	(92,880)
Compensated absences are not due and payable in the current period and are not reported in the funds	(112,429)
Net pension liability is not due and payable in the current period and is not reported in the funds	(10,609,430)
Net OPEB liability does not present a claim on current financial resources and is not reported as fund liabilities	(4,790,621)
Deferred outflows related to pensions are not recorded in the funds	3,373,358
Deferred outflows related to OPEB are not recorded in the funds	977,167
Deferred inflows related to pensions are not recorded in the funds	(1,264,014)
Deferred inflows related to OPEB are not recorded in the funds	(1,899,868)
Net Position of Governmental Activities	<u>\$ 27,447,570</u>

Charter Township of White Lake

Governmental Funds

Statement of Revenue, Expenditures, and Changes in Fund Balances

Year Ended December 31, 2021

	Special Revenue Funds				Capital Project Fund		Total Governmental Funds
	General Fund	Fire Fund	Police Fund	Solid Waste Special Assessment Fund	Improvement Revolving Fund	Nonmajor Funds	
Revenue							
Taxes	\$ 1,268,338	\$ 3,470,922	\$ 5,655,994	\$ -	\$ -	\$ 912,556	\$ 11,307,810
Special assessments	132,130	-	-	1,951,405	-	618,009	2,701,544
Intergovernmental:							
Federal grants	63,774	74,123	45,073	-	-	35,989	218,959
State-shared revenue and grants	3,275,492	-	3,374	-	-	50,000	3,328,866
Local grants and contributions -							
Operating grants	-	-	-	-	-	5,425	5,425
Charges for services	67,741	4,029	4,457	-	111,864	22,455	210,546
Fines and forfeitures	-	-	160,082	-	-	23,288	183,370
Licenses and permits:							
Cable franchise fees	511,264	-	-	-	-	-	511,264
Other licenses and permits	210,157	1,843	18,006	-	-	799,893	1,029,899
Interest and rentals	49,978	29,789	26,088	-	26,614	51,801	184,270
Other revenue	587,638	44,230	177,364	-	70,001	60,363	939,596
Total revenue	6,166,512	3,624,936	6,090,438	1,951,405	208,479	2,579,779	20,621,549
Expenditures							
Current:							
General government	3,824,500	2,055	748	-	275,292	-	4,102,595
Public safety	129,440	3,272,046	5,879,727	-	-	651,775	9,932,988
Public works	215,573	-	-	1,946,788	206,929	1,301,090	3,670,380
Health and welfare	199,763	-	-	-	-	-	199,763
Community and economic development	355,281	-	-	-	-	35,989	391,270
Recreation and culture	209,580	-	-	-	-	108,620	318,200
Debt service	7,337	-	-	-	-	552,573	559,910
Total expenditures	4,941,474	3,274,101	5,880,475	1,946,788	482,221	2,650,047	19,175,106
Excess of Revenue Over (Under) Expenditures	1,225,038	350,835	209,963	4,617	(273,742)	(70,268)	1,446,443
Other Financing Sources (Uses)							
Transfers in	340,000	-	-	-	5,051,594	426,811	5,818,405
Transfers out	(5,300,000)	-	-	-	-	(126,811)	(5,426,811)
New debt issued	-	-	-	-	-	900,000	900,000
Sale of capital assets	2,560	9,000	27,695	-	-	-	39,255
Total other financing (uses) sources	(4,957,440)	9,000	27,695	-	5,051,594	1,200,000	1,330,849
Net Change in Fund Balances	(3,732,402)	359,835	237,658	4,617	4,777,852	1,129,732	2,777,292
Fund Balances - Beginning of year - As restated (Note 11)	10,388,604	6,599,419	4,627,040	169,213	3,064,299	2,995,760	27,844,335
Fund Balances - End of year	\$ 6,656,202	\$ 6,959,254	\$ 4,864,698	\$ 173,830	\$ 7,842,151	\$ 4,125,492	\$ 30,621,627

Charter Township of White Lake

Governmental Funds

**Reconciliation of the Statement of Revenue, Expenditures, and Changes in
Fund Balances to the Statement of Activities**

Year Ended December 31, 2021

Net Change in Fund Balances Reported in Governmental Funds	\$	2,777,292
<p>Amounts reported for governmental activities in the statement of activities are different because:</p>		
<p>Governmental funds report capital outlays as expenditures; however, in the statement of activities, these costs are allocated over their estimated useful lives as depreciation:</p>		
Capital outlay		564,153
Depreciation expense		(829,502)
<p>Revenue is recorded in the statement of activities when earned; it is not reported in the funds until collected or collectible within 60 days of year end</p>		
		406,327
<p>Bond proceeds provide financial resources to governmental funds, but issuing debt increases long-term liabilities in the statement of net position</p>		
		(900,000)
<p>Repayment of bond principal is an expenditure in the governmental funds but not in the statement of activities (where it reduces long-term debt)</p>		
		296,192
<p>Change in accrued interest payable and other</p>		
		(6,946)
<p>Increases in accumulated employee sick and vacation pay and other similar expenses reported in the statement of activities do not require the use of current resources and, therefore, are not reported in the fund statements until they come due for payment</p>		
		23,283
<p>The change in the net pension liability is recorded when incurred in the statement of activities</p>		
		(151,575)
<p>The change in net other postemployment benefit obligations are not reported as fund liabilities</p>		
		1,112,811
<p>Change in deferred outflows related to pensions</p>		
		1,038,521
<p>Change in deferred outflows related to OPEB</p>		
		41,277
<p>Change in deferred inflows related to pensions</p>		
		(1,117,666)
<p>Change in deferred inflows related to OPEB</p>		
		95,284
Change in Net Position of Governmental Activities	\$	<u>3,349,451</u>

Charter Township of White Lake

**Proprietary Funds
Statement of Net Position**

December 31, 2021

	Sewer Fund	Water Fund	Total Enterprise Funds
Assets			
Current assets:			
Cash and investments	\$ 1,666,342	\$ 1,798,904	\$ 3,465,246
Receivables:			
Special assessments receivable - Current portion	404,085	23,772	427,857
Receivables from sales to customers on account	-	342,526	342,526
Accrued interest receivable	2,170	2,273	4,443
Other receivables	-	12,734	12,734
Due from other governments	131,429	-	131,429
Due from other funds (Note 4)	-	148,367	148,367
Prepaid expenses and other assets	-	1,475	1,475
Total current assets	2,204,026	2,330,051	4,534,077
Noncurrent assets:			
Restricted assets	-	2,664,652	2,664,652
Special assessment receivables - Greater than one year	510,690	108,000	618,690
Capital assets: (Note 3)			
Assets not subject to depreciation	45,880	539,206	585,086
Assets subject to depreciation - Net	11,300,214	7,849,105	19,149,319
Total noncurrent assets	11,856,784	11,160,963	23,017,747
Total assets	14,060,810	13,491,014	27,551,824
Deferred Outflows of Resources			
Deferred pension costs (Note 8)	6,800	22,206	29,006
Deferred OPEB costs (Note 9)	-	27,145	27,145
Total deferred outflows of resources	6,800	49,351	56,151
Liabilities			
Current liabilities:			
Accounts payable	59,313	52,571	111,884
Due to other funds (Note 4)	380,685	47,125	427,810
Accrued liabilities and other	3,043	12,770	15,813
Current portion of long-term debt (Note 5)	308,115	66,885	375,000
Total current liabilities	751,156	179,351	930,507
Noncurrent liabilities:			
Net pension liability (Note 8)	24,239	66,371	90,610
Net OPEB liability (Note 9)	-	133,086	133,086
Long-term debt (Note 5)	170,701	566,019	736,720
Total noncurrent liabilities	194,940	765,476	960,416
Total liabilities	946,096	944,827	1,890,923
Deferred Inflows of Resources			
Deferred pension cost reductions (Note 8)	2,157	9,390	11,547
Deferred OPEB cost reductions	-	52,779	52,779
Total deferred inflows of resources	2,157	62,169	64,326
Net Position			
Net investment in capital assets	10,867,278	7,755,407	18,622,685
Restricted - Water operating ordinance	-	2,664,652	2,664,652
Unrestricted	2,252,079	2,113,310	4,365,389
Total net position	\$ 13,119,357	\$ 12,533,369	\$ 25,652,726

Charter Township of White Lake

Proprietary Funds Statement of Revenue, Expenses, and Changes in Net Position

Year Ended December 31, 2021

	Sewer Fund	Water Fund	Total Enterprise Funds
Operating Revenue			
Sale of water	\$ -	\$ 1,211,162	\$ 1,211,162
Sewage disposal charges	2,770,699	-	2,770,699
Interest and penalty charges	32,184	10,619	42,803
Installation fees	-	5,925	5,925
Total operating revenue	2,802,883	1,227,706	4,030,589
Operating Expenses			
Salaries and wages	-	140,441	140,441
Fringe benefits	-	97,873	97,873
Workers' compensation and general liability insurance	-	36,196	36,196
Sewer operating expenses	2,478,602	-	2,478,602
Other operating expenses	-	127,773	127,773
Utilities	-	80,426	80,426
Tools and supplies	-	146,033	146,033
Repairs and maintenance	8,640	106,094	114,734
Depreciation	356,521	400,228	756,749
Total operating expenses	2,843,763	1,135,064	3,978,827
Operating (Loss) Income	(40,880)	92,642	51,762
Nonoperating Revenue (Expense)			
Investment income	28,329	26,619	54,948
Interest expense	(14,018)	(16,479)	(30,497)
Gain on sale of assets	-	2,225	2,225
Total nonoperating revenue	14,311	12,365	26,676
(Loss) Income - Before capital contributions	(26,569)	105,007	78,438
Capital Contributions - Tap-in and recovery fees	862,099	183,269	1,045,368
Transfers Out	(391,594)	-	(391,594)
Change in Net Position	443,936	288,276	732,212
Net Position - Beginning of year - As restated (Note 11)	12,675,421	12,245,093	24,920,514
Net Position - End of year	\$ 13,119,357	\$ 12,533,369	\$ 25,652,726

Charter Township of White Lake

Proprietary Funds Statement of Cash Flows

Year Ended December 31, 2021

	Sewer Fund	Water Fund	Total Enterprise Funds
Cash Flows from Operating Activities			
Receipts from customers	\$ 2,297,302	\$ 1,200,902	\$ 3,498,204
Receipts from other funds	380,685	4,178	384,863
Payments to suppliers	(2,427,929)	(458,829)	(2,886,758)
Payments to employees and fringes	(623)	(356,974)	(357,597)
Other payments	(131,429)	-	(131,429)
Net cash and cash equivalents provided by operating activities	118,006	389,277	507,283
Cash Flows Used in Noncapital Financing Activities -			
Transfers to other funds	(391,594)	-	(391,594)
Cash Flows from Capital and Related Financing Activities			
Special assessment collections	-	62,448	62,448
Tap-in fees	862,099	183,269	1,045,368
Proceeds from sale of capital assets	-	2,225	2,225
Purchase of capital assets	(423,489)	(346,242)	(769,731)
Principal and interest paid on capital debt	(314,090)	(83,773)	(397,863)
Net cash and cash equivalents provided by (used in) capital and related financing activities	124,520	(182,073)	(57,553)
Cash Flows Provided by Investing Activities - Interest received on investments	26,159	28,213	54,372
Net (Decrease) Increase in Cash and Cash Equivalents	(122,909)	235,417	112,508
Cash and Cash Equivalents - Beginning of year (as restated)	1,789,251	4,228,139	6,017,390
Cash and Cash Equivalents - End of year	<u>\$ 1,666,342</u>	<u>\$ 4,463,556</u>	<u>\$ 6,129,898</u>
Classification of Cash and Cash Equivalents			
Cash and investments	\$ 1,666,342	\$ 1,798,904	\$ 3,465,246
Restricted cash	-	2,664,652	2,664,652
Total cash and cash equivalents	<u>\$ 1,666,342</u>	<u>\$ 4,463,556</u>	<u>\$ 6,129,898</u>
Reconciliation of Operating (Loss) Income to Net Cash from Operating Activities			
Operating (loss) income	\$ (40,880)	\$ 92,642	\$ 51,762
Adjustments to reconcile operating (loss) income to net cash from operating activities:			
Depreciation	356,521	400,228	756,749
Changes in assets and liabilities:			
Receivables	(637,010)	(26,804)	(663,814)
Due to and from other funds	380,685	4,178	384,863
Prepaid and other assets	-	(483)	(483)
Net pension or OPEB liability	(623)	(110,670)	(111,293)
Accounts payable	59,313	31,868	91,181
Accrued and other liabilities	-	(1,682)	(1,682)
Total adjustments	158,886	296,635	455,521
Net cash and cash equivalents provided by operating activities	<u>\$ 118,006</u>	<u>\$ 389,277</u>	<u>\$ 507,283</u>

Charter Township of White Lake

**Fiduciary Funds
Statement of Fiduciary Net Position**

December 31, 2021

	Other Postemployment Benefits Fund	Custodial Funds	Total Fiduciary Funds
Assets			
Cash and cash equivalents	\$ -	\$ 1,165,330	\$ 1,165,330
Interest in pooled investments (Note 2)	7,138,431	-	7,138,431
Receivables	-	2,636,889	2,636,889
Total assets	7,138,431	3,802,219	10,940,650
Liabilities			
Due to other governmental units	-	2,598	2,598
Refundable deposits, bonds, etc.	-	29,930	29,930
Unremitted tax collections	-	543,805	543,805
Total liabilities	-	576,333	576,333
Deferred Inflows of Resources - Property taxes levied for the following year	-	2,636,889	2,636,889
Net Position			
Restricted:			
Postemployment benefits other than pension (Note 2)	7,138,431	-	7,138,431
Individuals, organizations, and other governments	-	588,997	588,997
Total net position	\$ 7,138,431	\$ 588,997	\$ 7,727,428

Charter Township of White Lake

Fiduciary Funds
Statement of Changes in Fiduciary Net Position

Year Ended December 31, 2021

	Other Postemployment Benefits Fund	Custodial Funds	Total Fiduciary Funds
Additions			
Investment income	\$ 831,431	\$ -	\$ 831,431
Contributions	1,310,019	458,305	1,768,324
Property tax collections	-	34,845,160	34,845,160
Total additions	2,141,450	35,303,465	37,444,915
Deductions			
Benefit payments	520,019	-	520,019
Administrative expenses	11,766	15,154	26,920
Repairs and maintenance	-	403,263	403,263
Tax payments to other governments	-	34,845,160	34,845,160
Total deductions	531,785	35,263,577	35,795,362
Net Increase in Fiduciary Net Position	1,609,665	39,888	1,649,553
Net Position - Beginning of year	5,528,766	549,109	6,077,875
Net Position - End of year	\$ 7,138,431	\$ 588,997	\$ 7,727,428

Note 1 - Significant Accounting Policies

Reporting Entity

The Charter Township of White Lake (the "Township") is governed by an elected seven-member board of trustees. The accompanying financial statements present the Township and its blended component unit, an entity for which the Township is considered to be financially accountable. Blended component units are, in substance, part of the Township's operations, even though they are separate legal entities. Thus, blended component units are appropriately presented as funds of the Township. Discretely presented component units are reported in a separate column in the government-wide financial statements to emphasize that they are legally separate from the Township.

Blended Component Unit

The Township Building Authority is governed by a board appointed by the Township's governing body. Although it is legally separate from the Township, the Building Authority is reported as if it were part of the primary government because its sole purpose is to finance and construct the Township's public buildings.

Fiduciary Component Unit

Other Postemployment Benefits Fund

The Charter Township of White Lake OPEB plan is governed by the Township's board. Although it is legally separate from the Township, it is reported as a fiduciary component unit because the Township administers the plan and the plan imposes a financial burden on the Township.

Jointly Governed Organization

In January 2020, the Township entered into a joint venture with the Charter Township of Highland and the Charter Township of Waterford to create the Western Oakland Transportation Authority (WOTA). The purpose of WOTA is to provide defined and beneficial transportation services to eligible persons in the service area. WOTA is governed by a three-member board with one member appointed by the respective underlying legislative body of each participating municipality for four-year terms. The board of WOTA is required to prepare, approve, and submit an annual budget to the governing body of each municipality by July 1 of each fiscal year.

During the year ended December 31, 2021, the Township's contribution to WOTA was \$199,763.

All parties have contributed to the cost of WOTA and share in its ownership on a percentage basis. The majority of WOTA's capital assets were purchased with federal and state funds, so any income from the sale of these assets would revert to those agencies.

The Township is unaware of any circumstances that would cause an additional benefit or burden to the participating governments in the near future.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 1 - Significant Accounting Policies (Continued)

Accounting and Reporting Principles

The Township follows accounting principles generally accepted in the United States of America (GAAP), as applicable to governmental units. Accounting and financial reporting pronouncements are promulgated by the Governmental Accounting Standards Board (GASB). The following is a summary of the significant accounting policies used by the Township:

Fund Accounting

The Township accounts for its various activities in several different funds in order to demonstrate accountability for how it spends certain resources; separate funds allow the Township to show the particular expenditures for which specific revenue is used. The various funds are aggregated into three broad fund types:

Governmental Funds

Governmental funds include all activities that provide general governmental services that are not business-type activities. Governmental funds can include the General Fund, special revenue funds, debt service funds, capital project funds, and permanent funds. The Township reports the following funds as major governmental funds:

- The General Fund is the primary operating fund because it accounts for all financial resources used to provide government services other than those specifically assigned to another fund.
- The Fire Fund is used by the Township to account for the assets and operation of the fire department that are financed primarily by dedicated property taxes.
- The Police Fund is used by the Township to account for the assets and operation of the police department that are financed primarily by dedicated property taxes.
- The Solid Waste Special Assessment Fund is a special revenue fund used to account for the collection of special assessments and the payment for the disposal of the Township's solid waste.
- The Improvement Revolving Fund is a special revenue fund used to account for Township capital improvement projects.

Proprietary Funds

Proprietary funds include enterprise funds (which provide goods or services to users in exchange for charges or fees) and internal service funds (which provide goods or services to other funds of the Township). The Township reports the following funds as a major enterprise funds:

- The Water Fund accounts for the operation, maintenance, and distribution of the water system.
- The Sewer Fund accounts for the operation, maintenance, and distribution of the sewer system.

Fiduciary Funds

Fiduciary funds include amounts held in a fiduciary capacity for others. These amounts will not be used to operate our government's programs. Activities that are reported as fiduciary include the following:

- The Other Postemployment Benefits Fund accumulates resources for future retiree health care payments to retirees.
- The Tax Collection Fund collects taxes on behalf of all the taxing authorities (state, county, school district, township, and the various smaller authorities) and remits the taxes to each authority.
- Various escrow funds for township lakes receive contributions for the maintenance of these lakes.

Note 1 - Significant Accounting Policies (Continued)

Interfund Activity

During the course of operations, the Township has activity between funds for various purposes. Any residual balances outstanding at year end are reported as due from/to other funds and advances to/from other funds. While these balances are reported in fund financial statements, certain eliminations are made in the preparation of the government-wide financial statements. Balances between the funds included in governmental activities (i.e., the governmental and internal service funds) are eliminated so that only the net amount is included as internal balances in the governmental activities column. Similarly, balances between the funds included in business-type activities (i.e., the enterprise funds) are eliminated so that only the net amount is included as internal balances in the business-type activities column.

Furthermore, certain activity occurs during the year involving transfers of resources between funds. In fund financial statements, these amounts are reported at gross amounts as transfers in/out. While reported in fund financial statements, certain eliminations are made in the preparation of the government-wide financial statements. Transfers between the funds included in governmental activities are eliminated so that only the net amount is included as transfers in the governmental activities column. Similarly, balances between the funds included in business-type activities are eliminated so that only the net amount is included as transfers in the business-type activities column.

Basis of Accounting

The governmental funds use the current financial resources measurement focus and the modified accrual basis of accounting. This basis of accounting is intended to better demonstrate accountability for how the Township has spent its resources.

Expenditures are reported when the goods are received or the services are rendered. Capital outlays are reported as expenditures (rather than as capital assets) because they reduce the ability to spend resources in the future; conversely, employee benefit costs that will be funded in the future (such as pension and retiree health care-related costs or sick and vacation pay) are not counted until they come due for payment. In addition, debt service expenditures, claims, and judgments are recorded only when payment is due.

Revenue is not recognized until it is collected or collected soon enough after the end of the year that it is available to pay for obligations outstanding at the end of the year. For this purpose, the Township considers amounts collected within 60 days of year end to be available for recognition. The following major revenue sources meet the availability criterion: state-shared revenue, district court fines, and interest associated with the current fiscal period. Conversely, special assessments and federal grant reimbursements will be collected after the period of availability; receivables have been recorded for these, along with a deferred inflow.

Proprietary funds and fiduciary funds use the economic resources measurement focus and the full accrual basis of accounting. Revenue is recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows.

Report Presentation

Governmental accounting principles require that financial reports include two different perspectives - the government-wide perspective and the fund-based perspective. The government-wide financial statements (i.e., the statement of net position and the statement of activities) report information on all of the nonfiduciary activities of the primary government and its component units, as applicable. The government-wide financial statements are presented on the economic resources measurement focus and the full accrual basis of accounting. Property taxes are recognized as revenue in the year for which they are levied. Grants and similar items are recognized as revenue as soon as all eligibility requirements imposed by the provider have been met. The statements also present a schedule reconciling these amounts to the modified accrual-based presentation found in the fund-based statements.

Note 1 - Significant Accounting Policies (Continued)

The statement of activities demonstrates the degree to which the direct expenses of a given function or segment are offset by program revenue. Direct expenses are those that are clearly identifiable with a specific function or segment. Program revenue includes: (1) charges to customers or applicants for goods, services, or privileges provided; (2) operating grants and contributions; and (3) capital grants and contributions, including special assessments. Taxes, unrestricted intergovernmental receipts, and other items not properly included among program revenue are reported instead as general revenue.

For the most part, the effect of interfund activity has been removed from the government-wide financial statements. Exceptions to this general rule occur when there are charges between the Township's water function and various other functions. Eliminations of these charges would distort the direct costs and program revenue reported for the various functions concerned.

Separate financial statements are provided for governmental funds, proprietary funds, and fiduciary funds even though the latter are excluded from the government-wide financial statements. Major individual governmental funds and major individual enterprise funds, if any, are reported as separate columns in the fund financial statements.

Specific Balances and Transactions

Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, demand deposits, and short-term investments with a maturity of three months or less when acquired.

Investments

Investments are reported at fair value or estimated fair value. Pooled investment income from the General Fund is generally allocated to each fund using a weighted average.

Receivables and Payables

In general, outstanding balances between funds are reported as due to/from other funds. Any residual balances outstanding between the governmental activities and the business-type activities are reported in the government-wide financial statements as internal balances. All trade and property tax receivables are considered fully collectible by the Township. No provision has been made in the financial statements for noncollection.

Library Receivable

During 2018, the Township issued debt on behalf of the White Lake Township Library (the "Library") to construct a new library facility. The Township is collecting a debt millage on behalf of the Library, which will be used to pay the debt principal and interest payments as they come due. Since the building is an asset of the Library, the Township will record a receivable from the Library until the debt is paid off. Payments on the Library debt began on March 1, 2020 and are due annually through March 1, 2038.

Restricted Assets

Certain township ordinances require amounts to be set aside for debt service principal and interest, operations and maintenance, and improvements and replacement of the water system. These amounts, which consist of cash and investments, have been classified as restricted assets.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 1 - Significant Accounting Policies (Continued)

Capital Assets

Capital assets, which include property, plant, equipment, intangible assets, and infrastructure assets (e.g., roads, drains, and similar items), are reported in the applicable governmental or business-type activities column in the government-wide financial statements. Capital assets are defined by the Township as assets with an initial individual cost of more than \$5,000 and an estimated useful life in excess of one year. Such assets are recorded at historical cost or estimated historical cost if purchased or constructed. Donated capital assets are recorded at estimated acquisition value at the date of donation.

Infrastructure, intangibles, buildings, equipment, and vehicles are depreciated using the straight-line method over the following useful lives:

	Depreciable Life - Years
Water system	50
Sewer system	50
Machinery and equipment	5-20
Buildings and improvements	5-20
Furniture and equipment	5-20
Vehicles	5-12

Long-term Obligations

In the government-wide financial statements and the proprietary fund types in the fund financial statements, long-term debt and other long-term obligations are reported as liabilities in the applicable governmental activities, business-type activities, or proprietary fund-type statement of net position. Bond premiums and discounts are deferred and amortized over the life of the bonds using the effective interest method. Bonds payable are reported net of the applicable bond premium or discount. Bond issuance costs are expensed at the time they are incurred. In the fund financial statements, governmental fund types recognize bond issuances as an other financing source, as well as bond premiums and discounts. The General Fund and debt service funds are generally used to liquidate governmental long-term debt.

Deferred Outflows/Inflows of Resources

In addition to assets, the statement of net position and/or balance sheet will sometimes report a separate section for deferred outflows of resources. This separate financial statement element represents a consumption of net position that applies to a future period and will not be recognized as an outflow of resources (expense/expenditure) until then.

The Township reports deferred outflows of resources related to the defined benefit pension plan and the OPEB plan. The deferred outflows of resources related to pension and OPEB are reported in the government-wide financial statements and the Water and Sewer Funds. Details of the deferred outflows of resources related to pension and OPEB can be found in Notes 8 and 9.

In addition to liabilities, the statement of net position and/or balance sheet will sometimes report a separate section for deferred inflows of resources. This separate financial statement element represents an acquisition of net position that applies to a future period and will not be recognized as an inflow of resources (revenue) until that time.

Note 1 - Significant Accounting Policies (Continued)

The Township reports deferred inflows related to property taxes levied for the following year. The governmental funds also report unavailable revenue from special assessments. These amounts are deferred and recognized as an inflow of resources in the period that the amounts become available. There are deferred inflows of resources related to the defined benefit pension plan and the OPEB plan. The deferred inflows of resources related to pension are reported in the government-wide financial statements and the Water and Sewer Funds. Details of the deferred inflows of resources related to pension and OPEB can be found in Notes 8 and 9.

Net Position

Net position of the Township is classified in three components. Net investment in capital assets - net of related debt consists of capital assets net of accumulated depreciation and is reduced by the current balances of any outstanding borrowings used to finance the purchase or construction of those assets. Restricted net position is further classified as expendable and nonexpendable. Expendable restricted net position has been limited for use by donors and as held in trust for debt service and self-insured professional liability. Nonexpendable restricted net position has been restricted by donors to be maintained in perpetuity. Unrestricted net position is the remaining net position that does not meet the definition of invested in capital or restricted.

Net Position Flow Assumption

The Township will sometimes fund outlays for a particular purpose from both restricted (e.g., restricted bond or grant proceeds) and unrestricted resources. In order to calculate the amounts to report as restricted net position and unrestricted net position in the government-wide and proprietary funds financial statements, a flow assumption must be made about the order in which the resources are considered to be applied. It is the Township's policy to consider restricted net position to have been depleted before unrestricted net position is applied.

Fund Balance Flow Assumptions

The Township will sometimes fund outlays for a particular purpose from both restricted and unrestricted resources (the total of committed, assigned, and unassigned fund balance). In order to calculate the amounts to report as restricted, committed, assigned, and unassigned fund balance in the governmental fund financial statements, a flow assumption must be made about the order in which the resources are considered to be applied. It is the Township's policy to consider restricted fund balance to have been depleted before using any of the components of unrestricted fund balance. Furthermore, when the components of unrestricted fund balance can be used for the same purpose, committed fund balance is depleted first, followed by assigned fund balance. Unassigned fund balance is applied last.

Fund Balance Policies

Fund balance of governmental funds is reported in various categories based on the nature of any limitations requiring the use of resources for specific purposes. In the fund financial statements, governmental funds report the following components of fund balance:

- *Nonspendable* - Amounts that are not in spendable form or are legally or contractually required to be maintained intact
- *Restricted* - Amounts that are legally restricted by outside parties, constitutional provisions, or enabling legislation for use for a specific purpose
- *Committed* - Amounts that have been formally set aside by the township board of trustees for use for specific purposes. Commitments are made and can be rescinded only via resolution of the board of trustees.

Note 1 - Significant Accounting Policies (Continued)

- *Assigned* - Intent to spend resources on specific purposes expressed by the township board as a whole or the supervisor, treasurer, and clerk, who are authorized by resolution approved by the township board to make assignments
- *Unassigned* - Amounts that do not fall into any other category above. This is the residual classification for amounts in the General Fund and represents fund balance that has not been assigned to other funds and has not been restricted, committed, or assigned to specific purposes in the General Fund. In other governmental funds, only negative unassigned amounts are reported, if any, and represent expenditures incurred for specific purposes exceeding the amounts previously restricted, committed, or assigned to those purposes.

Property Tax Revenue

Property taxes are levied on each December 1 and become an enforceable lien at that time; the tax is based on the taxable valuation of property as of the preceding December 31. Taxes are considered delinquent on March 1 of the following year, at which time penalties and interest are assessed. Unpaid property taxes become a lien on the property on March 1 of the second year following the year of the levy.

The Township's 2021 property tax revenue was levied and collectible on December 1, 2020 and is recognized as revenue in the year ended December 31, 2021 when the proceeds of the levy are budgeted and available for the financing of operations.

The 2020 taxable valuation of the Township totaled \$1.2 billion, on which taxes levied consisted of 0.9278 mills for operating purposes, 4.5386 mills for police services, 2.7852 mills for fire service, 0.4431 mills for library debt, and 0.2921 mills for parks and recreation. This resulted in \$1.2 million for operating, \$5.7 million for police services, \$3.5 million for fire service, \$0.5 million for library debt, and \$0.4 million for parks and recreation. These amounts are recognized in the respective General Fund and special revenue fund financial statements as property tax revenue.

A provision has been recorded for potential refunds related to disputed taxable values and potential chargebacks from Oakland County, Michigan.

Pension

The Township offers a defined benefit pension plan to its employees through the Municipal Employees' Retirement System of Michigan (MERS). The Township records a net pension liability for the difference between the total pension liability calculated by the actuary and the pension plan's fiduciary net position. For the purpose of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Township's pension plan and additions to/deductions from the pension plan's fiduciary net position have been determined on the same basis as they are reported by the pension plan. For this purpose, benefit payments (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value. The General, Police, Fire, and Water funds will be used to liquidate the net pension liability, based on whichever fund an employee or retiree is assigned and to which fund the employee's pension costs are charged.

Note 1 - Significant Accounting Policies (Continued)

Other Postemployment Benefit Costs

The Township offers retiree health care benefits to retirees. The Township records a net OPEB liability for the difference between the total OPEB liability calculated by the actuary and the OPEB plan's fiduciary net position. For the purpose of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the fiduciary net position of the Township's OPEB plan and additions to/deductions from the OPEB plan's fiduciary net position have been determined on the same basis as they are reported by the OPEB plan. For this purpose, benefit payments are recognized when due and payable in accordance with the benefit terms. Investments are reported at fair value, except for money market investments and participating interest-earning investment contracts that have a maturity at the time of purchase of one year or less, which are reported at cost. The obligation is liquidated from the General, Police, Fire, and Water funds.

Compensated Absences (Sick Leave)

It is the Township's policy to permit police employees to accumulate earned but unused sick pay benefits. Upon meeting all requirements for full retirement, an employee will be entitled to 50 percent with a 100-day cap (maximum payment of 50 days) of his or her sick day bank. Upon favorable separation, with a minimum of 10 years of service, an employee is entitled to a 30 percent payout with a 100-day cap (maximum payment of 30 days). A liability for these amounts is reported in governmental funds only when they have matured or come due for payment - generally when an individual's employment has terminated as of year end. Compensated absences attributable to the governmental activities will be liquidated primarily by the General Fund.

Proprietary Funds Operating Classification

Proprietary funds distinguish operating revenue and expenses from nonoperating items. Operating revenue and expenses generally result from providing services and producing and delivering goods in connection with a proprietary fund's principal ongoing operations. The principal operating revenue of the Water and Sewer funds is charges to customers for sales and services. The Water and Sewer Funds also recognize as operating revenue the portion of tap fees intended to recover the cost of connecting new customers to the system. Operating expenses for the enterprise fund include the cost of sales and services, administrative expenses, and depreciation on capital assets. All revenue and expenses not meeting this definition are reported as nonoperating revenue and expenses.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenue and expenses during the period. Actual results could differ from those estimates.

Note 1 - Significant Accounting Policies (Continued)

Upcoming Accounting Pronouncements

In June 2017, the GASB issued Statement No. 87, *Leases*, which improves accounting and financial reporting for leases by governments. This statement requires recognition of certain lease assets and liabilities for leases that previously were classified as operating leases and recognized as inflows of resources or outflows of resources based on the payment provisions of the contract. It establishes a single model for lease accounting based on the foundational principle that leases are financings of the right to use an underlying asset. Under this statement, a lessee is required to recognize a lease liability and an intangible right-to-use lease asset, and a lessor is required to recognize a lease receivable and a deferred inflow of resources. The Township is currently evaluating the impact this standard will have on the financial statements when adopted. The provisions of this statement were effective for the Township's financial statements for the year ended December 31, 2020 but were extended to December 31, 2022 with the issuance of GASB Statement No. 95, *Postponement of the Effective Dates of Certain Authoritative Guidance*.

In January 2020, the GASB issued Statement No. 92, *Omnibus 2020*. This statement addresses eight unrelated practice issues and technical inconsistencies in authoritative literature. The standard addresses leases, intraentity transfers of assets, postemployment benefits, government acquisitions, risk financing and insurance-related activities of public entity risk pools, fair value measurements, and derivative instruments. The standard has various effective dates. The Township does not believe this pronouncement will have a significant impact on its financial statements but is still making a full evaluation.

In June 2020, the Governmental Accounting Standards Board issued Statement No. 97, *Certain Component Unit Criteria, and Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans*. While this standard had certain aspects impacting defined contribution pension and OPEB plans and other employee benefit plans that were effective immediately, it also clarifies when a 457 should be considered a pension plan or an other employee benefit plan to assist in the application of GASB Statement No. 84 to these types of plans. The Township is currently evaluating the impact this standard will have on the financial statements when adopted. The provisions of this statement related to 457 plans are effective for the Township's financial statements for the year ending June 30, 2022.

Note 2 - Deposits and Investments

Michigan Compiled Laws Section 129.91 (Public Act 20 of 1943, as amended) authorizes local governmental units to make deposits and invest in the accounts of federally insured banks, credit unions, and savings and loan associations that have offices in Michigan. The law also allows investments outside the state of Michigan when fully insured. The local unit is allowed to invest in bonds, securities, and other direct obligations of the United States or any agency or instrumentality of the United States; repurchase agreements; bankers' acceptances of United States banks; commercial paper rated within the two highest classifications that matures no more than 270 days after the date of purchase; obligations of the State of Michigan or its political subdivisions that are rated as investment grade; and mutual funds composed of investment vehicles that are legal for direct investment by local units of government in Michigan.

The Other Postemployment Benefits Fund is also authorized by Michigan Public Act 314 of 1965, as amended, to invest in certain reverse repurchase agreements, stocks, diversified investment companies, annuity investment contracts, real estate leased to public entities, mortgages, real estate (if the trust fund's assets exceed \$250 million), debt or equity of certain small businesses, certain state and local government obligations, and certain other specified investment vehicles.

The Township has designated three banks for the deposit of its funds. The investment policy adopted by the board in accordance with Public Act 196 of 1997 has authorized investment in all of the allowable vehicles mentioned above, except repurchase agreements.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 2 - Deposits and Investments (Continued)

The Township's cash and investments are subject to several types of risk, which are examined in more detail below:

Custodial Credit Risk of Bank Deposits

Custodial credit risk is the risk that, in the event of a bank failure, the Township's deposits may not be returned to it. The Township does not have a deposit policy for custodial credit risk. At year end, the Township had bank deposits of \$9,431,234 (certificates of deposit and checking and savings accounts) that were uninsured and uncollateralized. The Township believes that, due to the dollar amounts of cash deposits and the limits of Federal Deposit Insurance Corporation (FDIC) insurance, it is impractical to insure all deposits. As a result, the Township evaluates each financial institution with which it deposits funds and assesses the level of risk of each institution; only those institutions with an acceptable estimated risk level are used as depositories.

Interest Rate Risk

Interest rate risk is the risk that the value of investments will decrease as a result of a rise in interest rates. The Township's investment policy does not restrict investment maturities other than commercial paper, which can only be purchased with a 270-day maturity.

At year end, the Township had the following investments:

Investment	Fair Value	Weighted- average Maturity (Days)
Primary Government		
Oakland County Local Government Investment Pool	\$ 21,097,681	333
Investment	Carrying Value	Weighted- average Maturity (Years)
Fiduciary Funds		
MERS Total Market Portfolio	\$ 7,138,431	N/A

Credit Risk

State law limits investments in commercial paper to the top two ratings issued by nationally recognized statistical rating organizations. The Township has no investment policy that would further limit its investment choices. As of year end, the credit quality ratings of debt securities (other than the U.S. government) are as follows:

Investment	Fair Value	Rating	Rating Organization
Primary Government			
Oakland County Local Government Investment Pool	\$ 21,097,681	N/A	N/A
Investment	Carrying Value	Rating	Rating Organization
Fiduciary Funds			
MERS Total Market Portfolio	\$ 7,138,431	N/A	N/A

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 2 - Deposits and Investments (Continued)

Fair Value Measurements

The Township categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets, Level 2 inputs are significant other observable inputs, and Level 3 inputs are significant unobservable inputs. Investments that are measured at fair value using net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy below.

In instances where inputs used to measure fair value fall into different levels in the above fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The Township’s assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability.

The Township has a fair value measurement in the Oakland County Local Government Investment Pool (LGIP) as of December 31, 2021. The Township's investment in the Oakland County LGIP (\$21,097,681) and the MERS Total Market Portfolio (\$7,138,431) are measured at net asset value (NAV).

The valuation method for investments measured at net asset value per share (or its equivalent) is presented in the table below.

Investments in Entities That Calculate Net Asset Value per Share

The Township holds shares or interests in investment companies where the fair value of the investments is measured on a recurring basis using net asset value per share (or its equivalent) of the investment companies as a practical expedient.

At December 31, 2021, the fair value, unfunded commitments, and redemption rules of those investments are as follows:

	Fair Value	Unfunded Commitments	Redemption Frequency, if Eligible	Redemption Notice Period
Oakland County Local Government Investment Pool	\$ 21,097,681	\$ -	None	N/A
MERS Total Market Portfolio	7,138,431	-	None	N/A

The Oakland County LGIP is not registered with the Securities and Exchange Commission (SEC) and does not issue a separate report. The pool does not meet the requirements under GASB Statement No. 79 to report its value for financial reporting purposes at amortized costs. Accordingly, the investment is reported at fair value. The fair value of the position in the pool is not the same as the value of the pool shares because the pool redeems shares at \$1 per share regardless of current fair value.

The Oakland County LGIP invests assets in a manner that will seek the highest investment return consistent with the preservation of principal and meet the daily liquidity needs of participants.

The MERS Total Market Portfolio is a fully diversified portfolio combining traditional stocks and bonds with alternative asset classes, including real estate, private equity, and commodities. The objective is to provide current income and capital appreciation while minimizing the volatility of the capital markets. The Municipal Employees' Retirement System (MERS) manages the asset allocation and monitors the underlying investment managers of the MERS Total Market Portfolio.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 3 - Capital Assets

Capital asset activity of the Township's governmental and business-type activities was as follows.

Governmental Activities

	Balance January 1, 2021	Additions	Disposals and Adjustments	Balance December 31, 2021
Capital assets not being depreciated:				
Land	\$ 4,462,300	\$ 275,291	\$ -	\$ 4,737,591
Construction in progress	71,137	145,180	(71,137)	145,180
Subtotal	4,533,437	420,471	(71,137)	4,882,771
Capital assets being depreciated:				
Buildings and improvements	8,189,909	64,326	-	8,254,235
Vehicles	4,140,661	-	(135,564)	4,005,097
Furniture and equipment	1,860,869	89,980	(43,520)	1,907,329
Subtotal	14,191,439	154,306	(179,084)	14,166,661
Accumulated depreciation:				
Buildings and improvements	3,378,091	327,918	-	3,706,009
Vehicles	2,650,365	372,729	(135,565)	2,887,529
Furniture and equipment	1,300,538	128,855	(43,519)	1,385,874
Subtotal	7,328,994	829,502	(179,084)	7,979,412
Net capital assets being depreciated	6,862,445	(675,196)	-	6,187,249
Net governmental activities capital assets	\$ 11,395,882	\$ (254,725)	\$ (71,137)	\$ 11,070,020

Business-type Activities

	Balance January 1, 2021	Additions	Disposals and Adjustments	Balance December 31, 2021
Capital assets not being depreciated:				
Land	\$ 253,080	\$ -	\$ -	\$ 253,080
Construction in progress	71,516	260,490	-	332,006
Subtotal	324,596	260,490	-	585,086
Capital assets being depreciated:				
Water system	15,867,308	-	(20,490)	15,846,818
Machinery and equipment	504,935	131,634	-	636,569
Sewer system	16,436,103	433,229	-	16,869,332
Subtotal	32,808,346	564,863	(20,490)	33,352,719
Accumulated depreciation:				
Water system	8,041,125	329,316	(20,490)	8,349,951
Machinery and equipment	213,417	70,912	-	284,329
Sewer system	5,212,599	356,521	-	5,569,120
Subtotal	13,467,141	756,749	(20,490)	14,203,400
Net capital assets being depreciated	19,341,205	(191,886)	-	19,149,319
Net business-type activities capital assets	\$ 19,665,801	\$ 68,604	\$ -	\$ 19,734,405

The Township began reporting sewer activity as a business-type activity beginning on January 1, 2021. As a result, sewer system capital assets with a beginning of year net book value of \$11,223,504 were reclassified to business-type activities as a result of this change in reporting (see Note 11) .

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 3 - Capital Assets (Continued)

Depreciation expense was charged to programs of the primary government as follows:

Governmental activities:		
General government	\$	116,194
Public safety		486,454
Public works		138,759
Economic development		16,533
Health and welfare		4,698
Recreation and culture		66,864
Total governmental activities	\$	829,502
Business-type activities		
Water	\$	400,228
Sewer		356,521
Total business-type activities	\$	756,749

Construction Commitments

At December 31, 2021, the Township had outstanding commitments through construction contracts of approximately \$7,294,703 related to the Drinking Water State Revolving Fund and other capital improvements.

Note 4 - Interfund Receivables, Payables, and Transfers

The composition of interfund balances is as follows:

Receivable Fund	Payable Fund	Amount
General Fund	Water Fund	\$ 47,125
	Solid Waste Special Assessment Fund	179,520
	Sewer Fund	32,846
	Nonmajor governmental funds	18,796
	Total General Fund	278,287
Nonmajor governmental funds	Sewer Fund	199,472
Water Fund	Sewer Fund	148,367
	Total	\$ 626,126

These balances result from the time lag between the dates that goods and services are provided or reimbursable expenditures occur, transactions are recorded in the accounting system, and payments between funds are made. In addition, several funds do not have separate bank accounts, and, therefore, the General Fund holds its respective cash and investments.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 4 - Interfund Receivables, Payables, and Transfers (Continued)

Interfund transfers reported in the fund financial statements are composed of the following:

Paying Fund (Transfer Out)	Receiving Fund (Transfer In)	Amount
General Fund	Improvement Revolving Fund	\$ 5,000,000
	Nonmajor governmental funds	300,000
	Total General Fund	5,300,000
Nonmajor governmental funds	Nonmajor governmental funds	126,811
Sewer Fund	General Fund	340,000
	Improvement Revolving Fund	51,594
	Total Sewer Fund	391,594
	Total	<u>\$ 5,818,405</u>

The transfers from the General Fund to the Improvement Revolving Fund and PA 188 Fund occurred to set funds aside for future township projects. The transfer from the Construction Fund to the Special Assessment Debt Fund occurred to move a completed construction project to the debt service fund. The transfer from the Sewer Fund to the General Fund occurred in order to repay the General Fund for amounts transferred in previous years. The transfer from the Sewer Fund to the Improvement Revolving fund was to repay for amounts owed on previous sewer projects.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 5 - Long-term Debt

Long-term debt activity for the year ended December 31, 2021 can be summarized as follows:

Governmental Activities

	Interest Rate Ranges	Principal Maturity Ranges	Beginning Balance	Additions	Reductions	Ending Balance	Due within One Year
Direct borrowings and direct placements:							
Oakland County Revolving Fund:							
Amount of issue - \$148,000							
Maturing through 2025	5.00%	\$14,800	\$ 88,800	\$ -	\$ (14,800)	\$ 74,000	\$ 14,800
Capital leases - 2019 Copiers:							
Amount of issue - \$17,600							
Maturing through 2022	8.18%	\$5,395- \$6,351	12,205	-	(6,392)	5,813	5,813
Total direct borrowings and direct placements principal outstanding			101,005	-	(21,192)	79,813	20,613
Other debt:							
2018 Library Building Construction Bond:							
Amount of issue - \$8,600,000							
Maturing through 2038	3.00%- 3.50%	\$250,000 - \$675,000	8,350,000	-	(275,000)	8,075,000	275,000
Discount on bonds payable			(74,107)	-	2,441	(71,666)	(2,441)
2021 Special Assessment Bonds:							
Amount of issue - \$900,000							
Maturing through 2031	1.05%- 2.60%	\$70,000 - \$90,000	-	900,000	-	900,000	70,000
Total other debt principal outstanding			8,275,893	900,000	(272,559)	8,903,334	342,559
Total direct borrowings and other debt principal outstanding			8,376,898	900,000	(293,751)	8,983,147	363,172
Accumulated compensated absences			135,702	9,955	(33,228)	112,429	22,486
Total governmental activities long-term debt			<u>\$ 8,512,600</u>	<u>\$ 909,955</u>	<u>\$ (326,979)</u>	<u>\$ 9,095,576</u>	<u>\$ 385,658</u>

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 5 - Long-term Debt (Continued)

Business-type Activities

	Interest Rate Ranges	Principal Maturity Ranges	Beginning Balance	Additions	Reductions	Ending Balance	Due within One Year
Direct borrowings and direct placements:							
Drinking Water Revolving Fund:							
Amount of issue - \$1,152,000		\$55,000-					
Maturing through 2030	2.50%	\$75,000	\$ 655,000	\$ -	\$ (60,000)	\$ 595,000	\$ 60,000
General obligation bonds - 2002							
Pontiac Lake Sanitary System:							
Amount of issue - \$4,121,112		\$205,000-					
Maturing through 2022	2.50%	\$270,000	535,000	-	(265,000)	270,000	270,000
Total direct borrowings and							
direct placements principal			1,190,000	-	(325,000)	865,000	330,000
outstanding							
Other debt:							
2016 Special Assessment Bonds:							
Amount of issue - \$70,812		\$6,885-					
Maturing through 2026	3.00%	\$8,082	44,789	-	(6,885)	37,904	6,885
2016 Special Assessment Bonds:							
Amount of issue - \$390,907		\$29,645-					
Maturing through 2026	3.00%	\$43,500	246,931	-	(38,115)	208,816	38,115
Total other debt principal							
outstanding			291,720	-	(45,000)	246,720	45,000
Total business-type activities							
long-term debt			<u>\$ 1,481,720</u>	<u>\$ -</u>	<u>\$ (370,000)</u>	<u>\$ 1,111,720</u>	<u>\$ 375,000</u>

The Township began reporting sewer activity as a business-type activity beginning on January 1, 2021. As a result, the 2002 Pontiac Lake Sanitary System general obligation bond and 2016 special assessment bond with total beginning of the year balances of \$535,000 and \$246,931, respectively, were reclassified to business-type activities as a result of this change in reporting (see Note 11).

General Obligation Bonds and Contracts

The Township issues general obligation bonds to provide for the acquisition and construction of major capital facilities. General obligations have been issued for governmental activities. General obligation bonds are direct obligations and pledge the full faith and credit of the Township. Township contractual agreements and installment purchase agreements are also general obligations of the Township.

Special Assessment Bonds

Special assessment debt provide for capital improvements that benefit specific properties and will be repaid from amounts levied against those properties benefited from the construction. As additional security, the Township has pledged either its limited or full faith and credit for the payment of the principal and interest thereon.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 5 - Long-term Debt (Continued)

Debt Service Requirements to Maturity

Annual debt service requirements to maturity for the above bonds and note obligations are as follows:

Years Ending December 31	Governmental Activities				
	Direct Borrowings and Direct Placements		Other Debt		Total
	Principal	Interest	Principal	Interest	
2022	\$ 20,613	\$ 14,991	\$ 342,559	\$ 261,360	\$ 639,523
2023	14,800	8,447	392,337	252,189	667,773
2024	14,800	7,755	392,337	242,581	657,473
2025	14,800	7,001	491,450	231,354	744,605
2026	14,800	6,092	516,228	218,148	755,268
Thereafter	-	16,439	6,768,423	1,396,772	8,181,634
Total	\$ 79,813	\$ 60,725	\$ 8,903,334	\$ 2,602,404	\$ 11,646,276

Years Ending December 31	Business-type Activities				
	Direct Borrowings and Direct Placements		Other Debt		Total
	Principal	Interest	Principal	Interest	
2022	\$ 330,000	\$ 17,500	\$ 45,000	\$ 5,950	\$ 398,450
2023	60,000	12,625	50,000	5,000	127,625
2024	65,000	11,063	50,000	3,750	129,813
2025	65,000	9,438	50,000	2,250	126,688
2026	65,000	7,813	51,720	750	125,283
Thereafter	280,000	14,375	-	-	294,375
Total	\$ 865,000	\$ 72,814	\$ 246,720	\$ 17,700	\$ 1,202,234

Assets Pledged as Collateral

Direct Borrowings and Direct Placements

The Township’s outstanding capital lease debt from direct borrowings related to governmental activities of \$5,813 is secured with collateral of the township copiers.

Drinking Water Revolving Fund

The Township was approved for a Drinking Water Revolving Fund loan on August 9, 2021 in the amount of approximately \$8.3 million. At December 31, 2021, there were no funds drawn on the loan.

Note 6 - Risk Management

The Township is exposed to various risks of loss related to property loss, torts, errors and omissions, and employee injuries (workers' compensation), as well as medical benefits provided to employees. The Township has purchased commercial insurance for medical benefits provided to employees, participates in the Michigan Municipal League risk pool for claims relating to workers' compensation, and participates in the Michigan Municipal Risk Management Authority risk pool for claims relating to property loss, torts, and errors and omissions. Settled claims relating to the commercial insurance have not exceeded the amount of insurance coverage in any of the past three fiscal years.

Note 6 - Risk Management (Continued)

The Michigan Municipal League risk pool program operates as a common risk-sharing management program for local units of government in Michigan; member premiums are used to purchase commercial excess insurance coverage and to pay member claims in excess of deductible amounts.

Note 7 - Defined Contribution Pension Plan

The Township provides pension benefits to all paid on-call firefighters through a defined contribution plan. In a defined contribution plan, benefits depend solely on amounts contributed to the plan plus investment earnings. Employees are eligible to participate from six months after the date of employment. As established by the township board, contributions are calculated on employee base salary at a rate of 10 percent. The employee is also allowed to make voluntary after-tax contributions through payroll withholding in amounts ranging from 1 to 10 percent of base wages. The plan is administered by John Hancock Retirement Plan Services.

The Township’s total payroll during the current year was \$7,168,232. The current year contribution was calculated based on covered payroll of \$35,109, resulting in an employer contribution of \$3,511 and employee contributions of \$0.

Note 8 - Pension Plan

Plan Description

The Township participates in an agent multiple-employer defined benefit pension plan administered by the Municipal Employees' Retirement System of Michigan (MERS of Michigan) that covers all employees of the Township. MERS was established as a statewide public employee pension plan by the Michigan Legislature under PA 135 of 1945 and is administered by a nine-member retirement board. MERS issues a publicly available financial report, which includes the financial statements and required supplemental information of this defined benefit plan. This report can be obtained at www.mersofmichigan.com or in writing to MERS at 1134 Municipal Way, Lansing, MI 48917.

Benefits Provided

The plan provides certain retirement, disability, and death benefits to plan members and beneficiaries. PA 427 of 1984, as amended, established and amends the benefit provisions of the participants in MERS.

The MERS plan covers all union and nonunion employees segregated by the groups outlined below.

Retirement benefits for general employees (hired on or before September 1, 2011) are calculated as 2.50 percent of the employee’s final three-year average salary times the employee’s years of service. Normal retirement age is 60 with early retirement at 50 with 25 years of service. The vesting period is 10 years. Employees are eligible for nonduty disability benefits after 10 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits, but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Retirement benefits for general employees (hired after September 1, 2011) are calculated as 1.50 percent of the employee’s final three-year average salary times the employee’s years of service. Normal retirement age is 60 with early retirement at 50 with 25 years of service. The vesting period is 10 years. Employees are eligible for nonduty disability benefits after 10 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Note 8 - Pension Plan (Continued)

Retirement benefits for police employees (hired on or before September 1, 2011) are calculated as 2.50 percent of the employee's final three-year average salary times the employee's years of service. Normal retirement age is 60 with early retirement at 50 with 25 years of service. The vesting period is 10 years. Employees are eligible for nonduty disability benefits after 10 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits, but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Retirement benefits for police patrol employees (hired after September 1, 2011) are calculated as 2.25 percent of the employee's final three-year average salary times the employee's years of service. Normal retirement age is 60 with early retirement at 50 with 25 years of service. The vesting period is 10 years. Employees are eligible for nonduty disability benefits after 10 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Retirement benefits for fire employees (hired on or before September 1, 2011) are calculated as 2.50 percent of the employee's final three-year average salary times the employee's years of service. Normal retirement age is 60 with early retirement at 55 with 25 years of service. The vesting period is 10 years. Employees are eligible for nonduty disability benefits after 10 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits, but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Retirement benefits for fire employees (hired after September 1, 2011) are calculated as 2.25 percent of the employee's final three-year average salary times the employee's years of service. Normal retirement age is 60 with early retirement at 55 with 25 years of service. The vesting period is 10 years. Employees are eligible for nonduty disability benefits after 10 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Retirement benefits for public safety employees are calculated as 2.50 percent of the employee's final three-year average salary times the employee's years of service. Normal retirement age is 60 with early retirement at 50 with 25 years of service. The vesting period is 8 years. Employees are eligible for nonduty disability benefits after 8 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Retirement benefits for command employees are calculated as 2.50 percent of the employee's final three-year average salary times the employee's years of service. Normal retirement age is 60 with early retirement at 50 with 25 years of service. The vesting period is 10 years. Employees are eligible for nonduty disability benefits after 10 years of service and for duty-related disability benefits upon hire. Disability retirement benefits are determined in the same manner as retirement benefits but are payable immediately without an actuarial reduction. An employee who leaves service may withdraw his or her contributions plus any accumulated interest.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 8 - Pension Plan (Continued)

Employees Covered by Benefit Terms

The following members were covered by the benefit terms:

	December 31, 2020
Date of member count	
Inactive plan members or beneficiaries currently receiving benefits	54
Inactive plan members entitled to but not yet receiving benefits	11
Active plan members	89
Total employees covered by the plan	154

Contributions

Article 9, Section 24 of the State of Michigan constitution requires that financial benefits arising on account of employee service rendered in each year be funded during that year. Accordingly, MERS retains an independent actuary to determine the annual contribution. The employer is required to contribute amounts at least equal to the actuarially determined rate, as established by the MERS retirement board. The actuarially determined rate is the estimated amount necessary to finance the costs of benefits earned by plan members during the year, with an additional amount to finance any unfunded accrued liability. The employer may establish contribution rates to be paid by its covered employees.

For general employees (hired on or before September 1, 2011), the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 7.40 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current flat rate is \$14,142 per month.

For general employees (hired after September 1, 2011), the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 5.00 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current rate is 4.23 percent of annual covered payroll.

For police employees (hired on or before September 1, 2011), the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 6.25 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current flat rate is \$20,606 per month.

For police patrol employees (hired after September 1, 2011), the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 6.25 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current rate is 5.79 percent of annual covered payroll.

For fire employees (hired on or before September 1, 2011), the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 5.00 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current flat rate is \$14,054 per month.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 8 - Pension Plan (Continued)

For fire employees (hired after September 1, 2011), the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 5.00 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current rate is 6.33 percent of annual covered payroll.

For public safety employees, the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 9.60 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current rate is 54.65 percent of annual covered payroll.

For command employees, the plan provides that the employer and employees contribute amounts necessary to fund the actuarially determined benefits. Employees are required to contribute 6.25 percent of compensation. The Township makes employer contributions in accordance with funding requirements determined by the system's actuary. The Township's current rate is 31.61 percent of annual covered payroll.

Net Pension Liability

The net pension liability reported at December 31, 2021 was determined using a measure of the total pension liability and the pension net position as of the December 31, 2020 measurement date. The December 31, 2020 measurement date total pension liability was determined by an actuarial valuation performed as of that date.

Changes in the net pension liability during the measurement year were as follows:

Changes in Net Pension Liability	Increase (Decrease)		
	Total Pension Liability	Plan Net Position	Net Pension Liability
Balance at December 31, 2019	\$ 35,357,049	\$ 24,804,950	\$ 10,552,099
Changes for the year:			
Service cost	707,910	-	707,910
Interest	2,646,104	-	2,646,104
Differences between expected and actual experience	346,801	-	346,801
Changes in assumptions	1,374,725	-	1,374,725
Contributions - Employer	-	1,078,321	(1,078,321)
Contributions - Employee	-	372,926	(372,926)
Net investment income	-	3,526,308	(3,526,308)
Benefit payments, including refunds	(1,787,705)	(1,787,705)	-
Administrative expenses	-	(49,956)	49,956
Net changes	3,287,835	3,139,894	147,941
Balance at December 31, 2020	\$ 38,644,884	\$ 27,944,844	\$ 10,700,040

The plan's fiduciary net position represents 72.3 percent of the total pension liability.

Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

For the year ended December 31, 2021, the Township recognized pension expense of \$1,552,961.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 8 - Pension Plan (Continued)

At December 31, 2021, the Township reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 335,879	\$ (94,581)
Changes in assumptions	1,742,163	-
Net difference between projected and actual earnings on pension plan investments	-	(1,180,980)
Employer contributions to the plan subsequent to the measurement date	1,324,322	-
Total	\$ 3,402,364	\$ (1,275,561)

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows. These amounts are exclusive of the employer contributions to the plan made subsequent to the measurement date (\$1,324,322), which will impact the net pension liability, rather than pension expense.

Years Ending December 31	Amount
2022	\$ 283,113
2023	522,022
2024	(15,796)
2025	13,142
Total	\$ 802,481

Actuarial Assumptions

The total pension liability in each actuarial valuation was determined using the following actuarial assumptions applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	3.00%
Investment rate of return (net of investment expenses)	7.60%

Mortality rates were based on a blend of the following tables:

1. The Pub-2010 Juvenile Mortality Tables
2. The PubG-2010 Employee Mortality Tables
3. The PubG-2010 Healthy Retiree Tables

For disabled retirees, the mortality rates were based on a blend of the Pub-2010 Juvenile Mortality Tables and the PubNS-2010 Disabled Retiree Tables.

Discount Rate

The discount rate used to measure the total pension liability was 7.60 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 8 - Pension Plan (Continued)

Based on those assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Investment Rate of Return

The long-term expected rate of return on pension plan investments was determined using a model in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. The target allocation and best estimates of arithmetic real rates of return as of December 31, 2020, the measurement date, for each major asset class are summarized in the following table:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Global equity	60.00 %	5.25 %
Global fixed income	20.00	1.25
Private investments	20.00	7.25

Sensitivity of the Net Pension Liability to Changes in the Discount Rate

The following presents the net pension liability of the Township, calculated using the discount rate of 7.60 percent, as well as what the Township's net pension liability would be if it were calculated using a discount rate that is 1 percentage point lower or 1 percentage point higher than the current rate:

	1 Percentage Point Decrease (6.60%)	Current Discount Rate (7.60%)	1 Percentage Point Increase (8.60%)
Net pension liability of the Township	\$ 15,512,024	\$ 10,700,040	\$ 6,703,968

Pension Plan Fiduciary Net Position

Detailed information about the plan’s fiduciary net position is available in the separately issued financial report. For the purpose of measuring the net pension liability, deferred outflows of resources and deferred inflows of resources related to pension, and pension expense, information about the plan’s fiduciary net position and additions to/deductions from fiduciary net position have been determined on the same basis as they are reported by the plan. The plan uses the economic resources measurement focus and the full accrual basis of accounting. Investments are stated at fair value. Contribution revenue is recorded as contributions are due, pursuant to legal requirements. Benefit payments and refunds of employee contributions are recognized as expense when due and payable in accordance with the benefit terms.

Assumption Changes

In the fiscal year ended December 31, 2021 (December 31, 2020 valuation), there were assumption changes that resulted in an increase in the calculated total pension liability. The assumptions changed during the year related to the mortality tables being updated.

Note 9 - Other Postemployment Benefit Plan

Plan Description

The Township provides retiree health benefits to employees who meet eligibility requirements. This is a single-employer plan administered by the Township.

Note 9 - Other Postemployment Benefit Plan (Continued)

Employees become eligible at the earlier of the following requirements:

For Michigan Association of Public Employees (MAPE) and nonunion, there are no retiree health benefits for employees hired on or after October 1, 2008. For MAPE employees hired prior to October 1, 2008, employees must have attained the age of 50 with 25 years of service or the age of 60 with 10 years of service.

For house elected officials, supervisor, treasurer, and clerk, all employees are eligible at the earlier of age 50 with 25 years of service or the age of 60 with 8 years of service.

For police patrol and police command, there are no retiree health benefits for employees hired on or after January 1, 2010. For police patrol and command employees hired prior to January 1, 2010, employees must have attained the age of 50 with 25 years of service or the age of 60 with 10 years of service.

For fire, there are no retiree health benefits for employees hired on or after January 1, 2010. For fire employees hired prior to January 1, 2010, employees must have attained the age of 55 with 25 years of service or the age of 60 with 10 years of service.

The financial statements of the OPEB plan are included in these financial statements as an other postemployment benefits fund (a fiduciary fund).

Benefits Provided

The Township provides medical/RX and vision benefits for retirees. All pre-65 health plans are fully insured and experience rated with a self-insured WRAP premium included to buy down the deductible. Post-65 health plans are fully insured through Blue Cross Blue Shield (BCBS).

For house elected officials, supervisor, treasurer, and clerk employees, as well as general employees, MAPE employees, and other full-time nonunion employees hired prior to October 1, 2008, the Township pays the full cost of employee only coverage for medical/RX and vision benefits. For house elected officials, supervisor, treasurer, and clerk employees, spousal coverage is paid by the Township. For all others (general, MAPE, and nonunion), spousal and family coverage may be purchased at the retiree's own expense.

For police and fire employees hired prior to January 1, 2010, the Township pays the full cost of employee and spouse coverage for medical/RX and vision benefits. Police and fire employees hired on/after January 1, 2010 are not allowed to continue health coverage with the Township. Family coverage may be purchased at the retiree's own expense.

For employees hired on or after the cutoff dates listed above, the employer contributes 3.50 percent of employee base pay for police and fire employees and \$100 monthly for all other employees into a Health Care Savings Program (HCSP) account while actively employed. Police and fire employees also contribute a mandatory 3 percent of employee base pay into the account. As such, these employees are excluded from the calculation of the annual required contribution and net other postemployment benefit (OPEB) obligation described below.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 9 - Other Postemployment Benefit Plan (Continued)

Employees Covered by Benefit Terms

The following members were covered by the benefit terms:

	Township OPEB Plan
Date of member count	December 31, 2020
Inactive plan members or beneficiaries currently receiving benefits	43
Active plan members	41
Total plan members	84

Contributions

Retiree health care costs are paid by the Township on a "pay-as-you-go" basis. The Township has no obligation to make contributions in advance of when the insurance premiums are due for payment. Additional prefunding is at the Township's discretion. For the fiscal year ended December 31, 2021, the Township made payments for postemployment health benefit premiums of \$520,019. The Township also began to prefund the postemployment retiree health care liability in 2015, with payments totaling \$790,000 during the fiscal year ended December 31, 2021. Employees are not required to contribute to the plan.

Net OPEB Liability

The Township has chosen to use the December 31 measurement date as its measurement date for the net OPEB liability. The December 31, 2021 fiscal year end reported net OPEB liability was determined using a measure of the total OPEB liability and the OPEB net position as of the December 31, 2021 measurement date. The December 31, 2021 total OPEB liability was determined by an actuarial valuation performed as of December 31, 2020 that has used procedures to roll information forward to the measurement date.

Changes in the net OPEB liability during the measurement year were as follows:

Changes in Net OPEB Liability	Increase (Decrease)		
	Total OPEB Liability	Plan Net Position	Net OPEB Liability
Balance at December 31, 2020	\$ 11,658,801	\$ 5,528,766	\$ 6,130,035
Changes for the year:			
Service cost	124,923	-	124,923
Interest	893,464	-	893,464
Differences between expected and actual experience	(629,688)	-	(629,688)
Changes in assumptions	534,657	-	534,657
Contributions - Employer	-	1,310,019	(1,310,019)
Net investment income	-	831,431	(831,431)
Benefit payments, including refunds	(520,019)	(520,019)	-
Administrative expenses	-	(11,766)	11,766
Net changes	403,337	1,609,665	(1,206,328)
Balance at December 31, 2021	\$ 12,062,138	\$ 7,138,431	\$ 4,923,707

The plan's fiduciary net position represents 59.2 percent of the total OPEB liability.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 9 - Other Postemployment Benefit Plan (Continued)

OPEB Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to OPEB

For the year ended December 31, 2021, the Township recognized OPEB expense of \$(47,898).

At December 31, 2021, the Township reported deferred outflows of resources and deferred inflows of resources related to OPEB from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ -	\$ (1,207,105)
Changes in assumptions	1,004,312	(227,007)
Net difference between projected and actual earnings on OPEB plan investments	-	(518,535)
Total	\$ 1,004,312	\$ (1,952,647)

Amounts reported as deferred outflows of resources and deferred inflows of resources related to OPEB will be recognized in OPEB expense as follows:

Years Ending December 31	Amount
2022	\$ (619,416)
2023	(112,607)
2024	(141,753)
2025	(74,559)
Total	\$ (948,335)

Actuarial Assumptions

The total OPEB liability in the December 31, 2020 actuarial valuation was determined using an inflation assumption of 2.50 percent; assumed salary increases (including inflation) of 3.00 percent; an investment rate of return (net of investment expenses) of 7.35 percent; a health care cost trend rate of 7.50 percent for 2021, decreasing 0.5 percent per year to an ultimate rate of 4.0 percent for 2028 and later years; and the SOA Pub-2010 Headcount Weighted Mortality Table fully generational using Scale MP-2019.

Discount Rate

The discount rate used to measure the total OPEB liability was 7.35 percent. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current contribution rate and that township contributions will be made at rates equal to the difference between actuarially determined contribution rates and the employee rate.

Based on those assumptions, the OPEB plan's fiduciary net position was projected to be available to make all projected future benefit payments of current active and inactive employees. Therefore, the long-term expected rate of return on OPEB plan investments was applied to all periods of projected benefit payments to determine the total OPEB liability.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 9 - Other Postemployment Benefit Plan (Continued)

Investment Rate of Return

The long-term expected rate of return on OPEB plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of OPEB plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and adding expected inflation. Best estimates of arithmetic real rates of return as of the December 31, 2021 measurement date for each major asset class included in the OPEB plan's target asset allocation, as disclosed in the investment footnote, are summarized in the following tables:

Asset Class	Target Allocation	Long-term Expected Real Rate of Return
Global equity	60.00 %	5.25 %
Global fixed income	20.00	1.25
Private investments	20.00	7.25

Rates of Return

For the year ended December 31, 2021, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense, was 14.09 percent. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Sensitivity of the Net OPEB Liability to Changes in the Discount Rate

The following presents the net OPEB liability of the Township, calculated using the discount rate of 7.35 percent, as well as what the Township's net OPEB liability would be if it were calculated using a discount rate that is 1 percentage point lower or 1 percentage point higher than the current rate:

	1 Percentage Point Decrease (6.35%)	Current Discount Rate (7.35%)	1 Percentage Point Increase (8.35%)
Net OPEB liability of the township OPEB plan	\$ 6,454,907	\$ 4,923,707	\$ 3,657,761

Sensitivity of the Net OPEB Liability to Changes in the Health Care Cost Trend Rate

The following presents the net OPEB liability of the Township, calculated using the health care cost trend rate of 7.50 percent, as well as what the Township's net OPEB liability would be if it were calculated using a health care cost trend rate that is 1 percentage point lower or 1 percentage point higher than the current rate:

	1 Percentage Point Decrease (6.50%)	Current Health Care Cost Trend Rate (7.50%)	1 Percentage Point Increase (8.50%)
Net OPEB liability of the township OPEB plan	\$ 3,503,986	\$ 4,923,707	\$ 6,647,024

Note 9 - Other Postemployment Benefit Plan (Continued)

OPEB Plan Fiduciary Net Position

Detailed information about the plan's fiduciary net position is not available in a separately issued financial report. For the purpose of measuring the net OPEB liability, deferred outflows of resources and deferred inflows of resources related to OPEB, and OPEB expense, information about the plan's fiduciary net position and additions to/deductions from fiduciary net position have been determined on the same basis as they are reported by the plan. The plan uses the economic resources measurement focus and the full accrual basis of accounting. Investments are stated at fair value. Contribution revenue is recorded as contributions are due, pursuant to legal requirements. Benefit payments and refunds of employee contributions are recognized as expense when due and payable in accordance with the benefit terms.

Assumption Changes

- The discount rate decreased from 7.75 percent as of December 31, 2020 to 7.35 percent as of December 31, 2021.
- The health care cost trend rates have been updated to an initial rate of 7.50 percent decreasing by 0.50 percent annually to an ultimate rate of 4 percent.

Note 10 - Defined Contribution OPEB Plan

The Township offers a defined contribution OPEB plan as an alternative to the defined benefit OPEB plan upon closing of that plan in various years (see Note 9). The Township's board of trustees has authority over the plan provisions and contribution requirements, and the plan is administered by the Municipal Employees' Retirement System of Michigan.

All employees are eligible to participate in this plan, if not participating in the defined benefit plan. There is no required retirement age. The vesting period is 10 years for general, union, and nonunion employees and 7 years for police and fire employees. Once fully vested and upon separation of employment, funds become available for reimbursement of eligible medical expenses incurred by the employee, spouse, and legal dependents. In the event of the employee's death, if there is no spouse or legal dependents, or in the event of the death of the employee's spouse or legal dependents, a named beneficiary may use the funds for reimbursement of their medical expenses.

All forfeited funds revert to the Township. If an employee returns to employment at the Township within two years of termination, the forfeited funds are reinstated.

The Township's contributions for the year ended December 31, 2021 were \$94,039.

Charter Township of White Lake

Notes to Financial Statements

December 31, 2021

Note 11 - Change in Reporting Entity

The accompanying financial statements for 2021 have been restated to include the Sewer Fund as an enterprise fund, as the activity in this fund was determined to meet the criteria that require reporting this activity as an enterprise fund as of January 1, 2021. As a result of the change in reporting entity, various sewer activity previously reported in governmental activities are now reported in business-type activities. See Notes 3 and 5 for the restatements of capital asset and long-term debt balances. The following net position/fund balance amounts were restated as of January 1, 2021:

	Governmental Activities	General Sewer Fund	PA 188 Fund	SAD Sewer Debt Fund	Sewer Debt Fund	Business-type Activities	Water Fund	Sewer Fund
Fund balance - Beginning of year, as previously reported	\$ 36,793,760	\$ 879,218	\$ 396,674	\$ 550,205	\$ 80,151	\$ 12,224,874	\$ 12,224,874	\$ -
Adjustment due to change in reporting	<u>(12,695,641)</u>	<u>(879,218)</u>	<u>(70,312)</u>	<u>(550,205)</u>	<u>(80,151)</u>	<u>12,695,640</u>	<u>20,219</u>	<u>12,675,421</u>
Fund balance - Beginning of year, as restated	<u><u>\$ 24,098,119</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 326,362</u></u>	<u><u>\$ -</u></u>	<u><u>\$ -</u></u>	<u><u>\$ 24,920,514</u></u>	<u><u>\$ 12,245,093</u></u>	<u><u>\$ 12,675,421</u></u>

Required Supplemental Information

Charter Township of White Lake

Required Supplemental Information Budgetary Comparison Schedule – General Fund

Year Ended December 31, 2021

	Original Budget	Amended Budget	Actual	Variance with Amended Budget
Revenue				
Tax collections	\$ 1,171,585	\$ 1,171,585	\$ 1,203,392	\$ 31,807
Other license and permits	1,700	1,700	1,824	124
Transportation	21,180	35,980	48,108	12,128
Planning and development revenue	19,350	19,350	40,598	21,248
State-shared revenue and grants	2,400,000	2,400,000	3,252,583	852,583
Fees for service	729,948	732,948	922,864	189,916
Ordinance fees	-	-	1,963	1,963
Rents	18,000	18,000	15,072	(2,928)
Miscellaneous	951,200	966,200	680,108	(286,092)
Total revenue	5,312,963	5,345,763	6,166,512	820,749
Expenditures				
Township board	127,564	159,864	139,086	20,778
Supervisor	373,565	385,965	364,205	21,760
Elections	17,500	102,530	32,751	69,779
Accounting department	216,970	221,620	217,872	3,748
Assessing	441,675	451,075	425,075	26,000
Legal fees	120,000	120,000	73,476	46,524
Clerk	451,148	478,748	463,713	15,035
Board of review	3,050	3,050	2,076	974
Postage and mailing	27,800	27,800	29,416	(1,616)
Office supplies	35,000	35,000	39,102	(4,102)
Treasurer	467,290	529,590	485,237	44,353
Township hall and grounds	1,348,055	1,364,005	708,774	655,231
Cemetery	54,020	72,020	54,594	17,426
Other township properties	66,010	68,510	57,987	10,523
Health and welfare	12,000	12,000	7,387	4,613
Unallocated miscellaneous	15,000	15,000	9,184	5,816
Planning and community development	373,469	410,894	387,243	23,651
Ordinance	117,460	155,160	129,440	25,720
Highway and streets	186,000	218,000	215,573	2,427
Storm and sewer	-	-	-	-
Transportation services	185,000	199,800	199,763	37
Senior/Community center	234,705	239,465	209,580	29,885
Long-term sick pay/retiree health care	365,000	365,000	359,386	5,614
Payroll services	27,000	27,000	17,703	9,297
Other general services	316,640	322,640	312,851	9,789
Total expenditures	5,581,921	5,984,736	4,941,474	1,043,262

Charter Township of White Lake

**Required Supplemental Information
Budgetary Comparison Schedule – General Fund (Continued)**

Year Ended December 31, 2021

Excess of Revenue (Under) Over Expenditures	(268,958)	(638,973)	1,225,038	1,864,011
Other Financing Sources (Uses)				
Transfers in	-	-	340,000	340,000
Transfers out	-	(5,300,000)	(5,300,000)	-
Sale of capital assets	-	-	2,560	2,560
	-	(5,300,000)	(4,957,440)	342,560
Total other financing (uses) sources				
	-	(5,300,000)	(4,957,440)	342,560
Net Change in Fund Balance	(268,958)	(5,938,973)	(3,732,402)	2,206,571
Fund Balance - Beginning of year	10,388,604	10,388,604	10,388,604	-
Fund Balance - End of year	<u><u>\$ 10,119,646</u></u>	<u><u>\$ 4,449,631</u></u>	<u><u>\$ 6,656,202</u></u>	<u><u>\$ 2,206,571</u></u>

Charter Township of White Lake

Required Supplemental Information
Budgetary Comparison Schedule – Major Special Revenue Funds
Fire Fund

Year Ended December 31, 2021

	Original Budget	Amended Budget	Actual	Variance with Amended Budget
Revenue - Fire revenue	\$ 3,421,889	\$ 3,421,889	\$ 3,624,936	\$ 203,047
Expenditures				
Salaries	1,895,720	1,968,944	1,867,307	101,637
Payroll-related benefits	1,098,160	1,124,660	1,018,412	106,248
Other	469,035	469,435	341,892	127,543
Acquisitions	800,000	800,000	46,490	753,510
Total expenditures	4,262,915	4,363,039	3,274,101	1,088,938
Excess of Revenue (Under) Over Expenditures	(841,026)	(941,150)	350,835	(1,291,985)
Other Financing Sources - Sale of capital assets	-	-	9,000	(9,000)
Net Change in Fund Balance	(841,026)	(941,150)	359,835	1,300,985
Fund Balance - Beginning of year	6,599,419	6,599,419	6,599,419	-
Fund Balance - End of year	\$ 5,758,393	\$ 5,658,269	\$ 6,959,254	\$ 1,300,985

Charter Township of White Lake

Required Supplemental Information Budgetary Comparison Schedule – Major Special Revenue Funds Police Fund

Year Ended December 31, 2021

	Original Budget	Amended Budget	Actual	Variance with Amended Budget
Revenue - Police revenue	\$ 5,709,160	\$ 5,709,160	\$ 6,090,438	\$ 381,278
Expenditures				
Civil service	3,000	3,000	1,198	1,802
Salaries	3,088,460	3,183,760	3,012,195	171,565
Payroll and related benefits	2,317,330	2,328,330	2,157,394	170,936
Other	835,270	835,270	694,037	141,233
Crossing guards	16,290	16,290	15,651	639
Total expenditures	<u>6,260,350</u>	<u>6,366,650</u>	<u>5,880,475</u>	<u>486,175</u>
Excess of Revenue (Under) Over Expenditure	(551,190)	(657,490)	209,963	(867,453)
Other Financing Sources - Sale of capital assets	<u>12,000</u>	<u>12,000</u>	<u>27,695</u>	<u>(15,695)</u>
Net Change in Fund Balance	(539,190)	(645,490)	237,658	883,148
Fund Balance - Beginning of year	<u>4,627,040</u>	<u>4,627,040</u>	<u>4,627,040</u>	<u>-</u>
Fund Balance - End of year	<u>\$ 4,087,850</u>	<u>\$ 3,981,550</u>	<u>\$ 4,864,698</u>	<u>\$ 883,148</u>

Charter Township of White Lake

**Required Supplemental Information
Budgetary Comparison Schedule – Major Special Revenue Funds
Solid Waste Special Assessment Fund**

Year Ended December 31, 2021

	Original Budget	Amended Budget	Actual	Variance with Amended Budget
Revenue - Special assessments	\$ 1,937,211	\$ 1,951,211	\$ 1,951,405	\$ 194
Expenditures	1,937,211	1,951,211	1,946,788	4,423
Net Change in Fund Balance	-	-	4,617	4,617
Fund Balance - Beginning of year	169,213	169,213	169,213	-
Fund Balance - End of year	\$ 169,213	\$ 169,213	\$ 173,830	\$ 4,617

Charter Township of White Lake

Required Supplemental Information Schedule of Changes in the Township Net Pension Liability and Related Ratios

	Last Seven Fiscal Years						
	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability							
Service cost	\$ 707,910	\$ 660,190	\$ 649,224	\$ 649,488	\$ 622,992	\$ 625,618	\$ 622,772
Interest	2,646,104	2,578,764	2,479,156	2,353,583	2,241,783	2,069,874	1,948,262
Differences between expected and actual experience	346,801	35,833	(196,008)	110,815	(97,070)	159,965	-
Changes in assumptions	1,374,725	1,070,637	-	-	-	1,289,886	-
Benefit payments, including refunds	(1,787,705)	(1,785,640)	(1,599,886)	(1,488,304)	(1,278,592)	(1,143,667)	(1,053,062)
Net Change in Total Pension Liability	3,287,835	2,559,784	1,332,486	1,625,582	1,489,113	3,001,676	1,517,972
Total Pension Liability - Beginning of year	35,357,049	32,797,265	31,464,779	29,839,197	28,350,084	25,348,408	23,830,436
Total Pension Liability - End of year	\$ 38,644,884	\$ 35,357,049	\$ 32,797,265	\$ 31,464,779	\$ 29,839,197	\$ 28,350,084	\$ 25,348,408
Plan Fiduciary Net Position							
Contributions - Employer	\$ 1,078,321	\$ 982,303	\$ 974,673	\$ 860,906	\$ 683,655	\$ 642,013	\$ 553,152
Contributions - Member	372,926	358,604	353,693	337,653	330,788	328,248	325,529
Net investment income (loss)	3,526,308	3,014,284	(923,220)	2,786,317	2,185,266	(298,752)	1,185,448
Administrative expenses	(49,956)	(51,959)	(45,634)	(44,098)	(43,120)	(43,312)	(43,598)
Benefit payments, including refunds	(1,787,705)	(1,785,640)	(1,599,886)	(1,488,304)	(1,278,592)	(1,143,667)	(1,053,062)
Other	-	-	-	-	(1,456)	(76)	-
Net Change in Plan Fiduciary Net Position	3,139,894	2,517,592	(1,240,374)	2,452,474	1,876,541	(515,546)	967,469
Plan Fiduciary Net Position - Beginning of year	24,804,950	22,287,358	23,527,732	21,075,258	19,198,717	19,714,263	18,746,794
Plan Fiduciary Net Position - End of year	\$ 27,944,844	\$ 24,804,950	\$ 22,287,358	\$ 23,527,732	\$ 21,075,258	\$ 19,198,717	\$ 19,714,263
Township's Net Pension Liability - Ending	\$ 10,700,040	\$ 10,552,099	\$ 10,509,907	\$ 7,937,047	\$ 8,763,939	\$ 9,151,367	\$ 5,634,145
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	72.31 %	70.16 %	67.95 %	74.77 %	70.63 %	67.72 %	77.77 %
Covered Payroll	\$ 6,029,662	\$ 5,554,756	\$ 5,401,007	\$ 5,383,432	\$ 5,020,601	\$ 5,022,859	\$ 4,960,341
Township's Net Pension Liability as a Percentage of Covered Payroll	177.46 %	189.97 %	194.59 %	147.43 %	174.56 %	182.19 %	113.58 %

This schedule is intended to show information for 10 years. Additional years' information will be reported as it becomes available.

Charter Township of White Lake

Required Supplemental Information Schedule of Pension Contributions

Last Ten Fiscal Years Years Ended December 31

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Actuarially determined contribution	\$ 1,243,452	\$ 1,044,240	\$ 933,300	\$ 896,775	\$ 764,069	\$ 682,587	\$ 641,982	\$ 553,152	\$ 562,907	\$ 581,430
Contributions in relation to the actuarially determined contribution	1,324,322	1,078,321	982,303	974,673	859,452	683,655	642,013	553,152	562,907	581,430
Contribution Excess	\$ 80,870	\$ 34,081	\$ 49,003	\$ 77,898	\$ 95,383	\$ 1,068	\$ 31	\$ -	\$ -	\$ -
Covered Payroll	\$ 6,446,620	\$ 5,554,756	\$ 5,401,007	\$ 5,383,432	\$ 5,020,601	\$ 5,022,859	\$ 4,960,341	\$ 5,255,785	\$ 4,974,704	\$ 5,197,037
Contributions as a Percentage of Covered Payroll	20.54 %	19.41 %	18.19 %	18.11 %	17.12 %	13.61 %	12.94 %	10.52 %	11.32 %	11.19 %

Notes to Schedule of Pension Contributions

Actuarial valuation information relative to the determination of contributions:

Valuation date Actuarially determined contribution rates are calculated as of December 31, two years prior to the end of the fiscal year in which the contributions are reported. Contributions for the Township's fiscal year ended December 31, 2021 were determined based on the actuarial valuation as of December 31, 2019. The most recent valuation is as of December 31, 2020.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age
Amortization method	Level percent
Remaining amortization period	20 years
Asset valuation method	10-year smoothed market
Inflation	2.50 percent
Salary increase	3 percent
Investment rate of return	7.60 percent
Retirement age	Experience-based table of rates is specific to the type of eligibility condition
Mortality	RP-2014 tables of a 50 percent male and 50 percent female blend
Other information	None

Charter Township of White Lake

Required Supplemental Information Schedule of Changes in the Net OPEB Liability and Related Ratios

	Last Four Fiscal Years			
	2021	2020	2019	2018
Total OPEB Liability				
Service cost	\$ 124,923	\$ 150,951	\$ 194,334	\$ 181,621
Interest	893,464	829,212	873,215	836,560
Differences between expected and actual experience	(629,688)	(894,858)	(1,359,536)	-
Changes in assumptions	534,657	1,295,750	(908,029)	-
Benefit payments, including refunds	(520,019)	(531,701)	(532,397)	(482,939)
Net Change in Total OPEB Liability	403,337	849,354	(1,732,413)	535,242
Total OPEB Liability - Beginning of year	11,658,801	10,809,447	12,541,860	12,006,618
Total OPEB Liability - End of year	\$ 12,062,138	\$ 11,658,801	\$ 10,809,447	\$ 12,541,860
Plan Fiduciary Net Position				
Contributions - Employer	\$ 1,310,019	\$ 1,321,701	\$ 1,297,397	\$ 1,260,439
Net investment income (loss)	831,431	681,347	447,964	(118,947)
Administrative expenses	(11,766)	(8,133)	(6,353)	(6,508)
Benefit payments, including refunds	(520,019)	(531,701)	(532,397)	(482,939)
Net Change in Plan Fiduciary Net Position	1,609,665	1,463,214	1,206,611	652,045
Plan Fiduciary Net Position - Beginning of year	5,528,766	4,065,552	2,858,941	2,206,896
Plan Fiduciary Net Position - End of year	\$ 7,138,431	\$ 5,528,766	\$ 4,065,552	\$ 2,858,941
Net OPEB Liability - Ending	\$ 4,923,707	\$ 6,130,035	\$ 6,743,895	\$ 9,682,919
Plan Fiduciary Net Position as a Percentage of Total OPEB Liability	59.18 %	47.42 %	37.61 %	22.80 %
Covered-employee Payroll	\$ 3,788,198	\$ 3,677,862	\$ 3,570,740	\$ 3,557,735
Net OPEB Liability as a Percentage of Covered-employee Payroll	129.97 %	166.67 %	188.87 %	272.17 %

This schedule is intended to show information for 10 years. Additional years' information will be reported as it becomes available.

Charter Township of White Lake

Required Supplemental Information Schedule of OPEB Contributions

Last Ten Fiscal Years Years Ended December 31

	2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
Actuarially determined contribution	\$ 682,731	\$ 759,070	\$ 996,598	\$ 984,059	\$ 827,842	\$ 827,842	\$ 827,842	\$ 1,630,254	\$ 1,630,254	\$ 1,630,254
Contributions in relation to the actuarially determined contribution	1,310,019	1,321,701	1,297,397	1,260,439	1,172,456	1,096,978	718,110	350,313	291,388	259,709
Contribution Excess (Deficiency)	\$ 627,288	\$ 562,631	\$ 300,799	\$ 276,380	\$ 344,614	\$ 269,136	\$ (109,732)	\$ (1,279,941)	\$ (1,338,866)	\$ (1,370,545)
Covered-employee Payroll	\$ 3,788,198	\$ 3,677,862	\$ 3,570,740	\$ 3,557,735	\$ 4,589,912	\$ 4,589,912	\$ 4,589,912	\$ 4,862,179	\$ 4,862,179	\$ 4,862,179
Contributions as a Percentage of Covered-employee Payroll	34.58 %	35.94 %	36.33 %	35.43 %	25.54 %	23.90 %	15.65 %	7.20 %	5.99 %	5.34 %

Notes to Schedule of Contributions

Actuarial valuation information relative to the determination of contributions:

Valuation date Actuarially determined contribution rates are calculated as of December 31, one to two years prior to the end of the fiscal year in which the contributions are reported.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age normal
Amortization method	Level dollar
Remaining amortization period	27 years
Asset valuation method	Fair market value
Inflation	2.50 percent
Health care cost trend rates	7.50 percent
Salary increase	3 percent
Investment rate of return	7.35 percent
Mortality	SOA Pub-2010 Headcount Weighted Mortality Table fully generational using Scale MP-2019
Other information	None

Charter Township of White Lake

Required Supplemental Information Schedule of OPEB Investment Returns

Last Four Fiscal Years Years Ended December 31

	2021	2020	2019	2018
Annual money-weighted rate of return - Net of investment expense	14.09 %	13.35 %	13.52 %	(3.62)%

This schedule is intended to show information for 10 years. Additional years' information will be reported as it becomes available.

Charter Township of White Lake

Notes to Required Supplemental Information

December 31, 2021

Budgetary Information

Annual budgets are adopted on a basis consistent with accounting principles generally accepted in the United States of America, except for operating transfers and the issuance of debt, which have been included as revenue and expenditures, rather than as other financing sources (uses), and proceeds from the sale of capital assets and accruals for potential property tax liabilities that are budgeted as revenue and expenditures for the General Fund and all special revenue funds. The annual budget is prepared by the township supervisor; subsequent amendments are approved by the township board. During the year, the budget was amended in a legally permissible manner.

The budget document presents information by fund, activity, department, and line items. The legal level of budgetary control adopted by the governing body is the activity basis.

Amounts encumbered for purchase orders, contracts, etc. are not tracked during the year. Budget appropriations are considered to be spent once the goods are delivered or the services rendered. A comparison of actual results of operations to the General Fund and major special revenue fund budgets as adopted by the township board is included in the required supplemental information.

During the year, the Township incurred expenditures that were in excess of the amounts budgeted, as follows:

	Budget	Actual	Variance
General Fund - Postage and mailing	\$ 27,800	\$ 29,416	\$ (1,616)
General Fund - Office supplies	35,000	39,102	(4,102)

Pension Information

Changes in Assumptions

In the fiscal year ended December 31, 2021, there were assumption changes that resulted in an increase in the calculated total pension liability. The assumptions changed during the year related to the mortality tables.

In the fiscal year ended December 31, 2020, there were assumption changes that resulted in an increase in the calculated total pension liability. The assumptions changed during the year related to the investment rate of return and discount rate being updated from 8.00 to 7.60 percent and the salary growth rate being updated from 3.75 to 3 percent.

In the fiscal year ended December 31, 2016 (December 31, 2015 valuation), there were assumption changes that resulted in an increase in the calculated total pension liability. The assumptions changed during the year related to the investment rate of return, discount rate, and mortality tables.

OPEB Information

Changes in Assumptions

In the fiscal year ended December 31, 2021, there were assumption changes that resulted in an increase in calculated total OPEB liability. The assumptions changed during the year related to the discount rate decreasing from 7.75 percent to 7.35 percent. In addition, the health care trend rates have been updated to an initial rate of 7.50 percent decreasing by 0.50 percent annually to an ultimate rate of 4.00 percent.

In the fiscal year ended December 31, 2020, there were assumption changes that resulted in an increase in calculated total OPEB liability. The assumptions changed during the year related to the mortality table being updated to the SOA Pub-2010 General Headcount Weighted Mortality Table fully generational using Scale MP-2020. In addition, the health care trend rates have been updated to an initial rate of 8 percent decreasing by 0.50 percent annually to an ultimate rate of 4.50 percent.

Charter Township of White Lake

Notes to Required Supplemental Information

December 31, 2021

In the fiscal year ended December 31, 2019, the payroll growth assumption was updated from 4.00 to 3.00 percent based on actual township experience. The impact of this change was a slight increase in liabilities. In addition, the funding discount rate assumption has been updated from 7.00 to 7.75 percent based on the MERS total rate of return information for the Total Market Portfolio.

Other Supplemental Information

Charter Township of White Lake

	Special Revenue Funds			
	Drug Forfeiture Fund	Building Fund	Parks and Recreation Fund	Community Development Block Grant Fund
Assets				
Cash and investments	\$ 102,732	\$ 2,169,948	\$ 1,193,521	\$ -
Receivables:				
Property taxes receivable	-	-	157,174	-
Special assessments receivable	-	-	-	-
Other receivables	-	1,335	2,012	-
Due from other governments	-	-	-	16,457
Due from other funds	-	-	-	-
Total assets	\$ 102,732	\$ 2,171,283	\$ 1,352,707	\$ 16,457
Liabilities				
Accounts payable	\$ -	\$ 9,540	\$ -	\$ -
Due to other governmental units	-	-	-	-
Due to other funds	-	-	1,980	16,457
Accrued liabilities and other	-	8,643	30	-
Total liabilities	-	18,183	2,010	16,457
Deferred Inflows of Resources				
Unavailable revenue	-	-	-	-
Property taxes and special assessments levied for the following year	-	-	374,589	-
Total deferred inflows of resources	-	-	374,589	-
Total liabilities and deferred inflows of resources	-	18,183	376,599	16,457
Fund Balances				
Restricted:				
Debt service	-	-	-	-
Drug law enforcement	102,732	-	-	-
Building activity	-	2,153,100	-	-
Parks and recreation	-	-	976,108	-
Assigned - Capital projects	-	-	-	-
Total fund balances	102,732	2,153,100	976,108	-
Total liabilities, deferred inflows of resources, and fund balances	\$ 102,732	\$ 2,171,283	\$ 1,352,707	\$ 16,457

Other Supplemental Information
Combining Balance Sheet
Nonmajor Governmental Funds

December 31, 2021

Debt Service Funds		Capital Project Funds			
Special Assessment Debt Service	Library Debt Fund	Public Act 188 Fund	Construction Fund	Total	
\$ 181,445	\$ 334,277	\$ 437,680	\$ 100	\$ 4,419,703	
-	225,590	-	-	382,764	
833,880	-	351,885	-	1,185,765	
-	-	-	-	3,347	
-	-	-	-	16,457	
-	-	199,472	-	199,472	
\$ 1,015,325	\$ 559,867	\$ 989,037	\$ 100	\$ 6,207,508	
\$ -	\$ -	\$ 6,381	\$ -	\$ 15,921	
-	-	6,582	-	6,582	
-	-	359	-	18,796	
-	-	-	-	8,673	
-	-	13,322	-	49,972	
793,863	-	326,941	-	1,120,804	
-	536,651	-	-	911,240	
793,863	536,651	326,941	-	2,032,044	
793,863	536,651	340,263	-	2,082,016	
221,462	23,216	-	-	244,678	
-	-	-	-	102,732	
-	-	-	-	2,153,100	
-	-	-	-	976,108	
-	-	648,774	100	648,874	
221,462	23,216	648,774	100	4,125,492	
\$ 1,015,325	\$ 559,867	\$ 989,037	\$ 100	\$ 6,207,508	

Charter Township of White Lake

	Special Revenue Funds			
	Drug Forfeiture Fund	Building Fund	Parks and Recreation Fund	Community Development Block Grant Fund
Revenue				
Taxes	\$ -	\$ -	\$ 364,263	\$ -
Special assessments	-	-	-	-
Intergovernmental	5,425	-	50,000	35,989
Charges for services	-	16,124	6,331	-
Fines and forfeitures	23,288	-	-	-
Licenses and permits	-	799,893	-	-
Interest and rentals	51	7,403	2,769	-
Other revenue	-	57,630	2,720	-
Total revenue	28,764	881,050	426,083	35,989
Expenditures				
Current services:				
Public safety	46,596	605,179	-	-
Public works	-	-	-	-
Community and economic development	-	-	-	35,989
Recreation and culture	-	-	108,620	-
Debt service	-	-	-	-
Total expenditures	46,596	605,179	108,620	35,989
Excess of Revenue (Under) Over Expenditures	(17,832)	275,871	317,463	-
Other Financing Sources (Uses)				
Transfers in	-	-	-	-
Transfers out	-	-	-	-
New debt issued	-	-	-	-
Total other financing sources (uses)	-	-	-	-
Net Change in Fund Balances	(17,832)	275,871	317,463	-
Fund Balances - Beginning of year - As restated (Note 11)	120,564	1,877,229	658,645	-
Fund Balances - End of year	\$ 102,732	\$ 2,153,100	\$ 976,108	\$ -

Other Supplemental Information
Combining Statement of Revenue, Expenditures, and Changes in Fund Balances
Nonmajor Governmental Funds

Year Ended December 31, 2021

Debt Service Funds		Capital Project Funds			
Special Assessment Debt Service	Library Debt Fund	Public Act 188 Fund	Construction Fund	Total	
\$ -	\$ 548,293	\$ -	\$ -	\$ 912,556	
74,442	-	147,750	395,817	618,009	
-	-	-	-	91,414	
-	-	-	-	22,455	
-	-	-	-	23,288	
-	-	-	-	799,893	
20,209	201	21,085	83	51,801	
-	-	13	-	60,363	
<u>94,651</u>	<u>548,494</u>	<u>168,848</u>	<u>395,900</u>	<u>2,579,779</u>	
-	-	-	-	651,775	
-	-	132,001	1,169,089	1,301,090	
-	-	-	-	35,989	
-	-	-	-	108,620	
-	538,138	14,435	-	552,573	
<u>-</u>	<u>538,138</u>	<u>146,436</u>	<u>1,169,089</u>	<u>2,650,047</u>	
94,651	10,356	22,412	(773,189)	(70,268)	
126,811	-	300,000	-	426,811	
-	-	-	(126,811)	(126,811)	
-	-	-	900,000	900,000	
<u>126,811</u>	<u>-</u>	<u>300,000</u>	<u>773,189</u>	<u>1,200,000</u>	
221,462	10,356	322,412	-	1,129,732	
-	12,860	326,362	100	2,995,760	
<u>\$ 221,462</u>	<u>\$ 23,216</u>	<u>\$ 648,774</u>	<u>\$ 100</u>	<u>\$ 4,125,492</u>	

Charter Township of White Lake

**Other Supplemental Information
Combining Statement of Fiduciary Net Position
Custodial Funds**

December 31, 2021

	Custodial Funds		
	Trust and Agency Fund	Tax Collection Fund	Total
Assets			
Cash and cash equivalents	\$ 615,853	\$ 549,477	\$ 1,165,330
Receivables - Property taxes	-	2,636,889	2,636,889
Total assets	615,853	3,186,366	3,802,219
Liabilities			
Due to other governmental units	2,598	-	2,598
Refundable deposits, bonds, etc.	24,258	5,672	29,930
Unremitted tax collections	-	543,805	543,805
Total liabilities	26,856	549,477	576,333
Deferred Inflows of Resources - Property taxes levied for the following year	-	2,636,889	2,636,889
Total liabilities and deferred inflows of resources	26,856	3,186,366	3,213,222
Net Position - Restricted - Individuals, organizations, and other governments	588,997	-	588,997
Total net position	\$ 588,997	\$ -	\$ 588,997

Charter Township of White Lake

Other Supplemental Information
Combining Statement of Changes in Fiduciary Net Position
Custodial Funds

Year Ended December 31, 2021

	Custodial Funds		
	Trust and Agency Fund	Tax Collection Fund	Total
Additions			
Contributions	\$ 458,305	\$ -	\$ 458,305
Property tax collections	-	34,845,160	34,845,160
Total additions	458,305	34,845,160	35,303,465
Deductions			
Administrative expenses	15,154	-	15,154
Repairs and maintenance	403,263	-	403,263
Tax payments to other governments	-	34,845,160	34,845,160
Total deductions	418,417	34,845,160	35,263,577
Net Increase in Fiduciary Net Position	39,888	-	39,888
Net Position - Beginning of year	549,109	-	549,109
Net Position - End of year	\$ 588,997	\$ -	\$ 588,997



**CHARTER TOWNSHIP OF WHITE LAKE
PUBLIC HEARING NOTICE RELATIVE TO
SANITARY SYSTEM IMPROVEMENTS
2022 CLEAN WATER STATE REVOLVING FUND
(CWSRF) PROJECT PLAN**

Notice is hereby given that the Township Board of the Charter Township of White Lake will hold a Public Hearing on proposed improvements to the existing sanitary system in White Lake Township, Michigan for the purpose of receiving comments from interested persons.

THE HEARING WILL BE HELD ON:

DATE: May 17, 2022
TIME: 7:00 PM Local Time
PLACE: White Lake Township
Township Annex
7527 Highland Road
White Lake, Michigan 48383

The purpose of the proposed capital improvements is to update and improve the sanitary system for Township sanitary customers. Construction will include:

- Lining of 14,011 feet of gravity main with Cast-In-Place (CIP) pipe lining methods to protect sewer from Hydrogen Sulfide corrosion.
- Lining of 21 gravity manholes with Cast-In-Place (CIP) lining methods.
- Lining of 22 pressure manholes with Cast-In-Place (CIP) lining methods.

The proposed projects will provide rehabilitation and protection for the Township's existing sanitary system.

The total estimated Project Cost for the work is approximately \$2,855,538.66 to be paid over a 20-year period using a State of Michigan Low Interest Loan. The interest rate on the loan will be approximately two percent (2%).

Copies of the proposed Project Plan will be available for public review beginning April 13, 2022 at the following location:

White Lake Township
Township Annex
7527 Highland Road
White Lake, Michigan 48383

If you have questions, or would like to submit a written statement for the Public Hearing Record, call or write:

Aaron Potter, Department of Public Services Director
White Lake Township
7527 Highland Road
White Lake, Michigan 48383
Phone: (248) 698-7700

Written comments will be entered into the public hearing record of the Project Plan if received prior to 12:00 pm on Monday, May 16, 2022. All envelopes must be clearly labeled as "Public Hearing for 2022 Sanitary System Improvements Clean Water State Revolving Fund Project Plan." Physically challenged persons needing assistance or aid to attend the meeting should contact the White Lake Clerk's Office by writing or calling 248-698-3300 at least 5 days prior to the hearing.

Charter Township of White Lake
Anthony L. Noble, Clerk

04/06/2022: Posted/Township/Web
04/13/2022: Published/SCN

**CHARTER TOWNSHIP OF WHITE LAKE
COUNTY OF OAKLAND
A RESOLUTION ADOPTING A FINAL PROJECT PLAN FOR SANTIARY SEWER
SYSTEM IMPROVEMENTS AND DESIGNATING AN AUTHORIZED PROJECT
REPRESENTATIVE**

RESOLUTION #22-021

WHEREAS, The Charter Township of White Lake recognizes the need to make improvements to its existing sanitary sewer water system; and

WHEREAS, The Charter Township of White Lake authorized DLZ-Michigan, Inc. to prepare a Project Plan, which recommends lining of 14,011 lineal feet of gravity main with Cast-In-Place (CIP) pipe lining methods to protect sewer from Hydrogen Sulfide corrosion; lining of 21 gravity manholes with Cast-In-Place (CIP) lining methods; and lining of 22 pressure manholes with Cast-In-Place lining methods; and

WHEREAS, said Project Plan was presented at a Public Hearing on May 17, 2022 and all public comments have been considered and addressed;

NOW THEREFORE BE IT RESOLVED, that the Charter Township of White Lake formally adopts said Project Plan and agrees to implement the selected alternative (Alternative 4).

BE IT FURTHER RESOLVED, that the Township Department of Public Services Director, a position currently held by Aaron Potter, is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Plan as the first step in applying to the State of Michigan for a Clean Water State Revolving Fund Loan to assist in the implementation of the selected alternative.

MOTION TO APPROVE RESOLUTION on May 17, 2022 by _____ and support by _____.

Yeas:
Nays:
Abs:

RESOLUTION DECLARED ADOPTED.

State of Michigan)
) ss.
County of Oakland)

I, the undersigned duly qualified Township Clerk of the Charter Township of White Lake, Oakland County, Michigan, do hereby certify the foregoing is a true and complete copy of the proceedings taken by the Township Board of the Charter Township of White Lake at a meeting held on the 17th day of May, 2022.

CHARTER TOWNSHIP OF WHITE LAKE

Anthony L. Noble,
Township Clerk
Dated: May ____, 2022



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**CHARTER TOWNSHIP OF WHITE LAKE
FY2023 CLEAN WATER STATE REVOLVING FUND
WASTEWATER ASSET MANAGEMENT PLAN IMPROVEMENTS
PROJECT PLAN**



Prepared By:



DLZ Job No. 2245-7049-00

April 7, 2022



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White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan
Page 1 of 55

EXECUTIVE SUMMARY

The Charter Township of White Lake completed and submitted a Stormwater, Asset Management, and Wastewater (SAW) Grant project in December 2019. The SAW Wastewater Asset Management Plan (WWAMP) document identified 14,011 feet of sanitary sewer, 22 gravity manholes, and 21 pressure manholes that are in need of repair and rehabilitation.

A general concern with the existing infrastructure is the accumulation of hydrogen sulfide resulting in the corrosion and damage of the concrete structures. This buildup of hydrogen sulfide is due to low flows from the current lack of connections made to the sanitary system, hence the absence of adequate flow results in stagnant zones for hydrogen sulfide to accumulate. Because of the excessive hydrogen sulfide, the Township has conducted CCTV inspections on an annual basis and has confirmed structural damage and corrosion in their existing infrastructure. The most prominent location of hydrogen sulfide buildup is at the intersection of Elizabeth Lake Road and Union Lake Road, where the pressure sewer discharges into the gravity main. Based on the CCTV inspection results showing where the excessive hydrogen sulfide buildup is located, the Township has proposed to conduct Cast in Place (CIP) Pipe Lining to rehabilitate and protect 14,011 feet of sanitary sewer, 22 gravity manholes, and 21 pressure manholes from corrosion due to hydrogen sulfide.

In 2021, the Township authorized the preparation of this 2022 Clean Water State Revolving Fund (CWSRF) Project Plan to develop a strategy to rehabilitate their existing infrastructure. Information from this plan will be incorporated into an application document that will be submitted to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for consideration to receive a CWSRF low interest construction loan to line the gravity main and manholes to be more reliable and to prevent failure of the wastewater conveyance system. The Township submitted an Intent to Apply Form in January 2022 to EGLE, which is also included in Appendix I for reference.

Proposed projects that have been identified to be included in the Project Plan are:

- Cast in Place Pipe Lining of 14,011 feet of Gravity Sewer Main.
- Cast in Place Lining of 22 Gravity Manholes.
- Cast in Place Lining of 21 Pressure Manholes.



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White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan
Page 2 of 55

1.0 PROJECT BACKGROUND

The Charter Township of White Lake (Township) encompasses 37.1 square miles. The Township is located in the northwest portion of the greater Detroit metropolitan area and near the geographic center of Oakland County, Michigan. The Township lies adjacent to Waterford Township to the east, Springfield Township to the north, Highland Township to the west, and Commerce Township to the south. Over 25 lakes, comprising 2,255 acres, are located in White Lake Township. The 2020 Census reported the Township population at 30,950 persons. Figure 1 below is a vicinity map of White Lake Township and surrounding communities.

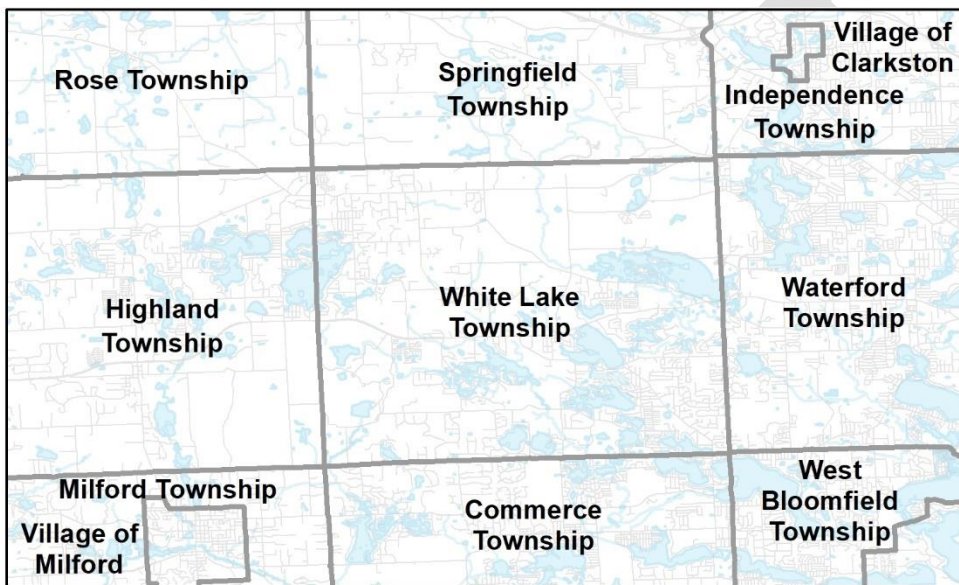


Figure 1 – White Lake Township Vicinity Map

The Township’s wastewater collection system serves approximately 4,500 people in the Township. Sewer mains were constructed largely in 1999 or later. There are approximately 20 miles of gravity sewer mains and an approximately 22 miles of pressured mains. The Township’s sanitary system contains ten (10) pumping stations. The wastewater flow is ultimately discharged into Commerce Township’s collection system and is conveyed to the Commerce Township Wastewater Treatment Plant for treatment. Refer to Figure 2 on page 3 for a map of the Township’s sanitary sewer distribution system.

The Township has experienced a major amount of growth in the southeastern portion of the Township and along the Highland Road/M-59 corridor in recent years. Moderate growth is expected throughout the Township in the next 10 to 20 years. The Township is located in an area of Oakland County that is currently popular for residential developments because of its rural character and many lakes. The residential development has promoted commercial developments along Highland including Fisk Corners and the White Lake Marketplace located at Highland Road and Fisk Road, the Meijer development located on Highland Road



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White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan
Page 3 of 55

at Bogie Lake Road, and the Village Lakes shopping center at Highland and Elizabeth Lake Roads. This growth should lead to additional users on the wastewater system. It is likely that the expansion of the wastewater collection system to currently unsewered areas of the Township will also occur and add to the number of users on the wastewater system.

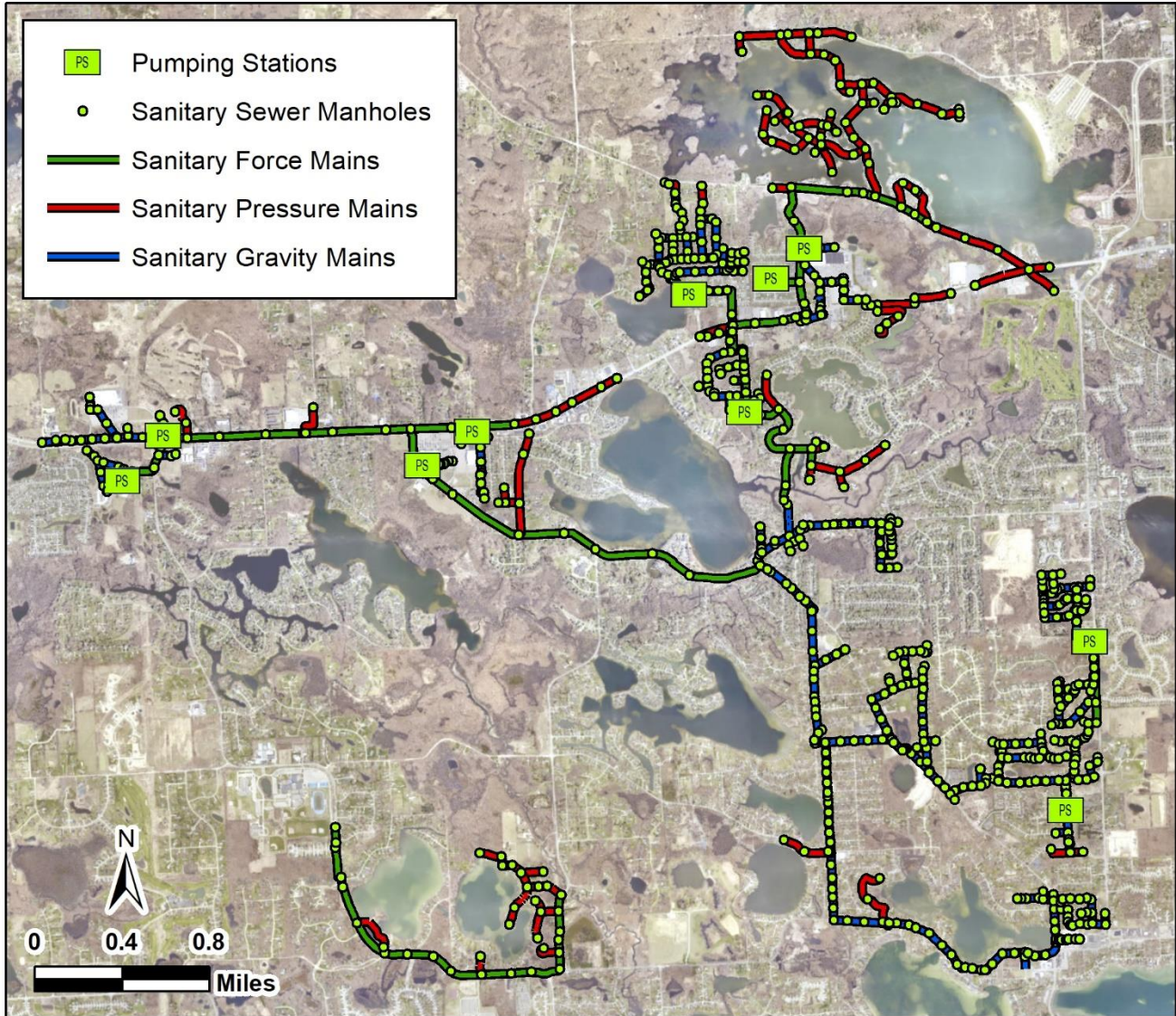


Figure 2 – White Lake Township Sanitary Sewer Distribution System



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White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan
Page 4 of 55

It is the intent of the Township to submit the final Project Plan by June 1, 2022 to EGLE to qualify for a low interest CWSRF loan to finance the proposed upgrades to provide high-quality sanitary sewer service to existing and future customers.

1.1 STUDY AREA

The study area for this project is spread throughout White Lake Township and the northern border of Commerce Township. The work will primarily occur in the eastern portion of the Township. The town code for the Township is 03N in the Michigan Public Land Survey. The Range of the project area is 08E.

The gravity sewer repairs are located in Sections 26, 34, 35, and 36 of the Township and Section 01 of Commerce Township (T02N, R08E). The gravity manhole repairs are located in Sections 25, 26, and 36 of the Township and Section 01 of Commerce Township. The pressure manhole repairs are located in Sections 12, 13, 14, and 23 of the Township. Refer to Figure 3 through Figure 13 on the following pages for maps of the study areas.



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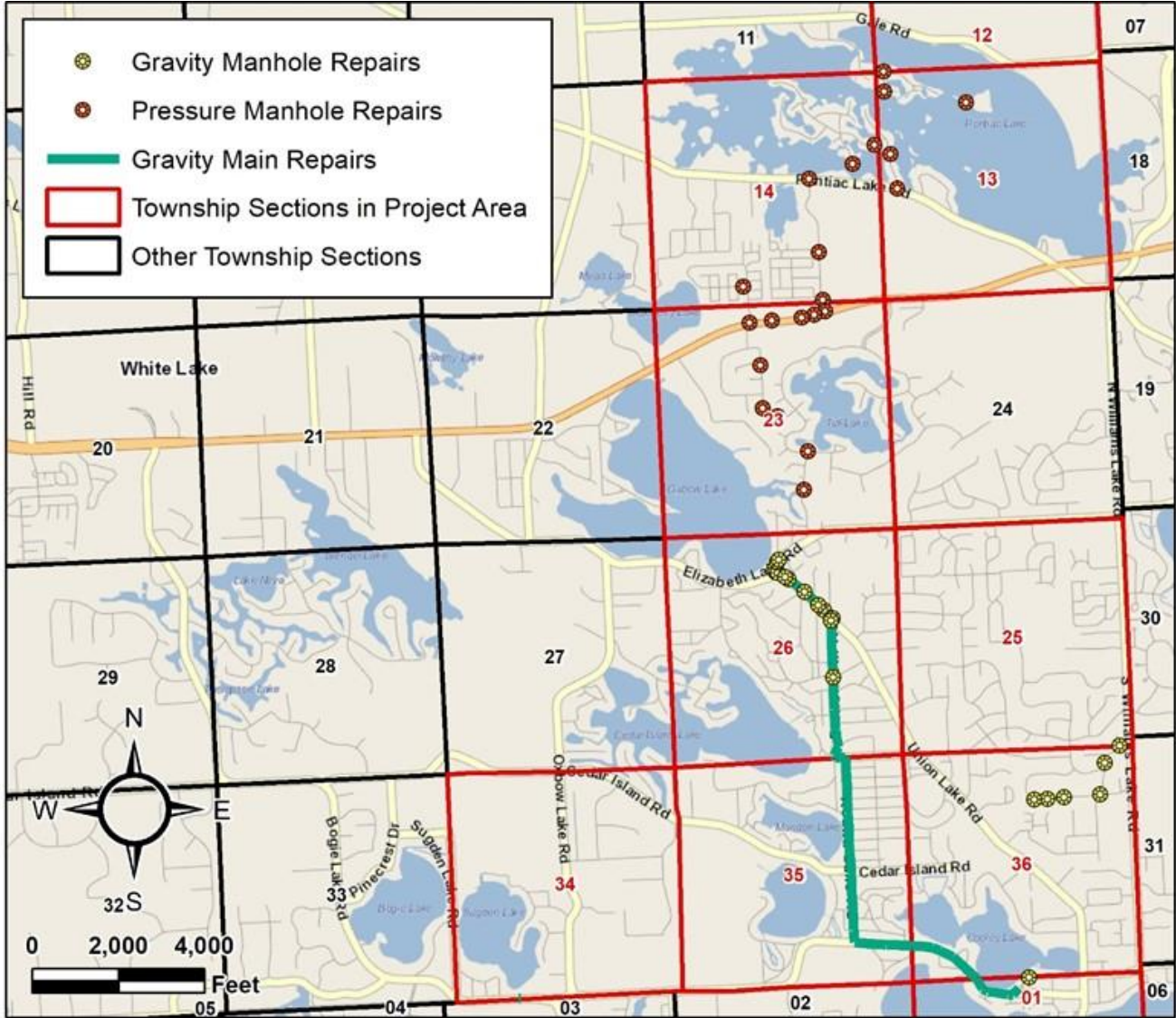


Figure 3 – Section Map of Study Areas



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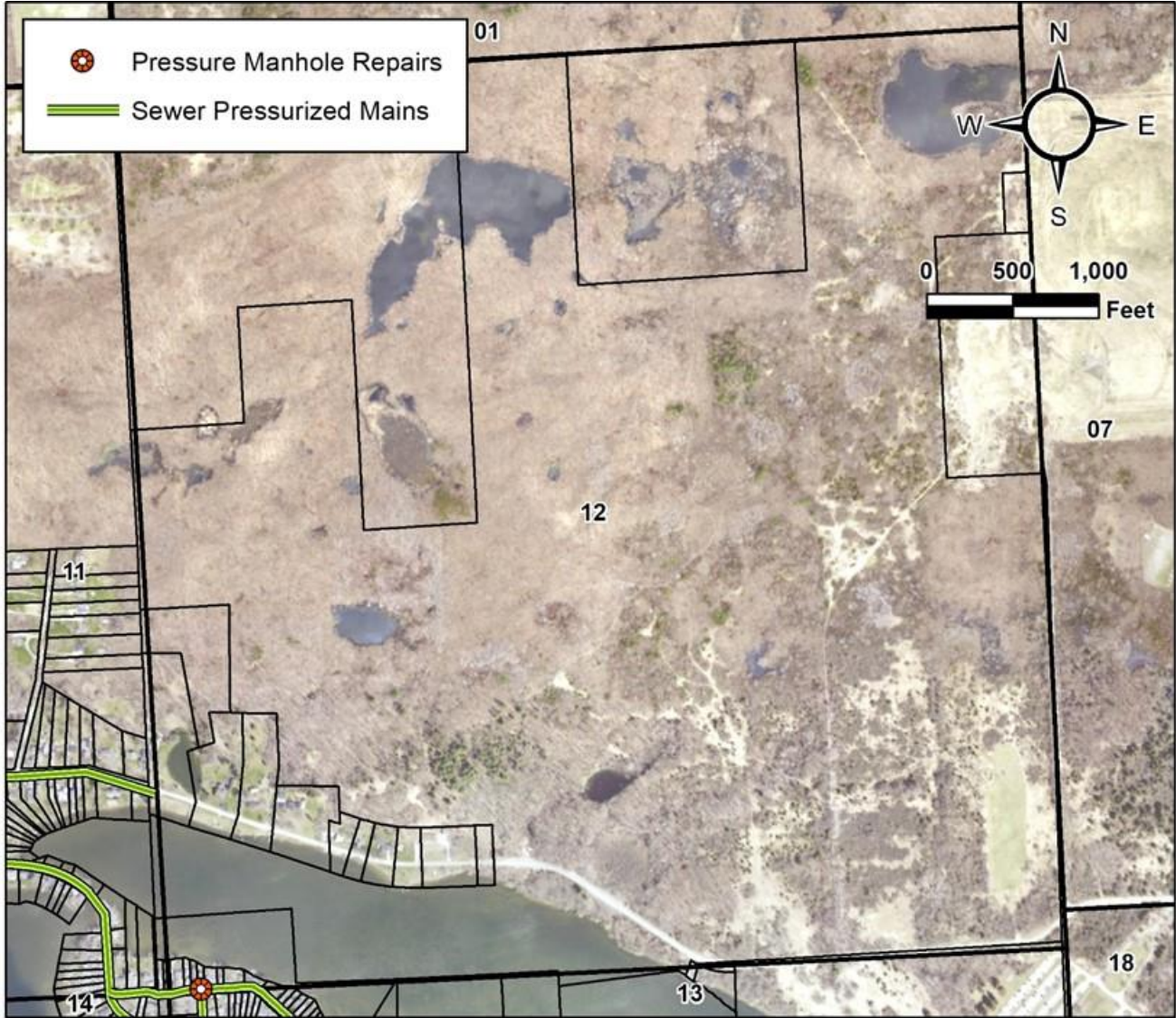


Figure 4 – Section 12 Repair Locations



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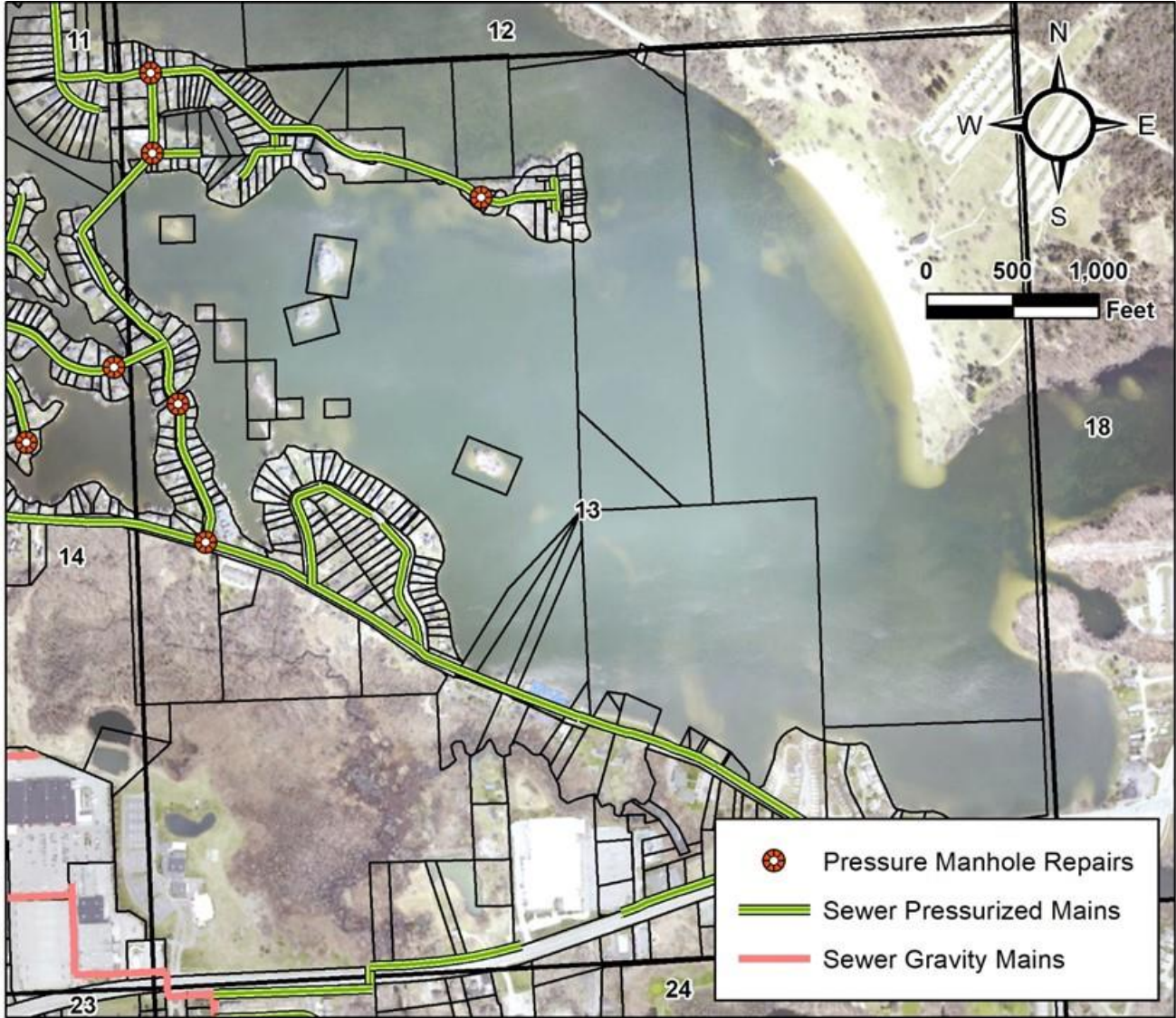


Figure 5 – Section 13 Repair Locations



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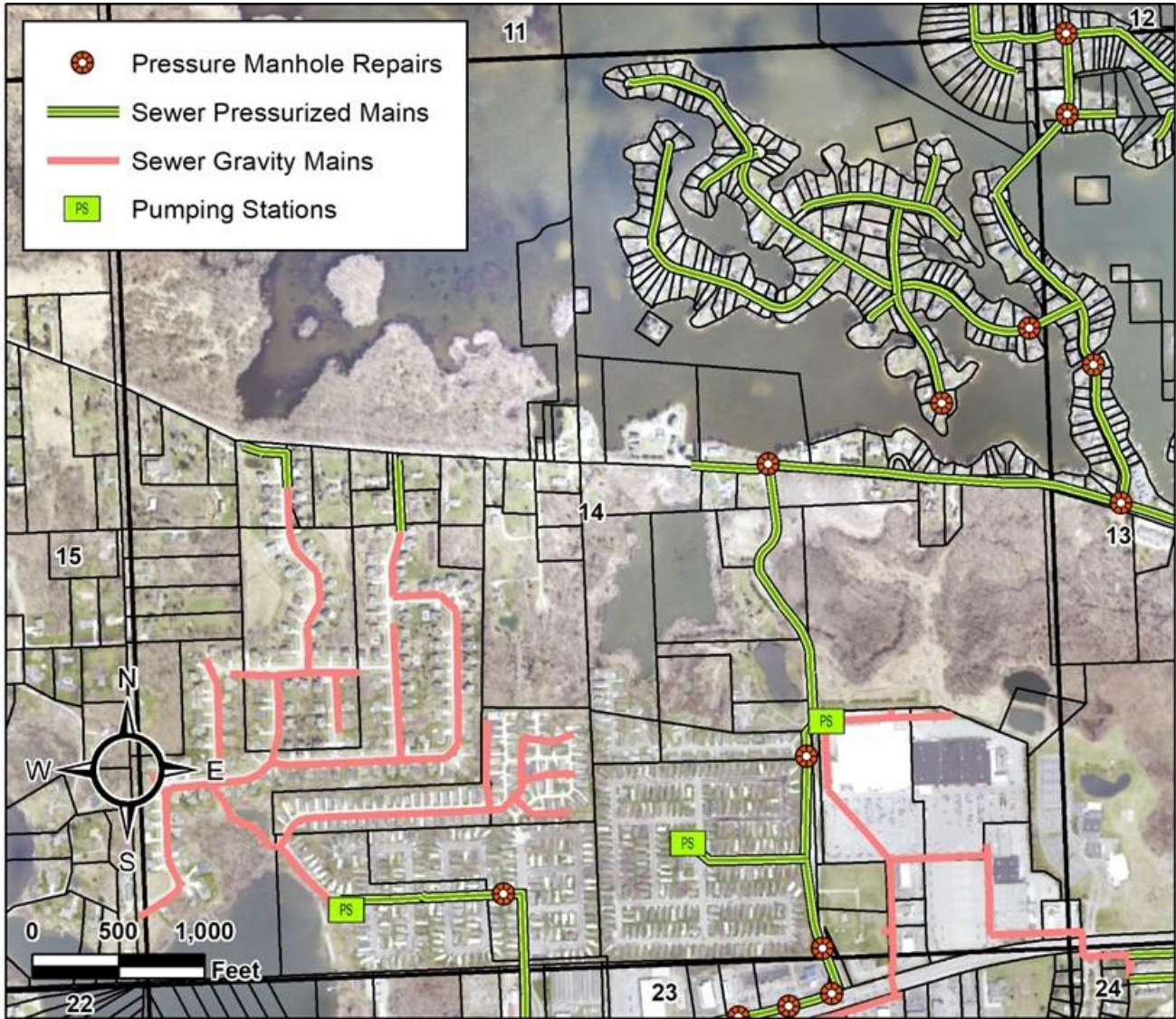


Figure 6 – Section 14 Repair Locations



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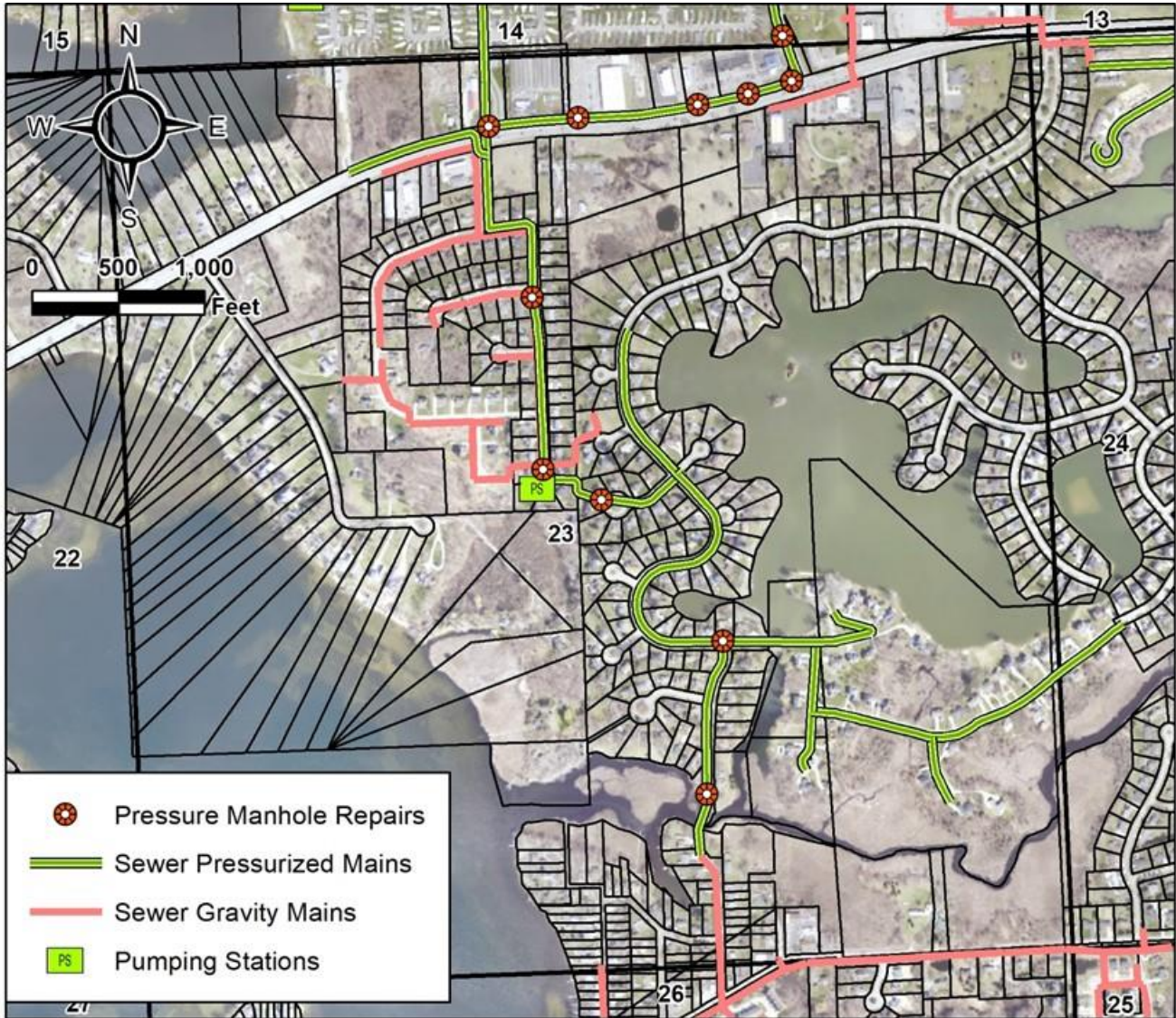


Figure 7 – Section 23 Repair Locations



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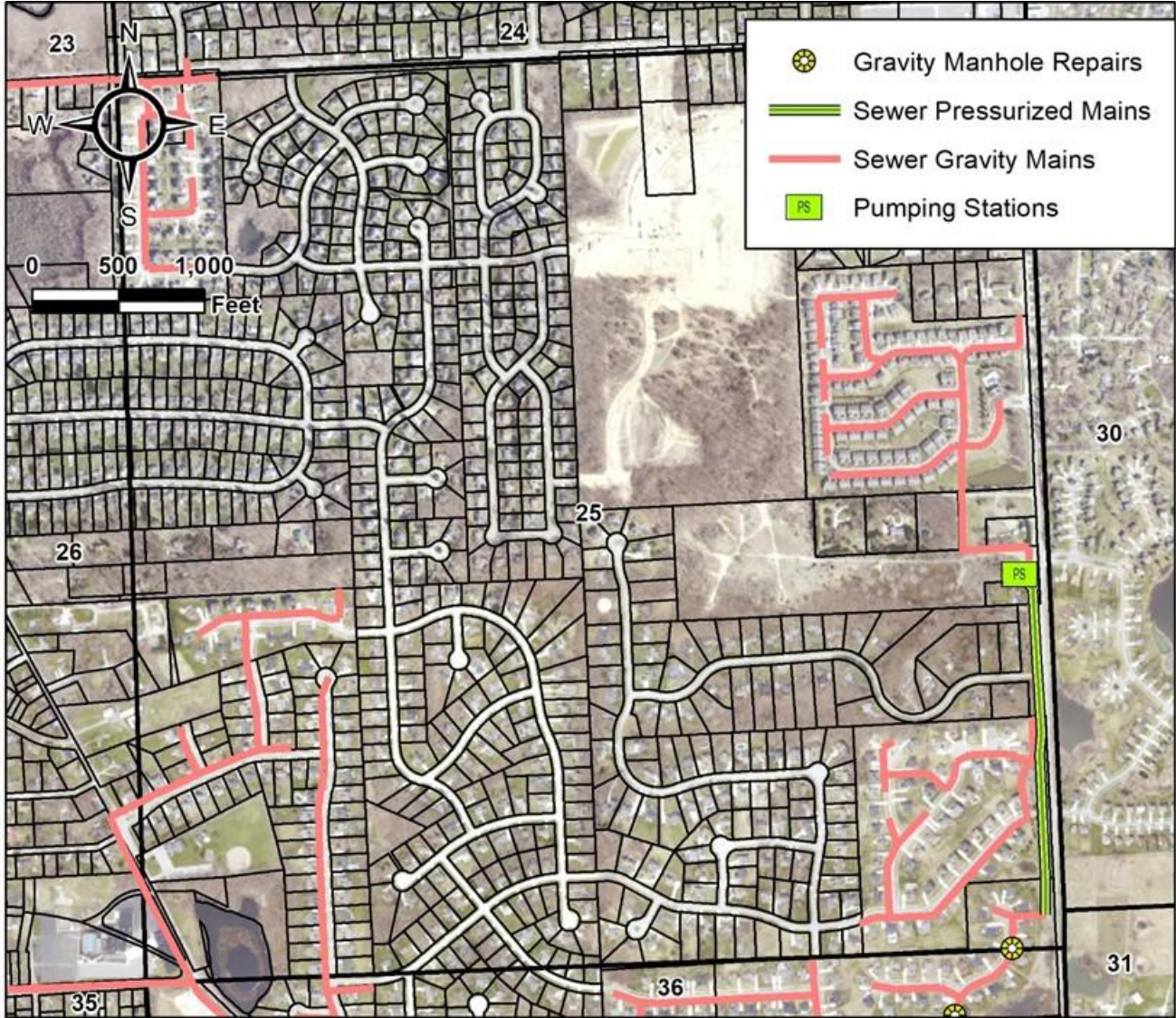


Figure 8 – Section 25 Repair Locations



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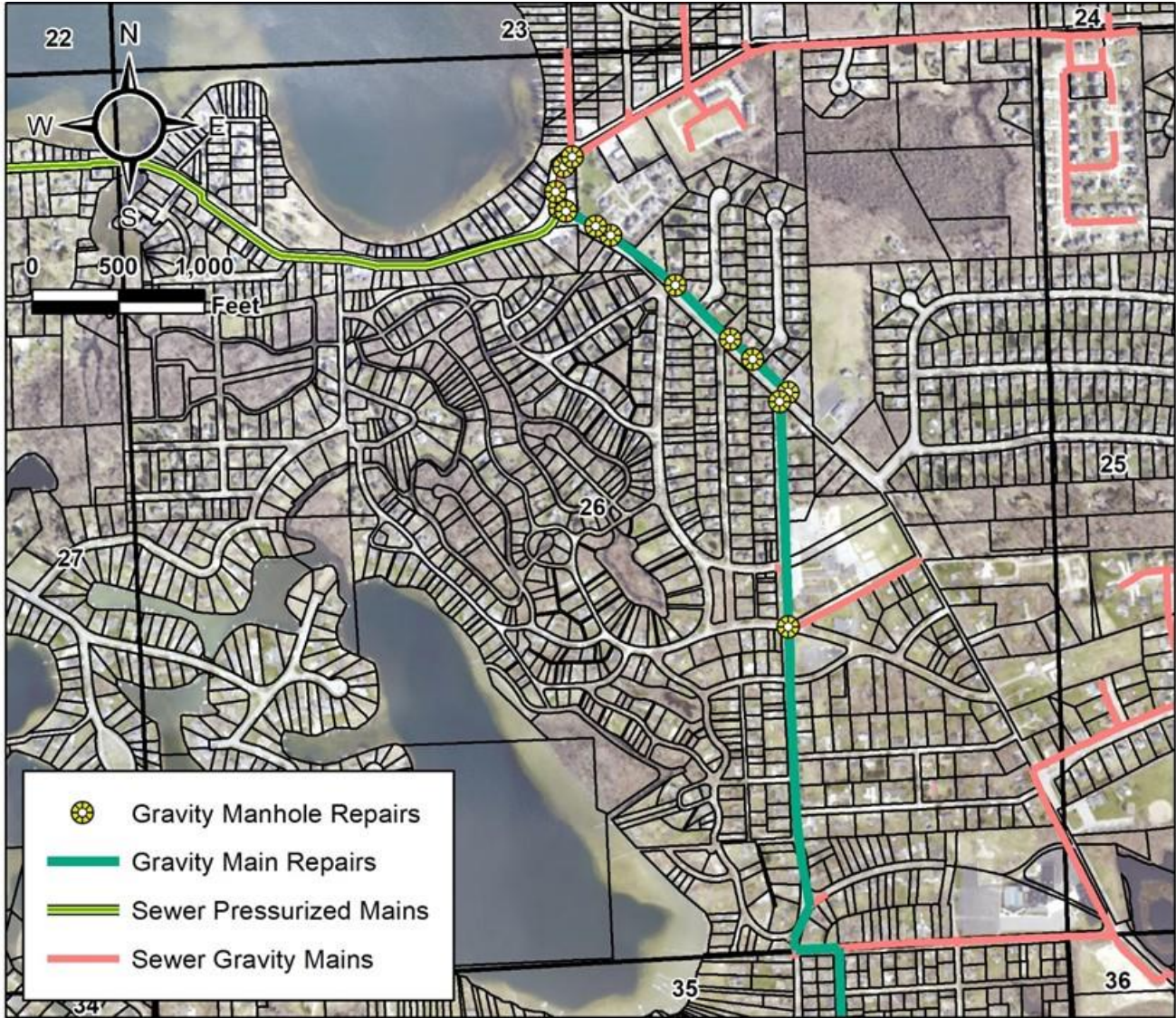


Figure 9 – Section 26 Repair Locations



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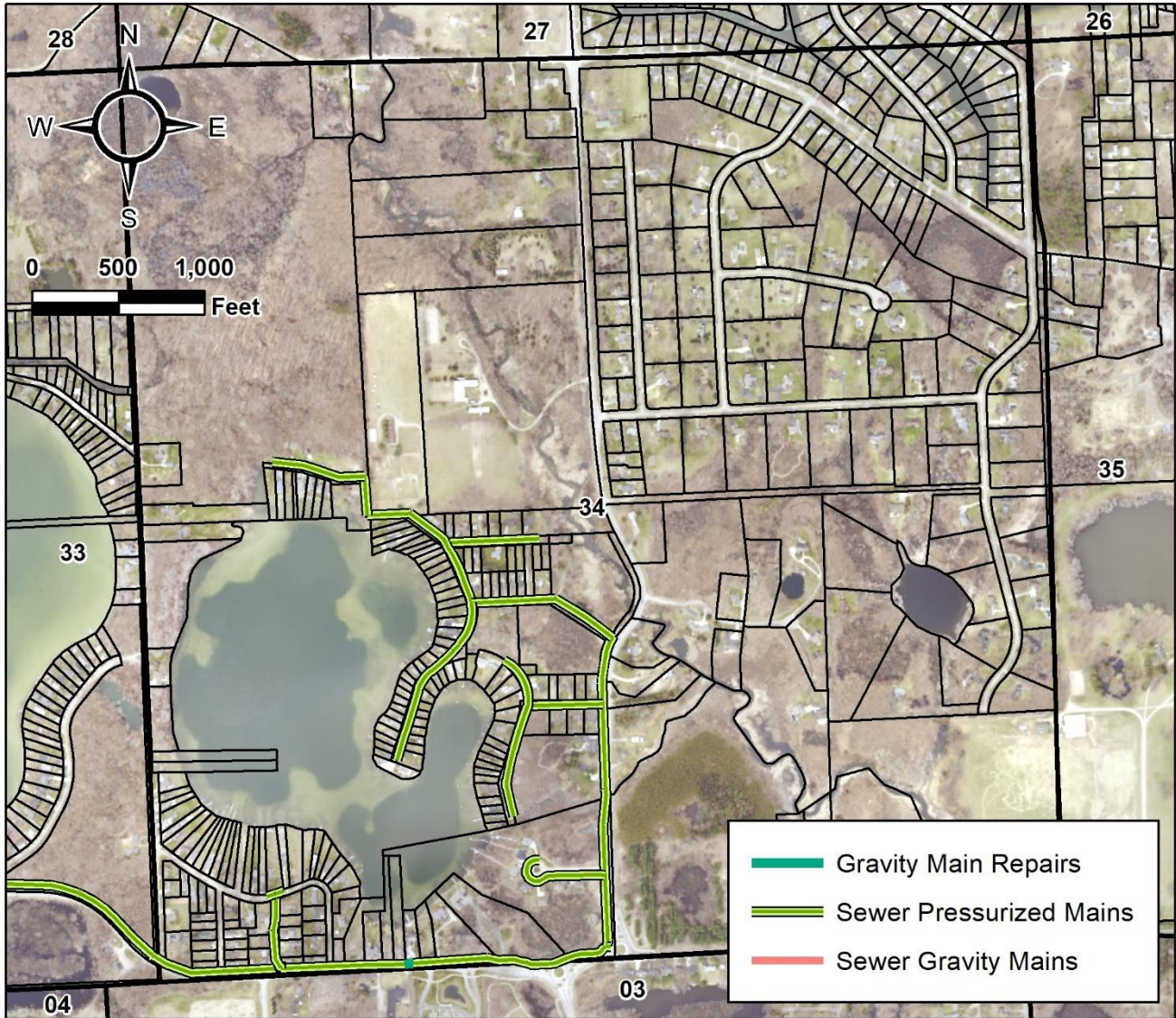


Figure 10 – Section 34 Repair Locations



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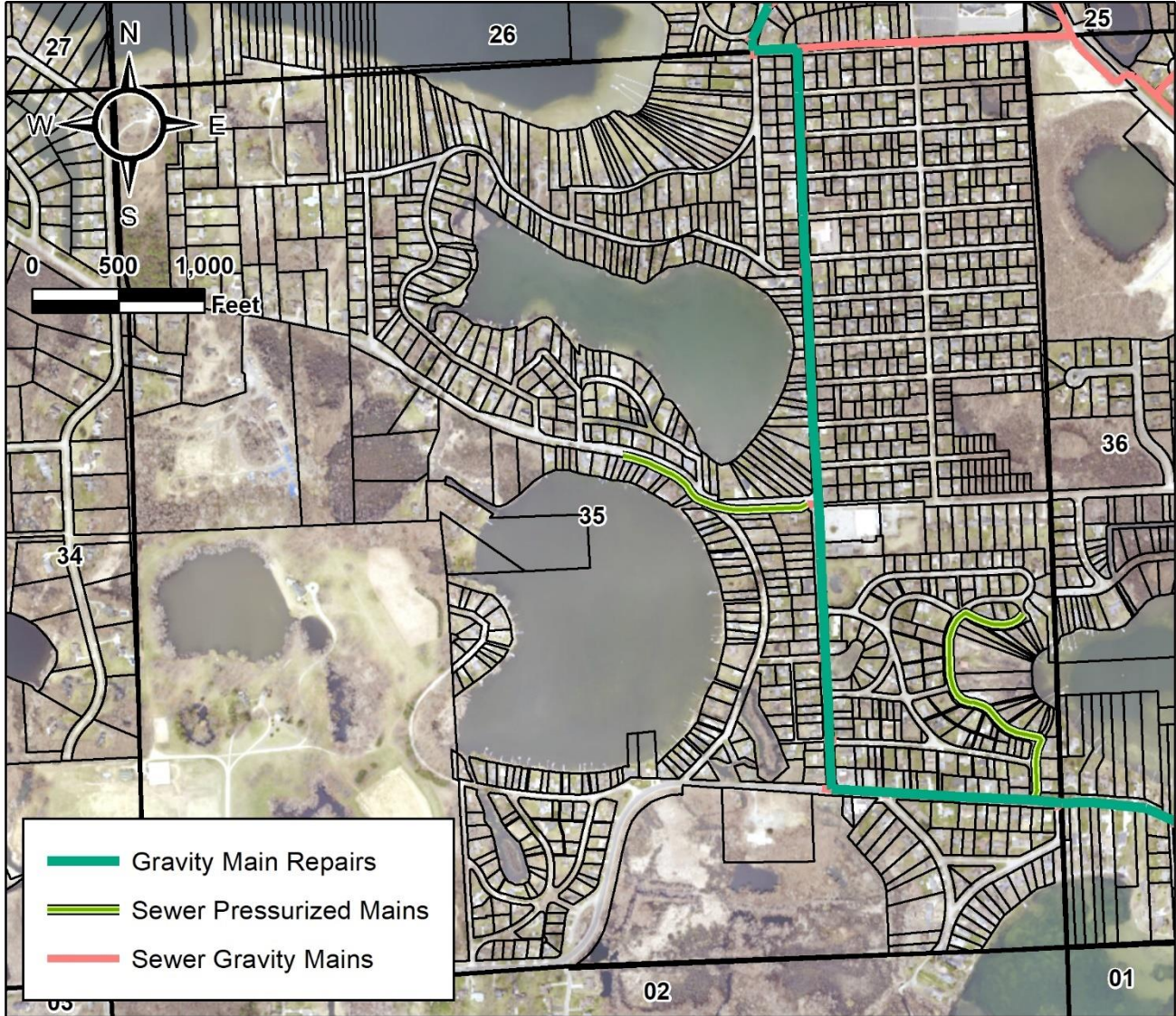


Figure 11 – Section 35 Repair Locations



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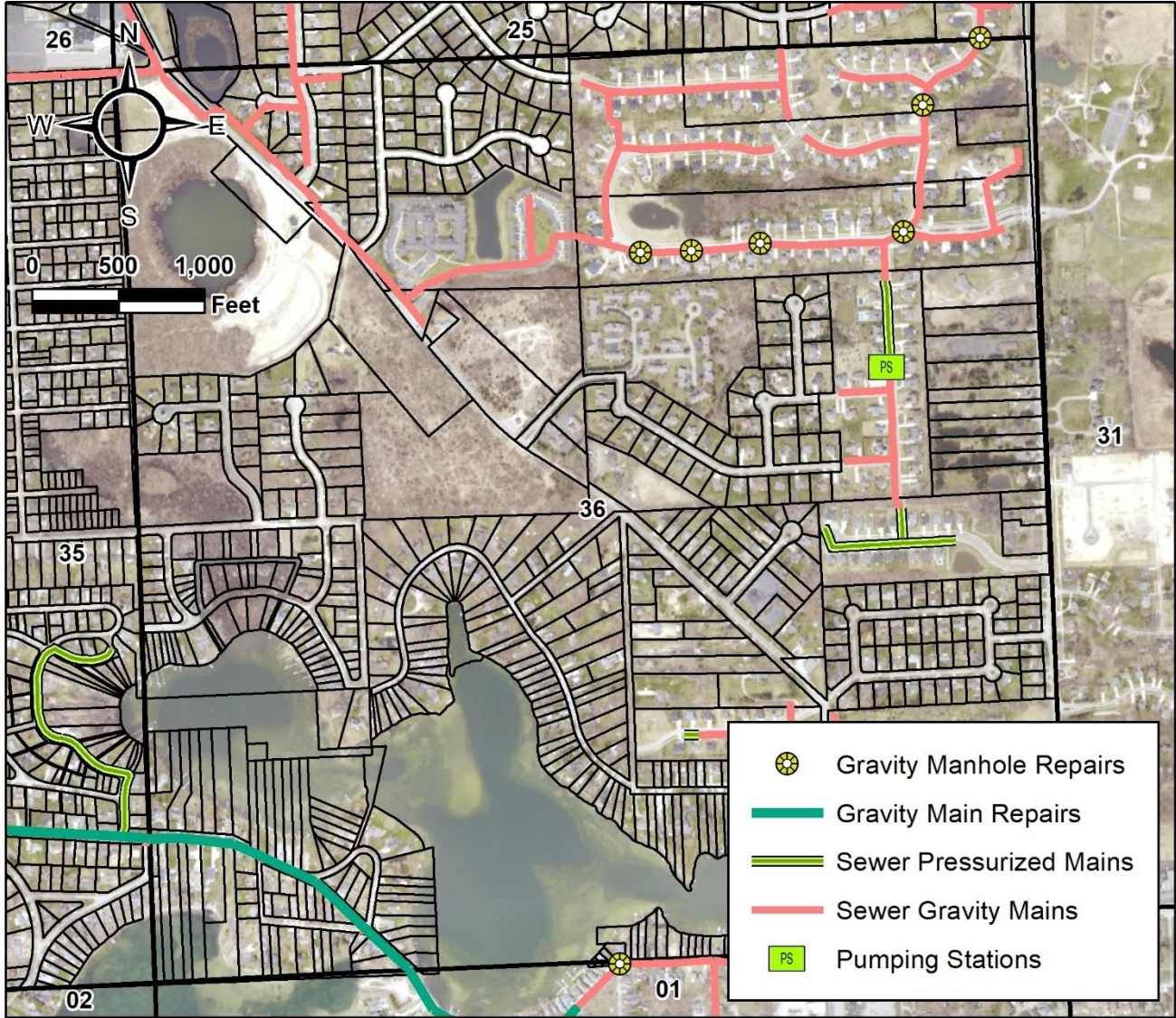


Figure 12 – Section 36 Repair Locations



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Figure 13 – Section 01 Repair Locations



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1.2 LAND USE/ZONING

The Township’s Land Use, according to SEMCOG’s 2020 Land Use/Land Cover analysis (Table 1), indicates approximately 43% of the total land use is for single-, multi-, and rural-residential customers. Multi-family housing and mixed use have seen the greatest growth over the past 5 years at 64.8% and 81.7% change, respectively. Recreation/Open Spaces makes up almost 24% of the total land use with vacant land comprising a further 12.1%. Approximately 1.5% of the land use is classified as retail or office. Commercial corridors are mainly located along Highland Road, with minor entities located along other well-traveled roads including Cooley Lake Road, Elizabeth Lake Road, and Bogie Lake Road. The Township’s Zoning Map is provided in Figure 14 on page 18.

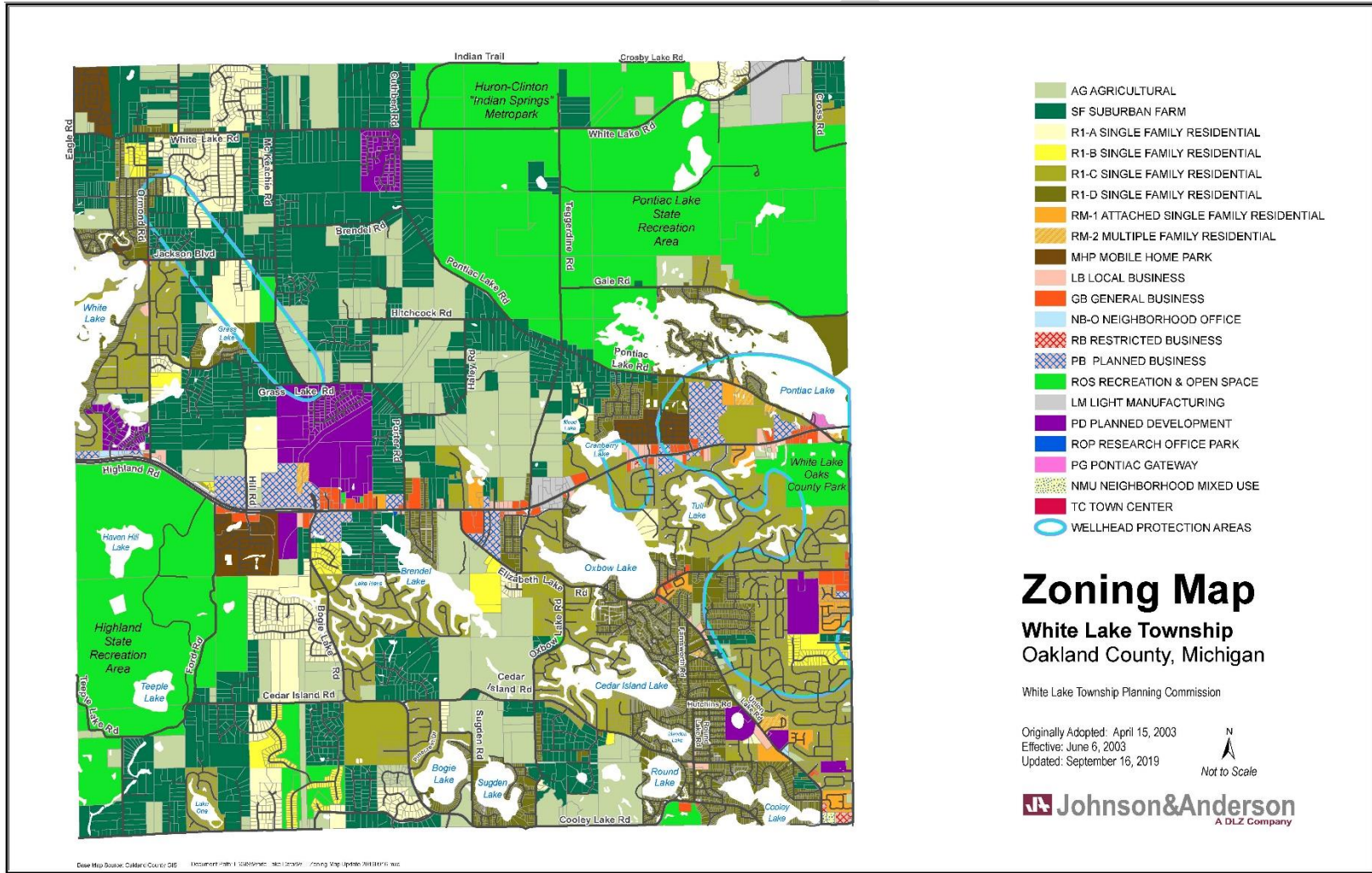
Table 1 – White Lake Township SEMCOG Land Use/Land Cover – 2020

Land Use	Acres	Percent
Single-Family Residential	5,441.7	22.95%
Attached Condo Housing	90.2	0.38%
Multi-Family Housing	88.6	0.37%
Mobile Home	348.6	1.47%
Agricultural/Rural Residential	4,164.1	17.56%
Mixed Use	4.9	0.02%
Retail	290.9	1.23%
Office	51.5	0.22%
Hospitality	53.0	0.22%
Medical	16.3	0.07%
Institutional	313.4	1.32%
Industrial	41.6	0.18%
Recreational/Open Space	5,667.8	23.90%
Cemetery	10.5	0.04%
Golf Course	150.6	0.64%
Parking	3.9	0.02%
Extractive	0.0	0.00%
Transportation/Communication/Utility (TCU)	224.9	0.95%
Vacant	2,871.2	12.11%
Water	2,379.1	10.03%
Not Parceled	1,502.2	6.33%



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- AG AGRICULTURAL
- SF SUBURBAN FARM
- R1-A SINGLE FAMILY RESIDENTIAL
- R1-B SINGLE FAMILY RESIDENTIAL
- R1-C SINGLE FAMILY RESIDENTIAL
- R1-D SINGLE FAMILY RESIDENTIAL
- RM-1 ATTACHED SINGLE FAMILY RESIDENTIAL
- RM-2 MULTIPLE FAMILY RESIDENTIAL
- MHP MOBILE HOME PARK
- LB LOCAL BUSINESS
- GB GENERAL BUSINESS
- NB-O NEIGHBORHOOD OFFICE
- RB RESTRICTED BUSINESS
- PB PLANNED BUSINESS
- ROS RECREATION & OPEN SPACE
- LM LIGHT MANUFACTURING
- PD PLANNED DEVELOPMENT
- ROP RESEARCH OFFICE PARK
- PG PONTIAC GATEWAY
- NMU NEIGHBORHOOD MIXED USE
- TC TOWN CENTER
- WELLHEAD PROTECTION AREAS



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Figure 14 – White Lake Township Zoning Map

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1.3 DEVELOPMENT AREAS IN THE TOWNSHIP

Over 90% of the gravity sewer and gravity manhole repairs are located within the single-family residential zoning areas. The remaining parcels in the area are zoned for business (general and local), neighborhood office, and recreation & open space. Approximately 60% of the pressure manhole repairs are located within single-family residential zoning areas. The remaining parcels are primarily zoned as business (general, local, and planned business development) with a few parcels zoned for mobile home parks.

1.4 TOPOGRAPHY

According to the White Lake Township contours from the Oakland County GIS, the rolling terrain of the Township varies in elevation by approximately 214 feet from its lowest point to its highest point. In general, the lowest elevations of the Township occur in the south-central portion and rise going north. The lowest elevation in the Township is near the Huron River crossing of Cooley Lake Road, at Ivory Farms, in Section 35 at 930 feet above National Geodetic Vertical Datum (NGVD). The highest elevation, disregarding the artificial hill at Alpine Valley Ski Area, is 1,144 feet NGVD, located in the northwest portion of the Township adjacent to the access road for the radio tower in Springfield Township. The elevation along the gravity main to be lined ranges from 936 feet NGVD to 959 feet NGVD. Maps of the topography along the gravity mains are in Figure 15 through Figure 20.



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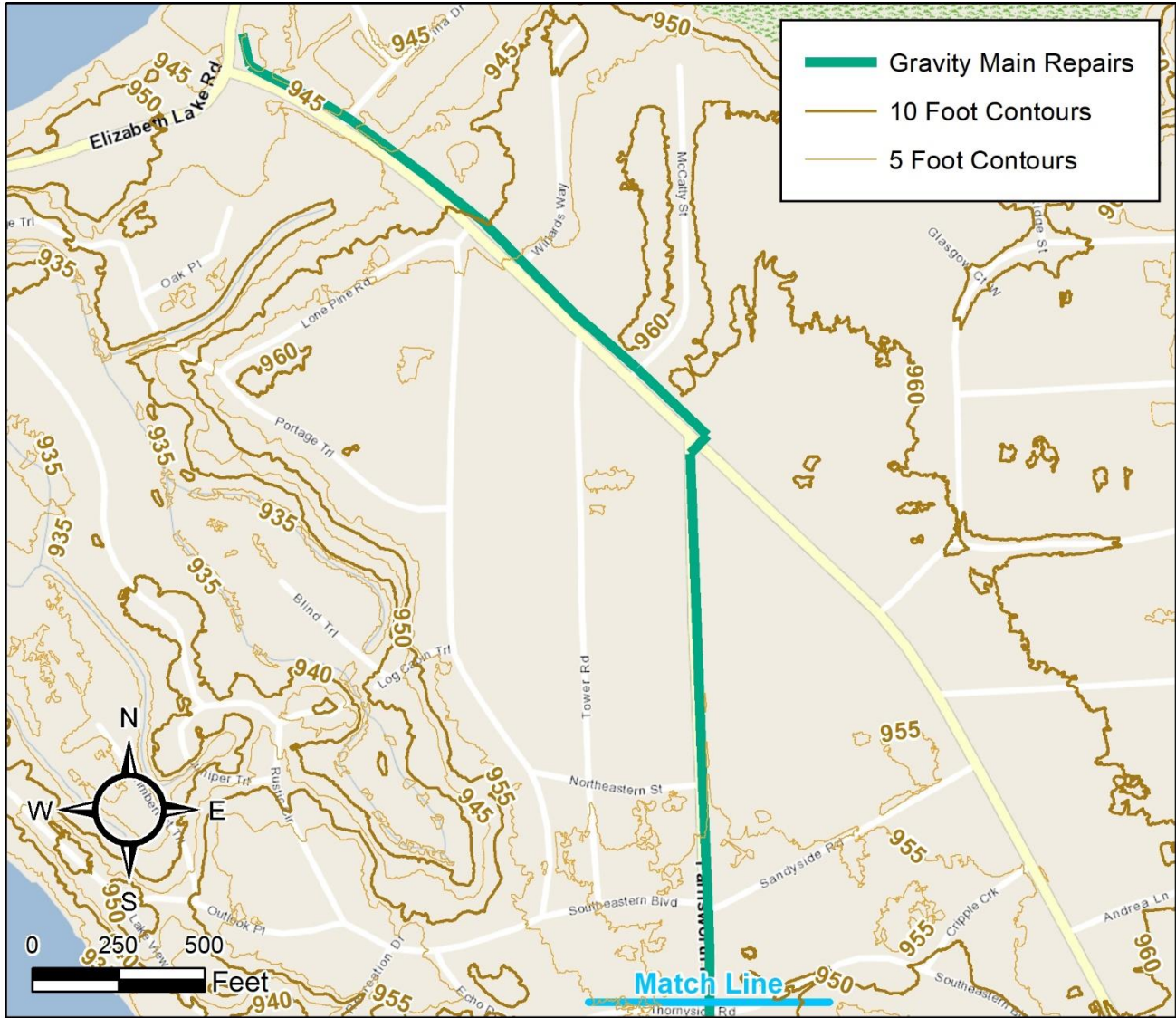


Figure 15 – Topographic Map of Project Areas 1



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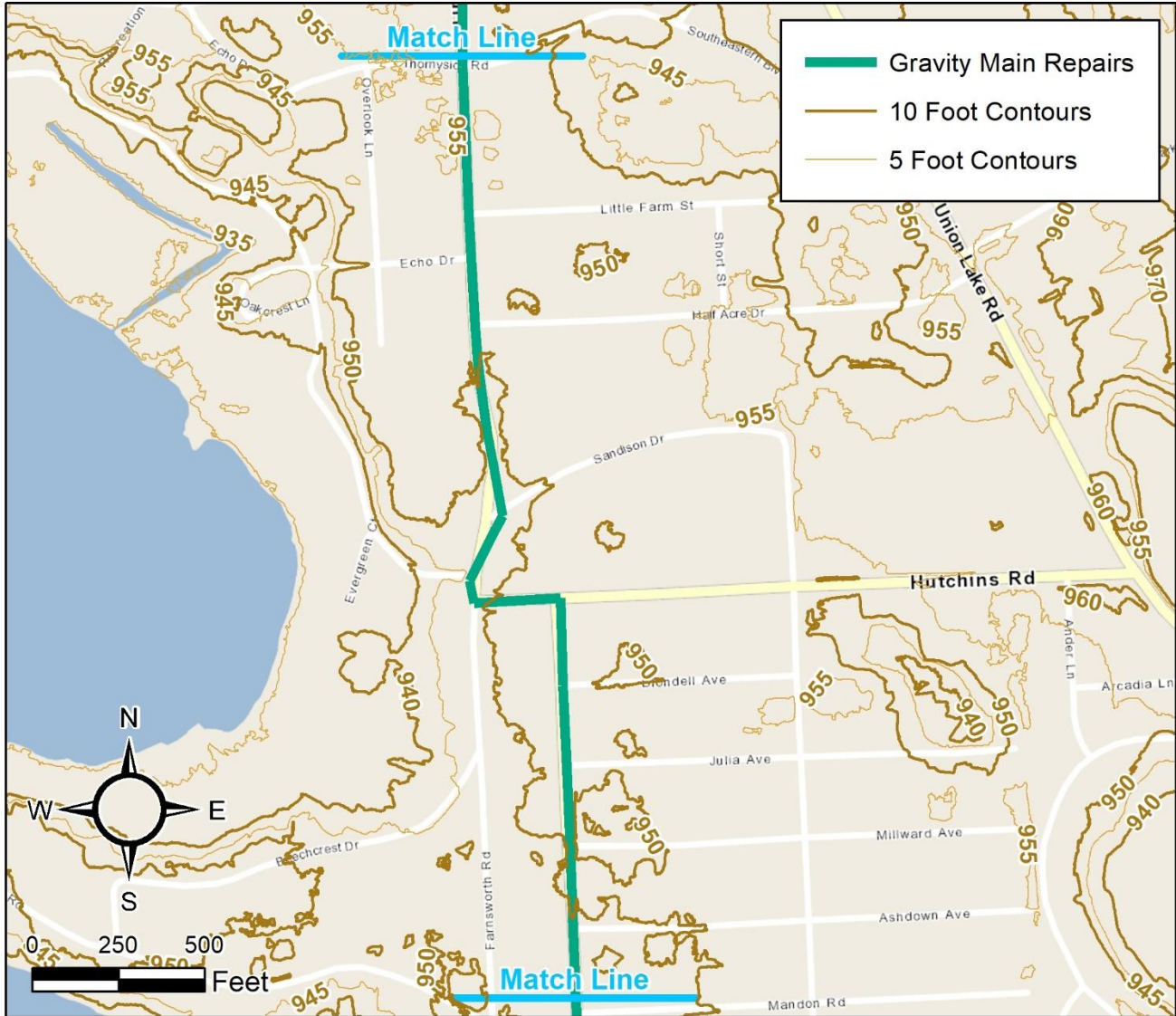


Figure 16 – Topographic Map of Project Areas 2



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Figure 17 – Topographic Map of Project Areas 3



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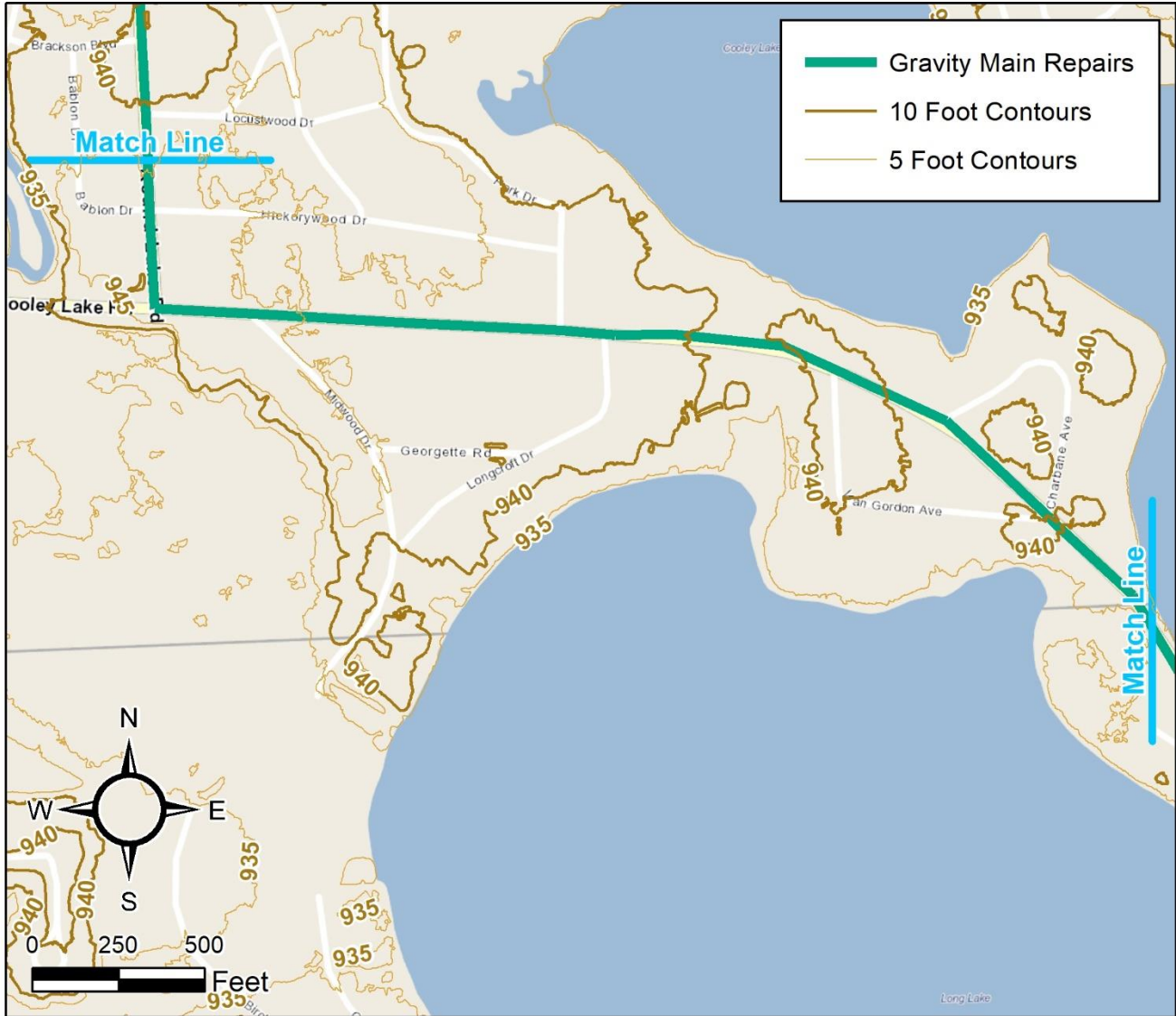


Figure 18 – Topographic Map of Project Areas 4



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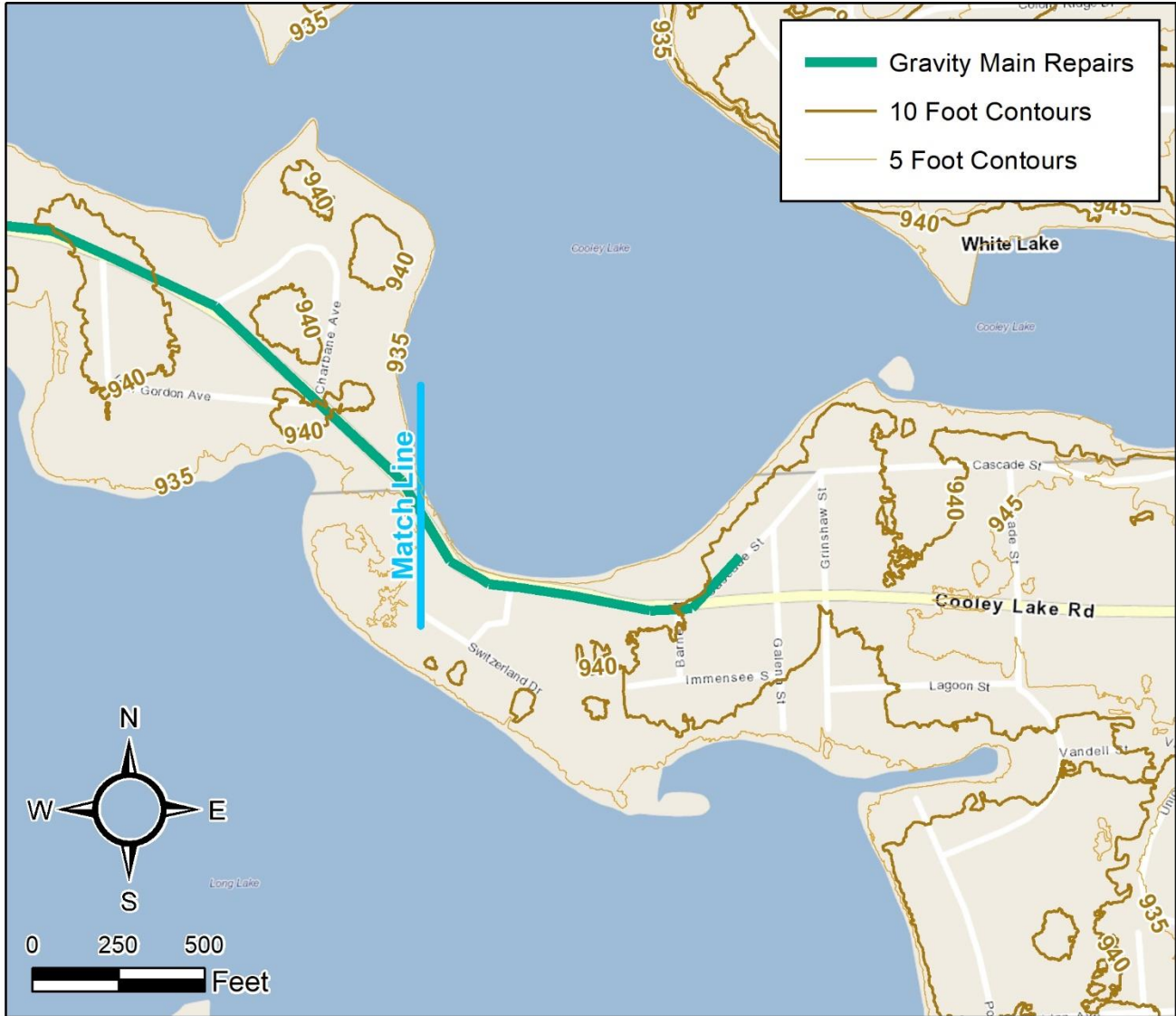


Figure 19 – Topographic Map of Project Areas 5



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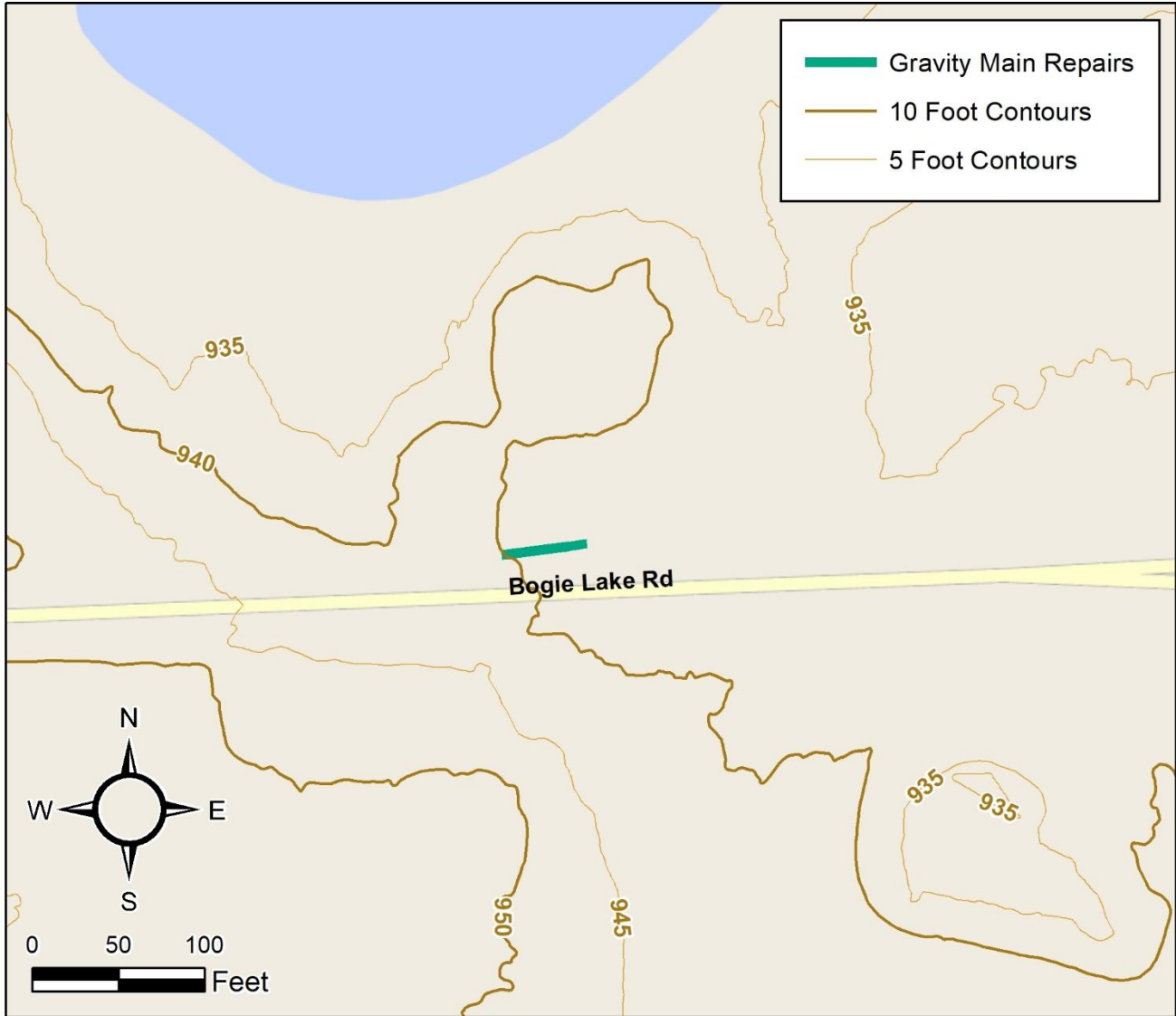


Figure 20 – Topographic Map of Project Areas 6

1.5 ENVIRONMENTAL SETTING

There are multiple lakes within the Township, some of which feed the Huron River, which runs from north to south through the center of the Township. Along these watercourses are large areas of wetlands. The wetland areas are shown on the overall sewer system map in Figure 21 on page 26 and account for a large amount of land that is not developable. No proposed repair sections are located within the limits of the wetlands.



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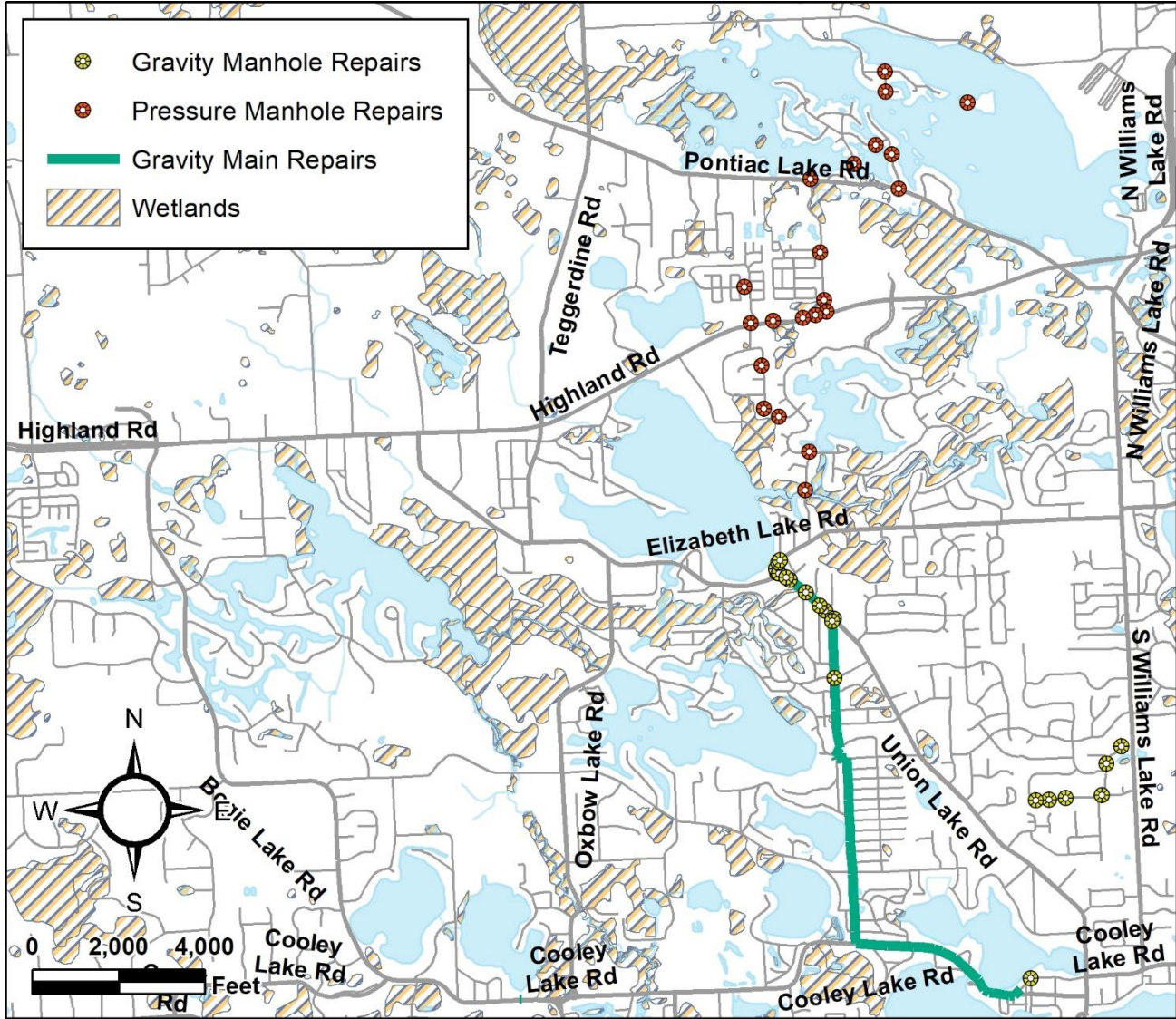


Figure 21 – White Lake Township Wetlands Map

1.6 POPULATION DATA

The Township has a population of 30,950 according to the 2020 U.S. Census. The total population of the Township is expected to increase by approximately 1,300 in the 2020-2040 period with a small decrease of less than 50 in the 2040-2045 period. The Township is not expected to experience a rapid growth in population in the coming few decades. Southeast Michigan Council of Governments' (SEMCOG) population forecast for the Township indicates very little change in population from 2030 to 2045. The projected population in 2030 and



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2045 is 31,578 and 32,194, respectively. Refer to Figure 22 below for more details. A copy of the *White Lake Township SEMCOG Community Profile* can be found in Appendix II.

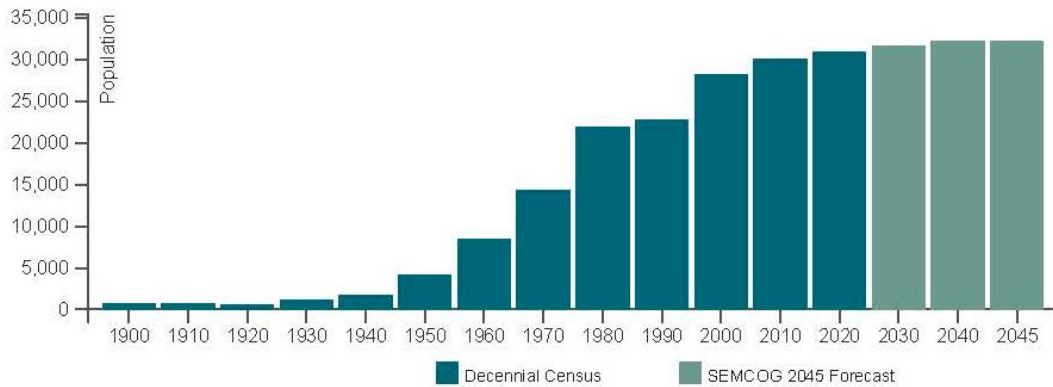


Figure 22 – White Lake Township SEMCOG Community Profile – Population Forecast 2030-2045

1.7 ECONOMIC CHARACTERISTICS

The Township’s working population is 27% of its total daytime population according to SEMCOG’s 2016 assessment, with a daytime population of 27,201. The remaining approximately three-quarters of the population consists of non-working residents. Of these non-working residents, approximately 42% are peoples aged 15 or under. The remaining non-working residents are categorized as not in the labor force (± 91%) or unemployed (± 9%). SEMCOG forecasts 224 total jobs to be added in the 2015-2045 period with a slow, gradual increase in overall job numbers. The median household income for the Township in 2019 was \$85,384 according to the U.S. Census Bureau. Retail makes up the largest percentage of jobs in White Lake (± 21). The largest employers in White Lake are Kroger, Meijer, Home Depot, and Walmart. Both employment and population are forecasted to increase in a slow and gradual manner, a focus should be placed on improvement and optimization of the existing sanitary system infrastructure rather than expansion.

The project areas are fully developed, in primarily residentially zoned districts, therefore long-term sewer system capacity is not a concern for the Township.

1.8 CUSTOMERS AND DEMANDS

White Lake Township’s wastewater system currently serves 4,500 people, only 15% of the Township’s total population. With an expected increase in population through to 2040 of about 1,300 people, it is anticipated that the sanitary sewer system loading will increase slightly over the next twenty (20) years.

Over this twenty-year period, the Township’s sanitary sewer assets will continue to depreciate; and the level of service expected by the Township customers may become compromised as operation and maintenance (O&M) costs continue to increase. In December of 2019, the Township completed a Wastewater Asset



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Management Plan (WWAMP). The goal of this Plan was for the Township to identify and mitigate the deterioration of their wastewater assets through a rigorous and practical methodology to meet established level of service goals (LOS). These LOS Goals incorporated a triple bottom line approach to incorporate social, environmental, and economic criteria; these criteria have been broken down into the follow sub-criteria, called indicators, in Table 2 below.

Table 2 – Level of Service Goals & Criteria

Social	Environmental	Economic
Customer Service	Environmental Stewardship Regulatory Compliance	Financial
Reliability		
Health & Safety		
Administration/Organizational Development		

An in-depth LOS Goals Table from the 2019 SAW Grant can be found in Appendix III.

A list of White Lake Critical Customers is provided below:

- Dublin Community Senior Center
- Independence Village
- New Hope
- Oxbow Elementary School
- St. Patrick Catholic School
- White Lake Middle School
- Harbor Alternative High School
- The Neighborhoods of White Lake
- Sandyside Senior Living
- Houghton Elementary School
- Lakewood Elementary School
- English Oaks Montessori Christian Academy
- Lakeland High School
- International Academy West

Not all of the critical customers are on public sewer and none of the critical customers are located within the project areas. Additionally, there are no industrial users within the project areas.

1.9 OVERVIEW OF CURRENT SEWER SYSTEM SERVICE AREA

White Lake Township’s wastewater system is operated and maintained under a contractual agreement with the Oakland County Water Resource Commissioner’s Office (OCWRC). Wastewater flow from this collection system is ultimately discharged into Commerce Township’s wastewater system, where it is treated at the Commerce Township Wastewater Treatment Plant.

The Township’s wastewater system spans approximately 42 miles and is comprised of approximately 22 miles of pressure sanitary sewer and 20 miles of gravity sanitary sewer, utilizing 10 sanitary sewage pumping stations and 27 commercial grinder pumping stations.



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The ten pumping stations were constructed from 1995 to 2017; and due to changes in technology over that time, as well as various rehabilitation projects, and differences in pumping requirements, the Township has several different styles of pumping stations and pump manufacturers. These pumping station capacities range from 112.5 GPM to 400 GPM.

In recent years, the Township has struggled with Hydrogen Sulfide buildup in several sections of sewer main, which causes odor issues and pipe corrosion. Excess Hydrogen Sulfide is generated when flows are not meeting required minimum pipe velocities. This low flow is due to having limited connections to the sanitary sewer system. This system was designed to handle the ultimate contribution, however, many of the connections to the sanitary sewer have not been made yet, leading to flow rates and flow velocities lower than the minimum cleansing velocity for pipes.

Another issue that has been a localized problem within the Township is with fats, oils, and grease (FOG). FOG primarily comes as a byproduct from commercial properties involved with meat cutting activities and food and drink preparation. Six (6) of the ten of the Township's pumping stations have had excessive accumulation of FOG. The Township and the WRC have coordinated to combat FOG in the wastewater system through cleanings, repairs, and the development and implementation of a commercial kitchen inspection program.

1.10 STUDY AREA CHARACTERISTICS

White Lake Township owns and co-maintains its sanitary sewer system with the WRC and discharges to Commerce Township's wastewater distribution system. The Township is home to 21 lakes and is encompassed by 2,240 acres of water. Most of the Township's wastewater system is located towards the Eastern half of the Township.

1.11 EXISTING FACILITIES

The Township currently has 42 miles of gravity and pressure sanitary sewer combined, an estimated 771 manholes (gravity and pressure manholes), 10 pumping stations, and 629 grinder pumping stations (of which 27 are commercial) that serve the community. This system is split between two districts, District A in the east and District B in the west, with both discharging into different points within the Commerce Township wastewater system.

District A, the area where the project is located, is currently set up such that pressure sewers from the West and Northeast discharge to gravity main on Elizabeth Lake Road. This flows south down Round Lake Road to Cooley Lake Road where it discharges into Commerce Township's wastewater system. This section of gravity main is mostly 30-inch pipe and is designed for a peak capacity of 11.63 cfs or 7.5 MGD of flow. However, the Township is only using a portion of this purchase capacity as many of the expected connections to the sanitary system have not yet been made. A summary of the Sanitary District Capacity can be seen in Table 3 on page 30 and a detailed summary can be seen in Appendix IV.



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Table 3 - Summary of Sanitary District Capacity

Sanitary District	Purchase Capacity	Available Capacity	% of Purchase Capacity Used
A	2.07 MGD	0.90 MGD	56.5%
B	1.43 MGD	1.35 MGD	5.3%

Sanitary sewer main materials in older sections of the system are primarily Vitrified Clay Pipe (VCP), with newer sections constructed after 1999 consisting mostly of High-Density Polyethylene (HDPE), Polyvinyl Chloride (PVC), or reinforced concrete. The pipe diameter ranges from two (2) inches to thirty (30) inches. Sanitary sewer details are provided in Table 4 below.

Table 4 – Sanitary Sewer Main Distribution by Pipe Diameter

Gravity Main Distribution by Size	Lineal Feet*	Pressure Main Distribution by Size	Lineal Feet*
6 inch	65	2 inch	16,264
8 inch	59,329	3 inch	20,434
10 inch	15,316	4 inch	27,297
12 inch	4,404	6 inch	12,691
15 inch	2,689	8 inch	7,523
18 inch	5,578	10 inch	5,095
21 inch	958	12 inch	25,117
24 inch	1,097	---	
27 inch	2,274	---	
30 inch	13,044	---	
Total	104,754	Total	114,421

*lengths are approximate and based on GIS information

To date, OCWRC has televised approximately 70% of the sanitary sewer system with the remaining 30% scheduled to be completed by 2023. Through cleaning and televising, the sanitary system has been found to be in good condition overall with the exception of the aforementioned Hydrogen Sulfide buildup.

There are approximately 771 manholes, including approximately 571 gravity and 200 pressure manholes, within the Township’s sanitary sewer system. As part of the SAW grant outlined in the 2019 WWAMP, approximately 60% of the manholes were inventoried using three-dimensional camera technology. Additional evidence of the Hydrogen Sulfide buildup was found during these scans.



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Ten pumping stations are owned and operated by the Township; these include:

1. Village Lakes
2. White Lake Estates
3. Williams Lake Road
4. Suburban Knolls
5. White Lake Market Place
6. Cranberry Lake Estates
7. Worthington Crossing
8. Bocavina
9. Meijer
10. Kroger

Supervisory Control and Data Acquisition (SCADA) was incorporated into these pumping stations within the mid-1990s. This system allows the Township and WRC to control and assess the pumping stations.

Inspections conducted as part of the SAW grant documented deteriorations and deficiencies for each of the pumping stations and a Business Risk Evaluation was performed for each pumping station.

Two major issues that White Lake’s wastewater system faces is Hydrogen Sulfide accumulation and Fats, Oils, and Grease. Due to the corrosive nature of Hydrogen Sulfide, the system has experienced several structural defects which contribute to ongoing odor issues along Elizabeth Lake Road. Based on the 2019 WWAMP report, six of the ten pumping stations in White Lake have moderate to excessive grease buildup. These pumping stations also require minor rehabilitation in the form of part upgrades, pump maintenance, and overall improvements.

Table 5 below presents the Township’s sanitary sewer system assets and estimated total replacement/repair cost over 20 years for each item, from the 2019 WWAMP.

Table 5 – Summary of the Township's Sanitary Sewer System Assets and 20 Year Costs

Asset	Quantity	Replacement/Repair Cost
Gravity Main	104,754 feet	\$9,530,057
Pressure Main	114,421 feet	\$4,909,746
Gravity Manhole	571	\$444,000
Pressure Manhole	200	\$298,000
Pumping Station	10	\$1,973,000



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2.0 SUMMARY OF PROJECT NEED

With the growing concerns of Hydrogen Sulfide accumulation and FOG, it has become a priority for the Township to repair and perform rehabilitation on gravity sanitary main, gravity manholes, and pressure manholes. If the Hydrogen Sulfide continues, the risk of failure increases; and the public health, environmental, legal, and financial consequences of a system failure is prompting the Township to rehabilitate and repair their system sooner than later. It is essential to conduct repairs to provide a high level of water quality and service to the Township residents.

2.1 ORDERS OF ENFORCEMENT ACTIONS

There are no known court orders, federal or state enforcement orders, or administrative consent orders addressed to White Lake Township.

2.2 TOWNSHIP'S SANITARY SYSTEM QUALITY

As previously mentioned, there are growing concerns with the accumulation of Hydrogen Sulfide and fats, oils, and grease (FOG) within the Township's wastewater system. In 2019, the Township and Oakland County Water Resources Commissioner's Office (OCWRC) conducted Closed-Circuit Television (CCTV) analysis to determine the current quality of their sanitary system. Approximately 590 sewer manholes were inventoried and located with a Global Positioning System (GPS) and CCTV. Using the National Association of Sewer Service Companies (NASSCO) guidelines, the Township conducted sewer main and manhole inspections using CCTV technology; and found multiple segments of sanitary sewer and manholes with significant Hydrogen Sulfide buildup, causing corrosion and structural damage in the sanitary system. Though not all sections were designated a four (4) or five (5) rating in the NASSCO rating system, the excess of Hydrogen Sulfide warranted a response from the Township to repair and line the affected sections.

In recent years, the area at which the pressure sewer discharges into gravity sewer at the intersection of Elizabeth Lake Road and Union Lake Road has demonstrated the buildup of Hydrogen Sulfide. Excessive Hydrogen Sulfide causes odor issues and corrosion in the pipe. Sulfide generation can be caused when the sewer flow is slower than the minimum cleansing velocity, due to the limited number of users utilizing the system. White Lake Township has also had a history of issues with FOG in the wastewater system. Grease buildups within sanitary sewers can cause issues such as: backups in residential and commercial properties, sewer line degradation, grinder station backups, and can deplete community labor and monetary resources.

2.3 PROJECTED NEEDS FOR THE NEXT 20 YEARS

Sanitary system inspections were conducted from 2017 to 2019 as part of the SAW Grant project. The purpose of these inspections was to determine the condition of the Township's wastewater assets. Using the NASSCO system, eligible sewer main and manhole structures were given a rating to evaluate the condition of the infrastructure. Several sections of sewer main and manhole structures were deemed to have severe structural defects due to the excessive buildup of Hydrogen Sulfide.



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A Capital Improvement Plan was developed for the entire sanitary sewer system in 2019 as part of the SAW Grant and WWAMP. The following capital improvements over the next 20 years are as follows:

- Gravity Manhole Repairs - \$444,000
- Pressure Manhole Repairs - \$298,000
- Gravity Main Repairs - \$9,531,000
- Pressure Main Repairs - \$4,910,000

Also summarized in the WWAMP are costs associated with Township Operations and Maintenance:

- OCWRC CCTV of Sanitary Sewer - \$1,341,000
- Pumping Station Improvements - \$1,973,000
- Elizabeth Lake Road/Oxbow Road Odor Control Program - \$826,000
- FOG Program - \$20,000

Due to the scope of work being repairs and improvements rather than installation of new infrastructure, future demand growth is not anticipated with this project. The capacity of the sanitary system will remain unchanged, and there is no expected need to increase the capacity of the sewer.

2.4 FUTURE ENVIRONMENT WITHOUT THE PROPOSED PROJECT

Without the implementation of the recommended improvements to the gravity main, gravity manholes, and pressure manholes, water quality and public health may be adversely affected. Continued corrosion of the sanitary main and structures may lead to heavy structural damage and leak raw sewage into the community and groundwater.

2.5 GEOGRAPHIC INFORMATION SYSTEMS

White Lake Township utilizes an ESRI based Geographic Information System (GIS) program that allows the Township to map their wastewater collection system assets such as sanitary manholes, sewer main, and pumping stations with real-world coordinates. Information about each asset such as pipe length, diameter, and elevation can be individually stored within the asset; allowing the Township staff to easily locate and gather information on their wastewater system. The Township's GIS system should be updated periodically as asset information changes and new infrastructure is added to the system. Currently, the Township has implemented the use of a GIS-Centric Computer Maintenance Management Software (CMMS) by Azteca called Cityworks to keep inventory of their GIS information, and to also track labor, equipment, and material costs that are essential to maintaining the wastewater collection system.

A copy of the *Wastewater Asset Management Plan (WWAMP)* is provided in Appendix V.



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3.0 ANALYSIS OF ALTERNATIVES

3.1 IDENTIFICATION OF POTENTIAL ALTERNATIVES

ALTERNATIVE 1 – NO-ACTION

The No-Action alternative is representative of a do-nothing scenario where no changes are made to the Township's sanitary sewer system. In this scenario, the gravity mains, gravity manholes, and pressure manholes will be left to function as they currently are, even with the evidence of severe structural damage. If no action is taken, the gravity main and manhole structures will eventually break down and cease to function properly resulting in potential sanitary sewer overflows (SSOs), reduced capacity of flow due to spalling and debris buildup, or potential leaking of sanitary sewage into the surrounding soils and groundwater table. A failure in the Township's sanitary system poses a potential detriment to the human and environmental health of the surrounding community.

The No-Action alternative will not be considered for selection due to the need of reliable and safe transport of wastewater to designated treatment sites.

ALTERNATIVE 2 – REPLACEMENT OF EXISTING INFRASTRUCTURE

In its current state, the Township's sanitary system will continue to have a buildup of Hydrogen Sulfide due to inadequate flow rates because of an insufficient customer base in the immediate service area. To address this, one alternative is to replace the affected sanitary gravity main and manhole structures with more adequately sized and pitched conveyance sewers to meet current expected flows. Deteriorating portions of sewer main can be removed and replaced, either in a spot repair fashion or in a complete replacement of the existing gravity sewer. Gravity manholes along this stretch of sewer main will also be replaced to minimize any potential failures at these structures.

The replacement of the existing infrastructure would require open excavations from the connection between the pressure sewer and gravity sewer at Elizabeth Lake and Union Lake Road to the sewer discharge into the Commerce Township system. A complete replacement would be required as spot replacements near the source of Hydrogen Sulfide buildup would allow Hydrogen Sulfide to affect segments of sanitary main further downstream. These downstream sections would require continued maintenance and replacement as Hydrogen Sulfide continues to deteriorate the infrastructure. Total project costs are estimated to be more than two (2) times the cost of lining the existing system as outlined in Alternative 4.

A complete replacement and downsizing of the existing infrastructure will not be considered for selection. Downsizing the infrastructure will only temporarily solve the current Hydrogen Sulfide issue and does not consider the expected future connections to the sanitary system. The sanitary system was designed to the service area; therefore, future loadings above the capacity of the downsized system would stress the system and potentially cause system failure.



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ALTERNATIVE 3 – OPTIMUM PERFORMANCE OF EXISTING FACILITIES

The optimum performance of existing facilities requires primarily operational changes, the addition of new equipment, and the training of operating personnel. White Lake Township actively works towards the optimization of the existing system. The DPS and OCWRC will routinely conduct inspections, maintenance, and repairs on a regular basis to ensure the sanitary system is operating the best that it can with the given circumstances. For example, the Township has worked with a local wastewater management service to biologically degrade Hydrogen Sulfide along Elizabeth Lake Road.

Again, the Township has actively conducted inspections, maintenance, and repairs to keep the system running at an optimum performance. This alternative will not be considered as it does not provide adequate improvements the way repair and rehabilitation methods can.

ALTERNATIVE 4 – REPAIR AND REHABILITATION OF SYSTEM WITH PIPE LINING

One alternative is to repair and provide rehabilitation to the existing gravity main, gravity manholes, and pressure manholes. This would involve the use of full length and sectional cured-in-place pipe (FCIPP/SCIPP) sewer main lining to address the deteriorating gravity main. Manhole structures, both gravity and pressure, would also take a similar approach by using cured-in-place (CIP) lining to rehabilitate the manholes that have severe defects and/or structural damage.

Utilizing CIP lining methods serves as both a rehabilitation and preventative measures since the lining will protect segments of pipe further downstream from the Hydrogen Sulfide buildup. If spot repair methods are used, then only the section of pipe that currently has severe structural damage would be lined. This would only push the Hydrogen Sulfide further into the sanitary main and corrode segments of pipe that were not lined and protected. However, lining the entire sewer main provides an extra layer of redundancy and resilience and will further protect the community from any potential failures. Rehabilitation via lining is also less disruptive as it utilizes a trenchless method of installation and does not require open excavating to apply.

The Township has budgeted funds within their Capital Improvement Plan to provide a means to repair their sanitary system infrastructure. Repairing the gravity mains and manholes adds a layer of redundancy and resilience in the protection of their sanitary sewer system and has been chosen as the selected alternative.

3.2 ANALYSIS OF PRINCIPAL ALTERNATIVES

A. CULTURAL RESOURCES

There are no historic districts or historic properties within White Lake Township, therefore the project will not impact any historic properties in the Township.

There are four (4) Michigan History Center Historical Markers in White Lake Township. These markers are: White Lake Cemetery at 6190 White Lake Road, White Lake Township Hall at 7500 Highland Road, Kelley-Fisk Farm at 9180 Highland Road, and St. Patrick Church at 9086 Hutchins Road. One pressure manhole proposed for repair is located on Kelley-Fisk Farm; however, project activities are limited to CIP lining and will not cause direct impacts to this or any other Historical Marker.



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B. THE NATURAL ENVIRONMENT

1. Climate Resiliency

The impacts of climate change on wastewater infrastructure and utilities may include increased sediment and nutrient runoff from watersheds, and loss of wetlands. Using standard construction practices, no unusual complications are expected for the project due to adverse climate/weather conditions.

2. Air Quality

There are no known air quality issues in the Township. During construction, machinery may cause airborne dust. Relevant procedures for dust control are discussed in the Mitigation section of the Project Plan.

3. Wetlands

Wetlands are defined by Michigan's wetland statute, Part 303, Wetlands Protection, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended. Based on the National Wetlands Inventory (NWI) map there are no repair locations within wetlands. Additionally, proposed construction methods for the selected alternatives will have no impact on nearby wetlands.

4. Coastal Zones

There are no coastal zones in the project area.

5. Floodplains

There are no repair locations within the floodplains and the selected alternative will have no impact on floodplains. Figure 23 on page 38 is a map of the gravity main and manhole structures in relation to the Federal Emergency Management Agency (FEMA) flood hazard areas. Flood Insurance Rate Maps (FIRM) for the project areas are provided in Appendix VI.

6. Natural, Wild or Scenic Rivers

There are no natural, wild, or scenic rivers within White Lake Township, according to the National Wild and Scenic Rivers System.

7. Major Surface Waters

The Township is primarily located within the Kent Lake-Upper Huron sub-watershed of the Huron River Watershed (HUC 04090005). There are two gravity manholes proposed for repair located within the Upper Clinton sub-watershed of the Clinton River Watershed (HUC 04090003). White Lake Township includes portions of the Huron River and many inland lakes. The Huron River system and several lakes, including Pontiac Lake, Oxbow Lake, and Cooley Lake, are all within proximity to the project areas. No flowing watercourses are located within the project areas. Selected alternative 4 is not anticipated to cause direct impacts on the surface waters in the project areas. All required permits will be obtained, as necessary.



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8. Recreational Facilities

White Lake Township contains state, county, regional, and township parks as well as a number of private/commercial recreational facilities. One pressure manhole proposed for repair is located at one of the township parks, Kelley-Fisk Farm; however, project activities are limited to CIP lining and will not cause direct impacts to this park. No parks or recreational facilities are anticipated to be impacted because of the project. A map of the project areas in relation to these parks and recreational facilities is provided in Figure 24 on page 39.

9. Topography

Any disturbance to the ground during the repair work will be temporary and will not result in permanent topographic alteration.

10. Geology

No geological resources will be impacted because of the project.

11. Soils

Soils will not be impacted because of the project.

12. Agricultural Resources

No prime or unique agricultural areas are located within the influence of the project and agricultural resources will not be impacted because of the project.

13. Fauna and Flora

According to the USFWS list, the Rayed Bean, Snuffbox mussel, Poweshiek Skipperling, Indiana bat, Northern Long-Eared bat, and Eastern Massasauga are all endangered or threatened species potentially found in Oakland County. Lakes, ponds, streams, and Pontiac Lake State Park are located in the Township; therefore, a suitable habitat is present, and species may be present. Selected alternative 4, however, involves CIP lining of existing infrastructure and is therefore not anticipated to have any effect on the habitats that host the above listed species.

14. Unique Features

No unique features or critical habitats are located within the project area.

15. Construction Activities

Typical machinery noise and airborne dust because of construction of Selected Alternative 4 is not expected to have an impact on the surroundings.



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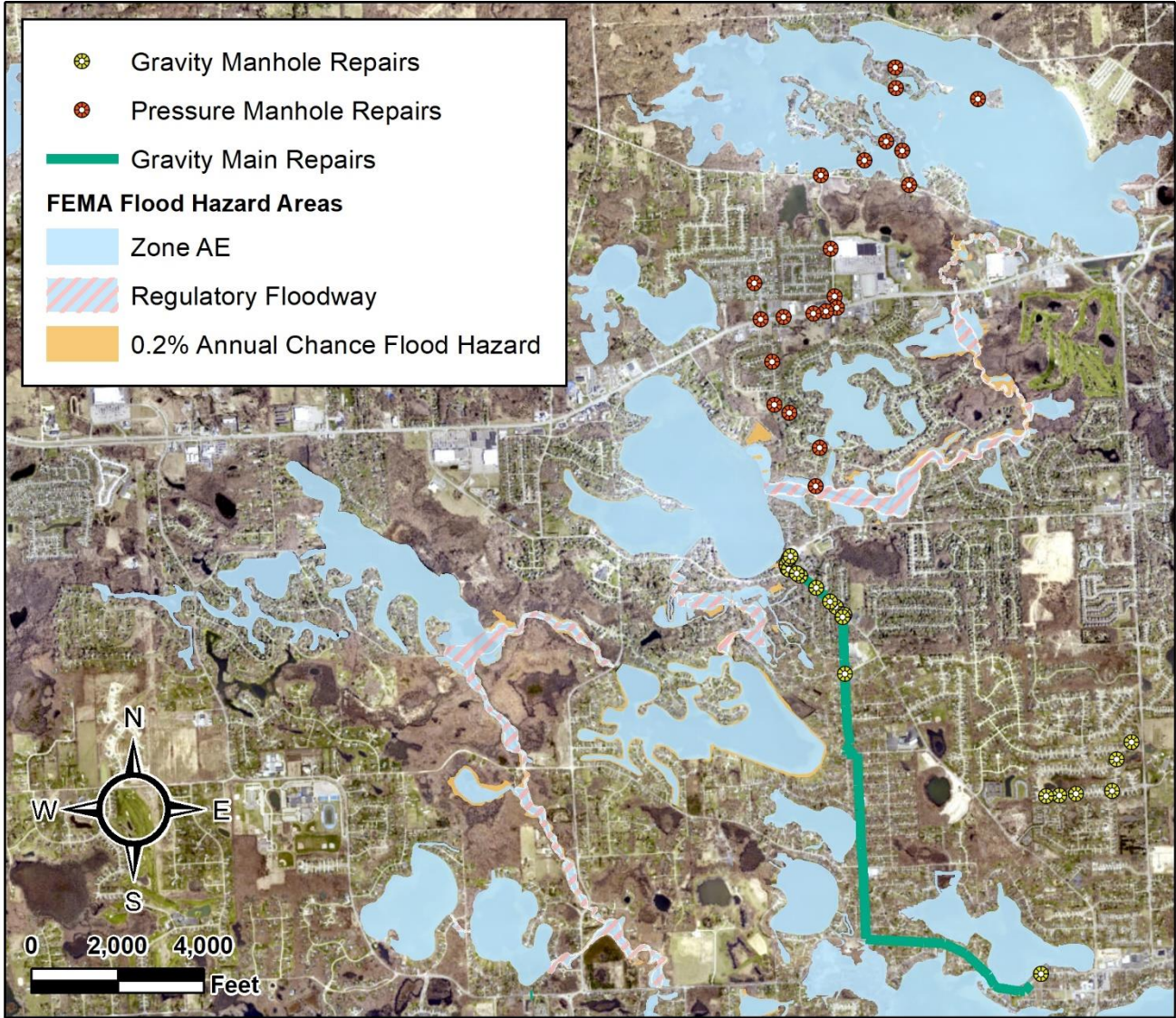


Figure 23 – FEMA Flood Hazard Areas



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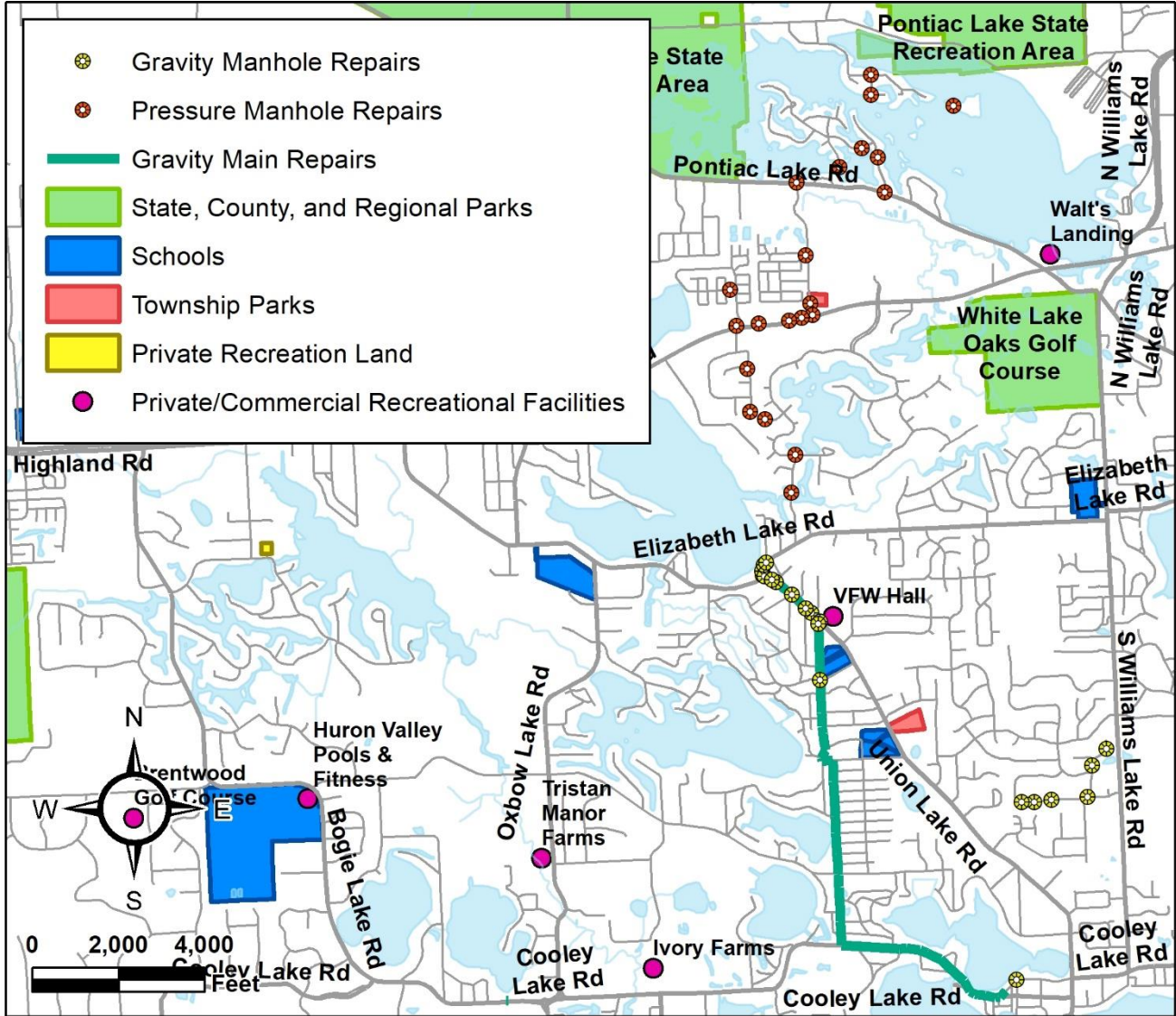


Figure 24 – Parks & Recreation Facilities

C. MITIGATION

Permits necessary for the scope of the project will be applied for and obtained prior to project work. Mitigation during the replacement and improvement procedures are the responsibility of the contractor. Examples of mitigation procedures which may be taken include airborne dust control measures and construction noise control measures. The contractor shall follow all construction standards and work to minimize all potential environmental impacts which may occur during construction.



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D. TECHNICAL CONSIDERATIONS

The existing infrastructure consists of a system of pressure sanitary main discharging into gravity sewer main to transport wastewater south to Commerce Township. With excessive hydrogen sulfide buildup, there is a concern with the structural integrity of the system. Inspections have been annually conducted on portions of sanitary sewer and manholes to determine NASSCO Pipeline Assessment Certification Program (PACP) and Manhole Assessment Certification Program (MACP) structural ratings. Though the PACP ratings for the hydrogen sulfide affected portions of pipe have not yet rated at the 4 (significant) or 5 (most significant) grade for defects, the confirmed corrosion due to hydrogen sulfide are severe enough to warrant repairs and rehabilitation. A structural failure in this system would discharge raw sewage into the environment; and with an area surrounded by wetlands and lakes, raw sewage leaking into the surrounding ground and surface waters would be a significant environmental issue.

E. RESIDUALS

The Township has been experiencing development and redevelopment in recent years and will continue to experience redevelopment. However, as mentioned previously, these changes in development will not contribute an excessive amount to the current system and will not affect future demand within the existing service areas.

F. CONTAMINATION

Table 6 below summarizes the sites of known contamination identified on the EGLE Environmental Mapper web portal within a one-half mile radius along the pipe sections and manholes that are to be rehabilitated. These sites are also present in Figure 25 on page 44.

Table 6 – Sites of Known Contamination in Reference to Project Areas

Site Name	Site Address	Rehabilitation
Cornell Sign Co.	1047 Round Lake Road	Gravity Main
Union Lake Road Contamination/PCSI, Inc./ Great Lakes Landing, LLC/ Richman D. and H. Excavating Co.	1095 Union Lake Road	Gravity Manhole
Breens IGA	1111 Round Lake Road	Gravity Main
Michigan Department of Natural Resources	1125 Lakeview	Gravity Main Gravity Manhole
Round Lk and Locustwood Residence	1243 Round Lake Road	Gravity Main
JSB Engines	1320 Round Lake Road	Gravity Main



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Site Name	Site Address	Rehabilitation
Wayne Repair	2749 Tackles Drive	Pressure Manhole
Bryan's Auto Repair	455 Union Lake Road	Gravity Main Gravity Manhole
County of Oakland	51 East Oxhill Drive	Pressure Manhole
William Hepfer	714 Ranveen Drive	Gravity Main
Lionel Lloyd	761 Farnsworth Avenue	Gravity Main Gravity Manhole
William/Cooley Mobile/Exxon Mobil Oil Corp.	8000 Cooley Lake Road	Gravity Manhole
Advance Auto Parts	8010 Cooley Lake Road	Gravity Main Gravity Manhole
Elias White Lake LLC	8040 Cooley Lake Road	Gravity Main Gravity Manhole
Union Lake Clinic	8080 Cooley Lake Road	Gravity Main Gravity Manhole
Jim Schlenkert	8110 Casa Mia Street	Gravity Manhole
4 Corners Square LLC/BP Products North America/ Top Value Muffler	8198 Cooley Lake Road	Gravity Main Gravity Manhole
Elsarelli Residence	835 Hilltop Drive	Pressure Manhole
Campbell's Auto Salvage and Parts	8372 Pontiac Lake Road	Pressure Manhole
Last Resort Inc.	8560 Pontiac Lake Road	Pressure Manhole
Kasaab Associates	8990 Pontiac Lake Road	Pressure Manhole
Bed Bath & Beyond Inc.	9050 Highland Road	Pressure Manhole
Home Depot USA Inc.	9078 Highland Road	Pressure Manhole
Henry's Corvette Repair	9104 Georgette Street	Gravity Main



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Site Name	Site Address	Rehabilitation
Sprengers Deco Center	9145 Highland Road	Pressure Manhole
Wal-Mart Stores East	9190 Highland Road	Pressure Manhole
Belle Tire Distributors Inc.	9201 Highland Road	Pressure Manhole
Six Lakes Service	9241 Cooley Lake Road	Gravity Main
Terry Simpson	925 Ennest Street	Gravity Main
County of Oakland Drain Commissioner/ Needels Six Lake Sub #1	9260 Cooley Lake Road	Gravity Main
Dublin Elementary	9260 Sandyside Street	Gravity Main Gravity Manhole
Professional Imaging	9320 Elizabeth Lake Road	Gravity Main Gravity Manhole Pressure Manhole
Gale Road Sand & Gravel	9400 Gale Road	Pressure Manhole
Performance Plus Quick Lube	9410 Elizabeth Lake Rod	Gravity Main Gravity Manhole Pressure Manhole
Inter Lakes Steel Prod. Co/McMachen White Lake LLC	9434 Highland Road	Pressure Manhole
Mikes Auto Clinic/Marathon Oil Company LLC	9555 Elizabeth Lake Road	Gravity MainGravity ManholePressure Manhole
Oxbow Car Wash	9581 Elizabeth Lake Road	Gravity Main Gravity Manhole Pressure Manhole
Speedway LLC	9601 Highland Road	Pressure Manhole
Cars Inc.	9640 Highland Road	Pressure Manhole
Watkins Septic	9731 Portage Trail	Gravity Main Gravity Manhole



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Site Name	Site Address	Rehabilitation
Oakland Appliance Service/Estate of Gloria R. Pohl	9805 Elizabeth Lake Road	Gravity Main Gravity Manhole
Walter Pohl	9807 Elizabeth Lake Road	Gravity Main Gravity Manhole
Moores Tire Service	9860 Pal moor Street	Gravity Main Gravity Manhole
Interlakes Steel Products	9934 Highland Road	Pressure Manhole
AAA Oxbow Oil	9970 Sedlock Street	Gravity Main Gravity Manhole

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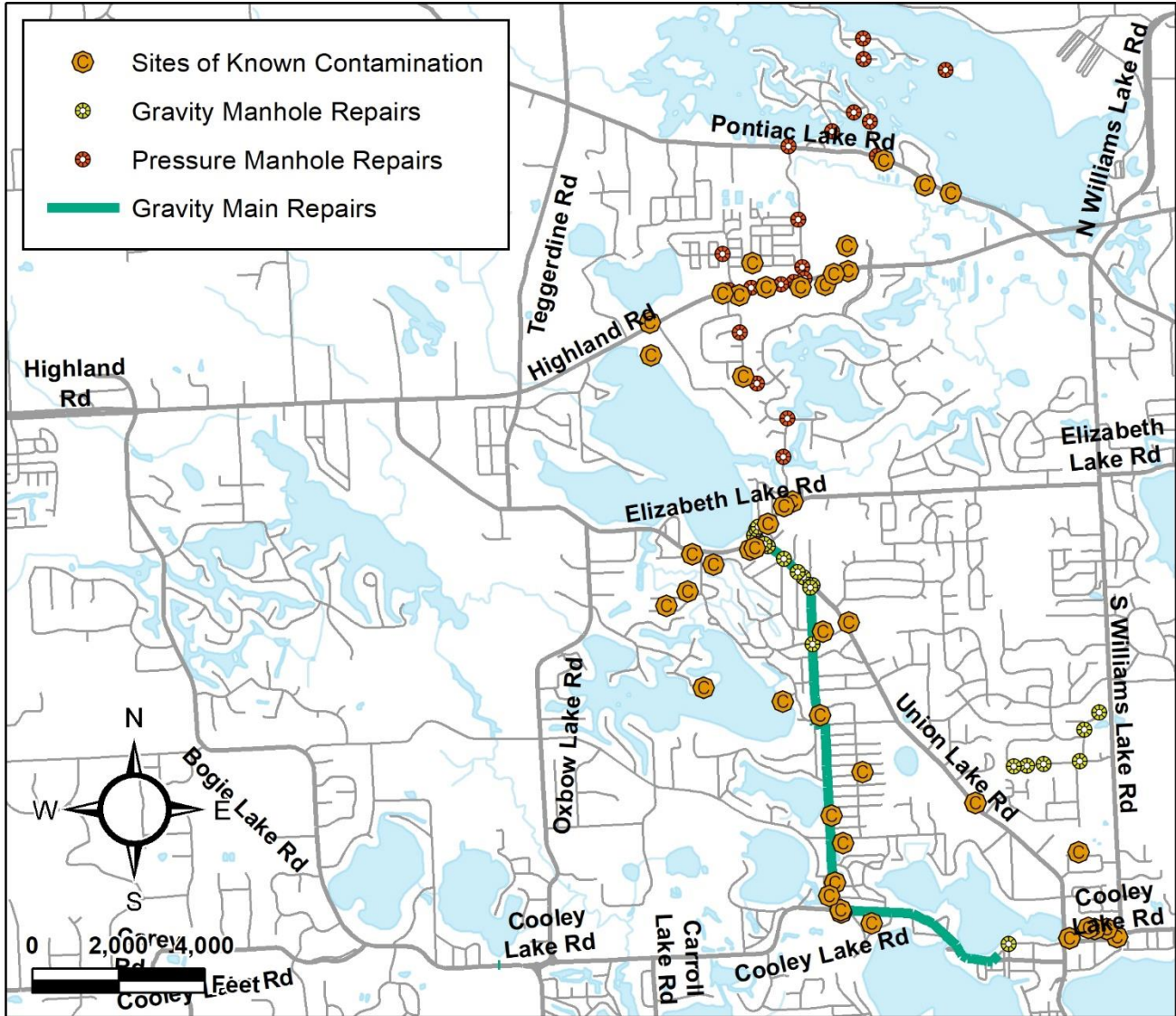


Figure 25 – Sites of Known Contamination in Reference to Project Areas Map



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4.0 SELECTED ALTERNATIVE – ALTERNATIVE 4

4.1 DESCRIPTION OF THE SELECTED ALTERNATIVE

Alternative 4 has been selected as the most operational and cost-effective option for the Township. The repairs and rehabilitation of the gravity main, gravity manholes, and pressure manholes will assure continued reliable sanitary service to the community.

Over the next five years, the Township seeks to repair 14,011 feet of gravity main, 22 gravity manholes, and 21 pressure manholes using CIP lining methods.

Estimated construction costs for each option are summarized in Table 7 below. Due to the additional costs associated with the complete replacement of the Township’s sanitary system, ease of repair and lining compared to replacement, and the ability to remediate the deterioration and extend the life of the existing infrastructure, Alternative 4 is the optimal choice for design. Alternative 1 is not ideal as the system will continue to deteriorate, adding costs for continuous maintenance, and there are too many potential risks to community and environmental health if the sanitary system were to fail. Alternative 2 is not only extremely expensive when compared to repairing and lining the sanitary system, but also a much more invasive process as it requires open cutting to remove and replace the sanitary system. Open cutting would more than likely require lane closure along the sanitary main and would have many more short-term impacts and mitigation to consider. Alternative 3 is not a viable solution as running the system at an optimum performance will not remedy existing corrosion due to Hydrogen Sulfide.

Table 7 – Sewer Repair Cost Estimation

Alternative	Description	Gravity Main Cost	Gravity Manhole Cost	Pressure Manhole Cost	Total	Present Worth
1	No-Action	See Note 1	See Note 1	See Note 1	See Note 1	See Note 1
2	Complete Replacement	See Note 2	See Note 2	See Note 2	\$4,663,531.58	\$4,577,699.35
3	Optimum Performance	See Note 1	See Note 1	See Note 1	See Note 1	See Note 1
4	Repairs and Rehabilitation	\$1,966,931.25	\$87,120.00	\$34,807.50	\$2,297,744.63	\$2,249,670.40

Note 1: Option 1 and 3 will have no initial construction cost due to leaving the system as-is (alternative 1) and operating the system to an optimum performance, which the Township is currently doing (alternative 3). However, the assets will continue to deteriorate due to the Hydrogen Sulfide buildup and costs will continue to increase as time progresses for routine maintenance and spot repairs. This option is not recommended.



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Note 2: Costs for pavement removal and replacement, curb and gutter removal and replacement, and restoration are not broken down individually for each asset.

Detailed cost breakdowns and estimation for each asset is provided in Table 8 below. Details on alternatives 2 and 4 rehabilitation scenarios are provided in the Present Worth Calculations included in Appendix VII.

Table 8 – Alternative 4 – Sanitary Sewer System Repair/Rehabilitation Cost Estimate

Item No	Description	Qty	Units	Unit Price	Total
1	Mobilization	1	LS	\$ 208,885.88	\$ 208,885.88
2	CIP Lining Gravity Sewer 30 inch	11,607	LF	\$ 145.00	\$ 1,683,051.25
3	CIP Lining Gravity Sewer 27 inch	2,273	LF	\$ 120.00	\$ 272,760.00
4	CIP Lining Gravity Sewer 24 inch	96	LF	\$ 95.00	\$ 9,120.00
5	CIP Lining Gravity Sewer 21 inch	35	LF	\$ 80.00	\$ 2,000.00
6	CIP Lining Gravity Manhole	22	EA	\$ 3,960.00	\$ 87,120.00
7	CIP Lining Pressure Manhole	21	EA	\$ 1,657.50	\$ 34,807.50
8	Bypass Pumping	1	LS	\$ 40,000.00	\$ 40,000.00
Total Construction Cost					\$ 2,337,744.63

4.2 WATER AND ENERGY EFFICIENCY

Water and energy efficiency efforts were also considered in the selection of the alternative. Water efficiency typically considers water reuse, water efficient devices, water meters, water audits and conservation plans. However, in this scope of work, the efficiency of wastewater conveyance as considered. Pipe lining provides a means of protecting the pipe structure from corrosion due to hydrogen sulfide, will eliminate any sources of leaks from the pipe, as well as eliminate source of inflow and infiltration (I&I). This increases the efficiency at which the wastewater is transported to the designated treatment plant; where the water has potential to be reclaimed and used as a resource.

In terms of energy efficiency, CIP pipe lining methods require much less equipment and machinery on-site than traditional excavation methods for pipe repair. Having to use less equipment means less fuel to transport said equipment to the project site, reducing emissions.

4.3 ALTERNATIVE 4 TOTAL PROJECT BUDGET

Table 9 on page 47 outlines the total project budget including the construction, design, construction administration/ engineering/inspection, ancillary costs and 10% project contingency costs. The total project budget is \$2,855,538.66 and is the amount that the Township would request to be made eligible for the SRF low interest funding.



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Table 9 – Alternative 4 – Total Project Budget

Item No	Description	Total Cost
1	Design (8%)	\$ 187,019.57
2	Construction	\$ 2,337,744.63
3	Construction Administration, Construction Engineering, Inspection (10%)	\$ 233,774.46
4	Project Plan	\$ 30,000.00
5	Legal/Financial Service	\$ 32,000.00
6	Bond Counsel	\$ 35,000.00
Total Project Budget		\$ 2,855,538.66

The 2022 discount rate, as determined by the Federal Register, is 1.875% with a project planning period of twenty (20) years.

4.4 SALVAGE VALUES & REPLACEMENT COST

Given the nature of the alternative, the proposed infrastructure improvements are designed to have an expected life of 40 years, double the 20-year planning period for the monetary present worth evaluation. As a result, all lining items (sanitary main and manholes) will have a salvage value worth half of their estimated cost at the end of the 20-year planning period. There are no items related to the alternative that have an expected life of less than 20 years, therefore there will be no replacement costs associated with the present worth analysis. These values are outlined in Table 10 for Alternative 2 and Table 11 for Alternative 4 on pages 48 and 49, respectively.



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Table 10 – White Lake Township Alternative 2: Complete Replacement Cost Estimation

Item No	Description	Qty	Units	Unit Price	Total	Salvage Years	Salvage Value	Replacement Cost
1	Mobilization	1	LS	\$ 395,348.20	\$ 395,348.20	0		
2	Gravity Sewer 30 inch	11,607	LF	\$ 141.00	\$ 1,636,622.25	40	\$ 818,311.13	
3	Gravity Sewer 27 inch	2,273	LF	\$ 123.00	\$ 279,579.00	40	\$ 139,789.50	
4	Gravity Sewer 24 inch	96	LF	\$ 90.00	\$ 8,640.00	40	\$ 4,320.00	
5	Gravity Sewer 21 inch	35	LF	\$ 65.00	\$ 2,275.00	40	\$ 1,137.50	
6	Gravity Manhole Replacement	22	EA	\$ 6,000.00	\$ 132,000.00	40	\$ 66,000.00	
7	Pressure Manhole Replacement	21	EA	\$ 6,000.00	\$ 126,000.00	40	\$ 63,000.00	
8	Sewer Removal 24-48 inch	14,011	LF	\$ 30.00	\$ 420,337.50	0		
9	Road Pavement Removal	5,202	TON	\$ 100.00	\$ 520,167.66	0		
10	Road Pavement Replace	5,202	TON	\$ 110.00	\$ 572,184.42	15	\$ 429,138.32	\$ 572,184.42
11	Curb and Gutter, Rem	7,006	LF	\$ 10.00	\$ 70,056.25	0		
12	Curb and Gutter, Replace	7,006	LF	\$ 24.00	\$ 168,135.00	40	\$ 84,067.50	
13	Restoration	23,352	SYD	\$ 13.00	\$ 303,577.08	0		
Total Construction Cost					\$ 4,663,531.58		\$ 1,605,763.94	\$ 572,184.42



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Table 11 – White Lake Township Alternative 4: Repair and Rehabilitation Cost Estimate

Item No	Description	Qty	Units	Unit Price	Total	Salvage Years	Salvage Value
1	Mobilization	1	LS	\$ 208,885.88	\$ 208,885.88	0	
2	CIP Lining Gravity Sewer 30 inch	11,607	LF	\$ 145.00	\$ 1,683,051.25	40	\$ 841,525.63
3	CIP Lining Gravity Sewer 27 inch	2,273	LF	\$ 120.00	\$ 272,760.00	40	\$ 136,380.00
4	CIP Lining Gravity Sewer 24 inch	96	LF	\$ 95.00	\$ 9,120.00	40	\$ 4,560.00
5	CIP Lining Gravity Sewer 21 inch	35	LF	\$ 80.00	\$ 2,000.00	40	\$ 1,000.00
6	CIP Lining Gravity Manhole	22	EA	\$ 3,960.00	\$ 87,120.00	40	\$ 43,560.00
7	CIP Lining Pressure Manhole	21	EA	\$ 1,657.50	\$ 34,807.50	40	\$ 17,403.75
8	Bypass Pumping	1	LS	\$ 40,000.00	\$ 40,000.00	0	
Total Construction Cost					\$ 2,337,744.63		\$ 1,044,429.38

Note – there are no replacement costs associated with this alternative as all the items for this alternative have a useful life greater than the 20-year planning period; and will therefore not require replacement over the 20-year period.



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4.5 OPERATION & MAINTENANCE ANNUAL COSTS

Operations and Maintenance (O&M) for the sanitary sewer system will include various maintenance and inspection activities. These estimated O&M costs are included in the present worth calculations. Note that the estimated annual O&M for chosen Alternative 4 is based on the current budget that White Lake Township pays to have CCTV inspections of their sanitary sewer system, which is \$40,000/year.

Table 12 below summarizes the calculated present worth for the repair and rehabilitation project including construction, annual O&M, and salvage figures for the options under Alternative 2 and 4. Detailed present worth calculations for each alternative option can be found in Appendix VII.

Table 12 – Present Worth Analysis

Description	Total Cost – Alternative 2	Total Cost – Alternative 4
Capital Cost	\$ 4,663,531.58	\$ 2,337,744.63
Discount Rate (%)	1.875	1.875
Planning Period (years)	20	20
Capital Present Worth	\$ 4,577,699.35	\$ 2,294,718.65
Salvage Value	\$ 1,605,763.94	\$ 1,044,429.38
Salvage Value Present Worth	\$ 1,087,080.35	\$ 707,064.48
Replacement Cost	\$ 572,184.42	\$ 0.00
Replacement Cost Present Worth	\$ 425,063.76	\$ 0.00
O&M Cost per year	\$ 40,000.00	\$ 40,000.00
O&M Cost Present Worth	\$ 662,016.23	\$ 662,016.23
Total Present Worth	\$ 4,201,518.49	\$ 2,249,670.40

4.6 INTEREST RATE SAVINGS

The latest low interest loan rate (discount rate) from EGLE is from 2022 and is 1.875%. This interest rate is used in the annual Principal and Interest loan calculation to determine the annual amount of Principal and Interest to be paid by the Township for the 20-year load project period, the annual principal and interest payment would be approximately \$169,722.00.



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An estimated interest rate of 3.75% was used to calculate the annual Principal and Interest payment of the Township should they choose to finance the project using the bond market and their bond rating over the 20-year load period. The annual Principal and Interest payment would approximately be \$205,490.55. The estimated annual principal and interest savings that the Township would realize by utilizing the SRF low interest load rate of 1.875% is \$32,954.68. This savings projected over the entire 20-year loan period results in the Township saving approximately \$659,093.60 as seen below in Figure 26 below.

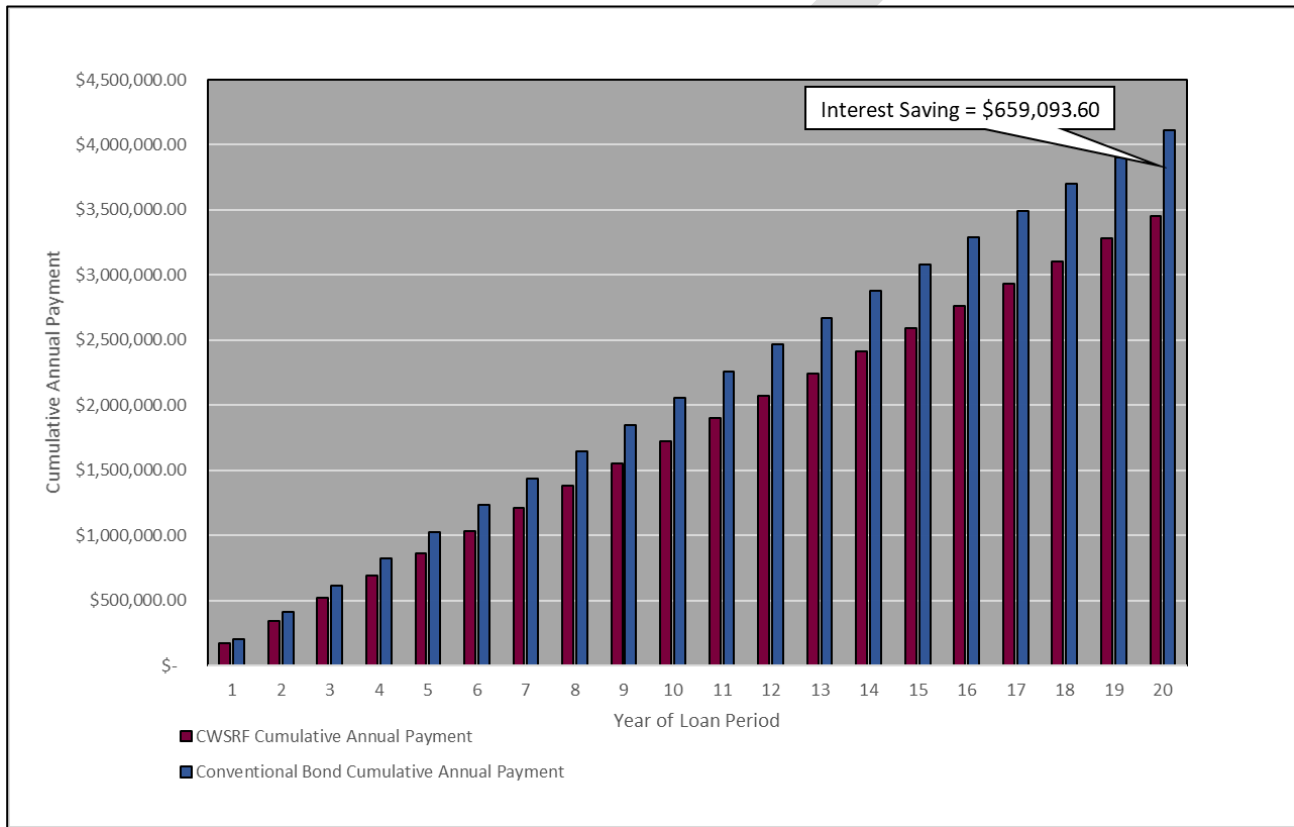


Figure 26 – Savings for CWSRF Low Interest Loan at 1.875% vs. Conventional Bond at 3.75% for Selected Alternative 4

4.7 AUTHORITY TO IMPLEMENT THE SELECTED ALTERNATIVE

Legal, financial, and managerial authority to implement the selected alternative for the sanitary system lining and improvements lies with White Lake Township. It should be noted, however, that Oakland County Water Resources Commissioner’s Office (OCWRC) operates the sanitary sewer system for White Lake Township under an existing contract. A small portion of the sewer lining and one gravity manhole are located on the northern border of Commerce Township; however, the entire service area falls within the White Lake Township limits.



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The Township maintains a sewer maintenance savings account that will be utilized to finance the project, with the help of the low interest state loan. The Township has the Management, Engineering, and Operational staff to implement the project.

The Township has the legal authority, capability, and willingness to plan, finance, build, operate, and maintain the proposed station upgrades. The responsibility for implementing these improvements rests solely with White Lake Township. The Township is prepared to meet the appropriate schedule milestones to start construction of the project in July 2023. A proposed project schedule is presented in Table 13 below.

Table 13 – Proposed CWSRF Project Schedule

Milestone Description	On or Before Date
Public Hearing Advertisement	April 13, 2022
Public Hearing, Resolution from Township Board Passed & Signed	May 17, 2022
Final Project Plan Submitted to EGLE	June 1, 2022
Publication of Environmental Assessment	February 6, 2023
Public Notice Clearance	March 10, 2023
EGLE Approval of Project Plan	March 10, 2023
Submittal of Draft Rate Methodology and Legal Documents	October 23, 2022
EGLE Comments of Draft Rate Methodology and Legal Documents	November 22, 2022
Submittal of Final Rate Methodology and Legal Documents	December 27, 2022
EGLE Approval of Rate Methodology and Legal Documents	January 27, 2023
Submittal of Draft Plans and Specifications to EGLE	December 7, 2022
EGLE Comments of Draft Plans and Specifications	January 6, 2023
Submittal of Final Design/Plans and Specifications to EGLE	February 10, 2023
All Permit Applications Submitted	February 10, 2023
Issuance of Construction Permit by EGLE	March 1, 2023
EGLE Approval of Plans and Specifications	March 10, 2023
Submittal of Application Part I and Part II	February 14, 2023
Bid Ad Published	March 10, 2023
Bids Received and Opened	April 10, 2023
Submittal of DWRF Application Part III (w/tentative contract awards)	April 17, 2023
Resolution of Tentative Contract Award by Governing Body	April 17, 2023
EGLE Order of Approval Issued	May 17, 2023
Borrower's Pre-Closing w/MMBA	June 1, 2023
MMBA Closing	June 12, 2023
Notice to Proceed Issued No Later Than	July 26, 2023
Begin Project Construction	July 26, 2023
Project Construction Complete	October 31, 2024



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5.0 EVALUATION OF ENVIRONMENTAL IMPACTS

5.1 WETLANDS/WATER QUALITY

There are several areas of this project that are near wetland areas, particularly the areas with pressure manholes as many of these are situated around Pontiac Lake. No project areas, however, are located within the wetlands. Due to the nature of the project, there will be no water quality impacts anticipated from the direct discharges or nonpoint sources with the proposed project. There will be no direct impacts to rivers, streams, or creeks as part of the proposed rehabilitation within the project area.

5.2 THREATENED AND ENDANGERED SPECIES

The State of Michigan Natural Features Inventory (MNFI) and the United States Fish and Wildlife (USFWS) were not required to perform a Rare Species Review for this project area. Michigan includes the state species statuses: Endangered (E), Threatened (T), and Special Concern (SC). Search results from the USFWS Environmental Conservation Online system and the MNFI indicate five (5) occurrences of E, T, or SC species that have been noted within the area of Oakland County.

Rayed Bean (state endangered; *Villosa fabalis*) – is a small freshwater mussel that is typically found in small shallow rivers, often near aquatic vegetation. The activities of this project will not impact any water resources and therefore no impacts are expected to occur.

Snuffbox mussel (state endangered; *Epioblasma triquetra*) – is a small to medium-sized mussel that lives in rivers with steady current and sand and gravel substrates. The activities of this project will not impact any water resources and therefore no impacts are expected to occur.

Eastern Prairie Orchid (state endangered; *Platanthera leucophaea*) – a member of the Orchid family, this plant was once abundant across wet tallgrass prairies, sedge meadows, and old fields. These types of habitats will not be impacted by this project.

Indiana bat (state endangered; *Myotis sodalis*) – is a small bat that roost and form maternity colonies in the floodplain forest. The activities of this project are not expected to affect roosting locations and therefore no impacts are expected to occur to this bat.

Eastern Massasauga Rattlesnake (state special concern; *Sistrurus catenatus*) – a small to medium sized, thick bodied, snake with distinctive color pattern along the body. These snakes have been found in open wetlands. The activities of this project will not impact open wetlands and therefore no impacts are expected to occur.

The various project locations all fall within the range of the five species that occur in Oakland County, Michigan. It is important to recognize that the project work will not impact the habitats for these species.

5.3 HISTORICAL/ARCHAEOLOGICAL/TRIBAL RESOURCES

It was determined that there are no historical districts or properties within the project areas. There is one Michigan History Center Historical Markers within the project area; it is the Kelley-Fish Farm. One pressure



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manhole proposed for repair is located on Kelley-Fisk Farm; however, project activities are limited to CIP lining and will not cause direct impacts to this Historical Marker.

5.4 AGRICULTURAL LAND

There will be no impacts to agricultural land as part of the proposed sanitary system lining and rehabilitation within the project areas.

5.5 SOCIAL/ECONOMIC IMPACT

The Township is not proposing monetary user fee increases at this time.

5.6 CONSTRUCTION/OPERATIONAL IMPACT

At the specific project sites throughout White Lake Township, there will be minimal impacts to traffic patterns in areas where the construction will occur. No direct impacts are anticipated in major thoroughfares. There is no expected impact for dewatering at any of the sites since the Township will only be conducting pipe lining rather than trenching and excavating.

5.7 INDIRECT IMPACTS

It is not expected that the pumping station improvements to the sanitary sewer system will prompt growth within the Township. Changes to natural areas, sensitive species, and ecosystems are not expected due to the project work.

The project includes CIP lining and will have minimal impacts during the construction period. It is not expected that there will be lasting impacts on aesthetics, land use, density, or resource consumption over the useful life of the project.

There will be impacts during the construction phase of this project, however, it is expected that there will not be lasting impacts on land use and aesthetics over the life of the project.

5.8 CUMULATIVE IMPACTS

No obvious cumulative impacts are associated with the selected Alternative 4.

6.0 MITIGATION

6.1 GENERAL

Where adverse impacts cannot be avoided, mitigation methods will be implemented. Mitigating measures for the projects such as soil erosion and sedimentation control, if required, will be utilized as necessary and in accordance with applicable laws. Details will be further specified in the construction contract documents used for the project.



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6.2 SHORT-TERM IMPACTS

Short-term impacts due to construction activities such as traffic disruption cannot be avoided. However, efforts will be made to minimize the adverse impacts by use of thorough design and well-planned construction sequencing.

Site restoration will minimize the adverse impacts of construction, and adherence to the Soil Erosion and Sedimentation Act will minimize the impacts due to disturbance of the soil structure, if such disturbance is found to be necessary. Specific techniques will be specified in the construction contract documents.

6.3 LONG-TERM IMPACTS

Adverse long-term impacts due to the proposed project are not anticipated. The aesthetic impacts of construction within the boundaries of the project areas will be mitigated by site restoration.

6.4 INDIRECT IMPACTS

In general, it is not anticipated that mitigative measures to address indirect impacts will be necessary for the recommended improvements addressed in this Project Plan. The proposed improvements are located within the project area, so they do not promote growth in areas not currently served by White Lake Township. Therefore, indirect impacts are not likely to be a significant concern for these improvements.

7.0 PUBLIC PARTICIPATION

A Public Hearing Notice was published on April 13, 2022, in the *Spinal Column*, notifying the public of a hearing to be held on May 17, 2022 at 7:00 PM. The Project Plan is made available to the public on the Township's main page of the website. A hard copy of the Plan will also be made available at the Public Hearing.

A copy of the Project Plan was submitted to the Southeast Michigan Council of Governments (SEMCOG) for review.

The operation, costs, and impacts of the project will be summarized at the Public Hearing.

8.0 SITE PHOTOS

Do we have any site photos from the SAW Grant we could incorporate?



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APPENDIX I

CWSRF PROJECT PLAN SUBMITTAL FORM

APPENDIX II

WHITE LAKE TOWNSHIP SEMCOG COMMUNITY PROFILE

APPENDIX III

LEVEL OF SERVICE (LOS) GOAL TABLE

APPENDIX IV

WHITE LAKE SANITARY SYSTEM CAPACITY

APPENDIX V

WASTEWATER ASSET MANAGEMENT PLAN

APPENDIX VI

FEMA FIRM FLOOD MAPS

APPENDIX VII

PRESENT WORTH CALCULATIONS



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White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
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APPENDIX I
PROJECT PLAN SUBMITTAL FORM

DRAFT



INTENT TO APPLY FORM

This form should be submitted by all applicants seeking funding in the next five years. Applicants participating in the ITA process receive early indication of the funding outlook for their project(s).

DATE: Click here to enter text.

PROJECT(S) NAME (Brief Identifier): White Lake Township Wastewater Asset Management Plan Improvements

PROJECT(S) PURPOSE (Including general location and public health or water quality issue being addressed): From an earlier SAW grant asset inventory and assessment, the Township has created a Capital Improvement Plan to repair and replace sewer main and manholes to ensure the reliable operation of the Township’s wastewater system. Currently, the Township is prioritizing four project categories for the years 2020-2024: Pumping Station Projects, Gravity Manhole Repairs, Gravity Main Repairs, and Pressure Manhole Repairs. Condition assessments inspected under NASSCO guidelines with PACP and MACP standards found multiple segments of Gravity Main and Gravity Manholes to have significant structural damage due to high Hydrogen Sulfide concentrations (Grades 4&5); these projects have been prioritized by the Township for rehabilitation and/or replacement.

Pumping Station Projects: Upgrades at 10 Pumping Stations
 Gravity Main Repairs: 12,041 ft of Gravity Main
 Gravity Manhole Repairs: 20 Gravity Manholes
 Pressure Manhole Repairs: 21 Pressure Manholes

Applicant Legal Name: Charter Township of White Lake

Applicant Contact Name: Aaron Potter Title: Director, Dept. of Public Services

Mailing Address (street, city, state, zip+4): 7525 Highland Rd, White Lake, MI 48383-2938

Phone No.: (248) 698-7700 x226 Email: apotter@whitelaketwp.com

Consulting Engineer Name (if applicable): Mike Leuffgen Firm: DLZ-Michigan, Inc.

Mailing Address (street, city, state, zip+4): 4494 Elizabeth Lake Rd., Waterford, MI 48328-2825

Phone No.: (248) 240-1019 Email: mleuffgen@dlz.com

PROJECT INFORMATION

Applicant Population: 31,384 Population Served by Project: 4,500

Treatment Facility Name (if applicable): Commerce Township

Estimated Total Project Cost: \$2,950,410.60

Year 1 Costs: \$223,451.57	Estimated Year 1 Costs Financed Through SRF: \$223,451.57
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Future Year Costs (if applicable): \$2,726,959.03	Estimated Future Costs Financed Through SRF: \$2,726,959.03
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Other Funding Sources (check all that apply): MDOT MEDC USDA Rural Development
Other Financing/Funding Agency: N/A

Proposed Construction Start Date (mm/yyyy): August 1, 2023

Completed Project-Related Planning Documents (check all that apply; do not need to submit at

Capital Improvements Plan Asset Management Plan Preliminary Engineering Report

Environmental Report Project Plan Infiltration & Inflow Study Sanitary Sewer Evaluation Study

NASSCO Report Watershed Management Plan Master Plan Reliability Study Other: [Click here to enter text.](#)

ADDITIONAL INFORMATION

Disadvantaged Community (as determined by EGLE)? Yes No Unknown

For a preliminary determination from EGLE, complete and attach the [Disadvantaged Community Status Determination Worksheet](#).

Does the proposed project include any green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities? Yes No Unknown

If yes, please describe: [Click here to enter text.](#)

For Clean Water State Revolving Loan projects, does the community use a qualifications-based selection process to obtain architectural/engineering services? Yes No

Deadlines: The ITA form may be submitted at any time, but is due on or before January 31, to allow for sufficient time for the pre-application meeting and to be placed on the DWSRF or CWSRF/SWQIF Project Priority List (PPL).

Pre-Application Meeting: The applicant will be contacted by an assigned Water Infrastructure Financing Section (WIFS) project manager within 14 days of receipt of this ITA form to schedule a pre-application discussion. This meeting can help to identify project funding opportunities and challenges earlier in the planning stage to better guide the efforts of the applicant and their consulting engineer. Suggested attendees would include the WIFS project manager, EGLE district engineer, applicant representative(s), and any other applicable attendees.

Questions: Please visit our website at Michigan.gov/CWSRF or Michigan.gov/DWSRF or call 517-284-5433.

Please submit this form by email to EGLE-WIFS@Michigan.gov.

For information or assistance on this publication, please contact the (program), through EGLE Environmental Assistance Center at 800-662-9278. This publication is available in alternative formats upon request.

EGLE does not discriminate on the basis of race, sex, religion, age, national origin, color, marital status, disability, political beliefs, height, weight, genetic information, or sexual orientation in the administration of any of its programs or activities, and prohibits intimidation and retaliation, as required by applicable laws and regulations.

This form and its contents are subject to the Freedom of Information Act and may be released to the public.



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White Lake Township
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APPENDIX II
WHITE LAKE TOWNSHIP SEMCOG COMMUNITY PROFILE

DRAFT

Community Profiles

YOU ARE VIEWING DATA FOR:

White Lake Township

7525 Highland Rd
White Lake, MI 48383-
2938



Census 2020 Population:
30,950
Area: 37.1 square miles

<http://www.whitelaketwp.com/>

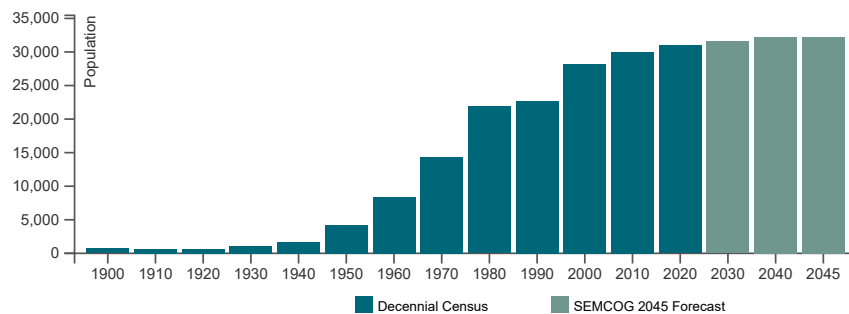
[VIEW COMMUNITY EXPLORER MAP](#)

[VIEW 2020 CENSUS MAP](#)

Population and Households

Link to American Community Survey (ACS) Profiles: **Select a Year** **Social | Demographic**
Population and Household Estimates for Southeast Michigan, 2021

Population Forecast



Population and Households

Section 9, Item B.

Population and Households	Census 2020	Census 2010	Change 2010-2020	Pct Change 2010-2020	SEMCOG Jul 2021	SEMCOG 2045
Total Population	30,950	30,019	931	3.1%	31,168	32,194
Group Quarters Population	88	76	12	15.8%	88	179
Household Population	30,862	29,943	919	3.1%	31,080	32,015
Housing Units	12,776	12,214	562	4.6%	12,845	-
Households (Occupied Units)	12,089	11,262	827	7.3%	12,236	13,570
Residential Vacancy Rate	5.4%	7.8%	-2.4%	-	4.7%	-
Average Household Size	2.55	2.66	-0.11	-	2.54	2.36

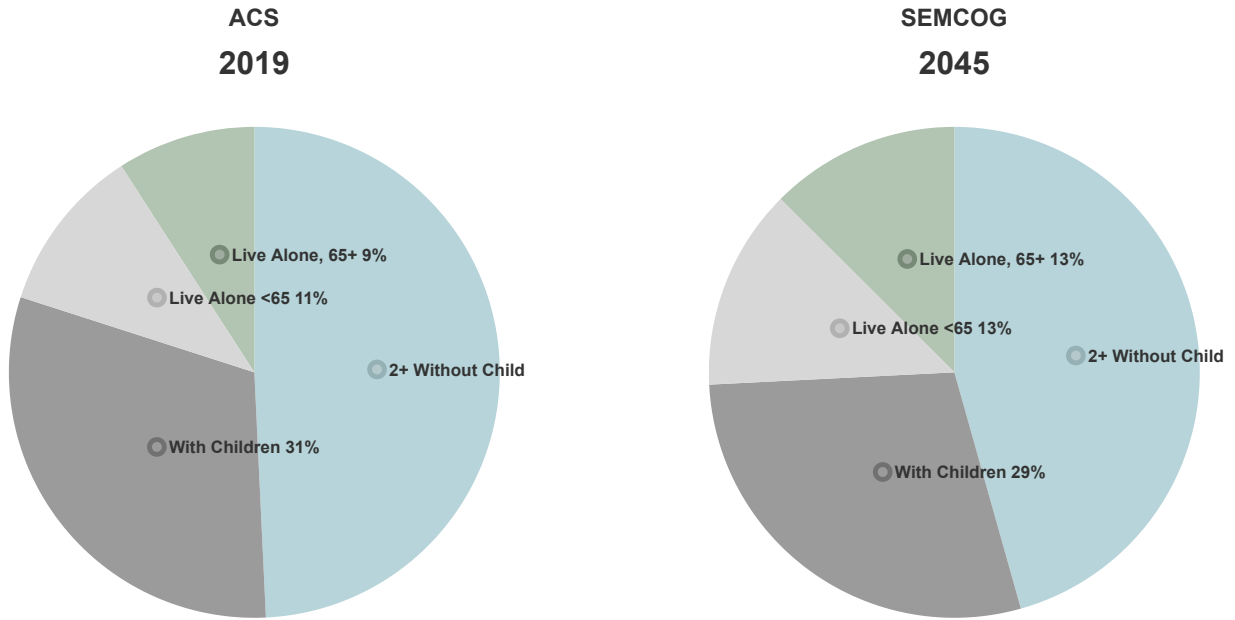
Source: U.S. Census Bureau and SEMCOG 2045 Regional Development Forecast

Components of Population Change

Components of Population Change	2000-2005 Avg.	2006-2010 Avg.	2011-2018 Avg.
Natural Increase (Births - Deaths)	218	89	22
Births	424	309	284
Deaths	206	220	262
Net Migration (Movement In - Movement Out)	112	-59	58
Population Change (Natural Increase + Net Migration)	330	30	80

Source: Michigan Department of Community Health Vital Statistics, U.S. Census Bureau, and SEMCOG

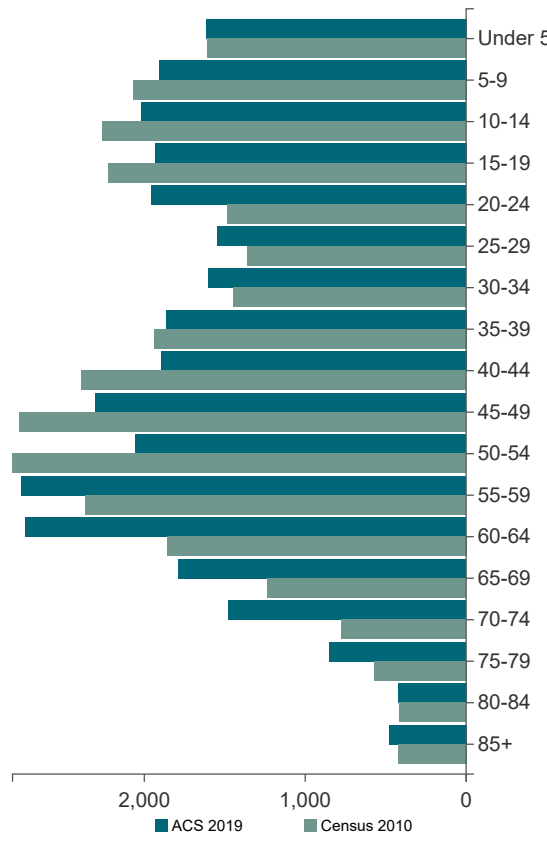
Household Types



Household Types	Census 2010	ACS 2019	Change 2010-2019	Pct Change 2010-2019	SEMCOG 2045
With Seniors 65+	2,520	3,509	989	39.2%	5,835
Without Seniors	8,742	8,160	-582	-6.7%	7,735
Live Alone, 65+	882	1,064	182	20.6%	1,699
Live Alone, <65	1,406	1,275	-131	-9.3%	1,802
2+ Persons, With children	4,009	3,583	-426	-10.6%	3,877
2+ Persons, Without children	4,965	5,747	782	15.8%	6,192
Total Households	11,262	11,669	407	3.6%	13,570

Source: U.S. Census Bureau, Decennial Census, 2015-2019 American Community Survey 5-Year Estimates, and SEMCOG 2045 Regional Development Forecast

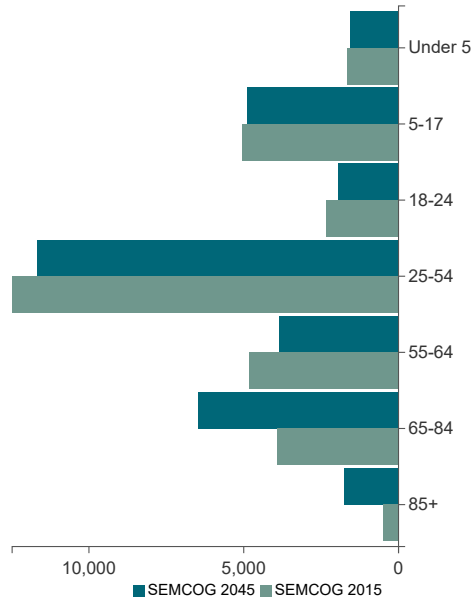
Population Change by Age, 2010-2019



Age Group	Census 2010	Change 2000-2010	ACS 2019	Change 2010-2019
Under 5	1,607	-414	1,616	9
5-9	2,071	-234	1,908	-163
10-14	2,260	54	2,018	-242
15-19	2,224	261	1,933	-291
20-24	1,482	258	1,954	472
25-29	1,358	-170	1,543	185
30-34	1,446	-681	1,601	155
35-39	1,940	-772	1,865	-75
40-44	2,389	-512	1,896	-493
45-49	2,777	272	2,305	-472
50-54	2,819	725	2,054	-765
55-59	2,365	895	2,763	398
60-64	1,859	904	2,739	880
65-69	1,236	484	1,787	551
70-74	776	185	1,475	699
75-79	573	139	849	276
80-84	413	173	423	10
85+	424	233	479	55
Total	30,019	1,800	31,208	1,189
Median Age	41.3	4.9	42.8	1.5

Source: U.S. Census Bureau, Decennial Census, and 2015-2019 American Community Survey 5-Year Estimates

Forecasted Population Change 2015-2045



Age Group	2015	2020	2025	2030	2035	2040	2045	Change 2015 - 2045	Pct Change 2015 - 2045
Under 5	1,670	1,624	1,604	1,686	1,640	1,579	1,571	-99	-5.9%
5-17	5,065	4,706	4,505	4,598	4,649	4,801	4,884	-181	-3.6%
18-24	2,344	2,505	2,072	1,883	1,815	1,907	1,952	-392	-16.7%
25-54	12,481	11,429	11,043	11,573	11,659	11,622	11,682	-799	-6.4%
55-64	4,814	4,826	4,520	4,219	3,871	3,716	3,859	-955	-19.8%
65-84	3,924	4,884	5,826	6,845	7,138	7,067	6,478	2,554	65.1%
85+	488	460	554	774	1,148	1,544	1,768	1,280	262.3%
Total	30,786	30,434	30,124	31,578	31,920	32,236	32,194	1,408	4.6%

Source: SEMCOG 2045 Regional Development Forecast

Older Adults and Youth Populations

Older Adults and Youth Population	Census 2010	ACS 2019	Change 2010-2019	Pct Change 2010-2019	SEMCOG 2045
60 and over	5,281	7,752	2,471	46.8%	10,175
65 and over	3,422	5,013	1,591	46.5%	8,246
65 to 84	2,998	4,534	1,536	51.2%	6,478
85 and Over	424	479	55	13%	1,768
Under 18	7,398	6,720	-678	-9.2%	6,455
5 to 17	5,791	5,104	-687	-11.9%	4,884
Under 5	1,607	1,616	9	0.6%	1,571

Note: Population by age changes over time because of the aging of people into older age groups, the movement of people, and the occurrence of births and deaths.

Source: U.S. Census Bureau, Decennial Census, 2015-2019 American Community Survey 5-Year Estimates, and SEMCOG 2045 Regional Development Forecast

Race and Hispanic Origin

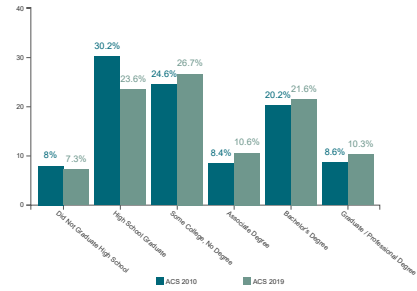
Race and Hispanic Origin	Census 2010	Percent of Population 2010	Census 2020	Percent of Population 2020	Percentage Point Change 2010-2020
Non-Hispanic	29,120	97%	29,839	96.4%	-0.6%
White	28,000	93.3%	27,391	88.5%	-4.8%
Black	321	1.1%	496	1.6%	0.5%
Asian	271	0.9%	367	1.2%	0.3%
Multi-Racial	398	1.3%	1,405	4.5%	3.2%
Other	130	0.4%	180	0.6%	0.1%
Hispanic	899	3%	1,111	3.6%	0.6%
Total	30,019	100%	30,950	100%	0%

Source: U.S. Census Bureau Decennial Census

Highest Level of Education

Highest Level of Education*	ACS 2010	ACS 2019	Percentage Point Chg 2010-2019
Did Not Graduate High School	8%	7.3%	-0.7%
High School Graduate	30.2%	23.6%	-6.6%
Some College, No Degree	24.6%	26.7%	2.1%
Associate Degree	8.4%	10.6%	2.2%
Bachelor's Degree	20.2%	21.6%	1.3%
Graduate / Professional Degree	8.6%	10.3%	1.7%

* Population age 25 and over

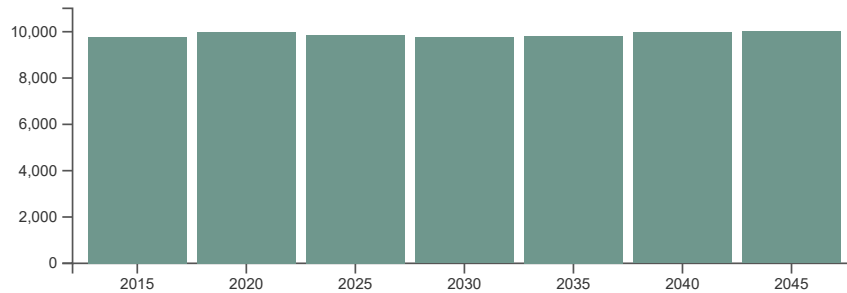


Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Economy & Jobs

Link to American Community Survey (ACS) Profiles: **Select a Year** **Economic**

Forecasted Jobs



Source: SEMCOG 2045 Regional Development Forecast

Forecasted Jobs by Industry Sector

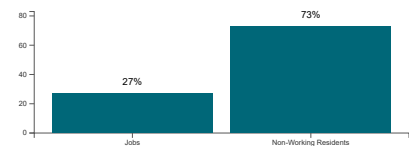
Section 9, Item B.

Forecasted Jobs By Industry Sector	2015	2020	2025	2030	2035	2040	2045	Change 2015-2045	Pct Change 2015-2045
Natural Resources, Mining, & Construction	916	1,060	1,011	994	1,007	1,022	1,035	119	13%
Manufacturing	228	218	206	191	181	173	164	-64	-28.1%
Wholesale Trade	257	262	262	259	259	259	257	0	0%
Retail Trade	2,198	2,109	2,008	1,936	1,858	1,857	1,805	-393	-17.9%
Transportation, Warehousing, & Utilities	219	225	225	226	227	233	236	17	7.8%
Information & Financial Activities	1,435	1,470	1,449	1,428	1,439	1,448	1,446	11	0.8%
Professional and Technical Services & Corporate HQ	621	606	606	631	668	720	746	125	20.1%
Administrative, Support, & Waste Services	1,210	1,245	1,261	1,268	1,295	1,324	1,342	132	10.9%
Education Services	805	841	841	831	837	841	849	44	5.5%
Healthcare Services	293	323	359	368	398	434	462	169	57.7%
Leisure & Hospitality	935	955	969	968	993	1,000	1,025	90	9.6%
Other Services	520	529	516	507	505	502	495	-25	-4.8%
Public Administration	148	150	150	148	147	147	147	-1	-0.7%
Total Employment Numbers	9,785	9,993	9,863	9,755	9,814	9,960	10,009	224	2.3%

Source: SEMCOG 2045 Regional Development Forecast

Daytime Population

Daytime Population	ACS 2016
Jobs	5,496
Non-Working Residents	14,870
Age 15 and under	6,198
Not in labor force	7,856
Unemployed	816
Daytime Population	20,366



Source: 2012-2016 American Community Survey 5-Year Estimates and 2012-2016 Census Transportation Planning Products Program (CTPP). For additional information, visit SEMCOG's [Interactive Commuting Patterns Map](#)

Note: The number of residents attending school outside Southeast Michigan is not available. Likewise, the number of students commuting into Southeast Michigan to attend school is also not known.

Where Workers Commute From 2016

Section 9, Item B.

Rank	Where Workers Commute From *	Workers	Percent
1	White Lake Twp	2,261	41.1%
2	Waterford Twp	763	13.9%
3	Highland Twp	383	7%
4	Commerce Twp	236	4.3%
5	Independence Twp	182	3.3%
6	Out of the Region, Instate	140	2.5%
7	West Bloomfield Twp	134	2.4%
8	Hartland Twp	91	1.7%
9	Pontiac	85	1.5%
10	Van Buren Twp	77	1.4%
-	Elsewhere	1,144	20.8%
* Workers, age 16 and over employed in White Lake Twp		5,496	100%

Source: U.S. Census Bureau - 2012-2016 CTPP/ACS Commuting Data and **Commuting Patterns in Southeast Michigan**

Where Residents Work 2016

Rank	Where Residents Work *	Workers	Percent
1	White Lake Twp	2,261	15%
2	Waterford Twp	1,060	7%
3	Commerce Twp	973	6.4%
4	Farmington Hills	762	5%
5	Auburn Hills	706	4.7%
6	Troy	703	4.7%
7	Pontiac	652	4.3%
8	Southfield	551	3.6%
9	West Bloomfield Twp	497	3.3%
10	Novi	493	3.3%
-	Elsewhere	6,444	42.7%
* Workers, age 16 and over residing in White Lake Twp		15,102	100%

Source: U.S. Census Bureau - 2012-2016 CTPP/ACS Commuting Data and **Commuting Patterns in Southeast Michigan**

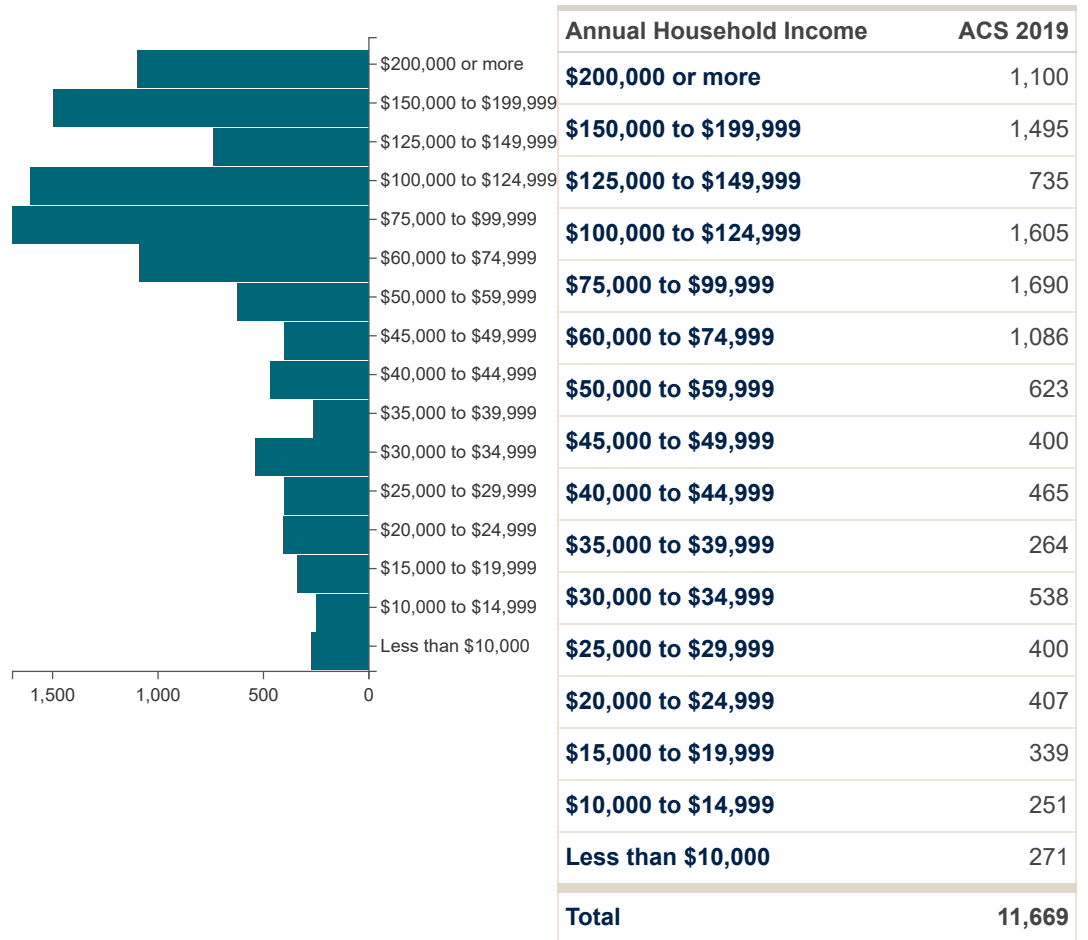
Household Income

Section 9, Item B.

Income (in 2019 dollars)	ACS 2010	ACS 2019	Change 2010-2019	Percent Change 2010-2019
Median Household Income	\$82,639	\$85,384	\$2,745	3.3%
Per Capita Income	\$35,936	\$38,467	\$2,531	7%

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Annual Household Income



Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Poverty

Poverty	ACS 2010	% of Total (2010)	ACS 2019	% of Total (2019)	% Point Chg 2010-2019
Persons in Poverty	1,896	6.4%	1,992	6.4%	0%
Households in Poverty	736	6.5%	720	6.2%	-0.4%

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Housing

Link to American Community Survey (ACS) Profiles: **Select a Year** **Housing**

Building Permits 2000 - 2021

Year	Single Family	Two Family	Attach Condo	Multi Family	Total Units	Total Demos	Net Total
2000	161	0	0	0	161	8	153
2001	158	0	0	0	158	7	151
2002	127	0	15	0	142	7	135
2003	175	0	65	0	240	13	227
2004	201	0	104	0	305	7	298
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2016	61	0	0	0	61	1	60
2017	66	0	0	66	132	3	129
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2021	88	0	20	0	108	11	97
2000 to 2021 totals	1,681	0	280	231	2,192	166	2,026

Source: **SEMCOG Development**

Note: Permit data for most recent years may be incomplete and is updated monthly.

Housing Types

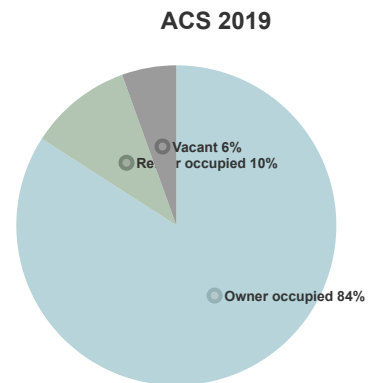
Section 9, Item B.

Housing Type	ACS 2010	ACS 2019	Change 2010-2019	New Units Permitted Since 2018
Single Unit	9,545	9,973	428	223
Multi-Unit	967	929	-38	202
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Total	12,045	12,349	304	425
Units Demolished				-27
Net (Total Permitted Units - Units Demolished)				398

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates, SEMCOG Development

Housing Tenure

Housing Tenure	Census 2010	ACS 2019	Change 2010-2019
Owner occupied	9,868	10,386	518
Renter occupied	1,394	1,283	-111
Vacant	952	680	-272
Seasonal/migrant	268	196	-72
Other vacant units	684	484	-200
Total Housing Units	12,214	12,349	135



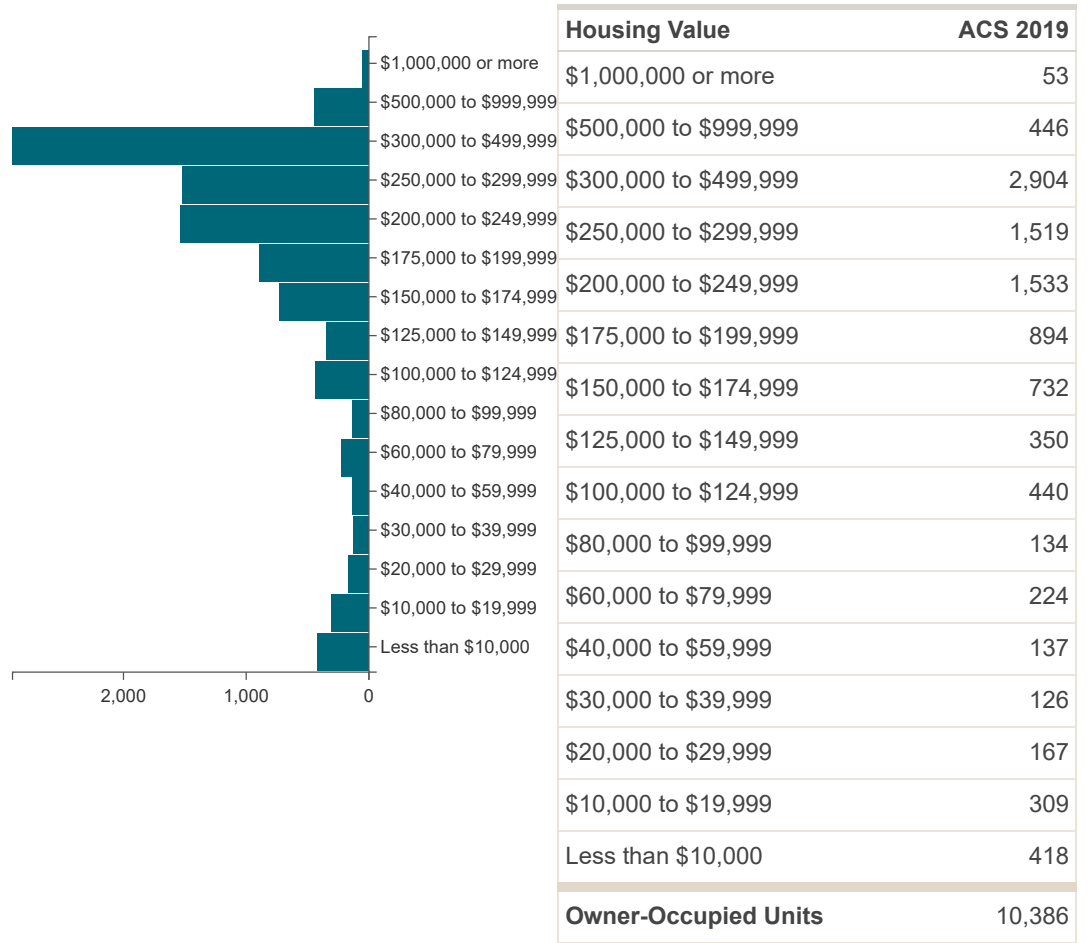
Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Housing Value and Rent

Housing Value (in 2019 dollars)	ACS 2010	ACS 2019	Change 2010-2019	Percent Change 2010-2019
Median housing value	\$259,119	\$241,200	-\$17,919	-6.9%
Median gross rent	\$1,087	\$1,126	\$39	3.6%

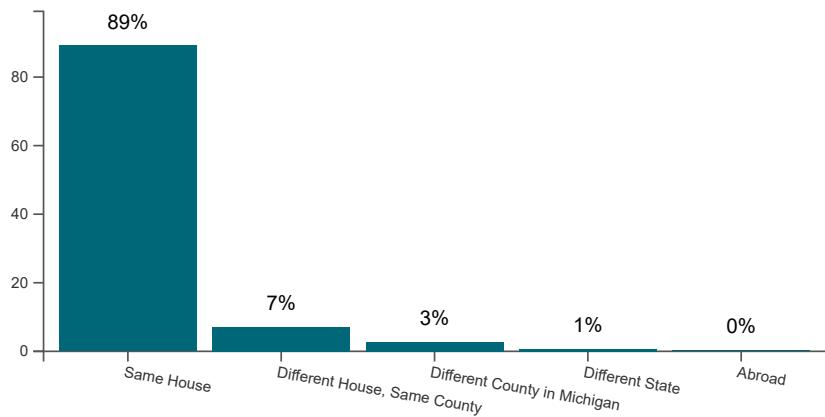
Source: U.S. Census Bureau, Census 2000, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Housing Value



Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Residence One Year Ago *



* This table represents persons, age 1 and over, living in White Lake Township from 2015-2019. The table does not represent person who moved out of White Lake Township from 2015-2019.

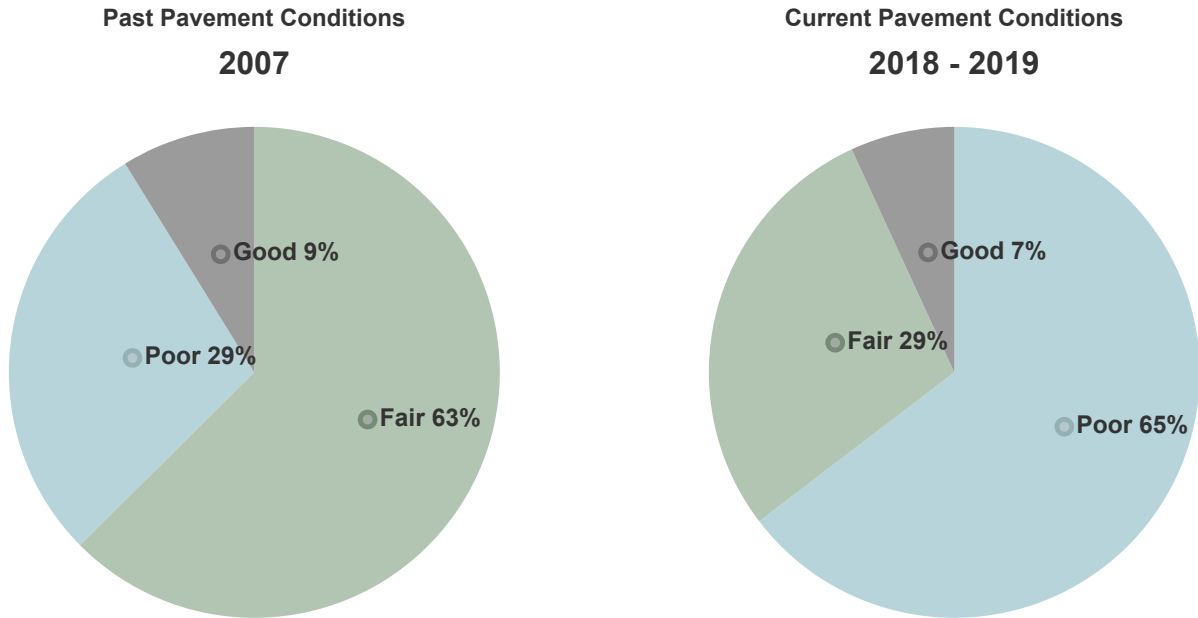
Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Transportation

Miles of public road (including boundary roads): 157

Source: Michigan Geographic Framework

Pavement Condition (in Lane Miles)



Note: Poor pavements are generally in need of rehabilitation or full reconstruction to return to good condition. Fair pavements are in need of capital preventive maintenance to avoid deteriorating to the poor classification. Good pavements generally receive only routine maintenance, such as street sweeping and snow removal, until they deteriorate to the fair condition.

Source: SEMCOG

Bridge Status

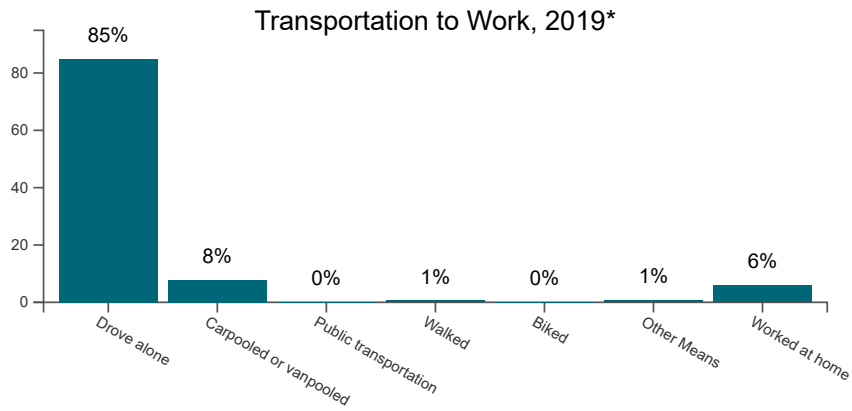
Bridge Status	2008	2008 (%)	2009	2009 (%)	2010	2010 (%)	Percent Point Chg 2008-2010
Open	3	100%	1	33.3%	6	100%	0%
Open with Restrictions	0	0%	2	66.7%	0	0%	0%
Closed*	0	0%	0	0%	0	0%	0%
Total Bridges	3	100.0%	3	100.0%	6	100.0%	0.0%
Deficient Bridges	0	0%	2	66.7%	0	0%	0%

* Bridges may be closed because of new construction or failed condition.

Note: A bridge is considered deficient if it is structurally deficient (in poor shape and unable to carry the load for which it was designed) or functionally obsolete (in good physical condition but unable to support current or future demands, for example, being too narrow to accommodate truck traffic).

Source: Michigan Structure Inventory and Appraisal Database

Detailed Intersection & Road Data



* Resident workers age 16 and over

Transportation to Work

Transportation to Work	ACS 2010	% of Total (ACS 2010)	ACS 2019	% of Total (ACS 2019)	% Point Chg 2010-2019
Drove alone	12,417	87%	13,325	84.9%	-2.1%
Carpooled or vanpooled	981	6.9%	1,233	7.9%	1%
Public transportation	18	0.1%	6	0%	-0.1%
Walked	133	0.9%	97	0.6%	-0.3%
Biked	49	0.3%	9	0.1%	-0.2%
Other Means	70	0.5%	106	0.7%	0.2%
Worked at home	603	4.2%	922	5.9%	1.7%
Resident workers age 16 and over	14,271	100.0%	15,698	100.0%	0.0%

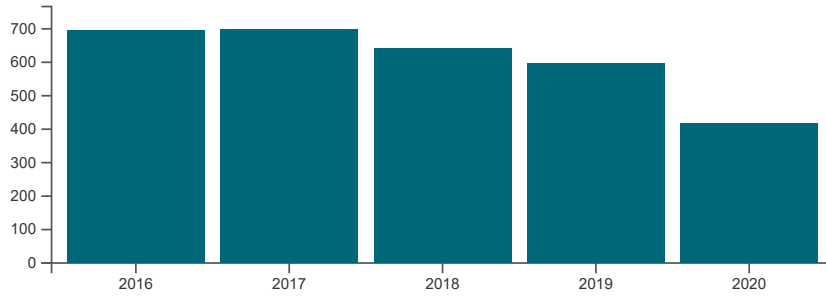
Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Mean Travel Time to Work

Mean Travel Time To Work	ACS 2010	ACS 2019	Change 2010-2019
For residents age 16 and over who worked outside the home	32.1 minutes	30.3 minutes	-1.8 minutes

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Crashes, 2016-2020



Source: Michigan Department of State Police with the Criminal Justice Information Center and SEMCOG

Note: Crash data shown is for the entire city.

Crash Severity

Crash Severity	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Fatal</u>	4	4	4	2	3	0.6%
<u>Serious Injury</u>	12	12	8	10	8	1.6%
<u>Other Injury</u>	148	132	151	95	67	19.5%
<u>Property Damage Only</u>	532	549	478	490	339	78.3%
<u>Total Crashes</u>	696	697	641	597	417	100%

Crashes by Type

Crashes by Type	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Head-on</u>	16	9	11	8	9	1.7%
<u>Angle or Head-on/Left-turn</u>	141	141	124	100	82	19.3%
<u>Rear-End</u>	255	242	219	201	118	34%
<u>Sideswipe</u>	94	82	86	87	66	13.6%
<u>Single Vehicle</u>	171	193	167	176	124	27.3%
<u>Backing</u>	3	11	17	9	9	1.6%
<u>Other or Unknown</u>	16	19	17	16	9	2.5%

Crashes by Involvement

Section 9, Item B.

Crashes by Involvement	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Red-light Running</u>	16	11	11	8	13	1.9%
<u>Lane Departure</u>	118	122	115	109	74	17.7%
<u>Alcohol</u>	30	24	30	22	16	4%
<u>Drugs</u>	12	9	6	4	6	1.2%
<u>Deer</u>	71	71	63	78	56	11.1%
<u>Train</u>	0	0	0	0	0	0%
<u>Commercial Truck/Bus</u>	15	22	25	15	8	2.8%
<u>School Bus</u>	2	4	3	4	1	0.5%
<u>Emergency Vehicle</u>	3	10	4	2	1	0.7%
<u>Motorcycle</u>	9	14	13	6	7	1.6%
<u>Intersection</u>	277	265	237	217	160	37.9%
<u>Work Zone</u>	5	5	13	4	1	0.9%
<u>Pedestrian</u>	3	3	2	1	6	0.5%
<u>Bicyclist</u>	2	6	1	3	0	0.4%
<u>Distracted Driver</u>	16	53	56	72	48	8%
<u>Older Driver (65 and older)</u>	116	125	127	105	81	18.2%
<u>Young Driver (16 to 24)</u>	295	277	240	191	140	37.5%
<u>Secondary</u>	0	0	0	0	0	0%

High Frequency Intersection Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Intersection	Annual Avg 2016-2020
1	72	196	<u>Highland Rd @ Teggerdine Rd</u>	26.4
2	134	363	<u>Cooley Lake Rd @ Williams Lake Rd S</u>	20.8
3	149	422	<u>Highland Rd @ Fisk Rd</u>	19.2
4	158	441	<u>Highland Rd @ Ormond Rd</u>	18.8
5	197	593	<u>Highland Rd @ Pontiac Lake Rd</u>	16.4
6	404	1,218	<u>Highland Rd @ Bogie Lake Rd</u>	11.4
7	422	1,272	<u>Highland Rd @ Elizabeth Lake Rd</u>	11
8	448	1,343	<u>Highland Rd @ Bogie Lake Rd</u>	10.6
9	561	1,755	<u>Williams Lake Rd N @ Elizabeth Lake Rd</u>	9
10	705	2,235	<u>Williams Lake Rd N @ Pontiac Lake Rd</u>	7.6

Note: Intersections are ranked by the number of reported crashes, which does not take into account traffic volume. Crashes reported occurred within 150 feet of the intersection.

Source: **Michigan Department of State Police with the Criminal Justice Information Center** and **SEMCOG**

High Frequency Road Segment Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Segment	From Road - To Road	Annual Avg 2016-2020
1	2	7	<u>Highland Rd</u>	Teggerdine Rd - Pontiac Lake Rd	92.2
2	60	161	<u>Highland Rd</u>	Highland Rd - Elizabeth Lake Rd	45.2
3	181	482	<u>Williams Lake Rd</u> <u>S</u>	Cooley Lake Rd - Elizabeth Lake Rd	30
4	256	679	<u>Highland Rd</u>	Elizabeth Lake Rd - Teggerdine Rd	26
5	295	774	<u>Highland Rd</u>	Pontiac Lake Rd - Williams Lake Rd N	24.4
6	306	796	<u>Ormond Rd</u>	Highland Rd - Jackson Blvd	24.2
7	484	1,267	<u>Highland Rd</u>	Highland Rd - Bogie Lake Rd	19
8	498	1,300	<u>Bogie Lake Rd</u>	Bogie Lake Rd - Highland Rd	18.8
9	507	1,325	<u>Highland Rd</u>	Highland Rd - Ormond Rd	18.6
10	528	1,384	<u>White Lake Rd</u>	Ormond Rd - Teggerdine Rd	18.2

Note: Segments are ranked by the number of reported crashes, which does not take into account traffic volume.

Environment

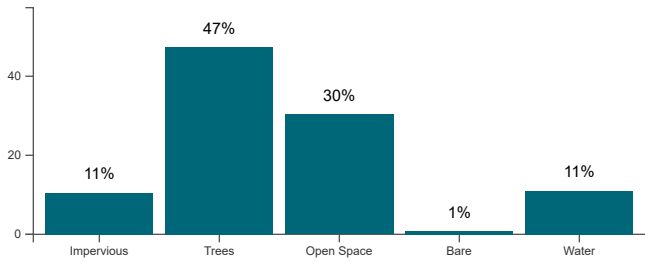
Parcel Land Use	Acres 2015	Acres 2020	Change 2015-2020	Pct Change 2015-2020
Single-Family Residential	5,298.6	5,441.7	143.1	2.7%
Attached Condo Housing	81.1	90.2	9.2	11.3%
Multi-Family Housing	53.7	88.6	34.8	64.8%
Mobile Home	348.6	348.6	0	0%
Agricultural/Rural Residential	4,041.3	4,164.1	122.8	3%
Mixed Use	2.7	4.9	2.2	81.7%
Retail	303.3	290.9	-12.4	-4.1%
Office	60.4	51.5	-8.9	-14.7%
Hospitality	56.7	53	-3.7	-6.6%
Medical	16.3	16.3	0	0%
Institutional	312.6	313.4	0.8	0.2%
Industrial	46.1	41.6	-4.5	-9.7%
Recreational/Open Space	5,658.1	5,667.8	9.7	0.2%
Cemetery	10.5	10.5	0	0%
Golf Course	150.6	150.6	0	0%
Parking	3.9	3.9	0	0%
Extractive	0	0	0	0%
TCU	224.9	224.9	0	0%
Vacant	3,101.3	2,871.2	-230.2	-7.4%
Water	2,379.1	2,379.1	0	0%
Not Parceled	1,565.1	1,502.2	-62.9	-4%
Total	23,715	23,715	0	0%

1. **Agricultural / Rural Res** includes any residential parcel containing 1 or more homes where the parcel is 3 acres or larger.
2. **Mixed Use** includes those parcels containing buildings with Hospitality, Retail, or Office square footage and housing units.
3. **Not Parceled** includes all areas within a community that are not covered by a parcel legal description.
4. Parcels that do not have a structure assigned to the parcel are considered vacant unless otherwise indicated, even if the parcel is part of a larger development such as a factory, school, or other developed series of lots.

Note: Land Cover was derived from SEMCOG's 2010 Leaf off Imagery.

Source: **SEMCOG**

SEMCOG Land Cover in 2010



Type	Description	Acres	Percent
Impervious	buildings, roads, driveways, parking lots	2,494.2	10.5%
Trees	woody vegetation, trees	11,235.2	47.3%
Open Space	agricultural fields, grasslands, turfgrass	7,190.7	30.3%
Bare	soil, aggregate piles, unplanted fields	190.4	0.8%
Water	rivers, lakes, drains, ponds	2,617.8	11%
Total Acres		23,728.2	

Community Profiles

YOU ARE VIEWING DATA FOR:

White Lake Township

7525 Highland Rd
White Lake, MI 48383-
2938



Census 2020 Population:
30,950
Area: 37.1 square miles

<http://www.whitelaketwp.com/>

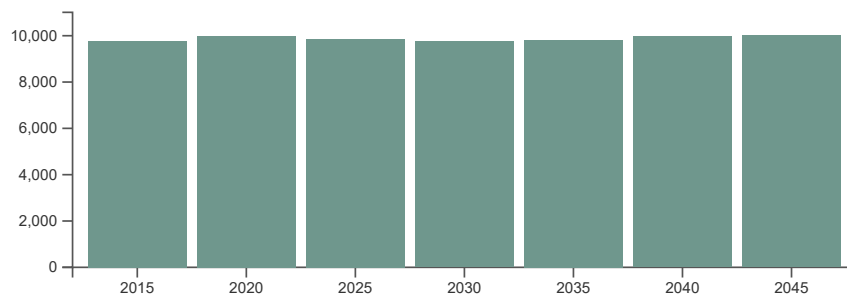
[VIEW COMMUNITY EXPLORER MAP](#)

[VIEW 2020 CENSUS MAP](#)

Economy & Jobs

Link to American Community Survey (ACS) Profiles: **Select a Year** **Economic**

Forecasted Jobs



Source: SEMCOG 2045 Regional Development Forecast

Forecasted Jobs by Industry Sector

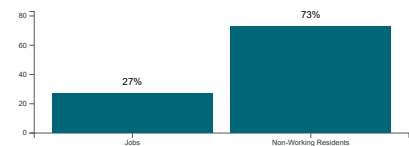
Section 9, Item B.

Forecasted Jobs By Industry Sector	2015	2020	2025	2030	2035	2040	2045	Change 2015-2045	Pct Change 2015-2045
Natural Resources, Mining, & Construction	916	1,060	1,011	994	1,007	1,022	1,035	119	13%
Manufacturing	228	218	206	191	181	173	164	-64	-28.1%
Wholesale Trade	257	262	262	259	259	259	257	0	0%
Retail Trade	2,198	2,109	2,008	1,936	1,858	1,857	1,805	-393	-17.9%
Transportation, Warehousing, & Utilities	219	225	225	226	227	233	236	17	7.8%
Information & Financial Activities	1,435	1,470	1,449	1,428	1,439	1,448	1,446	11	0.8%
Professional and Technical Services & Corporate HQ	621	606	606	631	668	720	746	125	20.1%
Administrative, Support, & Waste Services	1,210	1,245	1,261	1,268	1,295	1,324	1,342	132	10.9%
Education Services	805	841	841	831	837	841	849	44	5.5%
Healthcare Services	293	323	359	368	398	434	462	169	57.7%
Leisure & Hospitality	935	955	969	968	993	1,000	1,025	90	9.6%
Other Services	520	529	516	507	505	502	495	-25	-4.8%
Public Administration	148	150	150	148	147	147	147	-1	-0.7%
Total Employment Numbers	9,785	9,993	9,863	9,755	9,814	9,960	10,009	224	2.3%

Source: SEMCOG 2045 Regional Development Forecast

Daytime Population

Daytime Population	ACS 2016
Jobs	5,496
Non-Working Residents	14,870
Age 15 and under	6,198
Not in labor force	7,856
Unemployed	816
Daytime Population	20,366



Source: 2012-2016 American Community Survey 5-Year Estimates and 2012-2016 Census Transportation Planning Products Program (CTPP). For additional information, visit SEMCOG's [Interactive Commuting Patterns Map](#)

Note: The number of residents attending school outside Southeast Michigan is not available. Likewise, the number of students commuting into Southeast Michigan to attend school is also not known.

Where Workers Commute From 2016

Section 9, Item B.

Rank	Where Workers Commute From *	Workers	Percent
1	White Lake Twp	2,261	41.1%
2	Waterford Twp	763	13.9%
3	Highland Twp	383	7%
4	Commerce Twp	236	4.3%
5	Independence Twp	182	3.3%
6	Out of the Region, Instate	140	2.5%
7	West Bloomfield Twp	134	2.4%
8	Hartland Twp	91	1.7%
9	Pontiac	85	1.5%
10	Van Buren Twp	77	1.4%
-	Elsewhere	1,144	20.8%
* Workers, age 16 and over employed in White Lake Twp		5,496	100%

Source: **U.S. Census Bureau** - 2012-2016 CTPP/ACS Commuting Data and **Commuting Patterns in Southeast Michigan**

Where Residents Work 2016

Rank	Where Residents Work *	Workers	Percent
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7	Pontiac	652	4.3%
8	Southfield	551	3.6%
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10	Novi	493	3.3%
-	Elsewhere	6,444	42.7%
* Workers, age 16 and over residing in White Lake Twp		15,102	100%

Source: **U.S. Census Bureau** - 2012-2016 CTPP/ACS Commuting Data and **Commuting Patterns in Southeast Michigan**

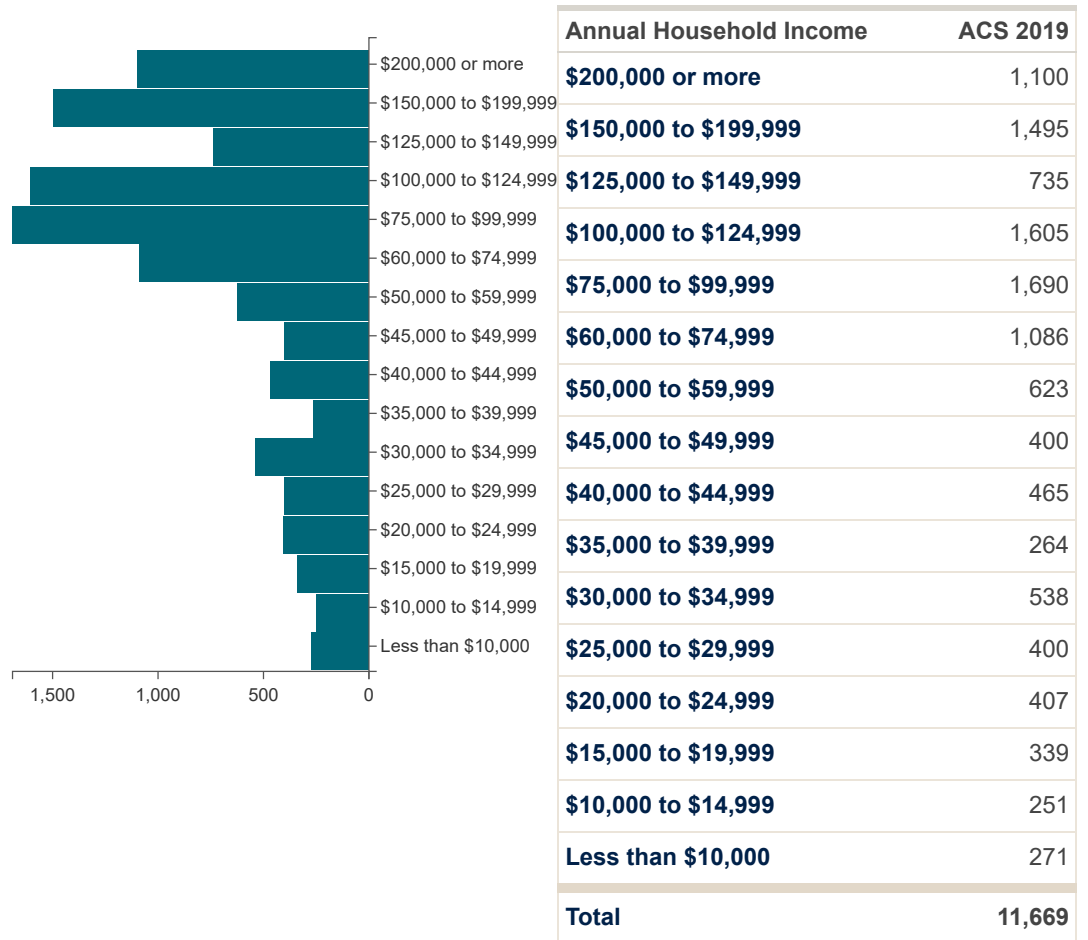
Household Income

Section 9, Item B.

Income (in 2019 dollars)	ACS 2010	ACS 2019	Change 2010-2019	Percent Change 2010-2019
Median Household Income	\$82,639	\$85,384	\$2,745	3.3%
Per Capita Income	\$35,936	\$38,467	\$2,531	7%

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Annual Household Income



Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Poverty

Poverty	ACS 2010	% of Total (2010)	ACS 2019	% of Total (2019)	% Point Chg 2010-2019
Persons in Poverty	1,896	6.4%	1,992	6.4%	0%
Households in Poverty	736	6.5%	720	6.2%	-0.4%

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Housing

Link to American Community Survey (ACS) Profiles: **Select a Year** 2015-2019 **Housing**

Building Permits 2000 - 2021

Year	Single Family	Two Family	Attach Condo	Multi Family	Total Units	Total Demos	Net Total
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2008	7	0	0	0	7	0	7
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2011	28	0	0	0	28	6	22
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2013	43	0	0	0	43	10	33
2014	47	0	0	0	47	8	39
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Source: **SEMCOG Development**

Note: Permit data for most recent years may be incomplete and is updated monthly.

Housing Types

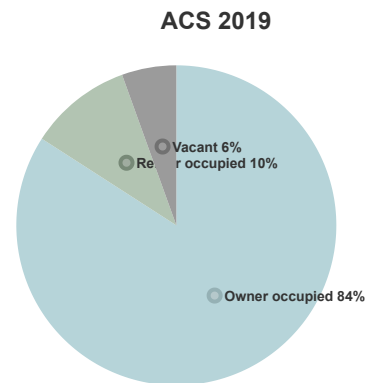
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Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates, SEMCOG Development

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Total Housing Units	12,214	12,349	135



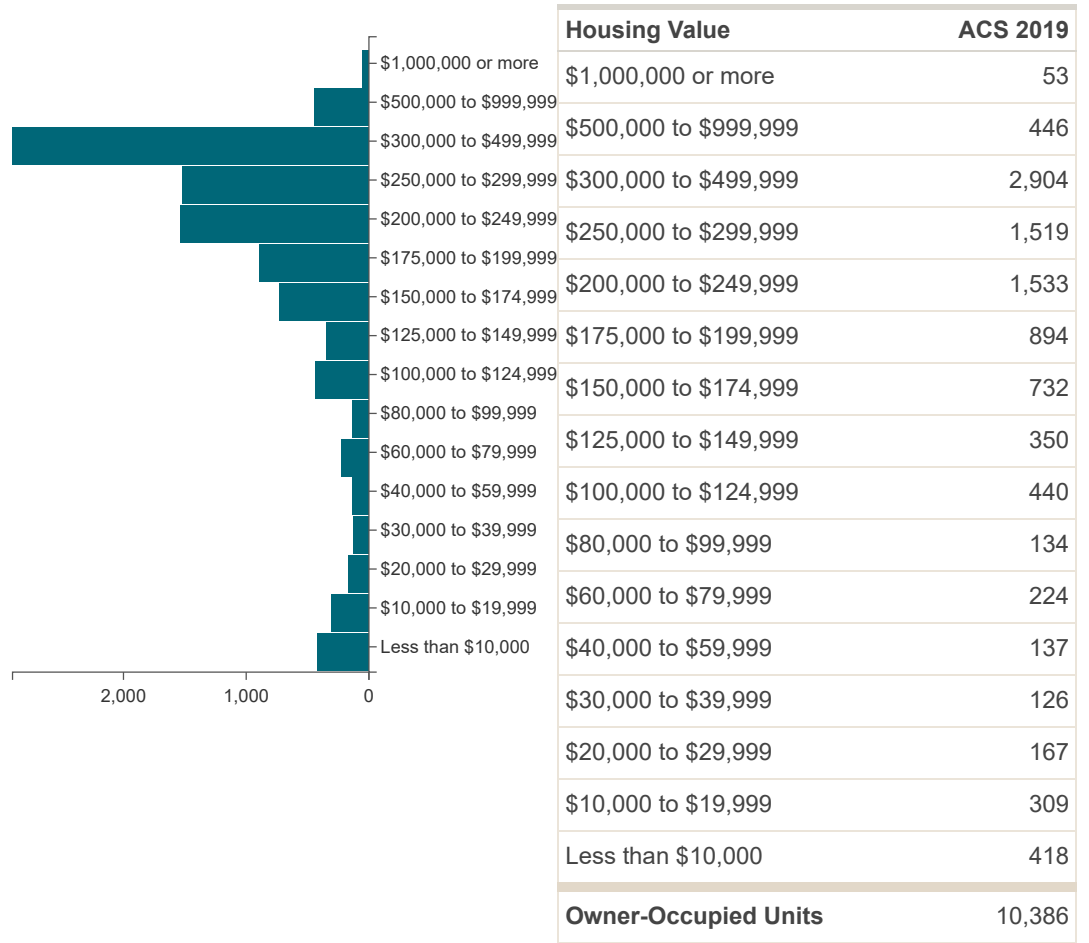
Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Housing Value and Rent

Housing Value (in 2019 dollars)	ACS 2010	ACS 2019	Change 2010-2019	Percent Change 2010-2019
Median housing value	\$259,119	\$241,200	-\$17,919	-6.9%
Median gross rent	\$1,087	\$1,126	\$39	3.6%

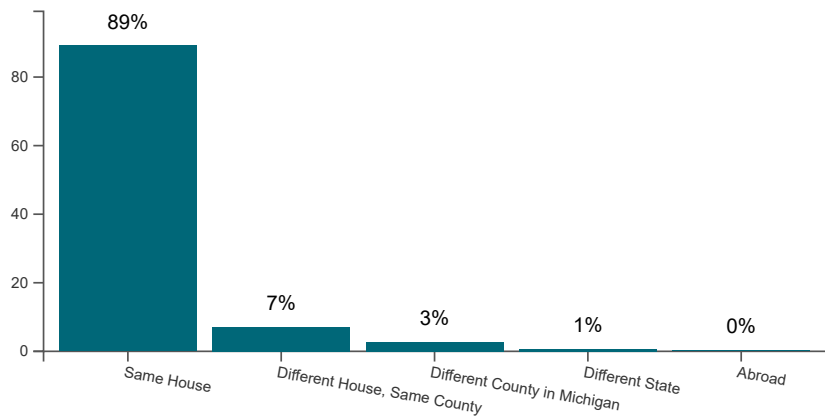
Source: U.S. Census Bureau, Census 2000, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Housing Value



Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Residence One Year Ago *



* This table represents persons, age 1 and over, living in White Lake Township from 2015-2019. The table does not represent person who moved out of White Lake Township from 2015-2019.

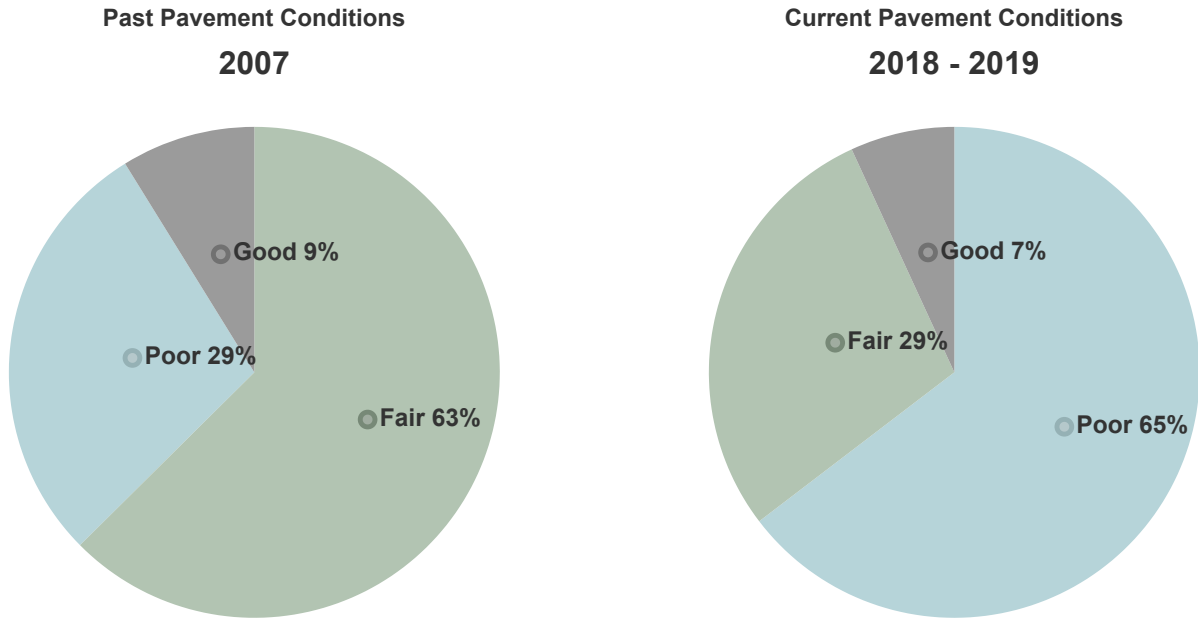
Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Transportation

Miles of public road (including boundary roads): 157

Source: Michigan Geographic Framework

Pavement Condition (in Lane Miles)



Note: Poor pavements are generally in need of rehabilitation or full reconstruction to return to good condition. Fair pavements are in need of capital preventive maintenance to avoid deteriorating to the poor classification. Good pavements generally receive only routine maintenance, such as street sweeping and snow removal, until they deteriorate to the fair condition.

Source: SEMCOG

Bridge Status

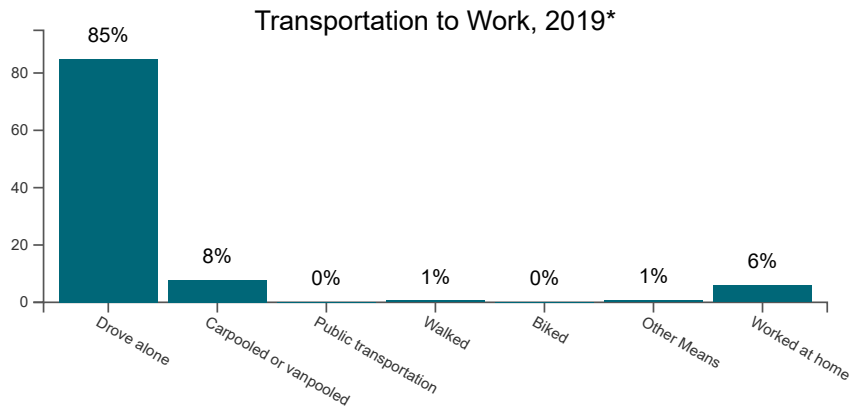
Bridge Status	2008	2008 (%)	2009	2009 (%)	2010	2010 (%)	Percent Point Chg 2008-2010
Open	3	100%	1	33.3%	6	100%	0%
Open with Restrictions	0	0%	2	66.7%	0	0%	0%
Closed*	0	0%	0	0%	0	0%	0%
Total Bridges	3	100.0%	3	100.0%	6	100.0%	0.0%
Deficient Bridges	0	0%	2	66.7%	0	0%	0%

* Bridges may be closed because of new construction or failed condition.

Note: A bridge is considered deficient if it is structurally deficient (in poor shape and unable to carry the load for which it was designed) or functionally obsolete (in good physical condition but unable to support current or future demands, for example, being too narrow to accommodate truck traffic).

Source: Michigan Structure Inventory and Appraisal Database

Detailed Intersection & Road Data



* Resident workers age 16 and over

Transportation to Work

Transportation to Work	ACS 2010	% of Total (ACS 2010)	ACS 2019	% of Total (ACS 2019)	% Point Chg 2010-2019
Drove alone	12,417	87%	13,325	84.9%	-2.1%
Carpooled or vanpooled	981	6.9%	1,233	7.9%	1%
Public transportation	18	0.1%	6	0%	-0.1%
Walked	133	0.9%	97	0.6%	-0.3%
Biked	49	0.3%	9	0.1%	-0.2%
Other Means	70	0.5%	106	0.7%	0.2%
Worked at home	603	4.2%	922	5.9%	1.7%
Resident workers age 16 and over	14,271	100.0%	15,698	100.0%	0.0%

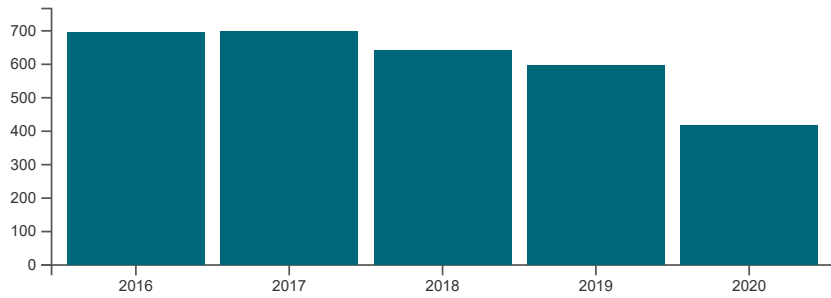
Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Mean Travel Time to Work

Mean Travel Time To Work	ACS 2010	ACS 2019	Change 2010-2019
For residents age 16 and over who worked outside the home	32.1 minutes	30.3 minutes	-1.8 minutes

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Crashes, 2016-2020



Source: Michigan Department of State Police with the Criminal Justice Information Center and SEMCOG

Note: Crash data shown is for the entire city.

Crash Severity

Crash Severity	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Fatal</u>	4	4	4	2	3	0.6%
<u>Serious Injury</u>	12	12	8	10	8	1.6%
<u>Other Injury</u>	148	132	151	95	67	19.5%
<u>Property Damage Only</u>	532	549	478	490	339	78.3%
<u>Total Crashes</u>	696	697	641	597	417	100%

Crashes by Type

Crashes by Type	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Head-on</u>	16	9	11	8	9	1.7%
<u>Angle or Head-on/Left-turn</u>	141	141	124	100	82	19.3%
<u>Rear-End</u>	255	242	219	201	118	34%
<u>Sideswipe</u>	94	82	86	87	66	13.6%
<u>Single Vehicle</u>	171	193	167	176	124	27.3%
<u>Backing</u>	3	11	17	9	9	1.6%
<u>Other or Unknown</u>	16	19	17	16	9	2.5%

Crashes by Involvement

Section 9, Item B.

Crashes by Involvement	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Red-light Running</u>	16	11	11	8	13	1.9%
<u>Lane Departure</u>	118	122	115	109	74	17.7%
<u>Alcohol</u>	30	24	30	22	16	4%
<u>Drugs</u>	12	9	6	4	6	1.2%
<u>Deer</u>	71	71	63	78	56	11.1%
<u>Train</u>	0	0	0	0	0	0%
<u>Commercial Truck/Bus</u>	15	22	25	15	8	2.8%
<u>School Bus</u>	2	4	3	4	1	0.5%
<u>Emergency Vehicle</u>	3	10	4	2	1	0.7%
<u>Motorcycle</u>	9	14	13	6	7	1.6%
<u>Intersection</u>	277	265	237	217	160	37.9%
<u>Work Zone</u>	5	5	13	4	1	0.9%
<u>Pedestrian</u>	3	3	2	1	6	0.5%
<u>Bicyclist</u>	2	6	1	3	0	0.4%
<u>Distracted Driver</u>	16	53	56	72	48	8%
<u>Older Driver (65 and older)</u>	116	125	127	105	81	18.2%
<u>Young Driver (16 to 24)</u>	295	277	240	191	140	37.5%
<u>Secondary</u>	0	0	0	0	0	0%

High Frequency Intersection Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Intersection	Annual Avg 2016-2020
1	72	196	<u>Highland Rd @ Teggerdine Rd</u>	26.4
2	134	363	<u>Cooley Lake Rd @ Williams Lake Rd S</u>	20.8
3	149	422	<u>Highland Rd @ Fisk Rd</u>	19.2
4	158	441	<u>Highland Rd @ Ormond Rd</u>	18.8
5	197	593	<u>Highland Rd @ Pontiac Lake Rd</u>	16.4
6	404	1,218	<u>Highland Rd @ Bogie Lake Rd</u>	11.4
7	422	1,272	<u>Highland Rd @ Elizabeth Lake Rd</u>	11
8	448	1,343	<u>Highland Rd @ Bogie Lake Rd</u>	10.6
9	561	1,755	<u>Williams Lake Rd N @ Elizabeth Lake Rd</u>	9
10	705	2,235	<u>Williams Lake Rd N @ Pontiac Lake Rd</u>	7.6

Note: Intersections are ranked by the number of reported crashes, which does not take into account traffic volume. Crashes reported occurred within 150 feet of the intersection.

Source: **Michigan Department of State Police with the Criminal Justice Information Center** and **SEMCOG**

High Frequency Road Segment Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Segment	From Road - To Road	Annual Avg 2016-2020
1	2	7	<u>Highland Rd</u>	Teggerdine Rd - Pontiac Lake Rd	92.2
2	60	161	<u>Highland Rd</u>	Highland Rd - Elizabeth Lake Rd	45.2
3	181	482	<u>Williams Lake Rd</u> <u>S</u>	Cooley Lake Rd - Elizabeth Lake Rd	30
4	256	679	<u>Highland Rd</u>	Elizabeth Lake Rd - Teggerdine Rd	26
5	295	774	<u>Highland Rd</u>	Pontiac Lake Rd - Williams Lake Rd N	24.4
6	306	796	<u>Ormond Rd</u>	Highland Rd - Jackson Blvd	24.2
7	484	1,267	<u>Highland Rd</u>	Highland Rd - Bogie Lake Rd	19
8	498	1,300	<u>Bogie Lake Rd</u>	Bogie Lake Rd - Highland Rd	18.8
9	507	1,325	<u>Highland Rd</u>	Highland Rd - Ormond Rd	18.6
10	528	1,384	<u>White Lake Rd</u>	Ormond Rd - Teggerdine Rd	18.2

Note: Segments are ranked by the number of reported crashes, which does not take into account traffic volume.

Environment

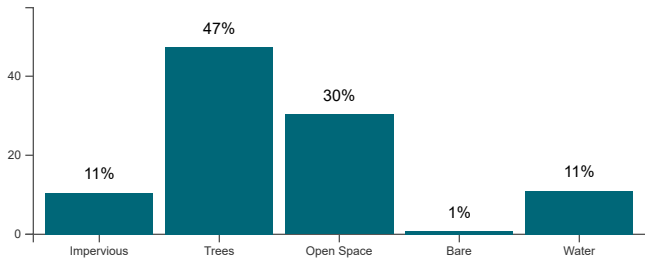
Parcel Land Use	Acres 2015	Acres 2020	Change 2015-2020	Pct Change 2015-2020
Single-Family Residential	5,298.6	5,441.7	143.1	2.7%
Attached Condo Housing	81.1	90.2	9.2	11.3%
Multi-Family Housing	53.7	88.6	34.8	64.8%
Mobile Home	348.6	348.6	0	0%
Agricultural/Rural Residential	4,041.3	4,164.1	122.8	3%
Mixed Use	2.7	4.9	2.2	81.7%
Retail	303.3	290.9	-12.4	-4.1%
Office	60.4	51.5	-8.9	-14.7%
Hospitality	56.7	53	-3.7	-6.6%
Medical	16.3	16.3	0	0%
Institutional	312.6	313.4	0.8	0.2%
Industrial	46.1	41.6	-4.5	-9.7%
Recreational/Open Space	5,658.1	5,667.8	9.7	0.2%
Cemetery	10.5	10.5	0	0%
Golf Course	150.6	150.6	0	0%
Parking	3.9	3.9	0	0%
Extractive	0	0	0	0%
TCU	224.9	224.9	0	0%
Vacant	3,101.3	2,871.2	-230.2	-7.4%
Water	2,379.1	2,379.1	0	0%
Not Parceled	1,565.1	1,502.2	-62.9	-4%
Total	23,715	23,715	0	0%

1. **Agricultural / Rural Res** includes any residential parcel containing 1 or more homes where the parcel is 3 acres or larger.
2. **Mixed Use** includes those parcels containing buildings with Hospitality, Retail, or Office square footage and housing units.
3. **Not Parceled** includes all areas within a community that are not covered by a parcel legal description.
4. Parcels that do not have a structure assigned to the parcel are considered vacant unless otherwise indicated, even if the parcel is part of a larger development such as a factory, school, or other developed series of lots.

Note: Land Cover was derived from SEMCOG's 2010 Leaf off Imagery.

Source: **SEMCOG**

SEMCOG Land Cover in 2010



Type	Description	Acres	Percent
Impervious	buildings, roads, driveways, parking lots	2,494.2	10.5%
Trees	woody vegetation, trees	11,235.2	47.3%
Open Space	agricultural fields, grasslands, turfgrass	7,190.7	30.3%
Bare	soil, aggregate piles, unplanted fields	190.4	0.8%
Water	rivers, lakes, drains, ponds	2,617.8	11%
Total Acres		23,728.2	

Community Profiles

YOU ARE VIEWING DATA FOR:

White Lake Township

7525 Highland Rd
White Lake, MI 48383-
2938
<http://www.whitelaketwp.com/>



Census 2020 Population:
30,950
Area: 37.1 square miles

[VIEW COMMUNITY EXPLORER MAP](#)

[VIEW 2020 CENSUS MAP](#)

Housing

Link to American Community Survey (ACS) Profiles: **Select a Year** **Housing**

Building Permits 2000 - 2021

Section 9, Item B.

Year	Single Family	Two Family	Attach Condo	Multi Family	Total Units	Total Demos	Net Total
2000	161	0	0	0	161	8	153
2001	158	0	0	0	158	7	151
2002	127	0	15	0	142	7	135
2003	175	0	65	0	240	13	227
2004	201	0	104	0	305	7	298
2005	158	0	51	0	209	11	198
2006	61	0	8	0	69	23	46
2007	31	0	0	0	31	4	27
2008	7	0	0	0	7	0	7
2009	16	0	0	0	16	10	6
2010	34	0	0	0	34	7	27
2011	28	0	0	0	28	6	22
2012	41	0	0	0	41	8	33
2013	43	0	0	0	43	10	33
2014	47	0	0	0	47	8	39
2015	43	0	0	0	43	6	37
2016	61	0	0	0	61	1	60
2017	66	0	0	66	132	3	129
2018	53	0	0	44	97	11	86
2019	28	0	0	121	149	2	147
2020	54	0	17	0	71	3	68
2021	88	0	20	0	108	11	97
2000 to 2021 totals	1,681	0	280	231	2,192	166	2,026

Source: SEMCOG Development

Note: Permit data for most recent years may be incomplete and is updated monthly.

Housing Types

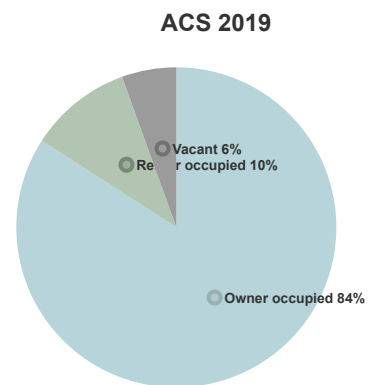
Section 9, Item B.

Housing Type	ACS 2010	ACS 2019	Change 2010-2019	New Units Permitted Since 2018
Single Unit	9,545	9,973	428	223
Multi-Unit	967	929	-38	202
Mobile Homes or Other	1,533	1,447	-86	0
Total	12,045	12,349	304	425
Units Demolished				-27
Net (Total Permitted Units - Units Demolished)				398

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates, SEMCOG Development

Housing Tenure

Housing Tenure	Census 2010	ACS 2019	Change 2010-2019
Owner occupied	9,868	10,386	518
Renter occupied	1,394	1,283	-111
Vacant	952	680	-272
Seasonal/migrant	268	196	-72
Other vacant units	684	484	-200
Total Housing Units	12,214	12,349	135



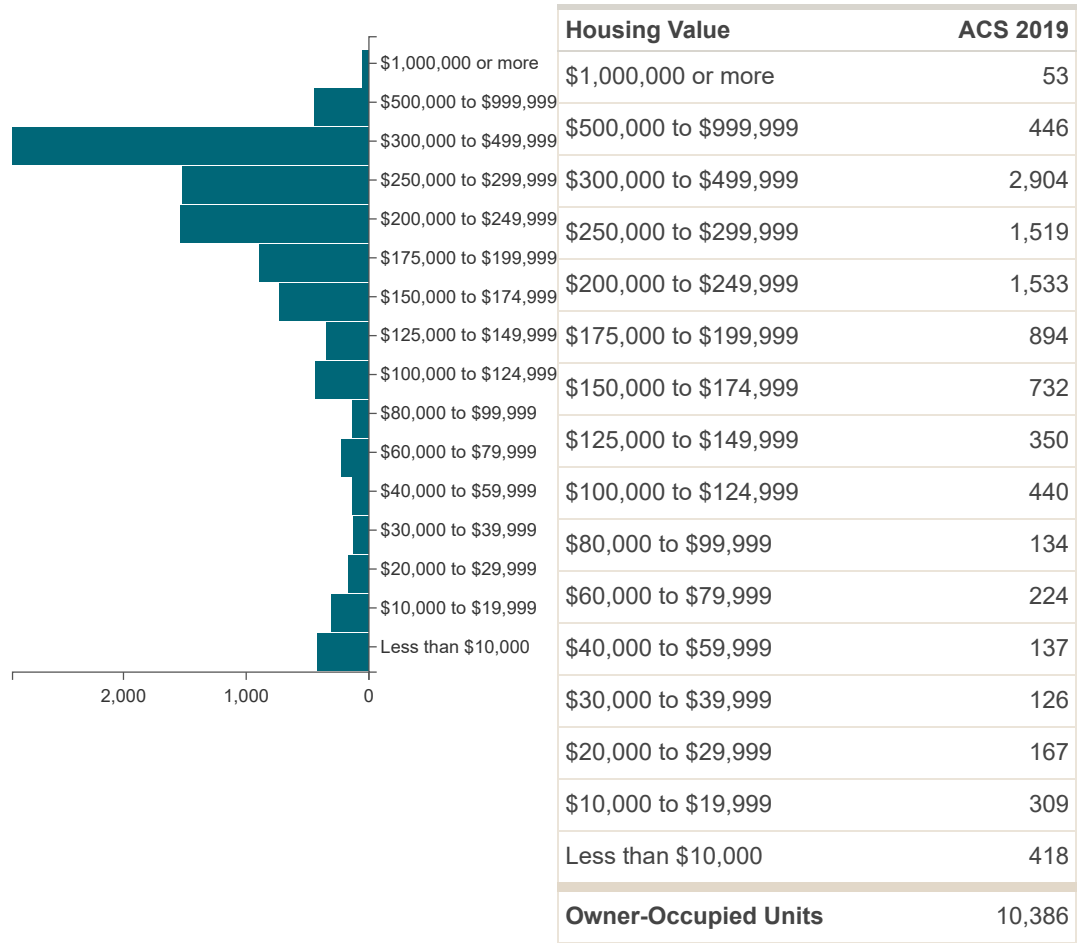
Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Housing Value and Rent

Housing Value (in 2019 dollars)	ACS 2010	ACS 2019	Change 2010-2019	Percent Change 2010-2019
Median housing value	\$259,119	\$241,200	-\$17,919	-6.9%
Median gross rent	\$1,087	\$1,126	\$39	3.6%

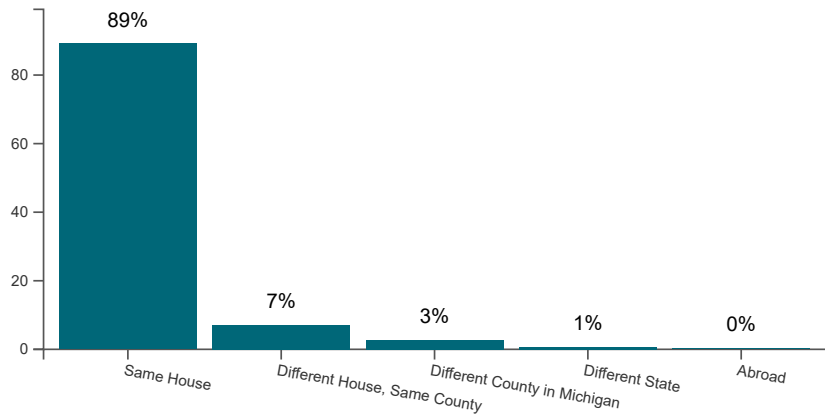
Source: U.S. Census Bureau, Census 2000, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Housing Value



Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Residence One Year Ago *



* This table represents persons, age 1 and over, living in White Lake Township from 2015-2019. The table does not represent person who moved out of White Lake Township from 2015-2019.

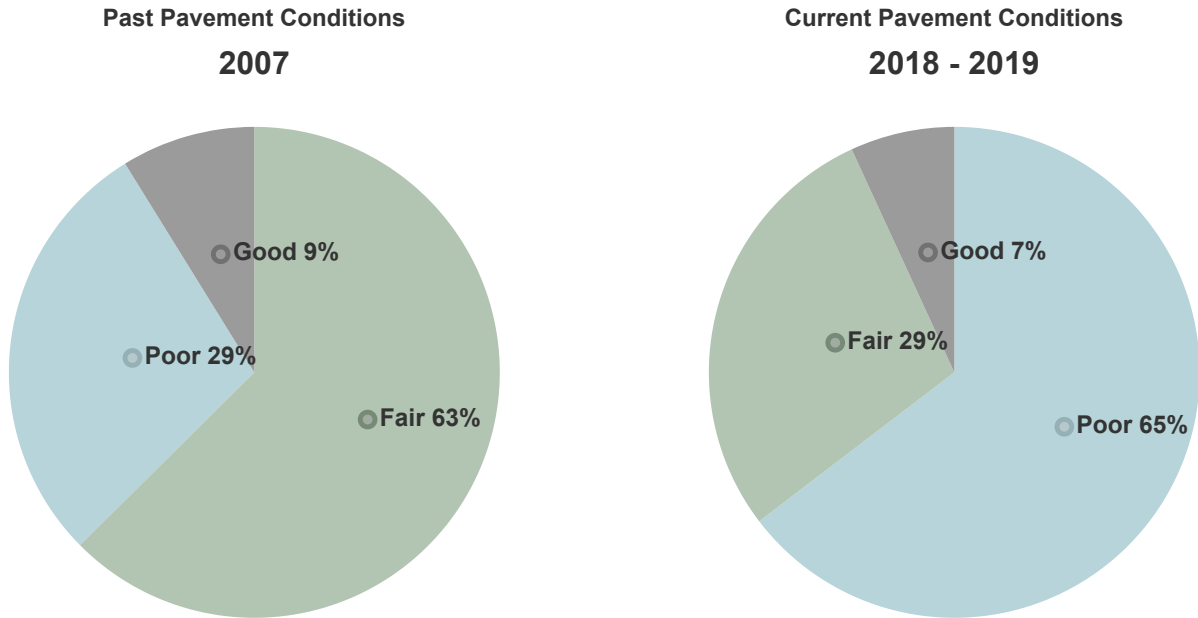
Source: U.S. Census Bureau, 2015-2019 American Community Survey 5-Year Estimates

Transportation

Miles of public road (including boundary roads): 157

Source: Michigan Geographic Framework

Pavement Condition (in Lane Miles)



Note: Poor pavements are generally in need of rehabilitation or full reconstruction to return to good condition. Fair pavements are in need of capital preventive maintenance to avoid deteriorating to the poor classification. Good pavements generally receive only routine maintenance, such as street sweeping and snow removal, until they deteriorate to the fair condition.

Source: SEMCOG

Bridge Status

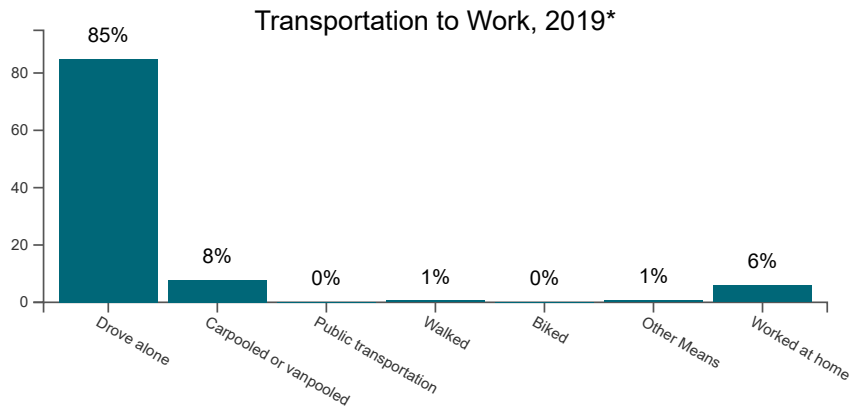
Bridge Status	2008	2008 (%)	2009	2009 (%)	2010	2010 (%)	Percent Point Chg 2008-2010
Open	3	100%	1	33.3%	6	100%	0%
Open with Restrictions	0	0%	2	66.7%	0	0%	0%
Closed*	0	0%	0	0%	0	0%	0%
Total Bridges	3	100.0%	3	100.0%	6	100.0%	0.0%
Deficient Bridges	0	0%	2	66.7%	0	0%	0%

* Bridges may be closed because of new construction or failed condition.

Note: A bridge is considered deficient if it is structurally deficient (in poor shape and unable to carry the load for which it was designed) or functionally obsolete (in good physical condition but unable to support current or future demands, for example, being too narrow to accommodate truck traffic).

Source: Michigan Structure Inventory and Appraisal Database

Detailed Intersection & Road Data



* Resident workers age 16 and over

Transportation to Work

Transportation to Work	ACS 2010	% of Total (ACS 2010)	ACS 2019	% of Total (ACS 2019)	% Point Chg 2010-2019
Drove alone	12,417	87%	13,325	84.9%	-2.1%
Carpooled or vanpooled	981	6.9%	1,233	7.9%	1%
Public transportation	18	0.1%	6	0%	-0.1%
Walked	133	0.9%	97	0.6%	-0.3%
Biked	49	0.3%	9	0.1%	-0.2%
Other Means	70	0.5%	106	0.7%	0.2%
Worked at home	603	4.2%	922	5.9%	1.7%
Resident workers age 16 and over	14,271	100.0%	15,698	100.0%	0.0%

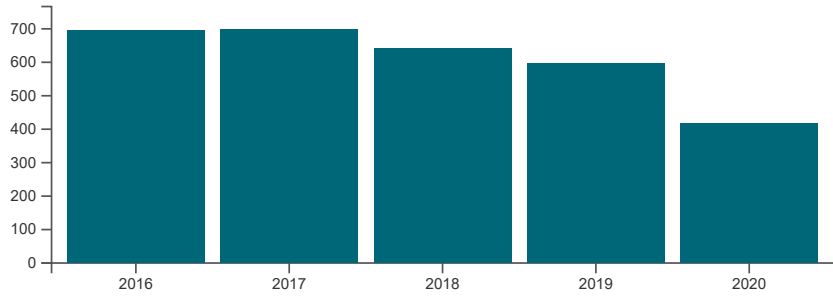
Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Mean Travel Time to Work

Mean Travel Time To Work	ACS 2010	ACS 2019	Change 2010-2019
For residents age 16 and over who worked outside the home	32.1 minutes	30.3 minutes	-1.8 minutes

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Crashes, 2016-2020



Source: Michigan Department of State Police with the Criminal Justice Information Center and SEMCOG

Note: Crash data shown is for the entire city.

Crash Severity

Crash Severity	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
Fatal	4	4	4	2	3	0.6%
Serious Injury	12	12	8	10	8	1.6%
Other Injury	148	132	151	95	67	19.5%
Property Damage Only	532	549	478	490	339	78.3%
Total Crashes	696	697	641	597	417	100%

Crashes by Type

Crashes by Type	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
Head-on	16	9	11	8	9	1.7%
Angle or Head-on/Left-turn	141	141	124	100	82	19.3%
Rear-End	255	242	219	201	118	34%
Sideswipe	94	82	86	87	66	13.6%
Single Vehicle	171	193	167	176	124	27.3%
Backing	3	11	17	9	9	1.6%
Other or Unknown	16	19	17	16	9	2.5%

Crashes by Involvement

Section 9, Item B.

Crashes by Involvement	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Red-light Running</u>	16	11	11	8	13	1.9%
<u>Lane Departure</u>	118	122	115	109	74	17.7%
<u>Alcohol</u>	30	24	30	22	16	4%
<u>Drugs</u>	12	9	6	4	6	1.2%
<u>Deer</u>	71	71	63	78	56	11.1%
<u>Train</u>	0	0	0	0	0	0%
<u>Commercial Truck/Bus</u>	15	22	25	15	8	2.8%
<u>School Bus</u>	2	4	3	4	1	0.5%
<u>Emergency Vehicle</u>	3	10	4	2	1	0.7%
<u>Motorcycle</u>	9	14	13	6	7	1.6%
<u>Intersection</u>	277	265	237	217	160	37.9%
<u>Work Zone</u>	5	5	13	4	1	0.9%
<u>Pedestrian</u>	3	3	2	1	6	0.5%
<u>Bicyclist</u>	2	6	1	3	0	0.4%
<u>Distracted Driver</u>	16	53	56	72	48	8%
<u>Older Driver (65 and older)</u>	116	125	127	105	81	18.2%
<u>Young Driver (16 to 24)</u>	295	277	240	191	140	37.5%
<u>Secondary</u>	0	0	0	0	0	0%

High Frequency Intersection Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Intersection	Annual Avg 2016-2020
1	72	196	<u>Highland Rd @ Teggerdine Rd</u>	26.4
2	134	363	<u>Cooley Lake Rd @ Williams Lake Rd S</u>	20.8
3	149	422	<u>Highland Rd @ Fisk Rd</u>	19.2
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6	404	1,218	<u>Highland Rd @ Bogie Lake Rd</u>	11.4
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8	448	1,343	<u>Highland Rd @ Bogie Lake Rd</u>	10.6
9	561	1,755	<u>Williams Lake Rd N @ Elizabeth Lake Rd</u>	9
10	705	2,235	<u>Williams Lake Rd N @ Pontiac Lake Rd</u>	7.6

Note: Intersections are ranked by the number of reported crashes, which does not take into account traffic volume. Crashes reported occurred within 150 feet of the intersection.

Source: **Michigan Department of State Police with the Criminal Justice Information Center** and **SEMCOG**

High Frequency Road Segment Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Segment	From Road - To Road	Annual Avg 2016-2020
1	2	7	<u>Highland Rd</u>	Teggerdine Rd - Pontiac Lake Rd	92.2
2	60	161	<u>Highland Rd</u>	Highland Rd - Elizabeth Lake Rd	45.2
3	181	482	<u>Williams Lake Rd</u> <u>S</u>	Cooley Lake Rd - Elizabeth Lake Rd	30
4	256	679	<u>Highland Rd</u>	Elizabeth Lake Rd - Teggerdine Rd	26
5	295	774	<u>Highland Rd</u>	Pontiac Lake Rd - Williams Lake Rd N	24.4
6	306	796	<u>Ormond Rd</u>	Highland Rd - Jackson Blvd	24.2
7	484	1,267	<u>Highland Rd</u>	Highland Rd - Bogie Lake Rd	19
8	498	1,300	<u>Bogie Lake Rd</u>	Bogie Lake Rd - Highland Rd	18.8
9	507	1,325	<u>Highland Rd</u>	Highland Rd - Ormond Rd	18.6
10	528	1,384	<u>White Lake Rd</u>	Ormond Rd - Teggerdine Rd	18.2

Note: Segments are ranked by the number of reported crashes, which does not take into account traffic volume.

Environment

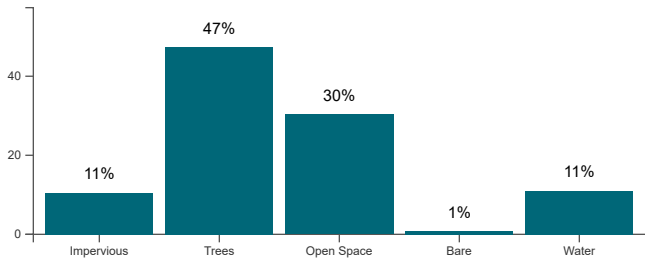
Parcel Land Use	Acres 2015	Acres 2020	Change 2015-2020	Pct Change 2015-2020
Single-Family Residential	5,298.6	5,441.7	143.1	2.7%
Attached Condo Housing	81.1	90.2	9.2	11.3%
Multi-Family Housing	53.7	88.6	34.8	64.8%
Mobile Home	348.6	348.6	0	0%
Agricultural/Rural Residential	4,041.3	4,164.1	122.8	3%
Mixed Use	2.7	4.9	2.2	81.7%
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Medical	16.3	16.3	0	0%
Institutional	312.6	313.4	0.8	0.2%
Industrial	46.1	41.6	-4.5	-9.7%
Recreational/Open Space	5,658.1	5,667.8	9.7	0.2%
Cemetery	10.5	10.5	0	0%
Golf Course	150.6	150.6	0	0%
Parking	3.9	3.9	0	0%
Extractive	0	0	0	0%
TCU	224.9	224.9	0	0%
Vacant	3,101.3	2,871.2	-230.2	-7.4%
Water	2,379.1	2,379.1	0	0%
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Total	23,715	23,715	0	0%

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Source: **SEMCOG**

SEMCOG Land Cover in 2010



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Trees	woody vegetation, trees	11,235.2	47.3%
Open Space	agricultural fields, grasslands, turfgrass	7,190.7	30.3%
Bare	soil, aggregate piles, unplanted fields	190.4	0.8%
Water	rivers, lakes, drains, ponds	2,617.8	11%
Total Acres		23,728.2	

Community Profiles

YOU ARE VIEWING DATA FOR:

White Lake Township

7525 Highland Rd
White Lake, MI 48383-
2938



Census 2020 Population:
30,950
Area: 37.1 square miles

<http://www.whitelaketwp.com/>

[VIEW COMMUNITY EXPLORER MAP](#)

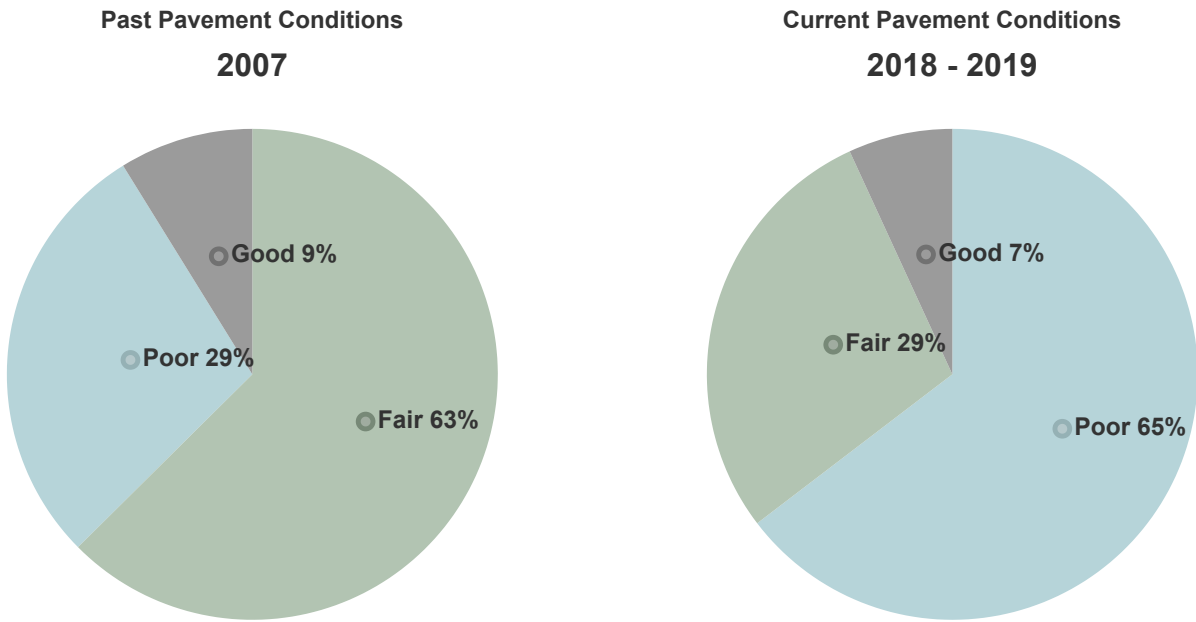
[VIEW 2020 CENSUS MAP](#)

Transportation

Miles of public road (including boundary roads): 157

Source: Michigan Geographic Framework

Pavement Condition (in Lane Miles)



Note: Poor pavements are generally in need of rehabilitation or full reconstruction to return to good condition. Fair pavements are in need of capital preventive maintenance to avoid deteriorating to the poor classification. Good pavements generally receive only routine maintenance, such as street sweeping and snow removal, until they deteriorate to the fair condition.

Source: SEMCOG

Bridge Status

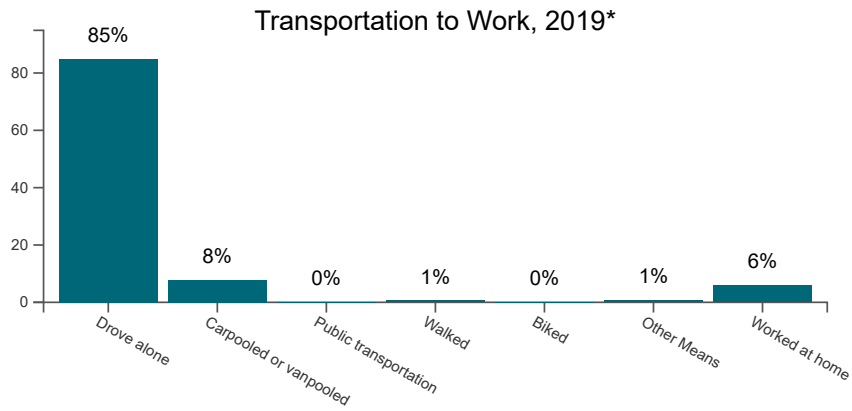
Bridge Status	2008	2008 (%)	2009	2009 (%)	2010	2010 (%)	Percent Point Chg 2008-2010
Open	3	100%	1	33.3%	6	100%	0%
Open with Restrictions	0	0%	2	66.7%	0	0%	0%
Closed*	0	0%	0	0%	0	0%	0%
Total Bridges	3	100.0%	3	100.0%	6	100.0%	0.0%
Deficient Bridges	0	0%	2	66.7%	0	0%	0%

* Bridges may be closed because of new construction or failed condition.

Note: A bridge is considered deficient if it is structurally deficient (in poor shape and unable to carry the load for which it was designed) or functionally obsolete (in good physical condition but unable to support current or future demands, for example, being too narrow to accommodate truck traffic).

Source: Michigan Structure Inventory and Appraisal Database

Detailed Intersection & Road Data



* Resident workers age 16 and over

Transportation to Work

Transportation to Work	ACS 2010	% of Total (ACS 2010)	ACS 2019	% of Total (ACS 2019)	% Point Chg 2010-2019
Drove alone	12,417	87%	13,325	84.9%	-2.1%
Carpooled or vanpooled	981	6.9%	1,233	7.9%	1%
Public transportation	18	0.1%	6	0%	-0.1%
Walked	133	0.9%	97	0.6%	-0.3%
Biked	49	0.3%	9	0.1%	-0.2%
Other Means	70	0.5%	106	0.7%	0.2%
Worked at home	603	4.2%	922	5.9%	1.7%
Resident workers age 16 and over	14,271	100.0%	15,698	100.0%	0.0%

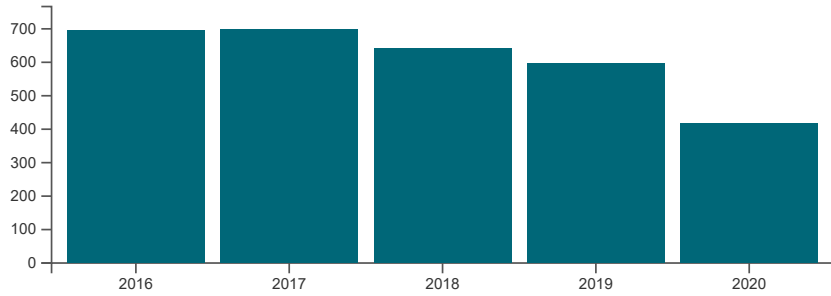
Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Mean Travel Time to Work

Mean Travel Time To Work	ACS 2010	ACS 2019	Change 2010-2019
For residents age 16 and over who worked outside the home	32.1 minutes	30.3 minutes	-1.8 minutes

Source: U.S. Census Bureau, 2006-2010 and 2015-2019 American Community Survey 5-Year Estimates

Crashes, 2016-2020



Source: Michigan Department of State Police with the Criminal Justice Information Center and SEMCOG

Note: Crash data shown is for the entire city.

Crash Severity

Crash Severity	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Fatal</u>	4	4	4	2	3	0.6%
<u>Serious Injury</u>	12	12	8	10	8	1.6%
<u>Other Injury</u>	148	132	151	95	67	19.5%
<u>Property Damage Only</u>	532	549	478	490	339	78.3%
<u>Total Crashes</u>	696	697	641	597	417	100%

Crashes by Type

Crashes by Type	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Head-on</u>	16	9	11	8	9	1.7%
<u>Angle or Head-on/Left-turn</u>	141	141	124	100	82	19.3%
<u>Rear-End</u>	255	242	219	201	118	34%
<u>Sideswipe</u>	94	82	86	87	66	13.6%
<u>Single Vehicle</u>	171	193	167	176	124	27.3%
<u>Backing</u>	3	11	17	9	9	1.6%
<u>Other or Unknown</u>	16	19	17	16	9	2.5%

Crashes by Involvement

Crashes by Involvement	2016	2017	2018	2019	2020	Percent of Crashes 2016 - 2020
<u>Red-light Running</u>	16	11	11	8	13	1.9%
<u>Lane Departure</u>	118	122	115	109	74	17.7%
<u>Alcohol</u>	30	24	30	22	16	4%
<u>Drugs</u>	12	9	6	4	6	1.2%
<u>Deer</u>	71	71	63	78	56	11.1%
<u>Train</u>	0	0	0	0	0	0%
<u>Commercial Truck/Bus</u>	15	22	25	15	8	2.8%
<u>School Bus</u>	2	4	3	4	1	0.5%
<u>Emergency Vehicle</u>	3	10	4	2	1	0.7%
<u>Motorcycle</u>	9	14	13	6	7	1.6%
<u>Intersection</u>	277	265	237	217	160	37.9%
<u>Work Zone</u>	5	5	13	4	1	0.9%
<u>Pedestrian</u>	3	3	2	1	6	0.5%
<u>Bicyclist</u>	2	6	1	3	0	0.4%
<u>Distracted Driver</u>	16	53	56	72	48	8%
<u>Older Driver (65 and older)</u>	116	125	127	105	81	18.2%
<u>Young Driver (16 to 24)</u>	295	277	240	191	140	37.5%
<u>Secondary</u>	0	0	0	0	0	0%

High Frequency Intersection Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Intersection	Annual Avg 2016-2020
1	72	196	<u>Highland Rd @ Teggerdine Rd</u>	26.4
2	134	363	<u>Cooley Lake Rd @ Williams Lake Rd S</u>	20.8
3	149	422	<u>Highland Rd @ Fisk Rd</u>	19.2
4	158	441	<u>Highland Rd @ Ormond Rd</u>	18.8
5	197	593	<u>Highland Rd @ Pontiac Lake Rd</u>	16.4
6	404	1,218	<u>Highland Rd @ Bogie Lake Rd</u>	11.4
7	422	1,272	<u>Highland Rd @ Elizabeth Lake Rd</u>	11
8	448	1,343	<u>Highland Rd @ Bogie Lake Rd</u>	10.6
9	561	1,755	<u>Williams Lake Rd N @ Elizabeth Lake Rd</u>	9
10	705	2,235	<u>Williams Lake Rd N @ Pontiac Lake Rd</u>	7.6

Note: Intersections are ranked by the number of reported crashes, which does not take into account traffic volume. Crashes reported occurred within 150 feet of the intersection.

Source: **Michigan Department of State Police with the Criminal Justice Information Center** and **SEMCOG**

High Frequency Road Segment Crash Rankings

Section 9, Item B.

Local Rank	County Rank	Region Rank	Segment	From Road - To Road	Annual Avg 2016-2020
1	2	7	<u>Highland Rd</u>	Teggerdine Rd - Pontiac Lake Rd	92.2
2	60	161	<u>Highland Rd</u>	Highland Rd - Elizabeth Lake Rd	45.2
3	181	482	<u>Williams Lake Rd</u> <u>S</u>	Cooley Lake Rd - Elizabeth Lake Rd	30
4	256	679	<u>Highland Rd</u>	Elizabeth Lake Rd - Teggerdine Rd	26
5	295	774	<u>Highland Rd</u>	Pontiac Lake Rd - Williams Lake Rd N	24.4
6	306	796	<u>Ormond Rd</u>	Highland Rd - Jackson Blvd	24.2
7	484	1,267	<u>Highland Rd</u>	Highland Rd - Bogie Lake Rd	19
8	498	1,300	<u>Bogie Lake Rd</u>	Bogie Lake Rd - Highland Rd	18.8
9	507	1,325	<u>Highland Rd</u>	Highland Rd - Ormond Rd	18.6
10	528	1,384	<u>White Lake Rd</u>	Ormond Rd - Teggerdine Rd	18.2

Note: Segments are ranked by the number of reported crashes, which does not take into account traffic volume.

Environment

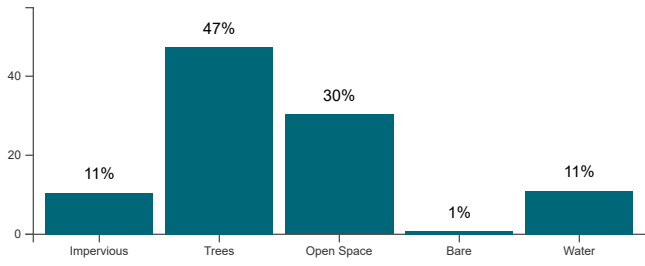
Parcel Land Use	Acres 2015	Acres 2020	Change 2015-2020	Pct Change 2015-2020
Single-Family Residential	5,298.6	5,441.7	143.1	2.7%
Attached Condo Housing	81.1	90.2	9.2	11.3%
Multi-Family Housing	53.7	88.6	34.8	64.8%
Mobile Home	348.6	348.6	0	0%
Agricultural/Rural Residential	4,041.3	4,164.1	122.8	3%
Mixed Use	2.7	4.9	2.2	81.7%
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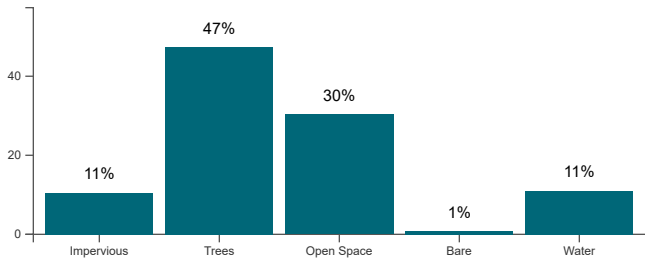
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INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan

APPENDIX III
LEVEL OF SERVICE (LOS) GOAL TABLE

DRAFT

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Social								
Customer Service	Customer	Maintain trust with the public, regulatory agencies, and non-government organizations	No change	NA	# of Complaint Calls / Year; Department Coordination Meetings	Sewer complaint reports; Service Requests; Work Orders	Annual Reports to Board	
	Customer / Self-Imposed	Proactively maintain the wastewater collection system to minimize service disruptions	No change	Develop a Corrective Action Program (CAP) to address SSOs	# of sewer backups/SSOs per year shall be less than reported national averages; Continue to maintain compliance with Public Act 222; Reductions in insurance claims	# of sewer backups/SSOs; Work Orders; Grease Interceptor inspections	Annual Reports to Board	
	Self-Imposed	Educate residents/businesses on sewer complaint process (who to call and when)	No change	Public Act 222 (Sewer Backup Legislation)	Post complaint procedure on website; Compliance w/ NPDES Permit	Website content; Newsletter articles; Social Media content	Annual Reports to Board	
	Self-Imposed	Provide efficient and timely service to customers - Coordinate with the OCWRC to respond to complaints within 24 hours of notification	No change	45 days after notification (Public Act 222)	Coordinate with OCWRC to respond to complaints within 24 hours of notification	Sewer complaint reports; OCWRC Reports; SCADA logs	Annual Reports to Board	
	Customer / Self-Imposed	Maintain sanitary sewer capacity to Township residents and businesses in the most cost effective manner possible	No change	NA	# of Complaint Calls / Year	Sewer complaint reports; OCWRC Reports	Annual Reports to Board	
Reliability	Self-Imposed	Coordinate with the County to televise and clean sewers as necessary to minimize sewer system problems	Televise ALL sewers within the Township	Inspect ALL infrastructure every 7-10 years	OCWRC CCTV & Sewer Maintenance Reports and costs	CCTV reports/data; GIS	Annual Reports to Board	
	Regulatory / Customer	Minimize system failure - determine criticality of assets for Capital Improvement Planning	Assure funding is available to make necessary improvements to assets	SAW Grant requirement to develop criticality of assets	Criticality of Assets Report	AMP data/report	Annual Reports to Board	

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Social								
Reliability	Self-Imposed	Maintain and replace equipment as necessary to maintain compliance and meet level of service goals	No change	SAW Grant requirement to develop level of service goals	Vehicle/Equipment maintenance & purchase costs / Year	Depreciation data; Equipment purchases	Annual Reports to Board	
	Self-Imposed	Coordinate with the County to perform asset rehabilitation as necessary	No change	SAW Grant Implementation / Public Act 222	Project Implementation; Review of previous reports/studies	Project Implementation	Annual Reports to Board	
	Self-Imposed	Initiate better coordination/information from OCWRC for specific sewer maintenance activities	Continue to initiate better coordination/information from OCWRC for specific sewer maintenance activities	NA	OCWRC Sewer Maintenance Reports and costs	OCWRC Sewer Maintenance Reports and costs; Cityworks integration	Annual Reports to Board	
	Self-Imposed	Coordinate utility and road projects to limit repair of underground utilities for roadways with new pavement replacement	No change	NA	Department Coordination Meetings; Project Implementation	Project Implementation	Annual Reports to Board	
Health & Safety	Regulatory	Meet all MIOSHA, USEPA, and MDEQ regulations and increase training opportunities for sanitary sewer maintenance staff	No change	MIOSHA	Zero violations	Notice of Violations	Annual Reports to Board	
	Customer / Self-Imposed	Protect community from hazards associated with wastewater collection system (basement backups, traffic disturbance, etc.)	No change	Engineering reviews required by MDEQ (Wastewater Construction Permits)	Zero public injuries	# of private property backups; vehicle accidents associated with wastewater collection system; # of pump station facility intrusions	Annual Reports to Board	
	Self-Imposed	Zero Loss Time Accidents	No change	Provide training to each newly assigned employee on operating procedures, hazards and safeguards of the job (MIOSHA)	Zero Loss Time / Year	Accident Reports / Claims, Worker's Comp Analysis	Claims made to Insurance Provider; Annual Reports to Board	
Environmental								
Administration Organizational Development	Self-Imposed	Optimize resources and reduce overall O&M, planning, and engineering costs	Allocate resources to deficient areas as necessary	NA	Department Coordination Meetings	Mtg minutes; AMP; Review of reports/studies	Annual Reports to Board	

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Environmental								
Environmental Stewardship	Customer / Self-Imposed	Enhance the protection of public health and the environment	No change	NA	SSO reductions; FOG sewer maintenance reductions; pump station rehabilitation	OCWRC Sewer Maintenance Reports and costs; Cityworks integration	Annual Reports to Board	
	Regulatory	Minimize Sanitary Sewer Overflows (SSOs) & provide better education to individual grinder station owners	No change	Contact MDEQ within 24 hrs of SSO; Develop Corrective Action Program	Minimize SSOs to 1 every 10 years	SSO reports; OCWRC Sewer Maintenance Reports and costs;	Reports to DEQ; Annual Reports to Board	
	Self-Imposed	Provide sanitary sewer extensions in development and redevelopment projects, where feasible	Reduce onsite septic systems by 10% in the Township by 2040; Target sensitive lake areas as the first priority to receive sanitary sewer service	Township goal established in Master Plan	Plan reviews; OSDS reductions	Plan reviews; DPW Reports	Annual Reports to Board	
	Self-Imposed	Develop and Implement a Fats, Oil, and Grease (FOG) Program	Continue to implement a FOG Program	Non-domestic users must not introduce any materials that would prohibit the POTW system	Cityworks and GIS implementation	Cityworks; GIS; Work Orders; DPW Reports	Annual Reports to Board	
	Customer / Self-Imposed	Reduce Inflow & Infiltration (I/I) from the system	Continue to reduce I/I from the system	I/I evaluation is required for SRF/SWQIF study	10% reductions in I/I / Year	Cityworks; GIS; OCWRC Sewer Maintenance Reports and costs	Annual Reports to Board	
	Self-Imposed	Improve knowledge of system components - Integrate Computer Maintenance and Management System (CMMS) into the Wastewater Collection Program (i.e. Cityworks, SEDARU, GIS Updates)	Implement and Maintain the CMMS Program; Continue to improve knowledge of system components	NA	CMMS implementation; Work order generation	Cityworks; GIS; Work Orders; DPW Reports	GIS updates; Annual Reports To Board; Annual Maintenance Registrations	
Regulatory Compliance	Regulatory	100% IPP Compliance with MDEQ, GLWA, Township Ordinance	No change	Industrial User (IU) Enforcement Response; IU Permitting and Reporting; Meet Wastewater Discharge Standards	# of Notice of Violations / Year	Ordinance reviews/updates; Notice of Violations; Work Orders	Annual Reports to Board	

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
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Wastewater Collection								
Environmental								
Regulatory Compliance	Regulatory	100% IPP Compliance with MDEQ, GLWA, Township Ordinance	No change	Industrial User (IU) Enforcement Response; IU Permitting and Reporting; Meet Wastewater Discharge Standards	# of Notice of Violations / Year	Ordinance reviews/updates; Notice of Violations; Work Orders	Annual Reports to Board	
	Regulatory	Meet the requirements of the Part 41 NPDES Permit	No change	Submit POTW construction permits to MDEQ	# of Permits issued / Year	Permit Applications	Annual Reports to Board	
	Regulatory	Report 100% of SSOs as required by State	No change	100% Reported SSOs	# of SSOs / Year	SSO reports; Work Orders	Annual Reports to Board	
	Self-Imposed	Minimize exposure and liability from claims, enforcement, or litigation	No change	NA	# of Claims / Year	Claims; Work Orders; Annual Reports	Annual Reports to Board	
Economic								
Financial	Customer / Self-Imposed	Operate in a fiscally responsible manner	Continue to operate in a fiscally responsible manner	SAW Grant Requirement	Rate Structure Review	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Self-Imposed	Generate consistent and reliable planning and forecasting information to improve management decisions	Continue to provide consistent and reliable planning and forecasting information to improve management decisions	NA	Cityworks implementation; Department Coordination Meetings	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Regulatory	Perform review of wastewater rates to balance rehabilitation efforts and encourage business development	Perform review of wastewater rates every 3-5 years	SAW Grant Requirement	Rate Structure Review; Updated Rate Structure	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Self-Imposed	Review the County's Updated Schedule of Unit Assignment Factors to determine impact on Capital Connection Fees	Update the Township's Schedule as necessary	NA	Updated Schedule	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Self-Imposed	Coordinate with OCWRC to better track costs of repairing or maintaining specific assets and performance against targets	Continue to coordinate with OCWRC to better track costs of repairing or maintaining specific assets and performance against targets	NA	OCWRC Sewer Maintenance Reports and costs	Cityworks implementation; Tracking reports	Annual Reports to Board	

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		Current Target	Future Target					
Wastewater Collection								
Economic								
Financial	Customer / Self-Imposed	Continue to apply for and obtain grants and/or low-interest loans for capital improvement projects	No change	NA	# Awarded Grant Projects / 10 Years	Project implementation	Annual Reports to Board; Quarterly Grant Reports to EGLE	
<p>Mission Statement: Strive for a sustainable Township that balances the community's economic, environmental, and social needs. Promote the identity of White Lake Township as a small country town with big City amenities by protecting and preserving natural features, encouraging redevelopment of obsolete properties, and directing growth and redevelopment to a central community core.</p>								

- No Improvement Needed
- Acceptable
- Improvement Needed



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan

APPENDIX IV
WHITE LAKE SANITARY SYSTEM CAPACITY

DRAFT

WHITE LAKE TOWNSHIP - ACT 451 PERMIT TRACKING SYSTEM

Section 9, Item B.

										Eastern	Western							
Updated: 3/4/22										District A	District B	Available						
										MGD	MGD	Capacity						
										2.07	1.43	Average						
										0	0	District A						
										0	0	YES						
										0	0	A= 30 inch sewer =		11.63	cfs			
										4.5	4.5	B= 18 inch sewer =						
District A	Permit #	Permit Date	REUs	PP	TCPE	PPF	TCPF	QP	QPI	Average Outlet		Peak Outlet		District A				
										Eq. Capacity (allocated)		Eq. Capacity		Available Capacity				
										cfs	cfs	MGD			cfs	% Used	MGD	% Used
1	White Lake Estates Mobile Home Park		87.3	235.8	235.8	4.12	4.12	0.15	0.15	0.02		0.15	1.29%	2.05	1.14%			
2	Cranberry Lake Mobile Home Park		191.7	517.5	753.3	3.97	3.88	0.32	0.31	0.08		0.45	3.88%	1.99	3.64%			
3	Suburban Knolls Subdivision		145.0	391.5	1145	4.03	3.76	0.24	0.23	0.11		0.67	5.73%	1.96	5.53%			
4	Adjacent to Phase I Sewer		0.0	0	1145	4.50	3.76	0.00	0.00	0.11		0.67	5.73%	1.96	5.53%			
5	Meijers Sanitary (Off-Site)	019392x	69.3	187.2	1332	4.16	3.72	0.12	0.11	0.13		0.77	6.59%	1.94	6.43%			
6	White Lake Market Place	S969358	212.0	572.4	1904	3.94	3.60	0.35	0.32	0.19		1.06	9.13%	1.88	9.20%			
7	Bocovina	S029119	32.0	86.4	1991	4.26	3.59	0.06	0.05	0.20		1.10	9.50%	1.87	9.62%			
8	Cranberry Meadows #2	S019043	24.0	64.8	2056	4.29	3.58	0.04	0.04	0.21		1.14	9.78%	1.86	9.93%			
9	Pontiac Lake LPS	S999093	505.0	1363.5	3419	3.71	3.39	0.78	0.72	0.34		1.80	15.44%	1.73	16.52%			
10	Cascade/Union Lake	S999105	19.0	51.3	3470	4.31	3.39	0.03	0.03	0.35		1.82	15.64%	1.72	16.77%			
11	North Broadmore Sub No. 1 & 2	S989369	10/2/1998	82.0	221.4	3692	4.13	3.36	0.14	0.12	0.37	1.92	16.52%	1.70	17.83%			
12	Cranberry Meadows Condo		300.3	810.9	4503	3.86	3.29	0.48	0.41	0.45		2.29	19.69%	1.62	21.75%			
13	Independence Village	S999239	130.7	352.8	4856	4.05	3.26	0.22	0.18	0.49		2.45	21.04%	1.58	23.46%			
14	Twin Lakes Village Gravity	S098938	8/28/1998	6.0	16.2	4872	4.39	3.26	0.01	0.01	0.49	2.45	21.10%	1.58	23.53%			
15	Crown Ridge	S999267	28.0	75.6	4947	4.27	3.25	0.05	0.04	0.49		2.49	21.38%	1.58	23.90%			
16	Twin Lakes Village	S009220	46.0	124.2	5072	4.22	3.24	0.08	0.06	0.51		2.54	21.85%	1.56	24.50%			
17	Autumn Glen Subdivision	S009155	4/17/2000	140.0	378	5450	4.03	3.21	0.24	0.19	0.54	2.71	23.27%	1.53	26.33%			
18	Wheatherstone Condos	S019075	3/20/2001	135.3	365.4	5815	4.04	3.18	0.23	0.18	0.58	2.86	24.63%	1.49	28.09%			
19	Belle Tire	S009194	3/8/2000	19.7	53.1	5868	4.31	3.18	0.04	0.03	0.59	2.89	24.82%	1.48	28.35%			
19A	Mojave Cantina	Pending	11/15/2018	5.6	15.093	5883	4.40	3.18	0.01	0.01	0.59	2.89	24.88%	1.48	28.42%			
20	Reserve at Tull Lake	S039024	1/30/2003	62.0	167.4	6050	4.18	3.17	0.11	0.08	0.61	2.96	25.49%	1.46	29.23%			
21	Williams Lake Road San Ext.	S029428	12/17/2002	8.1	21.87	6072	4.38	3.17	0.01	0.01	0.61	2.97	25.57%	1.46	29.34%			
22	North Broadmoore Sub #3	S039140	5/23/2003	18.0	48.6	6121	4.32	3.16	0.03	0.02	0.61	2.99	25.75%	1.46	29.57%			
23	Parkview Heights Sub. #2	S039009	1/14/2003	52.0	140.4	6261	4.20	3.15	0.09	0.07	0.63	3.05	26.26%	1.44	30.25%			
24	Blackberry Hills Condos	S039148	5/30/2003	50.3	135.9	6397	4.20	3.14	0.09	0.07	0.64	3.11	26.76%	1.43	30.90%			
25	Steephollow LP Extension	S039035	2/7/2003	16.3	44.1	6441	4.33	3.14	0.03	0.02	0.64	3.13	26.92%	1.43	31.12%			
26	Meijer #227 On Site	S039116	5/2/2003	0.0	0	6441	4.50	3.14	0.00	0.00	0.64	3.13	26.92%	1.43	31.12%			
27	Williams Lake Crossing (On-Site)	S029428	109.0	294.3	6736	4.08	3.12	0.19	0.14	0.67		3.25	27.98%	1.40	32.54%			
27A	The Bluffs at Williams Lake Crossing (Phase 1)	S029428	37.0	99.9	6836	4.24	3.12	0.07	0.05	0.68		3.30	28.34%	1.39	33.02%			
28	Pontiac Lake (W of Fisk)	S999093	2.0	5.4	6841	4.44	3.12	0.00	0.00	0.68		3.30	28.36%	1.39	33.05%			
29	Elizabeth Trace Condominiums	S049146	5/14/2004	27.7	74.7	6916	4.28	3.11	0.05	0.04	0.69	3.33	28.63%	1.38	33.41%			
30	Round Lake & Cooley Lake Rd Improvements	S049375	10/8/2004	0.0	0	6916	4.50	3.11	0.00	0.00	0.69	3.33	28.63%	1.38	33.41%			

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WHITE LAKE TOWNSHIP - ACT 451 PERMIT TRACKING SYSTEM

Section 9, Item B.

Updated:		3/4/22									District A	District B	Available			
Purchase Capacity											MGD 2.07	MGD 1.43	Capacity Average			
Baseline Peak Flow											0	0	District A YES			
Baseline Average Flow											0	0				
Baseline Equivalent Population											0	0	A= 30 inch sewer = 11.63 cfs			
Baseline Peaking Factor											4.5	4.5	B= 18 inch sewer =			
District A	Permit #	Permit Date	REUs	PP	TCPE	PPF	TCPF	QP	QPI	Average Outlet Eq. Capacity (allocated)		Peak Outlet Eq. Capacity		District A Available Capacity		
								cfs	cfs	MGD		cfs	% Used	MGD	% Used	
31	Nordic Drive Sanitary Sewer	1001116	12/21/2004	6.0	16.2	6932	4.39	3.11	0.01	0.01	0.69		3.34	28.69%	1.38	33.49%
31A	Nordic Drive Sanitary Sewer (Extension)		Pending	9.4	25.4	6957	4.37	3.11	0.02	0.01	0.70		3.35	28.78%	1.37	33.61%
32	Lowe's Off Site Sanitary Sewer	1001099	12/21/2004	31.1	83.97	7041	4.26	3.10	0.06	0.04	0.70		3.38	29.08%	1.37	34.02%
33	M-59 Sewer Extension (Trainor Law Office)	1001271	2/24/2005	15.0	40.5	7082	4.33	3.10	0.03	0.02	0.71		3.40	29.22%	1.36	34.21%
34	Colony Ridge Site Condominiums	1001864	7/13/2005	16.0	43.2	7125	4.33	3.10	0.03	0.02	0.71		3.42	29.37%	1.36	34.42%
35	Glenmore Village - Not Constructed			0.0	0	7125	4.50	3.10	0.00	0.00	0.71		3.42	29.37%	1.36	34.42%
36	White Lake Retail Center	1003234	7/14/2006	8.0	21.6	7147	4.38	3.10	0.01	0.01	0.71		3.43	29.45%	1.36	34.52%
37	Cooley Lk Rd Rear Yard San Sewer			7.7	20.7	7167	4.38	3.10	0.01	0.01	0.72		3.43	29.53%	1.35	34.62%
38	White Lake Crossing	1003992	3/7/2007	65.7	177.3	7345	4.17	3.09	0.11	0.08	0.73		3.51	30.16%	1.34	35.48%
39	Cedar Island Road San SAD			22.0	59.4	7404	4.30	3.08	0.04	0.03	0.74		3.53	30.37%	1.33	35.77%
39A	Clearwater Low Pressure Extension			10.0	27	7431	4.36	3.08	0.02	0.01	0.74		3.54	30.46%	1.33	35.90%
40	Teggerdine Road San SAD			56.0	151.2	7582	4.19	3.07	0.10	0.07	0.76		3.60	31.00%	1.31	36.63%
40A	Decca Drive Extension			2.0	5.4	7588	4.44	3.07	0.00	0.00	0.76		3.61	31.01%	1.31	36.65%
41	M-59 Sewer Extension (E. of Elizabeth Lk Rd)	1004000	6/21/2007	262.3	708.3	8296	3.89	3.03	0.43	0.33	0.83		3.90	33.49%	1.24	40.08%
42	Village Lakes Commercial	1004524	10/25/2007	141.3	381.6	8677	4.03	3.02	0.24	0.18	0.87		4.05	34.81%	1.20	41.92%
43	Kohl's Commercial	1004059	4/18/2007	4.8	12.96	8690	4.40	3.01	0.01	0.01	0.87		4.05	34.86%	1.20	41.98%
44	Park Drive pressure sewer	1004657	11/27/2007	34.3	92.7	8783	4.25	3.01	0.06	0.04	0.88		4.09	35.17%	1.19	42.43%
45	Danforth Drive Sewer Extension	1005041	7/21/2008	18.0	48.6	8832	4.32	3.01	0.03	0.02	0.88		4.11	35.34%	1.19	42.67%
46	M-59 East/Pontiac Lake Road pressure sewer			122.6	331.02	9163	4.06	2.99	0.21	0.15	0.92		4.24	36.47%	1.15	44.26%
47	Wal-Mart expansion			60.0	162	9325	4.18	2.98	0.10	0.07	0.93		4.31	37.03%	1.14	45.05%
48	Ivy Glenn	1008257	3/4/2015	21.0	56.7	9381	4.30	2.98	0.04	0.03	0.94		4.33	37.22%	1.13	45.32%
49	Caswell Sewer Extension	1008293	4/9/2015	2.0	5.4	9387	4.44	2.98	0.00	0.00	0.94		4.33	37.24%	1.13	45.35%
50	Kroger D-759	P41000084	2/26/2016	66.4	179.28	9566	4.16	2.97	0.12	0.08	0.96		4.40	37.84%	1.11	46.21%
51	Worthington Crossing Phase 1	P41000215	5/9/2016	86.0	232.2	9798	4.12	2.96	0.15	0.11	0.98		4.49	38.63%	1.09	47.33%
52	Worthington Crossing Phase2	Pending		58.0	156.6	9955	4.18	2.96	0.10	0.07	1.00		4.55	39.15%	1.07	48.09%
53	The Bluffs at Williams Lake Crossing (Phase 2&3)	P41000252	5/9/2016	25.0	67.5	10022	4.29	2.95	0.04	0.03	1.00		4.58	39.38%	1.07	48.42%
54	Castlewood SAD	1000430	8/2/2016	106.0	286.2	10309	4.09	2.94	0.18	0.13	1.03		4.69	40.34%	1.04	49.80%
55	Lakeview Sewer Extension SAD- Not Constructed	Pending		0.0	0	10309	4.50	2.94	0.00	0.00	1.03		4.69	40.34%	1.04	49.80%
56	4 Corners Square	P41001247	1/9/2018	72.8	196.452	10505	4.15	2.93	0.13	0.09	1.05		4.77	40.99%	1.02	50.75%
57	Preserve at Hidden Lake (Phase 1 Units Only)	P41002175	8/2/2019	30.0	81	10586	4.27	2.93	0.05	0.04	1.06		4.80	41.26%	1.01	51.14%
57A	Preserve at Hidden Lake (Phase 2 & 3)	P41002613	6/15/2020	47.0	126.9	10713	4.21	2.92	0.08	0.06	1.07		4.85	41.68%	1.00	51.75%
57B	Preserve at Hidden Lake (Phase 4)			17.4	46.98	10760	4.32	2.92	0.03	0.02	1.08		4.87	41.84%	0.99	51.98%
58	Trailside Meadows (Phase 1)	P41002341	11/1/2019	73.0	197.1	10957	4.15	2.92	0.13	0.09	1.10		4.94	42.49%	0.97	52.93%
58A	Trailside Meadows (Phase 2 & 3)	P41003261	7/9/2021	111.0	299.7	11257	4.08	2.90	0.19	0.13	1.13		5.06	43.48%	0.94	54.38%

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WHITE LAKE TOWNSHIP - ACT 451 PERMIT TRACKING SYSTEM

Section 9, Item B.

Updated: 3/4/22											District A	District B	Available			
Purchase Capacity											MGD	MGD	Capacity			
Baseline Peak Flow											2.07	1.43	Average			
Baseline Average Flow											0	0	District A			
Baseline Equivalent Population											0	0	YES			
Baseline Peaking Factor											0	0	A= 30 inch sewer = 11.63 cfs			
											4.5	4.5	B= 18 inch sewer =			
District A		Permit #	Permit Date	REUs	PP	TCPE	PPF	TCPF	QP	QPI	Average Outlet Eq. Capacity (allocated)		Peak Outlet Eq. Capacity		District A Available Capacity	
									cfs	cfs	MGD		cfs	% Used	MGD	% Used
59	New Hope White Lake	P41002903	11/10/2020	45.6	123.12	11380	4.22	2.90	0.08	0.06	1.14		5.10	43.88%	0.93	54.98%
60	West Valley (on site)	Pending	Pending	41.4	111.78	11492	4.23	2.89	0.07	0.05	1.15		5.15	44.25%	0.92	55.52%
60A	Lake Pointe	Pending	Pending	47.9	129.33	11621	4.21	2.89	0.08	0.06	1.16		5.20	44.67%	0.91	56.14%
61	Hulbert Street Sanitary Sewer SAD	Pending	Pending	19.0	51.3	11672	4.31	2.89	0.03	0.02	1.17		5.21	44.84%	0.90	56.39%
62	Aspen Meadows Backwash	Pending	Pending	9.0	24.3	11697	4.37	2.89	0.02	0.01	1.17		5.22	44.92%	0.90	56.51%
Total				4332.1	11697											

East Area - District A
West Area - District B

Notes:

- Column E - Population Equivalent based on 2.7 people per household. **Updated 3-18-2016 MDL**
- Column K - Average Contract capacity allocated if all projects were built.
- Column N - Design peak flow allocated if all projects were built.
- Column M - Percentage of the pipe capacity used for all approved projects.
- 30 inch sewer was installed at a 0.08% slope - capacity is 11.63 cfs @ 2.36 fps.

- PP = Project Population**
- TCPE = Total Cumulative Population Equivalent**
- PPF = Project Peaking Factor**
- TCPF = Total Cumulative Peaking Factor**
- QP = Project Peak Flow**
- QPI = Project Peak Flow impact at the outlet.**
- REU = Residential Equivalent Units**



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan

APPENDIX V

WASTEWATER ASSET MANAGEMENT PLAN

DRAFT

CHARTER TOWNSHIP OF WHITE LAKE WASTEWATER ASSET MANAGEMENT PLAN (WWAMP)

SAW Grant No. 1244-01



December 2019



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DEFINITIONS

ArcGIS – A mapping and analytics software platform that provides contextual tools for mapping and spatial reasoning, so you can explore data and share location-based insights. (Esri)

Assets – Physical components of the wastewater system that can include: sewer main, valves, tanks, pumps, outfalls, storage basins, treatment facilities, and other components that make up the system. (Credit: EGLE)

Asset Inventory – An inventory of the components of the system. (Credit: EGLE)

Asset Management – A continuous process that guides the acquisition, use, and disposal of infrastructure assets to optimize service delivery and minimize costs over the asset’s entire life. (Credit: EPA)

Asset Management Program – Managing infrastructure capital assets to minimize the total cost of owning, operating, and maintaining assets at acceptable levels of service. (Credit: Esri)

Business Risk Evaluation (BRE) – The process used to assess the criticality of an asset by defining and analyzing the dangers to individuals, businesses, and government agencies against a given set of criteria to mitigate the life cycle impacts of new infrastructure assets on the environment and enhance positive social and economic impacts.

Capital Improvement Plan (CIP) – is a short-range plan, usually four to ten years, which identifies capital projects and equipment purchases, provides a planning schedule and identifies options for financing the plan. The CIP considers the following capital needs: future regulations, major asset replacement, system expansion, system consolidation, and improved technology. (Credit: EGLE)

Cityworks – A software platform that provides comprehensive public asset and work management solutions for infrastructure to leverage the community’s GIS investment. (Credit: Cityworks)

Consequence of Failure (COF) – is one part of the BRE equation to determine risk by reviewing and ranking the potential consequences for the equipment, personnel, environment, etc. in the event of equipment failure.

Criticality – How likely it is the asset will fail (probability of failure) and the consequence of failure. Criticality scores range from 1 to 25, where scores above 16 are considered to be critical. (Credit: EGLE)

Fats, Oils, and Grease (FOG) – Means any hydrocarbons, fatty acids, soaps, fats, waxes, oils, and any other nonvolatile material of animal, vegetable, or mineral origin that is extractable by solvent in accordance with standard methods.

Geographic Information System (GIS) – A geographical information system designed to capture, store, and manage all types of geographical data.

Infiltration – Groundwater that infiltrates a sewer system through defective sewer main, Sewer main joints, connections, or manholes. Infiltration is generally measured during seasonally high ground water conditions, during a dry period. (Credit: EPA)

Inflow – Water other than sanitary flow that enters a sewer system from sources which include, but are not limited to: roof drains, sump pumps, yard drains, area drains, drains from wet areas, cross connections between storm sewers and sanitary sewers, catch basins, cooling towers, stormwater, surface runoff (including leaking manhole covers), street wash-water, or drainage. Inflow is generally measured during wet weather. (Credit: EPA)

Level of Service (LOS) – A basic level of service definition for most collection systems will be to deliver reliable sewer collection services at a minimum cost, consistent with applicable environmental and health regulations. Level of service criteria will be system-specific but should include: ensuring adequate system capacity for all service areas, eliminating system bottlenecks due to sewer main blockages, reducing peak flow volumes through inflow/infiltration (I/I) controls, providing rapid and effective emergency response service, and minimizing cost while maximizing effectiveness of maintenance programs. (Credit: EPA)

Michigan Department of Environment, Great Lakes, and Energy (EGLE) – The EGLE administers and oversees environmental regulatory programs for the state.

Mission Statement – Defines the Asset Management Program and provides an overarching purpose for managing the program. (Credit: EGLE)

Probability of Failure (POF) – Defines the likelihood that a piece of equipment will fail at a given time based on an assets age, condition, failure history, historical knowledge, maintenance records, and knowledge regarding how that type of asset is likely to fail. The POF is half of the equation when determining risk as part of the BRE methodology.

ACRONYMS USED

AMP – Asset Management Plan

BRE – Business Risk Evaluation

CMMS – Computer Maintenance Management System

COF – Consequence of Failure

EPA – Environmental Protection Agency

EGLE – Michigan Department of Environment, Great Lakes, and Energy

FOG – Fats, Oils, and Grease

FCIPP – Full Length Cured-In-Place-Pipe-Liner

GIS – Graphic Information System

LOS – Level of Service

MACP – Manhole Assessment Certification Program

MDNR – Michigan Department of Natural Resources

NASSCO – National Association of Sewer Service Companies

PACP – Pipeline Assessment Certification Program

POF – Probability of Failure

PVC – Polyvinyl Chloride Pipe

RCP – Reinforced Concrete Pipe

RPM – Reinforced Plastic Mortar Pipe (Truss Pipe)

SCIPP – Sectional- Cured-In-Place-Pipe-Liner

SWAMP – Stormwater Asset Management Plan

WWAMP –Wastewater Asset Management Plan

EXECUTIVE SUMMARY

INTRODUCTION

The Charter Township of White Lake (Township) applied for and was subsequently awarded a Stormwater, Asset Management, and Wastewater (SAW) Grant for \$570,514 with a local match of \$57,051, from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) for the purposes of development and implementation of a Wastewater Asset Management Plan (WWAMP). A Grant Agreement between the Township and the EGLE was entered into in December 2016 with an effective grant period from January 2017 to December 2019. Please refer to Appendix A for a copy of the grant agreement.

A project team consisting of pertinent Township staff as well as engineering and financial consultants undertook the mission of developing and implementing the WWAMP with the final goal of receiving approval from the EGLE. The final WWAMP report will be placed on file at Township Hall and made available to the public for a period of 15 years, beginning in December 2019.

The Oakland County Water Resources Commissioner’s Office (WRC) has a contractual agreement with the Township to operate and maintain the Township’s wastewater collection system. The Township desires to proactively manage the wastewater collection system assets in a cost-effective manner because:

- these assets represent a major public investment and trust;
- well-run utilities are important for economic development;
- asset management promotes efficiency and accountability in the operation of the system;
- these assets provide an essential customer service; and
- proper management of the assets provides the basis for self-sufficiency.

The assets that make up the Township’s wastewater collection system depreciate over time as they age and deteriorate. As this happens, the level of service expected by Township customers may become compromised while operation and maintenance (O&M) costs continue to increase. The goal of WWAMP development is to mitigate the deterioration of the assets through development of a practical and rigorous methodology for wastewater collection system asset management designed to meet established level of service goals in a cost-effective way through the creation, acquisition, operation, maintenance, rehabilitation, and disposal of assets. Successful execution of a WWAMP will help to ensure cost effective, efficient, and accountable operations to ensure long-term cost-effective sustainability.

As part of the WWAMP project, an asset management team was convened to oversee development and implementation. A list of the team members is outlined in Table 1 on the following page.

Table 1 Asset Management Team Members

Member Name	Position	Organization
Rik Kowall Terry Lilley Aaron Potter	Township Supervisor Township Clerk Public Services Director	White Lake Township
Terry Biederman, P.E. Michael Leuffgen, P.E. Leigh Merrill, P.E. Kathryn Maki, P.E. Tim Weir, P.S. Laura Gruzowski Andrew Murray Sean Weeder	Consulting Engineers	J&A-DLZ
Tom Traciak	Financial Consultant	Baker Tilly

The Township’s wastewater collection system is comprised of both pressure sanitary sewers and gravity sanitary sewers (approximately 40 miles), serving 4,500 people (approximately 15% of the Township’s population). The wastewater collection system generally flows from north to south, utilizing ten (10) sanitary sewage pumping and six hundred and twenty-nine (629) grinder pumping stations (approximately 27 of which are commercial). The wastewater flow is ultimately discharged into Commerce Township’s collection system and is conveyed to the Commerce Township Wastewater Treatment Plant for treatment.

Due to the age of the system, none of the wastewater collection system was televised as part of this project. Four hundred and seventy-eight (478) gravity sewer and one hundred and twelve (112) pressure sewer manholes were GPS located and assessed (76.5% of the wastewater collection system); all ten (10) pumping stations were inventoried; and WRC CCTV data was incorporated into GIS and Cityworks as part of the project.

BACKGROUND

The Township’s strategic timeframe for the WWAMP is for planning years 2020-2039. It outlines the framework to provide proactive asset management guidance and planning of the wastewater collection system. It was developed to meet the EGLE SAW grant program outline requirements over a twenty (20) year planning and operational period to ensure optimal asset management and Capital Improvement Planning (CIP) for the Township’s wastewater collection system infrastructure.

The five (5) core components of an EGLE approvable WWAMP are listed as follows:

- 1) Asset Inventory
- 2) Level of Service
- 3) Asset Criticality
- 4) Revenue Structure
- 5) Capital Improvement Project Plan

ASSET INVENTORY

Approximately 15% of the Township is served with a wastewater collection system that consists of gravity main, pressure main, manhole, pumping station, and grinder station assets. The remainder of the system is served by onsite sewage disposal systems (individual septic systems). In 2013, the Township completed the Bogie Lake Road Low Pressure and Huron Valley Schools Force Main project, located in the Western District service area, to allow for future expansion of the system.

A total of 590 sewer manholes were inventoried and located with a GPS and Robotic Total Station to establish State Plan Coordinates (northing, easting, and elevation of rims and inverts). These asset types and locations were then incorporated into the Township’s GIS. The Township’s base GIS information includes parcels, road centerline, and other feature layers.



Wastewater Manhole Structure

Several manholes that were initially in the Township’s GIS were located, but could not be inspected due to: vehicles parked over the structures, structures within the roadway that were eventually paved over, lids that were bolted down, etc.

Of the manholes that were GPS located and assessed, 171 manholes were buried, not found, or the manhole cover bolts were damaged, preventing access. Please refer to Table 2 for the manhole asset survey summary.

Table 2 Wastewater Collection System Asset Inventory Summary

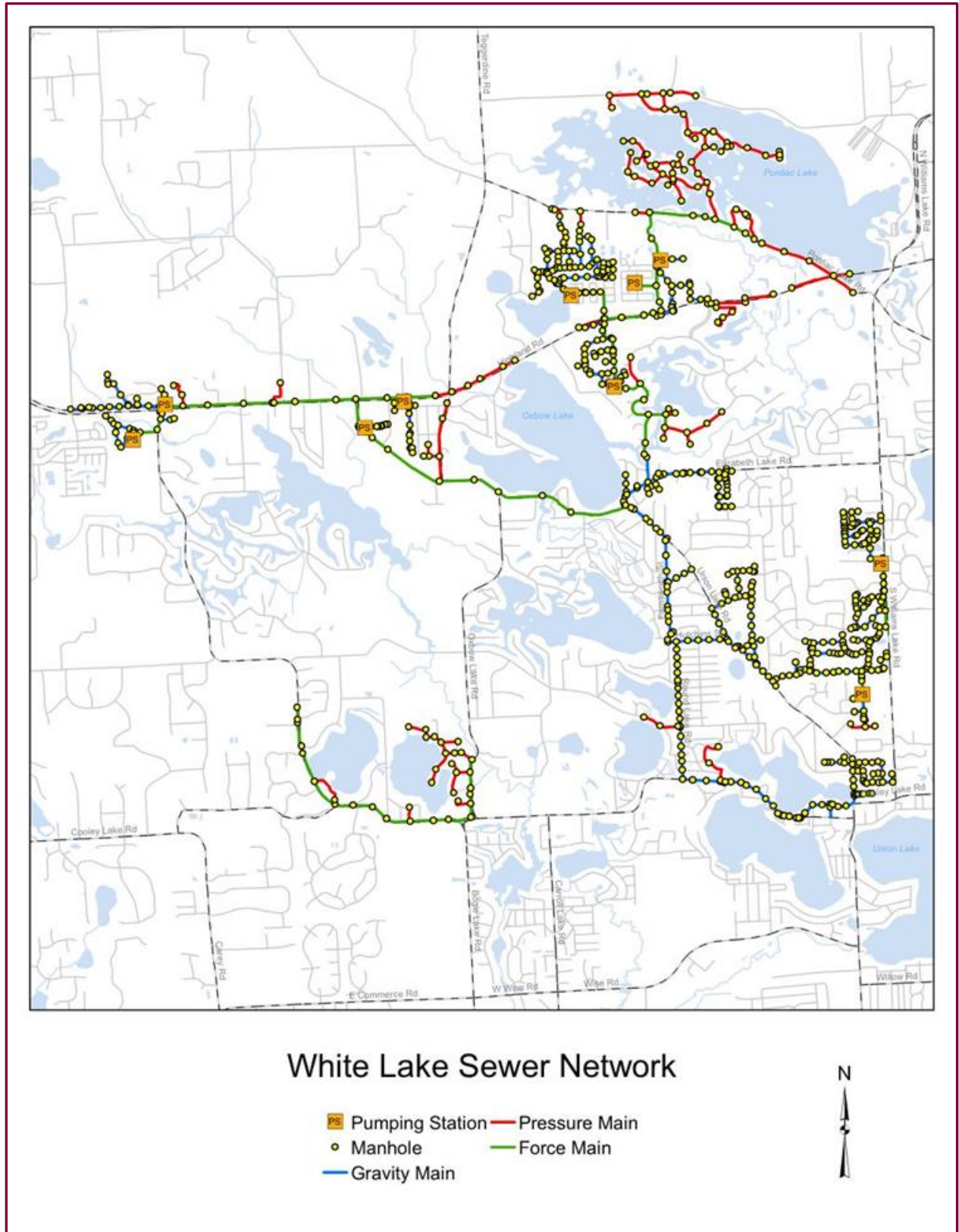
Wastewater Asset	Number Inspected/Comments
Estimated Total Manhole Count	771
Manholes Located and Inspected	590
Manholes Not Located/Found	171

Table 3 and Figure 1 quantify and graphically summarize the Township’s wastewater collection system.

Table 3 White Lake Township Wastewater System Asset Inventory

System Asset	Quantity	Unit
Gravity Sewer Main - 6 inch	65	LF
Gravity Sewer Main - 8 inch	59,329	LF
Gravity Sewer Main - 10 inch	15,316	LF
Gravity Sewer Main - 12 inch	4,404	LF
Gravity Sewer Main - 15 inch	2,689	LF
Gravity Sewer Main - 18 inch	5,578	LF
Gravity Sewer Main - 21 inch	958	LF
Gravity Sewer Main - 24 inch	1,097	LF
Gravity Sewer Main - 27 inch	2,274	LF
Gravity Sewer Main - 30 inch	13,044	LF
Unknown	3,841	LF
Gravity Manholes	571	Ea
Gravity Laterals	774	Ea
Pressure Sewer Main - 2 inch	16,264	LF
Pressure Sewer Main - 3 inch	20,434	LF
Pressure Sewer Main - 4 inch	27,297	LF
Pressure Sewer Main - 6 inch	12,691	LF
Pressure Sewer Main - 8 inch	7,523	LF
Pressure Sewer Main - 10 inch	5,095	LF
Pressure Sewer Main - 12 inch	25,117	LF
Pressure Manholes	200	Ea
Pressure Laterals	625	Ea
Grinder Stations	629	Ea
Pumping Stations	10	Ea

Figure 1 White Lake Township Wastewater System



Due to the age of the Township wastewater collection system and grant implementation requirements, SAW Grant funds were not used to televise and clean the Township’s sewer main. However, the Township gathered WRC CCTV data from previous years for the preparation of the Township Business Risk Evaluation and Capital Improvement Plan.

Since specific areas of sewer main and interceptor structural issues that may need repair or lining were not identified during the development of the WWAMP, it is recommended that as project limits for water main replacement projects or street rehabilitation projects are determined, that sewer main within these project limits are inspected via televising to identify potential problems. This will allow for the sewer main in the project areas to be analyzed to determine how best to correct them and, if replacement or rehabilitation is needed, these tasks can be completed in advance of completion of new road work or during other infrastructure upgrades.

Condition Assessment/Remaining Useful Life

To perform a condition assessment, eligible sewer main and manholes were inspected using the guidelines of the National Association of Sewer Service Companies (NASSCO) Pipe/Manhole Assessment and Certification Program (PACP) standards. This system is the North American standard for pipeline and manhole defect identification and assessment, providing standardization and consistency to methods in which conditions are identified, evaluated, and managed. Under the SAW grant, sewer main older than twenty (20) years of age are eligible to be inspected using closed-circuit television (CCTV) equipment. Approximately 590 manholes were inspected using NASSCO standards.



Wastewater Manhole Structure

The NASSCO system refers to the North American standard for pipeline and manhole defect identification and assessment providing standardization and consistency to methods in which conditions are identified, evaluated, and managed. Please refer to Table 4 for the NASSCO rating system utilized to rate the sewer manholes.

Township pumping stations were also evaluated and scored with input and historical information provided by Department of Public Services (DPS) and WRC staff. Ratings of sewer main, manholes, and pump stations were catalogued into a spreadsheet to be used for analysis, financing and CIP development. Please refer to Table 4 for the NASSCO rating system utilized to rate the Township’s sanitary sewer infrastructure.

Table 4 NASSCO Condition Grades

Condition Grade	Definition
5	Most significant defect grade
4	Significant defect grade
3	Moderate defect grade
2	Minor to moderate defect grade
1	Minor defect grade

An asset reaches the end of its useful life when it is physically non-functioning, no longer performs as it was intended, and/or is no longer the most cost-effective solution to maintain a certain level of performance. The estimated remaining useful life is different for every type of asset. For the purpose of the SAW grant project evaluation, the wastewater collection system sewer mains were estimated to have a useful life of approximately 80 years.

Replacement Cost

The replacement cost of the wastewater collection system assets was determined by multiplying the total quantity of each asset by an estimated replacement unit cost for each asset. The estimated replacement unit costs for each asset were derived from recent related local bids and estimated cost of materials. The total replacement cost for all of wastewater collection system assets was estimated to be approximately \$80.7 million. Table 5 summarizes the wastewater collection system asset replacement costs.

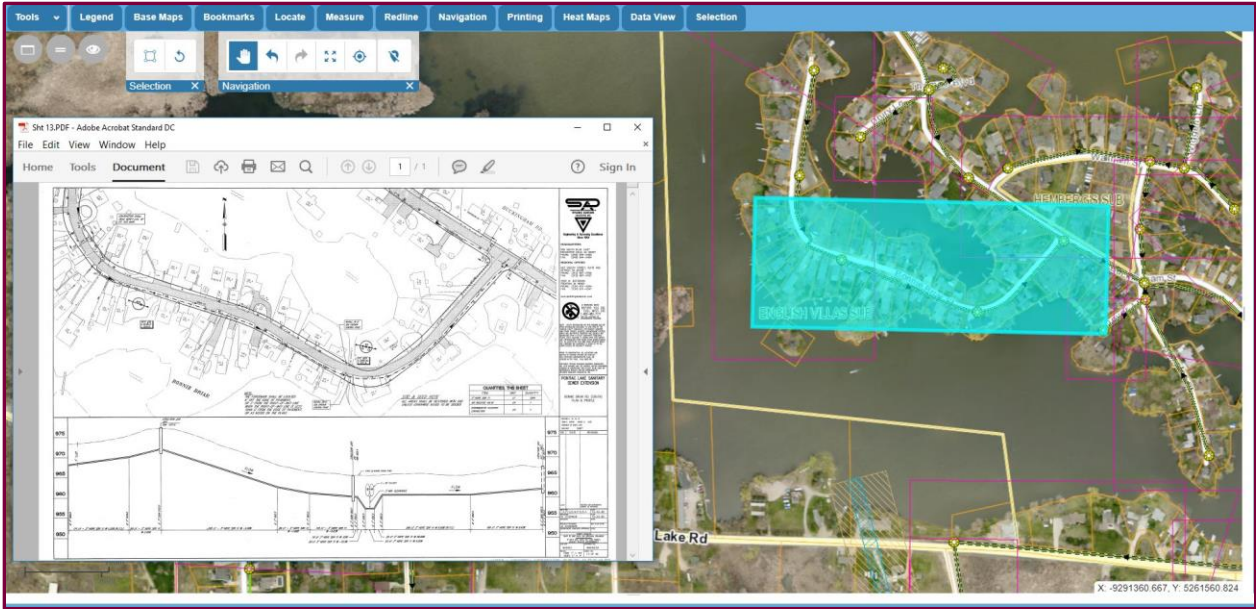
Table 5 Wastewater Asset Summary & Replacement Costs

System Asset	Quantity	Unit	Replacement Cost (estimated)
Gravity Sewer Main - 6 inch	65	LF	\$8,840
Gravity Sewer Main - 8 inch	59,329	LF	\$8,068,744
Gravity Sewer Main - 10 inch	15,316	LF	\$1,715,392
Gravity Sewer Main - 12 inch	4,404	LF	\$528,480
Gravity Sewer Main - 15 inch	2,689	LF	\$430,240
Gravity Sewer Main - 18 inch	5,578	LF	\$1,115,600
Gravity Sewer Main - 21 inch	958	LF	\$229,920
Gravity Sewer Main - 24 inch	1,097	LF	\$307,160
Gravity Sewer Main - 27 inch	2,274	LF	\$727,680
Gravity Sewer Main - 30 inch	13,044	LF	\$5,217,600
Unknown	3,841	LF	\$460,964
Gravity Manholes	571	Ea	\$4,796,400
Gravity Laterals	774	Ea	\$2,105,280
Pressure Sewer Main - 2 inch	16,264	LF	\$3,903,360
Pressure Sewer Main - 3 inch	20,434	LF	\$6,538,880
Pressure Sewer Main - 4 inch	27,297	LF	\$10,918,800
Pressure Sewer Main - 6 inch	12,691	LF	\$6,599,320
Pressure Sewer Main - 8 inch	7,523	LF	\$3,611,040
Pressure Sewer Main - 10 inch	5,095	LF	\$3,719,350
Pressure Sewer Main - 12 inch	25,117	LF	\$14,065,520
Pressure Manholes	200	Ea	\$1,600,000
Pressure Laterals	625	Ea	\$1,600,000
Commercial Grinder Stations	27	Ea	\$648,000
Pumping Stations	10	Ea	\$1,800,000
Total			\$80,716,646

Asset Management Hardware & Software Tools

All wastewater collection system manholes located and inventoried in the Township, as part of the SAW grant project, were located using Global Positioning System (GPS) equipment and have latitude and longitude coordinates with accuracies in the inch range. Those coordinates were then utilized to map the manholes and connect the associated sewer and pressure mains into an updated and spatially accurate Township wastewater collection system GIS. In addition, existing Township wastewater collection system construction plans and other drawings were scanned and electronically integrated into the Township’s wastewater collection system ESRI based GIS system infrastructure layers as well as all sewer main CCTV inspection videos obtained from WRC for quick retrieval and review by Township staff. Please refer to Figure 2 for an example of a wastewater lead card that was scanned and digitized to GIS.

Figure 2 Sewer Main As-Built Drawing & Lead Card in GIS/Cityworks



A SAW grant project total of \$98,368.16, per SAW grant population guidelines, was allocated for hardware and software purchases as well as training for DPS staff.

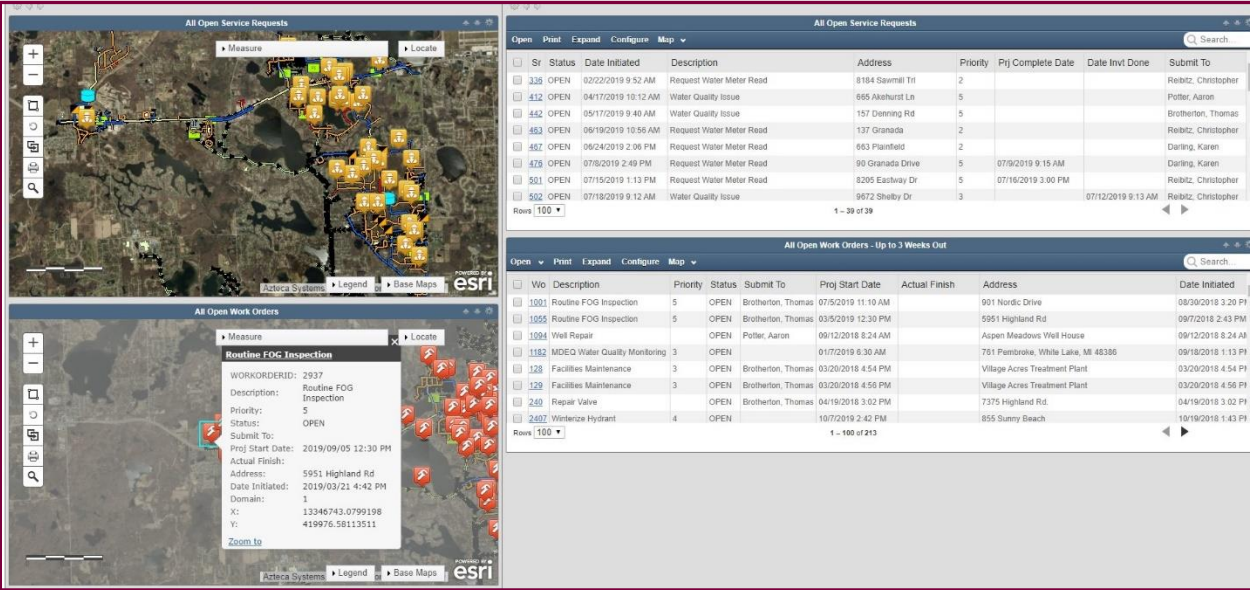
As part of hardware procurement, a Trimble R2 GNSS receiver (rent to own agreement) and GNSS Tablet were purchased for the purpose of GPS locating sanitary sewer assets. Dell laptops, computer monitors, and tablets were also purchased for the purpose of record retrieval and access to the Township’s GIS and Cityworks Computer Maintenance Management System (CMMS) implementation. The tablets were also equipped with 4G/LTE cell modems to provide staff with remote field access capability to the information anywhere and anytime.

Licenses for the Azteca Cityworks CMMS application were also obtained and implemented providing the Township with a GIS-Centric CMMS application to manage work orders and to aid in the development of the wastewater collection system CIP. This software application allows the

Township to optimize staff resources through the reduction of manual paperwork and scheduling by logging in resident complaints and work processes through customer service requests and work orders to ensure staff are focused on doing the right things at the right times while capturing labor, equipment, and materials needed to complete the work. The CMMS application was developed and implemented to work with the mobile capable tablets and laptops that were purchased for the Township under the SAW grant.

Another component of the AMP also included the development and implementation of a Fats, Oils, and Grease (FOG) program for commercial kitchen properties in the Township. This program will serve to minimize labor and material costs of program management, ensure regulatory compliance, and reduce potential wastewater system problems due to accumulations of FOG in the Township’s wastewater collection system. Each commercial kitchen property in the Township that generates FOG was integrated into the Township’s GIS and Cityworks CMMS applications. Inspections and work orders are generated and completed in the Cityworks CMMS along with attached business pump-out records, equipment photos and other information providing fast and accurate information retrieval and use by DPS staff. Figure 3 illustrates the Cityworks/GIS interface where a work order was created for a routine FOG inspection.

Figure 3 Cityworks Work Order Illustration



LEVEL OF SERVICE

A Level of Service (LOS) plan was developed by the SAW team members, which defines how the Township wants the wastewater collection system to perform against established operational, planning and best management practices. The LOS standards and goals were developed with review and input from the Township DPS staff. Issues addressed in the development of the LOS included:

- Is the Township ever out of compliance with regulations? If so, how often?
- How do the Township and WRC track and respond to customer needs and complaints?

- Are current staffing levels sufficient to provide proper customer service?
- Are current O&M activities cost-effective and are they being maximized?
- How can current processes be improved?
- Are assets being properly maintained to insure reliability and sustainability?
- How will improvement costs be funded?

In the development of the LOS goals, several tools were reviewed and analyzed, such as:

- existing and proposed land uses;
- areas of development and redevelopment;
- population trends and population loss;
- review of previous reports and studies; and
- staff and consultant knowledge of the systems.

During review, it was identified that:

- better coordination and information transfer with the WRC is needed to more efficiently and effectively clean and televise the Township sanitary sewer assets and track the costs of repairing and maintaining specific assets and performance against targets.

The analytical framework for the LOS is a triple bottom line approach that incorporates social, environmental, and economic criteria. The social component was divided into four indicators including customer service, reliability, health/safety and administration/organizational development. The environmental component was divided into two (2) indicators that included environmental stewardship and regulatory compliance. The economic component was centered on financial criteria. The LOS impetus was determined to be either self, customer, or regulatory driven with current and future targets identified with their respective performance measures, data, and reporting procedure. Table 6 outlines the triple bottom line performance indicators utilized in the WWAMP.

Table 6 Triple Bottom Line LOS Performance Indicators

Social	Environmental	Economic
<ul style="list-style-type: none"> • Customer Service • Reliability • Health & Safety • Administration / Organizational Development 	<ul style="list-style-type: none"> • Environmental Stewardship • Regulatory Compliance 	<ul style="list-style-type: none"> • Financial

For social indicators, customer service LOS goals focus primarily on the Township’s responsiveness and efficiency (how effectively operations, maintenance, and daily tasks are

performed with limited staff and budget). Reliability was determined to be the dependability of the wastewater collection system to convey flow throughout the system without sewer backups. The health and safety indicator includes the protection of the community’s health and the health of Township staff maintaining the system in accordance with local, state, and federal safety standards. The administration/organizational development indicator considered the optimization of resources and reduction of overall O&M, planning, and engineering costs.

The Environmental LOS goals include environmental stewardship and regulatory compliance. The Township and its residents are committed to protecting their waterways and the environmental stewardship focuses on protecting the water quality of the rivers, creeks, and lakes that flow through the Township including Bogie Lake, Brendel Lake, Cedar Island Lake, Cooley Lake, Haven Hill Lake, Lake Neva, Mandon Lake, Oxbow Lake, Pontiac Lake, Round Lake, Sugden Lake, Thompson Lake, White Lake, and its tributaries. Recreation, open space, and water contribute to 35.2% of the land use within the Township, so environmental stewardship and regulatory compliance are vital to the Township asset management program. Furthermore, vacant land accounts for 13.2% of the Township’s land use, therefore future development and expansion of the Township’s existing wastewater collection system infrastructure is anticipated.

The regulatory compliance component focuses on complying with all the local, state, and federal regulations regarding the wastewater collection system. The Township has already taken measures to reduce overflows of wastewater into local rivers, creeks and lakes through feasibility studies, planning, and project implementation.

LOS goals for the financial indicator have been developed to ensure adequate funding is available to maintain the wastewater collection system.

A rating or color code system was developed to identify strategic areas that do not need improvement, are acceptable with additional improvement needed, and those that require improvement. Table 7 illustrates the rating/color code system.

Table 7 LOS Goals Rating System

Color Code	Rating
Green	No Improvement Needed
Yellow	Acceptable (Perhaps Some Improvement Needed)
Red	Improvement Necessary

As part of its mission, the Township strives to provide reliable wastewater services at the minimum cost necessary to meet environmental and health regulations. The LOS plan has been developed, in part, to reinforce the Mission Statement, which is outlined below:

Strive for a sustainable Township that balances the community’s economic, environmental, and social needs. Promote the identity of White Lake Township as a small country town with City

amenities by protecting and preserving natural features, encouraging redevelopment of obsolete properties, and directing growth and redevelopment to a central community core.

Due to limited staffing and financial resources, WRC currently primarily takes a reactive approach regarding wastewater collection O&M activities. The Township is working to improve this through an organized FOG program, inspection, and Cityworks CMMS implementation. To optimize improvements, the Township will also continue to coordinate utility infrastructure, including wastewater and water infrastructure projects to maximize reinvestment dollars and reduce long term capital costs.

By instituting a WWAMP, which includes conducting condition assessments and determining the criticality of assets, the Township can embark on a proactive approach to managing wastewater collection system assets. The effort will also assist DPS staff to prioritize project development, reduce overall project costs, and improve project planning and management.

The LOS Goals summary table, located in Appendix B, should be viewed as a living document that should be updated and modified as tasks and initiatives are developed and implemented.

ASSET CRITICALITY

The criticality of wastewater collection system assets including sewer manholes, gravity main, pressure main, and pumping stations were examined in regard to their overall functional importance to the operation of the wastewater collection system and their impacts if they failed. To determine the criticality of system assets, a Business Risk Evaluation (BRE) was performed by analyzing the Consequence of Failure (COF) and Probability of Failure (POF) for each asset.

The COF was determined for sewer mains and manholes using the following factors:

- Economic Impacts (Diameter of Asset, Surface Type Above Asset)
- Environmental/Regulatory Compliance (Distance to Surface Water)
- Social/Community Disruption (Number of Customers, Roadway Impact)

The COFs and POFs varied depending on asset type. The COF for the gravity mains were determined based upon factor and weighting percentages outlined in Table 8 on the following page.

Table 8 Consequence of Failure Triple Bottom Line Weighting Factors for Gravity Main

Social/Community Disruption – 45%	Environmental – 20%	Economic – 35%
<ul style="list-style-type: none"> • Number of Customers Served – 35% • Surface Traffic Disturbance – 10% 	<ul style="list-style-type: none"> • Pipeline Proximity to Water – 20% 	<ul style="list-style-type: none"> • Pipe Diameter – 20% • Depth of Pipe – 10% • Surface Above Asset – 5%

The COF for the gravity manholes were determined based upon factor and weighting percentages outlined in Table 9 below.

Table 9 Consequence of Failure Triple Bottom Line Weighting Factors for Gravity Manholes

Social/Community Disruption – 50%	Environmental – 20%	Economic – 35%
<ul style="list-style-type: none"> • Number of Customers Served – 35% • Surface Traffic Disturbance – 15% 	<ul style="list-style-type: none"> • Distance to Water – 20% 	<ul style="list-style-type: none"> • Diameter – 10% • Depth of Pipe – 15% • Surface Above Asset – 5%

The COF for the pressure main were determined based upon factor and weighting percentages outlined in Table 10 on the following page.

Table 10 Consequence of Failure Triple Bottom Line Weighting Factors for Pressure Main

Social/Community Disruption – 45%	Environmental – 20%	Economic – 35%
<ul style="list-style-type: none"> • Number of Customers Served – 30% • Surface Traffic Disturbance – 15% 	<ul style="list-style-type: none"> • Distance to Water – 20% 	<ul style="list-style-type: none"> • Diameter – 30% • Surface Above Main – 5%

The COF for the pressure manholes were determined based upon factor and weighting percentages outlined in Table 11 below.

Table 11 Consequence of Failure Triple Bottom Line Weighting Factors for Pressure Manholes

Social/Community Disruption – 55%	Environmental – 40%	Economic – 5%
<ul style="list-style-type: none"> • Number of Customers Served – 40% • Surface Traffic Disturbance – 15% 	<ul style="list-style-type: none"> • Distance to Water – 40% 	<ul style="list-style-type: none"> • Surface Around Manhole – 5%

Each of the weighting factors were reviewed and agreed upon by DPS staff. The more customers out of service due to a wastewater collection system failure, the more severe the situation. As service is disrupted to a larger number of residents and businesses, additional costs are also incurred to reroute and bypass sewer main, to set up temporary pumping equipment and to notify the public in an expedient manner. Sewer mains associated with critical business facilities and roadway areas are also an important component of this analysis.

Environmental/Regulatory Compliance was established as 20% of the COF for gravity main, manholes, and pressure main, and 40% for pressure manholes. It is assumed that, if community disruptions are kept to a minimum, the Township will remain in compliance with environmental and regulatory standards. Non-compliance can result in the need for public notification, fines and

consent orders to eliminate the problem from reoccurring. Additionally, a wastewater collection system asset further away from surface water is less critical because there is more time to contain and mitigate a Sanitary Sewer Overflow (SSO) if one occurs.

Replacement costs of a section of sewer main and a sewer manhole are directly related to the diameter of the sewer main or manhole and the type of surface above the asset. The factors for each have been assigned scores of 35% and 30% respectively for gravity/pressure mains and manholes and 5% for pressure manholes in the COF analysis. Each sewer main and manhole were assigned an overall COF rating of 1 to 5, with a rating of 1 being a slight effect to 5 being a severe disruption to the wastewater collection system.

The POF was determined for sewer mains using the following factor:

- Structural Condition Rating – Condition ratings were assigned to wastewater mains based on WRC CCTV data, pipe age, pipe material, and hydrogen sulfide concern

The POF was determined for sewer manholes using the following factor:

- NASSCO Structural Rating of the manhole

The structural condition of a sewer main is important given that the wastewater collection system infrastructure is designed to be a sealed system with breaks, or openings, in the sealed system resulting in increased I/I and greater costs to convey and treat the resultant flows. Sewer main structural condition scoring was utilized for the POF to account for the increased likelihood of catastrophic failure for assets in poor condition. An overall POF rating of 1 to 5 was assigned to each sewer main based on structural condition with a rating of 1 being excellent condition and 5 being unserviceable.

The structural condition of a sewer manhole is directly related to the remaining useful life. As the greater amount of structural damage to a structure occurs, the sooner the manhole is likely to fail. An overall POF rating of 1 to 5 was assigned to each sewer manhole based on asset NASSCO structural score with a rating of 1 being excellent condition and 5 being unserviceable.

An overall POF rating of 1 to 5 was assigned to each sewer main and pumping station, with a rating of 1 being excellent condition and 5 being unserviceable.

Comprehensive BRE's were developed for sewer main and manholes. The BRE's were created using sewer main age and NASSCO ratings for the sewer manholes and a COF and POF scoring matrix model. Based on asset scoring, a total BRE score was developed, which is the mathematical product of COF and POF. The BRE score was utilized to rank overall wastewater collection system assets, determine areas of concern, and to guide operation and maintenance and timing of CIP project development. Table 12 provides an outline of the BRE scale.

Table 12 Business Risk Evaluation (BRE) Scale

Business Risk Evaluation (BRE) Total Score	
Business Risk Evaluation Scoring	
Business Risk	Total BRE Score
Critical / Intolerable Risk	16.00 - 25.00
High Risk – Tolerable and Manageable – Aggressive Monitoring	10.00 - 15.99
Medium Risk –Tolerable and Manageable – Monitoring	5.00 - 9.99
Low Risk –Failure is Tolerable	0.00 - 4.99

Based on BRE analysis, there were fourteen (14) sewer main segments that were rated critical. Additionally, forty-five (45) sewer mains and ten (10) manholes were rated high risk. The critical and high-risk sewer mains are scheduled for rehabilitation or continued inspection as part of the Township’s twenty (20) year CIP program. SAW grant project manhole rehabilitation funding levels and scheduling have been developed and are included in the twenty (20) year planning period and outlined in the CIP.

Please refer to Figures 4-7 for BRE maps of the sewer main and manholes.

Figure 4 Gravity Sewer Main Business Risk Evaluation Map

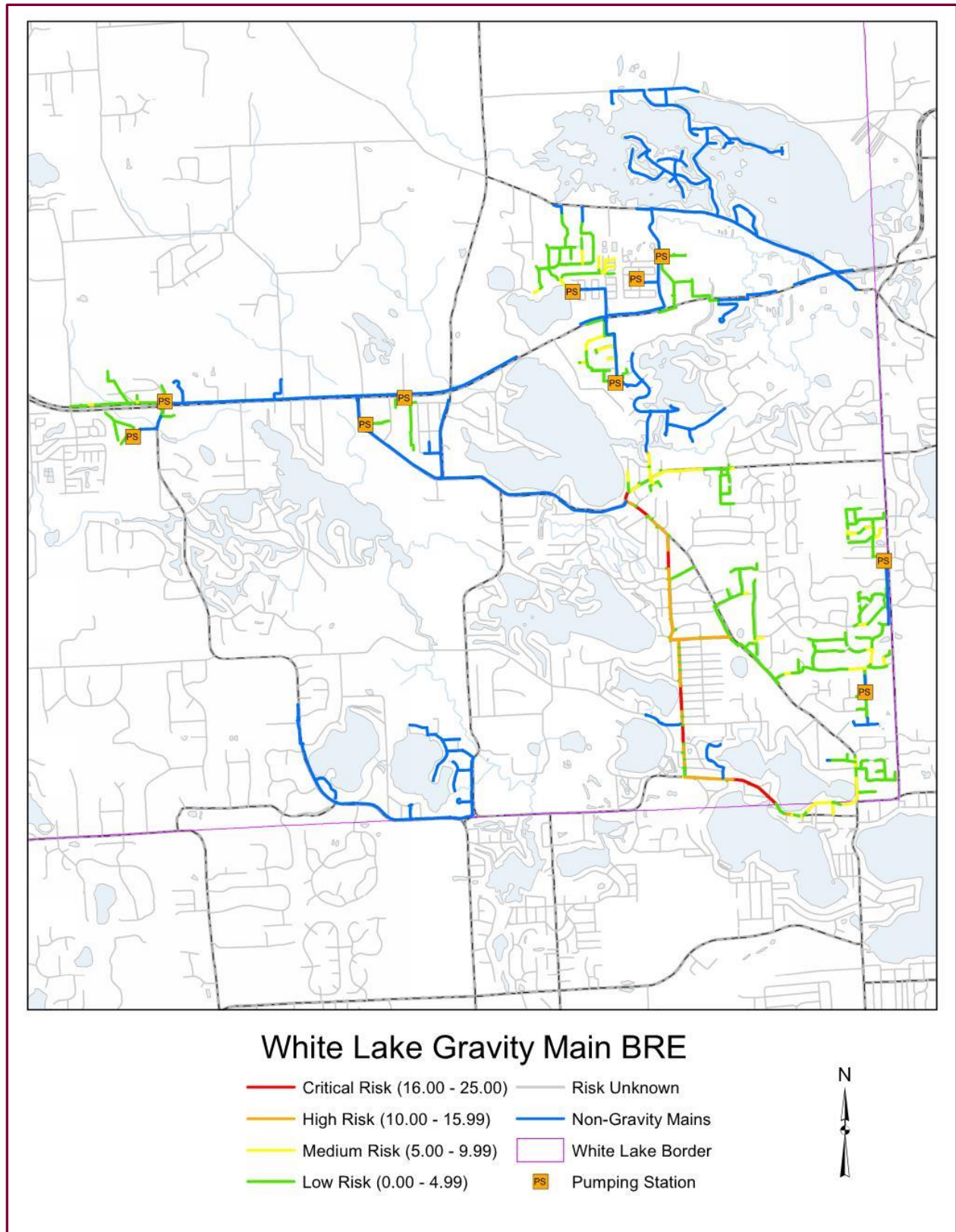


Figure 5 Pressure Main Business Risk Evaluation Map

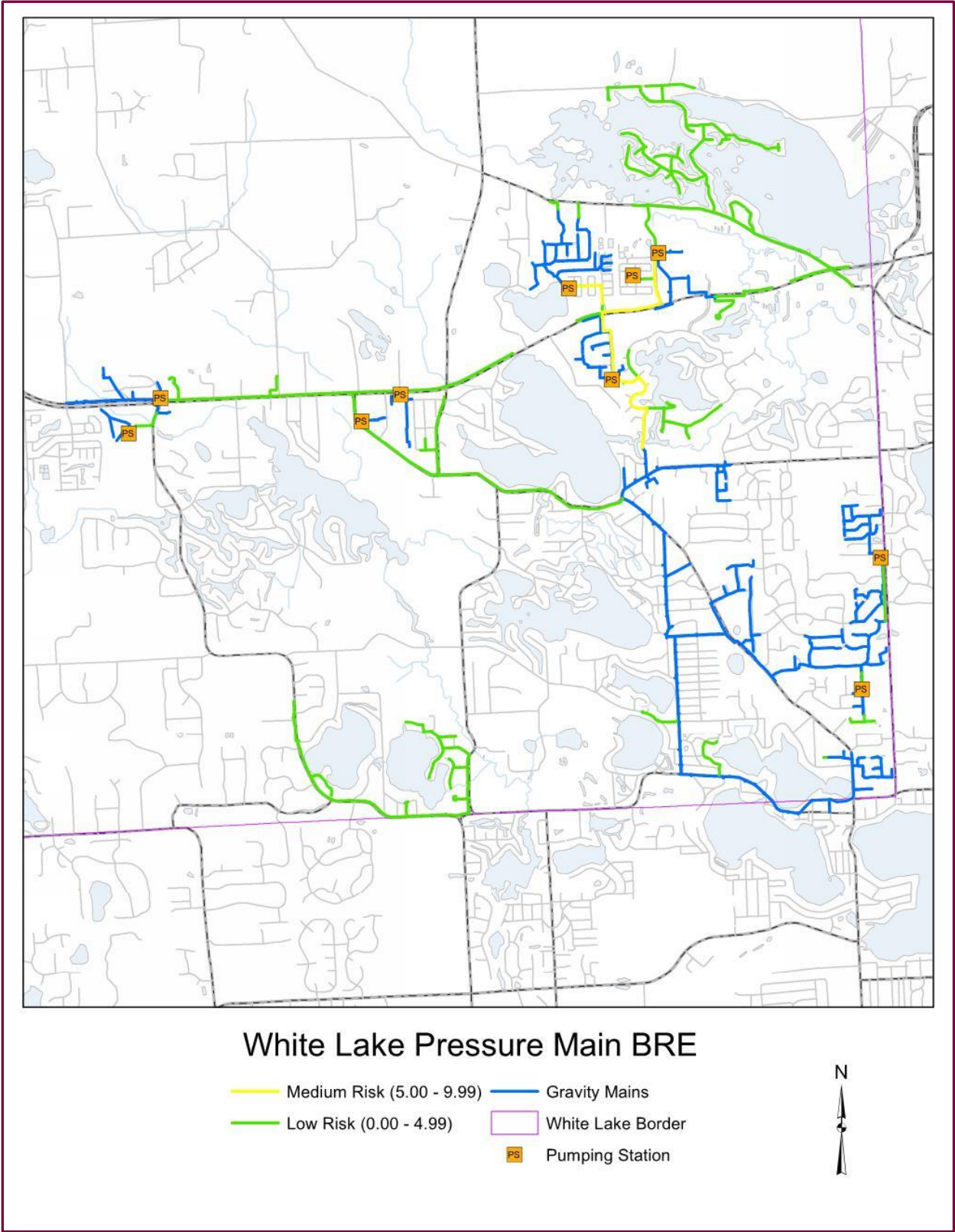


Figure 6 Gravity Manhole Business Risk Evaluation Map

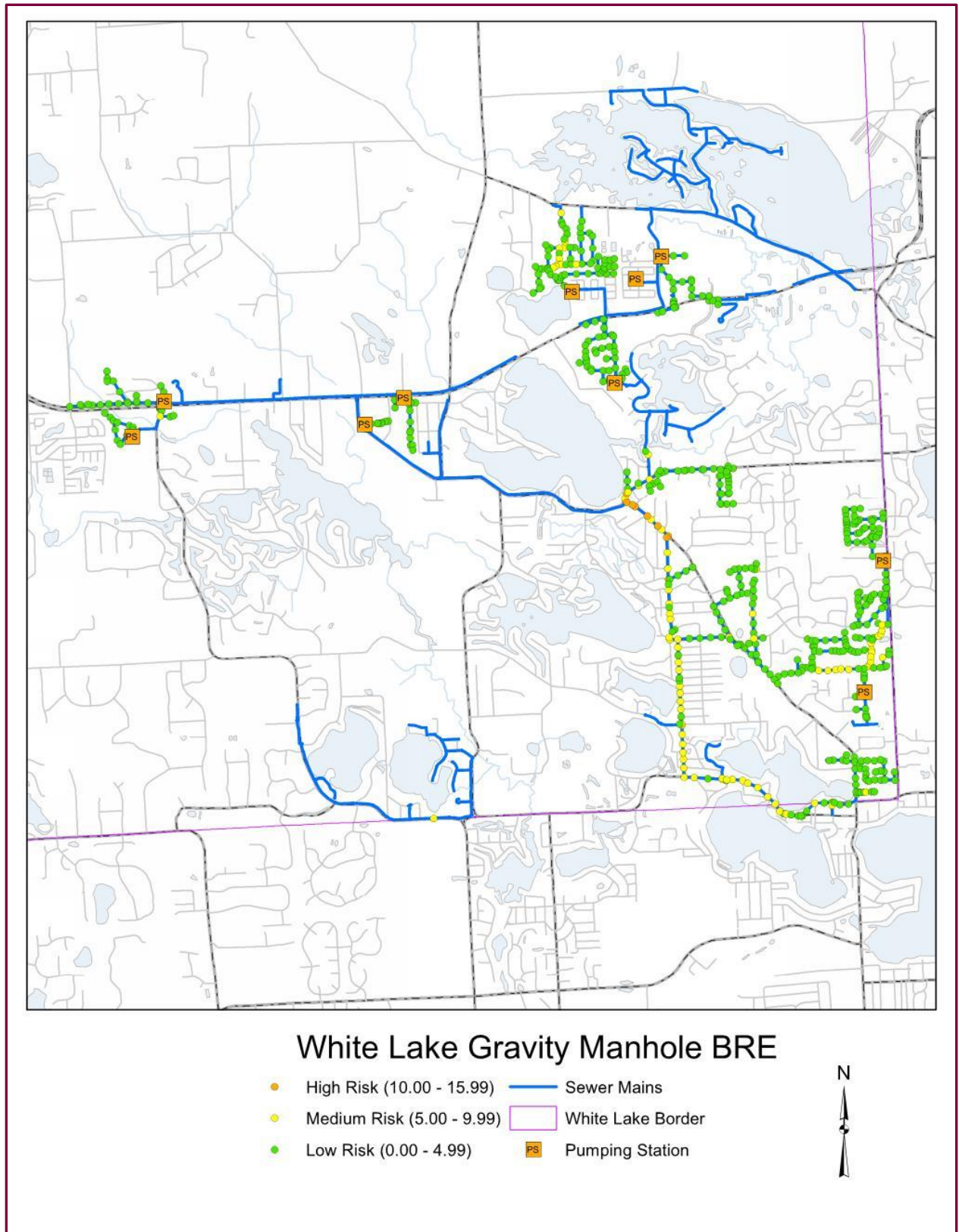
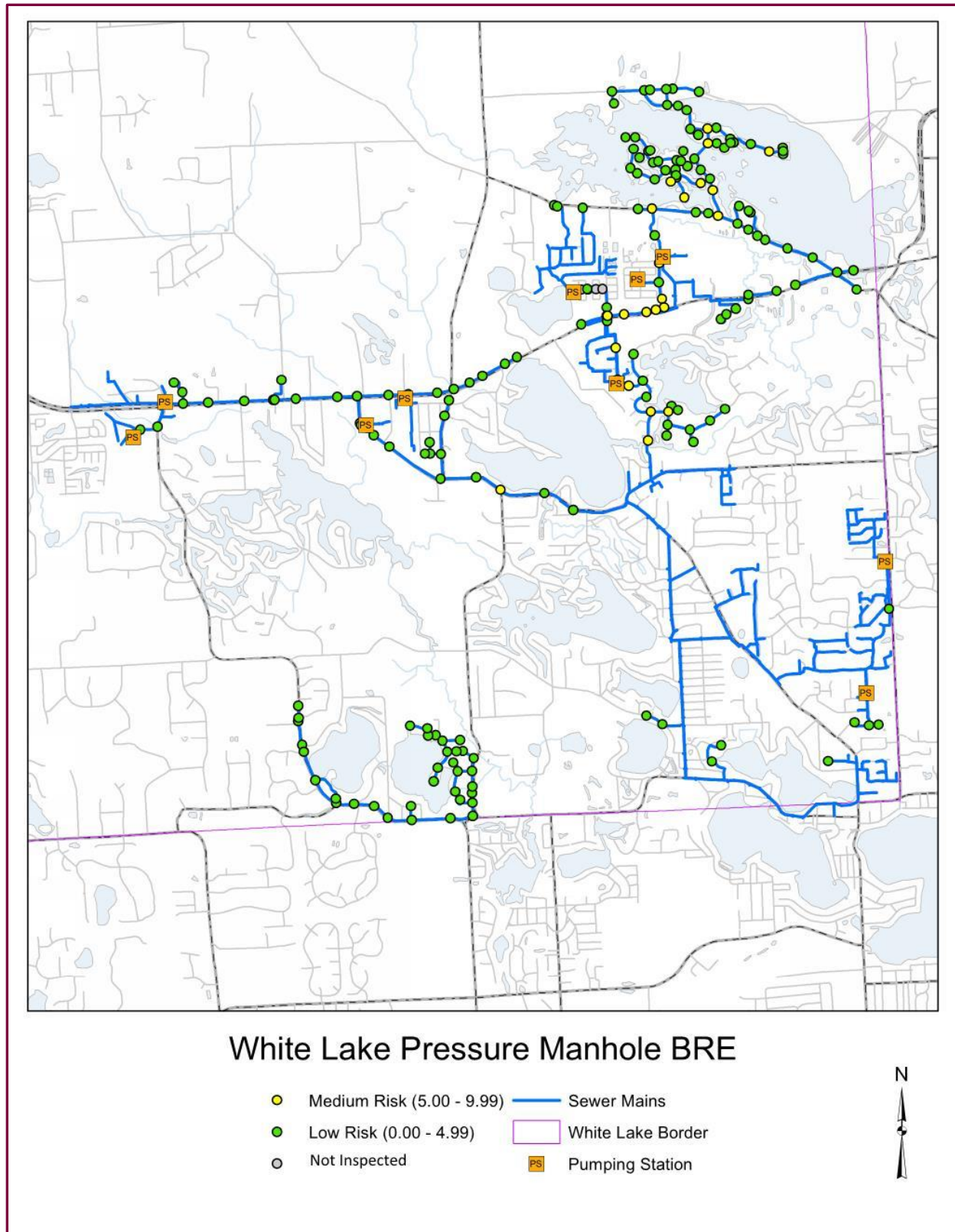


Figure 7 Pressure Manhole Business Risk Evaluation Map



CAPITAL IMPROVEMENT PROJECT PLAN

Using the information obtained during the SAW grant asset inventory and assessment phases, a recommended CIP outline for the twenty (20) year planning period was developed to identify and outline cost and schedules related to the repair and replacement of sewer main, manholes, and pumping stations to ensure reliable operation of the wastewater collection system and to meet new and existing LOS goals.

The largest recurring component of the annual budget costs for the wastewater collection system CIP is gravity main repairs. It is recommended that the Township develop a comprehensive Infrastructure Management Plan (IMP) that encompasses coordinating water and sewer infrastructure repairs and replacements for the entire Township. Continuing coordination with WRC is needed to ensure efficiency. As the remaining portion of the Township wastewater collection system infrastructure is inspected over the twenty (20) year planning period, this information should also be implemented into the GIS and evaluated to further enhance CIP and wastewater asset planning and coordination.

The WRC intends to implement an annual sewer main cleaning and televising program. Therefore, funds have been allocated in the CIP for some of these activities.

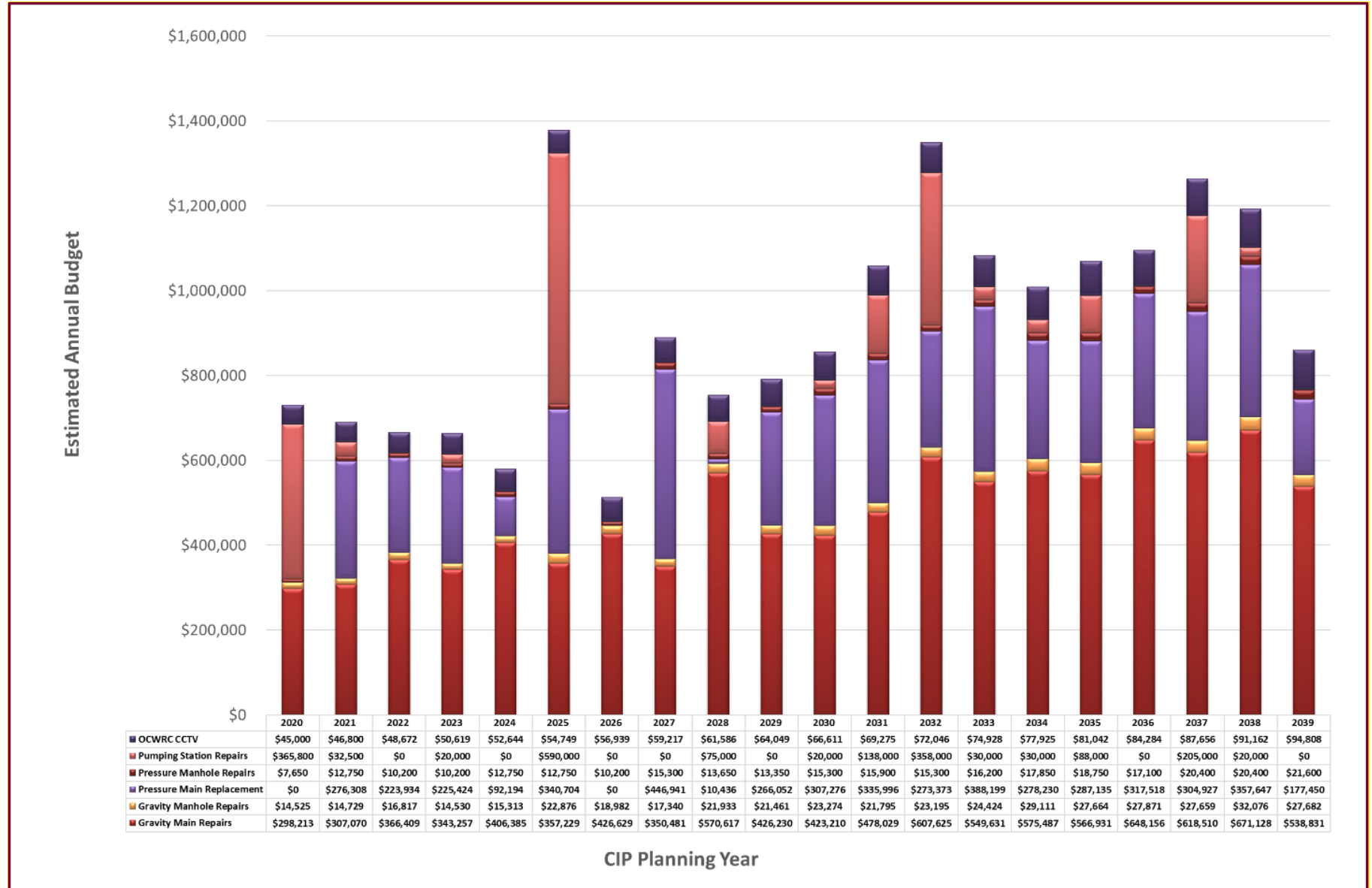
Table 13 contains a summary of costs associated with each asset class for the CIP projects identified over the twenty (20) year planning period.

Table 13 Capital Improvements & O&M

Item Description	Cost
Capital Improvement Costs	
Gravity Manhole Repairs	\$444,000
Pressure Manhole Repairs	\$298,000
Gravity Main Repairs	\$9,531,000
Pressure Main Repairs	\$4,910,000
Capital Improvement Subtotal	\$15,181,000
Township Operation & Maintenance Costs	
OCWRC CCTV of Sanitary Sewer	\$1,341,000
Pumping Station Improvements	\$1,973,000
Elizabeth Lake Road/Oxbow Road Odor Control Program	\$826,000
FOG Program	\$20,000
Operations & Maintenance Subtotal	\$4,160,000
Wastewater System Total	\$19,341,000

Figure 8 summarizes all CIP and identified O&M expenses over the twenty (20) year planning period. Appendix D outlines the City CIP and O&M Project Summary.

Figure 8 White Lake Township Total Wastewater System CIP & O&M Costs/Year



REVENUE STRUCTURE

As required by the SAW Grant Implementation Project guidelines, a non-detailed wastewater collection system revenue/expense budget review was developed and submitted to the EGLE prior to the June 2019 deadline. The review was conducted by financial consultant, Baker Tilly. Upon completion of the review, Baker Tilly submitted a “Schedule of 2019 Budgeted Operating Expenses and Adjustments” to EGLE for review and approval. The required review indicated no wastewater collection system revenue gap and the Township subsequently received an October 17, 2019 letter from EGLE affirming the Township had successfully fulfilled the significant progress requirement and that they were in compliance with Section 5204e(3)(a), Part 52, Clean Water Assistance, of the Natural Resource and Environmental Protection Act, 1994, PA 451, as amended.

Projected twenty (20) year planning period wastewater collection system annual capital projects start at \$771,597 in 2020 and have a high of \$1,436,488 in 2025, but almost always between \$331,000 and \$1,143,000 annually. It must be pointed out that the CIP funding outline over the twenty (20) year planning period does not include unforeseen infrastructure projects, emergencies or repairs and rehabilitations that will be needed as the sanitary sewer main system is inspected and continues to age.

Annual O&M costs included in the report are annual maintenance activities that need to be performed on the wastewater collection system to ensure proper operation. Annual maintenance activities in the WWAMP are comprised of odor control at Elizabeth Lake/Oxbow Road, FOG inspections, and OCWRC CCTVing, which are expected to range from approximately \$87,000 to \$136,000 annually over the twenty (20) year period. The list is not all inclusive and does not include other recurring annual expenses such as labor, retirement, insurance, administrative payments, power and other expenses in the general Sewer Fund budget.

A financial forecasting model was also developed using Township budget information and the WWAMP developed CIP as part of the SAW Grant to review Township funding and financing alternatives over the twenty (20) year planning period. As part of the forecasting model development, it is recommended, and a best management practice, to review the water and sewer rates every 2-3 years to determine their ability to provide the necessary funding for wastewater collection system O&M, CIP activities and debt retirement obligations. As these reviews are completed, the information can be updated into the forecasting model over the twenty (20) year planning period to provide an accurate and comprehensive financing dashboard that outlines the Township’s alternatives for funding necessary O&M, CIP and debt retirement.

SUMMARY

The Township’s WWAMP has been designed and constructed to provide a living and dynamic framework to provide the most cost effective, efficient and accountable wastewater collection system service to the residents and businesses. The analysis framework consists of five (5) main

asset management components: Asset Inventory, Level of Service, Critical Assets, Revenue Structure, and the Capital Improvement Project Plan. The asset inventory and condition assessment were based on as-built information supplemented with field inspection, asset location, and metering information.

Three (3) LOS goal criteria levels including social, environmental and economic were developed to provide an effective framework to gauge program performance. Each level has identified service and goal criteria that can be improved upon. The BRE was based on the product of COF and POF scores, which include economic impacts, regulatory compliance, community disruption, operational condition and structural condition. The analysis provided the basis, over the twenty (20) year planning period, to develop a realistic CIP to cost effectively provide needed wastewater collection system asset repair, replacement and O&M improvements.

The WWAMP also included the development of an accurate and comprehensive GIS that includes a geometric network of the wastewater collection system as well as asset attribute information including sewer main and manhole diameter, date of installation, rim and invert elevations, electronic As-Built drawings, lead locations and photos. A comprehensive hydraulic wastewater collection system model was developed to analyze performance, identify deficiencies and provide planning capabilities. A Cityworks CMMS was also developed and implemented to schedule and track customer complaints as well as staff labor, equipment, and material costs to perform the various operational and capital improvements completed on the wastewater collection system. The GIS and CMMS were also developed to be mobile, enabling staff to utilize and interact with the information in the field using laptops or other mobile devices including tablets and smart phones. These innovative implementations will provide Township staff, and management, with powerful cost tracking, scheduling and project development capabilities to allow continual updating of the CIP.

CONCLUSIONS

The Asset Inventory effort revealed that, overall, the Township's sewer main and sewer manholes are in fairly good condition, which is not surprising, due to the young age of the infrastructure. The CIP development has identified a range of recommended CIP improvements and O&M activities ranging from \$554,070 to \$1,419,628 annually. As the WWAMP is deployed and additional wastewater collection system inspection information is obtained and created, the Township's GIS, hydraulic sewer model and WWAMP can methodically be updated to modify CIP planning and O&M priorities over the twenty (20) year planning period and beyond.

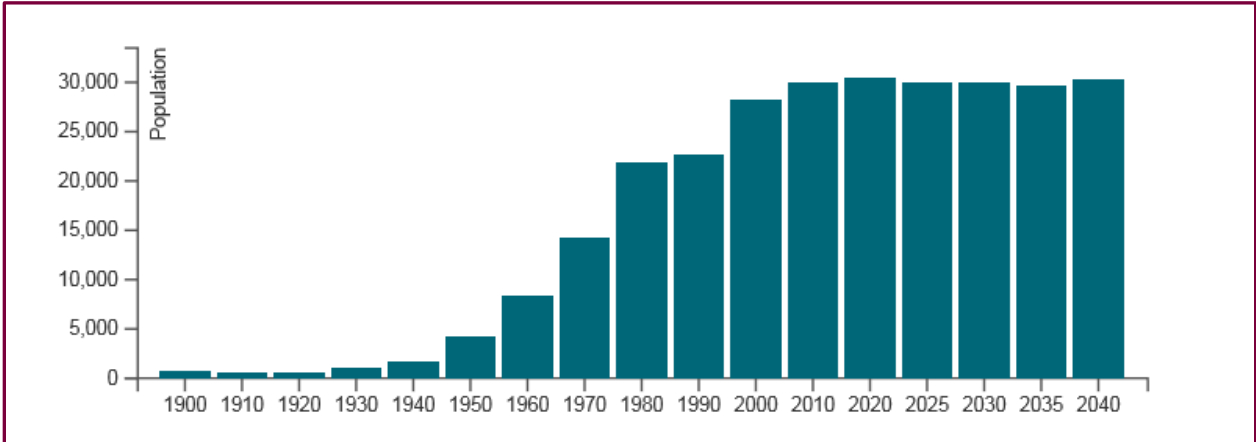
TOWNSHIP PROFILE & BACKGROUND

POPULATION

According to the Southeast Michigan Council of Governments (SEMCOG), the Township population is currently at 30,434 and will continue to slightly increase to 32,235 by 2040 (but will decline in 2045) which should lead to additional users on the wastewater system. It is likely that expansion of the wastewater collection system to currently unsewered areas of the Township will occur and add to the number of users on the wastewater system. Current tracking forms indicate White Lake Township is currently utilizing less than 32% of the available 3.5 MGD purchase capacity based on calculated average daily flows, and less than 42% of peak pipe capacity. This is likely far in excess of actual use as the tracking forms assume all benefited properties are connected to the wastewater system which is certainly not the case. Regardless, the existing infrastructure sizing appears adequate for the twenty (20) year planning period.

By 2045, senior populations (ages 65 and older) are expected to increase by 327% and pre-school aged populations (children under 5) are expected to decrease 5.9%.

Figure 9 White Lake Township Population, 1900-2040



(Source: SEMCOG)

ECONOMY

According to the US Census Data, the 2015 median household income was \$74,442 and the per capita income was \$34,261, which is slightly lower than the County average of \$39,280.

TOWNSHIP LAND USE/ZONING & CHARACTER

The Township encompasses approximately 37.18 square miles. It is bordered by Waterford Township to the east, Highland Township to the west, Commerce Township to the south, and Springfield Township to the north.

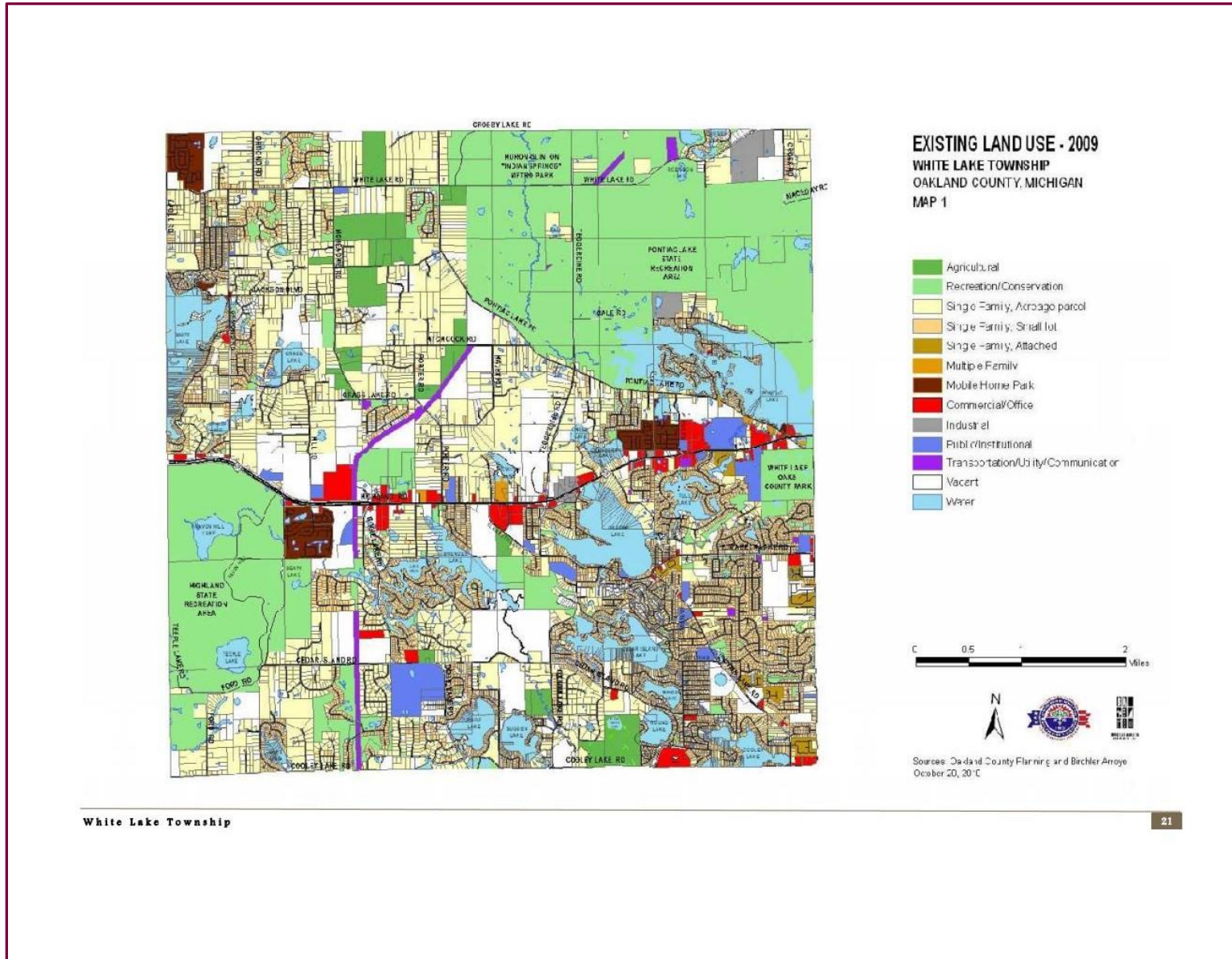
White Lake was organized as a Township in 1836 and is a full-service community offering residents, visitors, and businesses several municipal services including a Police Department, Fire, EMS, fully developed and natural setting parks, pathways, multi-purpose recreation fields, and a Department of Public Services.

The Township offers a diverse mixture of residential land uses from: single and multi-family residential; retail; industrial; agricultural; community open space and recreation; and institutional. Residential land makes up just over 33% of the total land use in the Township. Recreation and open space comprise 24.2% of the total land use and water comprises 11%. The land use table identifies opportunities for development with over 3,000 acres in vacant land. Land use is summarized in Table 14 and is also illustrated in the Land Use Map on Figure 10.

Table 14 Existing Land Use

Existing Land Use	Acres	% Acres
Single-Family Residential	7,885.4	33.1%
Multi-Family Residential	134.4	0.6%
Retail	293.7	1.2%
Office	62.5	0.3%
Hospitality	58.6	0.2%
Medical	16.2	0.1%
Institutional	311.2	1.3%
Industrial	46.5	0.2%
Agricultural	1,829.3	7.7%
Recreation/Open Space	5,736.7	24.2%
Cemetery	10.7	0%
Parking	3.8	0%
Transportation/Communication/Utilities	1,624	6.8%
Vacant	3,127.5	13.2%
Water	2,617.8	11%
Total	23,728.2	100.00%

Figure 10 Land Use Map



KEY ISSUES FACED

There are several issues that impact how the wastewater collection system is operated and maintained. Key issues and how the Township intends to, or is already addressing these issues include:

- Managing Rising System Costs
 - Developing a Long-Term Funding Strategy to repair or replace failed assets within the Township
 - Updating residential sewer rates to balance revenue against expenditure
 - Improving staff effectiveness through GIS, Cityworks CMMS, etc.
- Increasing Age of Infrastructure
 - Developing a Capital Improvement Plan
 - Securing funding for repairs and rehabilitation
 - Regular cleaning and maintenance of sewer mains and structures
- Transfer Knowledge of the System as Key Employees Retire
 - Increasing data transfer through GIS, Cityworks CMMS, etc.
- Reducing Levels of Hydrogen Sulfide in the System
 - Program implementation – televising, system inspections, metering/modeling
 - Implementing odor control programs
- Fats, Oils, and Grease (FOG) in the System
 - Implementing a FOG inspection program

Asset review tasks to be completed post SAW project completion include:

- Completion of sewer main and manhole assessments in the Township’s wastewater system that weren’t eligible and/or completed in the SAW project; and
- Completion of a calibrated wastewater system hydraulic sewer model to predict wastewater system performance and to determine, hydraulically, critical assets in the wastewater system that can be used to enhance the twenty (20) year CIP.

HISTORY OF TOWNSHIP WASTEWATER SYSTEM

WASTEWATER SYSTEM DESCRIPTION

The Township’s wastewater collection system is comprised of both pressure sanitary sewers and gravity sanitary sewers (approximately 41 miles), serving 4,500 people (approximately 15% of the Township’s population). The system generally flows from north to south, utilizing ten (10) sanitary sewage pumping and twenty-seven (27) commercial grinder pumping stations. The wastewater flow is ultimately discharged into Commerce Township’s collection system and is conveyed to the Commerce Township Wastewater Treatment Plant for treatment.

Sewer main materials in the older sections of the wastewater system are primarily VCP. Truss, PVC, HDPE, and concrete sewer main are typically found in the newer sections of the wastewater system. Sewer main diameters range from 2 to 30 inches.

The (10) pumping stations that are owned and operated by the Township are:

1. Village Lakes
2. White Lake Estates
3. Williams Lake Road
4. Suburban Knolls
5. White Lake Market Place
6. Cranberry Lake Estates
7. Worthington Crossings
8. Bocavina
9. Meijer
10. Kroger

The twenty-seven (27) commercial grinder pumping stations are owned by private entities and operated and maintained by the Oakland County Water Resource Commissioner’s Office (WRC) as well as the ten (10) pumping stations identified above.

The WRC has a contractual agreement with the Township to operate and maintain the Township’s wastewater collection system. The Township desires to proactively manage the wastewater collection system assets in a cost-effective manner because:

- these assets represent a major public investment and trust;
- well-run utilities are important for economic development;
- asset management promotes efficiency and accountability in the operation of the system;
- these assets provide an essential customer service; and
- proper management of the assets provides the basis for self-sufficiency.

In recent years, several sewer mains have demonstrated signs of hydrogen sulfide buildup, which causes odor issues and corrosion in the pipe. Sulfide generation can be caused when the sewer velocities are slower in the main (due to a limited number of residents utilizing the sanitary sewer system). The Township has started working with Eganix, a local wastewater management services

company, to biologically degrade the hydrogen sulfide along Elizabeth Lake Road and Oxbow Road. Funds have been allocated in the CIP for continuing this effort and to embark on a more proactive approach to help prevent hydrogen sulfide accumulation in other portions of the wastewater collection system to ensure a longer operational life.

FATS, OILS & GREASE (FOG)

The Township has a history of localized problems with fats, oils, and grease in the wastewater system. These are primarily from the commercial districts, which have a number of restaurants. FOG is a byproduct of food and drink preparation, and meat cutting activities. It enters sewer main through restaurant, residential, and commercial sink drains. Several pumping stations within the Township have historically had excessive amounts of FOG accumulation. These stations are as follows:

- White Lake Market Place
- Suburban Knolls
- Village Lakes
- White Lake Estates
- Cranberry Lake Estates; and
- Meijer.

The Township and the WRC have been coordinating efforts to combat FOG in the wastewater collection system. WRC spends approximately \$112,718 on labor and materials annually on sewer cleaning and grinder station repairs. An initiative of the SAW Grant project was to implement a FOG Inspection Program to improve the FOG situation. In August 2018, the Township initiated a FOG inspection program, to help eliminate FOG from entering the Township sanitary sewer system. Over the past year, the Township has spent just under \$1,000 to perform FOG property inspections and to administer the program. Moving forward, the Township is reviewing cost recovery opportunities through ordinance revisions and standards development.

Detailed information on the FOG program and scope are located in the Asset Management Tools section of this document and in Appendix F FOG Assessment Report.



Standard In-Kitchen Grease Control Device

INTRODUCTION & PURPOSE

The assets that make up the Township’s wastewater collection system deteriorate over time as they age. As this happens, the level of service expected by Township residents and businesses may become compromised while O&M costs increase. The goal of the WWAMP development is to mitigate the deterioration of the assets through development of a rigorous methodology for wastewater collection system asset management. The WWAMP is designed to meet established level of service goals in a cost-effective way through the creation, acquisition, operation, maintenance, rehabilitation, and disposal of assets. Successful execution and maintenance of the WWAMP will help to ensure cost effective, efficient, and accountable wastewater collection system operations while ensuring long-term sustainability.

ASSET TYPES

There are approximately 219,175 linear feet of sewer main owned by the Township and operated by WRC. The WWAMP has been developed around the components of the wastewater collection system including:

- Gravity Main
- Pressure Main
- Service Leads
- Gravity Manholes
- Pressure Manholes
- Pumping/Grinder Stations

The assessments for the pumping stations can be found in Appendix E.

Figures 11 and 12 provide a summary of the Township wastewater collection system based on sewer main diameter and replacement costs. The total wastewater collection system replacement cost is estimated to be approximately \$80.7 million dollars. The Township continues to work on building a functional reserve and replacement fund to properly manage the wastewater collection system.

Figure 11 Wastewater System Summary – Gravity Sewer Main Diameter & Replacement Cost

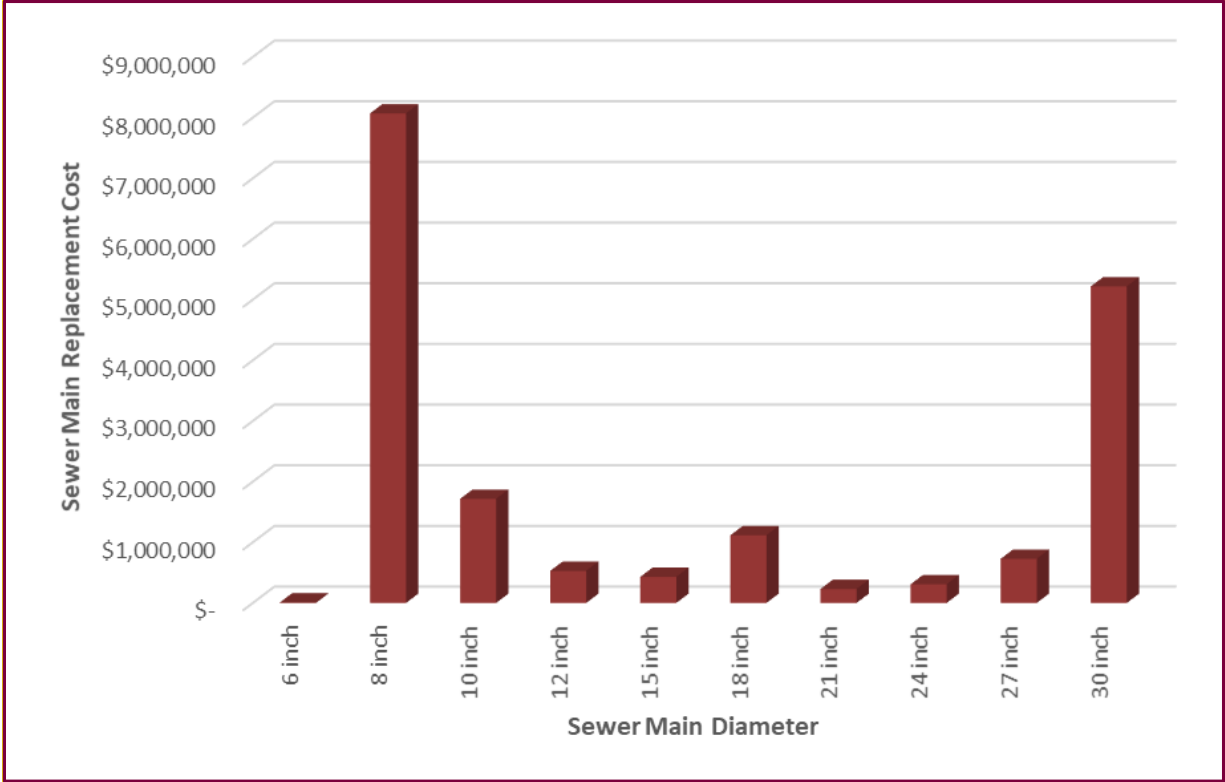
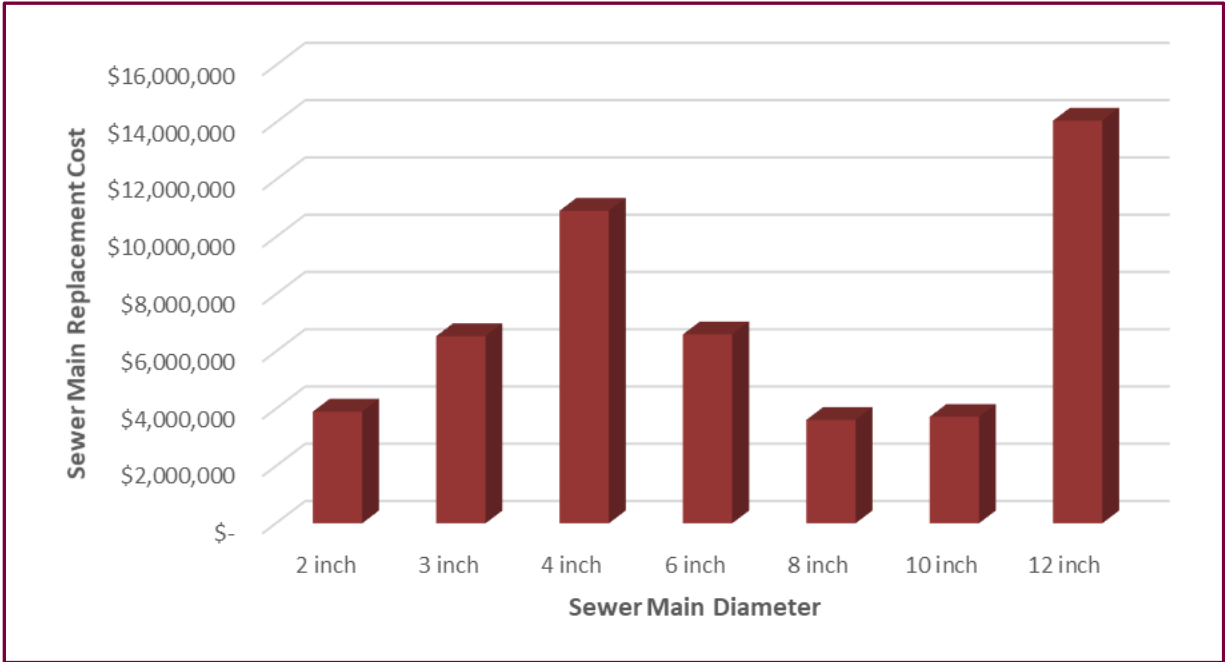


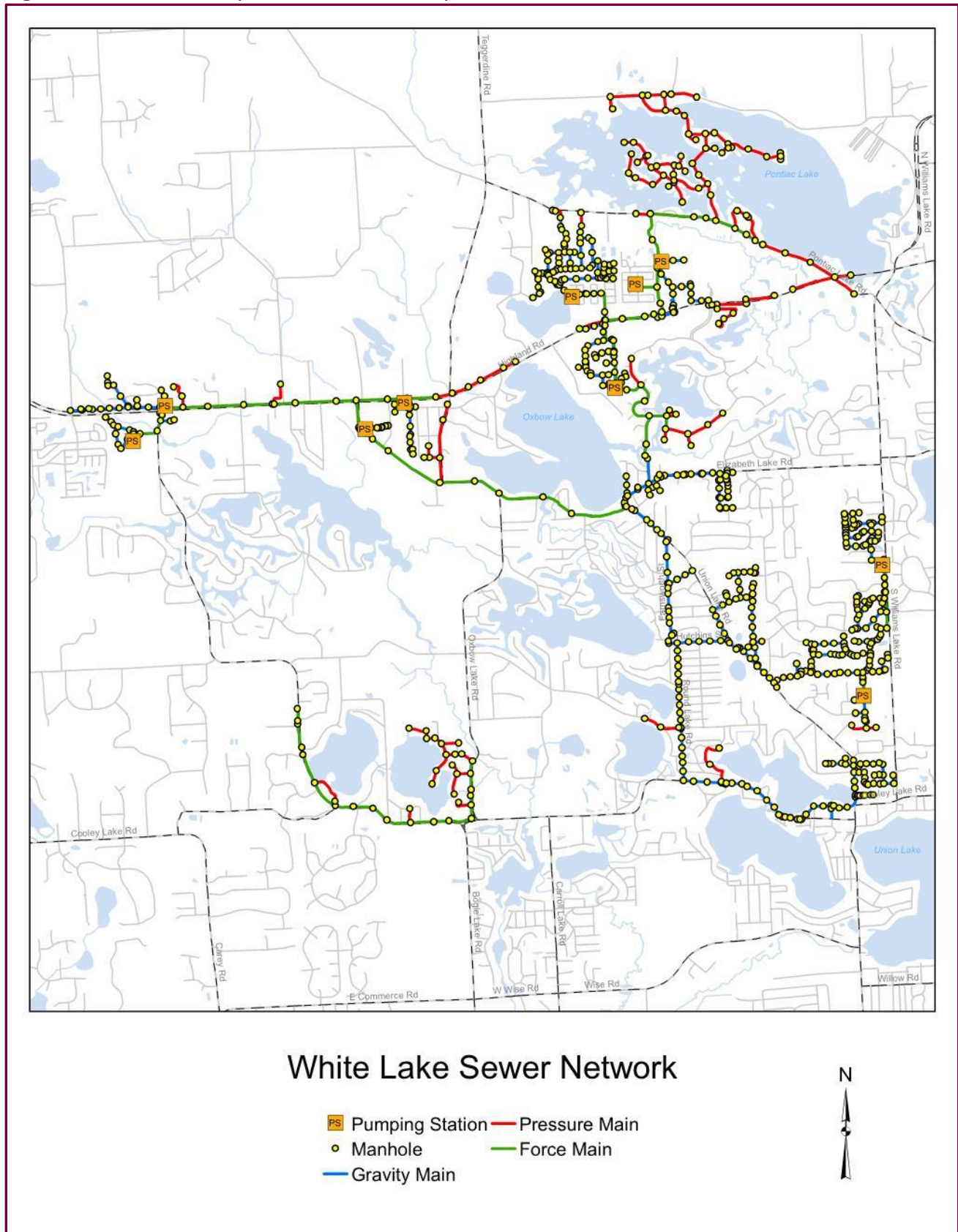
Figure 12 Wastewater System Summary – Pressure Sewer Main Diameter & Replacement Cost



The Township’s wastewater collection system consists of a variety of different sewer main materials. Some of these sewer main materials include: ABS truss, Polyvinyl Chloride (PVC), reinforced concrete, Vitrified Clay sewer main (VCP), high-density polyethylene (HDPE), and ductile iron/steel sewer main (DIP/SP). This information is based on current GIS data and as-built information. Because not all sewer main CCTV video of the entire sewer system were reviewed and assessed, sewer lead locations were identified using existing as-built plans to provide position data to within a few feet. Where as-built sewer main plans were not available, leads were spatially located at the center of the house in the Township’s ESRI based GIS. Moving forward, the goal of the Township is to identify the material of all sewer segments, the exact location of service leads, and the structural condition of the sewer mains as they are cleaned and inspected.

Figure 13 represents the entire existing wastewater system using the GIS.

Figure 13 Wastewater System in the Township



PROJECT APPROACH

The analysis approach developed for this project is intended to provide the Township with EGLE approvable WWAMP and is comprised of the following components:

1. Asset Inventory and Condition Assessment
2. Level of Service
3. Criticality of Assets
4. Revenue Structure
5. Capital Improvement Project Plan

The wastewater collection system manhole assets were inventoried and located with a GPS and Robotic Total Station to establish State Plane Coordinates (northing, easting, and elevation of rims and inverts) within an accuracy of an inch. These asset types and locations were then incorporated into the Township's ESRI based GIS, which also includes other spatial parcel, road centerline and other feature layers.

Due to the young age of the system and SAW Grant requirements, only a portion of the sanitary sewer manholes were inventoried and assessed and none of the sewer main was televised. Previous WRC CCTV data was acquired, reviewed, and assessed (using NASSCO level standards) under this assignment. A community-wide plan to continue cleaning and inspection of all the sewer main in the Township and a proactive odor control program are provided in the CIP.

The wastewater collection system sewer main and manholes were rated using the guidelines of the NASSCO Pipe/Manhole Assessment and Certification Program standards. Sewer main inspections utilize closed-circuit television equipment that travels along the sewer main where crews collect video and catalog defects and other anomalies. As a part of the SAW grant, the manholes were GPS located and a Level 2 field-inspection was conducted. NASSCO manhole inspections include completion of a Level 1 inspection first and, if deficiencies are discovered, a Level 2 assessment is recommended for the Township to further document defects. Information collected during a Level 2 inspection includes photographs, manhole characteristics and defects. All manhole ratings collected were catalogued into a master data base for review and analysis and integration into GIS and Cityworks.

A comprehensive BRE was developed for sewer main and manholes using Level 2 NAASCO ratings for sewer manholes and POF and COF models. Individual asset COF and POF condition ratings were calculated based on evaluation criteria and used to calculate a total BRE score, which is the mathematical product of the COF multiplied by the POF with a maximum score of 25.

A LOS plan was developed, with input from DPS staff, which incorporates a triple bottom line approach regarding social, environmental, and economic criteria as prime goal indicators. The LOS review and development included current and future LOS targets and a current indicator scoring of red (not satisfactory), yellow (partially satisfactory) and green (satisfactory). Additional

criteria evaluation information included industry standards, performance ratings, and reporting procedures are also utilized. Appendix B contains a summary of the LOS Goals table.

The revenue structure of the wastewater collection system was reviewed including current budget year revenue and expenditures by, financial consultant, Baker Tilly. A test year was developed to reflect a baseline of wastewater collection system revenue and operating costs. The customer base was reviewed to identify the number of billing customers and volumetric sales. As required by EGLE for the SAW project, a 2½ year Rate Methodology was submitted and subsequently received EGLE approval. The existing annual debt service was included in the CIP funding development for the twenty (20) year planning period. Appendix C provides detailed information on the financial review and EGLE’s 2½ year Rate Methodology notification of approval.

A twenty (20) year planning period CIP was developed to outline annual O&M, repairs, replacement, and rehabilitation of sewer main, manholes, and pumping stations. Unit cost information was determined using bid tabulations and other local project information. A description of each asset and its corresponding recommended year for replacement or rehabilitation was developed using the BRE analysis, historical knowledge of the assets and guidance from Township staff. Appendix D outlines a detailed list of the identified CIP projects over the twenty (20) year WWAMP planning period.

ASSET INVENTORY & CONDITION ASSESSMENT

WASTEWATER SYSTEM DESCRIPTION

The Township's wastewater collection system is comprised of both pressure sanitary sewers and gravity sanitary sewers (approximately 41 miles), serving 4,500 people (approximately 15% of the Township's population). The system generally flows from north to south, utilizing ten (10) sanitary sewage pumping and six hundred and twenty-nine grinder pumping stations (approximately 29 of which are commercial). The wastewater flow is ultimately discharged into Commerce Township's collection system and is conveyed to the Commerce Township Wastewater Treatment Plant for treatment. Sewer main diameters range from 2 to 30 inches.

The (10) pumping stations that are owned and operated by the Township are:

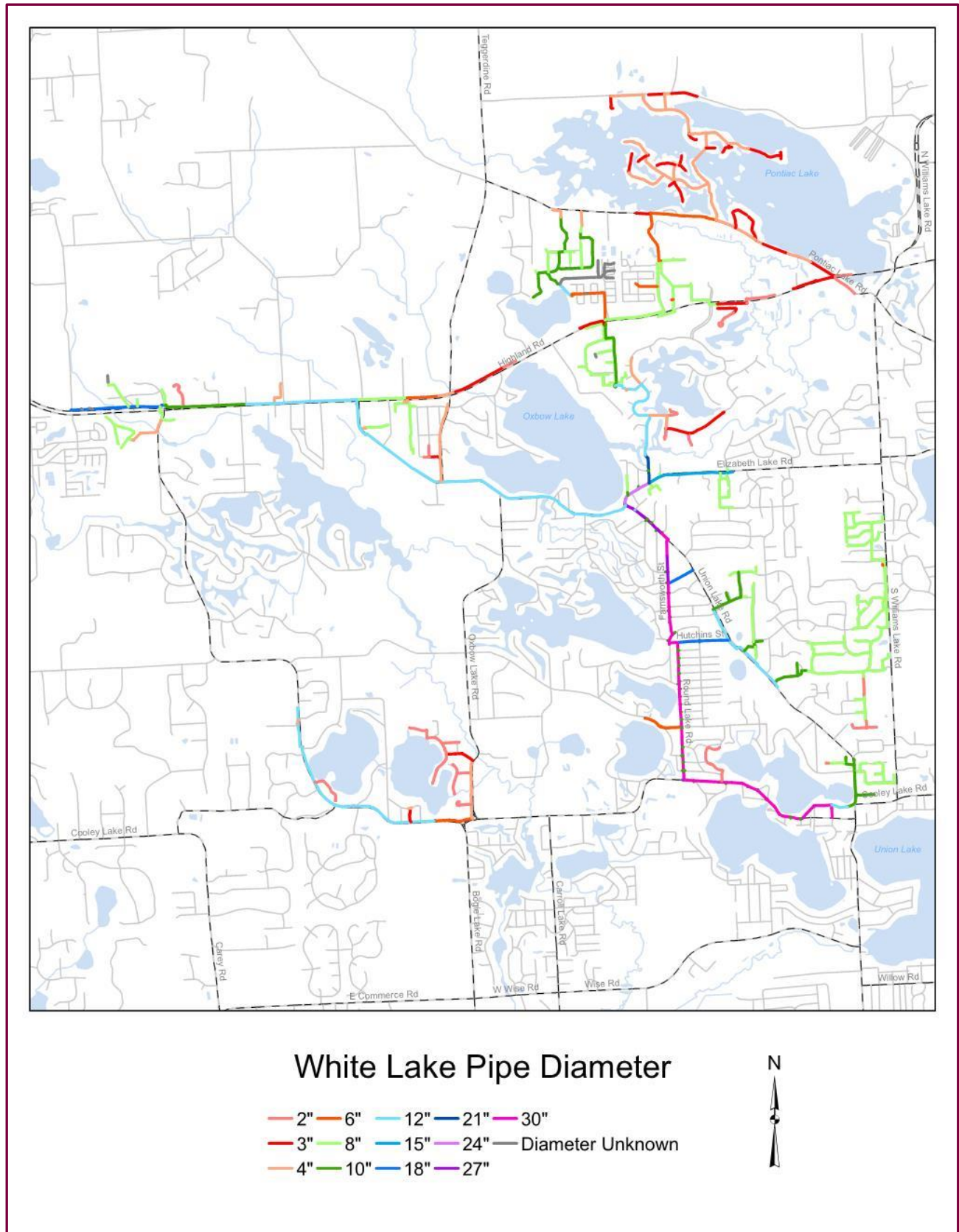
1. Village Lakes
2. White Lake Estates
3. Williams Lake Road
4. Suburban Knolls
5. White Lake Market Place
6. Cranberry Lake Estates
7. Worthington Crossings
8. Bocavina
9. Meijer
10. Kroger

Most of the sewer mains were constructed in 1999 or later and consist mostly of HDPE, reinforced concrete, and PVC. The manholes are either block or precast concrete. The WRC is responsible for the operation, maintenance, and monitoring of the wastewater collection system infrastructure within the Township limits.

As previously stated, the Township has identified some hydrogen sulfide accumulation within the sanitary sewer system in recent years and is taking a proactive approach to these and other odor issues.

Please refer to Figure 14 on the following page for an illustration of the sewer main diameters within the Township.

Figure 14 Wastewater System – Sewer Main Diameter



PUMPING STATIONS

There are ten (10) pumping stations that are owned and operated by the Township. They include:

- 1. Village Lakes
- 2. White Lake Estates
- 3. Williams Lake Road
- 4. Suburban Knolls
- 5. White Lake Market Place
- 6. Cranberry Lake Estates
- 7. Worthington Crossing
- 8. Bocavina
- 9. Meijer
- 10. Kroger

WRC provides operations and maintenance on the pumping stations on behalf of the Township. The maintenance program consists of monthly site visits at 8 pumping stations: Bocavina, Cranberry Lake Estates, Meijer, Suburban Knolls, Village Lakes, White Lake Estates, White Lake Market Place, and Williams Lake Road stations. Provided records indicate annual inspections have been performed at the Kroger and Worthington Crossing stations. Inspections include performing telemetry, alarm, and electrical checks as well as pump megger (insulation/moisture) testing and inspection of the panel wiring.

All pumping stations are equipped with a supervisory control and data acquisition (SCADA) system, which was installed in the mid-1990s. The existing system provides site-specific alarms back to WRC’s Safety Dispatch.

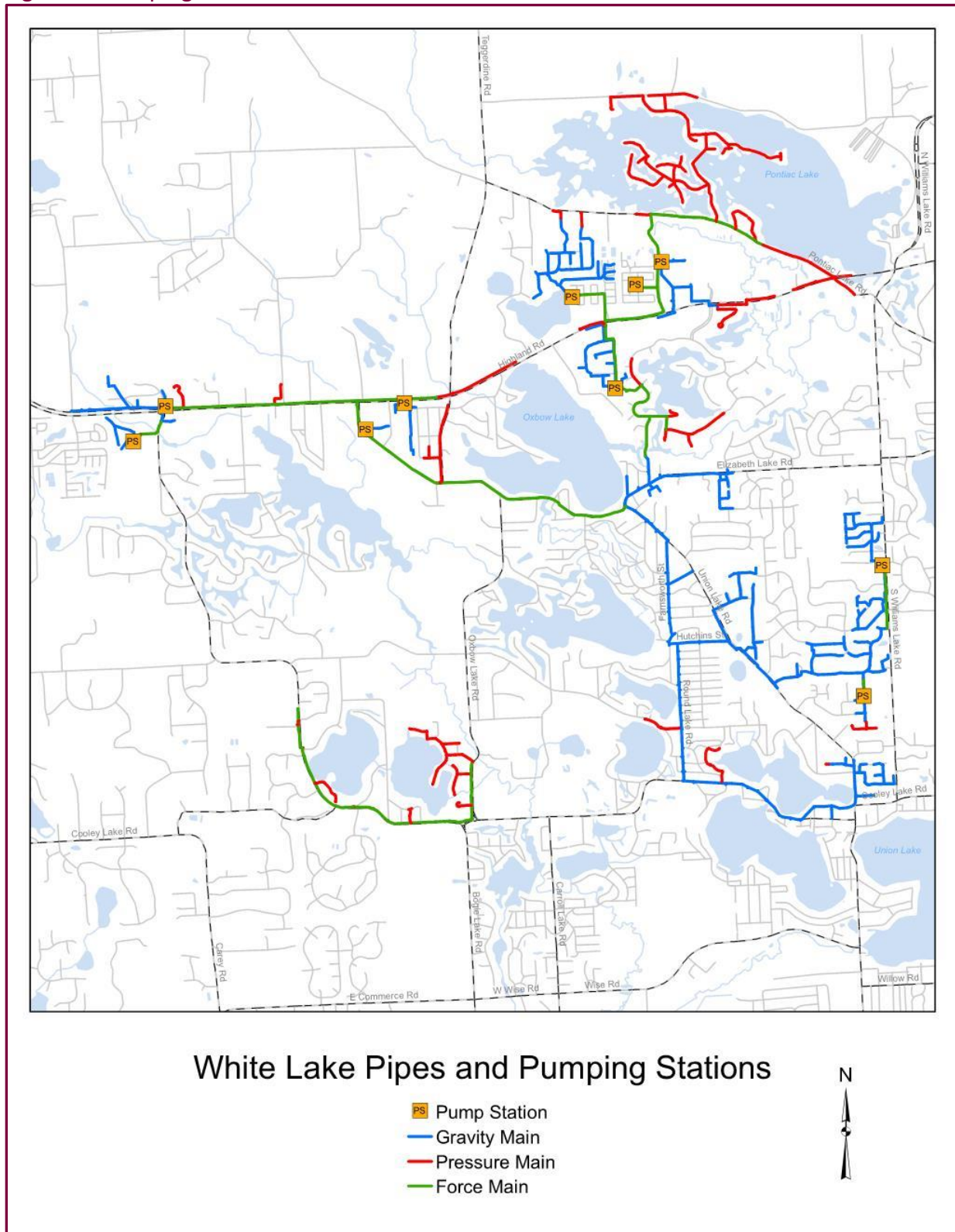
The full Pumping Station Inventory & Assessment Report is provided in Appendix E.



Village Lake Estates Pumping Station

Refer to Figure 15 below for a map identifying the locations of the Township pumping stations.

Figure 15 Pumping Station Locations



Prior to performing inspections at the ten (10) pumping stations, DLZ-J&A reviewed existing pumping station documentation. Each pumping station inspection included:

- visual inspection of the exterior conditions at each pumping station;
- digital photos of each station and structures;
- condition assessment of the wet well and valve chamber structures using NASSCO standards;
- condition of electrical panels and alarm systems;
- inventory and notes of equipment and features;
- review of the level control systems; and
- draw down test for each pump individually as well as a draw down test with both pumps running

Based on the pumping station site visits and maintenance information provided by WRC, the following observations regarding pumping station O&M effectiveness and efficiency include:

- Moderate to excessive grease buildup was noted in 6 of the 10 stations. Through this SAW Grant project, the Township has implemented a Fats, Oils, and Grease (FOG) inspection program in hopes to minimize FOG accumulation in these stations moving forward.
- The Township has received odor complaints over the years from the wastewater collection system that runs along Elizabeth Lake Road and southeast to Oxbow Road where the Meijer and Kroger pumping stations feed into. The Township and WRC have contracted with Eganix, Inc., to treat this line and a comprehensive odor control program has been implemented.
- At the time of inspection, it was determined by the WRC that four (4) Air Release Valves (ARV) were not functioning properly. There was also one (1) ARV structure, which was buried and has since been brought up to grade.

The following deficiencies for each pumping station were documented from pumping station site visits, review of operational and maintenance data and from discussions with WRC staff:

Bocavina Pumping Station

- The wet well rails are flimsy and will need to be tightened/repared.
- The Arborvitae in this area will need to be trimmed back.
- The Control Panel/Cabinet is starting to rust.

Cranberry Lake Estates Pumping Station

- The wet well structure has a few small areas of infiltration.
- The wet well top is fair with some aggregate showing.
- The hatch, hatch hold open, guide rails, and float rack are in fair to poor condition.
- The hatch does not have any safety grating and should be upgraded.
- Small amount of infiltration at the vault joints.
- The Arborvitae in this area will need to be trimmed back – minor restrictions to site functions.

- The Control Panel/Cabinet is starting to rust.
- The equipment insulation is loose.
- Minor wet well, valve vault pump, electrical equipment surface corrosion.
- Surface cracking in the fiberglass.
- Excessive grease buildup.

Kroger Pumping Station

- The wet well and piping are showing signs of high hydrogen sulfide and will require attention.

Meijer Pumping Station

- Missing sealing compound in seal-off fittings going to wet well.
- The top of the Cabinet is rusting and in need of maintenance.
- Pump 1 was out of service and removed at time of inspection. A replacement pump was installed this past August.
- Minor wet well surface corrosion.
- Surface chalking in the fiberglass.
- Small amount of infiltration at the vault joints.
- The wet well hatch does not have any safety grating; leaks present and minor infiltration.
- Moderate grease buildup.

Suburban Knolls Pumping Station

- Control panel cabinet insulation is loose and will need to be reattached or replaced.
- Valve vault joints displaying minor infiltration.
- Wet well has minor surface corrosion and no safety grating.
- Wet well hatch and guide rails are in fair to poor condition and will require attention.
- Small amount of infiltration at the vault joints.
- Wet well float rack and chains need replacement; minor infiltration.
- Surface chalking in the fiberglass.
- Gooseneck vent needs painting.
- Minor corrosion observed in Pumps 1 and 2, wet well piping, and electrical equipment.
- Moderate grease buildup.

Village Lakes Pumping Station

- Control panel cabinet is rusted. Replacement likely.
- Ragging in impeller of Pump 1 – unable to get out.
- Gooseneck vent was capped (not venting).
- High amount of damage to Pump 1 – needs replacing.
- VFD controller at Pump 2 is broken and will need repair or replacement.
- Maintenance required at access door seal – some seals peeling off.
- There are no individual lockouts for the pump breakers.

- Minor wet well piping and instrumentation surface corrosion.
- Surface chalking in the fiberglass.
- No safety grating at the wet well.
- Some infiltration at the valve vault joints.
- Excessive grease buildup.

White Lake Estates Pumping Station

- Electrical boxes in control panel could be updated – Door interlocks on disconnects not functional.
- Maintenance required on access door seal.
- Check valve sticking in partially closed position at Pump 2; free end bearing wear upon performance of vibrational analysis – will require repair or replacement.
- Wet well in fair to poor condition with small areas of infiltration – maintenance required.
- Aggregate is showing on the manhole block.
- Wet well steps rusted and in poor condition – Replacement required.
- Wet well floats not properly attached to float rack and will require adjustment.
- There are no individual lockouts for the pump breakers.
- Small amount of infiltration present at valve vault joints.
- Maintenance required at access door seal – failed; door rusted in some areas where seal used to be.
- The door interlocks on the disconnects are not functional.
- Staining/minor erosion, minor surface rust.
- Surface chalking in the fiberglass.
- Minor corrosion observed in Pumps 1 and 2.
- Vibration analysis showed ‘free end bearing wear’ on Pump 2.
- The Pump 2 check valve was sticking partially closed.
- Excessive grease buildup.

White Lake Market Place Pumping Station

- Door sprung and panel/cabinet rusting; access door seal in very poor condition – failure imminent.
- Exterior corrosion on electrical equipment disconnects.
- Failure imminent at access door seal.
- Minor exterior corrosion on the disconnects.
- Exposed aggregate/pitting and some material loss/surface cracking in the fiberglass.
- The Cabinet has exterior rust.
- Some infiltration and rust present at valve vault joints.
- Minor corrosion observed in Pumps 1 and 2 and wet well piping.
- Small areas of infiltration in wet well structure.
- Wet well top in poor condition with aggregate showing on corner. Tripping hazard is a result.

- Replace impeller and wear rings at Pumps 1 and 2; Rebuild the wet end of the pump to prevent premature failure and/or performance issues.
- No safety grating at wet well hatch – installation needed.
- Hatch, hatch hold open, guide rails, and float rack in fair to poor condition.
- Landscaping shrubs need trimming.
- Moderate grease buildup.

Williams Lake Road Pumping Station

- Bottom of control panel cabinet is rusted – replacement likely.
- Pumps 1 and 2 – Replace impeller and wear rings. Voltage and amperage balance >1%. Rebuild the wet end of the pump including impeller and wear ring.
- Existing chain link fence is rusting and covered with vegetation – Replacement recommended.
- Infiltration at the valve vault (west wall) and wet well – Will require attention.
- No safety grating present at wet well hatch – Installation recommended.
- Driveway to station is cracking and may require repair.
- Minor wet well piping, equipment, instrumentation, and antenna structure corrosion.
- Surface chalking in the fiberglass.
- The wet well hatch has no safety grating.
- No grease buildup.

Worthington Crossing Pumping Station

- No deficiencies identified.

Currently, pumping station upgrades are addressed on an as-needed basis. Pumps are maintained and/or replaced when a problem or failure occurs. Table 15 on the following page identifies the remaining useful life of each of the station's pumps.

Table 15 Pump Remaining Useful Life

Pumps	Pump Install Date	Remaining Useful Life in Years (Based on Typical Useful Life of 15 years)
Bocavina Pump 1	02/25/2016	12
Bocavina Pump 2	02/25/2016	12
Cranberry Lake Estates Pump 1	12/05/2017	13
Cranberry Lake Estates Pump 2	12/30/2015	11
Kroger Pump 1	03/24/2017	13
Kroger Pump 2	03/24/2017	13
Meijer Pump 1	8/1/2019	15
Meijer Pump 2	Original 2003	0
Suburban Knolls Pump 1	Unknown	4 (assumed)
Suburban Knolls Pump 2	Unknown	4 (assumed)
Village Lakes Pump 1	12/01/2017	0
Village Lakes Pump 2	12/01/2017	0
White Lake Estates Pump 1	05/01/2015	0
White Lake Estates Pump 2	05/01/2015	0
White Lake Market Place Pump 1	05/01/2015	0
White Lake Market Place Pump 2	05/01/2015	0
Williams Lake Road Pump 1	05/01/2015	0
Williams Lake Road Pump 2	05/01/2015	0
Worthington Crossing Pump 1	2017	13
Worthington Crossing Pump 2	2017	13

SCADA Upgrades

The existing pumping station SCADA system is over 20 years old. Because of this, J&A-DLZ and WRC are recommending SCADA upgrades to improve:

- equipment failures
- low transmission speeds
- communication failures
- data exporting and
- operator efficiencies.

Each pumping station will require a sheet metal cabinet, multiple circuit breakers, a programmable logic controller (PLC), several relays, and a radio and antenna with a mast. DLZ-J&A has provided capital improvement costs for SCADA upgrades at 9 of the Township's 10 stations (SCADA upgrades are not needed at the Kroger station due to its age). The estimated cost for each site is \$24,400 and all these upgrades are proposed for 2020 (Year 1), for a total cost of \$210,200.

In addition, SCADA equipment upgrades will be needed at two Township sewer metering sites. The cost for these upgrades is \$13,800 for each site, anticipated in 2020, for a total of \$27,600. This cost is accounted for in the capital improvement plan.

Business Risk Evaluation

Based on the condition assessments, a numerical rating from 1 to 5 was given for the overall condition of each station's sub-system. A description of the Condition Assessment Rating is shown in Table 3 below. Based upon the sub-system age, a Probability of Failure Performance Rating was also given to each sub-system as described in Table 4 below. These two factors were each weighted at 50% in determining the Probability of Failure (POF) of each sub-system. The POF factors that were used for the pumping station assessment were: Equipment (i.e. the control panel and telemetry) (10%), Electrical Components (i.e. generators and hookups) (30%), Pumps (i.e. number of pumps, pump TDH, GPM, HP, and layout) (50%), and Structure (i.e. wet well and valve vault condition) (10%). Please see Figure 16 for the POF factor weighting.

The Consequence of Failure (COF) of each sub-system was based upon the Asset Criticality Rating factors outlined in Table 5. The COF factors that were used for the pumping station assessment were: Distance from Surface Water (40%) and Number of Upstream Laterals (60%). Pumping station cost estimates are provided in Appendix A of this report. Please see Figure 17 for the COF factor weighting.

Figure 16 Probability of Failure Factor Weighting

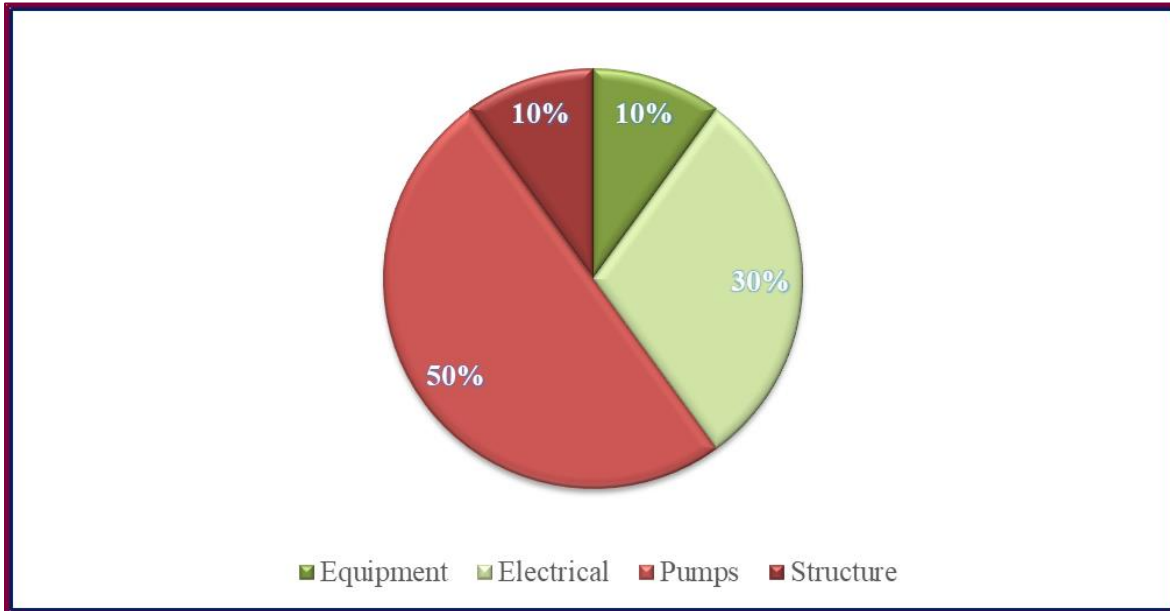
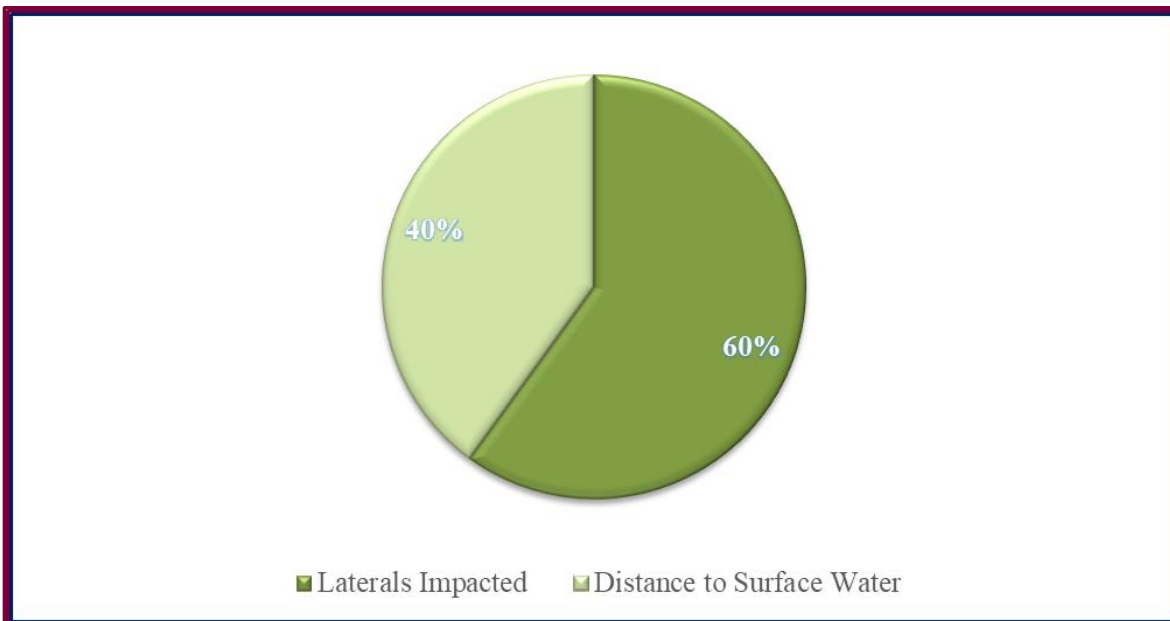


Figure 17 Consequence of Failure Factor Weighting



Please refer to Table 16 on the following page for a Pumping Station BRE Summary.

Table 16 Pumping Station BRE Summary – Asset Characteristics

Site Name	Equipment (Control Panel & Telemetry)	Electrical (Generator Information)	Pumps – Useful Life Remaining (Yrs)	Structure (Wet Well & Valve Vault)	# of Customers	Distance to Surface Water (LF)	Install Year
Bocavina	Fair	Portable Generator Connection	12	Good	Unknown	906	2001
Cranberry Lake Estates	Fair to Poor	Generator on site	11	Fair	441	161	1995
Kroger	Good	Generator on site	13	Wet Well – Fair to Poor; Valve Vault – Good	4	385	2017
Meijer	Fair to Poor	Portable Generator Connection	15 Pump 1 0 Pump 2	Wet Well – Good; Valve Vault – Fair to Good	6	782	2003
Suburban Knolls	Fair to Poor	Portable Generator Connection	4	Wet Well – Good; Valve Vault – Fair to Good	1329	896	1995
Village Lakes	Fair to Poor	Generator on site	0	Wet Well – Good; Valve Vault – Fair to Good	4	1121	2007
White Lake Estates	Fair to Poor	Portable Generator Connection	0	Fair to Poor	0	794	1995
White Lake Market Place	Fair to Poor	Portable Generator Connection	0	Fair to Good	24	181	1998
Williams Lake Road	Fair	Portable Generator Connection	0	Good	52	482	2002
Worthington Crossing	Good	Generator on site	13		1	555	2017

SEWER MAIN

The entire existing wastewater collection system consists of approximately 41 miles of sewer main ranging in size from 2-inch to 30-inch in diameter. Table 17 outlines the sewer main distribution by diameter.

Table 17 Sewer Main Distribution by Size

Gravity Main Distribution by Size	Lineal Feet*		Pressure Main Distribution by Size	Lineal Feet*
6 inch	65		2 inch	16,264
8 inch	59,329		3 inch	20,434
10 inch	15,316		4 inch	27,297
12 inch	4,404		6 inch	12,691
15 inch	2,689		8 inch	7,523
18 inch	5,578		10 inch	5,095
21 inch	958		12 inch	25,117
24 inch	1,097		---	
27 inch	2,274		---	
30 inch	13,044		---	
Total	104,754		Total	114,421

*lengths are approximate and based on GIS information

Condition Of Assets

Due to the young age of the system and SAW Grant requirements, only a portion of the sanitary sewer manholes were inventoried and assessed and none of the sewer main was televised. Previous WRC CCTV data was acquired, reviewed, and assessed (using NASSCO level standards) under this assignment. A wastewater collection system wide plan to continue cleaning and inspection of all the sewer main in the Township and a proactive odor control program are provided in the CIP.

Table 18 outlines the NASSCO grading system used for determining the severity of identified sewer main defects.

Table 18 NASSCO Condition Grades

Condition Grade	Definition
5	Most significant defect grade
4	Significant defect grade
3	Moderate defect grade
2	Minor to moderate defect grade
1	Minor defect grade

Structural defects are conditions where the structural integrity of the sewer main is compromised. These defects can be cracks or even collapsed sewer main. O&M defects are conditions which interfere with the ability of the sewer main to convey flow. These defects can include such things as a root ball in the sewer main, which impedes the flow from the upstream manhole to the downstream manhole. Another defect recorded as an O&M issue is infiltration, which is essentially ground or surface water entering a sewer main through cracks or other means.

The Structural and O&M condition of each sewer main is based upon the condition assessments of the attached manholes, with the sewer main assuming the worst of the two (2) scores on a 1-5 scale.

Figures 18 and 19 on the following pages identify the sewer main in the Township, based on previous CCTV, by condition rating.

Figure 18 Gravity Main Condition Ratings

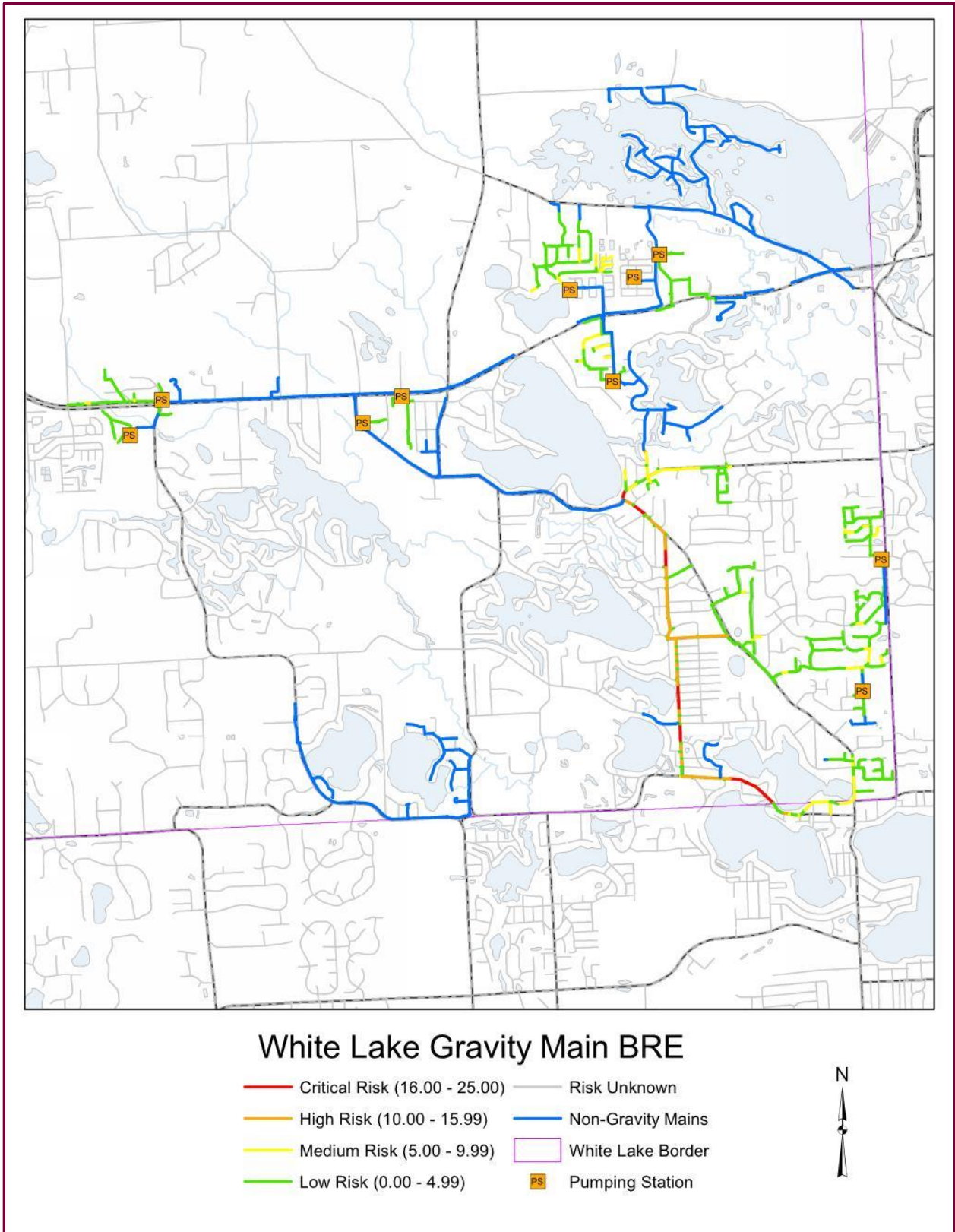
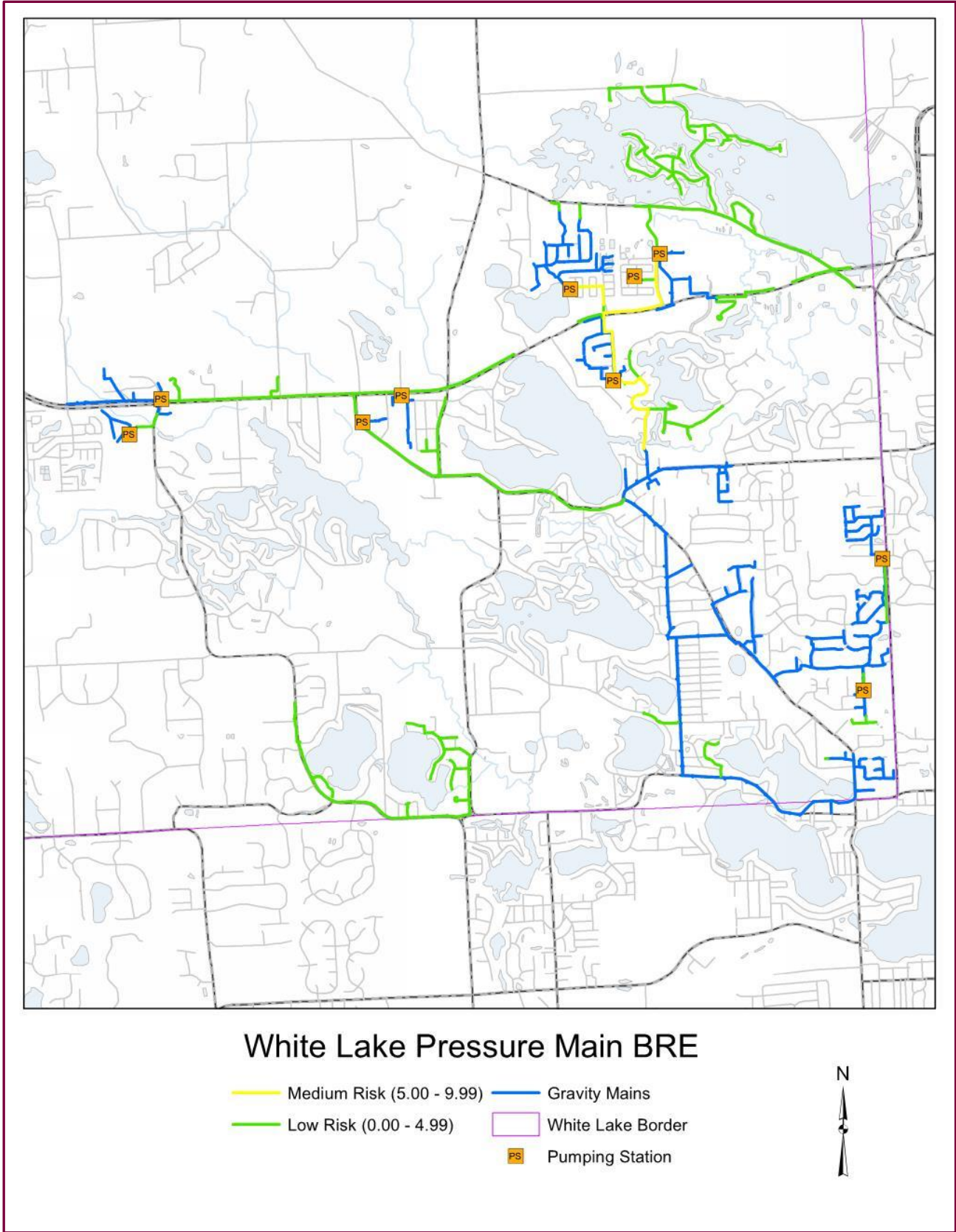


Figure 19 Pressure Main Condition Ratings



MANHOLES

The existing wastewater collection system consists of approximately 771 manholes (571 gravity manholes; 200 pressure manholes). Manhole diameters range from 24 inches to 72 inches.

Condition Of Assets

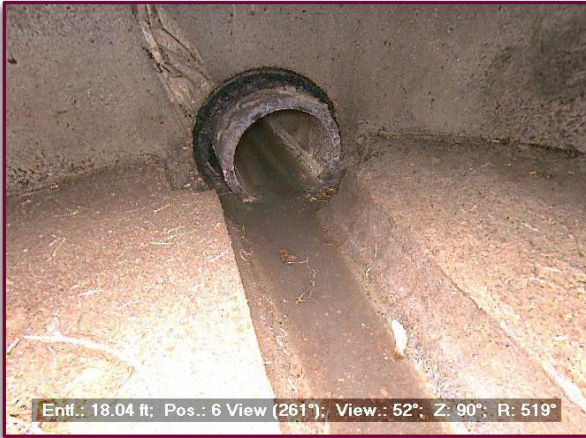
The wastewater collection system sewer manholes were rated using the guidelines of the NASSCO Manhole Assessment and Certification Program standards. As a part of the SAW grant, the manholes were GPS located and a Level 2 field-inspection was conducted. NASSCO manhole inspections include completion of a Level 1 inspection first and, if deficiencies are discovered, a Level 2 assessment is recommended for the Township to further document defects. Information collected during a Level 2 inspection includes photographs, manhole characteristics and defects. All manhole ratings collected were catalogued into a master data base for review and analysis and integration into GIS and the Cityworks CMMS.

Four hundred and fifty-seven (457) manholes were inventoried and assessed using a 3D panoramic camera, as shown below. This scanning option provides the ability to capture every inch of the manhole from multiple angles. In the interest of time, the remaining 114 manholes were inventoried and assessed using standard methods with a GPS unit and camera.

Figure 20 Manhole Scanning



Figure 21 Manhole Scanning Photo



Structural defects are conditions where the structural integrity of the manhole is compromised. These defects can be cracks or holes in the manhole walls. O&M defects are conditions which interfere with the ability of the manhole to convey flow. These defects can include such things as root balls and debris, which impede the flow from the upstream main to the downstream main. Another defect recorded as an O&M issue is infiltration, which is essentially ground or surface water entering a manhole through cracks or other means.

A comprehensive BRE was developed for sewer main and manholes using Level 2 NAASCO ratings for sewer manholes and POF and COF models. Individual asset COF and POF condition ratings were calculated based on evaluation criteria and used to calculate a total BRE score, which is the

mathematical product of the COF multiplied by the POF with a maximum score of 25. Figures 22 and 23 on the following pages identify the manholes in the Township by condition rating.

Figure 22 Gravity Manhole Condition Ratings

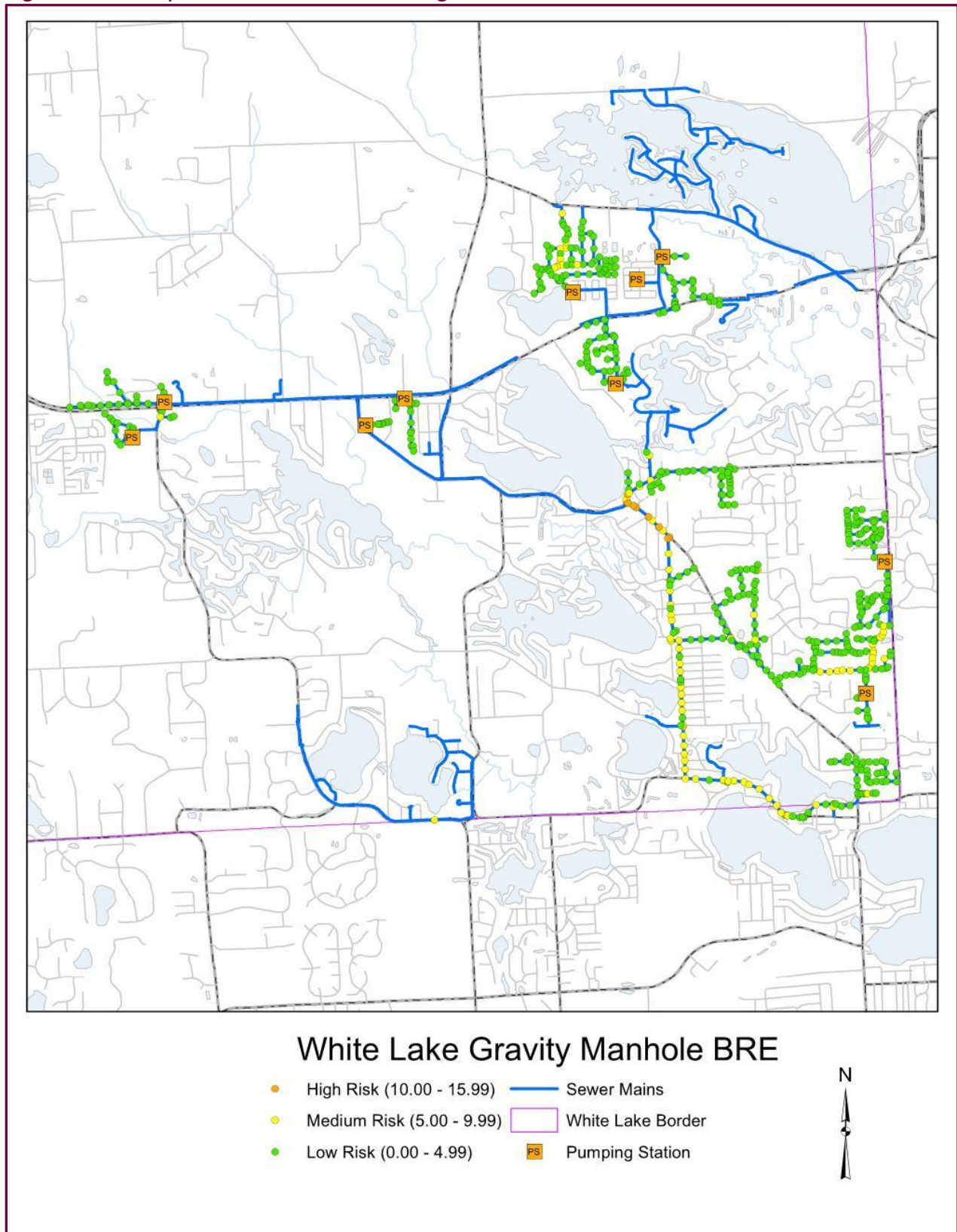
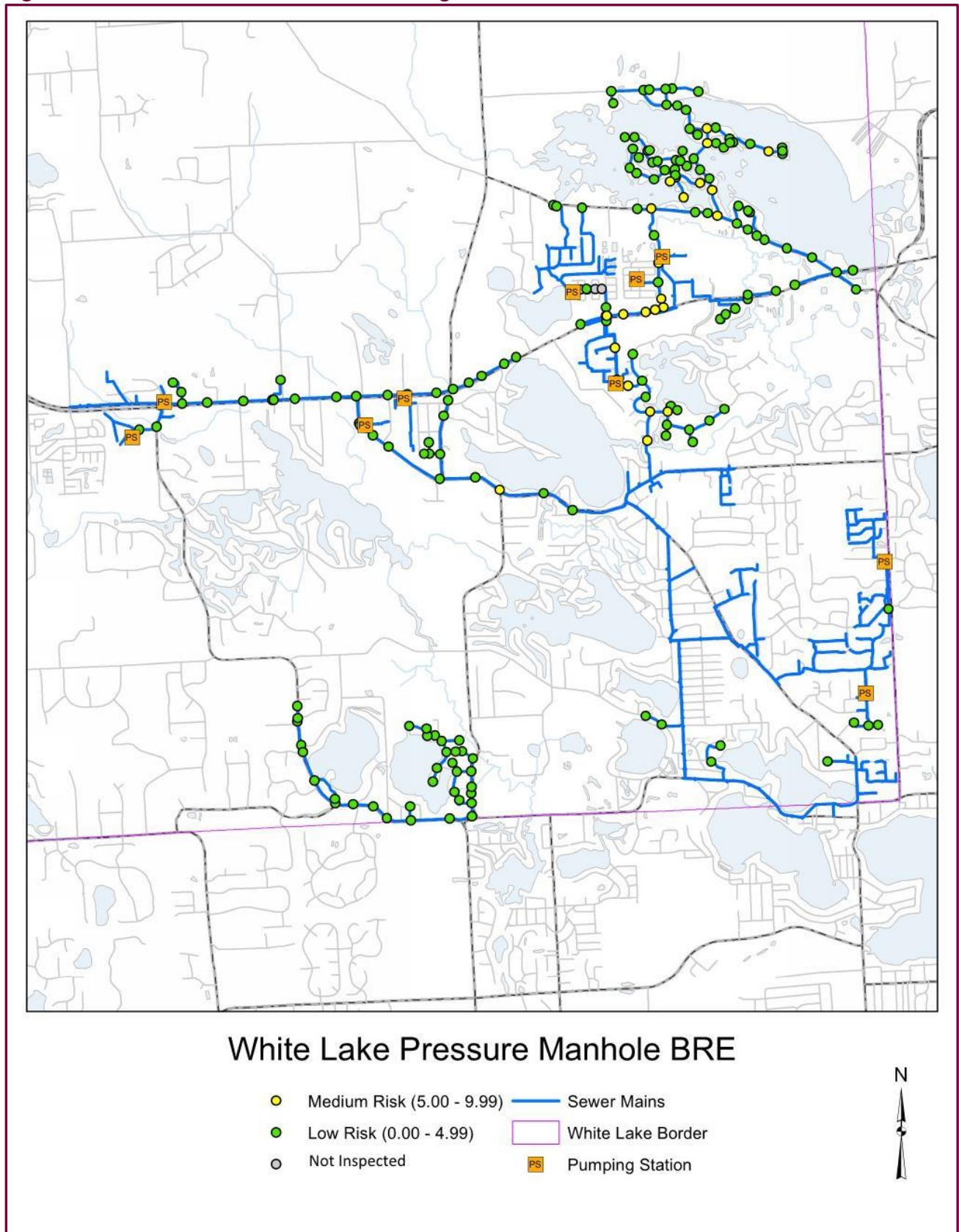


Figure 23 Pressure Manhole Condition Ratings



GEOGRAPHIC INFORMATION SYSTEMS / CITYWORKS CMMS

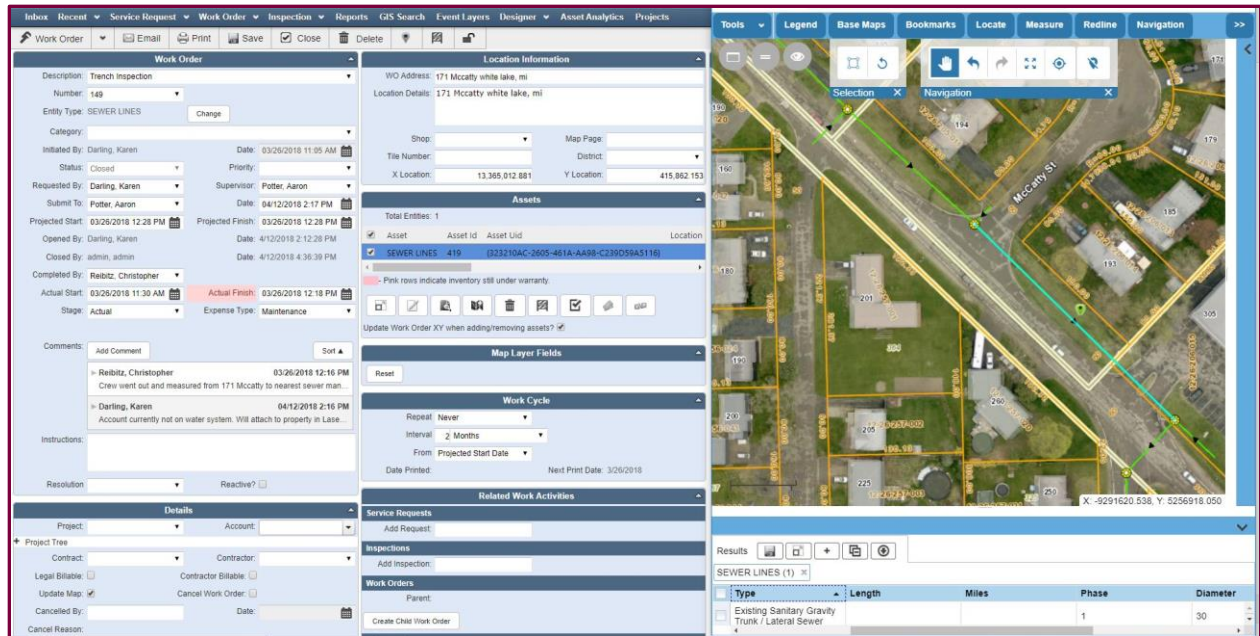
The Township utilizes an ESRI based GIS program that provides the capability to map wastewater collection system assets such as sewer main, manholes, and sewer pumping stations with spatial real-world coordinates. The assets are also populated with information including sewer main diameter, age, condition, material, and date of installation. The GIS system allows the Township to inventory, edit, analyze, and display all their wastewater and potable water collection and distribution networks as well as other operations including parks and recreation into an easy to use electronic mapping interface.

Most Township wastewater collection system manholes have GPS latitude and longitude coordinates surveyed under the SAW grant, which are then used to map them into the Township's GIS. This allows DPS staff to locate structures more precisely and quickly during normal and emergency situations. It also provides for very precise infrastructure information such as sewer main length and manhole elevations and inverts, which also provides the framework for a more accurate hydraulic sewer model.

The Township's wastewater collection system GIS should be updated periodically as asset information changes and new infrastructure is added to the wastewater collection system. Effectively developed and managed, GIS will provide the core information and operational business application platform for the DPS and the Township now and into the future. It also has mobile use capability enabling DPS staff to have access to the information anytime and anywhere.

As part of the SAW grant project, the Township has implemented a GIS-Centric CMMS by Azteca called Cityworks to track labor, equipment, and material costs used in maintaining the wastewater collection system. It can also be used to develop service requests and to schedule work tasks and keep track of inventory. This application configuration leverages the Township's GIS investment and facilitates proactive planning and operational capabilities for the DPS. Figure 24 illustrates the Cityworks/GIS interface where a sewer main segment has been selected with associated digitized site plans for that segment.

Figure 24 Cityworks/GIS Wastewater Asset Information Illustration



SCANNING & DIGITIZATION INTO GIS

Manhole Inspection Reports, Sewer Inspection Reports, plot plans, construction plans, and as-built sewer drawings for the wastewater collection system were scanned and electronic pdf documents created. These documents are linked to their respective manholes and sewer main segments in GIS for fast and accurate retrieval and use. The information can be accessed by using ArcMap or through Cityworks. Refer to Figure 25 on the following page for an example of a scanned and digitized as-built drawing.

Sewer Metering & Modeling

As part of the SAW grant program, a comprehensive hydraulic sewer model was created for both the low pressure and gravity main sewer collection system. The model was also calibrated using sewer flow meter data that was taken from the portable sewer flow metering task of the SAW grant program. The model can be used in the future as a tool to evaluate the predicted performance of the sewer collection system as well as aid in the analysis of proposed development impacts in the future. As the system continues to grow and age, the model will need to be updated and recalibrated to ensure accuracy.

Manhole, sewer main, pressure main, pumping station operational and other data from the GIS was used to create the model's geometric network. Model hydraulic loadings were created from utility billing residential equivalent unit (REU) and water meter consumption data. Model calibration was performed using data collected from the portable sewer flow metering task of the SAW grant program. The model was created using Innovyze®'s InfoSWIMM software. Figure 26 shows a schematic of the White Lake Township sewer model screenshot.

LEVEL OF SERVICE

The LOS outlines the criteria in which White Lake Township desires the wastewater collection system to perform over the long term and aids in the Capital Improvement Planning process.

The framework for the LOS is a triple bottom line approach with three (3) components: Social, Environmental, and Economic. The Social component was divided into three (3) strategic areas; customer service, reliability, and health & safety. The Environmental component was divided into two (2) strategic areas that included environmental stewardship and regulatory compliance. The Economic component was placed into a single strategic area, financial. The LOS driver was determined to be either self, customer, or regulatory driven. The current and future targets were identified with their respective performance measures, data, and reporting procedure. Industry standards, if applicable were also developed, to help determine specific targets and measures of rating. A rating or color-coded system (No Improvement Needed, Acceptable, or Improvement Needed) was developed to identify strategic areas that are acceptable or need improvements, as shown in Table 19.

Table 19 LOS Goals Rating System

Color Code	Rating
Green	No Improvement Needed
Yellow	Acceptable (Perhaps Some Improvement Needed)
Red	Improvement Necessary

LEVEL OF SERVICE COMPONENTS

- 1) Social
 - a) Customer Service
 - b) Reliability
 - c) Health & Safety
- 2) Environmental
 - a) Administration & Organizational Development
 - b) Environmental Stewardship
 - c) Regulatory Compliance
- 3) Economic
 - a) Financial

Examples of Current and Future Targets are:

- Maintain and replace equipment as necessary to retain compliance and meet the level of service goals.
- Protect community from hazards associated with wastewater system (basement backups, traffic disturbance, etc.).
- Minimize Sanitary Sewer Overflows (SSOs) and provide better education to individual grinders station owners.

- Coordinate with the County to televise and clean sewers as necessary to minimize sewer system problems.

Detailed LOS Standards and Goals can be found in Appendix B and are designed to be modified periodically, as necessary, as performance measures and current and future targets change and are developed over time.

ASSET CRITICALITY

The criticality of wastewater collection system assets was examined regarding their overall functional importance to the operation of the wastewater collection system and their impacts if they failed. To determine the criticality of system assets, a BRE was performed by analyzing the COF and POF for each asset.

Together, the COF total score and POF total score were mathematically multiplied to achieve a BRE Score based on a maximum of 25 as shown in Table 20. Development of this BRE Score was integral in helping to determine wastewater collection system assets of concern and to guide the development and timing of CIP projects over the twenty (20) year WWAMP planning period.

Table 20 Business Risk Evaluation (BRE) Scale

Business Risk Evaluation (BRE) Total Score	
Business Risk Evaluation Scoring	
Business Risk	Total BRE Score
Critical / Intolerable Risk	16.00 - 25.00
High Risk – Tolerable and Manageable – Aggressive Monitoring	10.00 - 15.99
Medium Risk –Tolerable and Manageable – Monitoring	5.00 - 9.99
Low Risk –Failure is Tolerable	0.00 - 4.99

CONSEQUENCE OF FAILURE

Sewer Main

The COF was determined for the pressure and gravity main taking into account the Economic, Environmental, and Social Impacts to the community (Triple Bottom Line Impacts). Within these Impact Categories, six (6) factors were weighted to determine the COF. They are listed below:

Economic Impact

- Diameter of Asset
- Surface Type Above Asset
- Depth of Pipe (for Gravity Main only)

Environmental/Regulatory Compliance

- Distance to Surface Water

Social/Community Disruption

- Number of Customers
- Roadway Impact

Figure 27 shows how the Economic, Environmental, and Social Impacts were weighted in the gravity main analysis.

Figure 27 Gravity Main COF Factor Weighting

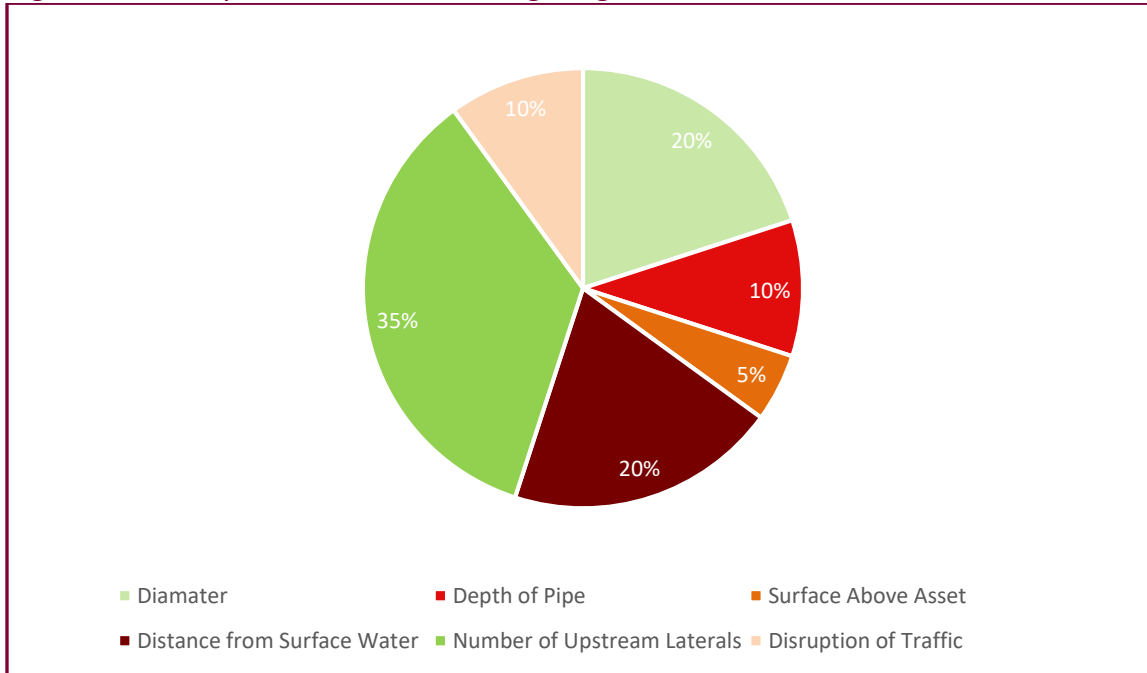
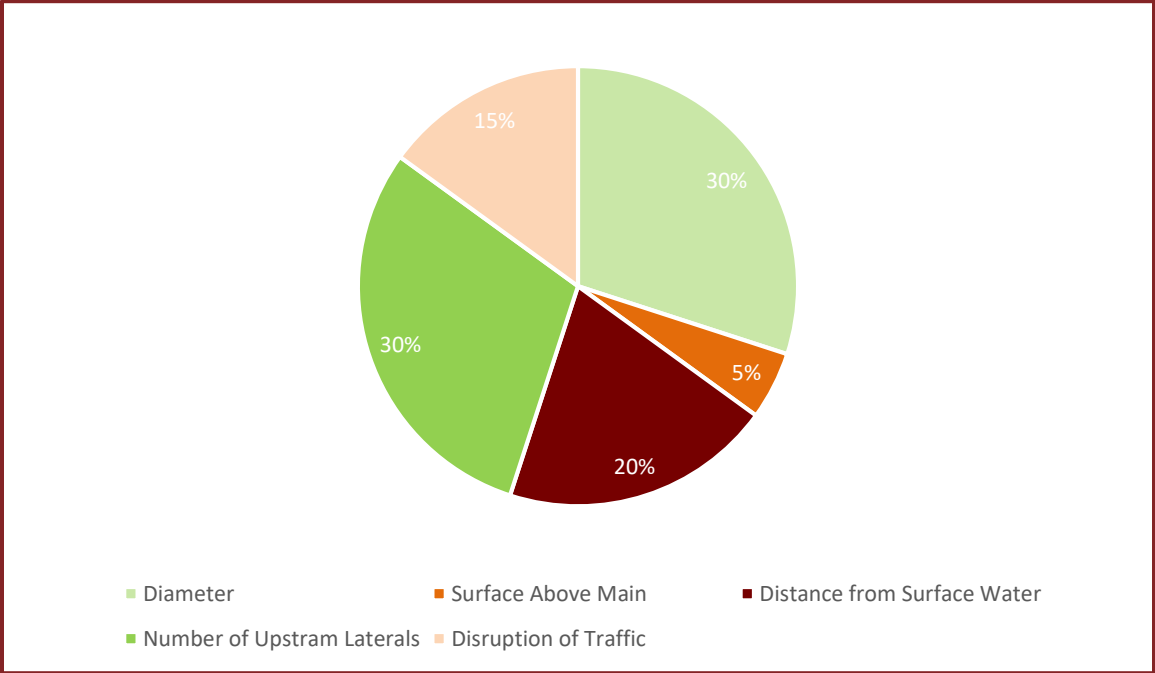


Figure 28 shows how the Economic, Environmental, and Social Impacts were weighted in the pressure main analysis.

Figure 28 Pressure Main COF Factor Weighting



Tables 21 and 22 show the criticality rating scales used for each of the 6 factors evaluated. Replacement costs of a section of sewer main are directly related to the diameter of the sewer main as well as the type of surface above the gravity and pressure main and have been assigned a score of 35% in the COF analysis. In the event of an asset failure, the costs to replace that asset may be much greater than the cost to make repairs.

Environmental/Regulatory Compliance contributed 20% to the COF for both gravity and pressure main. Non-compliance can result in the need for public notification and/or fines and consent orders to eliminate the problem from happening again if it continues to occur. Should a sewer main fail that is in close proximity to surface water, there are serious ramifications related to public health, and negative environmental impacts. A sewer main further away from surface water is less critical because there is more time to contain the overflow before it reaches the water body. The criticality rating scales for gravity and pressure main distance to surface water are shown on Tables 21 and 22.

Community disruption was allocated 45% of determining the COF for both gravity and pressure main. The more customers out of service due to a wastewater collection system failure, the more severe the situation. As service is disrupted to a larger number of users, additional costs are incurred to reroute and bypass mains, set up temporary pumping equipment to key areas, and notify the public in an expedient manner. Sewer main associated with critical facilities and roadway areas were also considered as part of the analysis. The criticality rating scales for the number of upstream customers, roadway classification, and critical facilities are shown on Tables 21 and 22.

Table 21 Gravity Main COF Component Rating Scales

SOCIAL/COMMUNITY DISRUPTION (45%)	
Loss of Service Factor (35%)	
Criticality Rating	Number of Upstream Laterals Served
5	More than 500
4	Between 251 and 500
3	Between 151 and 250
2	Between 76 and 150
1	Less than 75
Roadway Impact Factor (10%)	
Criticality Rating	FCC Roadway Classification
5	Limited Access Interstate, Ramp to Limited Access Highway
4	Unlimited Access Highway, State Owned Surface Street, Unlimited Access
3	Principal Arterial Road, Minor Arterial Road
2	Residential Road, General Non-certified Road
1	Unnamed Road, Transportation Structure, Certified Road Right-of-Way
REGULATORY COMPLIANCE / ENVIRONMENTAL (20%)	
Distance to Surface Water (20%)	
Criticality Rating	Distance in Feet
5	< 50
4	50-75
3	76-100
2	101-150
1	>150
ECONOMIC (35%)	
Diameter (20%)	
Criticality Rating	Diameter in Inches
5	24" – 102"
4	18"-21"
3	12"-15"
2	10"
1	6"-8"
Criticality Rating	Depth of Pipe in inches (10%)
5	>11
4	9.01-11
3	7.01-9
2	5.01-7
1	<=5
Surface Type (5%)	
Criticality Rating	Type of Surface Around Main
5	Pavement
4	N/A
3	Unknown
2	Gravel
1	Grass, Dirt

Table 22 Pressure Main COF Component Rating Scales

SOCIAL/COMMUNITY DISRUPTION (45%)	
Loss of Service Factor (30%)	
Criticality Rating	Number of Upstream Laterals Served
5	More than 500
4	Between 251 and 500
3	Between 151 and 250
2	Between 76 and 150
1	Less than 75
Roadway Impact Factor (15%)	
Criticality Rating	FCC Roadway Classification
5	Limited Access Interstate, Ramp to Limited Access Highway
4	Unlimited Access Highway, State Owned Surface Street, Unlimited Access
3	Principal Arterial Road, Minor Arterial Road
2	Residential Road, General Non-certified Road
1	Unnamed Road, Transportation Structure, Certified Road Right-of-Way
REGULATORY COMPLIANCE / ENVIRONMENTAL (20%)	
Distance to Surface Water (20%)	
Criticality Rating	Distance in Feet
5	< 50
4	50-75
3	76-100
2	101-150
1	>150
ECONOMIC (35%)	
Diameter (30%)	
Criticality Rating	Diameter in Inches
5	24" – 102"
4	18"-21"
3	12"-15"
2	10"
1	6"-8"
Surface Type (5%)	
Criticality Rating	Type of Surface Around Main
5	Pavement
4	N/A
3	Unknown
2	Gravel
1	Grass, Dirt

MANHOLES

The COF was determined for the pressure and gravity manholes taking into account the Economic, Environmental, and Social Impacts to the community (Triple Bottom Line Impacts).

Within these Impact Categories, five (5) factors were weighted to determine the COF. They are listed below:

Economic Impact

- Surface Type Around Asset
- Depth of Manhole (for Gravity Manholes only)

Environmental/Regulatory Compliance

- Distance to Surface Water

Social/Community Disruption

- Number of Customers
- Roadway Impact

Figures 29 and 30 show how the Economic, Environmental, and Social Impacts were weighted in the gravity and pressure manhole analysis.

Figure 29 Gravity Manhole COF Factor Weighting

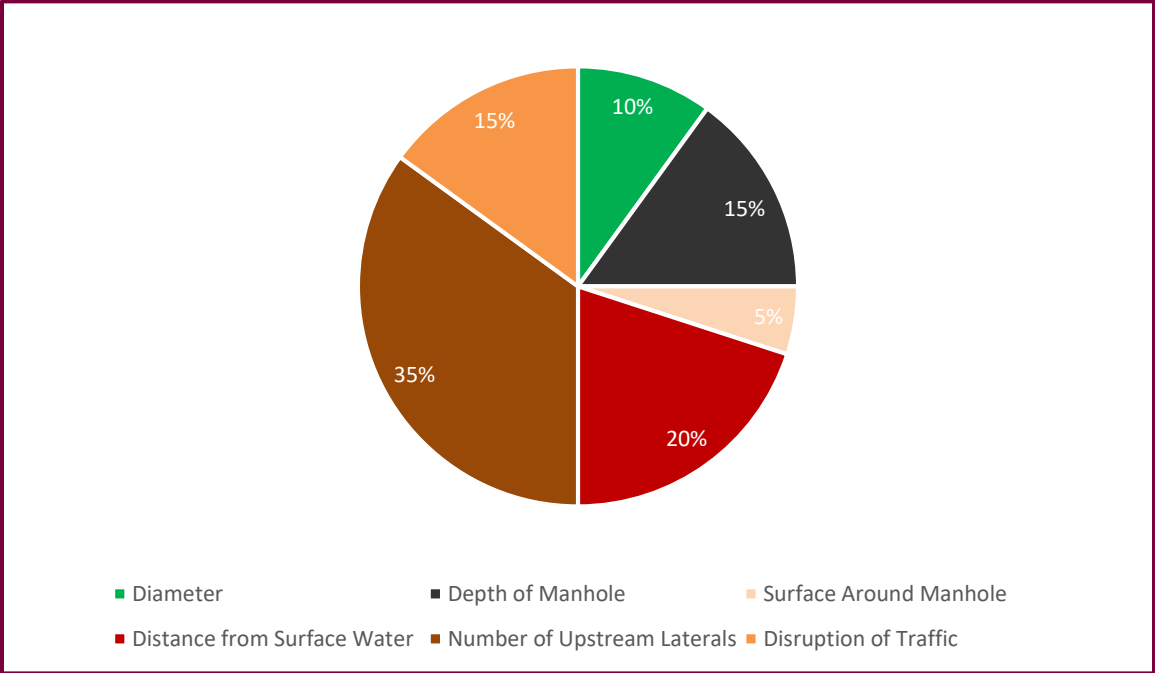
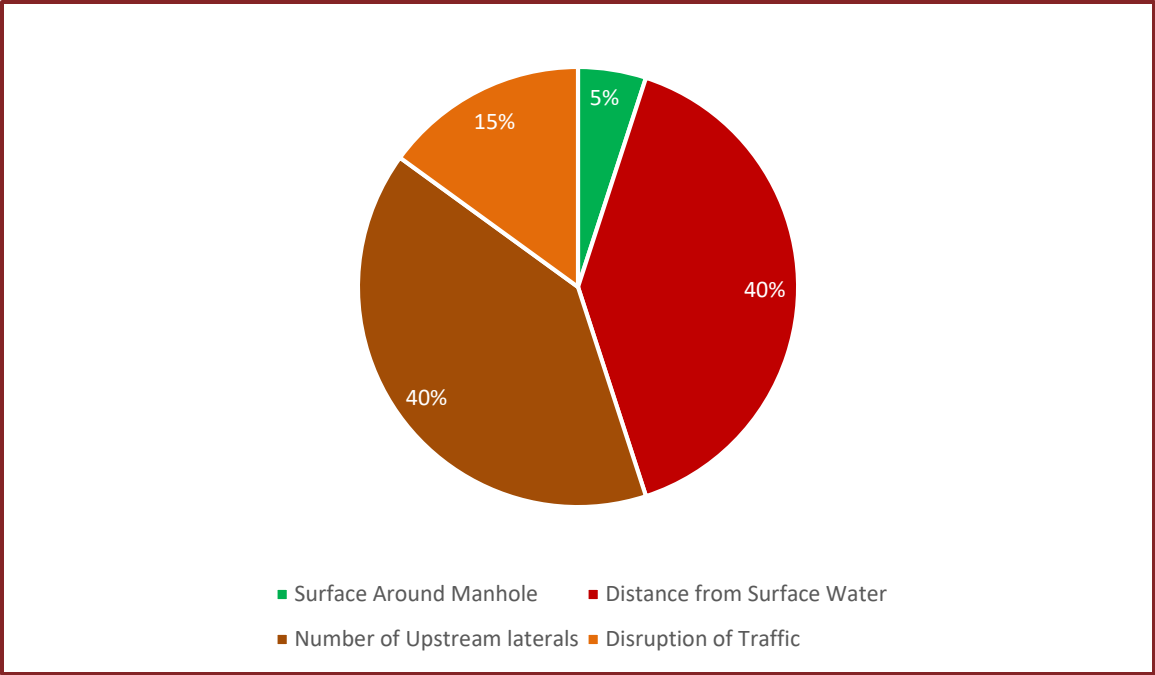


Figure 30 Pressure Manhole COF Factor Weighting



Tables 23 and 24 show the criticality rating scales used for each of the 5 factors evaluated. Replacement costs of a manhole are directly related to the type of surface around the manhole and has been assigned a score of 5% in the COF analysis. In the event of an asset failure, the costs to replace that asset may be much greater than the cost to make repairs.

Environmental/Regulatory Compliance contributed 20% for gravity manholes and 40% for pressure manholes to the COF. Non-compliance can result in the need for public notification and/or fines and consent orders to eliminate the problem from happening again if it continues to occur. Should a manhole fail that is in close proximity to surface water, there are serious ramifications related to public health and negative environmental impacts. A manhole further away from surface water is less critical because there is more time to contain the overflow before it reaches the water body. The criticality rating scales for manhole distance to surface water are shown on Tables 23 and 24.

Community disruption was allocated 50% and 55% of determining the COF respectively for gravity and pressure manholes. The more customers out of service due to a wastewater collection system failure, the more severe the situation. As service is disrupted to a larger number of users, additional costs are incurred to reroute and bypass mains, set up temporary pumping equipment to key areas, and notify the public in an expedient manner. Sewer main associated with critical facilities and roadway areas were also considered as part of the analysis. The criticality rating scales for the number of upstream customers, roadway classification, and critical facilities are shown below on Tables 23 and 24.

Table 23 Gravity Manhole COF Component Rating Scales

SOCIAL/COMMUNITY DISRUPTION (50%)	
Loss of Service Factor (35%)	
Criticality Rating	Number of Upstream Laterals Served
5	More than 500
4	Between 251 and 500
3	Between 151 and 250
2	Between 76 and 150
1	Less than 75
Roadway Impact Factor (15%)	
Criticality Rating	FCC Roadway Classification
5	Limited Access Interstate, Ramp to Limited Access Highway
4	Unlimited Access Highway, State Owned Surface Street, Unlimited Access Ramp
3	Principal Arterial Road, Minor Arterial Road
2	Residential Road, General Non-certified Road
1	Unnamed Road, Transportation Structure, Certified Road Right-of-Way
REGULATORY COMPLIANCE / ENVIRONMENTAL (20%)	
Distance to Surface Water (20%)	
Criticality Rating	Distance in Feet
5	< 50
4	50-75
3	76-100
2	101-150
1	>150
ECONOMIC (30%)	
Diameter (10%)	
Criticality Rating	Diameter in Inches
5	24" – 102"
4	18"-21"
3	12"-15"
2	10"
1	6"-8"
Criticality Rating	Depth of Manhole (15%)
5	>11
4	9.01-11
3	7.01-9
2	5.01-7
1	<=5
Surface Type (5%)	
Criticality Rating	Type of Surface Around Manhole
5	Pavement
4	N/A
3	Unknown
2	Gravel
1	Grass, Dirt

Table 24 Pressure Manhole COF Component Rating Scales

SOCIAL/COMMUNITY DISRUPTION (70%)	
Loss of Service Factor (45%)	
Criticality Rating	Number of Upstream Laterals Served
5	More than 500
4	Between 251 and 500
3	Between 151 and 250
2	Between 76 and 150
1	Less than 75
Roadway Impact Factor (20%)	
Criticality Rating	FCC Roadway Classification
5	Limited Access Interstate, Ramp to Limited Access Highway
4	Unlimited Access Highway, State Owned Surface Street, Unlimited Access
3	Principal Arterial Road, Minor Arterial Road
2	Residential Road, General Non-certified Road
1	Unnamed Road, Transportation Structure, Certified Road Right-of-Way
Critical Infrastructure Factor (5%)	
Criticality Rating	Critical Infrastructure
5	Critical Infrastructure
1	Non-Critical Infrastructure
REGULATORY COMPLIANCE / ENVIRONMENTAL (20%)	
Distance to Surface Water (20%)	
Criticality Rating	Distance in Feet
5	< 50
4	50-75
3	76-100
2	101-150
1	>150
ECONOMIC (10%)	
Surface Type (10%)	
Criticality Rating	Type of Surface Above Main
5	Pavement
4	N/A
3	Unknown
2	Gravel
1	Grass, Dirt

PROBABILITY OF FAILURE

Sewer Main

For sewer main that was televised, the POF is directly related to the existing condition of an asset. For main not televised, the POF is based on pipe age, pipe material, and hydrogen sulfide concern (H2S). Refer to Figure 31 below for the gravity main POF analysis. Refer to Figure 32 for the pressure main POF analysis.

Figure 31 Gravity Main Probability of Failure Analysis

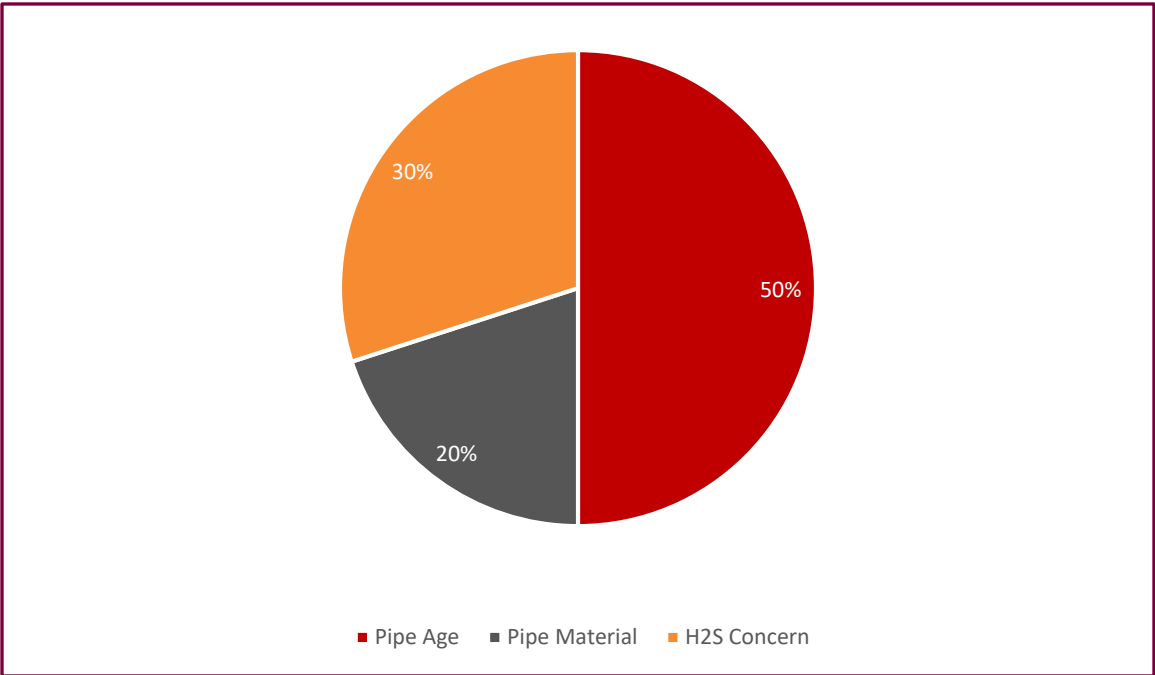
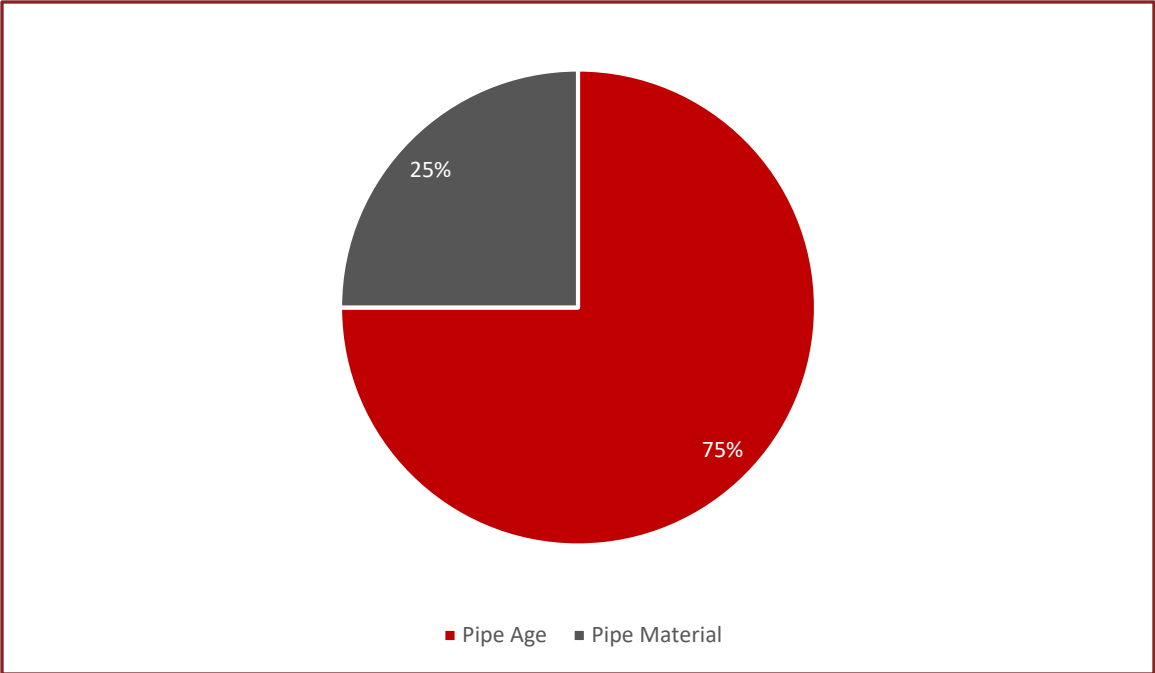


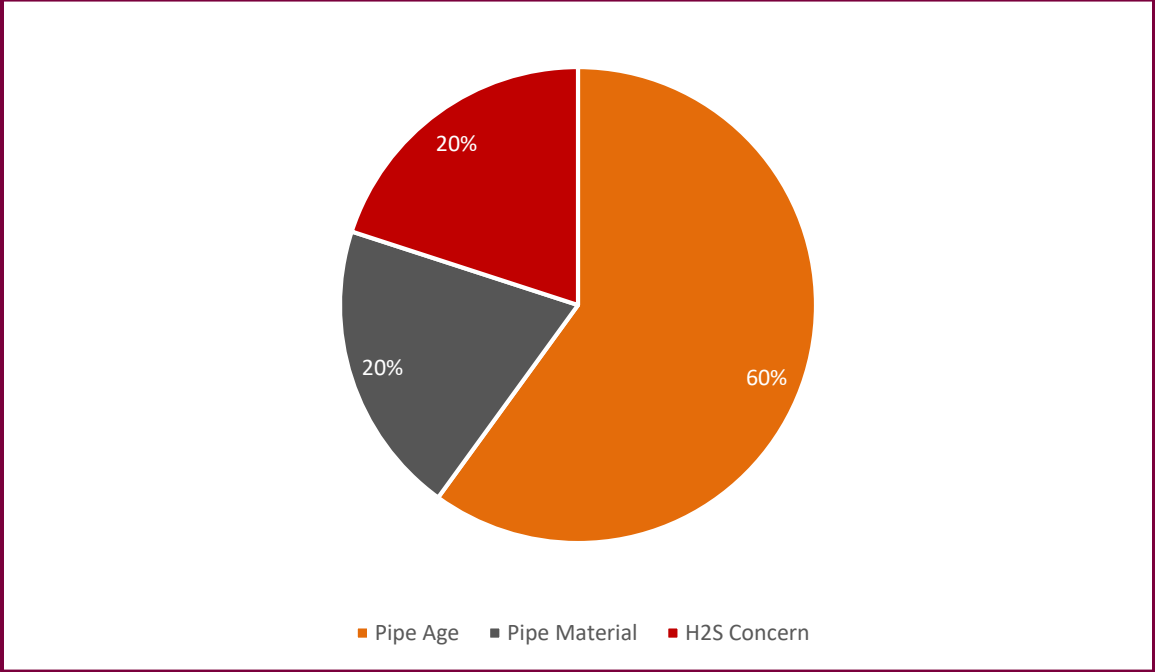
Figure 32 Pressure Main Probability of Failure Analysis



MANHOLES

For gravity manholes, the POF was based on pipe age, pipe material, and hydrogen sulfide concern (H2S). Refer to Figure 33 for the gravity manhole POF analysis. For pressure manholes, the POF was based on manhole age (100%). Manholes were evaluated for their structural condition during their Level 2 NASSCO evaluations.

Figure 33 Gravity Manhole Probability of Failure Analysis



BUSINESS RISK EVALUATION (BRE)

The Business Risk was evaluated for each sewer main segment and manhole. The Business Risk is the mathematical product of the COF and the POF with a resulting maximum possible score of 25. The BRE matrix is shown in Table 25. The BRE scale defining the risk factors is shown in Table 26.

Table 25 Business Risk Evaluation Matrix

		Risk Rating		BRE Score				
Probability of Failure	Certain	5	5	10	15	20	25	
	Probable	4	4	8	12	16	20	
	Possible	3	3	6	9	12	15	
	Unlikely	2	2	4	6	8	10	
	Rare	1	1	2	3	4	5	
Risk Rating			1	2	3	4	5	
			Insignificant	Minor	Moderate	Major	Catastrophic	
Consequence of Failure								

The BRE helps define maintenance and CIP Strategies and maximizes the expenditure of resources. Areas of relatively low business risk can be addressed over a much longer period of time with preventative maintenance strategies or could potentially run to failure with minor impacts to the system. Assets with medium to high risk will require more frequent monitoring and replacement or rehabilitation needs and should be addressed in the near term. Assets rated as critical should address rehabilitated or replacement needs as soon as possible.

Table 26 Business Risk Evaluation Scale

BRE	Risk	Definition
0.00 – 4.99	Low Risk	Consequence of Failure is acceptable
5.00 – 9.99	Medium Risk	Failure consequences tolerable, managed through design redundancy, spares, and condition monitoring
10.00 – 15.99	High Risk	Aggressive Monitoring and Management
16.00 – 25.00	Critical/Intolerable Risk	Intolerable Condition

Tables 27-30 provide summaries of the BRE for the sewer main and manholes. As the tables show there are approximately 4,094 linear feet of sewer main (4.0%) that received a critical BRE score

of 16.00-25.00; additionally, 10,486 lineal feet of sewer main (9.7%) and 10 manholes (1.8%) received a BRE score of 10.00-15.99.

Table 27 Gravity Main Business Risk Evaluation Summary

Business Risk - Gravity Sewer Main						
Probability of Failure	Sewer Length (ft)	0.00-4.99	5.00-9.99	10.00-15.99	16.00-25.00	% of System by Pipe Structural Condition
5.00	735	0	735	0	0	0.7%
4.00	905	0	257	0	648	0.8%
3.00	33,452	25,207	7,554	138	552	30.8%
2.00	15,178	2,141	2,044	8,098	2,894	14.0%
1.00	58,321	50,606	5,465	2,250	0	53.7%
Sewer Lengths (ft)	108,590	77,955	16,056	10,486	4,094	
% of System by Business Risk		71.8%	14.8%	9.7%	4%	<u>100.0%</u>

Table 28 Pressure Main Business Risk Evaluation Summary

Business Risk - Total System						
Pressure Main Probability of Failure	Sewer Length (ft)	0.00-4.99	5.00-9.99	10.00-15.99	16.00-25.00	% of System by Pipe Structural Condition
5.00	0	0	0	0	0	0.0%
4.00	0	0	0	0	0	0.0%
3.00	5,819	783	5,036	0	0	5.1%
2.00	11,960	1,807	10,153	0	0	10.5%
1.00	96,642	96,642	0	0	0	84.5%
Sewer Lengths (ft)	114,421	99,232	15,189	0	0	
% of System by Business Risk		86.7%	13.3%	0.0%	0%	<u>100.0%</u>

Table 29 Gravity Manhole Business Risk Evaluation Summary

Business Risk - Total System						
Structural Condition	Manholes (ea)	0.00-4.99	5.00-9.99	10.00-15.99	16.00-25.00	% of System by Pipe Structural Condition
5.00	0	0	0	0	0	0.0%
4.00	2	1	1	0	0	0.4%
3.00	12	7	2	3	0	2.1%
2.00	190	152	31	7	0	33.3%
1.00	27	20	7	0	0	4.7%
0.00	318	280	38	0	0	
Unknown	22	18	4	0	0	
Manholes (ea)	571	478	83	10	0	
% of System by Business Risk		83.7%	14.5%	1.8%	0%	100.0%

Table 30 Pressure Manhole Business Risk Evaluation Summary

Business Risk - Total System						
Pressure Manhole Probability of Failure	Pressure Manholes (ea)	0.00-4.99	5.00-9.99	10.00-15.99	16.00-25.00	% of System by Pipe Structural Condition
5.00	0	0	0	0	0	0.0%
4.00	0	0	0	0	0	0.0%
3.00	3	1	2	0	0	1.5%
2.00	68	46	22	0	0	34.0%
1.00	129	129	0	0	0	64.5%
Pressure Manholes (ea)	200	176	24	0	0	
% of System by Business Risk		88.0%	12.0%	0.0%	0%	100.0%

REVENUE STRUCTURE

As required by the SAW Grant Implementation Project guidelines, a wastewater collection system revenue/expense review needed to be developed and submitted to EGLE by June 2019. The Township’s utility finances were reviewed by financial consultant, Baker Tilly. Upon completion of the review, Baker Tilly submitted a “*Schedule of 2019 Budgeted Operating Expenses and Adjustments*” to EGLE for review and approval in June 2019. Table 31 contains a synopsis of the review schedule, which shows a wastewater system revenue gap of \$0.00. The Township subsequently received an October 17, 2019 letter from EGLE outlining the Township had successfully fulfilled the significant progress requirement and that they were in compliance with Section 5204e(3)(a), Part 52, Clean Water Assistance, of the Natural Resource and Environmental Protection Act, 1994, PA 451, as amended.

Table 31 2019 Budgeted Wastewater Operating Expenses & Adjustments

Operating Expense or Revenue	Budget
Wastewater Operating Expenses	\$237,299
Administrative Fee Revenue	\$145,163
Debt Service Fee Revenue	\$205,093
Reserve Fund Fee Revenue	\$116,130
Total Wastewater Revenue	\$466,386
GAP	\$0

It was identified by Baker Tilly that an approximate \$82.00/quarter increase in water and sewer rates would be adequate to support both Township operations and capital improvement and estimated debt service payments to pay for the developed CIP as part of a forecasting model they developed to aid the Township in financial planning.

Please refer to the Township 20-Year Cash Flow Analysis on the following pages, which provides total operating expenditures, net operating revenue, debt service payments due to the sale of potential bonds, cash and investments, and net cash flow.

Utilizing the digital version of the 20-Year Cash Flow Analysis, the Township will have the ability to continue updating their budget as well as run several different scenarios that can vary criteria such as rate increases, bonds, and cash balance payments to determine the best way to fund their CIP Projects over the 20-Year planning period.

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

CASH FLOW ANALYSIS - SEWER

	2019	Increase Per Year	2020	2021	2022	2023	2024	2025	2026	2027	2028
Assumptions											
Admin fee - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Admin fee (quarterly)[1]	\$12.50	0.00%	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50
Debt service fee - REUs	3,040.17		3,040.17	3,040.17	3,040.17	0.00	0.00	0.00	0.00	0.00	0.00
Debt service fee (quarterly)[1][3]	\$18.00	0.00%	\$18.00	\$18.00	\$18.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Reserve fund fee - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Reserve fund fee (quarterly)[1][3]	\$10.00	0.00%	\$10.00	\$10.00	\$10.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00
OC charges - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC charges (quarterly)	\$128.38		\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38
OC reserve charges - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC reserve charges (quarterly)	\$4.36		\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36
<i>Typical Township homeowner's quarterly bill</i>	<i>\$168.88</i>		<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>
Township Revenues											
Admin fee	\$152,009		\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009
Debt service fee	218,892		218,892	218,892	218,892	-	-	-	-	-	-
Reserve fund fee	121,607		121,607	121,607	121,607	340,499	340,499	340,499	340,499	340,499	340,499
Total revenues	492,508		492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508
Less: Total operating expenditures	(225,250)		(255,000)	(260,100)	(270,608)	(276,020)	(281,541)	(287,171)	(292,915)	(298,773)	(304,749)
Net operating revenue	267,258		237,508	232,408	221,900	216,487	210,967	205,336	199,593	193,734	187,759
Less: Current Pontiac Lake debt debt service payments	(272,875)		(271,563)	(275,063)	(273,375)	-	-	-	-	-	-
Estimated cash funded Township O&M capital expenditures	-		(41,000)	(61,160)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)
Estimated cash funded Pumping station capital expenditures	-		(365,800)	(32,500)	-	(20,000)	-	(590,000)	-	-	(75,000)
Estimated cash funded Main & Manhole capital expenditures	-		(319,797)	(635,556)	(629,531)	(620,969)	(499,864)	(750,419)	(232,935)	(1,080,941)	(544,751)
Net cash flow	(\$5,617)		(\$760,652)	(\$771,871)	(\$722,327)	(\$465,802)	(\$330,217)	(\$1,176,403)	(\$74,662)	(\$928,527)	(\$475,312)
<i>Cash & investments</i>	<i>\$1,186,019</i>		<i>\$425,367</i>	<i>(\$346,504)</i>	<i>(\$1,068,850)</i>	<i>(\$1,534,632)</i>	<i>(\$1,864,849)</i>	<i>(\$3,041,252)</i>	<i>(\$3,115,914)</i>	<i>(\$4,044,441)</i>	<i>(\$4,517,753)</i>
Annual Revenue Requirement Summary											
Total estimated operating expenses, debt and capital improvements [2]			1,253,160	\$1,264,379	\$1,214,834	\$958,309	\$822,725	\$1,668,910	\$567,170	\$1,421,034	\$965,820
Current annual rate [1][3]			\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50
Annual rate needed to fund expenses, capital improvements and debt			\$103.05	\$103.97	\$99.90	\$78.80	\$67.65	\$137.24	\$46.64	\$116.85	\$79.42
Estimated shortage in rates			(\$62.55)	(\$63.47)	(\$59.40)	(\$38.30)	(\$27.15)	(\$96.74)	(\$6.14)	(\$76.35)	(\$38.92)
Total estimated cash funded capital improvements			\$726,597	\$729,216	\$670,851	\$682,289	\$541,184	\$1,381,739	\$274,255	\$1,122,261	\$661,071
Annual rate needed to fund capital improvements only			\$59.75	\$59.97	\$55.17	\$56.11	\$44.50	\$113.62	\$22.55	\$92.29	\$54.36
Average annual rate needed to fund capital improvements only			\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03

[1] Current annual rate is equal to the cumulative Admin, Debt Service and Reserve Fund fees
 [2] Includes Township total operating expenses, Pontiac Lake debt service payments and estimated cash funded capital expenditures
 [3] Assumes \$18 debt service fee is added into reserve fund fee after defeasance of Pontiac Lake debt in 2022

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

(Continued)

CASH FLOW ANALYSIS - SEWER

		2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
	Increases Per Year											
Assumptions												
Admin fee - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Admin fee (quarterly) [1]	0.00%	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50
Debt service fee - REUs		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service fee (quarterly) [1][3]	0.00%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Reserve fund fee - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Reserve fund fee (quarterly) [1][3]	0.00%	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00
OC charges - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC charges (quarterly)	0.00%	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38
OC reserve charges - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC reserve charges (quarterly)	0.00%	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36
<i>Typical Township homeowner's quarterly bill</i>												
Township Revenues												
Admin fee		\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009
Debt service fee		-	-	-	-	-	-	-	-	-	-	-
Reserve fund fee		340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499
Total revenues		492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508
Less: Total operating expenditures		(310,844)	(317,060)	(323,402)	(329,870)	(336,467)	(343,196)	(350,060)	(357,062)	(364,203)	(371,487)	(378,917)
Net operating revenue		181,664	175,447	169,106	162,638	156,040	149,311	142,447	135,446	128,305	121,021	113,591
Less: Current Pontiac Lake debt debt service payments		-	-	-	-	-	-	-	-	-	-	-
Estimated cash funded Township O&M capital expenditures		(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)
Estimated cash funded Pumping station capital expenditures		-	(20,000)	(138,000)	(358,000)	(30,000)	(30,000)	(88,000)	-	(205,000)	(20,000)	-
Estimated cash funded Main & Manhole capital expenditures		(681,766)	(900,758)	(871,815)	(802,179)	(1,013,213)	(801,573)	(929,971)	(1,017,119)	(909,924)	(1,174,548)	(903,622)
Net cash flow		(\$541,422)	(\$786,631)	(\$882,029)	(\$1,038,861)	(\$928,493)	(\$723,582)	(\$916,844)	(\$922,993)	(\$1,027,939)	(\$1,114,847)	(\$831,351)
Cash & investments		(\$5,059,175)	(\$5,845,806)	(\$6,727,835)	(\$7,766,696)	(\$8,695,189)	(\$9,418,771)	(\$10,335,614)	(\$11,258,607)	(\$12,286,547)	(\$13,401,394)	(\$14,232,745)
Annual Revenue Requirement Summary												
Total estimated operating expenses, debt and capital improvements [2]		1,033,930	1,279,138	1,374,537	1,531,369	1,421,000	1,216,089	1,409,351	1,415,501	1,520,447	1,607,355	1,323,859
Current annual rate [1][3]		\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50
Annual rate needed to fund expenses, capital improvements and debt		\$85.02	\$105.19	\$113.03	\$125.93	\$116.85	\$100.00	\$115.89	\$116.40	\$125.03	\$132.18	\$108.86
Estimated shortage in rates		(\$44.52)	(\$64.69)	(\$72.53)	(\$85.43)	(\$76.35)	(\$59.50)	(\$75.39)	(\$75.90)	(\$84.53)	(\$91.69)	(\$68.66)
Total estimated cash funded capital improvements		\$723,086	\$962,078	\$1,051,135	\$1,201,499	\$1,084,533	\$872,893	\$1,059,291	\$1,058,439	\$1,156,244	\$1,235,868	\$944,942
Annual rate needed to fund capital improvements only		\$59.46	\$79.11	\$86.44	\$98.80	\$89.18	\$71.78	\$87.11	\$87.04	\$95.08	\$101.63	\$77.70
Average annual rate needed to fund capital improvements only		\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85

[1] Current annual rate is equal to the cumulative Admin, Debt Service and Reserve Fund fees
 [2] Includes Township total operating expenses, Pontiac Lake debt service payments and estimated cash funded capital expenditures
 [3] Assumes \$18 debt service fee is added into reserve fund fee after defeasance of Pontiac Lake debt in 2022

CAPITAL IMPROVEMENT PROJECT PLAN

INTRODUCTION

Using the information obtained during the SAW grant asset inventory and assessment phases, a recommended CIP for the twenty (20) year planning period was developed to identify and outline cost and timelines related to the repair and replacement of sewer main and manholes to ensure reliable operation of the wastewater collection system and to meet new and existing LOS goals.

A large and recurring cost component of the annual budget costs for the wastewater collection system CIP are related to O&M. As part of the proposed CIP, it is recommended that the entire wastewater collection system be cleaned and televised, at least once, over the twenty (20) year WWAMP planning period.

It is also understood that the Township will be utilizing the CIP to coordinate both water and sewer infrastructure repair and replacement for the entire Township throughout the twenty (20) year planning period. FOG inspections and hydrogen sulfide improvements are also anticipated to continue to improve the longevity of the Township infrastructure. Continuing coordination with WRC is vital to allow for the most efficient use of Township funds and to minimize disruption to residents and businesses. As the Township wastewater collection system infrastructure is inspected over the twenty (20) year planning period, this information should be updated into the GIS and evaluated to further enhance CIP planning and coordination.

METHODOLOGY

A recommended CIP strategy was developed that outlines O&M, repairs, replacement and rehabilitation of sewer main and manholes for the twenty (20) year planning period. Individual project cost information was determined using recent similar project bid tabulations and local project cost information. A description of each asset and suggested year for potential improvement implementation was developed using the BRE, historical knowledge of the assets, and input from Township staff. The timing of the capital improvements was based on the scored BRE and budgetary constraints.

PROJECT TYPES

Wastewater System CIP project categories include:

1. Sewer main (pressure and gravity) repair and replacement;
2. Manhole repair and replacement;
3. Annual sewer main cleaning and inspection (system O&M);
4. Odor control;
5. Pumping Station improvements;
6. Annual FOG inspections; and
6. Twenty (20) year CIP summary.

SEWER MAIN REPAIR & REPLACEMENT

Sewer main CIP repair projects have been developed and are presented in this section.

The wastewater collection system was scored based on a variety of factors to help determine locations where the Township should concentrate efforts. Sewer main that resulted in a BRE score of over 16 were deemed to be the most critical for inspection. Rehabilitative or replacement methods were then analyzed to estimate the costs of correcting identified sewer main deficiencies. Costs for rehabilitating sewer main were estimated using full length and sectional cured-in-place (FCIPP/SCIPP) sewer main lining. Rehabilitation of sewer main O&M defects such as blockages and leaks at sewer main joints were not able to be estimated at this time.

Fourteen (14) sewer main segments fall into the critical range (16.0 to 25.0). An additional forty-six (46) segments fall into the high risk range (10.0-15.9). Sewer main BRE scores were utilized to establish the timing of sewer main repairs with the highest BRE scores being prioritized for rehabilitation first. Sewer mains with lower BRE scores are also grouped according to rehab method and addressed as budgetary considerations in the twenty (20) year planning period. Sewer main with a BRE score of 16.0 or higher is scheduled to be rehabilitated first. Table 32 lists the length of sewer main recommended for rehabilitation in the twenty (20) year planning period by rehab method for each budgetary year.

Table 32 Estimated Sewer Main Length & CIP Year

CIP Year	Gravity Sewer Main Length (Ft)	Estimated Cost		CIP Year	Pressure Sewer Main Length (Ft)	Estimated Cost
2020	1,273.9	\$298,213		2020	0.0	\$0
2021	1,332.6	\$307,070		2021	1,421.4	\$276,308
2022	1,010.2	\$366,409		2022	1,421.4	\$276,308
2023	1,441.6	\$343,257		2023	1,119.7	\$223,934
2024	1,608.5	\$406,385		2024	1,127.1	\$225,424
2025	1,373.3	\$357,229		2025	461.0	\$92,194
2026	1,802.5	\$426,629		2026	2,268.1	\$340,704
2027	1,963.7	\$350,481		2027	0.0	\$0
2028	2,286.7	\$570,617		2028	935.6	\$446,941
2029	1,863.0	\$426,230		2029	69.6	\$10,436
2030	4,879.3	\$423,210		2030	554.3	\$266,052
2031	4,994.8	\$478,029		2031	1,024.1	\$307,276
2032	5,910.4	\$607,625		2032	1,083.9	\$335,996
2033	5,425.4	\$549,631		2033	569.5	\$273,373
2034	5,773.4	\$575,487		2034	1,759.8	\$388,199
2035	5,946.4	\$566,931		2035	2,501.5	\$278,230
2036	7,995.3	\$648,156		2036	1,568.6	\$287,135
2037	7,692.3	\$618,510		2037	2,145.4	\$317,518
2038	9,101.1	\$671,128		2038	1,525.2	\$304,927
2039	9,806.1	\$538,831		2039	2,414.7	\$357,647
Total	83,480.7	\$9,530,057		Total	23,436.7	\$4,909,746

Figures 33 and 34 identify the proposed sewer main rehabilitation locations by year as identified in Table 23.

Figure 33 Proposed Gravity Main Rehabilitation Locations By Year, 2020-2039

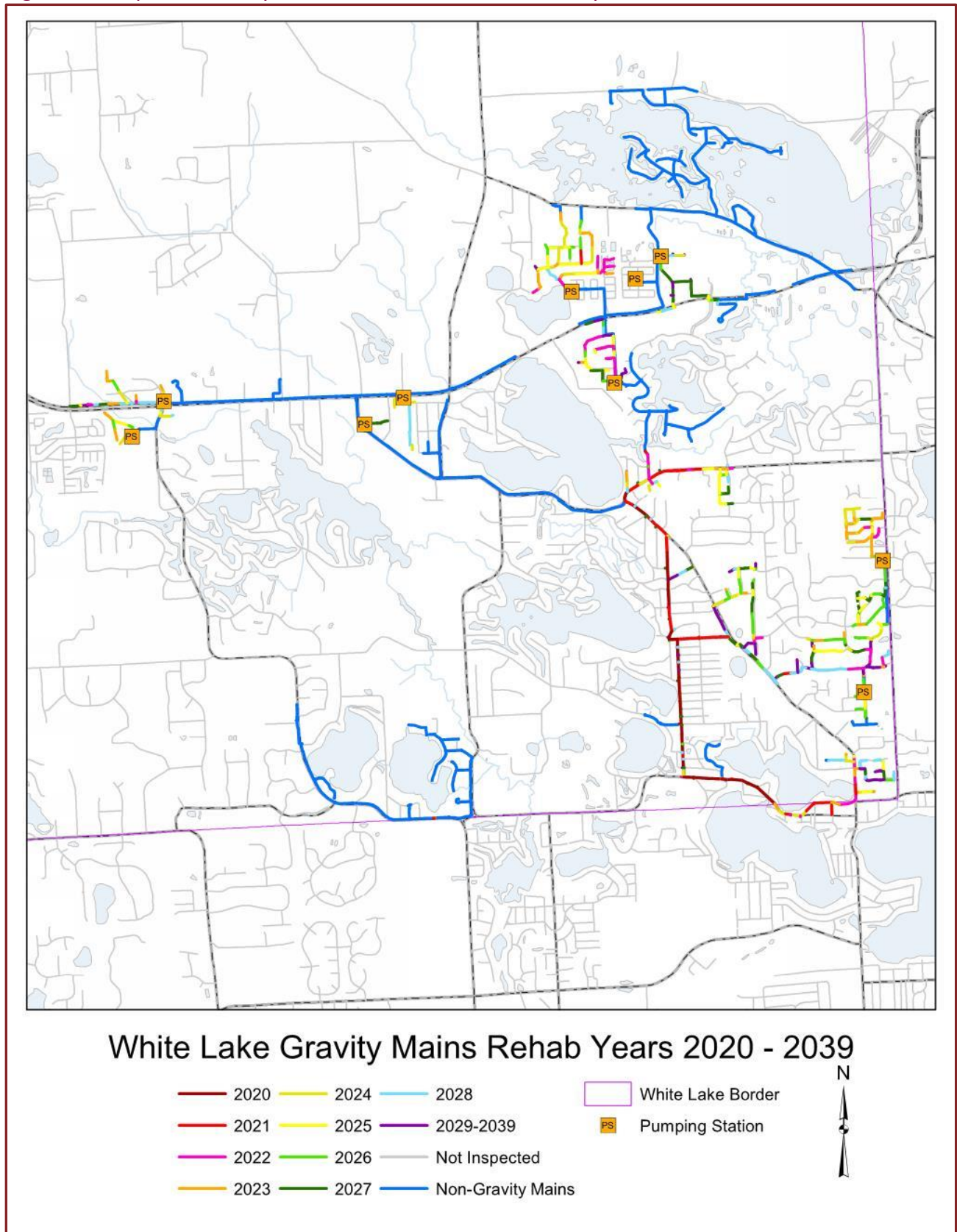
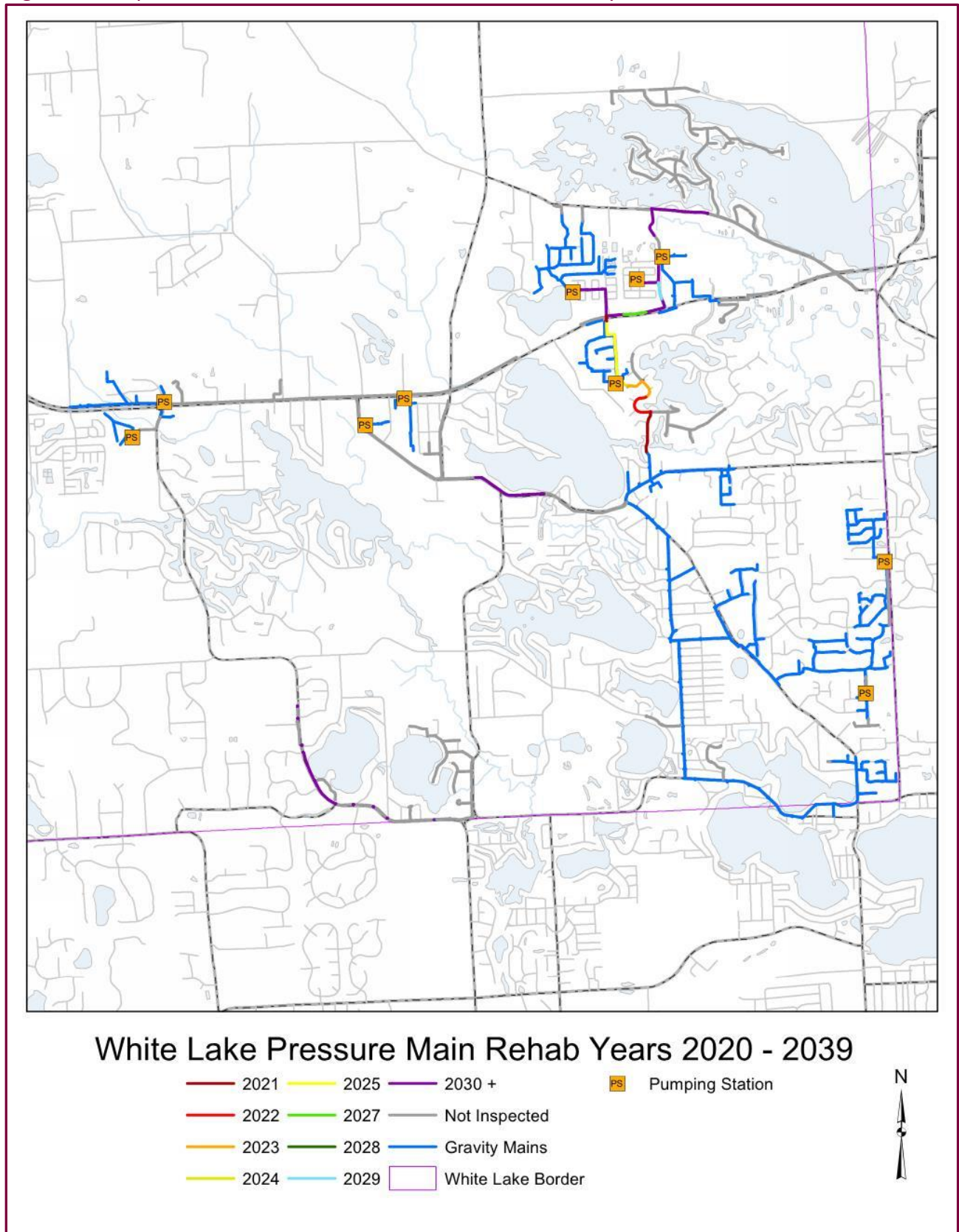


Figure 34 Proposed Pressure Main Rehabilitation Locations By Year, 2020-2039



MANHOLE REPAIR & REPLACEMENT

Manhole CIP repair projects have been developed and are presented in this section.

The wastewater collection system was scored based on a variety of factors to help determine the locations where the Township should concentrate their efforts. Manholes that resulted in a BRE score of over 16 were deemed to be the most critical for inspection. Rehabilitative or replacement methods were then analyzed to estimate the costs of correcting identified sewer main deficiencies. Cured-in-place (CIPP) lining rehabilitation costs were applied to manholes who were found to have many or severe defects or structural damage, whose structural condition ratings were greater than or equal to three (3). Grouting rehabilitation costs were applied to manholes who were found with relatively few defects, whose structural condition was less than or equal to two (2).

Ten (10) manholes were rated high risk (10.0 – 15.9) and fourteen (14) sewer main segments falling into the critical range (16.0 to 25.0). Manhole BRE scores were utilized to establish the timing of manhole repairs with the highest BRE scores being prioritized for rehabilitation first. Manholes with lower BRE scores are addressed as budgetary considerations in the twenty (20) year planning period. Manholes with a BRE score of 16.0 or higher is scheduled to be rehabilitated first. Figures 35 and 36 identifies the manholes recommended for rehabilitation in the twenty (20) year planning period for each budgetary year.

Figure 35 Proposed Gravity Manhole Rehabilitation Locations By Year, 2020-2029

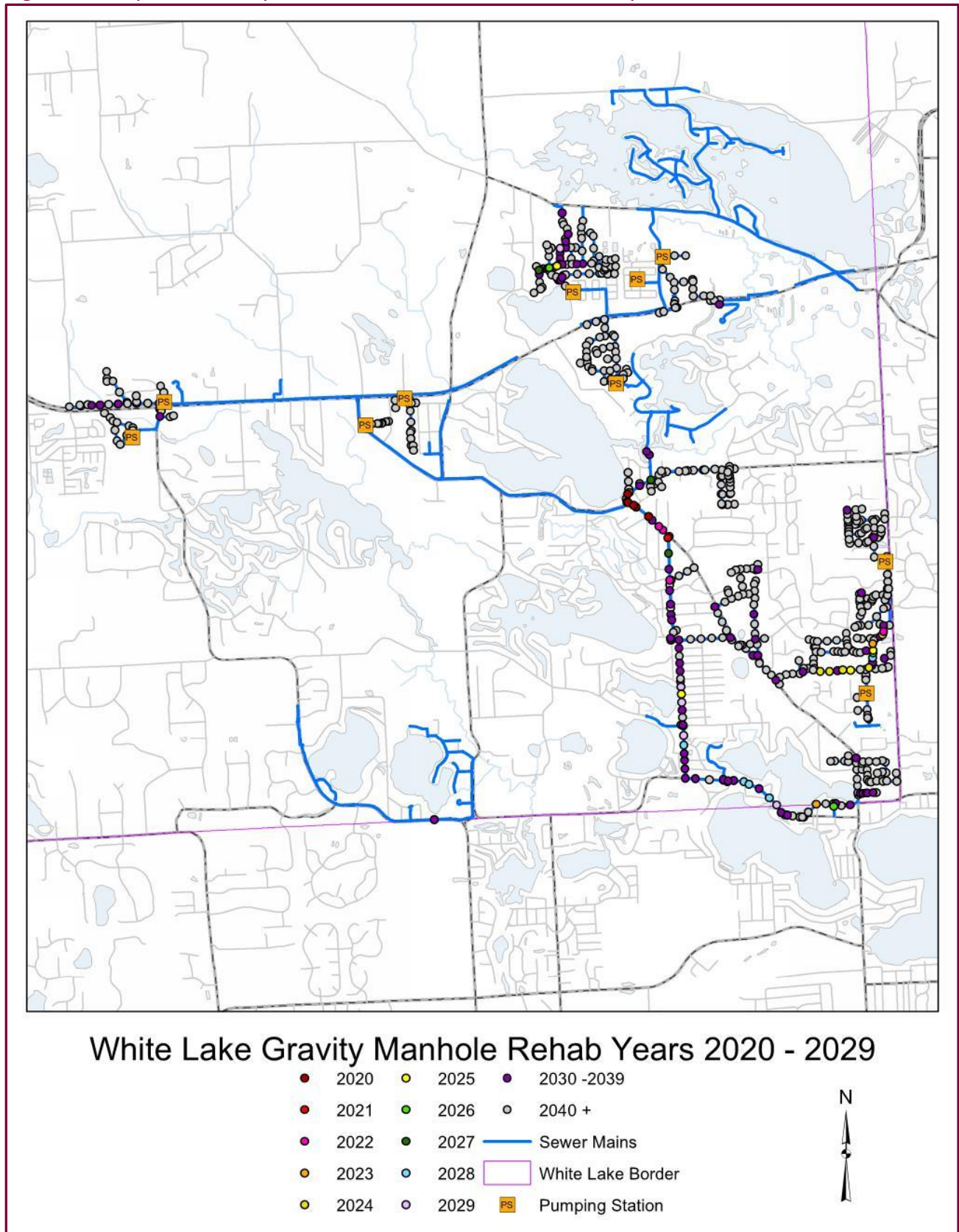


Figure 36 Proposed Gravity Manhole Rehabilitation Locations By Year, 2030-2039

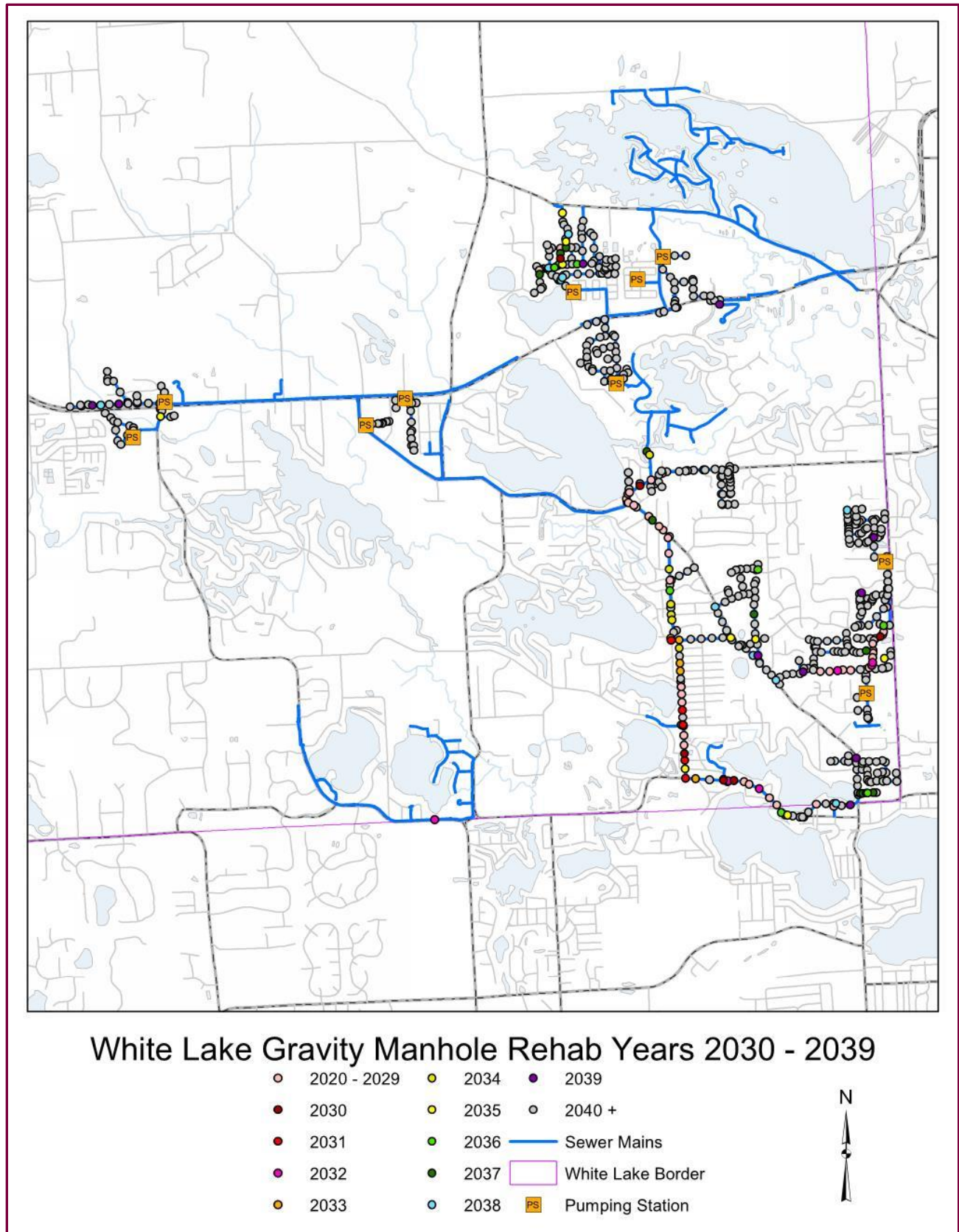


Figure 37 Proposed Pressure Manhole Rehabilitation Locations By Year, 2020-2029

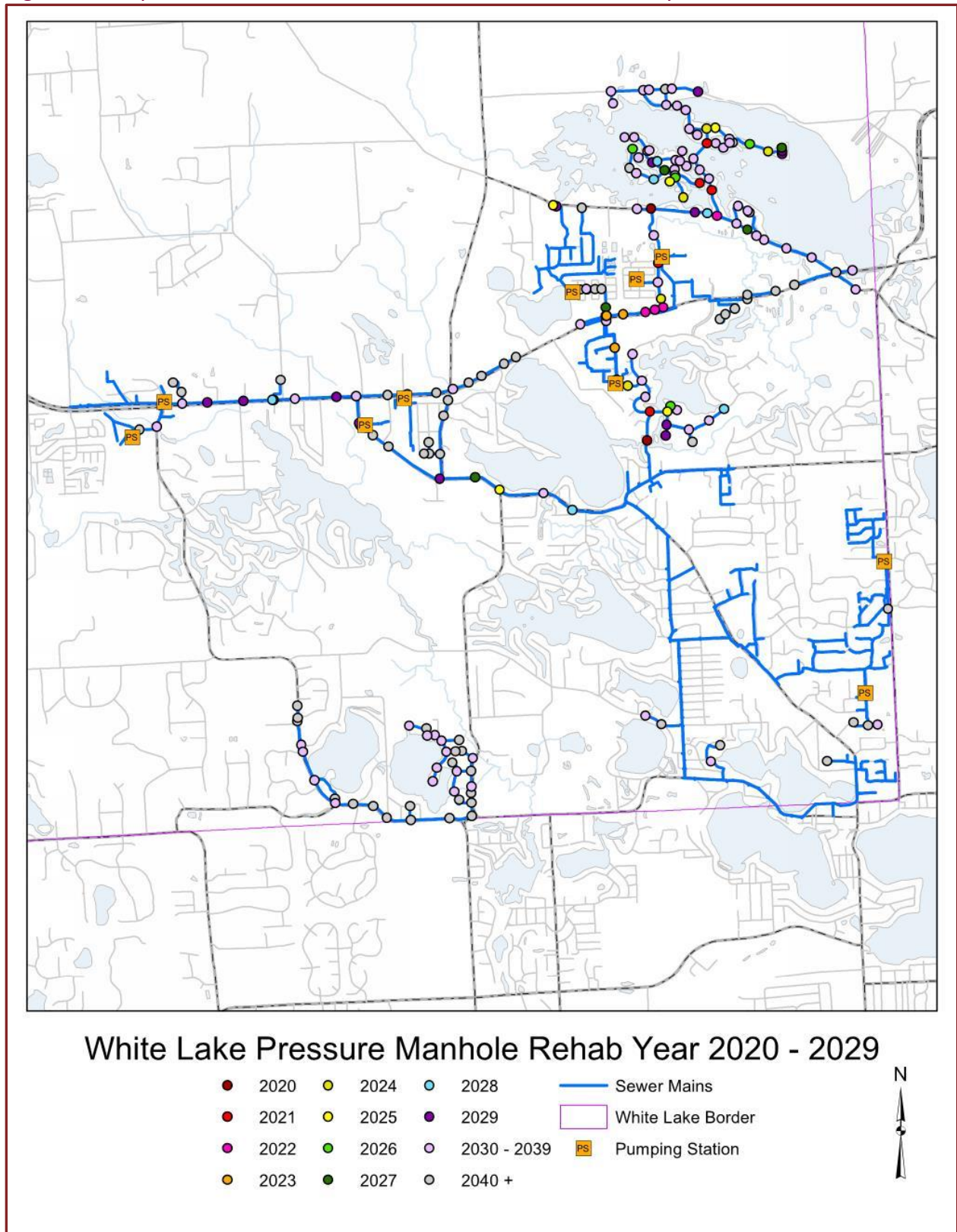
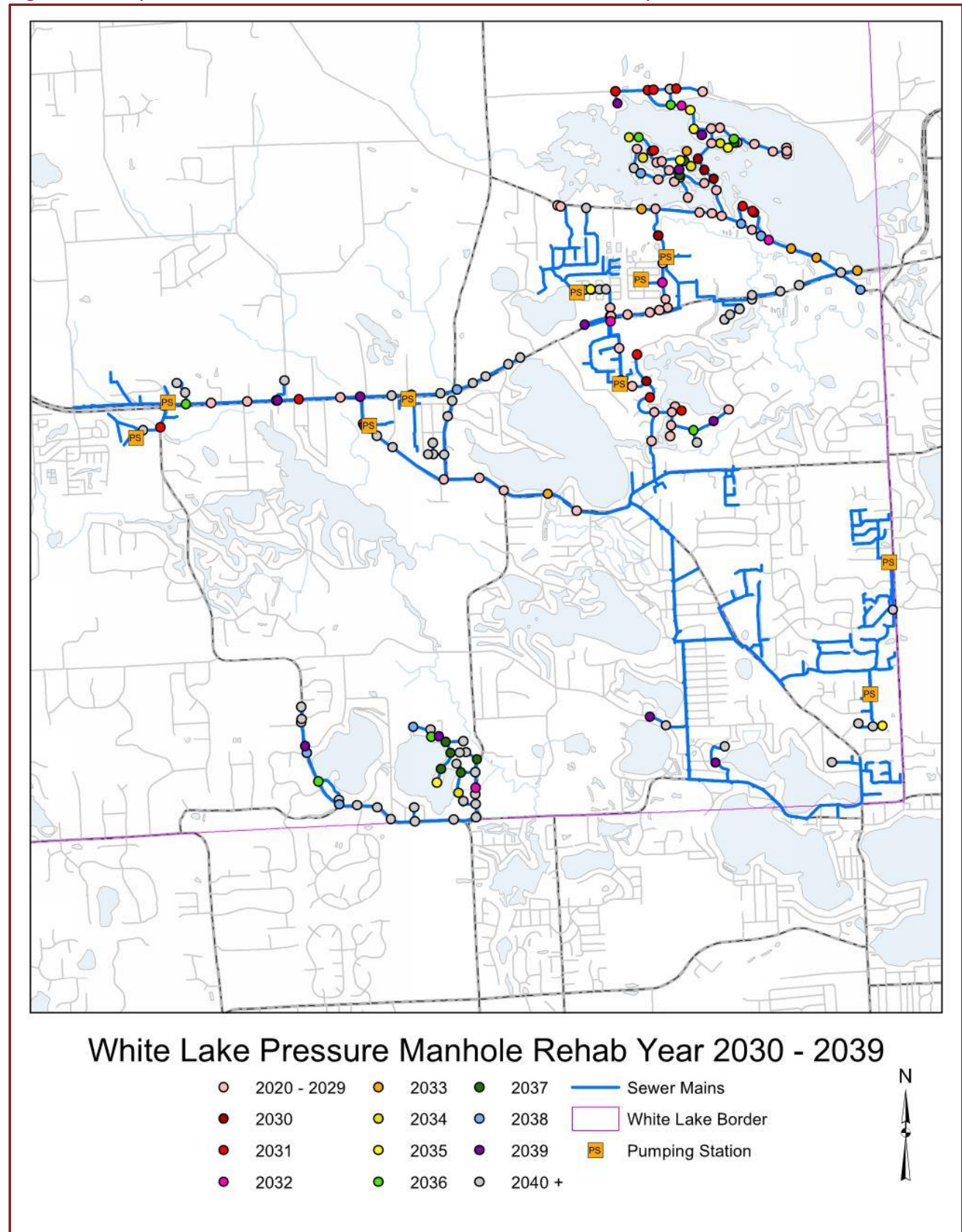


Figure 38 Proposed Pressure Manhole Rehabilitation Locations By Year, 2030-2039



ANNUAL SEWER MAIN CLEANING & INSPECTION (SYSTEM O&M)

Until recent years, WRC has historically taken a reactive approach related to the O&M of White Lake Township's wastewater collection system. This has resulted in deterioration of the wastewater collection system where substantial expenditures over the planning period are required ensure reliable operations. Through the development and implementation of the WWAMP, future O&M strategies can be modified and developed that include:

- Better record keeping of infrastructure repairs and rehabilitation;
- FOG program development and implementation to reduce overall O&M costs;
- CCTV of the entire sewer main system;
- GIS updates of the system when updated information becomes available including repairs, rehabilitations, new infrastructure and retired infrastructure; and
- Continued efforts to reduce hydrogen sulfide in the wastewater system.

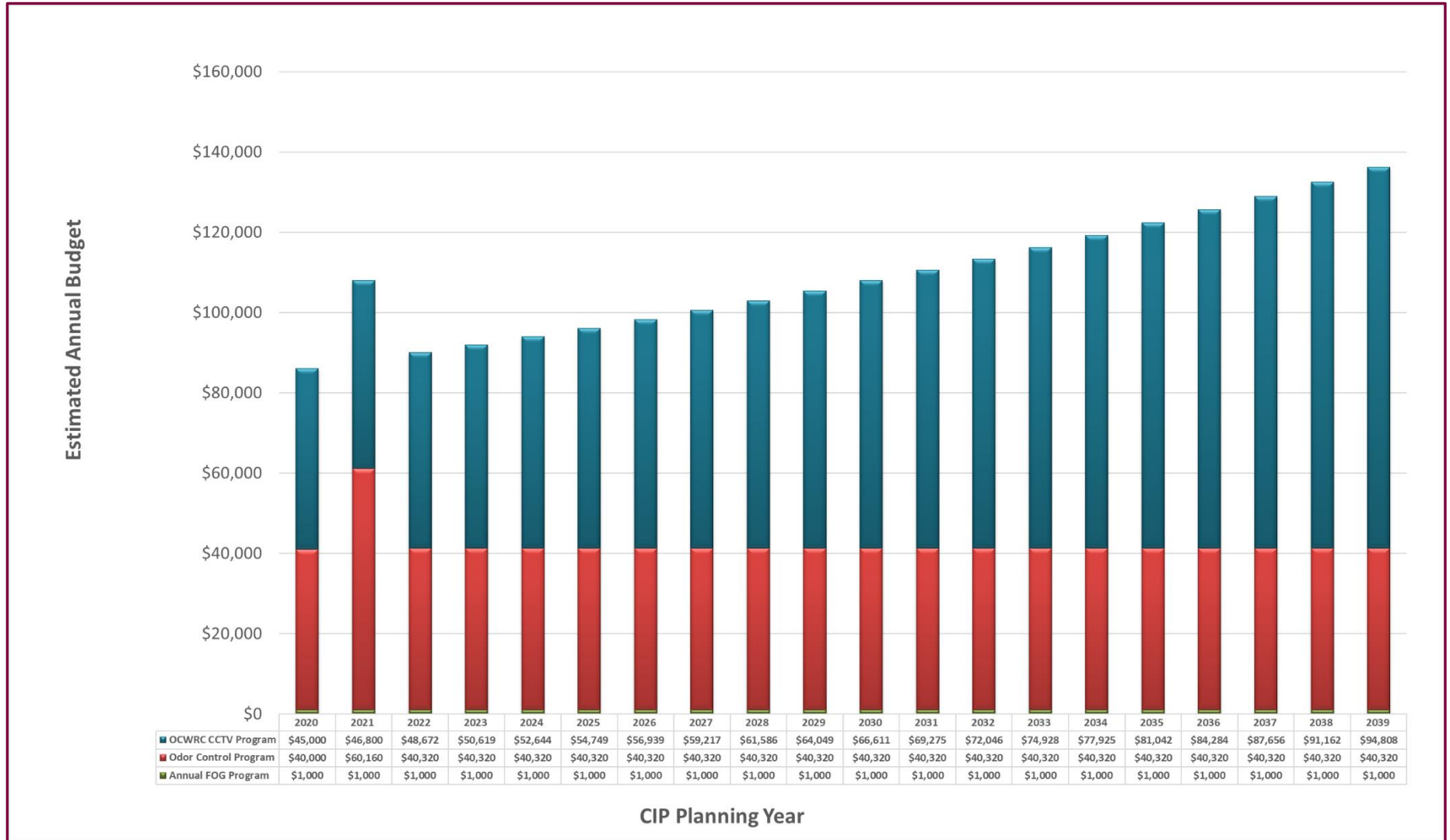
To meet defined LOS goals, WRC will need to implement routine sewer main cleaning and inspection procedures over the twenty (20) year planning period and beyond. This will help to ensure more consistent and reliable wastewater collection system operations including reduced sewer backups due to plugged or other sewer main deficiencies. The CIP Project Plan calls for cleaning and inspecting all the Township's sewer mains over the next twenty (20) years, of which, none were inspected during the SAW project. Sewer main with the highest BRE scores should be prioritized to be repaired or replaced as they are identified, and the CIP Project Plan updated to accommodate them. Figure 24 outlines sewer main to be inspected with estimated BRE scores based on data obtained from the SAW project assessment effort. Budget estimates for this activity were based on an inspection and cleaning cost as shown in Table 33 with a total average annual budget allocation of \$45,000 to \$94,808 over the 20-year period. Once the sewer main inspection program begins to mature, it is recommended that previous higher scored BRE sewer main, that hasn't been repaired or replaced, be scheduled to be inspected first during the re-inspection.

Table 33 Sewer Main Cleaning & Inspection System O&M Budgets

Pipe Size	Clean Unit Price (\$/LF)	CCTV Unit Price (\$/LF)	Clean & CCTV Unit Price
2	\$3.00	\$1.50	\$4.50
3	\$3.00	\$1.50	\$4.50
4	\$3.00	\$1.50	\$4.50
6	\$3.00	\$1.50	\$4.50
8	\$3.00	\$1.50	\$4.50
10	\$3.00	\$1.50	\$4.50
12	\$3.00	\$1.50	\$4.50
16	\$3.00	\$1.50	\$4.50
24	\$3.00	\$1.50	\$4.50
30	\$3.00	\$1.50	\$4.50

Figure 37 outlines annual O&M costs over the twenty (20) year planning period.

Figure 39 Sewer Main & Manhole Operation & Maintenance Costs/Year



TWENTY (20) YEAR CIP SUMMARY

Table 34 outlines the annual recommended CIP budget estimates for sewer main, manholes, and O&M project categories of the WWAMP. The table includes BRE scoring priorities for the various CIP project and O&M activities over the twenty (20) year planning period. CIP BRE based budget estimates are grouped by multiple budget years with critical and high-risk items addressed in CIP years 1-5 and medium to low risk items budgeted in years 6-20.

Table 34 Recommended Wastewater System CIP Schedule & Costs

Wastewater Capital Improvement Project Description	Business Risk Evaluation Score				Total over 5 years	Total over 20 years
	Year 1-3	Year 4-5	Year 6-10	Year 11-20		
	2020-2022	2023-2024	2025-2029	2030-2039		
Pumping Station Projects	\$398,300	\$20,000	\$665,000	\$889,000	\$419,000	\$1,973,000
Gravity Manhole Repairs	\$46,071	\$29,843	\$102,592	\$264,750	\$76,000	\$444,000
Gravity Main Repairs	\$971,692	\$749,642	\$2,131,185	\$5,677,537	\$1,722,000	\$9,531,000
Pressure Main Replacement	\$500,242	\$317,618	\$1,064,134	\$3,027,751	\$818,000	\$4,910,000
Pressure Manhole Repairs	\$30,600	\$22,950	\$65,250	\$178,800	\$54,000	\$298,000
CIP Project Total	\$1,946,905	\$1,140,053	\$4,028,161	\$10,037,839	\$3,087,000	\$17,153,000
System O&M Total	\$144,000	\$83,000	\$207,000	\$414,000	\$227,000	\$848,000
Odor Control Program	\$140,480	\$80,640	\$201,600	\$403,200	\$221,120	\$825,920
FOG Program	\$3,000	\$2,000	\$5,000	\$10,000	\$5,000	\$20,000
OCWRC Contributions	\$140,472	\$103,263	\$296,540	\$799,739	\$243,735	\$1,340,014
Wastewater System Totals CIP and O&M	\$2,232,000	\$1,327,000	\$4,532,000	\$11,252,000	\$3,560,000	\$19,341,010

A White Lake Township capital improvement costs per year summary is shown in Figure 38.

Figure 40 Capital Improvement Project Costs/Year

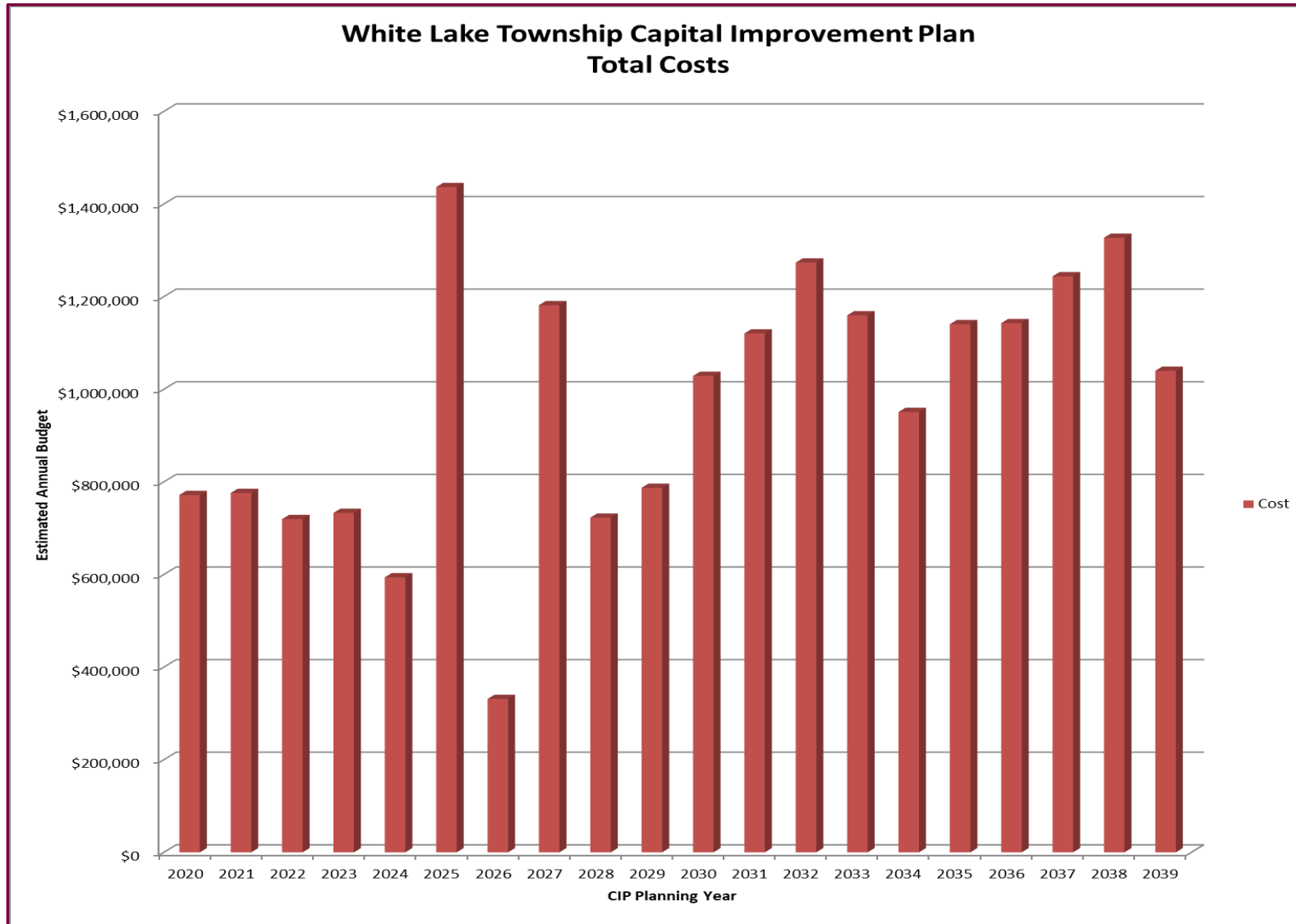


Table 35 outlines total CIP cost summaries per year as taken from Figure 28.

Table 35 Capital Improvement Project Costs/Year

Year	Cost		Year	Cost
2020 - 1	\$771,597		2030 - 11	\$1,028,689
2021 - 2	\$776,016		2031 - 12	\$1,120,411
2022 - 3	\$719,523		2032 - 13	\$1,273,545
2023 - 4	\$732,908		2033 - 14	\$1,159,461
2024 - 5	\$593,828		2034 - 15	\$950,819
2025 - 6	\$1,436,488		2035 - 16	\$1,140,333
2026 - 7	\$331,194		2036 - 17	\$1,142,723
2027 - 8	\$1,181,478		2037 - 18	\$1,243,900
2028 - 9	\$722,657		2038 - 19	\$1,327,030
2029 - 10	\$787,135		2039 - 20	\$1,039,750

Appendix D outlines the comprehensive CIP project list identifying a project description with associated costs, annual cost allocations, and the CIP total budget over the twenty (20) year planning period.

CONCLUSIONS & RECOMMENDATIONS

Projected wastewater collection system annual capital projects are over \$772,000 in 2020 and as high as \$1,419,628 in 2025, but primarily between \$719,000 and \$1,270,000 during the twenty (20) year WWAMP planning period. It must be pointed out that the CIP funding outline over the twenty (20) year planning period does not include unforeseen infrastructure projects, emergencies or repairs and rehabilitations that will be needed as sewer main and manholes are inspected over the next twenty (20) years.

Annual O&M costs that are included in this report are annual maintenance activities that need to be performed every year. The list is not all inclusive and does not include other recurring annual expenses such as labor, retirement, insurance, administrative payments, power and other expenses as outlined in the Township’s Wastewater budget.

Annual maintenance activities in the WWAMP that are comprised of sewer main cleaning and inspection, odor control, and FOG, are expected to range from \$127,000 to \$177,000 annually. It is recommended that once the comprehensive financial review is reviewed by Township staff and the Board, the information be used to update the annual O&M expense projections over the twenty (20) year planning period.

As part of wastewater collection system revenue needs, it is recommended and a best management practice to review the sewer rates every 2-3 years to determine their ability to provide the necessary funding for sewer O&M and CIP. As these reviews are completed, the information can also be included in the O&M portion of the twenty (20) year planning period to provide an accurate and comprehensive single version of the truth on the Township’s ability to operate and maintain the wastewater collection system.

SUMMARY

The Township’s WWAMP will provide a living and dynamic framework to provide the most cost effective, efficient and accountable wastewater collection system service to the community. It consists of five (5) main asset management components: Asset Inventory, Level of Service, Critical Assets, Revenue Structure, and the Capital Improvement Project Plan. The asset inventory and condition assessment were based on as-built information supplemented with field inspection, location and metering information. Three (3) LOS goal criteria levels including social, environmental and economic were developed to provide a framework to gauge program performance. Each level has identified service and goal criteria that can be improved upon. The BRE was based on the product of COF and POF scores, which include economic impacts, regulatory compliance, community disruption, operational condition and structural condition. A comprehensive twenty (20) year planning period CIP was developed to cost effectively provide needed wastewater system asset repair, replacement and O&M improvements.

The WWAMP also included the development of a comprehensive GIS that includes a geometric network of the wastewater collection system as well as asset attribute information including sewer main and manhole diameter, material, date of installation, rim and invert elevations, As-Built drawings, lead locations and photos. A Cityworks CMMS was also developed and implemented to schedule and track customer complaints as well as staff labor, equipment and material costs to perform the various operational and capital improvements completed on the wastewater collection system. The GIS and CMMS were also developed to be mobile enabling Township staff to utilize and interact with the information in the field through the use of laptops or other mobile devices including tablets and smart phones. These innovative implementations will provide Township staff and management with powerful cost tracking, scheduling and project development capabilities to allow continual updating of the CIP and efficient use of resources.

CONCLUSIONS

The largest recurring component of the annual budget costs for the wastewater collection system CIP is gravity main repairs. It is recommended that the Township develop a comprehensive Infrastructure Management Plan (IMP) that encompasses coordinating water and sewer infrastructure repairs and replacements for the entire Township. Continuing coordination with WRC is needed to ensure efficiency. As the remaining portion of the Township wastewater collection system infrastructure is inspected over the twenty (20) year planning period, this information should also be implemented into the GIS and evaluated to further enhance CIP and wastewater asset planning and coordination.

The WRC intends to implement an annual sewer main cleaning and televising program. Therefore, funds should be allocated annually in the CIP for further CCTV inspection of the Township's wastewater collection system.

The asset inventory effort revealed that, overall, the Township's sewer main and sewer manholes are in fairly good condition, which intuitively makes sense, due to the young age of the infrastructure. There are a number of pumping station improvements that are needed in year 1 (2020), in addition to station rehabilitation and pump replacements over the twenty (20) year span. The CIP development has identified a range of recommended CIP improvements and O&M activities ranging from \$554,070 to \$1,419,628 annually. As the WWAMP is deployed and additional wastewater collection system inspection information is obtained and created, the Township's GIS and WWAMP can methodically be updated to modify CIP planning and O&M priorities over the twenty (20) year planning period and beyond.

REFERENCES

Michigan Department of Environment, Great Lakes, and Energy - *Asset Management Guidance for Wastewater and Stormwater*: http://www.michigan.gov/documents/deg/deg-ess-mfs-formsguidance-SRFassetmngmntguide_426745_7.pdf

Michigan Department of Environment, Great Lakes, and Energy - *Asset Management Plan Workbook for Wastewater Utilities*: http://www.michigan.gov/documents/deg/deg-ess-mfs-formsguidance-am-ww-sw_426763_7.xls

NASSCO. *Pipeline Assessment & Certification Program*. November 2010. <http://nassco.org>. Web

NASSCO. *Manhole Assessment & Certification Program*. November 2010. <http://nassco.org>. Web

NASSCO. *Lateral Assessment & Certification Program*. November 2010. <http://nassco.org>. Web

U.S. Census Bureau. *Population*. May 2018. <https://www.census.gov/topics/population.html>
Web

WWAMP APPENDICES

Appendix A – SAW Grant Agreement

Appendix B – Level of Service Goals Table

Appendix C – 2 ½ Year Rate Methodology, Master Fee Schedule & Cash Flow Analysis

Appendix D – CIP & O&M Project Summary

Appendix E – Pumping Station Assessment Report

Appendix F – FOG Assessment Report

WWAMP APPENDIX A – SAW GRANT AGREEMENT



Michigan Finance Authority

Stormwater, Asset Management, and Wastewater (SAW) GRANT AGREEMENT

This Grant Agreement ("Agreement") is made as of November 22, 2016, among the Michigan Department of Environmental Quality, Office of Drinking Water and Municipal Assistance (the "DEQ"), the Michigan Finance Authority (the "Authority") (the DEQ and the Authority are, collectively, the "State") and the Charter Township of White Lake, County of Oakland ("Grantee") in consideration for providing grant assistance to the Grantee.

The purpose of this Agreement is to provide funding for the project named below. The State is authorized to provide grant assistance pursuant to the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Legislative appropriation of funds for grant disclosure is set forth in 2013 Public Act 59.

The Grantee shall be required to repay the grant made under this Agreement (the "Grant"), within 90 days of being informed by the State to do so, under certain conditions, as set forth in Section XVIII. Program Specific Requirements: SAW Grant.

Award of a Grant under this Agreement and completion of the activities identified in Exhibit A does not guarantee loan assistance from the State Revolving Fund, Strategic Water Quality Initiatives Fund, or Stormwater, Asset Management or Wastewater.

GRANTEE INFORMATION:

Gregory Baroni, Supervisor
Name/Title of Authorized Representative
7525 Highland Road
Address
White Lake, MI 48383
Address
248-698-3300
Telephone number

GRANT INFORMATION:

Project Name: WW Asset Mgt Plan
Project #: 1244-01
Amount of Grant: \$ 513,463
Amount of Match \$ 57,051
Project \$ 570,514 (grant plus match)
Start Date: 1/27/2013 End Date: 11/27/2019

DEQ REPRESENTATIVE:

Sonya T. Butler, Chief
Name/Title
525 West Allegan St., PO Box 30473
Address
Lansing, MI 48909-7973
Address
(517) 373-2161
Telephone number
Butlers2@michigan.gov
E-mail address

AUTHORITY REPRESENTATIVE:

Mary G. Martin, Executive Director, MFA
Name/Title
430 W. Allegan St., Austin Building
Address
Lansing, MI 48922
Address
(517) 335-0994
Telephone number
treas_bondfinance@michigan.gov
E-mail

The individuals signing below certify by their signatures that they are authorized to sign this Grant Agreement on behalf of their respective parties, and that the parties will fulfill the terms of this Agreement, including the attached Exhibit A, and use this Grant only as set forth in this Agreement.

GRANTEE

Murray R. Baron
Signature of Grantee

November 22, 2016
Date

GREGORY R. BARON WHITE LAKE TWP. SUPERVISOR
Name and title (typed or printed)

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

Sanya T. Buddles
Its Authorized Officer

November 22, 2016
Date

MICHIGAN FINANCE AUTHORITY

Mary H. Martin
Its Authorized Officer

November 22, 2016
Date

I. PROJECT SCOPE

This Agreement shall be in addition to any other contractual undertaking by the Grantee contained in the Resolution authorizing the Grant (the "Resolution").

This Agreement, including its exhibit(s), constitutes the entire agreement between the DEQ, the Authority, and the Grantee.

(A) The scope of this Grant is limited to the activities specified in Exhibit A (the "Project"), and such activities as are authorized by the State under this Agreement. Any change in project scope requires prior written approval in accordance with Section III, Changes, in this Agreement.

(B) By acceptance of this Agreement, the Grantee commits to complete the Project identified in Exhibit A within the time period allowed for in this Agreement and in accordance with the terms and conditions of this Agreement.

II. AGREEMENT PERIOD

This Agreement shall take effect on the date that it has been signed by all parties (the "Effective Date"). The Grantee shall complete the Project in accordance with all the terms and conditions specified in this Agreement no later than the End Date shown on page one. **Only costs incurred on or after January 2, 2013 and between the Start Date and the End Date shall be eligible for payment under this Grant.**

III. CHANGES

Any decreases in the amount of the Grantee's compensation, significant changes to the Project, or extension of the End Date, shall be requested by the Grantee in writing, and approved in writing by the State in advance. The State reserves the right to deny requests for changes to the Agreement including its Exhibit A. No changes can be implemented without approval by the State.

October 6, 2016

IV. GRANTEE PAYMENTS AND REPORTING REQUIREMENTS

The Grantee shall meet the reporting requirements specified in Section XVIII of this Agreement.

V. GRANTEE RESPONSIBILITIES

(A) The Grantee agrees to abide by all local, state, and federal laws, rules, ordinances and regulations in the performance of this Grant.

(B) All local, state, and federal permits, if required, are the responsibility of the Grantee. Award of this Grant is not a guarantee of permit approval by the state.

(C) The Grantee shall be solely responsible to pay all taxes, if any, that arise from the Grantee's receipt of this Grant.

(D) The Grantee is responsible for the professional quality, technical accuracy, timely completion, and coordination of all designs, drawings, specifications, reports, and other services furnished by its subcontractors under this Agreement. The State will consider the Grantee to be the sole point of contact concerning contractual matters, including payment resulting from this Grant. The Grantee or its subcontractor shall, without additional grant award, correct or revise any errors, omissions, or other deficiencies in designs, drawings, specifications, reports, or other services.

(E) The DEQ's approval of drawings, designs, specifications, reports, and incidental work or materials furnished hereunder shall not in any way relieve the Grantee of responsibility for the technical adequacy of the work. The DEQ's review, approval, acceptance, or payment for any of the services shall not be construed as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement.

(F) The Grantee acknowledges that it is a crime to knowingly and willfully file false information with the State for the purpose of obtaining this Agreement or any payment under the Agreement, and that any such filing may subject the Grantee, its agents, and/or employees to criminal and civil prosecution and/or termination of the Grant.

VI. ASSIGNABILITY

The Grantee shall not assign this Agreement or assign or delegate any of its duties or obligations under this Agreement to any other party without the prior written consent of the State. The State does not assume responsibility regarding the contractual relationships between the Grantee and any subcontractor.

VII. NON-DISCRIMINATION

The Grantee shall comply with the Elliott Larsen Civil Rights Act, 1976 PA 453, as amended, MCL 37.2101 *et seq*, the Persons with Disabilities Civil Rights Act, 1976 PA 220, as amended, MCL 37.1101 *et seq*, and all other federal, state, and local fair employment practices and equal opportunity laws and covenants that it shall not discriminate against any employee or applicant for employment, to be employed in the performance of this Agreement, with respect to his or her hire, tenure, terms, conditions, or privileges of employment, or any matter directly or indirectly related to employment, because of his or her race, religion, color, national origin, age, sex, height, weight, marital status, or physical or mental disability that is unrelated to the individual's ability to perform the duties of a particular job or position. The Grantee agrees to include in every subcontract entered into for the performance of this Agreement this covenant not to discriminate in employment. A breach of this covenant is a material breach of this Agreement.

October 6, 2016

VIII. UNFAIR LABOR PRACTICES

The Grantee shall comply with the Employers Engaging in Unfair Labor Practices Act, 1980 PA 278, as amended, MCL 423.321 *et seq.*

IX. LIABILITY

(A) The Grantee, not the State, is responsible for all liabilities as a result of claims, judgments, or costs arising out of activities to be carried out by the Grantee under this Agreement, if the liability is caused by the Grantee, any subcontractor, or anyone employed by the Grantee.

(B) All liability as a result of claims, demands, costs, or judgments arising out of activities to be carried out by the State in the performance of this Agreement is the responsibility of the State and not the responsibility of the Grantee if the liability is materially caused by any State employee or agent.

(C) In the event that liability arises as a result of activities conducted jointly by the Grantee and the State in fulfillment of their responsibilities under this Agreement, such liability is held by the Grantee and the State in relation to each party's responsibilities under these joint activities.

(D) Nothing in this Agreement should be construed as a waiver of any governmental immunity by the Grantee, the State, its agencies, or their employees as provided by statute or court decisions.

X. CONFLICT OF INTEREST

No government employee or member of the legislative, judicial, or executive branches or member of the Grantee's governing body, its employees, partner, agencies or their families shall have benefit financially from any part of this Agreement.

XI. AUDIT AND ACCESS TO RECORDS

See Section XVIII (C).

XII. INSURANCE

(A) The Grantee shall maintain insurance or self-insurance that will protect it from claims that may arise from the Grantee's actions under this Agreement or from the actions of others for whom the Grantee may be held liable.

(B) The Grantee must comply with applicant workers' compensation laws while engaging in activities authorized under this Agreement.

XIII. OTHER SOURCES OF FUNDING

The Grantee guarantees that any claims for reimbursement made to the State under this Agreement shall not be financed by any source other than the State under the terms of this Agreement. If funding is received through any other source, the Grantee agrees to delete from Grantee's billings or to immediately refund to the State, the total amount representing such duplication of funding.

XIV. COMPENSATION

(A) A breakdown of Project costs covered under this Agreement is identified in Exhibit A. The State will pay the Grantee a total amount not to exceed the amount on page one of this Agreement, in accordance with Exhibit A, and only for expenses incurred. All other costs over and above the Grant amount, necessary to complete the Project, are the sole responsibility of the Grantee.

October 6, 2016

(B) The Grantee is committed to the match amount on page one of this Agreement, in accordance with Exhibit A. The Grantee shall expend all local match committed to the Project by the End Date of this Agreement.

(C) The State will approve payment requests after approval of reports and related documentation as required under this Agreement.

(D) The State reserves the right to request additional information necessary to substantiate payment requests.

XV. CLOSEOUT

(A) A determination of Project completion shall be made by the DEQ after the Grantee has met any match obligations and satisfactorily completed the activities and provided products and deliverables described in Exhibit A.

(B) Upon issuance of final payment from the State, the Grantee releases the State of all claims against the State arising under this Agreement. Unless otherwise provided in this Agreement or by State law, final payment under this Agreement shall not constitute a waiver of the State's claims against the Grantee.

(C) The Grantee shall immediately refund to the State any payments or funds in excess of the costs allowed by this Agreement.

XVI. CANCELLATION

This Agreement may be canceled by the State, upon 30 days written notice, due to Executive Order, budgetary reduction, or other lack of funding upon request by Grantee or upon mutual agreement by the State and Grantee. The State reserves the right to provide just and equitable compensation to the Grantee for all satisfactory work completed under this Agreement.

XVII. TERMINATION

(A) This Agreement may also be terminated by the State for any of the following reasons upon 30 days written notice to the Grantee:

(1) If the Grantee fails to comply with the terms and conditions of the Agreement or with the requirements of the authorizing legislation cited on page 1 or the rules promulgated thereunder, or with other applicable law or rules.

(2) If the Grantee knowingly and willfully presents false information to the State for the purpose of obtaining this Agreement or any payment under this Agreement.

(3) If the State finds that the Grantee, or any of the Grantee's agents or representatives, offered or gave gratuities, favors, or gifts of monetary value to any official, employee, or agent of the State in an attempt to secure a subcontract or favorable treatment in awarding, amending, or making any determinations related to the performance of this Agreement.

(4) During the 30-day written notice period, the State shall also withhold payment for any findings under subparagraphs 1 through 3, above.

(5) If the Grantee or any subcontractor, manufacturer, or supplier of the Grantee appears in the register of persons engaging in unfair labor practices that is compiled by the Michigan Department of Licensing and Regulatory Affairs or its successor.

(B) The State may immediately terminate this Agreement without further liability if the Grantee, or any agent of

October 6, 2016

the Grantee, or any agent of any subagreement, is:

- (1) Convicted of a criminal offense incident to the application for or performance of a state, public, or private contract or subcontract;
 - (2) Convicted of a criminal offense, including but not limited to any of the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or attempting to influence a public employee to breach the ethical conduct standards for State of Michigan employees;
 - (3) Convicted under state or federal antitrust statutes;
 - (4) Convicted of any other criminal offense which, in the sole discretion of the State, reflects on the Grantee's business integrity; or
- (C) If a grant is terminated, the State reserves the right to require the Grantee to repay all or a portion of funds received under this Agreement.

XVIII. PROGRAM-SPECIFIC REQUIREMENTS: SAW REPAYABLE GRANT

(A) General Representations. The Grantee represents and warrants to, and agrees with, the Authority and DEQ, as of the date hereof as follows:

(1) Grant funds shall be expended only to cover costs for the development of an Asset Management Plan, Stormwater Management Plan, innovative wastewater or stormwater technology, construction costs for disadvantaged communities, or for planning, design and user charge development.

(2) Grant funds used for administrative activities or activities performed by municipal employees shall be limited to work that is directly related to the Project and is conducted by employees of the Grantee.

(3) The Grantee has full legal right, power and authority to execute this Agreement, and to consummate all transactions contemplated by this Agreement, the Resolution, and any and all other agreements relating thereto. The Grantee has duly authorized and approved the execution and delivery of this Agreement, the performance by the Grantee of its obligations contained in this Agreement, and this Agreement is a valid, legally binding action of the Grantee, enforceable in accordance with the terms thereof except as enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting the rights of creditors generally, and by principles of equity if equitable remedies are sought.

(4) The Resolution has been duly adopted by the Grantee, acting through its executive(s) or governing body, is in full force and effect as of the date hereof, and is a valid, legally binding action of the Grantee, enforceable in accordance with the terms thereof except as enforceability may be limited by bankruptcy, insolvency, reorganization, moratorium and other similar laws affecting the rights of creditors generally, and by principles of equity if equitable remedies are sought.

(5) The execution and delivery of this Agreement by the Grantee, and the fulfillment of the terms and conditions of, and the carrying out of the transactions contemplated by the Resolution and this Agreement do not and will not conflict with or constitute on the part of the Grantee a breach of, or a default under any existing law (including, without limitation, the Michigan Constitution), any court or administrative regulation, decree or order or any agreement, indenture, mortgage, obligation, lease or other instrument to which the Grantee is subject or by which it is bound and which breach or default would materially affect the validity or binding effect of the Grant, or result in a default or lien on any assets of the Grantee. No event has occurred or is continuing which with the lapse of time or the giving of notice, or both, would constitute a default by the Grantee under the Resolution or this Agreement.

(6) No consent or approval of, or registration or declaration with, or permit from, any federal, state or other governmental body or instrumentality, is or was required in connection with enactment by the Grantee of the

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Resolution, or execution and delivery by the Grantee of this Agreement which has not already been estimated, nor is any further election or referendum of voters required in connection therewith which has not already been held and certified and all applicable referendum periods have expired.

(7) Proceeds of the Grant will be applied (i) to the financing of the Project or a portion thereof as set forth in the Resolution and Exhibit A or (ii) to reimburse the Grantee for a portion of the cost of the Project. The Grantee will expend the proceeds of each disbursement of the Grant for the governmental purpose for which the Grant was issued.

(8) The attached Exhibit A contains a summary of the estimated cost of the Project, which the Grantee certifies is a reasonable and accurate estimate.

(9) The Grantee reasonably expects (i) to fulfill all conditions set forth in this Agreement to receive and to keep the Grant, and (ii) that no event will occur as set forth in this Agreement which will require the Grantee to repay the Grant.

(B) Repayment of Grant. The Grantee shall repay the Grant, within 90 days of being informed to do so, with interest calculated from the date Grant funds are first drawn at a rate not to exceed 8% per year, to be determined by the Authority, to the Authority for deposit into the SWQIF.

“(a) A grant recipient (shall) proceed with a project for which grant funding is provided within 3 years after the department approves the grant (executed grant agreement). For asset management programs related to sewage collection and treatment systems, this includes significant progress, as determined by the department, toward achieving the funding structure necessary to implement the program.

(b) The grant recipient (shall) repay the grant, within 90 days of being informed to do so, with interest at a rate not to exceed 8 percent per year, to the Authority for deposit into the fund if the applicant is unable to, or decides not to, proceed with a construction project or begin implementation of an asset management program for which grant funding is provided.”

SAW grant recipients for wastewater system asset management plans are required to make significant progress on the funding structure. Significant progress is defined as a 5-year plan to eliminate the gap with a minimum initial rate increase to close at least 10 percent of the funding gap. The first rate increase must be implemented within three years of the executed grant. The applicant will need to certify that all grant activities have been completed at the end of three years. Asset management plans for stormwater systems are to be implemented. Stormwater management grant recipients must develop a stormwater management plan. Innovative project grant recipients must proceed with full implementation or certify that the project is not financially or technically feasible.

(C) Covenants and Certifications.

(1) The Grantee has the legal, managerial, institutional, and financial capability to plan, design, and build the Project, or cause the Project to be built, and cause all facilities eventually constructed to be adequately operated.

(2) The Grantee certifies that no undisclosed fact or event, or pending litigation, will materially or adversely affect the Project, the prospects for its completion, or the Grantee's ability to make timely repayments of the grant if any of the two (2) conditions identified under Section XVIII(B) occur.

(3) The Grantee agrees to provide the minimum appropriate local match for grant-eligible costs and disburse match funds to service providers concurrent with grant disbursements.

(4) The Grantee agrees to maintain complete books and records relating to the grant and financial affairs of the Project in accordance with generally accepted accounting principles ("GAAP") and generally accepted

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government auditing standards ("GAGAS").

(5) The Grantee agrees that all municipal contracts related to the Project will provide that the contractor and any subcontractor may be subject to a financial audit and must comply with GAAP and GAGAS.

(6) The Grantee agrees to provide any necessary written authorizations to the DEQ and the Authority for the purpose of examining, reviewing, or auditing the financial records of the Project. The applicant also agrees to require similar authorizations from all contractors, consultants, property owners or agents with which the applicant negotiates an agreement.

(7) The Grantee agrees that all pertinent records shall be retained and available to the DEQ and the Authority for a minimum of three years after satisfactory completion of the Project and final payment. If litigation, a claim, an appeal, or an audit is begun before the end of the three-year period, records shall be retained and available until the three years have passed or until the action is completed and resolved, whichever is longer.

(8) The Grantee agrees to ensure that planning and design activities of the Project are conducted in compliance with the requirements of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended, its Administrative Rules; and all applicable state and federal laws, executive orders, regulations, policies, and procedures.

(9) The Grantee agrees that the Project shall proceed in a timely fashion and will exercise its best efforts to satisfy the program requirements as identified under Section XVIII(B) within three years of award of the SAW Grant from the Strategic Water Quality Initiatives Fund in accordance with Section 5204(e) of the Natural Resources and Environmental Protection Act 1994, PA 451, as amended.

(10) The Grantee acknowledges that acceptance of a wastewater asset management grant will subsequently affect future NPDES permits to include asset management language as applicable.

(D) Grantee Reimbursements and Deliverables

The Grantee may request grant disbursements no more frequently than monthly, using the Disbursement Request Form provided by the DEQ. Upon receipt of a disbursement request, the DEQ will notify the Authority, which will in turn disburse grant funds equal to 75 percent, 90 percent, or 100 percent of eligible costs, whichever percentage is applicable, that have been adequately documented. The forms provided by the State will include instructions on their use and shall be submitted to the DEQ representative at the address on page 1. All required supporting documentation (invoices) for expenses must be included with the disbursement request form. The Grantee is responsible for the final submittal of all documents prepared under this Grant and included in the Project Scope identified in Exhibit A.

(E) Miscellaneous Provisions.

(1) Applicable Law and Nonassignability. This Agreement shall be governed by the laws of the State of Michigan.

(2) Severability. If any clause, provision or section of this Agreement be ruled invalid or unenforceable by any court of competent jurisdiction, the invalidity or unenforceability of such clause, provision or section shall not affect any of the remaining clauses, provisions or sections.

(3) Execution of Counterparts. This Agreement may be executed in several counterparts each of which shall be regarded as an original and all of which shall constitute one and the same document.

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XIX. USE OF MATERIAL

Unless otherwise specified in this Agreement, the Grantee may release information or material developed under this Agreement, provided it is acknowledged that the DEQ funded all or a portion of its development.

XX. SUBCONTRACTS

The State reserves the right to deny the use of any consultant, contractor, associate or other personnel to perform any portion of the project. The Grantee is solely responsible for all contractual activities performed under this Agreement. Further, the State will consider the Grantee to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the anticipated Grant. All subcontractors used by the Grantee in performing the project shall be subject to the provisions of this Agreement and shall be qualified to perform the duties required.

XXI. ANTI-LOBBYING

If all or a portion of this Agreement is funded with state funds, then the Grantee shall not use any of the grant funds awarded in this Agreement for the purpose of lobbying as defined in the State of Michigan's lobbying statute, MCL 4.415(2). "Lobbying" means communicating directly with an official of the executive branch of state government or an official in the legislative branch of state government for the purpose of influencing legislative or administrative action." The Grantee shall not use any of the grant funds awarded in this Agreement for the purpose of litigation against the State. Further, the Grantee shall require that language of this assurance be included in the award documents of all subawards at all tiers.

XXII. IRAN SANCTIONS ACT

By signing this Agreement, the Grantee is certifying that it is not an Iran linked business, and that its contractors are not Iran linked businesses as outlined in Michigan Compiled Law 129.312

XXIII. DEBARMENT AND SUSPENSION

By signing this Agreement, the Grantee certifies to the best of its knowledge and belief that it, its agents, and its subcontractors:

- (1) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any federal department or the state.
- (2) Have not within a 3-year period preceding this Agreement been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (federal, state, or local) transaction or contract under a public transaction as defined in 45 CFR 1185; violation of federal or state antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.
- (3) Are not presently indicted or otherwise criminally or civilly charged by a government entity (federal, state, or local) with commission of any of the offenses enumerated in subsection (2).
- (4) Have not within a 3-year period preceding this Agreement had one or more public transactions (federal, state, or local) terminated for cause or default.
- (5) Will comply with all applicable requirements of all other state or federal laws, executive orders, regulations, and policies governing this program.

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Project No. 1244-01

SAW Grant Program

Exhibit A

Grantee: Charter Township of White Lake

Project Name: Wastewater Asset Management Plan

DEQ Approved Grant Amount: \$513,463 (Five Hundred Thirteen Thousand Four Hundred Sixty-three Dollars)

Time Period for Eligible Costs: Start Date January 2013

End Date November 2019

Description of Approved Project Scope:

Preparation of a wastewater asset management plan.

DEQ Approved Project Costs	
1. Project Planning Costs	\$0
2. Design Engineering Costs	\$0
3. User Charge System Development Costs	\$0
4. Wastewater Asset Management Plan Costs	\$570,514
5. Stormwater Asset Management Plan Costs	\$0
6. Stormwater Management Plan Costs	\$0
7. Innovative Wastewater and Stormwater Technology Costs	\$0
8. Disadvantaged Community Construction Costs	\$0
9. Eligible Cost Subtotal	\$570,514
10. LESS Local Match (if applicable)	\$57,051
11. Requested SAW Grant Amount (Line 9 minus Line 10)	\$513,463

WWAMP APPENDIX B – LEVEL OF SERVICE GOALS TABLE

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Social								
Customer Service	Customer	Maintain trust with the public, regulatory agencies, and non-government organizations	No change	NA	# of Complaint Calls / Year; Department Coordination Meetings	Sewer complaint reports; Service Requests; Work Orders	Annual Reports to Board	
	Customer / Self-Imposed	Proactively maintain the wastewater collection system to minimize service disruptions	No change	Develop a Corrective Action Program (CAP) to address SSOs	# of sewer backups/SSOs per year shall be less than reported national averages; Continue to maintain compliance with Public Act 222; Reductions in insurance claims	# of sewer backups/SSOs; Work Orders; Grease Interceptor inspections	Annual Reports to Board	
	Self-Imposed	Educate residents/businesses on sewer complaint process (who to call and when)	No change	Public Act 222 (Sewer Backup Legislation)	Post complaint procedure on website; Compliance w/ NPDES Permit	Website content; Newsletter articles; Social Media content	Annual Reports to Board	
	Self-Imposed	Provide efficient and timely service to customers - Coordinate with the OCWRC to respond to complaints within 24 hours of notification	No change	45 days after notification (Public Act 222)	Coordinate with OCWRC to respond to complaints within 24 hours of notification	Sewer complaint reports; OCWRC Reports; SCADA logs	Annual Reports to Board	
	Customer / Self-Imposed	Maintain sanitary sewer capacity to Township residents and businesses in the most cost effective manner possible	No change	NA	# of Complaint Calls / Year	Sewer complaint reports; OCWRC Reports	Annual Reports to Board	
Reliability	Self-Imposed	Coordinate with the County to televise and clean sewers as necessary to minimize sewer system problems	Televise ALL sewers within the Township	Inspect ALL infrastructure every 7-10 years	OCWRC CCTV & Sewer Maintenance Reports and costs	CCTV reports/data; GIS	Annual Reports to Board	
	Regulatory / Customer	Minimize system failure - determine criticality of assets for Capital Improvement Planning	Assure funding is available to make necessary improvements to assets	SAW Grant requirement to develop criticality of assets	Criticality of Assets Report	AMP data/report	Annual Reports to Board	

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Social								
Reliability	Self-Imposed	Maintain and replace equipment as necessary to maintain compliance and meet level of service goals	No change	SAW Grant requirement to develop level of service goals	Vehicle/Equipment maintenance & purchase costs / Year	Depreciation data; Equipment purchases	Annual Reports to Board	
	Self-Imposed	Coordinate with the County to perform asset rehabilitation as necessary	No change	SAW Grant Implementation / Public Act 222	Project Implementation; Review of previous reports/studies	Project Implementation	Annual Reports to Board	
	Self-Imposed	Initiate better coordination/information from OCWRC for specific sewer maintenance activities	Continue to initiate better coordination/information from OCWRC for specific sewer maintenance activities	NA	OCWRC Sewer Maintenance Reports and costs	OCWRC Sewer Maintenance Reports and costs; Cityworks integration	Annual Reports to Board	
	Self-Imposed	Coordinate utility and road projects to limit repair of underground utilities for roadways with new pavement replacement	No change	NA	Department Coordination Meetings; Project Implementation	Project Implementation	Annual Reports to Board	
Health & Safety	Regulatory	Meet all MIOSHA, USEPA, and MDEQ regulations and increase training opportunities for sanitary sewer maintenance staff	No change	MIOSHA	Zero violations	Notice of Violations	Annual Reports to Board	
	Customer / Self-Imposed	Protect community from hazards associated with wastewater collection system (basement backups, traffic disturbance, etc.)	No change	Engineering reviews required by MDEQ (Wastewater Construction Permits)	Zero public injuries	# of private property backups; vehicle accidents associated with wastewater collection system; # of pump station facility intrusions	Annual Reports to Board	
	Self-Imposed	Zero Loss Time Accidents	No change	Provide training to each newly assigned employee on operating procedures, hazards and safeguards of the job (MIOSHA)	Zero Loss Time / Year	Accident Reports / Claims, Worker's Comp Analysis	Claims made to Insurance Provider; Annual Reports to Board	
Environmental								
Administration Organizational Development	Self-Imposed	Optimize resources and reduce overall O&M, planning, and engineering costs	Allocate resources to deficient areas as necessary	NA	Department Coordination Meetings	Mtg minutes; AMP; Review of reports/studies	Annual Reports to Board	

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Environmental								
Environmental Stewardship	Customer / Self-Imposed	Enhance the protection of public health and the environment	No change	NA	SSO reductions; FOG sewer maintenance reductions; pump station rehabilitation	OCWRC Sewer Maintenance Reports and costs; Cityworks integration	Annual Reports to Board	
	Regulatory	Minimize Sanitary Sewer Overflows (SSOs) & provide better education to individual grinder station owners	No change	Contact MDEQ within 24 hrs of SSO; Develop Corrective Action Program	Minimize SSOs to 1 every 10 years	SSO reports; OCWRC Sewer Maintenance Reports and costs;	Reports to DEQ; Annual Reports to Board	
	Self-Imposed	Provide sanitary sewer extensions in development and redevelopment projects, where feasible	Reduce onsite septic systems by 10% in the Township by 2040; Target sensitive lake areas as the first priority to receive sanitary sewer service	Township goal established in Master Plan	Plan reviews; OSDS reductions	Plan reviews; DPW Reports	Annual Reports to Board	
	Self-Imposed	Develop and Implement a Fats, Oil, and Grease (FOG) Program	Continue to implement a FOG Program	Non-domestic users must not introduce any materials that would prohibit the POTW system	Cityworks and GIS implementation	Cityworks; GIS; Work Orders; DPW Reports	Annual Reports to Board	
	Customer / Self-Imposed	Reduce Inflow & Infiltration (I/I) from the system	Continue to reduce I/I from the system	I/I evaluation is required for SRF/SWQIF study	10% reductions in I/I / Year	Cityworks; GIS; OCWRC Sewer Maintenance Reports and costs	Annual Reports to Board	
	Self-Imposed	Improve knowledge of system components - Integrate Computer Maintenance and Management System (CMMS) into the Wastewater Collection Program (i.e. Cityworks, SEDARU, GIS Updates)	Implement and Maintain the CMMS Program; Continue to improve knowledge of system components	NA	CMMS implementation; Work order generation	Cityworks; GIS; Work Orders; DPW Reports	GIS updates; Annual Reports To Board; Annual Maintenance Registrations	
Regulatory Compliance	Regulatory	100% IPP Compliance with MDEQ, GLWA, Township Ordinance	No change	Industrial User (IU) Enforcement Response; IU Permitting and Reporting; Meet Wastewater Discharge Standards	# of Notice of Violations / Year	Ordinance reviews/updates; Notice of Violations; Work Orders	Annual Reports to Board	

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Environmental								
Regulatory Compliance	Regulatory	100% IPP Compliance with MDEQ, GLWA, Township Ordinance	No change	Industrial User (IU) Enforcement Response; IU Permitting and Reporting; Meet Wastewater Discharge Standards	# of Notice of Violations / Year	Ordinance reviews/updates; Notice of Violations; Work Orders	Annual Reports to Board	
	Regulatory	Meet the requirements of the Part 41 NPDES Permit	No change	Submit POTW construction permits to MDEQ	# of Permits issued / Year	Permit Applications	Annual Reports to Board	
	Regulatory	Report 100% of SSOs as required by State	No change	100% Reported SSOs	# of SSOs / Year	SSO reports; Work Orders	Annual Reports to Board	
	Self-Imposed	Minimize exposure and liability from claims, enforcement, or litigation	No change	NA	# of Claims / Year	Claims; Work Orders; Annual Reports	Annual Reports to Board	
Economic								
Financial	Customer / Self-Imposed	Operate in a fiscally responsible manner	Continue to operate in a fiscally responsible manner	SAW Grant Requirement	Rate Structure Review	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Self-Imposed	Generate consistent and reliable planning and forecasting information to improve management decisions	Continue to provide consistent and reliable planning and forecasting information to improve management decisions	NA	Cityworks implementation; Department Coordination Meetings	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Regulatory	Perform review of wastewater rates to balance rehabilitation efforts and encourage business development	Perform review of wastewater rates every 3-5 years	SAW Grant Requirement	Rate Structure Review; Updated Rate Structure	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Self-Imposed	Review the County's Updated Schedule of Unit Assignment Factors to determine impact on Capital Connection Fees	Update the Township's Schedule as necessary	NA	Updated Schedule	Review of previous reports/studies; CIP; Master Plan; AMP data/report	Annual Reports to Board	
	Self-Imposed	Coordinate with OCWRC to better track costs of repairing or maintaining specific assets and performance against targets	Continue to coordinate with OCWRC to better track costs of repairing or maintaining specific assets and performance against targets	NA	OCWRC Sewer Maintenance Reports and costs	Cityworks implementation; Tracking reports	Annual Reports to Board	

**White Lake Township SAW Grant
Wastewater Utilities
Level of Service Standards / Goals**

Strategic Area	LOS Driver	Level of Service Standard/Goal		Industry Standard	Performance Measures	Data	Reporting Procedure	Current Rating
		Current Target	Future Target					
Wastewater Collection								
Economic								
Financial	Customer / Self-Imposed	Continue to apply for and obtain grants and/or low-interest loans for capital improvement projects	No change	NA	# Awarded Grant Projects / 10 Years	Project implementation	Annual Reports to Board; Quarterly Grant Reports to EGLE	
<p>Mission Statement: Strive for a sustainable Township that balances the community's economic, environmental, and social needs. Promote the identity of White Lake Township as a small country town with big City amenities by protecting and preserving natural features, encouraging redevelopment of obsolete properties, and directing growth and redevelopment to a central community core.</p>								

- No Improvement Needed
- Acceptable
- Improvement Needed

WWAMP APPENDIX C – 2 ½ YR RATE METHODOLOGY, MASTER FEE SCHEDULE & CASH FLOW ANALYSIS

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

COMPARATIVE STATEMENT OF NET POSITION

	As of			
	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>
	(----- Per Audit -----)			
Assets				
Current assets:				
Cash and investments	\$931,180	\$1,096,875	\$1,165,075	\$1,120,403
Accounts receivable:				
Other receivables	995	2,454	20,994	33,429
Due from other governmental units	63,215	-	-	-
Due from other funds	-	719	1,187	-
Total current assets	<u>995,390</u>	<u>1,100,048</u>	<u>1,187,256</u>	<u>1,153,832</u>
 Total Assets	 <u>\$995,390</u>	 <u>1,100,048</u>	 <u>\$1,187,256</u>	 <u>\$1,153,832</u>
 Liabilities				
Current liabilities:				
Accounts payable	\$24,609	\$5,702	\$96,217	\$23,028
Due to other funds	79,015	105,626	131,870	142,736
Accrued liabilities and other	7,475	-	-	-
Total current liabilities	<u>111,099</u>	<u>111,328</u>	<u>228,087</u>	<u>165,764</u>
 Total Liabilities and Deferred Inflows	 <u>111,099</u>	 <u>111,328</u>	 <u>228,087</u>	 <u>165,764</u>
 Fund Balances				
Restricted				
Sewer	<u>884,291</u>	<u>988,720</u>	<u>959,169</u>	<u>988,068</u>
Total Fund Balances	<u>884,291</u>	<u>988,720</u>	<u>959,169</u>	<u>988,068</u>
 Total Liabilities, Deferred Inflows and Fund Balances	 <u>\$995,390</u>	 <u>1,100,048</u>	 <u>\$1,187,256</u>	 <u>\$1,153,832</u>

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER DEBT FUND

COMPARATIVE STATEMENT OF NET POSITION

	As of			
	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>
	(----- Per Audit -----)			
Assets				
Current assets:				
Cash and investments	\$443,429	\$264,227	\$442,853	\$65,616
Accounts receivable:				
Other receivables	-	-	-	15,762
Due from other governmental units	41,631	-	-	-
Total current assets	<u>485,060</u>	<u>264,227</u>	<u>442,853</u>	<u>81,378</u>
 Total Assets	 <u>\$485,060</u>	 <u>\$264,227</u>	 <u>\$442,853</u>	 <u>\$81,378</u>
 Liabilities				
Current liabilities:				
Accounts payable	\$4,896	\$19,584	-	\$9,792
Total current liabilities	<u>4,896</u>	<u>19,584</u>	<u>-</u>	<u>9,792</u>
 Total Liabilities and Deferred Inflows	 <u>4,896</u>	 <u>19,584</u>	 <u>-</u>	 <u>9,792</u>
 Fund Balances				
Assigned				
Sewer debt service	480,164	244,643	442,853	71,586
Capital projects	-	-	-	-
Total Fund Balances	<u>480,164</u>	<u>244,643</u>	<u>442,853</u>	<u>71,586</u>
 Total Liabilities, Deferred Inflows and Fund Balances	 <u>\$485,060</u>	 <u>\$264,227</u>	 <u>\$442,853</u>	 <u>\$81,378</u>

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER SAD FUND

COMPARATIVE STATEMENT OF NET POSITION

	As of			
	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>
	(----- Per Audit -----)			
Assets				
Current assets:				
Cash and investments	\$1,327,634	\$1,201,594	\$1,067,578	\$938,215
Accounts receivable:				
Special assessments receivable	452,045	723,400	572,831	474,832
Accrued interest receivable	16,011	20,391	16,836	13,655
Other receivables	-	-	-	-
Due from other governmental units	7,956	-	-	-
Due from other funds	-	-	5,637	-
Prepaid expenses and other assets	-	-	-	-
Total current assets	<u>1,803,646</u>	<u>1,945,385</u>	<u>1,662,882</u>	<u>1,426,702</u>
 Total Assets	 <u>\$1,803,646</u>	 <u>\$1,945,385</u>	 <u>\$1,662,882</u>	 <u>\$1,426,702</u>
 Liabilities				
Current liabilities:				
Accounts payable	-	-	-	-
Due to other funds	-	\$35,789	\$35,789	\$58,045
Accrued liabilities and other	-	-	-	-
Total current liabilities	<u>-</u>	<u>35,789</u>	<u>35,789</u>	<u>58,045</u>
 Deferred Inflows				
Unavailable special assessment revenue	<u>439,327</u>	<u>682,570</u>	<u>541,846</u>	<u>445,127</u>
 Total Liabilities and Deferred Inflows	 <u>439,327</u>	 <u>718,359</u>	 <u>577,635</u>	 <u>503,172</u>
 Fund Balances				
Restricted				
Debt service	<u>1,364,319</u>	<u>1,227,026</u>	<u>1,085,247</u>	<u>923,530</u>
Total Fund Balances	<u>1,364,319</u>	<u>1,227,026</u>	<u>1,085,247</u>	<u>923,530</u>
 Total Liabilities, Deferred Inflows and Fund Balances	 <u>\$1,803,646</u>	 <u>\$1,945,385</u>	 <u>\$1,662,882</u>	 <u>\$1,426,702</u>

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

COMPARATIVE STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	Fiscal Year Ended			
	12/31/2015	12/31/2016	12/31/2017	12/31/2018
	(----- Per Audit -----)			
Operating Revenues				
Intergovernmental	-	-	\$74,778	\$108,023
Charges for services	\$1,588,523	\$1,744,578	1,723,891	1,813,289
Investment income and rentals	246	784	1,665	2,066
Total operating revenue	<u>1,588,769</u>	<u>1,745,362</u>	<u>1,800,334</u>	<u>1,923,378</u>
Operating Expenses				
Public works	<u>1,473,294</u>	<u>1,640,933</u>	<u>1,829,885</u>	<u>1,894,479</u>
Total operating expense	<u>1,473,294</u>	<u>1,640,933</u>	<u>1,829,885</u>	<u>1,894,479</u>
Net operating income (loss)	<u>115,475</u>	<u>104,429</u>	<u>(29,551)</u>	<u>28,899</u>
Change in Fund Balances	115,475	104,429	(29,551)	28,899
Fund Balances - Beginning of Year	<u>768,816</u>	<u>884,291</u>	<u>988,720</u>	<u>959,169</u>
Fund Balances - End of Year	<u><u>\$884,291</u></u>	<u><u>\$988,720</u></u>	<u><u>\$959,169</u></u>	<u><u>\$988,068</u></u>

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER DEBT FUND

COMPARATIVE STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	Fiscal Year Ended			
	<u>12/31/2015</u>	<u>12/31/2016</u>	<u>12/31/2017</u>	<u>12/31/2018</u>
	(----- Per Audit -----)			
Operating Revenues				
Charges for services	\$332,288	\$346,061	\$446,035	\$509,271
Investment income and rentals	65	143	6,413	301
Total operating revenue	<u>332,353</u>	<u>346,204</u>	<u>452,448</u>	<u>509,572</u>
Operating Expenses				
Debt service	578,931	581,725	579,238	580,839
Total operating expense	<u>578,931</u>	<u>581,725</u>	<u>579,238</u>	<u>580,839</u>
Net operating income (loss)	<u>(246,578)</u>	<u>(235,521)</u>	<u>(126,790)</u>	<u>(71,267)</u>
Other Financing Sources (Uses)				
Face value of debt issue	-	-	-	-
Transfers in	370,000	-	325,000	100,000
Transfers out	-	-	-	(400,000)
Total other financing sources (uses)	<u>370,000</u>	<u>-</u>	<u>325,000</u>	<u>(300,000)</u>
Change in Fund Balances	123,422	(235,521)	198,210	(371,267)
Fund Balances - Beginning of Year	<u>356,742</u>	<u>480,164</u>	<u>244,643</u>	<u>442,853</u>
Fund Balances - End of Year	<u><u>\$480,164</u></u>	<u><u>\$244,643</u></u>	<u><u>\$442,853</u></u>	<u><u>\$71,586</u></u>

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER SAD FUND

COMPARATIVE STATEMENT OF REVENUES, EXPENSES AND CHANGES IN NET POSITION

	Fiscal Year Ended			
	12/31/2015	12/31/2016	12/31/2017	12/31/2018
	(----- Per Audit -----)			
Operating Revenues				
Charges for services	\$31,824	\$31,824	\$31,860	\$31,860
Investment income and rentals	30,006	32,903	35,310	32,616
Special assessments	116,443	146,219	140,784	132,507
Total operating revenue	<u>178,273</u>	<u>210,946</u>	<u>207,954</u>	<u>196,983</u>
Operating Expenses				
Public works	254	36,038	125	120
Debt service	308,426	312,201	355,245	358,580
Total operating expense	<u>308,680</u>	<u>348,239</u>	<u>355,370</u>	<u>358,700</u>
Net operating income (loss)	<u>(130,407)</u>	<u>(137,293)</u>	<u>(147,416)</u>	<u>(161,717)</u>
Other Financing Sources (Uses)				
Face value of debt issue	-	-	-	-
Transfers in	-	-	5,637	-
Transfers out	(170,000)	-	-	-
Total other financing sources (uses)	<u>(170,000)</u>	<u>-</u>	<u>5,637</u>	<u>-</u>
Change in Fund Balances	(300,407)	(137,293)	(141,779)	(161,717)
Fund Balances - Beginning of Year	<u>1,664,726</u>	<u>1,364,319</u>	<u>1,227,026</u>	<u>1,085,247</u>
Fund Balances - End of Year	<u><u>\$1,364,319</u></u>	<u><u>\$1,227,026</u></u>	<u><u>\$1,085,247</u></u>	<u><u>\$923,530</u></u>

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

COMPARATIVE DETAIL OF OPERATING EXPENSES

	Fiscal Year Ended			Test Year	Multiplier
	12/31/2018	12/31/2019	12/31/2020		
	(-----Per Client-----)				
Operating Expenditures					
Sewer Maintenance Fund Budget					
296-000-803.000 SAW Grant Expenditures	\$120,332	\$100,000	-	-	0.00%
296-000-851.000 Repairs & Maintenance	37,954	250,000	\$250,000	-	0.00%
296-000-851.001 Oakland County Expenses	1,537,249	1,700,000	1,800,000	-	0.00%
296-000-998.000 Administrative Costs	142,245	175,000	195,000	\$195,000	2.00%
296-536-801.000 Professional Fees	57,100	50,000	60,000	60,000	2.00%
296-905-997.000 Miscellaneous Fees	-	250	-	-	0.00%
Total Sewer Maintenance Fund Budget	\$1,894,880	\$2,275,250	\$2,305,000	\$255,000	

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

**SCHEDULE OF AMORTIZATION OF \$1,040,000 PRINCIPAL AMOUNT OUTSTANDING
OF PONTIAC LAKE SEWER BONDS**

Payment Date	Principal Balance (In Dollars)	Interest Rate (%)	Debt Service			Fiscal Year Total
			Principal	Interest	Total	
(-----In Dollars-----)						
4/1/2019	1,040,000	2.50	\$250,000	13,000.00	\$263,000.00	
10/1/2019	790,000			9,875.00	9,875.00	\$272,875.00
4/1/2020	790,000	2.50	255,000	9,875.00	264,875.00	
10/1/2020	535,000			6,687.50	6,687.50	271,562.50
4/1/2021	535,000	2.50	265,000	6,687.50	271,687.50	
10/1/2021	270,000			3,375.00	3,375.00	275,062.50
4/1/2022	270,000	2.50	270,000	3,375.00	273,375.00	273,375.00
	Totals		<u>\$1,040,000</u>	<u>\$52,875.00</u>	<u>\$1,092,875.00</u>	<u>\$1,092,875.00</u>

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

CASH FLOW ANALYSIS - SEWER

	2019		2020	2021	2022	2023	2024	2025	2026	2027	2028
		Increases Per Year									
Assumptions											
Admin fee - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Admin fee (quarterly) [1]	\$12.50	0.00%	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50
Debt service fee - REUs	3,040.17		3,040.17	3,040.17	3,040.17	0.00	0.00	0.00	0.00	0.00	0.00
Debt service fee (quarterly) [1][3]	\$18.00	0.00%	\$18.00	\$18.00	\$18.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Reserve fund fee - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Reserve fund fee (quarterly) [1][3]	\$10.00	0.00%	\$10.00	\$10.00	\$10.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00
OC charges - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC charges (quarterly)	\$128.38		\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38
OC reserve charges - REUs	3,040.17		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC reserve charges (quarterly)	\$4.36		\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36
<i>Typical Township homeowner's quarterly bill</i>	<i>\$168.88</i>		<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>	<i>\$168.88</i>
Township Revenues											
Admin fee	\$152,009		\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009
Debt service fee	218,892		218,892	218,892	218,892	-	-	-	-	-	-
Reserve fund fee	121,607		121,607	121,607	121,607	340,499	340,499	340,499	340,499	340,499	340,499
Total revenues	492,508		492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508
Less: Total operating expenditures	(225,250)		(255,000)	(260,100)	(270,608)	(276,020)	(281,541)	(287,171)	(292,915)	(298,773)	(304,749)
Net operating revenue	267,258		237,508	232,408	221,900	216,487	210,967	205,336	199,593	193,734	187,759
Less: Current Pontiac Lake debt debt service payments	(272,875)		(271,563)	(275,063)	(273,375)	-	-	-	-	-	-
Estimated cash funded Township O&M capital expenditures	-		(41,000)	(61,160)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)
Estimated cash funded Pumping station capital expenditures	-		(365,800)	(32,500)	-	(20,000)	-	(590,000)	-	-	(75,000)
Estimated cash funded Main & Manhole capital expenditures	-		(319,797)	(635,556)	(629,531)	(620,969)	(499,864)	(750,419)	(232,935)	(1,080,941)	(544,751)
Net cash flow	(\$5,617)		(\$760,652)	(\$771,871)	(\$722,327)	(\$465,802)	(\$330,217)	(\$1,176,403)	(\$74,662)	(\$928,527)	(\$473,312)
<i>Cash & investments</i>	<i>\$1,186,019</i>		<i>\$425,367</i>	<i>(\$346,504)</i>	<i>(\$1,068,830)</i>	<i>(\$1,534,632)</i>	<i>(\$1,864,849)</i>	<i>(\$3,041,252)</i>	<i>(\$3,115,914)</i>	<i>(\$4,044,441)</i>	<i>(\$4,517,753)</i>
Annual Revenue Requirement Summary											
Total estimated operating expenses, debt and capital improvements [2]			1,253,160	\$1,264,379	\$1,214,834	\$958,309	\$822,725	\$1,668,910	\$567,170	\$1,421,034	\$965,820
Current annual rate [1][3]			\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50
Annual rate needed to fund expenses, capital improvements and debt			\$103.05	\$103.97	\$99.90	\$78.80	\$67.65	\$137.24	\$46.64	\$116.85	\$79.42
Estimated shortage in rates			(\$62.55)	(\$63.47)	(\$59.40)	(\$38.30)	(\$27.15)	(\$96.74)	(\$6.14)	(\$76.35)	(\$38.92)
Total estimated cash funded capital improvements			\$726,597	\$729,216	\$670,851	\$682,289	\$541,184	\$1,381,739	\$274,255	\$1,122,261	\$661,071
Annual rate needed to fund capital improvements only			\$59.75	\$59.97	\$55.17	\$56.11	\$44.50	\$113.62	\$22.55	\$92.29	\$54.36
Average annual rate needed to fund capital improvements only			\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03	\$62.03

[1] Current annual rate is equal to the cumulative Admin, Debt Service and Reserve Fund fees
 [2] Includes Township total operating expenses, Pontiac Lake debt service payments and estimated cash funded capital expenditures
 [3] Assumes \$18 debt service fee is added into reserve fund fee after defeasance of Pontiac Lake debt in 2022

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

CASH FLOW ANALYSIS - SEWER

		2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039
	Increases Per Year											
Assumptions												
Admin fee - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Admin fee (quarterly) [1]	0.00%	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50	\$12.50
Debt service fee - REUs		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Debt service fee (quarterly) [1][3]	0.00%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Reserve fund fee - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
Reserve fund fee (quarterly) [1][3]	0.00%	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00	\$28.00
OC charges - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC charges (quarterly)	0.00%	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38	\$128.38
OC reserve charges - REUs		3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17	3,040.17
OC reserve charges (quarterly)	0.00%	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36	\$4.36
<i>Typical Township homeowner's quarterly bill</i>												
Township Revenues												
Admin fee		\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009	\$152,009
Debt service fee		-	-	-	-	-	-	-	-	-	-	-
Reserve fund fee		340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499	340,499
Total revenues		492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508	492,508
Less: Total operating expenditures		(310,844)	(317,060)	(323,402)	(329,870)	(336,467)	(343,196)	(350,060)	(357,062)	(364,203)	(371,487)	(378,917)
Net operating revenue		181,664	175,447	169,106	162,638	156,040	149,311	142,447	135,446	128,305	121,021	113,591
Less: Current Pontiac Lake debt debt service payments		-	-	-	-	-	-	-	-	-	-	-
Estimated cash funded Township O&M capital expenditures		(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)	(41,320)
Estimated cash funded Pumping station capital expenditures		-	(20,000)	(138,000)	(358,000)	(30,000)	(30,000)	(88,000)	-	(205,000)	(20,000)	-
Estimated cash funded Main & Manhole capital expenditures		(681,766)	(900,758)	(871,815)	(802,179)	(1,013,213)	(801,573)	(929,971)	(1,017,119)	(909,924)	(1,174,548)	(903,622)
Net cash flow		(\$541,422)	(\$786,631)	(\$882,029)	(\$1,038,861)	(\$928,493)	(\$723,582)	(\$916,844)	(\$922,993)	(\$1,027,939)	(\$1,114,847)	(\$831,351)
Cash & investments		(\$5,059,175)	(\$5,845,806)	(\$6,727,835)	(\$7,766,696)	(\$8,695,189)	(\$9,418,771)	(\$10,335,614)	(\$11,258,607)	(\$12,286,547)	(\$13,401,394)	(\$14,232,745)
Annual Revenue Requirement Summary												
Total estimated operating expenses, debt and capital improvements [2]		1,033,930	1,279,138	1,374,537	1,531,369	1,421,000	1,216,089	1,409,351	1,415,501	1,520,447	1,607,355	1,323,859
Current annual rate [1][3]		\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50	\$40.50
Annual rate needed to fund expenses, capital improvements and debt		\$85.02	\$105.19	\$113.03	\$125.93	\$116.85	\$100.00	\$115.89	\$116.40	\$125.03	\$132.18	\$108.86
Estimated shortage in rates		(\$44.52)	(\$64.69)	(\$72.53)	(\$85.43)	(\$76.35)	(\$59.50)	(\$75.39)	(\$75.90)	(\$84.53)	(\$91.68)	(\$68.36)
Total estimated cash funded capital improvements		\$723,086	\$962,078	\$1,051,135	\$1,201,499	\$1,084,533	\$872,893	\$1,059,291	\$1,058,439	\$1,156,244	\$1,235,868	\$944,942
Annual rate needed to fund capital improvements only		\$59.46	\$79.11	\$86.44	\$98.80	\$89.18	\$71.78	\$87.11	\$87.04	\$95.08	\$101.63	\$77.70
Average annual rate needed to fund capital improvements only		\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85	\$84.85

[1] Current annual rate is equal to the cumulative Admin, Debt Service and Reserve Fund fees

[2] Includes Township total operating expenses, Pontiac Lake debt service payments and estimated cash funded capital expenditures

[3] Assumes \$18 debt service fee is added into reserve fund fee after defeasance of Pontiac Lake debt in 2022

WHITE LAKE TOWNSHIP (MICHIGAN) SEWER FUND

Section 9, Item B.

PROOF OF RATES TO REVENUE

<u>SEWER</u>		<u>Q1</u>	<u>Q2</u>	<u>Q3</u>	<u>Q4</u>	<u>Annual</u>
Admin Fees	REUs	3,040.2	3,040.2	3,040.2	3,040.2	
	Times: Rate per Quarter	<u>\$12.50</u>	<u>\$12.50</u>	<u>\$12.50</u>	<u>\$12.50</u>	
	Total Billed Amount	<u>\$38,002</u>	<u>\$38,002</u>	<u>\$38,002</u>	<u>\$38,002</u>	<u>\$152,009</u>
Debt Service Fees	REUs	3,040.2	3,040.2	3,040.2	3,040.2	
	Times: Rate per Quarter	<u>\$18.00</u>	<u>\$18.00</u>	<u>\$18.00</u>	<u>\$18.00</u>	
	Total Billed Amount	<u>\$54,723</u>	<u>\$54,723</u>	<u>\$54,723</u>	<u>\$54,723</u>	<u>\$218,892</u>
Reserve Fund Fees	REUs	3,040.2	3,040.2	3,040.2	3,040.2	
	Times: Rate per Quarter	<u>\$10.00</u>	<u>\$10.00</u>	<u>\$10.00</u>	<u>\$10.00</u>	
	Total Billed Amount	<u>\$30,402</u>	<u>\$30,402</u>	<u>\$30,402</u>	<u>\$30,402</u>	<u>\$121,607</u>
Sewer Debt Charges	REUs	3,040.2	3,040.2	3,040.2	3,040.2	
	Times: Rate per quarter	<u>\$128.38</u>	<u>\$128.38</u>	<u>\$128.38</u>	<u>\$128.38</u>	
	Annual Billed	<u>\$390,297</u>	<u>\$390,297</u>	<u>\$390,297</u>	<u>\$390,297</u>	<u>\$1,561,188</u>
Maintenance Reserve	REUs	3,040.2	3,040.2	3,040.2	3,040.2	
	Times: Rate per quarter	<u>\$4.36</u>	<u>\$4.36</u>	<u>\$4.36</u>	<u>\$4.36</u>	
	Annual Billed	<u>\$13,255</u>	<u>\$13,255</u>	<u>\$13,255</u>	<u>\$13,255</u>	<u>\$53,021</u>
	Total Sewer Billed	<u>\$526,679</u>	<u>\$526,679</u>	<u>\$526,679</u>	<u>\$526,679</u>	<u>\$2,106,716</u>

WWAMP APPENDIX D – CIP & O&M PROJECT SUMMARY

Item No.	Item Description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11	Year 12	Year 13	Year 14	Year 15	Year 16	Year 17	Year 18	Year 19	Year 20	Total over 20 Years
		2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	
		\$772,188	\$751,317	\$707,352	\$705,350	\$620,605	\$1,419,628	\$554,070	\$930,599	\$794,541	\$832,462	\$896,990	\$1,100,315	\$1,390,858	\$1,124,702	\$1,049,923	\$1,110,843	\$1,136,249	\$1,305,471	\$1,233,733	\$901,692	
	CIP Costs																					
1	Gravity Manhole Repairs	\$14,525	\$14,729	\$16,817	\$14,530	\$15,313	\$22,876	\$18,982	\$17,340	\$21,933	\$21,461	\$23,274	\$21,795	\$23,195	\$24,424	\$29,111	\$27,664	\$27,871	\$27,659	\$32,076	\$27,682	\$444,000
2	Pressure Manhole Repairs	\$7,650	\$12,750	\$10,200	\$10,200	\$12,750	\$12,750	\$10,200	\$15,300	\$13,650	\$13,350	\$15,300	\$15,900	\$15,300	\$16,200	\$17,850	\$18,750	\$17,100	\$20,400	\$20,400	\$21,600	\$298,000
3	Gravity Main Repairs	\$298,213	\$307,070	\$366,409	\$343,257	\$406,385	\$357,229	\$426,629	\$350,481	\$570,617	\$426,230	\$423,210	\$478,029	\$607,625	\$549,631	\$575,487	\$566,931	\$648,156	\$618,510	\$671,128	\$538,831	\$9,531,000
4	Pressure Main Repairs	\$0	\$276,308	\$223,934	\$225,424	\$92,194	\$340,704	\$0	\$446,941	\$10,436	\$266,052	\$307,276	\$335,996	\$273,373	\$388,199	\$278,230	\$287,135	\$317,518	\$304,927	\$357,647	\$177,450	\$4,910,000
	CIP Total	\$320,388	\$610,857	\$617,360	\$593,411	\$526,642	\$733,559	\$455,811	\$830,062	\$616,636	\$727,093	\$769,059	\$851,719	\$919,492	\$978,454	\$900,678	\$900,480	\$1,010,645	\$971,496	\$1,081,252	\$765,564	\$15,181,000
	O&M Costs																					
5	O&M - FOG Program	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$20,000
6	Elizabeth Lake Road/Oxbow Road Odor Control Program	\$40,000	\$60,160	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$40,320	\$826,000
	Township O&M Total	\$41,000	\$61,160	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$41,320	\$846,000
5	OCWRC - CCTV of Sanitary Sewer	\$45,000	\$46,800	\$48,672	\$50,619	\$52,644	\$54,749	\$56,939	\$59,217	\$61,586	\$64,049	\$66,611	\$69,275	\$72,046	\$74,928	\$77,925	\$81,042	\$84,284	\$87,656	\$91,162	\$94,808	\$1,341,000
6	Pumping Station - Bocavina	\$24,400											\$138,000									\$163,000
7	Pumping Station - Cranberry Lake Estates	\$24,400					\$230,000						\$20,000		\$20,000							\$295,000
8	Pumping Station - Kroger														\$46,000							\$46,000
9	Pumping Station - Meijer	\$54,400													\$140,000	\$30,000	\$30,000					\$255,000
10	Pumping Station - Suburban Knolls	\$24,400			\$20,000		\$160,000														\$20,000	\$225,000
11	Pumping Station - Village Lakes	\$69,400																	\$20,000		\$205,000	\$295,000
12	Pumping Station - White Lake Estates	\$64,400					\$200,000										\$40,000					\$305,000
13	Pumping Station - White Lake Market Place	\$36,400	\$22,500							\$75,000							\$12,000					\$146,000
14	Pumping Station - Williams Lake Road	\$40,400	\$10,000												\$130,000		\$16,000					\$197,000
15	Pumping Station - Worthington Crossing														\$22,000							\$22,000
16	Gravity Flow Meter Site 6600	\$13,800																				\$14,000
17	Gravity Flow Meter Site 6610	\$13,800																				\$14,000
	Pumping Station Improvements Total	\$365,800	\$32,500	\$0	\$20,000	\$0	\$590,000	\$0	\$0	\$75,000	\$0	\$20,000	\$138,000	\$358,000	\$30,000	\$30,000	\$88,000	\$0	\$205,000	\$20,000	\$0	\$1,973,000
																						\$19,341,000

White Lake Township

Sanitary Sewer Pumping Station Evaluation Report



December 2019

INTRODUCTION

Johnson & Anderson, Inc., a DLZ Company, was engaged by White Lake Township to complete an assessment of Township-owned and operated sanitary sewage pumping stations as part of a Stormwater, Asset Management, and Wastewater (SAW) Grant Implementation Project which the Township was awarded in January 2017. As part of the project, J&A-DLZ has completed field inspections at all ten (10) pumping station locations: Bocavina, Cranberry Lake Estates, Kroger, Meijer, Suburban Knolls, Village Lakes, White Lake Estates, White Lake Market Place, Williams Lake Road, and Worthington Crossing. Due to their size and importance in the system, pump drawdown tests were performed at these stations.

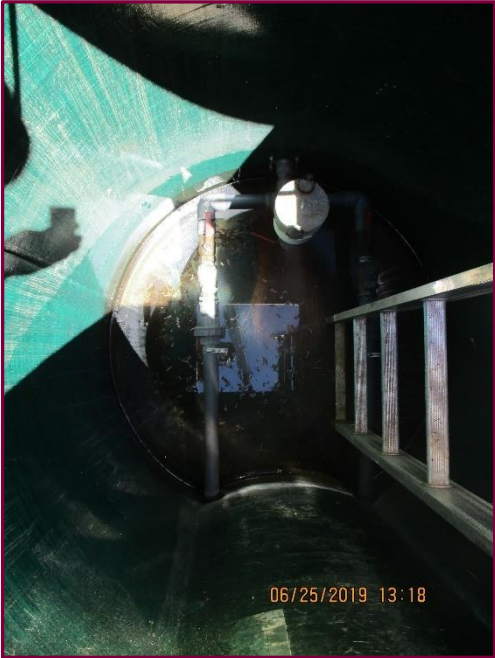
The Township has an ongoing maintenance program with the Oakland County Water Resources Commissioner’s Office (WRC) for all 10 stations. The maintenance program consists of monthly visits at 8 stations Bocavina, Cranberry Lake Estates, Meijer, Suburban Knolls, Village Lakes, White Lake Estates, White Lake Market Place, and Williams Lake Road stations. Provided records indicate only annual inspections have been performed at the Kroger and Worthington Crossing stations. Inspections include: performing telemetry, alarm, and electrical checks, pump megger (insulation/moisture) testing, and inspection of the panel wiring.

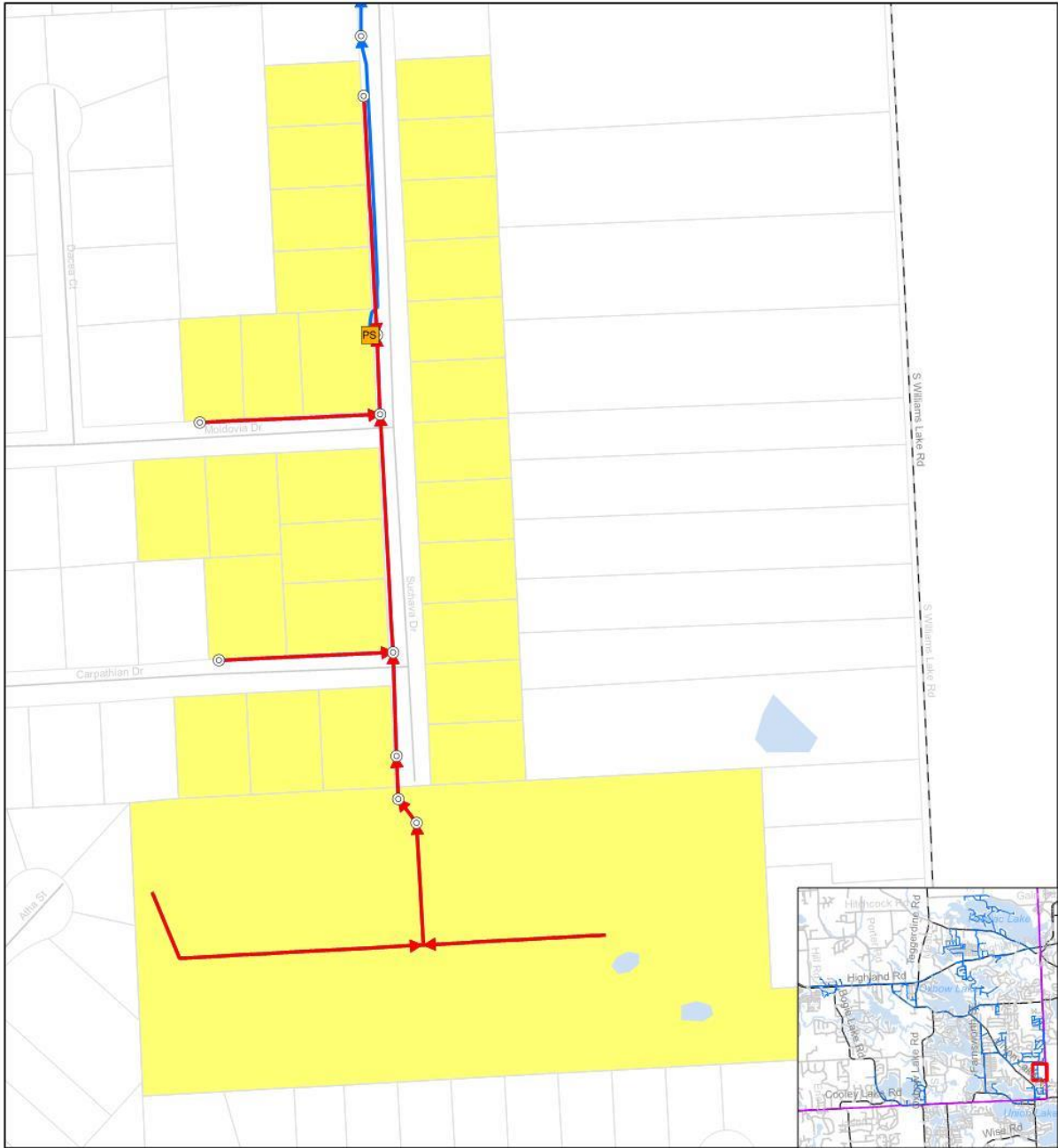
All pumping stations are equipped with a supervisory control and data acquisition (SCADA) system, which was installed in the mid-1990s. The existing system provides site-specific alarms back to Oakland County Safety Dispatch.

Bocavina Pumping Station

Location and Design

Bocavina Pumping Station is located on Suchava Drive, west of Williams Lake Road. The station was built in 2001 to serve the Bocavina East development and was designed by Powell Engineering as part of the overall development. The initial service district was intended to accommodate the 30 residential properties in the Bocavina East development but has since been expanded to also include the 21 residential properties from the Ivy Glen development to the south. It contains two (2) Flygt Model 3085.891 submersible pumps with 259 impellers installed in 2016, in a duplex arrangement. Please see the Pumping Station Contributing Area Map on the following page.





Bocavina Pumping Station Contributing Area

- PS Pumping Station
- Sewer Main
- Manhole
- Service Area
- Upstream Trace



Cranberry Lake Estates Pumping Station

Location and Design

Cranberry Lake Estates Pumping Station is located on Cranberry Boulevard, east of Cranberry Lake Road, north of M-59. The station was built in 1995 and contains two (2) Flygt Model 3152.091 submersible pumps with 454 impellers in a duplex arrangement. Pump #1 was replaced in 2017 and Pump #2 was replaced in 2015 per OCWRC records.



The pumping station was part of the Contract #3 State Revolving Fund Project #5059 and was designed by Spalding DeDecker & Associates (SDA). The basis of design for the station is not on the plan set for the station, however the Township Sanitary Sewer Tracking form originally developed by SDA indicates 191.7 REUs for this district and the Oakland County

pump records indicate a design point of 390 GPM and 76 feet Total Dynamic Head (TDH) for the pump station design. Please see the Pumping Station Contributing Area Map on the following page.

Kroger Pumping Station

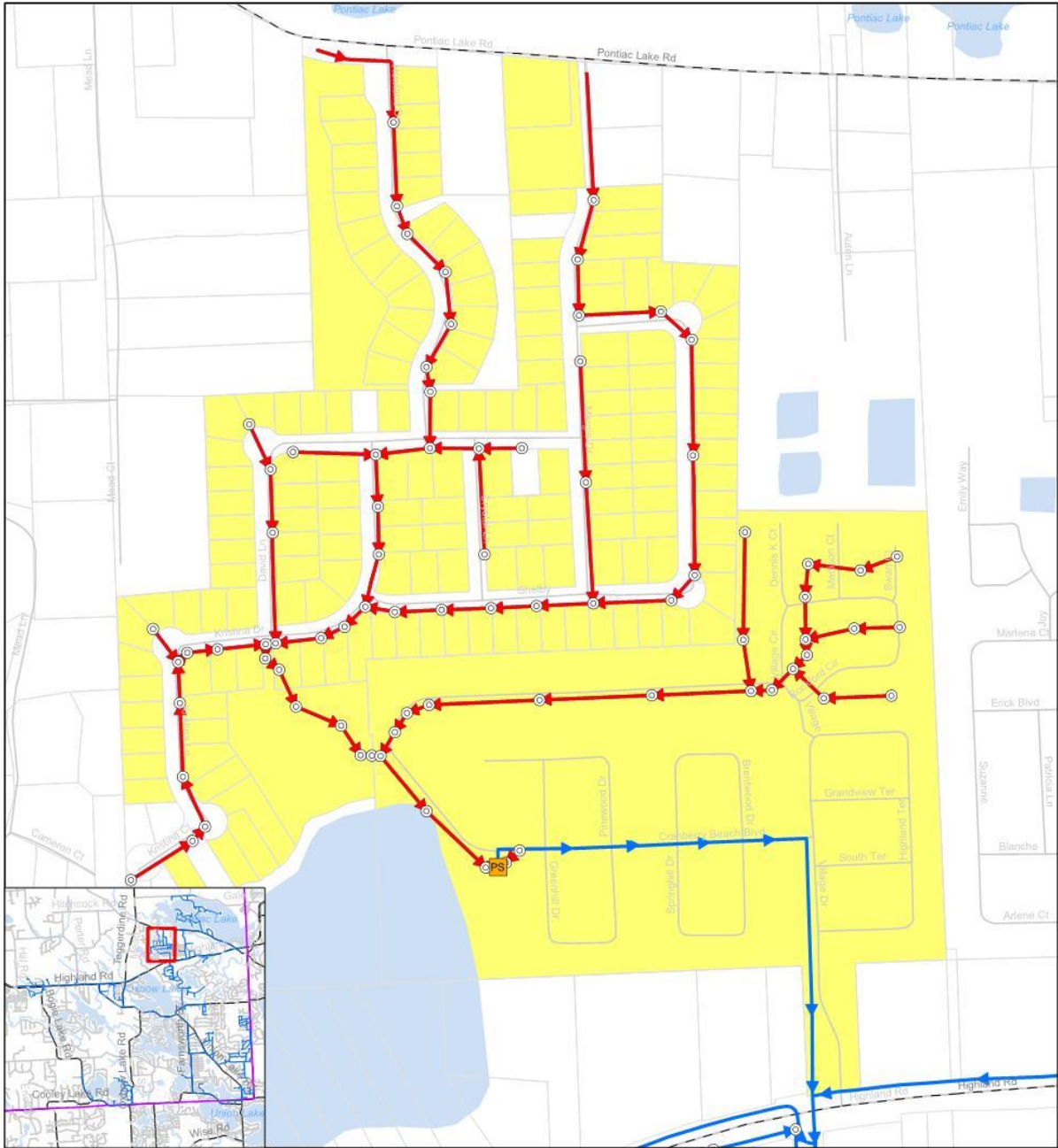
Location and Design

The Kroger Pumping Station is located east of Elizabeth Lake Road, south of M-59. The station was built in 2017 and has a service area including Arby's, Ulta Beauty, Hobby Lobby, and Kroger. The station was designed by Johnson & Anderson under project # 17710 in conjunction with the redevelopment of the old Kmart building at the present location of the Kroger store.



The pumping station design included Variable Frequency Drive (VFD) control of the pumps due to the wide range of possible head conditions on the discharge pressure sewer in Elizabeth Lake Road (28.4 to 161 feet) depending on what other pump stations are active at a given time. The station design utilizes the VFDs to vary pump speed based on

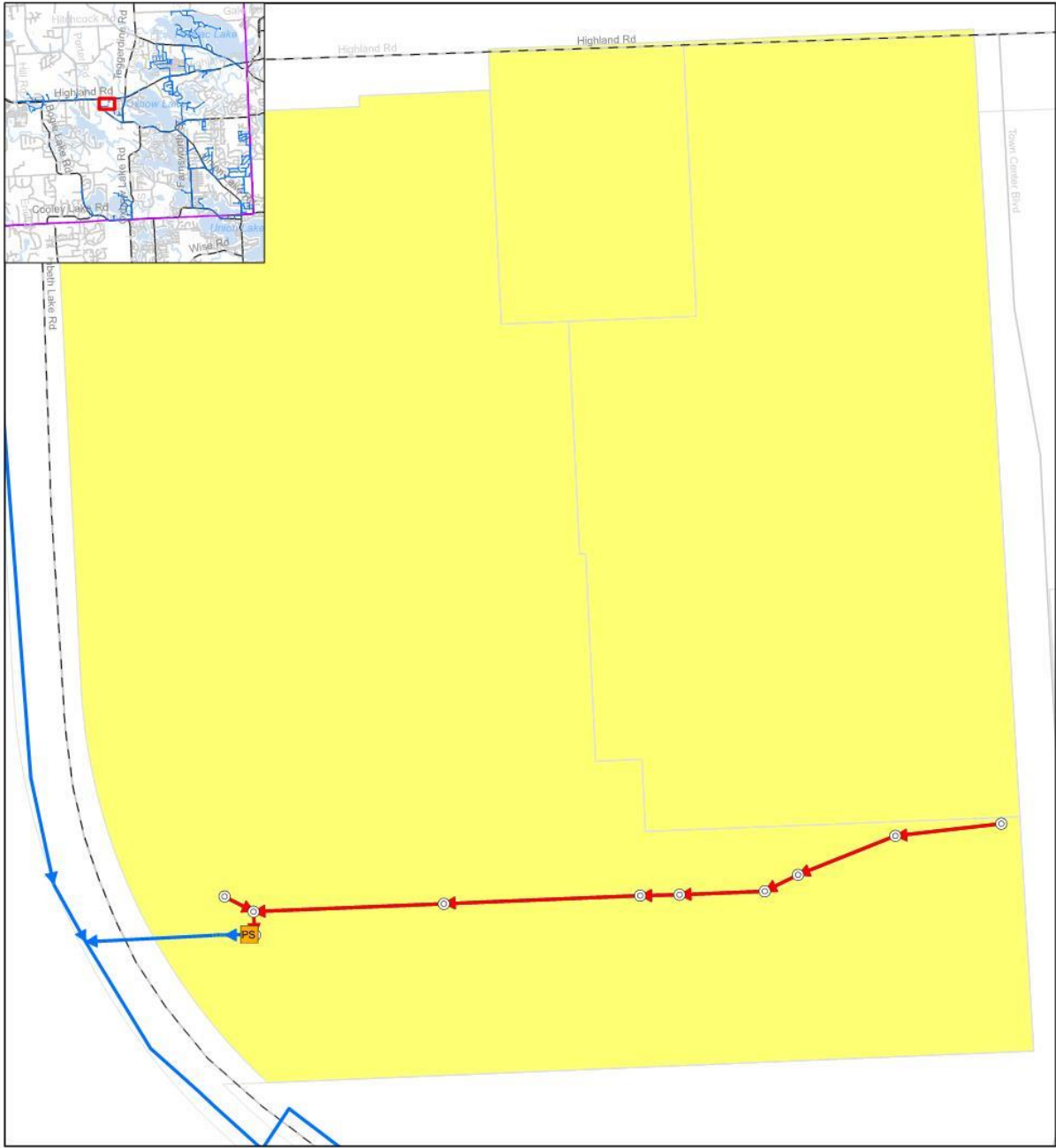
input from the magnetic flow meter to maintain a discharge rate of 215 GPM until pump shut off. This configuration prevents the pump from pumping off the curve in the event there are periods of low pressure in the discharge pressure sewer. It contains two (2) Flygt Model 3153.095 submersible pumps with 274 impellers in a duplex arrangement. Please see the Pumping Station Contributing Area Map on Page 5.



Cranberry Lake Estates Pumping Station Contributing Area N

- PS Pumping Station
- Upstream Trace
- Manhole
- Service Area
- Sewer Main





Kroger Pumping Station Contributing Area

- PS Pumping Station
- Manhole
- Upstream Trace
- Sewer Main
- Service Area



Meijer Pumping Station

Location and Design

The Meijer Pumping Station is located at the Meijer complex off of Highland Road. The station was designed by Spalding DeDecker & Associates (SDA) along with the force main that ultimately discharges to gravity sewer at Elizabeth Lake Road and Union Lake Road. The station and force main were installed in 2003.



The basis of design for the station is not on the plan set for the station, however the Township Sanitary Sewer Tracking form originally developed by SDA indicates 69.3 REUs for offsite and 0 REUs for onsite contributions. This will require further evaluation as there are certainly flows developed by the site. The Oakland County pump records indicate design points of 400 GPM and 130.11 feet Total Dynamic Head (TDH) for the pump station design. The station is plumbed for a triplex configuration, however only two pumps are currently installed, Flygt Model 3170.090 pumps with 463 impellers. Upon our investigation it was discovered that Pump #1 was near failure and was replaced in 2019, Pump #2 has been in service since 2003. Please see the Pumping Station Contributing Area Map on the following page.

Suburban Knolls Pumping Station

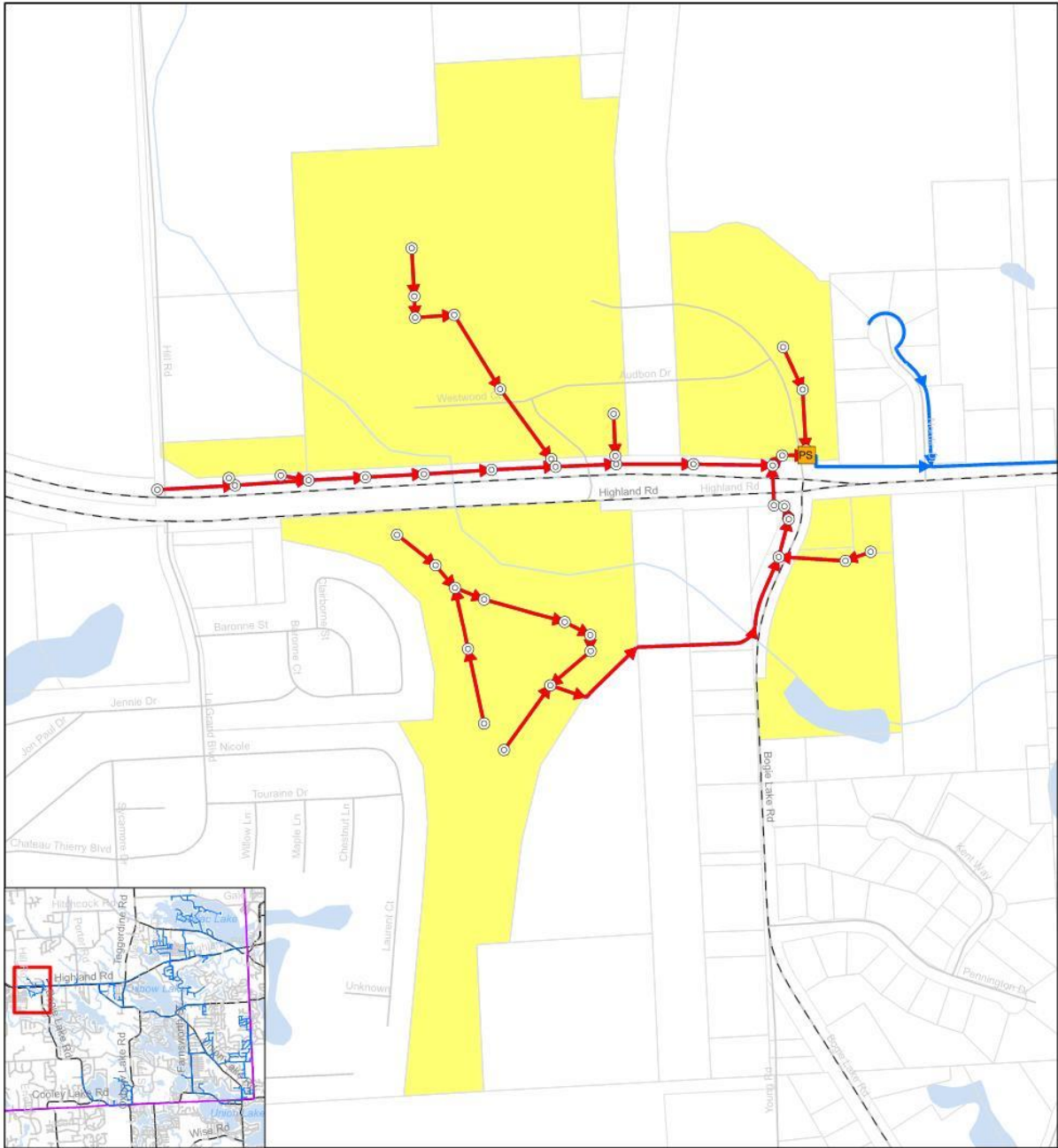
Location and Design

The Suburban Knolls Pumping Station is located at 511 Oxhill Drive, south of Highland Road. The station was built in 1995 and contains two (2) ABS Model AFP1046EXM90/4-22 submersible pumps in a duplex arrangement. The pump ages are unknown, for the purpose of this report we will assume they are original and were installed with the station construction.

The pumping station was part of the Contract #3 State Revolving Fund Project #5059 and was designed by Spalding DeDecker & Associates (SDA). The basis of design for the station is not on the plan set for the

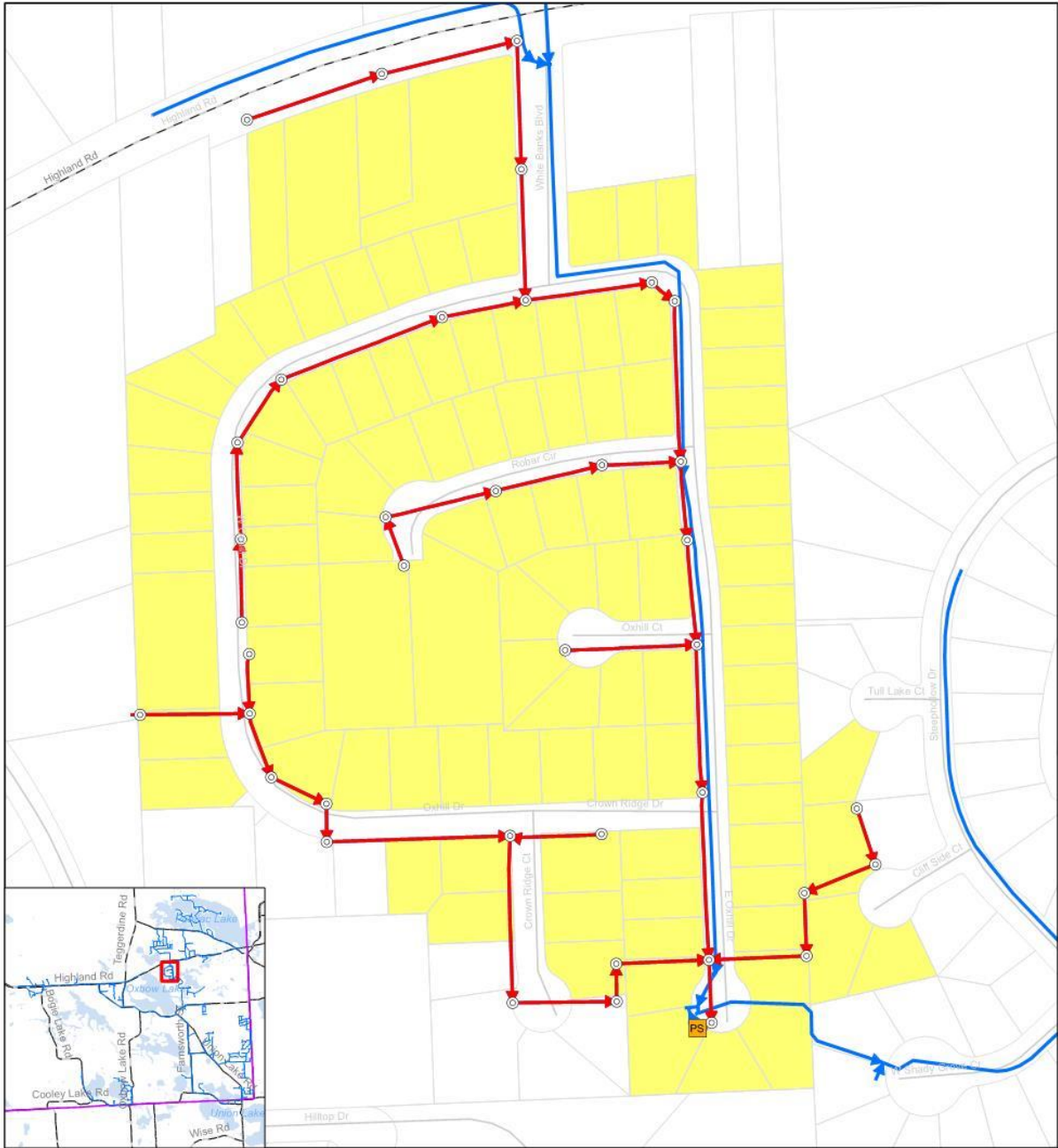
station, however the Township Sanitary Sewer Tracking form originally developed by SDA indicates 145 REUs for this district and the Oakland County pump records indicate a design point of 210 GPM and 72 feet Total Dynamic Head (TDH) for the pump station design. Please see the Pumping Station Contributing Area Map on Page 8.









Meijer Pumping Station Contributing Area N

- PS Pumping Station
- Manhole
- Upstream Trace
- Sewer Main
- Service Area



Suburban Knolls Pumping Station Contributing Area

-  Pumping Station
-  Sewer Main
-  Manhole
-  Service Area
-  Upstream Trace



Village Lakes Pumping Station

Location and Design

The Village Lakes Pumping Station is located at 10775 Highland Road. The station was built in 2007 as part of the Village Lakes commercial development. The development basis of design called for an initial population of 244 people at 90 gallons per person per day and an ultimate population of 338.5 people at 90 gallons per person per day. The Township Sanitary Sewer Tracking form indicates 141.3 REUs for this development, at 2.7 people per REU this population works out to over 381 people so this is likely over reporting on the tracking sheet. Further investigation to currently connected REUs is recommended.



The pumping station Basis of Design calls for lead and lag pumps to be operated with VFDs to pace flow at a minimum flow rate of 112.5 gallons per minute to a maximum 160 gallons per minute. The flow is paced off feedback from the magnetic flow meter, head pressures can range from as low as 28.4 up to 165 feet Total Dynamic Head (TDH) depending on what other pumps are on in the system. It contains two (2) Flygt 3153-275 submersible pumps installed in a duplex arrangement. Please see the Pumping Station Contributing Area Map on the following page.

White Lake Estates Pumping Station

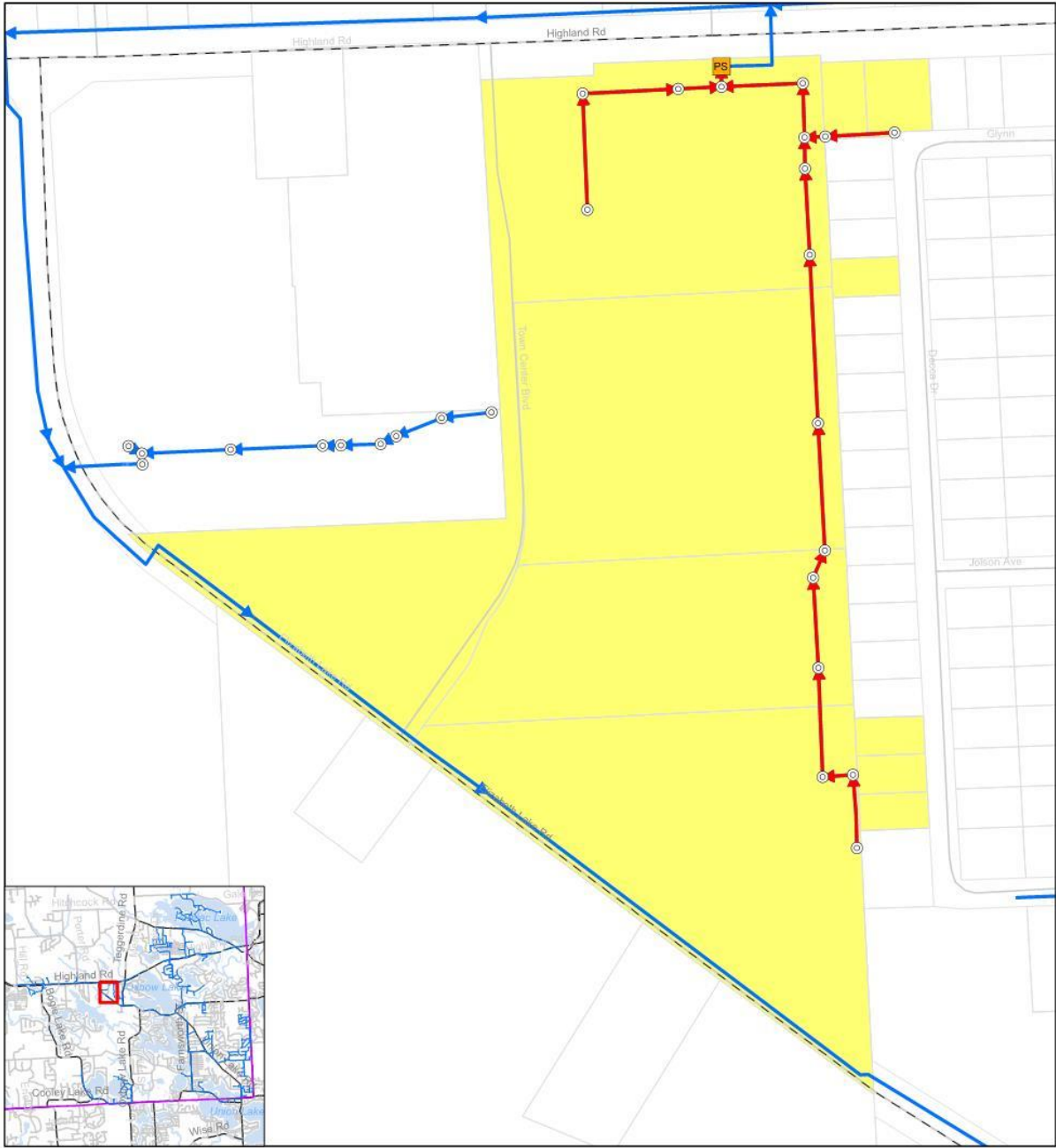
Location and Design

The White Lake Estates Pumping Station is located on Sherry Boulevard, west of Fisk Road.



The station was built in the 1970s and rehabilitated in 1995 as part of the Contract #3 State Revolving Fund Project #5059. The station rehabilitation was designed by Spalding DeDecker & Associates (SDA) and the design reutilized the existing wet well and drywell can structure. The pumps consist of two (2) Smith and Loveless Model MD4A 215 TTDR8672BN-L dry well pumps in a duplex arrangement. The pump ages are unknown, for the purpose of this report we will assume they were installed with the station rehabilitation.

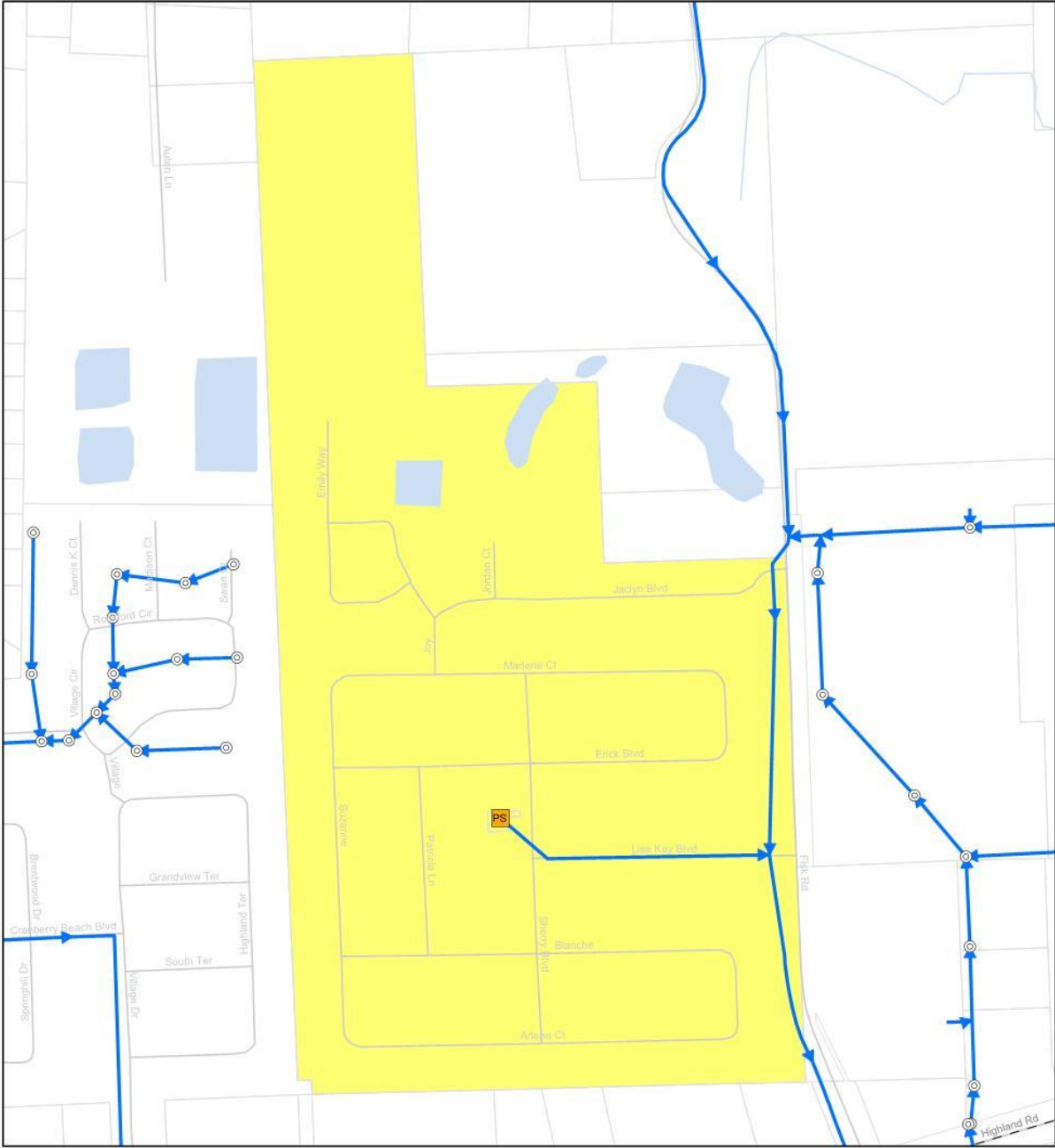
The basis of design for the station is not on the plan set for the station, however the Township Sanitary Sewer Tracking form originally developed by SDA indicates 87.3 REUs for this district and the Oakland County pump records indicate design points of 210 GPM and 72 feet Total Dynamic Head (TDH) for the pump station design. Please see the Pumping Station Contributing Area Map on Page 11.



Village Lakes Pumping Station Contributing Area

- PS Pumping Station
- Manhole
- Upstream Trace
- Sewer Main
- Service Area





White Lake Estates Pumping Station Contributing Area

- PS Lift Station
- Manhole
- Sewer Main
- Service Area
- Upstream Trace



White Lake Market Place Pumping Station

Location and Design

The White Lake Market Place Pumping Station is located at the Walmart/Home Depot complex off of Highland Road. The station was built in 1998. The pump station basis of design indicates the station is sized for 232 REUs or a population of 812 people at a flow rate of 100 gallons per person per day and a peak flow rate of 217 gallons per minute.

The Oakland County pump records indicate a design point of 248 GPM and 84 feet Total Dynamic Head (TDH) for the required duty point. The station has two (2) Flygt 3140.180 submersible pumps installed with 481 impellers in a duplex arrangement. Please see the Pumping Station Contributing Area Map on the following page.



Williams Lake Road Pumping Station

Location and Design

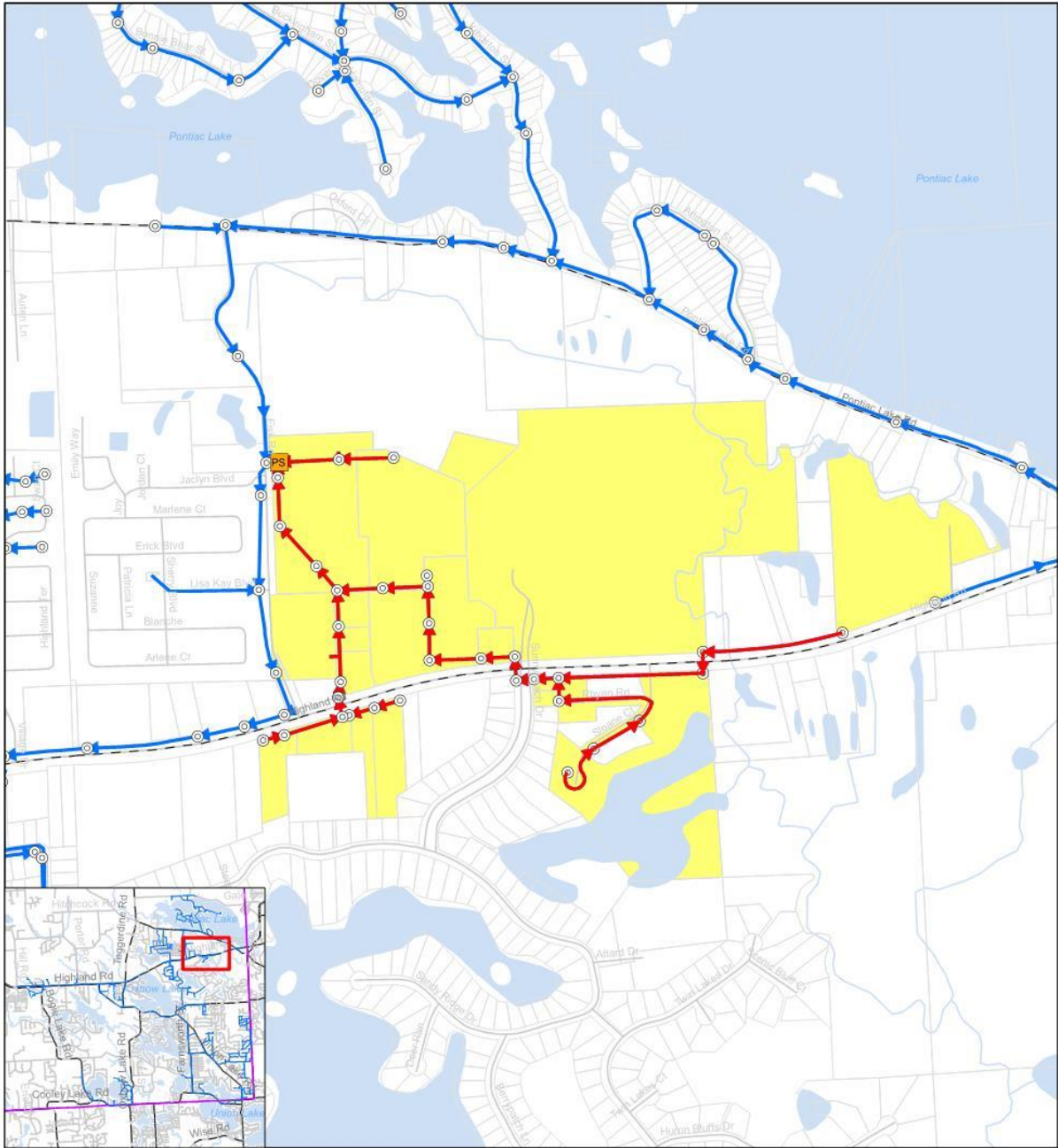
The Williams Lake Road Pumping Station is located 474 Williams Lake Road, just south of Rookery

Boulevard. The station was built in 2002 as part of the Williams Lake Road sanitary sewer extension project. The original sanitary design for this station was completed by Spalding DeDecker & Associates (SDA) and included a district of 335 single family units and a peak inflow of 288 gallons per minute.



The Oakland County pump records indicate a design point of 280 GPM and 50 feet Total Dynamic Head (TDH) for the required duty point. The station contains two (2) Flygt 3127.090 submersible pumps with 483 impellers installed in a duplex arrangement.

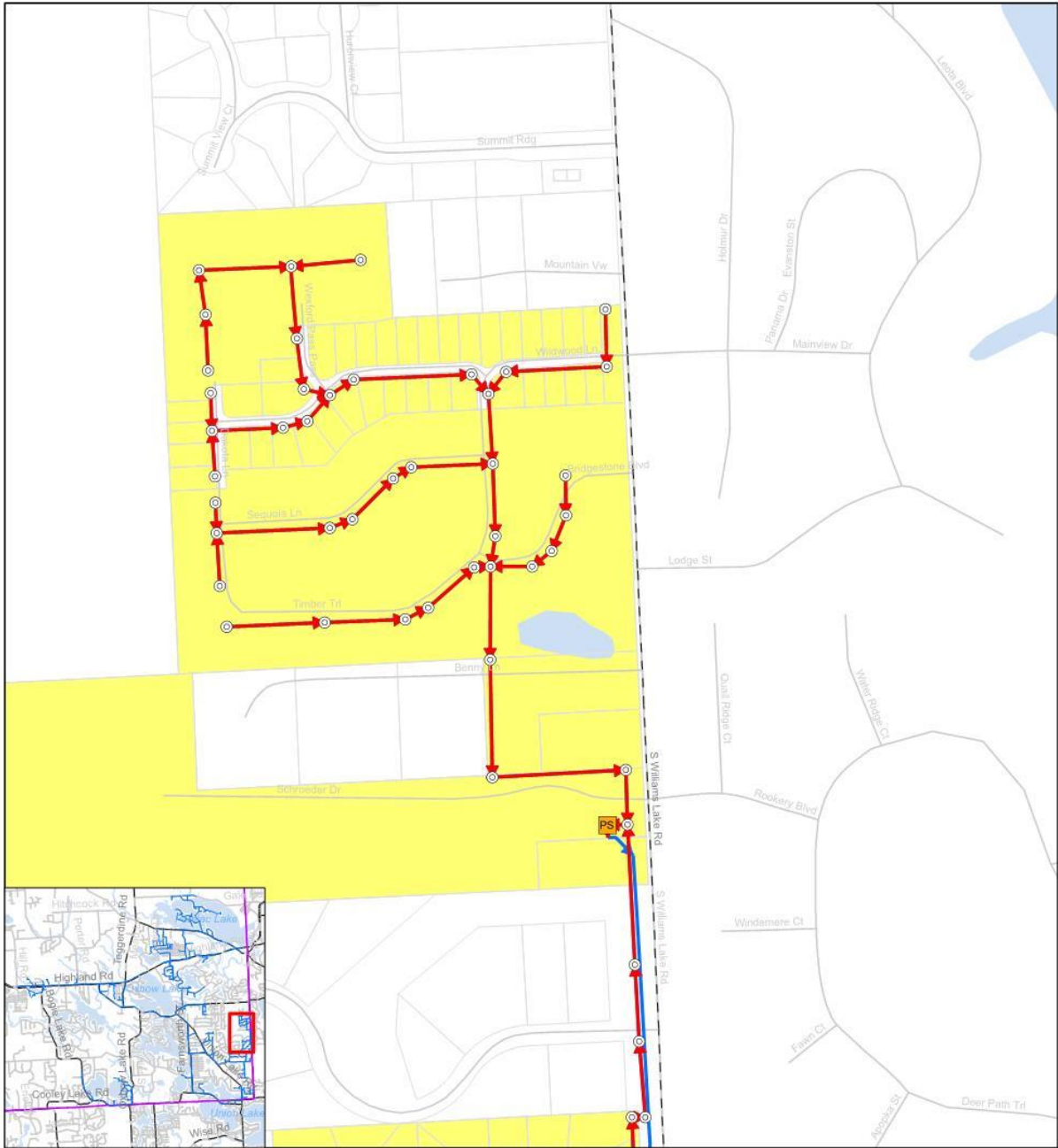
Please see the Pumping Station Contributing Area Map on Page 14.



White Lake Market Place Pumping Station Contributing Area

- PS Pumping Station
- Manhole
- Upstream Trace
- Sewer Main
- Service Area





Williams Lake Road Pumping Station Contributing Area

- PS Pumping Station
- Manhole
- Upstream Trace
- Sewer Main
- Service Area



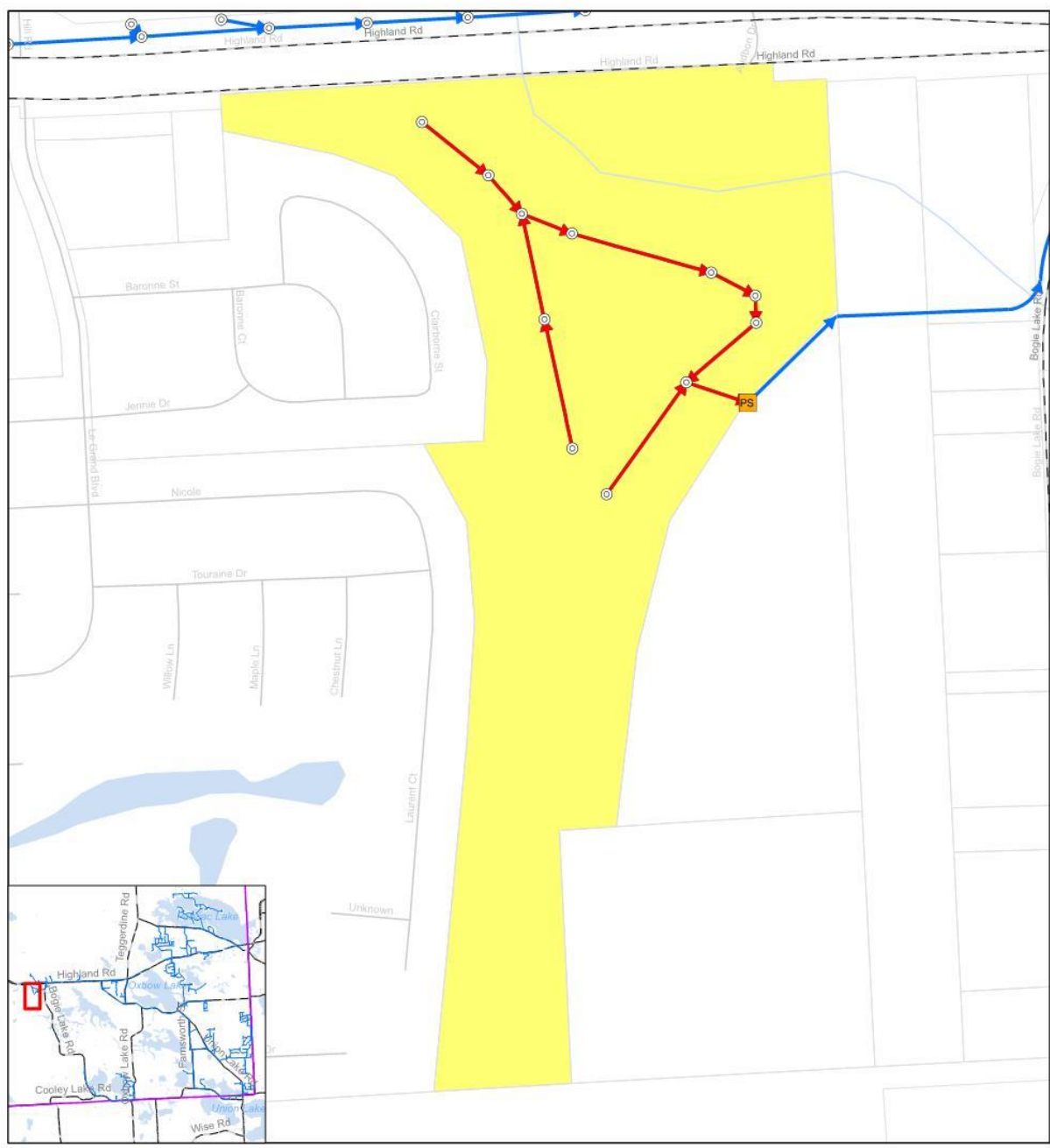
Worthington Crossing Pumping Station

Location and Design

The Worthington Crossing Pumping Station is located on the south side of M-59, west of Bogie Lake Road. The station was built in 2017 as part of the Worthington Crossing apartment development. The Powell Engineering design plans indicate the station is designed for 144 condominiums with a peak flow rate of 119 gallons per minute inflow to the station.

The station contains two (2) Flygt 3085.190.0456 4 horsepower submersible pumps installed in a duplex arrangement. Please see the Pumping Station Contributing Area Map on the following page.





Worthington Crossing Pumping Station Contributing Area^N

- PS Pumping Station
- Sewer Main
- Manhole
- Service Area
- Upstream Trace



CONDITION OF ASSETS

The following tasks were performed to complete the pumping station evaluations:

1. Collection and review of available record plan and design information;
2. Obtain and review of WRC maintenance log sheets for the past 3 years;
3. Execution of field visits to document existing conditions at each pumping station and to perform pump drawdown tests;
4. Development of a pump station inventory, qualitative condition assessment and risk rating for each pump station component;
5. Preparation of a Capital Improvement Plan (CIP) to outline equipment replacement and other updates as well as estimated costs over the 20-year planning period for each pump station.

Each of the following pumping station components as well as site information was evaluated by J&A-DLZ and WRC staff in Winter/Spring 2019 with a replacement plan of action for each pumping station compiled. These findings were reviewed based upon historical knowledge and maintenance records from the WRC. The twenty-three (23) pumping station components for each station are as follows:

1. Controls - Instrumentation, Control Panel, and Cabinet
2. Controls - Level Control System
3. Controls - Actuator
4. Electrical - General
5. Electrical - Transformer
6. Electrical - On Site Generator/ Portable Generator Connection- Emergency Power
7. Electrical - Motor Control Center
8. Equipment - General
9. Equipment - Motor and Variable Speed Control
10. Equipment - Compressor
11. Equipment - Communications/Antenna Structures, Telemetry
12. Equipment - Bypass Pump Connection
13. Equipment - Discharge Pressure Gauges
14. Heating, Ventilation and Cooling (HVAC) - Forced Air and Ventilation
15. Piping
16. Pump System - Pump #1
17. Pump System - Pump#2
18. Pump System - Meter
19. Site Conditions - General, including Structure
20. Site Conditions - Fence, where present
21. Site Conditions - Security and Access
22. Structure/Equipment - Wet Well and Appurtenances
23. Structure/Equipment - Valve Vault and Valve

If critical components were missing, deficiencies were noted.

Per Michigan Department of Environment, Great Lakes, and Energy (EGLE) Asset Management Rating Guidance outlined in the tables below, a Business Risk Evaluation (BRE) was performed on each pumping station sub-system to identify and develop an illustrative schedule for equipment rehabilitation or replacement during the 20-year Capital Improvement Planning (CIP) period.

Although the focus of the pumping station evaluations was related to condition assessment, information on past pumping station maintenance was also obtained and evaluated from WRC's maintenance records provided by Township staff. Based on the pumping station site visits and maintenance information provided, the following general conditions were noted:

- Moderate to excessive grease buildup was noted in 6 of the 10 stations. Through this SAW Grant project, the Township has implemented a Fats, Oils, and Grease (FOG) inspection program in hopes to minimize FOG accumulation in these stations moving forward.
- The Township has received odor complaints over the years from the wastewater system that runs along Elizabeth Lake Road and southeast to Oxbow Road. The Meijer, Kroger, and Village Lakes pumping stations feed into this system. The Township and WRC have contracted with Eganix, Inc., to treat this line and a comprehensive odor control program is in place.
- It was determined by the WRC that four (4) Air Release Valves were not functioning properly. These valves were replaced. There was also one ARV structure which was buried. WRC exposed that structure and cleared it of debris. WRC also could not locate the ARV located at approximately 9035 Oakwood and recommended that a survey be conducted to locate and expose the ARV, as it may not be performing properly since it is buried.

The ages of the existing components were considered as well as the frequency of repairs of those components. Through this review, a plan of refurbishment at each pumping station was determined based on which components needed replacement.

Table 1 Pumping Station Refurbishment Items

Component	Bocavina	Cranberry Lake Estates	Kroger	Meijer	Suburban Knolls	Village Lakes	White Lake Estates	White Lake Market Place	Williams Lake Road	Worthington Crossing
Controls – Instrumentation, Control Panel, Cabinet		X		X	X	X	X	X		
Controls – Level Control System						X				
Controls – Actuator										
Electrical- General				X	X	X	X	X		
Electrical – Transformer										
Electrical – On Site Generator/ Portable Generator Connection- Emergency Power										
Electrical – Motor Control Center										
Equipment – General										
Equipment- Motor and Variable Speed Control										
Equipment- Compressor										
Equipment- Communications/Antenna Structures, Telemetry					X					
Equipment -Bypass Pump Connection										
Equipment- Discharge Pressure Gauges										
HVAC- Forced Air and Ventilation										
Piping										
Pump System- Pump#1		X		X		X		X	X	
Pump System – Pump#2		X				X	X	X	X	
Pump System- Meter										
Site Conditions- General, Including Structure	X	X						X	X	
Site Conditions- Fence, Where Present									X	
Site Conditions – Security & Access	X	X					X	X	X	
Structure/Equipment- Wet Well and Appurtenances	X	X	X	X	X	X	X	X	X	
Structure/Equipment- Valve Vault and Valve		X		X	X	X	X	X	X	

Currently, pumping station upgrades are addressed on an as-needed basis. Pumps are maintained and/or replaced when a problem or failure occurs. It was determined by the WRC during the time of inspection, that six (6) Pumps were in need of being replaced or rebuilt. Pump #1 at the Meijer Pumping Station demonstrated a low electrical resistance which is indicative of near future pump failure. As a result, this pump was removed from service and replaced in August 2019.

Table 2 Pump Remaining Useful Life

Pumps	Pump Install Date	Remaining Useful Life in Years (Based on Typical Useful Life of 15 years)
Bocavina Pump 1	02/25/2016	12
Bocavina Pump 2	02/25/2016	12
Cranberry Lake Estates Pump 1	12/05/2017	13
Cranberry Lake Estates Pump 2	12/30/2015	11
Kroger Pump 1	03/24/2017	13
Kroger Pump 2	03/24/2017	13
Meijer Pump 1	8/1/2019	15
Meijer Pump 2	Original 2003	0
Suburban Knolls Pump 1	Unknown	4 (assumed)
Suburban Knolls Pump 2	Unknown	4 (assumed)
Village Lakes Pump 1	Original 2007	0
Village Lakes Pump 2	Original 2007	0
White Lake Estates Pump 1	1995	0
White Lake Estates Pump 2	1995	0
White Lake Market Place Pump 1	1998	0
White Lake Market Place Pump 2	1998	0
Williams Lake Road Pump 1	2002	0
Williams Lake Road Pump 2	2002	0
Worthington Crossing Pump 1	2017	13
Worthington Crossing Pump 2	2017	13

PUMPING STATION OBSERVATIONS, DEFICIENCIES & RECOMMENDATIONS

Bocavina Pumping Station

- The wet well rails are flimsy and will need to be tightened/repared.
- The Arborvitae in this area will need to be trimmed back.
- The Control Panel/Cabinet is starting to rust.
- Instruments free of debris/unobstructed.

Cranberry Lake Estates Pumping Station

- The wet well structure is in fair condition with a few small areas of infiltration.
- The wet well top is fair with some aggregate showing.
- The hatch, hatch hold open, guide rails, and float rack are in fair to poor condition.
- The hatch does not have any safety grating and should be upgraded.
- The valve vault structure, steps, hatch, and piping are in good to fair condition.
- Small amount of infiltration at the vault joints.
- The Arborvitae in this area will need to be trimmed back – minor restrictions to site functions.
- The Control Panel/Cabinet is starting to rust.
- The equipment insulation is loose.
- Excellent condition of access door seal.
- Minor wet well, valve vault pump, electrical equipment surface corrosion.
- Surface cracking in the fiberglass.
- Instruments free of debris/unobstructed.
- Excessive grease buildup.

Kroger Pumping Station

- The wet well and piping are showing signs of high hydrogen sulfide and will require attention.
- Instruments free of debris/unobstructed.

Meijer Pumping Station

- Excellent condition of access door seal.
- Missing sealing compound in seal-off fittings going to wet well.
- The top of the Cabinet is rusting and in need of maintenance.
- Pump 1 is out of service and has been removed. A replacement pump was installed this past August.
- Minor wet well surface corrosion.
- Surface chalking in the fiberglass.
- Small amount of infiltration at the vault joints.
- The wet well hatch does not have any safety grating; leaks present and minor infiltration.
- Instruments free of debris/unobstructed.

- Moderate grease buildup.

Suburban Knolls Pumping Station

- Control panel cabinet insulation is loose and will need to be reattached or replaced.
- Valve vault joints displaying minor infiltration.
- Wet well has minor surface corrosion and no safety grating.
- Wet well hatch and guide rails are in fair to poor condition and will require attention.
- Small amount of infiltration at the vault joints.
- Wet well float rack and chains need replacement; minor infiltration.
- Surface chalking in the fiberglass.
- Instruments free of debris/unobstructed.
- Gooseneck vent needs painting.
- Minor corrosion observed in Pumps 1 and 2, wet well piping, and electrical equipment.
- Moderate grease buildup.

Village Lakes Pumping Station

- Control panel cabinet is rusted. Replacement likely.
- Ragging in impeller of Pump 1 – unable to get out.
- Gooseneck vent needs painting.
- High amount of damage to Pump 1 – needs replacing.
- VFD controller at Pump 2 is broken and will need repair or replacement.
- Maintenance required at access door seal – some seals peeling off.
- There are no individual lockouts for the pump breakers.
- Minor wet well piping and instrumentation surface corrosion.
- Surface chalking in the fiberglass.
- No safety grating at the wet well.
- Some infiltration at the valve vault joints.
- Instruments free of debris/unobstructed.
- Excessive grease buildup.

White Lake Estates Pumping Station

- Electrical boxes in control panel could be updated – Door interlocks on disconnects not functional.
- Maintenance required on access door seal.
- Check valve sticking in partially closed position at Pump 2; free end bearing wear upon performance of vibrational analysis – will require repair or replacement.
- Wet well in fair to poor condition with small areas of infiltration – maintenance required.
- Aggregate is showing on the manhole block.
- Wet well steps rusted and in poor condition – Replacement required.

- Wet well floats not properly attached to float rack and will require adjustment.
- There are no individual lockouts for the pump breakers.
- Small amount of infiltration present at valve vault joints.
- Maintenance required at access door seal – failed; door rusted in some areas where seal used to be.
- The door interlocks on the disconnects are not functional.
- Staining/minor erosion, minor surface rust.
- Surface chalking in the fiberglass.
- Instruments free of debris/unobstructed.
- Minor corrosion observed in Pumps 1 and 2.
- Vibration analysis showed ‘free end bearing wear’ on Pump 2.
- The Pump 2 check valve was sticking partially closed.
- Excessive grease buildup.

White Lake Market Place Pumping Station

- Door sprung and panel/cabinet rusting; access door seal in very poor condition – failure imminent.
- Exterior corrosion on electrical equipment disconnects.
- Failure imminent at access door seal.
- Minor exterior corrosion on the disconnects.
- Exposed aggregate/pitting and some material loss/surface cracking in the fiberglass.
- The Cabinet has exterior rust.
- Some infiltration and rust present at valve vault joints.
- Minor corrosion observed in Pumps 1 and 2 and wet well piping.
- Small areas of infiltration in wet well structure.
- Wet well top in poor condition with aggregate showing on corner. Tripping hazard is a result.
- Replace impeller and wear rings at Pumps 1 and 2; Rebuild the wet end of the pump to prevent premature failure and/or performance issues.
- No safety grating at wet well hatch – installation needed.
- Hatch, hatch hold open, guide rails, and float rack in fair to poor condition.
- Instruments free of debris/unobstructed.
- Landscaping shrubs need trimming.
- Moderate grease buildup.

Williams Lake Road Pumping Station

- Bottom of control panel cabinet is rusted – replacement likely.
- Pumps 1 and 2 – Replace impeller and wear rings. Voltage and amperage balance >1%. Rebuild the wet end of the pump including impeller and wear ring.
- Existing chain link fence is rusting and covered with vegetation – Replacement recommended.
- Infiltration at the valve vault (west wall) and wet well – Will require attention.
- No safety grating present at wet well hatch – Installation recommended.
- Driveway to station is cracking and may require repair.

- Minor wet well piping, equipment, instrumentation, and antenna structure corrosion.
- Surface chalking in the fiberglass.
- The wet well hatch has no safety grating.
- Instruments free of debris/unobstructed.
- No grease buildup.

Worthington Crossing Pumping Station

- Instruments free of debris/unobstructed.

SCADA UPGRADES

The existing pumping station SCADA system is over 20 years old. OCWRC is requesting the existing SCADA equipment be upgraded to improve deficiencies, including:

- equipment failures
- low transmission speeds
- communication failures
- data exporting and
- operator efficiencies
- existing platform no longer has software support

Each site will require a sheet metal cabinet, multiple circuit breakers, a programmable logic controller (PLC), several relays, and a radio and antenna with a mast. The costs for these items have been included in the capital improvement costs for 9 of the Township's 10 stations (SCADA upgrades are not needed at the Kroger station due to its age). The estimated cost for each site is \$24,400, except for the Worthington Crossing site which is estimated to cost \$15,000. All these upgrades are proposed for 2020 (Year 1), for a total cost of \$210,200. Additional information can be found in Appendix B, the OCWRC Pumping Station Assessment Report Summary.

In addition, SCADA equipment upgrades will be needed at two Township metering sites. The costs for these upgrades are \$13,800 for each site, anticipated in 2020, for a total of \$27,600.

The new SCADA network will be accessible to White Lake Township upon request.

BUSINESS RISK EVALUATION

Based on the condition assessments, a numerical rating from 1 to 5 was given for the overall condition of each station's sub-system. A description of the Condition Assessment Rating is shown in Table 3 below. Based upon the sub-system age, a Probability of Failure (POF) Performance Rating was also given to each sub-system as described in Table 4 below. These two factors were each weighted at 50% in determining the Probability of Failure of each sub-system. The POF factors that were used for the pumping station assessment were: Equipment (i.e. the control panel and telemetry) (10%), Electrical Components (i.e. generators and hookups) (30%), Pumps (i.e. number of pumps, pump TDH, GPM, HP, and layout) (50%), and Structure (i.e. wet well and valve vault condition) (10%). Please see Figure 2 for the POF factor weighting.

The Consequence of Failure (COF) of each sub-system was based upon the Asset Criticality Rating factors outlined in Table 5. The COF factors that were used for the pumping station assessment were: Distance from Surface Water (40%) and Number of Upstream Laterals (60%). Pumping station cost estimates are provided in Appendix A of this report. Please see Figure 3 for the COF factor weighting.

Table 3 - Condition Assessment Rating	
Condition Rating	Description
5	Asset Unserviceable - Over 50% of asset requires replacement
4	Significant deterioration - significant renewal/upgrade required (20 -40%)
3	Moderate deterioration - Significant maintenance required (10 -20%)
2	Minor Deterioration - Minor maintenance required (5%)
1	New or Excellent Condition - Only normal maintenance required

Table 4 - Probability of Failure Performance Rating	
Performance Rating	Description
5	Certain - Likely to occur in the life of the item
4	Probable - Will occur several times in the life of an item
3	Possible - Likely to occur some- time in the life of an item
2	Unlikely - Unlikely but possible to occur in the life of an item
1	Rare - So unlikely, it can be assumed occurrence may not be experienced

Table 5 - Asset Criticality Rating	
Performance Rating	Description
5	Catastrophic disruption
4	Major disruption
3	Moderate disruption
2	Minor disruption
1	Insignificant disruption

The overall POF was then multiplied by the COF to obtain a Business Risk score on a scale of 0-25 per Figure 1 on the following page.

Figure 1 - Business Risk Evaluation Matrix

		Condition Rating 50%	Age Rating 50%	Risk Rating						
Probability of Failure	5	5	5	Certain	5	5	10	15	20	25
	4	4	4	Probable	4	4	8	12	16	20
	3	3	3	Possible	3	3	6	9	12	15
	2	2	2	Unlikely	2	2	4	6	8	10
	1	1	1	Rare	1	0	2	3	4	5
				Risk Rating		1	2	3	4	5
						Insignificant	Minor	Moderate	Major	Catastrophic
						Consequence of Failure				

The risk of failure is categorized on Table 6 below.

Table 6 – Business Risk Rating Register

<u>Risk Type</u>	<u>BRE Rating Register</u>
Low Risk (Repeatable Risk)	0.00-4.99
Medium Risk (Tolerable and Manageable)	5.00-9.99
High Risk (Tolerable and Manageable)	10.00-15.99
Critical / Intolerable Risk	16.00-25.00

Refer to Figures 2 and 3 below for the Probability of Failure and Consequence of Failure factor weightings.

Figure 2 Probability of Failure Factor Weighting

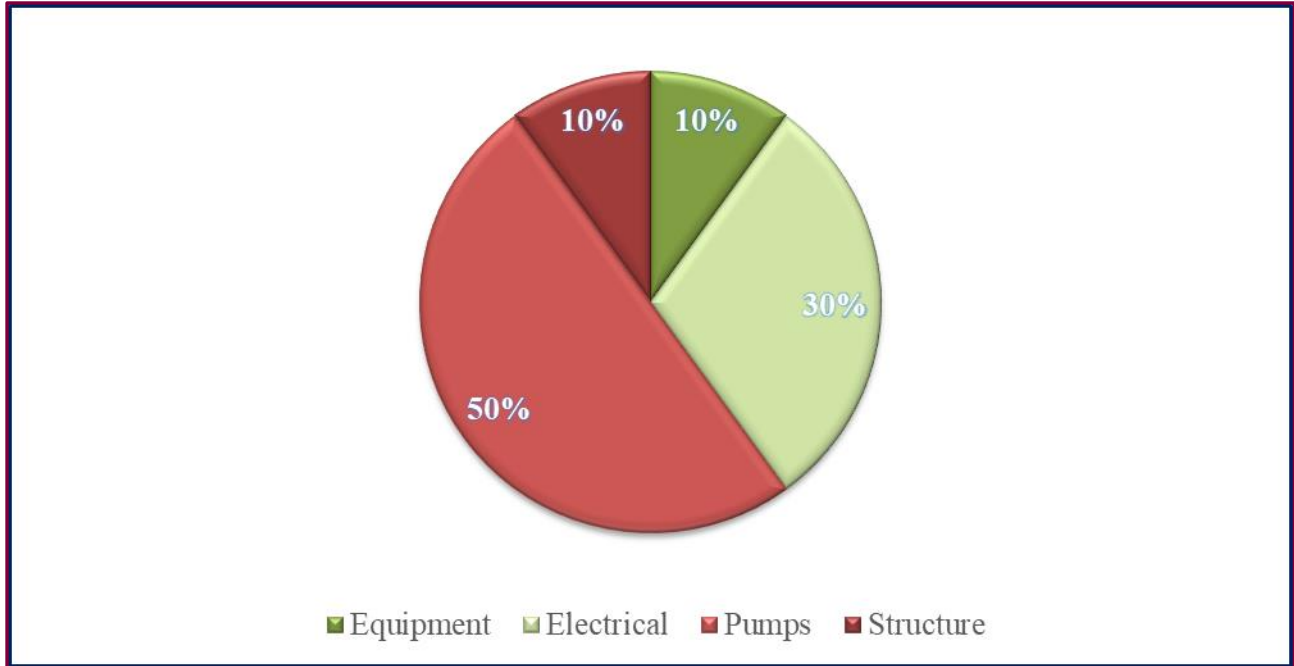
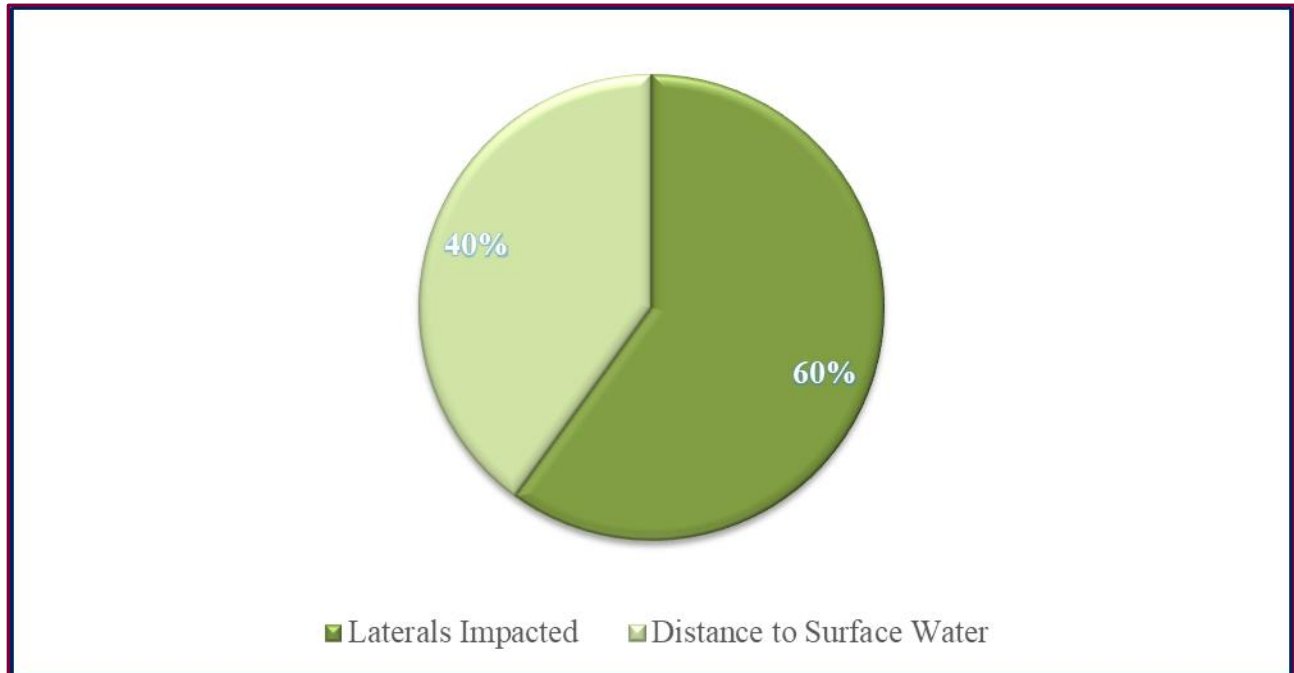


Figure 3 Consequence of Failure Factor Weighting



Please refer to Table 7 below for a Pumping Station BRE Summary.

Table 7 Pumping Station BRE Summary – Asset Characteristics

Site Name	Equipment (Control Panel & Telemetry)	Electrical (Generator Information)	Pumps – Useful Life Remaining (Yrs)	Structure (Wet Well & Valve Vault)	# of Customers	Distance to Surface Water (LF)	Install Year
Bocavina	Fair	Portable Generator Connection	12	Good	Unknown	906	2001
Cranberry Lake Estates	Fair to Poor	Generator on site	11	Fair	441	161	1995
Kroger	Good	Generator on site	13	Wet Well – Fair to Poor; Valve Vault – Good	4	385	2017
Meijer	Fair to Poor	Portable Generator Connection	15 Pump 1 0 Pump 2	Wet Well – Good; Valve Vault – Fair to Good	6	782	2003
Suburban Knolls	Fair to Poor	Portable Generator Connection	4	Wet Well – Good; Valve Vault – Fair to Good	1329	896	1995
Village Lakes	Fair to Poor	Generator on site	0	Wet Well – Good; Valve Vault – Fair to Good	4	1121	2007
White Lake Estates	Fair to Poor	Portable Generator Connection	0	Fair to Poor	0	794	1995
White Lake Market Place	Fair to Poor	Portable Generator Connection	0	Fair to Good	24	181	1998
Williams Lake Road	Fair	Portable Generator Connection	0	Good	52	482	2002
Worthington Crossing	Good	Generator on site	13		1	555	2017

CAPITAL IMPROVEMENT PLANNING

DLZ-J&A has developed a comprehensive capital improvement plan for pumping station pump replacements, control panel and cabinet upgrades, electrical and mechanical improvements, SCADA system upgrades, and additional rehabilitation needs over the 20-year period (2020-2039). The Pumping Station Capital Improvement Plan can be found in Appendix A.

**APPENDIX A –
PUMPING STATION CAPITAL IMPROVEMENT PLAN**

**APPENDIX B –
OCWRC PUMPING STATION
ASSESSMENT REPORT SUMMARY**

Jim Nash

November 20, 2019

Aaron Potter, Water and Sewer Director
Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

Mr. Potter:

Thank you for the opportunity to conduct condition assessments for the sanitary sewer lift stations located within the Township. WRC appreciates the opportunity to continue to provide White Lake Township with quality services for your sanitary sewer system.

The purpose of this letter is to provide you with a summary of expenses associated with the condition assessment for the sanitary sewer lift stations, summarize our findings, and provide you with recommended improvements and estimated costs.

These condition assessments were conducted as part of the Michigan Department of Environment, Great Lakes, and Energy's Stormwater, Asset Management, and Wastewater (SAW) program and in conjunction with the Township's engineer, Johnson and Anderson, Inc.

SUMMARY OF EXPENSES

WRC utilized a team of skilled maintenance mechanics (electricians) and pump mechanics to evaluate the structural, mechanical, and electrical assets within the lift stations listed below. Lift station condition assessments were conducted between March 11 and March 15, 2019 and between June 25 and June 26, 2019. WRC performed condition assessments for air release valves in August 2018.

WRC conducted condition assessment at ten lift stations. Below is a summary of expenses associated with condition assessments at these lift stations. Additionally, WRC conducted assessments for 16 air release valves within the township.

Please see the incurred costs for each of these assessments:

Village Lakes Lift Station - \$892.73

White Lake Estates Lift Station - \$1,347.89

Williams Lake Road Lift Station - \$1,323.03

Suburban Knolls Lift Station - \$1,230.13

White Lake Market Place Lift Station - \$1,111.25



Cranberry Lake Estates - \$1,259.69
Meijer Lift Station - \$815.14
Kroger Lift Station - \$857.74
Bocavina Lift Station - \$1,008.05
Worthington Crossings Lift Station - \$1,051.05
Air Release Valve Assessments (16) - \$2,189.78
TOTAL EXPENSES = \$13,086.43

RECOMMENDATIONS

Air Release Valves

Our condition assessment discovered four (4) ARVs that were not functioning properly. WRC replaced these ARVs using the general operating budget. Additionally, WRC encountered one ARV structure that had been buried; WRC exposed this structure and left it free and clear of debris.

Furthermore, WRC was unable to locate the ARV located at approximately 9035 Oakwood. Per your directive, WRC retained a contractor to expose and adjust this structure.

Meijer Lift Station (0769HR) - \$30,000. New Pump 1.

WRC conducted a condition assessment of the site on March 14, 2019. During the condition assessment the electrical resistance for the submersible pump was measured at a value of less than one ohm. A value this low indicates a potential issue with the pump motor. Values in this range indicate failure of the pump motor is likely. As a result WRC removed the pump from service.

This lift station was designed for three pumps; however, the third pump was designed for future use. As such, with this pump out of service there is no redundancy at this site.

As of the date of this letter, this pump has been replaced.

Village Lakes - \$7,500. Pump 1 & 2 Rebuild.

The Village Lake Lift Station, pumps #1 and #2 were observed to have impeller damage. Additionally, these pumps were performing well below their optimal location on the pump curve. As such, WRC is recommending rebuilding the wet end of the pumps to prevent premature failure and/or performance issues. We're estimating the cost of these repairs to be on the order of \$7,500.

White Lake Market - \$6,000. Pump 1 & 2 Rebuild.



Jim Nash

Significant damage to pumps #1 and #2 impeller were observed. The wear ring for the pump was completely missing. As such, WRC is recommending rebuilding the wet end of the pumps to prevent premature failure and/or performance issues. We're estimating the cost of these repairs to be on the order of \$6,000.

In addition to the aforementioned issues with the pumps, the control cabinet is exhibiting signs of corrosion and the door seals are failing. These issues should be addressed soon to prevent significant damages to the controls and electrical equipment.



Figure 1 - Marketplace Lift Station Impeller Damage

*Jim Nash**Figure 2 - Marketplace Lift Station Cabinet Corrosion***Williams Lake - \$3,500. Pump #1 Rebuild.**

WRC observed substantial damage to the pump 1 impeller. WRC is recommending rebuilding the wet end of the pump; including, but not limited to, the impeller and wear ring.

Thank you again for the opportunity to conduct these condition assessments. In addition to the recommendations generated from the condition assessments, I have included our recommended long range plan for your lift stations. This long range plan does not include the cost associated with upgrading the existing supervisory control and data acquisition (SCADA) system. I have included with this letter a memorandum that provides an estimated cost for the SCADA system improvements.

I would be glad to review these comments with you in person if you have any questions.

Sincerely,



M. Drew Sandahl, P.E.
Assistant Chief Engineer

Enclosures

**OAKLAND COUNTY
WATER RESOURCES COMMISSIONER****MEMORANDUM**

TO: Aaron Potter, White Lake Township Department of Public Works Director

FROM: Drew Sandahl, OCWRC Civil Engineer III

SUBJECT: White Lake Township
Sanitary Sewer Lift Stations and Meters
Supervisory Control and Data Acquisition System Upgrades

DATE: September 20, 2018

The intent of this memo is to provide you supporting documentation for proposed upgrades to the supervisory control and data acquisition system (SCADA) for sanitary sewer lift station and meter sites within White Lake Township.

The existing SCADA system is a complex network of radios, servers, and computers utilized to monitor the operations of the sanitary sewer system. The existing system also provides site-specific alarms back to Oakland County Safety Dispatch. The existing SCADA system was installed in the early to mid-1990s. Therefore, the existing SCADA system is dependent on technology and equipment that is over 20 years old.

We are recommending upgrading your SCADA system to improve system deficiencies, including:

- Customized and special-order parts are required in many instances when pieces of equipment fail for the existing system. As such, the ability to correct issues in a timely manner is adversely impacted.
- The existing radio network has a low transmission speed and experiences communication failures due to the configuration of the radio network. This can potential result in the loss of communication of alarms at the sites.
- Observation of real-time data is done through a MS-DOS-based platform. The user interfacing with the MS-DOS platform reduces operator efficiencies and also complicates data exporting.
- There is no longer software support from the platform developer for the existing system.

Proposed Site Upgrades

WRC will provide SCADA equipment, assembly, and field installation for the proposed site upgrades. Our staff has performed installation for multiple sites and are efficient in these installation and startups. WRC will utilize a contractor for programming and system integration.

The following paragraphs identified the proposed sites for SCADA upgrades.

Lift Stations

There are several components that require replacement to bring each site up to more modern technology. Each sites will require a sheet metal cabinet, multiple circuit breakers, a programmable logic controller (PLC), several relays, and a radio and antenna with a mast. The PLC will require programming from a controls engineer. The PLC will be programmed per Oakland County standards for similar lift stations. The estimated cost for each of the existing lift stations is \$24,400 per site. That includes the following sites:

- Suburban Knolls Lift Station
- Cranberry Lake Estates Lift Station
- White Lake Estates Lift Station
- White Lake Market Place Lift Station
- Meijer-White Lake Lift Station
- Bocavina Lift Station
- Williams Lake Road Lift Station
- Village Lake Lift Station

White Lake recently constructed two lift stations: Kroger Lift Station and Worthington Crossing Lift Station. These lift stations were constructed using WRC's standard equipment for the proposed new SCADA. The Kroger lift station has been programmed and integrated into the Oakland County SCADA network. The Worthington Crossings site needs to be programmed and integrated into the Oakland County Network.

The estimated cost to program and integrate the Worthington Crossing lift station is \$15,000.

Therefore, the estimated cost to upgrade the SCADA system for the White Lake lift stations is \$210,200.

Metering Sites

WRC anticipates upgrading SCADA at two metering sites in White Lake. The metering sites requiring the same equipment upgrades as the lift stations; however, the PLC is less expensive. The estimated cost to upgrade the SCADA at each meter site is \$13,800.

Therefore, the estimated cost to upgrade the SCADA system for the White Lake lift stations is \$27,600.

Combined Estimated Total

Based on the sections above, WRC estimates the cost to upgrade the White Lake SCADA network to be \$237,800.

White Lake Usability

The new SCADA network will be accessible for White Lake upon request. WRC has staff available to provide White Lake with specific data requests. Specific data requests should be submitted to the WRC operations engineer. WRC will provide White Lake with data in an Excel format upon request.

White Lake Township
Lift Station Long Range Plan

Section 9, Item B.

Description	COF	In Service Year	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026
Suburban Knolls	2.8	1998									
Pump 1	1.2	1998					\$ 3,000				
Pump 2	1.2	1998					\$ 3,000				
Wet Well	2.4	1998									
Valve Vault	2.4	1998									
Controls	1.4	1998				\$ 30,000	\$ 60,000				
Electrical Service Equipment	1.2	1998					\$ 21,000				
General Electric	1.2	1998					\$ 15,000				
Radio	1	1998									
Wet Well Transducer	1	2010					\$ 5,000				
Antenna Mast	1.8	1998									
Site	1.2	1998									
Cranberry Lake Estates	2.8	1998									
Pump 1	1.2	2017								\$ 3,000	
Pump 2	1.2	2015								\$ 3,000	
Wet Well	2.4	1998									
Valve Vault	2.4	1998									
Controls	1.4	1998				\$ 30,000	\$ 60,000				
Electrical Service Equipment	1.2	1998					\$ 21,000				
General Electric	1.2	1998					\$ 15,000				
Radio	1	1998									
Wet Well Transducer	1	1998					\$ 5,000				
Generator	1.6	2005									
White Lake Estates	3	1970									
Pump 1	1.2	1998				\$ 20,000					
Pump 2	1.2	1998				\$ 20,000					
Wet Well	2.4	1970									
Dry Pit (piping)	2.4	1998				\$ 15,000					
Control Panel	1.4	1998				\$ 30,000	\$ 90,000				
Electrical Service Equipment	1.2	1998					\$ 21,000				
General Electric	1.2	1998					\$ 15,000				
Radio	1	1993									
Wet Well Transducer	1	1993					\$ 5,000				
Cathodic Protection	1.2	1970					\$ 20,000				
Access	1.2	1998									
White Lake Market Place	3.4	1998									
Pump 1	1.2	1998	\$ 4,000								
Pump 2	1.2	1998		\$ 4,000							
Wet Well	2.4	1998									
Valve Vault	2.4	1998									
Controls	1.4	1998			\$ 5,000						
Electrical Service Equipment	1.2	1998									
General Electric	1.2	1998									
Radio	1	1998									
Wet Well Transducer	1	1998			\$ 5,000						
Meijer	3.2	2003									
Pump 1	1.4	2019	\$ 30,000								
Pump 2	1.4	2003		\$ 8,000							
Wet Well	2.4	2003									
Valve Vault	2.4	2003									
Controls	1.4	2003									
Electrical Service Equipment	1.2	2003									
General Electric	1.2	2003									
Radio	1	2003									
Wet Well Transducer	1	2003			\$ 5,000						
Site	1.2	2003									
Bocavina	2.6	2002									
Pump 1	1.2	2016							\$ 3,000		
Pump 2	1.2	2016							\$ 3,000		
VFD 1	1	2002							\$ 5,000		
VFD 2	1	2002							\$ 5,000		
Wet Well	2.4	2002									
Valve Vault	2.4	2002									
Controls	1.4	2002									
Electrical Service Equipment	1.2	2002									
General Electric	1.2	2002									
Radio	1	2002									

White Lake Township
Lift Station Long Range Plan

Section 9, Item B.

Wet Well Transducer	1	2002				\$ 5,000						
Site	1.2	2002										
Williams Lake	3	2004										
Pump 1	1.2	2004			\$ 4,000							
Pump 2	1.2	2004				\$ 4,000						
Wet Well	2.8	2004										
Valve Vault	2.4	2004										
Controls	1.4	2004										
Electrical Service Equipment	1.2	2004										
General Electric	1.2	2004										
Radio	1	2004										
Wet Well Transducer	1	2004				\$ 5,000						
Antenna Mast	1.4	2004										
Site	1.2	2004										
Village Lakes	2.6	2008										
Pump 1	1.2	2008		\$ 5,000							\$ 22,000	
Pump 2	1.2	2008			\$ 5,000						\$ 22,000	
Wet Well	2.4	2008										
Valve Vault	2.4	2008										
Generator	2	2008										
Mag Meter	1.2	2008										
Controls	1.4	2008										
Electrical Service Equipment	1.2	2008										
General Electric	1.2	2008										
Radio	1	2008										
Wet Well Transducer	1	2008					\$ 5,000					
System Header Pressure Transmitter	1	2008					\$ 5,000					
Kroger	3.2	2017										
Pump 1	1.2	2017							\$ 3,000			
Pump 2	1.2	2017							\$ 3,000			
Wet Well	2.4	2017										
Valve Vault	2.4	2017										
Controls	1.6	2017										
Electrical Service Equipment	1.2	2017										
General Electric	1.2	2017										
Cell	1	2017										
Wet Well Transducer	1	2017										
Generator	1.6	2017										
Mag Meter	1	2017										
Pressure Transmitter	1	2017										
Worthington Crossings	2.6	2018										
Pump 1	1.2	2018								\$ 3,000		
Pump 2	1.2	2018								\$ 3,000		
Wet Well	2.8	2018										
Valve Vault	2.4	2018										
Generator	2	2018										
Controls	1.6	2018										
Electrical Service Equipment	1.2	2018										
General Electric	1.2	2018										
Radio	1	2019										
Wet Well Transducer	1	2018										
Site	1	2018										
TOTAL PUMP STATION IMPROVEMENTS				\$ -	\$ 39,000	\$ 36,000	\$ 159,000	\$ 369,000	\$ -	\$ 22,000	\$ 12,000	\$ 44,000

CHARTER TOWNSHIP OF WHITE LAKE

WASTEWATER ASSET MANAGEMENT PLAN (AMP) FATS, OILS & GREASE (FOG) ASSESSMENT REPORT



December 2019

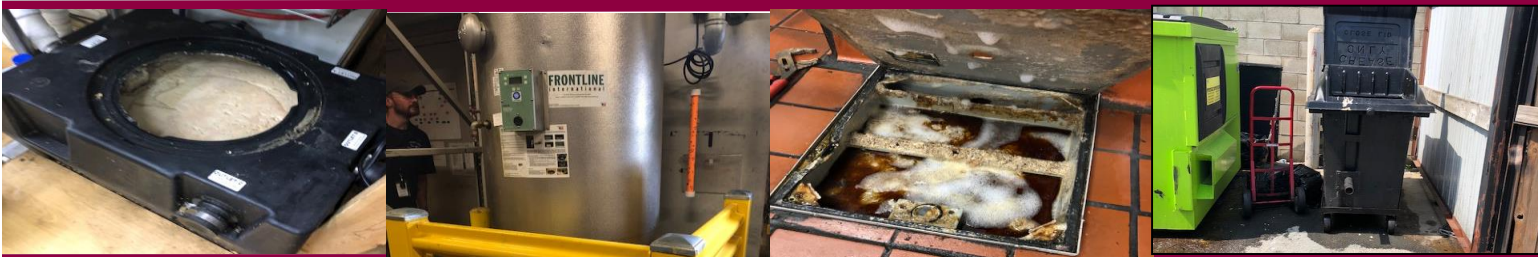


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DEFINITIONS

25 PERCENT RULE – The combined depth of oil and grease and other solids (floating and settled) in any chamber of grease control device shall not be equal to or greater than 25 percent of the total operating depth of the grease control device. The operating depth of a grease control device is determined by measuring the internal depth from the water outlet invert elevation to the inside bottom of the grease control device. FOG must be removed and hauled off site for proper disposal any time the volume of grease and solids exceed 25% of the interceptor’s or trap’s functional volume.

COMMERCIAL KITCHEN PROPERTY – Any property where there is or can be any discharge into the sewage system other than normal domestic waste because of the particular type of operation, including, but not limited to: hotel kitchens, hospitals, churches, school cafeterias, senior housing facilities, bakeries, bars, and restaurants.

FATS, OILS & GREASE (FOG) – A byproduct of (is not limited to, but may include) cooking, food and drink preparation, and meat cutting. FOG can be found in meat fats, shortening, butter, margarine, sauces, and dairy products.

GREASE CONTROL DEVICE – Any grease interceptor, grease trap, or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines, for the purpose of trapping, collecting, or treating FOG prior to discharge into the sewer system that is collected in food preparation areas, such as commercial kitchen properties.

GREASE INTERCEPTOR – A device commonly associated with commercial kitchen properties, to collect oil and grease and prevent it from infiltrating into the sanitary sewer system and otherwise prohibiting the free flow of wastewater within the system. These interceptors are typically located outside and underground of the facility; however some interceptors are located in the facility basement.

GREASE TRAP – A device commonly associated with commercial kitchen properties, to collect oil and grease and prevent it from infiltrating into the sanitary sewer system and otherwise prohibit the free flow of wastewater within the system. These traps are typically located inside the facility, under the sink or on the floor.



Grease Trap (Under the Sink) Example



Grease Interceptor (In Basement) Example

INTRODUCTION & PURPOSE

WHAT IS FOG?

Fats, Oils, and Grease (FOG) are byproducts of cooking, food and drink preparation, and meat cutting. FOG enters sanitary sewer pipes through restaurant, residential, and commercial sink drains.

Once in the sewer, FOG sticks to the pipe and thickens. FOG can build up and eventually block the entire pipe. Blockages in sewer pipes can cause surcharging, resulting in overflows into the environment and property. These sewage overflows:

- Can pollute the environment;
- Increase system maintenance and inspection costs;
- Can expose communities to potential litigation;
- Creates potential violations of Great Lakes Water Authority and other sewage requirements; and
- Costs communities millions of dollars in sewer repairs.

BACKGROUND/STATEMENT OF THE PROBLEM

Over the last several years, the Township has been faced with:

- sanitary sewer backups in residential and commercial properties;
- grinder station backups;
- sewer line degradation (as a result of excessive sewer cleaning, jetting, and chemical injections to remove the FOG blockages); and
- poor utilization of Oakland County Water Resources Commission (WRC) and Township Department of Public Services (DPS) staff forces and budget as a result of FOG in the Township's sanitary sewer system.

FOG waste is often washed into the plumbing and drainage system and into the wastewater collection system, usually through a kitchen sink or process of floor drains. Grease hardens to the insides of sewer pipes and, over time, the buildup can block the entire pipe.

Some of the commercial kitchen properties in White Lake Township are introducing large amounts of FOG into the Township sanitary sewer system and when FOG blockages occur, it causes raw sewage to back up into neighboring businesses and homes. This is very unpleasant for the residents and can be a health risk for business owners. This could become a liability for the Township if these problems are not addressed.

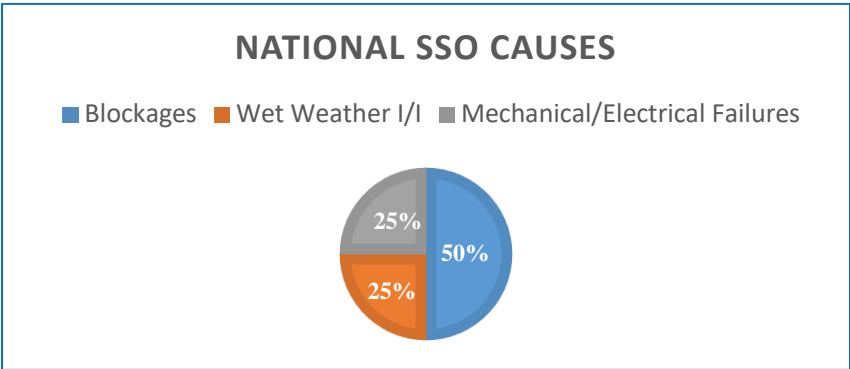
The FOG is entering the Township's system due to:

- lack of grease control devices in commercial kitchens;
- lack of grease control device maintenance; and
- lack of pumping station maintenance.

It is possible for a grease control device to become completely ineffective without proper maintenance.

FOG – A NATIONWIDE PROBLEM

Sanitary Sewer Overflows (SSOs) remain a problem in the State and Nation, with sewer blockages (FOG and other items) being a major cause. It is estimated that on average, FOG generated from each commercial kitchen in the United States is 800 to 17,000 pounds per year, which can create havoc for community wastewater collection systems if not properly treated and maintained. Residential properties can also generate large amounts of FOG to the system. More and more communities across the U.S. and Michigan are implementing FOG Programs to help alleviate sewer backups, repairs, and maintenance. Refer to the chart on the following page, that illustrates on average, 50% of all SSOs caused in the United States are created by blockages to the system.



The *Michigan Plumbing Code/2006 International Plumbing Code* requires the installation of interceptors and traps for commercial kitchen properties to prevent the discharge of oil, grease, sand, and other harmful substances to the public or private sewage disposal system. The Code provides requirements on sizing of these interceptors based on grease retention capacity. In addition, the Code requires access maintenance of these structures. White Lake Township’s *Sanitary Sewers Ordinance (#18-001)* is supported by this Code. Despite this, FOG is a growing concern for municipalities across the State, with the increase in commercial kitchens, poor management of FOG by commercial kitchen property owners, and lack of community resources.

FOG IMPACTS ON THE TOWNSHIP SANITARY SEWER SYSTEM

White Lake Township owns approximately 41 miles of pressurized and gravity sanitary sewer main. Operations and maintenance of these sewers, as well as commercial pumping stations, are performed by the WRC. An abundance of FOG in the Township Sanitary Sewer System can create:

- Sewer backups to downstream customers;
- Sewer line degradation;
- Pumping station degradation; and
- Poor utilization of WRC and Township DPS staff forces and budget.

Furthermore, the WRC spends approximately \$112,718 on labor forces and materials each year to treat FOG in the Township’s system, which includes: sewer and grinder station inspections, cleaning, and disposal of FOG. From September to December 2018, the WRC received 35 grease related grinder station calls within White Lake Township. Six (6) of the Township’s 10 stations consistently have moderate to excessive grease buildup within the station.

SAW GRANT COMPONENT

As part of the Storm, Asset Management, and Wastewater (SAW) Grant Implementation Project, White Lake Township wanted to implement a proactive, robust Fats, Oils, and Grease (FOG) Program to help alleviate the abundance of FOG in their sanitary sewer system. The goals of the program are to:

- Minimize the amount of FOG from commercial kitchen properties entering the Township's sanitary sewer system;
- Minimize the need for sanitary sewer and pumping station maintenance and rehabilitation as a result of FOG;
- Develop a robust FOG inspection program (by DPS staff) at commercial kitchen properties within the Township;
- Provide better, stronger communication between the DPS, the property owners, and business managers; and
- Increase public awareness on FOG maintenance and its impacts.

This document outlines the processes by which this FOG Program was implemented.

COMMERCIAL KITCHEN PROPERTIES IN THE CHARTER TOWNSHIP OF WHITE LAKE

The Charter Township of White Lake has a population of over 30,000 people and encompasses approximately 37.2 miles. The Township prides itself on a small country town feel with big City amenities and natural resources that attract growth and development.

There are currently 32 commercial kitchen properties located within the Township limits that have the potential to generate FOG. These properties include the following:

- Family Style Restaurants;
- Bar/Grill Restaurants Serving Alcohol;
- Bakeries;
- Pizza Shops;
- Party Stores;
- Big Box Grocery Stores;
- Churches;
- Elementary, Junior High, and High Schools; and
- Senior Living Centers.

Property owner and contact information was gathered and integrated into GIS and Cityworks. A baseline inventory/meeting with the property owners and managers was held in 2018 to identify proper contact information for each property, and classify the types of grease control device equipment that is available on site.

The majority of the commercial kitchen properties are located along Highland Road.



Outdoor Grease Bin at Tubby's Restaurant



Grease Control Device at Sonic Restaurant

SCOPE OF WORK

The Township DPS realized that the FOG in the system was not going away, and decided to integrate a proactive approach to eliminating FOG, and thus better allocating WRC and Township DPS staff time and resources.

As a consultant to the Township and a partner on the SAW Grant Implementation Project, Johnson & Anderson, Inc. (a DLZ Company) was tasked with developing a FOG Program for the Township (funded by the SAW Project), which includes:

- Review of Existing Township Ordinances;
- Review of Statewide Community Ordinances & Programs;
- Ordinance Updates;
- Meetings with Township Staff;
- Site Inspections;
- Developing FOG Program Requirements;
- Developing FOG Inspection Documents;
- Integrating FOG Inspection Documents into GIS and Cityworks;
- Developing FOG Inspection/Enforcement Procedures and Schedules; and
- Developing FOG Education Documents for Residents and Businesses.

More details on each of the Program Scope items are illustrated below.

REVIEW OF EXISTING TOWNSHIP ORDINANCES

In addition to the Michigan and International Plumbing Codes, the Township wanted to ensure that its local ordinances properly addressed FOG prevention and maintenance.

DLZ-J&A thoroughly reviewed the Township's Code of Ordinances, as they relate to:

- FOG prevention and maintenance;
- Outdoor spent grease bin storage and maintenance;
- Township's authority to perform FOG inspections at commercial kitchen properties; and
- Cost recovery for sanitary sewer maintenance and rehabilitation.

Chapter 38 Utilities, Article IV, *Sanitary Sewers Ordinance*, particularly was reviewed at length. The following limitations were noted:

- Grease control devices were not required to be installed or maintained at existing and maintained properties;
- Outdoor spent grease bins were not required to be maintained (and is not adequately addressed in the Zoning Ordinance); and
- The Cost Recovery language was missing.

REVIEW OF STATEWIDE COMMUNITY ORDINANCES AND FOG PROGRAMS

During the Township ordinance and FOG Program review, J&A provided a thorough assessment of statewide community FOG and sanitary sewer ordinances and FOG programs as they compare to the Township's. DLZ-J&A reviewed 16 programs in communities with varying population densities and downtown development areas. The community programs that were assessed were:

- City of Ann Arbor
- City of Auburn Hills
- City of Birmingham
- City of Farmington Hills
- City of Grand Rapids
- City of Jackson
- City of Madison Heights
- City of Muskegon
- City of Rochester
- City of Royal Oak
- City of Sterling Heights
- City of Wyoming
- Delhi Township
- Independence Township
- Port Huron Township
- Waterford Township

Of these communities, DLZ-J&A identified varying degrees of FOG implementation. Some communities are integrating a robust FOG inspection, enforcement, and education program, while some communities are relying more heavily on educating residents and business on proper FOG management, and yet others are still in the process of implementing a FOG inspection and enforcement program.

The Cities of Rochester and Wyoming and Delhi Township were found to have high quality FOG language within their ordinances and FOG inspection programs. As such, DLZ-J&A integrated some of those communities' ordinance language into the *Township's Sanitary Sewers Ordinance*.

A spreadsheet that outlines each community's program as it relates to FOG inspections, FOG related ordinances, and education is found in Appendix B.

MEETINGS WITH TOWNSHIP STAFF

DLZ-J&A met with the Township Public Services Director early in the ordinance review stages to gain input on potential changes and FOG Program scope. The Township Attorney also reviewed the proposed ordinance revisions for content and consistency with State and federal law.

The revised ordinance now enables the Township to recoup some costs of the necessary sewer maintenance; however, a preventative, inspection program (as described on the following page) will be much more cost effective and will likely reduce sewer backups, complaint calls, and potential liability from sewage backing up into people's homes and businesses.

TOWNSHIP ORDINANCE UPDATES

The Sanitary Sewers Ordinance revisions have been officially adopted by the Township Board in October 2018. A copy of this newly adopted document is found in Appendix C.

Ordinance Revision Highlights

The following changes were made to the Sanitary Sewers Ordinance:

- Added definitions;
- Grease control devices are required for any development or redevelopment in accordance with the International/State Plumbing Code;
- Grease control devices are required to be maintained as needed;
- Authorized Township employees or agents are permitted to enter upon all properties for the purposes of inspection and observation.
- Outdoor spent oil bins are required to be maintained and properly labeled.

The Township has also developed some educational materials that have been distributed to commercial kitchen property owners and managers. Information has also been made available at Township Hall.

Food Service Best Management Practices

FOG: Fats, Oils & Grease

Pour cooled grease into a garbage can or container. Once the grease has solidified, dispose of it with regular garbage. Commercial establishments must use a licensed hauler to dispose of yellow grease.

Don't discharge FOG down drains, sinks, or storm drains.

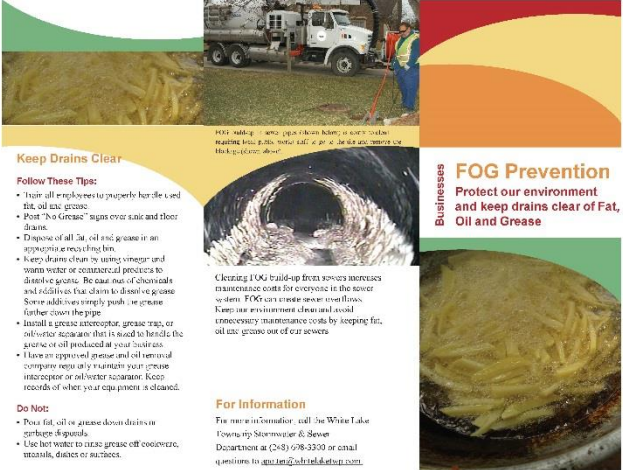
Scrape food scraps into the garbage bin. Dry wipe dishes free of FOG prior to washing to remove grease.

Clean grease spills with absorbent material and then dispose of it in the garbage.

Ensure the grease control devices are accessible for maintenance and inspection.

Maintain the grease control devices in accordance with manufacturer's specifications, industry standards and Township requirements.

For more information, call the Charter Township of White Lake Department of Public Services at: (248) 698-3300 Ext. 8

Keep Drains Clear

Follow These Tips:

- Train all employees to properly handle and fit, oil and grease.
- Don't "boil grease" taps ever sink and floor drains.
- Dispose of all fat, oil and grease in an appropriate recycling bin.
- Keep drains clean by using vinegar and warm water or commercial products to dissolve grease. Be sure not to chemically and acidic as they claim to dissolve grease. Some additives simply push the grease further down the pipe.
- Install a grease interceptor, grease trap, or oil/water separator that is sized to handle the grease or oil produced at your business.
- Have an approved grease and oil removal company regularly maintain your grease interceptor or oil/water separator. Keep records of when your equipment is cleaned.

Do Not:

- Pour fat, oil or grease down drains or curbside.
- Use hot water to melt grease off cookware, pans, dishes or surfaces.

For Information:
 For more information, call the White Lake Township Stormwater & Sewer Department at (248) 698-3300 or email questions to ajm@tbl.twpil.gov.

Businesses
 Protect our environment and keep drains clear of Fat, Oil and Grease

FOG Brochure for Commercial Kitchen Properties

Laminated FOG BMPs poster distributed to all commercial kitchen property owners/managers

FOG PROGRAM REQUIREMENTS

- **Have a properly sized, installed, and functioning grease control device.** To be effective, all grease control devices are to be sized and installed in accordance with the International and Michigan Plumbing Code.
- **Clean and maintain the grease control device(s) frequently enough to comply with the 25% Rule.** Cleaning frequency will depend on the number of fixtures discharging to it, the seating

capacity of the establishment and the volume of the device. Implementing kitchen best management practices can reduce the required cleaning frequency;

- **Keep a grease interceptor maintenance log up-to date and on-site.** The maintenance log must document all grease interceptor inspections, maintenance and disposal activities performed. In addition, records such as waste hauler manifests must be retained for three years;
- **Properly collect and dispose of FOG.** FOG should be disposed of as solid waste or stored in a covered, leak-proof receptacle until it can be taken off-site by a licensed hauler.
- **Educate commercial kitchen employees on proper FOG disposal and grease control device management.** Display FOG posters/fact sheets where necessary and provide better communication and training to ensure program success.

SITE INSPECTIONS

The Township felt that implementing regular FOG site inspections at each commercial kitchen property and better solidifying the Township-business owner relationship would greatly deter future FOG accumulation in the Township's sanitary sewer system.

Personnel

The Public Services Department administers the FOG Program. Township DPS staff, with assistance from DLZ-J&A, performed the initial FOG inspections. Follow-up and routine inspections are currently being performed solely by Township DPS staff.

Equipment Needed

The following equipment was utilized during the FOG inspections:

- Business Cards for distribution to property owners and managers
- FOG Educational Brochures and Fact Sheets for distribution to property owners and managers
- Badge/ID for clear recognition
- Microsoft Surface for entering in inspection data
- Pry Bar for pulling manhole covers
- Gloves
- Safety Vest
- Road Safety Cones
- Flashlight
- Wrench to open cleanouts
- Measuring Rod Ruler to check FOG depth
- Sanitary Wipes

Procedures

There are 2 types of FOG inspections at commercial kitchen properties:

- Routine scheduled inspection (i.e. every 3-6 months or annual)
- Follow-Up inspection due to a violation

Routine inspections are those that are pre-planned as part of the proactive program. If the food establishment passes this initial inspection, the next regularly scheduled inspection will occur every 3 months, every 6 months, or every year, depending on the inspection history. The Public Services Department has the right to schedule additional inspections if an establishment is located in areas with frequent sanitary sewer backups resulting from FOG or has recurring violations. Potential causes of inspection violations include:

- Lack of cleaning/maintenance of the grease control device;
- Excess of FOG in the grease control device (per the 25% rule as identified in the proposed ordinances changes);
- Poor maintenance of the outdoor spent grease bin;
- FOG residue/Poor housekeeping inside the kitchen area;
- FOG residue/Poor housekeeping outside of the facility;
- Evidence of FOG dumping/spilling; or
- Uncovered outdoor mop sinks.

Follow-Up inspections are those made after 14 days of the initial inspection to verify if the violations have been remedied or not.

During the periodic inspections:

- The inspector will meet with the property owner and/or manager and explain the purpose of the site visit.
- The inspector will review existing grease control device cleaning and FOG handling practices, as well as good housekeeping practices in the kitchen.
- Observations will be made of the employee kitchen practices and an inventory of plumbing fixtures is taken.
- Any inside grease trap or outside grease interceptor will be inspected for proper maintenance and cleaning per the 25% rule.
- Maintenance logs will be reviewed.
- Grease disposal methods will be observed.
- Outdoor spent grease bins will be inspected.
- Photo documentation will be provided for each inspection report.

Scheduling

Prior to the commencement of inspections, in August 2017, Township staff and DLZ-J&A visited each commercial kitchen property to: identify the proper contact person(s) for each facility; identify which FOG control equipment was installed at each property; to communicate to the property owners the need and scope of the new program; and to begin educating these owners on proper FOG prevention and management.

The properties that have been identified as historically having FOG issues are inspected every 3 or 6 months until these properties can maintain program compliance. Once these properties come into compliance and reduce their FOG generation into the Township's system, then they can be moved to the annual inspection list.

The remaining properties are inspected annually. If any of these properties begin to consistently become in violation, then they will be added to the more frequent inspection list.

Enforcement Procedures

The White Lake Township Public Services Department manages the FOG Program through a combination of inspections, education, and violation notices or letters.

Initial Notification Made to Property Manager or Owner

Upon a failing routine inspection, notification is made to the onsite property manager and/or the property owner to discuss the onsite deficiencies at the time of inspection. Violation information is tracked into Cityworks via a FOG Work Order and automatically triggers a follow-up inspection 14-30 days following the initial inspection. If the DPS is not contacted by the property owner within that timeframe, then they will contact the property owner and a contractor to properly clean the grease control device(s), at the expense of the property owner.

DEVELOPMENT OF FOG INSPECTION DOCUMENTS

J&A reviewed existing statewide and national FOG inspection documents and worked with Township Public Services staff to develop a FOG work order sheet and corresponding notification letters to residents and businesses specific for White Lake Township. The following documents were developed:

Grease Control Device Inspection Work Order

This worksheet will be utilized during commercial kitchen property inspections and will provide specific grease control device and equipment information found at each property. This document is integrated into Cityworks for use by the inspector(s).

Violation Letter #1

Following a follow-up site inspection, if an accumulation of FOG is identified in the property’s grease control device and/or if an outdoor spent grease bin is found to be improperly maintained, then a violation letter is sent to the property owner giving them 14-30 days to have the issue addressed and to come into compliance.

Grease Trap / Interceptors Suppliers Sheet

If a property owner is in need of new grease control device and/or equipment, this one-page sheet will be supplied with Violation Letter #1, which provides grease trap and interceptor supplier information. This sheet will be updated as new suppliers are identified or others that need to be taken off the list.

Grease Trap / Interceptors Cleaning Contractors Sheet

If a grease control device and/or equipment is in need of cleaning, this one-page sheet will be supplied with Violation Letter #1, which provides contractor information. This sheet will be updated as new suppliers are identified or others that need to be taken off the list.

FOG Educational Brochures for Businesses

These brochures were distributed to each property owner or manager during the initial site visits. These brochures will be hand delivered, mailed, or emailed to commercial kitchen property owners and will supplement the Violation Letters. These brochures provide awareness and ‘tips’ to property owners and managers on how to properly keep drains clear of FOG and protect the environment.

FOG Program Information For Food Service Establishments

This fact sheet can be mailed, emailed, or hand delivered to commercial kitchen property owners and managers and supplemented with Violation Letter #1, which provides best management practices for FOG prevention and general information on the Township’s FOG Program.

FOG Educational Brochures for Residents

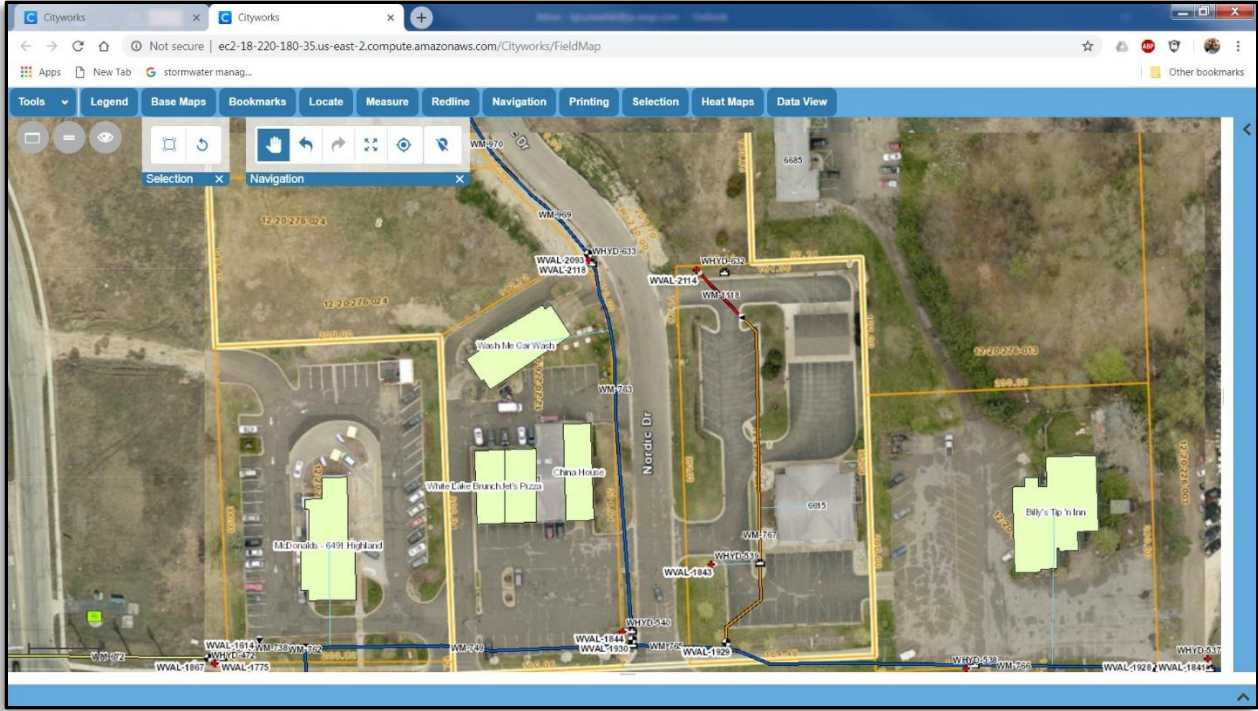
These brochures are available at Township Hall and provide awareness and ‘tips’ to residents on how to properly keep drains clear of FOG and protect the environment.

INTEGRATION INTO GIS/CITYWORKS

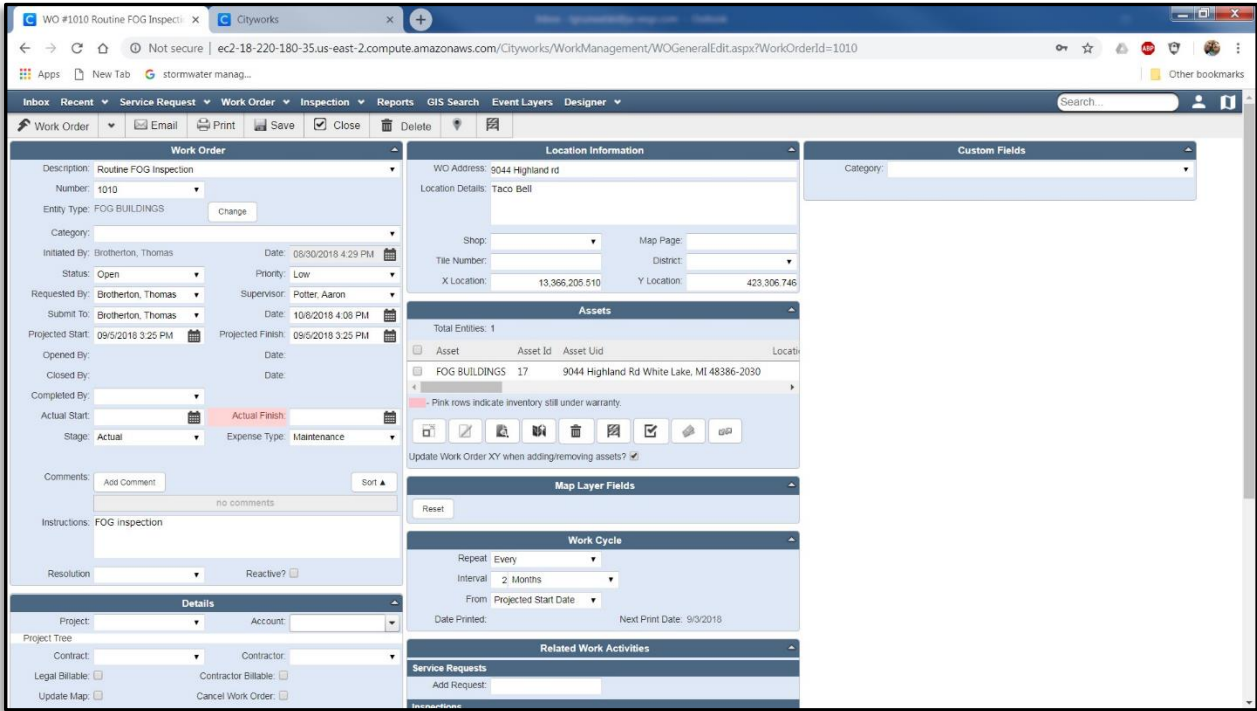
All commercial kitchen property information has been integrated into GIS and Cityworks. All properties are linked to an address and owner and/or manager. Contact information such as mailing addresses, phone numbers, and email addresses are also provided in GIS/Cityworks. The property and contact information will be reviewed annually by the Township DPS and DLZ-J&A in order to keep the information current and to update as businesses open or close.

All inspection documents and educational brochures are also integrated into Cityworks for easy distribution.

Refer to the images on the following pages for additional details.



Cityworks screen shot – FOG properties shown in yellow

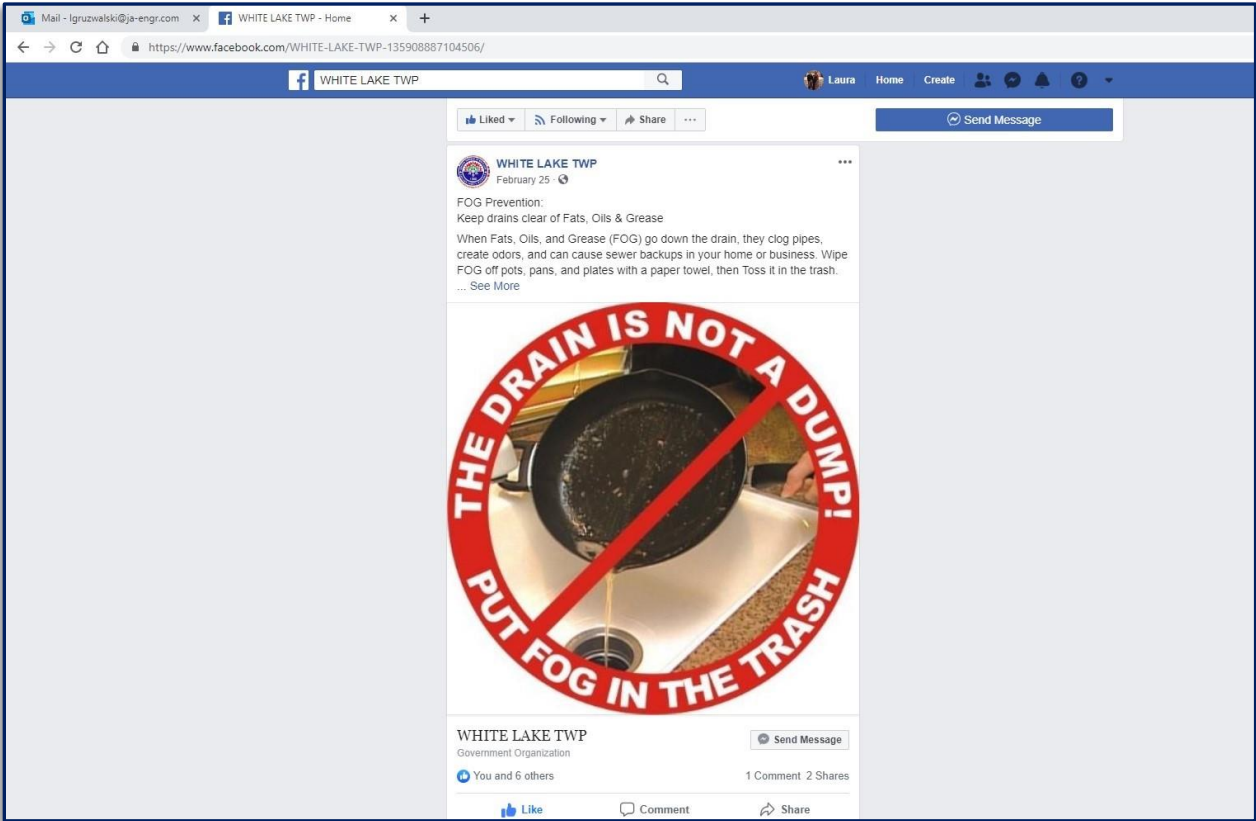


Cityworks Open FOG Work Order Form (blank) for Taco Bell

FOG EDUCATION

The Township has begun educating its residents and the general public on the impacts of FOG through the distribution of FOG brochures at Township Hall and information provided on their website and Facebook page. Moving forward, FOG information will continue to be posted on Facebook and website. The Southeast Michigan Council of Governments (SEMCOG) has launched a 'One Water Campaign' to promote public awareness on drinking water, stormwater, and wastewater issues. The Township will coordinate efforts with SEMCOG and neighboring communities on promotion of this campaign.

Over the next few years, DLZ-J&A will work with Township staff to evaluate what educational materials and outlet avenues are working best and disseminate information accordingly.



Screen shot of Township Facebook post from February 2019

FOG PROGRAM ASSESSMENT

PROGRAM ASSESSMENT

The Township and DLZ-J&A will annually assess the FOG Program effectiveness, based on the following measurables:

- Is the Township's GIS and Cityworks system up to date with all current FOG property information?
- Is the communication between the Township and property owner sufficient?
- Are there any known recurring issues with specific commercial kitchen properties and/or the owner or manager of these facilities?
- Are our current FOG education and enforcement initiatives deterring poor housekeeping and improper FOG management?
- Is the FOG Program decreasing grinder station O&M costs for the Township and WRC?
- Are inspections frequent enough to ensure compliance?
- Does the Township DPS have the proper staff and monetary resources to effectively manage the program after the SAW Grant period has ended?

Since the program's inception, the Township has spent approximately \$800 annually on FOG inspections. To date, the commercial property owners and managers have been very receptive to the Township's new proactive FOG program. Upon identifying an issue on site, the Township DPS staff follow-up and notify the various owners and managers and most often, the issue is corrected within 7-14 days. No violation letters or corrective action has been needed. However, there are a few properties that consistently do not properly maintain their grease control device; therefore, several follow-up inspections by Township staff are needed, with very little impact.

Because of this, the Township is planning on revising the existing Sanitary Sewers Ordinance to supply more stringent cost recovery language. This language will allow the Township to recover some of their labor being utilized for follow-up inspections.

As stated earlier, it costs approximately \$112,718 per year to clean and maintain the White Lake Township sanitary sewer grinder and pumping stations. Moving forward, DLZ-J&A will coordinate with the Township and WRC to assess the cost benefit associated with FOG program implementation and system operations and maintenance.

FOG REPORT APPENDICES

FOG REPORT - APPENDIX A ~ COMMERCIAL KITCHEN PROPERTIES

**White Lake Township
Commercial Kitchen Property List**

Property name	Property address	Property Phone #	Contact Name	Contact Phone #	Contact Email	FOG Equipment
China House	901 Nordic Drive White Lake, MI 48383	248-889-2880		248-238-9967	shonyinglin@gmail.com	In-kitchen trap (cleaned monthly) & outdoor bin
White Lake Brunch	901 Nordic Drive White Lake, MI 48383	248-889-3600	Lindita Celaj		lindita-c@hotmail.com	Outdoor Bin
The Root Restaurant	340 Town Center Blvd. White Lake, MI 48386	248-698-2400	Chef Nick Rodgers		eat@therootrestaurant.com	In-kitchen trap
Independence Village Senior Living	935 Union Lake Rd White Lake, MI 48386	248-716-7163	Chef Dan McCoury	248-360-7235	dmccoury@independencevillages.com	In-kitchen trap (cleaned monthly)
Neighborhoods of White Lake	10770 Elizabeth Lake Road White Lake, MI 48386	248-618-4150	Ann Turner	248-631-6493	Anngennette.Turner@trinity-health.org	In-kitchen trap & outdoor bin
Meijer	6001 Highland Rd White Lake, MI 48383-4302	248-889-6800	Jason Briskey	248-889-6809	jason.briskey@meijer.com	Above Floor Bins for fryer grease - cleaned as needed
Tubbys	6370 Highland Rd White Lake, MI 48383- 2835	248-714-8189	Robert Jadan		robertzjadan@gmail.com	In-kitchen trap & outdoor bin
McDonalds	6491 Highland Rd. White Lake, MI 48383-2838	248-889-0026	Jenny Lane	248-889-0026	jenny.kassabian@gmail.com	In-Floor Trap; Above Floor Bins for fryer grease
Billy's Tip 'n Inn	6707 Highland Rd White Lake, MI 48383-2844	248-889-7885	Nadine Valentine	248-881-7711		In-kitchen trap & outdoor bin
Leo's Coney Island	6845 Highland Road White Lake, MI 48383-2879	248-889-5361	Jim Christopher	248-889-5361	jimi@leoswhitelake.com	In-Floor Trap under 3 compartment sink - cleaned every other month; Outdoor Bin
Siam Fusion	6845 Highland Road White Lake, MI 48383	248-887-1300	May or Rouacha			In-kitchen trap & outdoor bin
Graceland Party Store	7505 Highland Rd. White Lake, MI 48383-2938	248-698-1070	Dave & David		DavidShrrak@gmail.com	In-store trap/grinder
Taco Bell	9044 Highland Rd White Lake, MI 48386-2030	248-698-3871	Maggie Dominguez	248-747-1097	NA	Oil Tank; Outdoor Bin
Little Caesars Pizza	5951 Highland Road White Lake, MI		Bob Angona	248-515-2185		In-kitchen trap (cleaned every 3 weeks)
Applebee's	9100 Highland Road White Lake, MI 48386-2032	248-698-0901	Kristyn Mosier; Jesse Lince	248-698-0901	ab8078@teamschostak.com	Oil Tanks for fryer grease - cleaned every 2 wks; Outdoor/In-Ground Trap - cleaned every 2 wks
Jet's Pizza	901 Nordic Drive White Lake, MI 48383	248-889-0011	Jason Schienle		jasonschienle@gmail.com	In-kitchen trap (inspected monthly)
Walmart	9190 Highland Rd White Lake, MI 48386	248-698-9601	Brad Huesser	248-698-9601	NA	Oil Tank near exit; Outdoor/In-Ground trap - cleaned frequently
Pita Way	10531 Highland Rd. Ste 4, White Lake, MI 48383	248-366-4623	Duane Barbat			
Sonic	9328 Highland Rd. White Lake, MI 48386	248-461-6158	Kayla Salvador	248-461-6158	kayla.salvador@yahoo.com	Oil Tank; above floor transfer system to oil tank; outdoor bin
Dave & Amy's	9595 Highland Rd White Lake, MI 48386-2314	248-698-2010	Dave McManninen			Outdoor Bin
McDonalds	9615 Highland Rd. White Lake, MI 48386-2315	248-889-0026	Erin Longley	248-698-2424	NA	In-Floor Trap under 3 compartment sink; Oil Tank for fryer grease
Dairy Queen	10531 Highland Rd White Lake, MI 48386	248-698-2899	Katelyn (General Mgr)			
Arby's	10855 Highland Rd White Lake, MI 48386-2151	248-698-6926	Brandy (General Mgr)	248-698-6926	NA	Above-Floor Trap under 3 compartment sink - cleaned every 2-3 months; Outdoor Bin
Pita Way Mediterranean Grill	10531 Highland Rd. White Lake, MI 48346	248-366-4262	Reed Webb	248-842-4756	R.WEBBPITAWAY@GMAIL.COM	In-Floor Trap under 3 compartment sink - cleaned every 2-3 months; Outdoor Bin for fryer grease
Highland House Café	10719 Highland Rd. White Lake, MI 48386	248-698-4100	Elina or Kelly Nicholas			In-kitchen & outdoor bin
Kroger	10951 Highland Rd White Lake, MI 48386-2152	248-779-6470	Brandy Merciers; Jamira King; Cheri Rushlow	248-854-0367; 248-390-2076; 248-536-1601	NA	Outdoor grease control device?; 2 bins taken to Outdoor Bin
St. Patrick Parish & School	9040/9086 Hutchins Street, White Lake, MI 48386	248-698-3100; 248-698-3240	John Abela	248-341-6142	suprajohn1@yahoo.com	No trap; collects oil & drops off at Leo's

**White Lake Township
Commercial Kitchen Property List**

Property name	Property address	Property Phone #	Contact Name	Contact Phone #	Contact Email	FOG Equipment
Dublin Elementary	9260 Sandyside Road, White Lake, MI 48386	248-956-3800	Bill Chatfield	248-956-3062	williamchatfield@wlcsd.org	In-ktichen trap
Oxbow Elementary	100 Oxbow Lake Road, White Lake, MI 48383	248-684-8085	Mike Hill	248-684-8000	m.hill@hvs.org	none
Lakeland High School	1630 Bogie Lake Road, White Lake, MI 48383	248-676-8320	Mike Hill	248-684-8000	m.hill@hvs.org	In-floor trap under 3 compartment sink, cleaned and inspected once per year.
Huron Valley School Lakewood	1500 Bogie Lake Road, White Lake, MI 48383	248-698-8030	Mike Hill	248-684-8000	m.hill@hvs.org	none
White Lake Middle School	1450 Bogie Lake Road, White Lake, MI 48383	248-684-8004	Mike Hill	248-684-8000	m.hill@hvs.org	none

FOG REPORT - APPENDIX B ~ COMMUNITY FOG PROGRAM COMPARISONS

APPENDIX B
White Lake Township SAW Grant - Township & Statewide Communities FOG Program Comparison
June 2017

Community Name	Inspection & Program Details	Ordinance Details	Additional Comments	FOG Education
Waterford Township	<ul style="list-style-type: none"> 230 facilities WERE inspected Handled by complaints only now due to lack of staff FOG Management Software CMMS to generate work orders & contributor(s) information 	<ul style="list-style-type: none"> FOG discharge which causes interference with POTW is prohibited FOG cleaned from grease traps every 90 days FOG to be removed & hauled offsite as volumes exceed 25% of the interceptor's or trap's functional volume Documentation of pump out or interceptor maintenance Cost recovery language 		<ul style="list-style-type: none"> Website Brochures
City of Farmington Hills	<ul style="list-style-type: none"> Currently working with OCWRC on an education and cross connection program 	<ul style="list-style-type: none"> FOG discharge which causes interference with POTW is prohibited Prohibits FOG discharge greater than 100 ppm Prohibits FOG discharge in excess of 1500 mg/l of average of samples collected over 24 hrs \$500 fine for Ordinance violations Language on serving notice and compliance periods Cost recovery language 	<ul style="list-style-type: none"> Plumbing permit application - \$13 for grease trap City will be updating their ordinance and implementing enforcement soon 	<ul style="list-style-type: none"> Website Brochures
City of Auburn Hills	City does not have a formal inspection program	<ul style="list-style-type: none"> FOG which causes interference with POTW is prohibited Cost recovery language 	<ul style="list-style-type: none"> Underground grease storage units are required during site plan review 	<ul style="list-style-type: none"> Website Brochures Newsletters
City of Muskegon	<ul style="list-style-type: none"> List of businesses with grease traps are kept on file at City Inspections are performed at a frequency designated by the Plumbing Inspector Inspections are funded through Public Works Department 	<ul style="list-style-type: none"> FOG discharge which causes interference with POTW is prohibited Waste discharges onto streets/sidewalks are prohibited DPW Staff are not authorized to perform inspections (per City Code) 	<ul style="list-style-type: none"> Plumbing permit application fees used for future inspections 	???
City of Jackson	<ul style="list-style-type: none"> List of businesses with grease traps are kept on file at City Inspections performed every 3-4 years; more frequently if there are issues Customers required to submit to City the information of when and how much grease cleaned 	<ul style="list-style-type: none"> Discharge of FOG discharge in excess of 50 mg/l City has right to inspect, observe, measure, sample and test in connection with admin of sewer system City can charge user with cleaning fee; issue a fine up to \$1,000/day/violation City can issue cease and desist Will publish violators once per year in newspaper 	<ul style="list-style-type: none"> Education is paramount Education materials (poster) in three languages City will provide list of firms that pump out grease traps Does training with supervisors and staff 	<ul style="list-style-type: none"> Newspaper Brochures
City of Grand Rapids	<ul style="list-style-type: none"> Not a full-fledged program yet City vactor technicians notify their department of issues Visit businesses for education as required 	<ul style="list-style-type: none"> Discharge of FOG discharge in excess of 50 mg/l \$1,000 fines per offense (after period of 1 year) 	<ul style="list-style-type: none"> Comprehensive sewer cleaning program to reduce SSOs (reduced by 10%) 	<ul style="list-style-type: none"> Student/Resident Education Website Brochures
City of Wyoming	<ul style="list-style-type: none"> IPP Non-Domestic User Survey Staff regularly monitor & collect samples from industrial users (at least once every 5 years) All sewer is cleaned on a 5-year basis, does 20% of system per year City staff person spends approx. 3 days per month visiting businesses, checking grease traps 	<ul style="list-style-type: none"> FOG discharge which causes interference with POTW is prohibited Grease traps required where food is manufactured, sold, or prepared (except employee break areas) Grease traps shall be maintained by owner City shall have the right to inspect grease trap maintenance records Operating depth of grease trap cannot exceed 25% Prohibits discharge limits greater than 66% on average of 6 month period FOG discharge limit (daily average concentration) of 470 mg/l Waste discharges onto streets/sidewalks are prohibited Cost recovery language Authorizes the City to inspect properties and conduct sampling as needed 	<ul style="list-style-type: none"> IPP & Cross Connection Programs City provides residents and businesses FOG collector containers 	<ul style="list-style-type: none"> Website Brochures Educational Meetings Video
City of Ann Arbor	<ul style="list-style-type: none"> Not a full-fledged program yet Sewer Claim Form Inspections on a case by case basis 	<ul style="list-style-type: none"> Discharge of FOG in excess of 50 mg/l Authorizes the City to inspect properties 	<ul style="list-style-type: none"> Biodigester Feasibility Study (2015) Organics Management Plan (2015) Sewer Claim Form 	<ul style="list-style-type: none"> Annual Water Quality Reports Brochures Newsletters
Delhi Township	<ul style="list-style-type: none"> Monthly grease trap inspections 	<ul style="list-style-type: none"> Grease traps required; design approved by Twp Traps are to be maintained by owner & maintenance records kept Discharge of FOG in excess of 36 mg/l Cost recovery language 	<ul style="list-style-type: none"> Twp-wide grease recycling & grease container distribution program 	<ul style="list-style-type: none"> Brochures Website
City of Madison Heights	<ul style="list-style-type: none"> No inspections performed at this time – by complaint only 	<ul style="list-style-type: none"> Grease traps required Cost recovery language 		<ul style="list-style-type: none"> Displays & Handouts @ City Hall Website (future) Brochures (future)

Community Name	Inspection & Program Details	Ordinance Details	Additional Comments	FOG Education
City of Sterling Heights	<ul style="list-style-type: none"> • ?? – Left 2 voicemails with Building Department 	<ul style="list-style-type: none"> • Identifies City Manager as authority over sewer system • Grease, oil, and sand interceptors are required & type/capacity as approved for City • Allows City authority to perform inspections as needed • Cost recovery language • FOG discharge which causes interference with POTW is prohibited • Prohibits FOG discharge greater than 1500 mg/l on average samples collected w/in 24 hr period 		<ul style="list-style-type: none"> • Newsletter Articles
Independence Township	<ul style="list-style-type: none"> • Will be conducting inspections as part of their SAW Grant implementation 	<ul style="list-style-type: none"> • FOG discharge which causes interference with POTW is prohibited • Prohibits FOG discharge greater than 1500 mg/l on average samples collected w/in 24 hr period • Cost recovery language 		<ul style="list-style-type: none"> • Displays at DPW • Newsletter Articles • Website (future)
City of Birmingham	<ul style="list-style-type: none"> • Not currently performing inspections – by complaint only, but is planning on implementing a FOG Program in the coming months 	<ul style="list-style-type: none"> • Prohibits FOG discharge greater than 100 ppm by weight • Prohibits FOG discharge greater than 1500 mg/l on average samples collected w/in 24 hr period • Cost recovery language • Outdoor FOG containers shall be maintained and must be labeled with name and address of business 		<ul style="list-style-type: none"> • Newsletter Articles
City of Royal Oak	<ul style="list-style-type: none"> • Not currently performing inspections – by complaint only 	<ul style="list-style-type: none"> • Prohibits FOG discharge greater than 1500 mg/l on average samples collected w/in 24 hr period • FOG discharge which causes interference with POTW is prohibited • ‘New sources’ are required to install and maintain pollution control equipment (per IPP Standards) • Cost recovery language 		<ul style="list-style-type: none"> • Newsletter Articles
City of Rochester	<ul style="list-style-type: none"> • Bi-monthly injections of grease inhibitor • Inspections due to complaints only (see attached form) • <i>Eganix</i> working with a few businesses in City to clean grease traps as needed 	<ul style="list-style-type: none"> • FOG discharge which causes interference with POTW is prohibited • Prohibits FOG discharge greater than 1500 mg/l on average samples collected w/in 24 hr period • Cost recovery language (but needs to be updated) 	<ul style="list-style-type: none"> • City does NOT currently require grease traps • Approximately 5 hours spent monthly to facilitate program • Process should be better documented and streamlined through Cityworks & GIS 	<ul style="list-style-type: none"> • Newsletter Article – Summer 2016 • Website (future) • Posters (future) • Annual Water Quality Reports (future)
White Lake Township	<ul style="list-style-type: none"> • As-Needed sewer cleaning by OCWRC 	<ul style="list-style-type: none"> • Identifies Township Supervisor and staff as authority over sewer system • Allows Township authority to perform inspections as needed • Requires maintenance of pre-treatment facilities • Requires monitoring manholes for commercial/industrial wastes • No cost recovery language 		<ul style="list-style-type: none"> • ????

White Lake Township Ordinance Recommendations (Article IV – Sanitary Sewers)

- Include the definition of ‘Commercial User’
- Include the definition of ‘Grease Control Device’
- Require grease control devices for new development, redevelopment & change of ownership
- Provide specific design and maintenance requirements for **new** grease control devices
- Require outdoor grease bins to be maintained & documentation of ownership
- Provide language for issuance of warrant for refusal of entry for inspection
- Provide cost recovery language
- Township Attorney to review ALL existing & proposed language

White Lake Township FOG Inspection Recommendations

- Integrate commercial businesses into GIS
- Digitize existing complaint response forms into GIS
- Integrate inspection form & inspection alerts into Cityworks
- Develop & adopt an inspection/complaint response report

White Lake Township FOG Education Recommendations

- Publish FOG articles in newsletters (targeted for residents)
- Post FOG information on website (targeted for residents and businesses)
- Distribute FOG brochures at Township Hall (targeted for residents and businesses)
- Post FOG posters at Township Hall & have available for businesses to utilize

FOG REPORT - APPENDIX C ~ ADOPTED REVISED ORDINANCE

**CHARTER TOWNSHIP OF WHITE LAKE
AN ORDINANCE TO AMEND CHAPTER 38, ARTICLE IV OF THE
WHITE LAKE TOWNSHIP CODE OF ORDINANCES.
ORDINANCE #18-001**

THE TOWNSHIP OF WHITE LAKE ORDAINS:

ARTICLE I – AMENDMENT

Chapter 38 Article IV of the Township of White Lake Code of Ordinance, commonly referred to as the Sanitary Sewer Ordinance is hereby amended to add, delete or modify various sections as follows. The remaining sections in Chapter 38, Article IV of the Code of Ordinances are otherwise unaffected by this amendment and shall remain in full force and effect.

Sec. 38-418. – Definitions, amended to read as follows:

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

25 percent rule means that the combined depth of oil and grease and other solids (floating and settled) in any chamber of a grease control device shall not be equal to or greater than 25 percent of the total operating depth of the grease control device. The operating depth of a grease control device is determined by measuring the internal depth from the water outlet invert elevation to the inside bottom of the grease control device.

Available public sanitary sewer means a publicly owned sanitary sewer system located in a right-of-way, easement, highway, street, or public way which crosses, adjoins or abuts upon the premises and passing not more than 200 feet from the boundary line of a property in which a structure within which sanitary sewage originates is located.

Benefited properties shall mean all properties which will derive benefit from the construction of a sewer improvement.

Building sewers means the extension from the building drain that connects the building in which sanitary sewage originates to the public sewer or other place of disposal and conveys the sewage of only one building.

Capital Fee shall mean the amount charged to the property owner for each structure to be connected to the sanitary sewer system. The fee shall be paid prior to connection, based on residential equivalent units, and in accordance with the Township Fee Ordinance. This fee is non-transferable to other properties and non-refundable.

Commercial User means any user of the sanitary sewer system where there is or can be any discharge into the sanitary sewer system other than normal domestic waste because of the particular type of operation including, but not limited to: carwashes, hotel kitchens, hospitals, churches, school cafeterias, dry cleaners, senior housing facilities, bakeries, bars, and restaurants.

County means Oakland County, Michigan.

Department (DPS) means the township Department of Public Services formerly known as the water and sewer departments.

Director or DPS Director means the director of the Department of Public Services or his authorized representative, or such other individual as designated by the township board to oversee the township's sewer system.

Fats, oils, and grease (FOG) means any hydrocarbons, fatty acids, soaps, fats, waxes, oils, and any other nonvolatile material of animal, vegetable, or mineral origin that is extractable by solvent in accordance with standard methods.

Grease control device means any grease interceptor, grease trap, or other mechanism, device, or process, which attaches to, or is applied to, wastewater plumbing fixtures and lines, the purpose of which is to trap, collect, or treat FOG prior to discharge into the sewer system that is collected in food preparation areas, such as restaurants, hotel kitchens, hospitals, bars, school and church cafeterias and the like. Grease control device may also include any proven method to reduce FOG subject to the approval of the township.

Grease interceptor is commonly associated with kitchen cleaning appliances such as sinks, woks, and any other drains that collect FOG so as to prevent unreasonable accumulations of fats, oils or grease from infiltrating into the sanitary sewer system and otherwise prohibiting the free flow of wastewater within such system. For purposes of this definition, the term "kitchen" shall refer to a food preparation area located other than in a single family dwelling, primarily intended for activities of preparing, serving or otherwise making available for consumption food, and which are used for one or more of the following preparation activities: washing, trimming or cleaning fish or meat, cooking by frying (all methods), baking (all methods), grilling, sautéing, rotisserie cooking, broiling (all methods) boiling, blanching, roasting, toasting, or poaching; also included are infrared heating, searing, barbecuing, and any other food preparation activity that produces a hot, non-drinkable food product in or on a receptacle that requires washing.

Lateral Benefit Fee shall mean the amount charged to the property owner for each structure to be connected to the sanitary sewer system, in addition to the Capital Connection Fee. This fee applies when a property owner has not previously contributed to the cost of construction of the sewer main abutting the property. The fee shall be paid prior to connection, based on residential equivalent units, and in accordance with the Township Fee Ordinance. This fee is non-transferable to other properties and non-refundable.

Lateral refers to a pipe or conduit, located within the public right-of-way or an easement granted or dedicated to the public which receives sanitary sewage from abutting properties.

MDEQ means the Michigan Department of Environmental Quality, or any successor.

Off site sewer mains mean sewer mains constructed off the premises of the owner to be served, which are necessary to afford service to the premises from trunk sewers not adjacent to the premises.

Owner includes fee title holders, land contract purchasers or anyone else having a beneficial interest in property.

Pontiac Lake Sewer District means that geographic area included within the special assessment district for the Pontiac Lake Sanitary Sewer Extension, the special assessment roll for which was confirmed by the township in November 2002, and which are located north of Pontiac Lake Road and south of Gale Road.

Premises or property means the lands included within a single description as set forth from time to time on the township tax roll as a single tax parcel in the name of a taxpayer at one address, but in the case of platted lots shall be limited to a single platted lot unless an existing building or structure is so located on more than one lot so as to make the same a single description for purposes of assessment or conveyance, now or hereafter.

Private sewage disposal system means a facility for the transportation, collection, processing or treatment of sanitary sewage owned by a nongovernmental entity. The term "private sewage disposal system" includes septic systems.

Sanitary sewer master plan means the latest draft of the plan prepared by the township consulting sewer engineers and approved by the township board.

Sanitary sewer system or township sanitary sewer system means the entire sanitary sewer system of the township under public ownership.

Septic system means the sanitary sewage treatment and/or disposal device installed to service an individual home, business or industrial establishment not connected to the sanitary sewer system.

Sewage, sanitary sewage or waste water means spent water which may be a combination of the liquid and water carried wastes from residences, commercial buildings, industrial plants or other land uses.

Structure in which sanitary sewage originates or structure means a building in which toilet, kitchen, laundry, bathing or other facilities which generate water carrying sewage are used for household, commercial, industrial or other purposes.

Water resource commissioner means the office of the county water resource commissioner.

Sec. 38-450. - Establishment of department, amended to read as follows:

A Department of Public Services (DPS) for the township is hereby established.

Sec. 38-451. – Director, amended to read as follows:

The construction, operation, management, maintenance, repair and control of the sewer system of the township, whether owned by the township or operated under contract, may be under the control of the DPS director. The director shall be appointed by the township supervisor and confirmed by the township board. The director shall report to the township supervisor.

Sec. 38-452. - County water resource commission as agent, amended to amend title and to read as follows:

The office of the county water resource commissioner is hereby appointed as agent of township for the operation, maintenance and management of the sewer system of the township.

Sec. 38-453. - Authorized to enter property, amended to read as follows:

The duly authorized employees or agents of the township or county bearing proper credentials and identification shall be permitted to enter upon all properties within the township for the

purposes of inspection, observation, measurement, sampling and testing, to determine compliance with the provisions of this article.

Sec. 38-476. - Water pollution, amended to read as follows:

It shall be unlawful to discharge to the waters of the state any sanitary sewage, industrial or commercial wastes, or other polluted waters within the township unless suitable treatment has been provided in accordance with the provisions of this article.

Sec. 38-478. - New private sewer systems, amended to read as follows:

- (a) Where connection to a public sanitary sewer is not required pursuant to section 38-479, the building sewer shall be connected with a private sewage disposal system complying with the terms of this article, the requirements of the county health division, MDEQ, and any other applicable law, ordinance or regulation.
- (b) No new private sewer system shall be constructed, installed or operated within the township unless the plans for the installation are approved by, and a permit issued by, the county health division or MDEQ.
- (c) All costs associated with the operation, maintenance and replacement of a private sewage disposal system shall be borne by the property owners served by said systems.

Sec. 38-479. - Required connection to public sanitary sewer systems, amended to read as follows:

- (a) All new structures in which sanitary sewage originates lying within the township shall be connected to an *available public sanitary sewer* in the township before a certificate of occupancy shall be issued.
- (b) Existing structures in which sanitary sewage originates lying within the boundaries of the township shall be connected to an *available public sanitary sewer* upon the earlier of the following events:
 - (1) Within 90 days after the date of mailing or posting of written notice by the township or the county health division that a health hazard exists due to the failure of an existing private sewage disposal system due to soil conditions or for any other reason.
 - (2) Where any addition or alteration to an existing structure is proposed, and the county health division has determined that additional volume beyond the capacity of the existing private sewage disposal system is necessary.
- (c) This subsection applies to new structures for which an *available public sanitary sewer* is not immediately available for connection but the township reasonably anticipates that the public sanitary sewer will be extended in the future in reasonable proximity to such new structure. In such event, the township may, as a condition of site plan approval, require the applicant to connect said structure to the public sanitary sewer within 60 days of the date the township notifies the owner of the property (as shown on the last tax assessment roll of the township) that the system is available for connection. In such event, all persons with any interest in the property shall execute a document, in form suitable for recording at the county register of deeds, and approved by the township attorney.

- (d) All structures in which sanitary sewage originates located within the boundaries of the Pontiac Lake Sewer District shall be connected to an available public sanitary sewer. This connection shall be completed promptly, but not later than 90 days after the township sends written notice to the owner of the property on which the structure is located, as shown by the last tax assessment roll of the township, giving notice of the availability of the public sanitary sewer system and the existence of this article.
- (e) In addition to the other remedies provided in this article, the township may bring a civil proceeding for an injunctive order, or for such other remedial relief, to compel connection to the public sanitary sewer system, including damages for the cost or expenses thereof. The township may join in such actions any number of property owners. The relief available under this section shall include an injunctive order allowing the township or its employees, agents or contractors to enter onto the property and connect the structure to the public sanitary sewer system. In the event the township makes the connection pursuant to the preceding sentence, all costs of the township in doing so, including the actual cost of connection, attorney fees, engineering fees and all other costs, shall be a lien on the property which may be enforced by the township in the same manner as provided for collection of delinquent tax assessments, by utilization of the statutory provisions for foreclosure of mortgages by advertisement, or by suit for collection. The selection of remedy shall be at the sole discretion of the township.

Sec. 38-504. - Plans, permits and bonds, amended to read as follows:

- (a) Prior to connection and prior to start of construction, all sanitary sewer systems shall have engineering plans and specifications prepared by a professional engineer and shall be approved by the township engineer, water resource commissioner, and a permit issued by MDEQ, if required.
- (b) A connection permit shall be obtained by the owner or contractor from the water resource commission. Said connection permit shall show the location of the work, the extent of the work, information regarding the contractor, the owner and the engineer, and any other pertinent information as shall be determined necessary by the water resource commission.
- (c) Individual building sewers which are directly connected into the township sanitary sewer system shall conform to all applicable requirements of this article. A connection permit, as required by the Oakland County Water Resource Commission, shall be obtained before such connection is made. Prior to the issuance of such connection permit, the person obtaining such permit shall have obtained the written approval of the township. Connection shall be made in a workmanlike manner and in accordance with methods and procedures established by the water resource commissioner. The party to whom such a permit is issued shall be responsible for notifying the water resource commissioner 24 hours in advance of the date and time when such a connection is made so that proper inspection of same can be made by the water resource commissioner.
- (d) Prior to the adjustment, reconstruction or any other altering of the township sanitary sewer system, including manhole structures, the contractor or person responsible for the work shall first obtain a permit to do such work from the water resource commissioner. Said permit fee shall be determined by the water resource commissioner.
- (e) Prior to construction and during the life of permits obtained in accordance with subsections (b), (c) and (d) of this section, all owners or contractors shall:

- (1) Yearly furnish to the water resource commissioner a satisfactory surety bond in the amount of \$5,000.00 as security for the faithful performance of the work in accordance with the plans and specifications and departmental standards; and
- (2) Yearly furnish to the water resource commissioner a cash deposit in the amount of \$500.00. Such deposit shall provide funds for emergency work and/or such other work as may be deemed necessary by the water resource commissioner, arising as a result of construction by the owner or contractor. Such deposits shall not be canceled by the owner, or contractor without first having given ten days' written notice to the water resource commissioner. Cash deposits may be returned to the owner or contractor within ten days of receipt of written request therefor, except that no deposits will be returned until such time as all outstanding permits have received final inspection and approval. In the event that it becomes necessary for the water resource commissioner to expend funds for work arising as a result of construction by the owner or the contractor, then the cost of such work shall be deducted from the aforementioned cash deposit.

The owner or contractor shall have the right and opportunity to correct any deficiencies promptly before any deposit funds will be spent by the water resource commissioner. The owner or contractor shall, within 30 days of the mailing of written notice thereof, pay to the water resource commissioner the entire amount of such cost. Failure to comply with these rules and regulations and the standards of the water resource commissioner may result in the immediate forfeiture of the cash deposit.

Sec. 38-511. Grease control devices, added title and section to read as follows:

- (a) All new and remodeled establishments, as well as establishments where a change of ownership has occurred, where food is manufactured, sold or prepared, except for small areas designated as employee break areas or the equivalent, discharging wastewater containing fats, oils, and grease (FOG) to the sanitary sewer system shall install, operate, and maintain a sufficiently-sized oil and grease, water and solids control device necessary to achieve and maintain compliance with the limits indicated in this section of the Code and with the Michigan Plumbing Code.
- (b) Unless otherwise authorized by the township engineer, all grease control devices shall be of the outdoor, inline variety. With special authorization by the director, grease control devices of the indoor, under- counter, stand-alone variety may be allowed. In this case, maintenance of indoor grease control devices shall be performed at frequencies necessary to protect the capacity of the sewer system against accumulation of grease and oils, as required by the "25 percent rule" as defined herein.
- (c) Grease control devices shall be provided when they are necessary for the proper handling of liquid wastes containing grease in excessive amounts or any flammable wastes, sand or other harmful ingredients. Such devices shall not be required for dwelling units. All devices shall be of a type and capacity approved by the director and shall be located so as to be readily accessible for cleaning and inspection. These devices shall provide a minimum capacity of one thousand (1,000) gallons.
- (d) Grease control devices shall be constructed of impervious materials capable of withstanding abrupt and extreme changes in temperature. They shall be of substantial construction, watertight

and equipped with easily removable covers which, when bolted in place, shall be gastight and watertight.

(e) Where installed, all devices shall be cleaned and maintained at least quarterly by the owner (unless otherwise specified by the township) and shall be operated continuously in an efficient manner whenever the facility is in operation.

(f) Maintenance of all outdoor grease control devices shall be performed at frequencies necessary to protect the capacity of the sewer system against accumulation of grease and oils, as required by the "25 percent rule".

(g) The user shall be responsible for the proper removal and legal disposal of the grease control device waste. All waste removed from each device must be disposed of at a facility permitted to receive such waste. No device pumpage may be discharged to the township sewer system. Maintenance shall include the complete removal of all contents, including floatable materials, wastewater, sludges and solids and jet flushing to remove measurable build-up on tank walls. Top skimming of outdoor grease traps, decanting or back flushing of the grease control device or its wastes for the purpose of reducing the volume to be hauled is prohibited.

(h) There shall be ample room and reasonable access to these devices to allow accurate sampling and preparation of samples for transport and analysis.

(i) These devices shall be installed in compliance with the current Michigan Plumbing Code, as enforced by the township and county. The DPS Director and the Township Engineer shall make final determination and approval of the required grease control device size. If additional pretreatment and/or maintenance is required to meet the provisions in this section, the township may require that the establishment in existence prior to the effective date of this section upgrade to the requirements provided.

(j) Use of any bacteriological, chemical, or enzymatic addition for the purpose of maintaining a device is prohibited unless written approval is obtained from the township.

(k) The user shall be responsible for maintaining records and/or manifests as to the dates of service, quantity, waste hauler name, and any necessary repairs at the user's location for a period of three years, which records shall be subject to review by the township and/or county without prior notification.

(l) Should any user fail to properly clean and maintain a grease control device as required herein, the township and/or county at its option, clean and maintain, or hire a licensed contractor, at the cost of which shall be collectable by the township from the user at a charge of actual cost.

38-512. Outdoor storage of grease, added title and section to read as follows:

Animal or vegetable grease stored by businesses outside of their buildings must be kept in a self-contained, sealed, leak proof grease container which is approved by the township. The container and the area in and around the container must be kept clean. The name and address of the business must be clearly identified on the outside of the container. Any person or business found disposing of FOG in the township sewer system and/or not properly maintaining their

grease container(s) shall be guilty of a misdemeanor and shall be responsible for the costs incurred by the township in cleaning up and disposing of the grease.

Section 38-513. Refusing entry for inspection; issuance of search warrant, added title and section to read as follows:

Whenever a township or county representative deems it necessary to enter upon any property at a reasonable hour for the purposes of inspection, observation, measurement, sampling, and testing of enforcement in accordance with the provisions of this article, and is refused such entry, the representative who is refused such entry may make an affidavit in writing, under oath to the district court stating the facts of the case so far as it may be known to the complainant. The court may issue a search warrant or inspection or other order allowing the director, building official or his representatives to enter upon such property to the extent and time necessary to enforce and carry out the provisions of this article.

Sec. 38-543. - Reimbursement to property owners, amended to read as follows:

Reimbursement for construction costs advanced by a property owner for sewer system improvement shall be limited to a credit against capital charges otherwise due under this article by charging such owner a ~~indirect~~ *Capital connection fee* but not a *lateral benefit fee*.

Sec. 38-566. – Township Fee Ordinance, added title and section to read as follows:

All fees and charges including, but not limited to, connection fees, inspection fees, administrative fees, user fees and debt services fees shall be paid in accordance with the Township Fee Ordinance.

Sec. 38-567. - Computation of residential equivalent units (REU), amended to read as follows:

The number of residential equivalent units to be assigned to any particular premises, other than a single family residence, for sewage disposal services shall be determined by the county department of public works unit assignment schedule dated September 15, 1988, as may be amended from time to time by that department or by the township, except that the unit factor for each mobile home, manufactured housing, or multiple-family residence shall be at the rate of 1.0 residential equivalent unit. No less than one residential equivalent unit shall be assigned to each premises but, for purposes of computing sewage disposal services, residential equivalent units in excess of one may be computed and assigned to the nearest tenth. No change in use shall constitute a basis for a retroactive reduction in service charges or capital charges.

Sec. 38-571. - Capital connection fee and lateral benefit fee, amended title and to read as follows:

(a) No premises shall be connected to a public sanitary sewer main or sanitary sewer lateral without the payment of *capital connection fees* and *lateral benefit fees* as provided for in this article.

(b) The township board may, as compensation in full or in part, waive the *lateral benefit fee* for premises over which permanent or temporary sewer easements or licenses have been granted

to the township without charge provided there is reasonable expectation that the easement shall lead to future extension of the sanitary sewer system, as determined by the Township DPS director or the township engineer. The total amount of the *lateral benefit fee* waived shall not exceed the value of the easement or license granted to the township as determined by the township assessor utilizing standard appraisal techniques. The township assessor shall execute a certificate stating his conclusions regarding the value of the easement or license granted and the basis for that opinion.

Sec. 38-573. - Payment of capital connection ~~charges~~ fees and lateral benefit fees, amended title and to read as follows:

Except as otherwise provided in this section, or as provided by a special assessment district established by the township board, the capital connection fees and applicable lateral benefit fees described in this article shall be paid by the user in cash at the time of connection.

Sec. 38-575. - Connection charges for existing systems, amended to read as follows:

The capital connection fees and applicable lateral benefit fees to be charged to various existing units within the Chateau Cranberry Lake Mobile Home Park and the White Lake Mobile Village shall be in accordance with a consent judgment previously approved by the county circuit court.

Sec. 38-576. - Connection charges for the Pontiac Lake District, tile and section deleted.

ARTICLE 2: SEVERABILITY.

If any section, clause or provision of this Ordinance shall be declared to be unconstitutional, void, illegal or ineffective by any Court of competent jurisdiction, such selection, clause or provision declared to be unconstitutional, void or illegal shall thereby cease to be a part of this Ordinance, but the remainder of the Ordinance shall stand and be in full force and effect.

ARTICLE 3: EFFECTIVE DATE.

This Ordinance shall take effect following publication in the manner prescribed by law.

ARTICLE 4: REPEALER.

All other ordinances or parts of ordinances in conflict with this ordinance are hereby repealed to the extent necessary to give this ordinance full force and effect.

ARTICLE 5: ADOPTION.

This Ordinance is hereby declared to have been adopted by the Township Board of this Charter Township of White Lake at a meeting thereof duly called and held on the 16th day of October, 2018, and ordered to be given publication in the manner prescribed by the Charter of the Charter Township of White Lake.

Rik Kowall, Supervisor

Terry Lilley, Clerk



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan

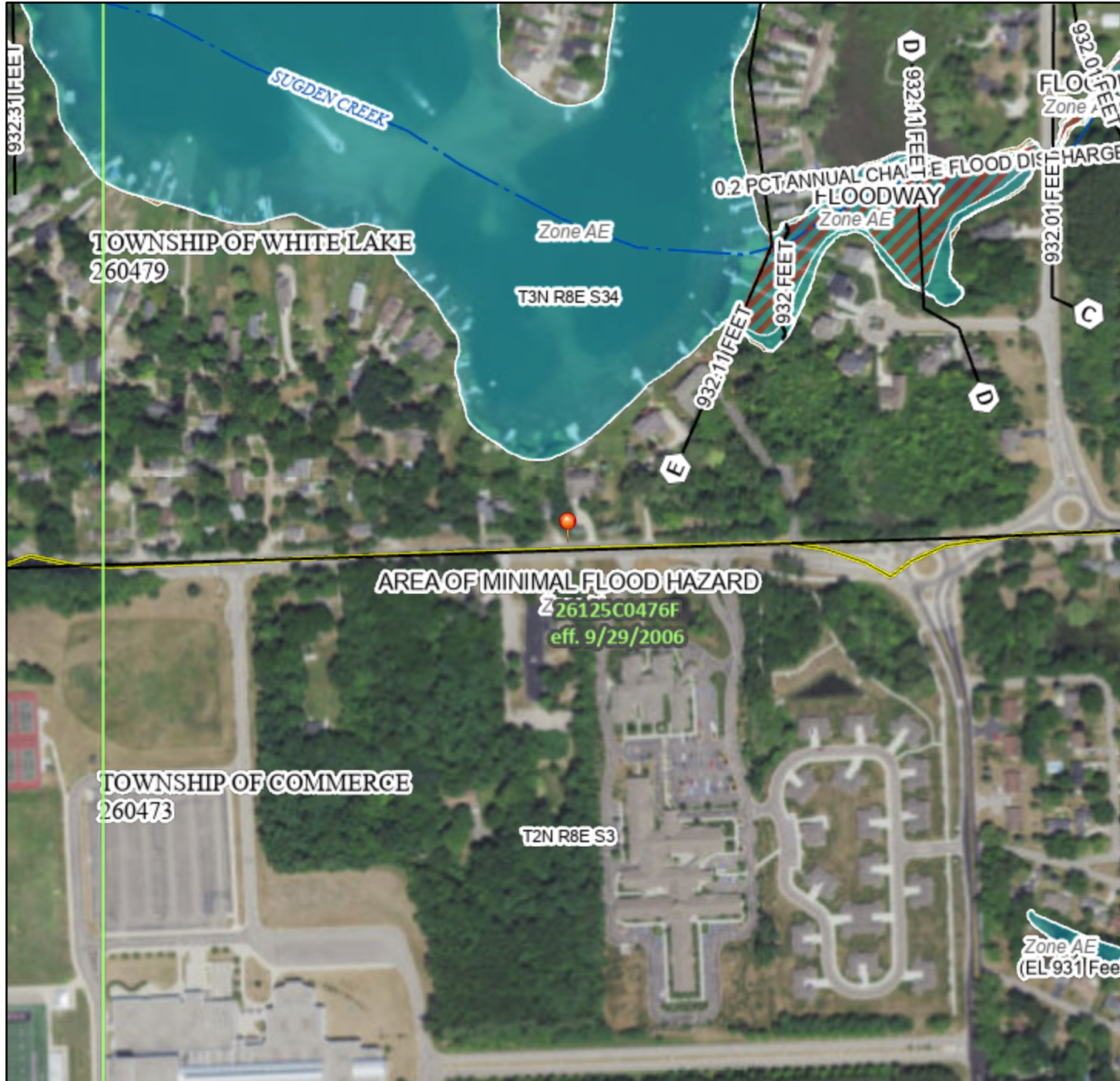
APPENDIX VI
FEMA FIRM FLOOD MAPS

DRAFT

National Flood Hazard Layer FIRMette



83°30'3"W 42°37'1"N



Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|------------------------------------|--|---|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X |
| | | Future Conditions 1% Annual Chance Flood Hazard Zone X |
| | | Area with Reduced Flood Risk due to Levee. See Notes. Zone X |
| | | Area with Flood Risk due to Levee Zone D |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| | | Area of Undetermined Flood Hazard Zone D |
| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/16/2022 at 2:00 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

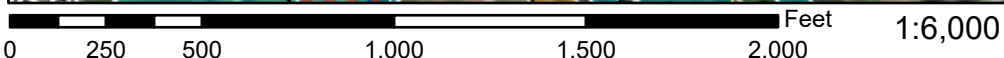
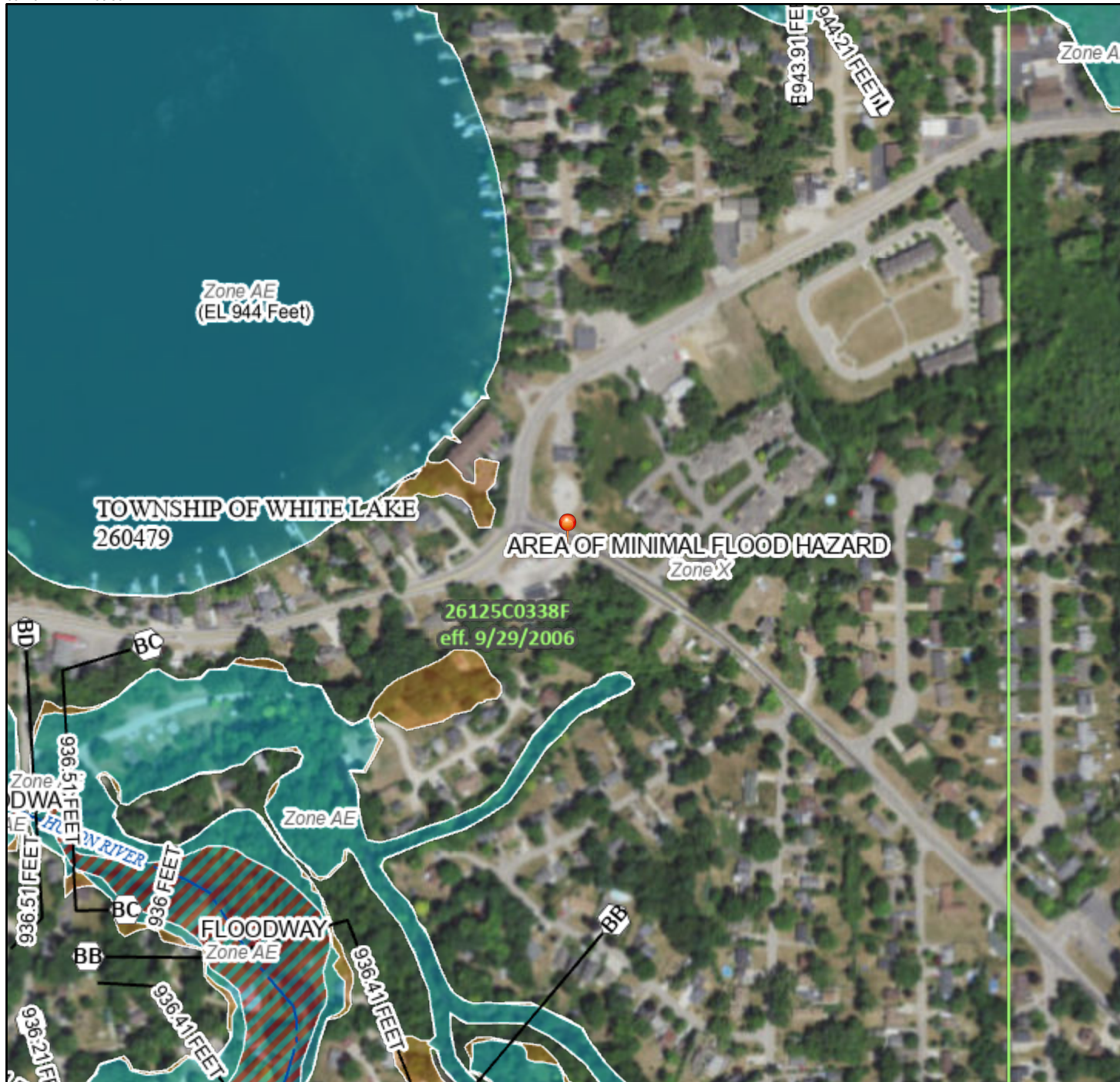
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

506

National Flood Hazard Layer FIRMMette



83°28'41"W 42°38'38"N



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|-----------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
17.5 |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:22 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

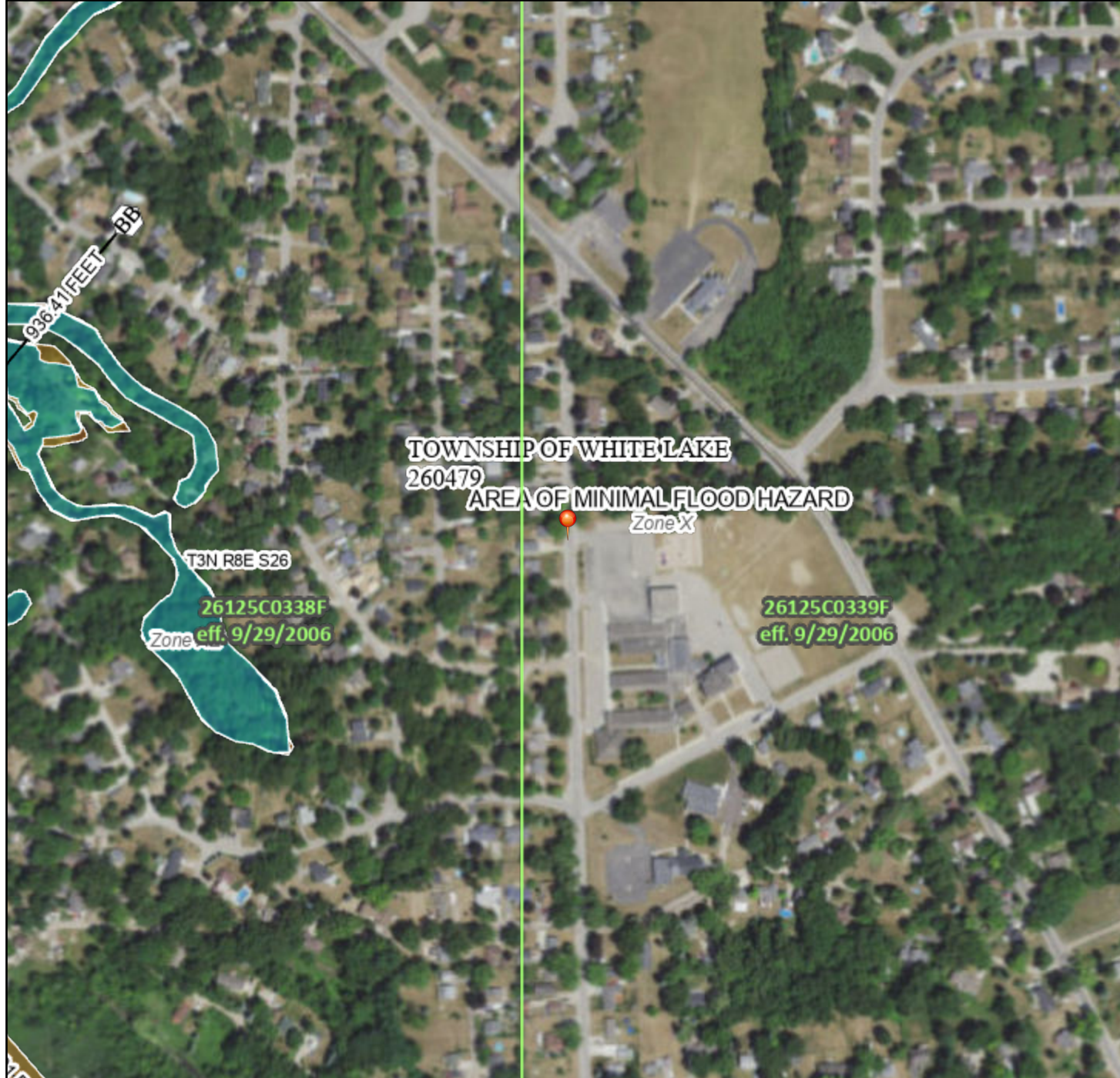
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

507

National Flood Hazard Layer FIRMette



83°28'25"W 42°38'21"N



83°27'47"W 42°37'54"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard Zone D
		Channel, Culvert, or Storm Sewer
OTHER FEATURES		Levee, Dike, or Floodwall
		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Coastal Transect
		Coastal Transect Baseline
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:27 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

508

National Flood Hazard Layer FIRMette



83°28'24"W 42°38'6"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

83°27'47"W 42°37'40"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|-----------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance |
| | | 17.5 Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:28 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

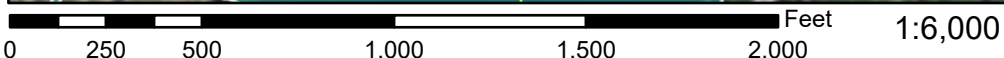
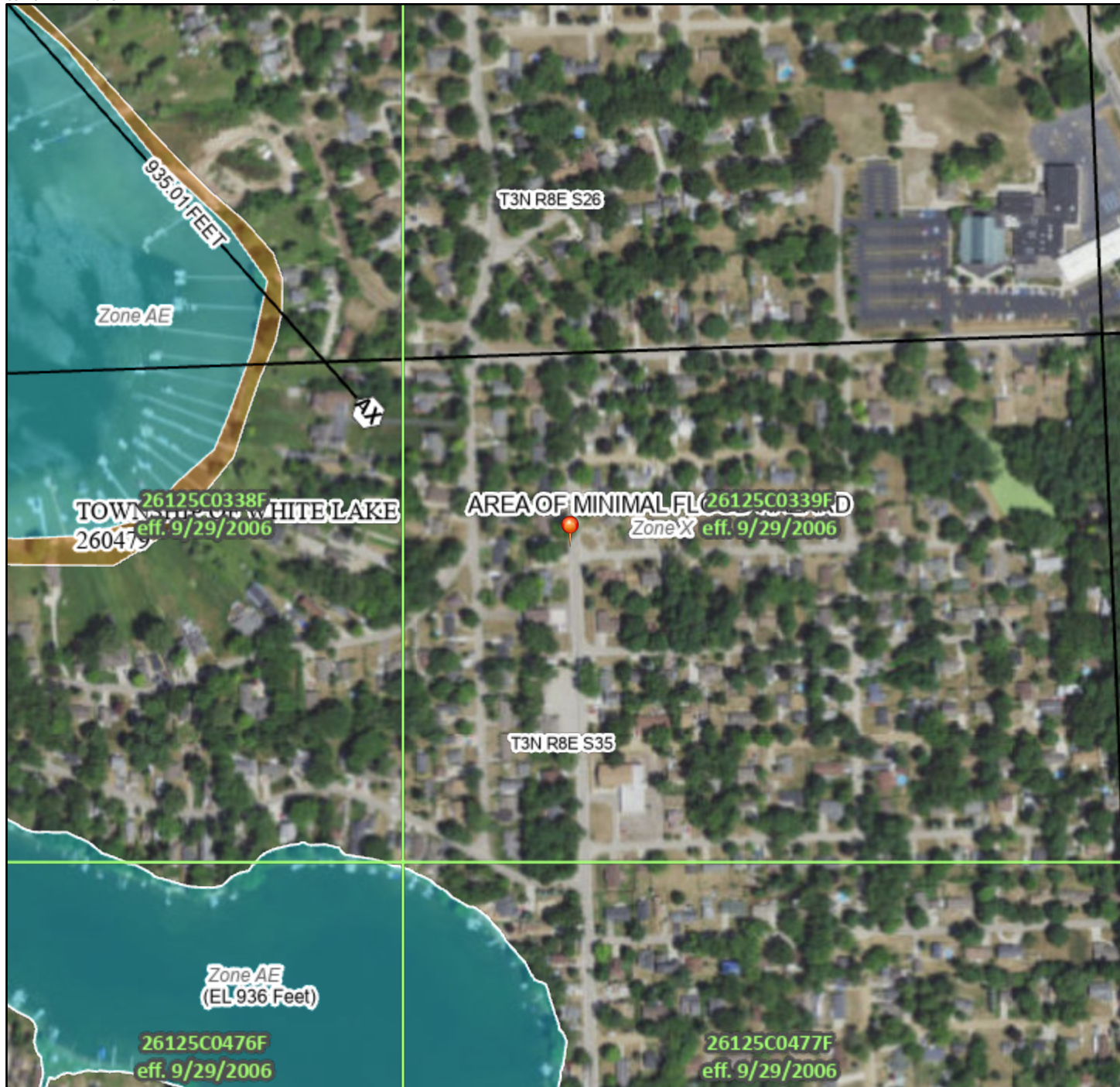
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

509

National Flood Hazard Layer FIRMMette



83°28'21"W 42°37'51"N



83°27'43"W 42°37'25"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
		Area of Undetermined Flood Hazard <i>Zone D</i>
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **3/3/2022 at 10:30 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

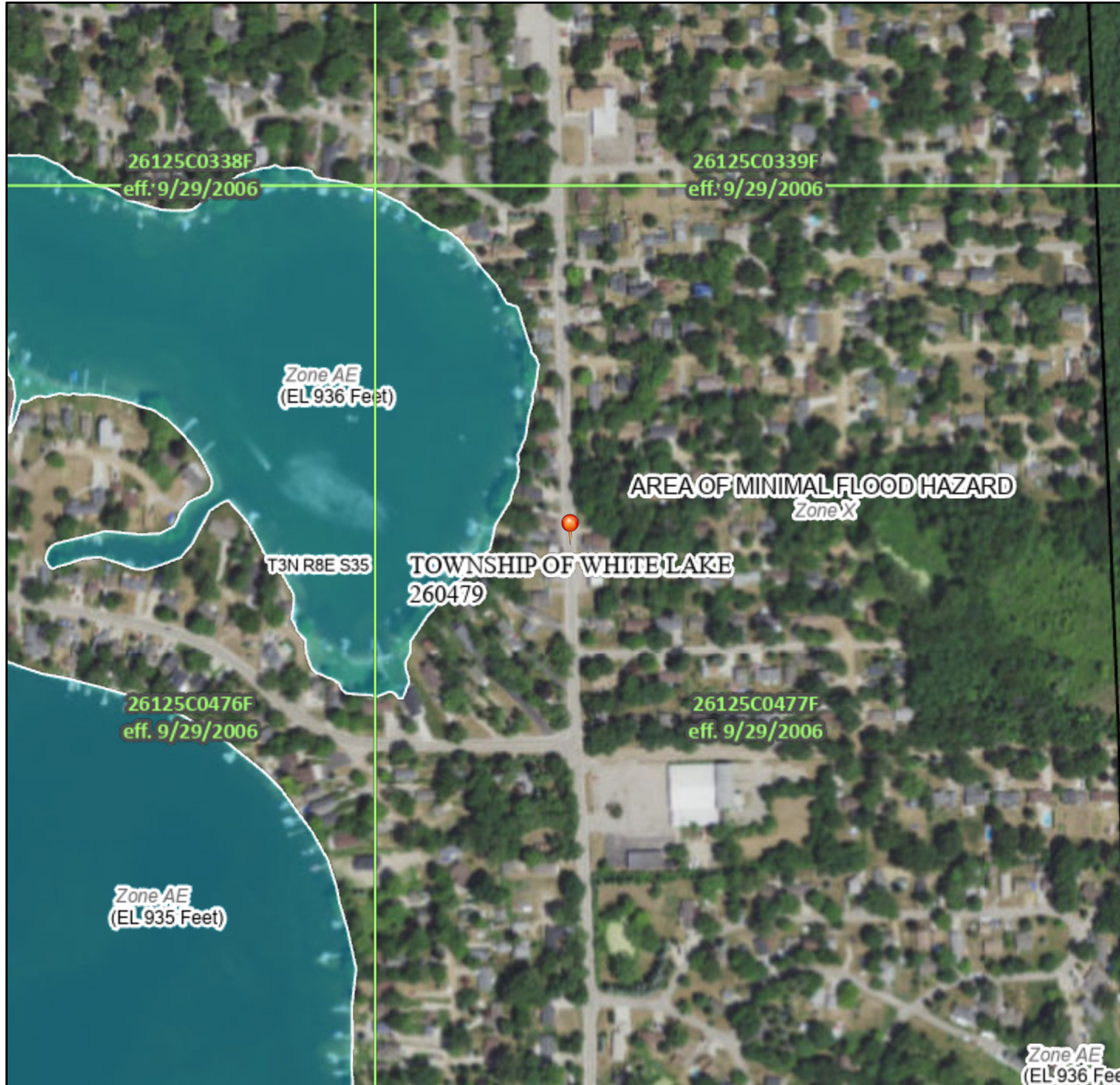
This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

510

National Flood Hazard Layer FIRMMette



83°28'20"W 42°37'34"N



Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|-----------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance |
| | | 17.5 Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



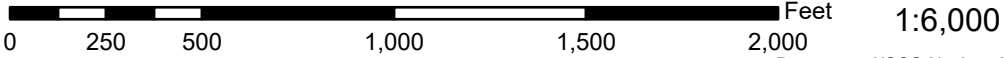
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:31 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

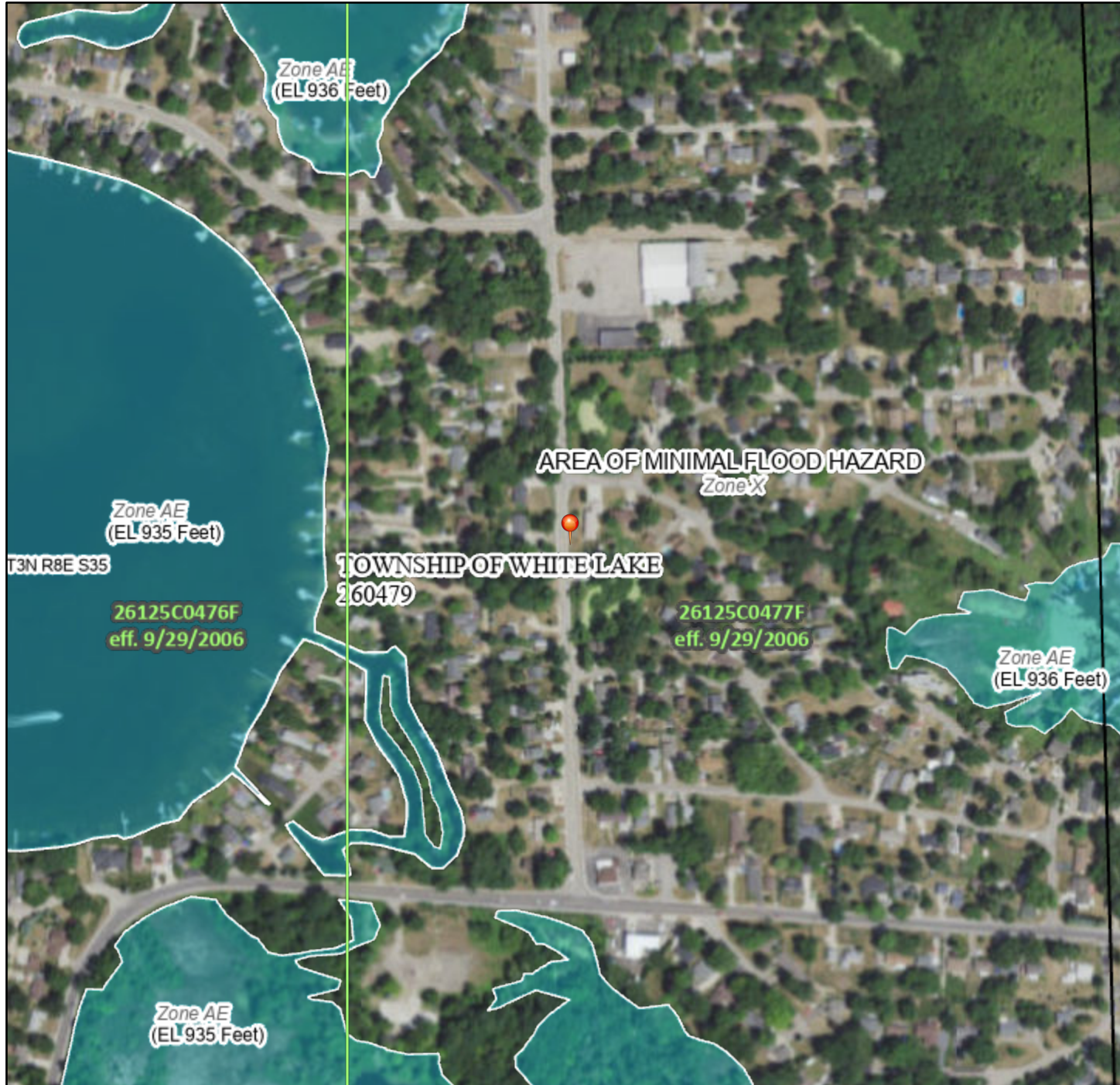
511



National Flood Hazard Layer FIRMMette



83°28'19"W 42°37'22"N



Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
17.5 |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

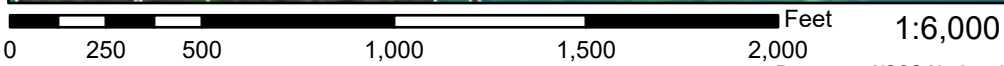
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **3/3/2022 at 10:33 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMMette



83°28'13"W 42°37'13"N



Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

83°27'35"W 42°36'46"N

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, V, A99
 - With BFE or Depth Zone AE, AO, AH, VE, AR
 - Regulatory Floodway

- OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D

- OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D

- GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall

- OTHER FEATURES**
 - B 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
 - 17.5 Coastal Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature

- MAP PANELS**
 - Digital Data Available
 - No Digital Data Available
 - Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

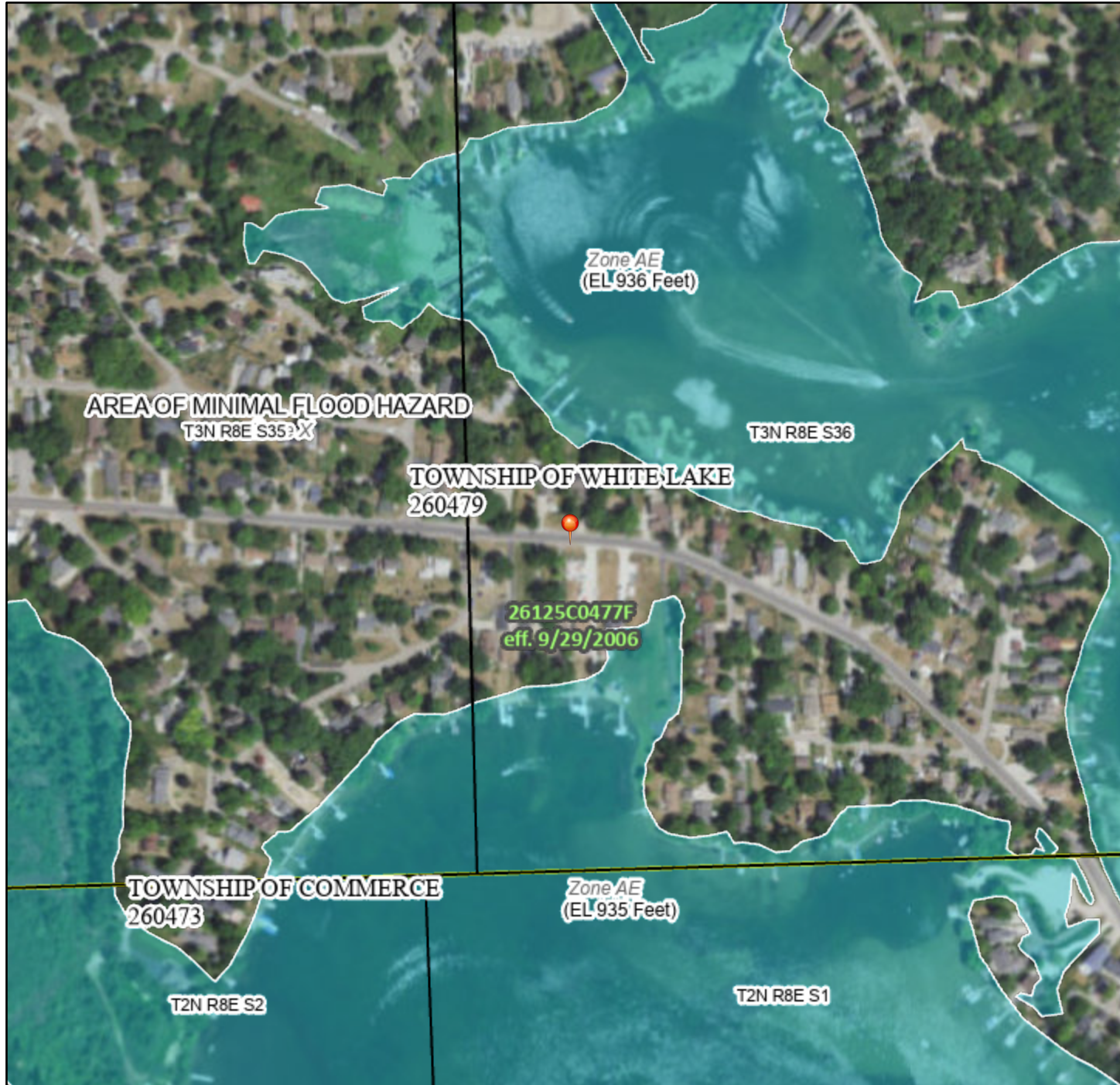
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:35 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

National Flood Hazard Layer FIRMMette



83°27'58"W 42°37'12"N



Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|------------------------------------|--|---|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X |
| | | Future Conditions 1% Annual Chance Flood Hazard Zone X |
| | | Area with Reduced Flood Risk due to Levee. See Notes. Zone X |
| | | Area with Flood Risk due to Levee Zone D |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard Zone D |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:36 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

0 250 500 1,000 1,500 2,000 Feet 1:6,000

83°27'20"W 42°36'45"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

National Flood Hazard Layer FIRMette



83°27'44"W 42°37'7"N



Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation |
| | | 17.5 Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:37 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community id, FIRM panel number, and FIRM effective date. Map is unmapped and unmodernized areas cannot be used for regulatory purposes.

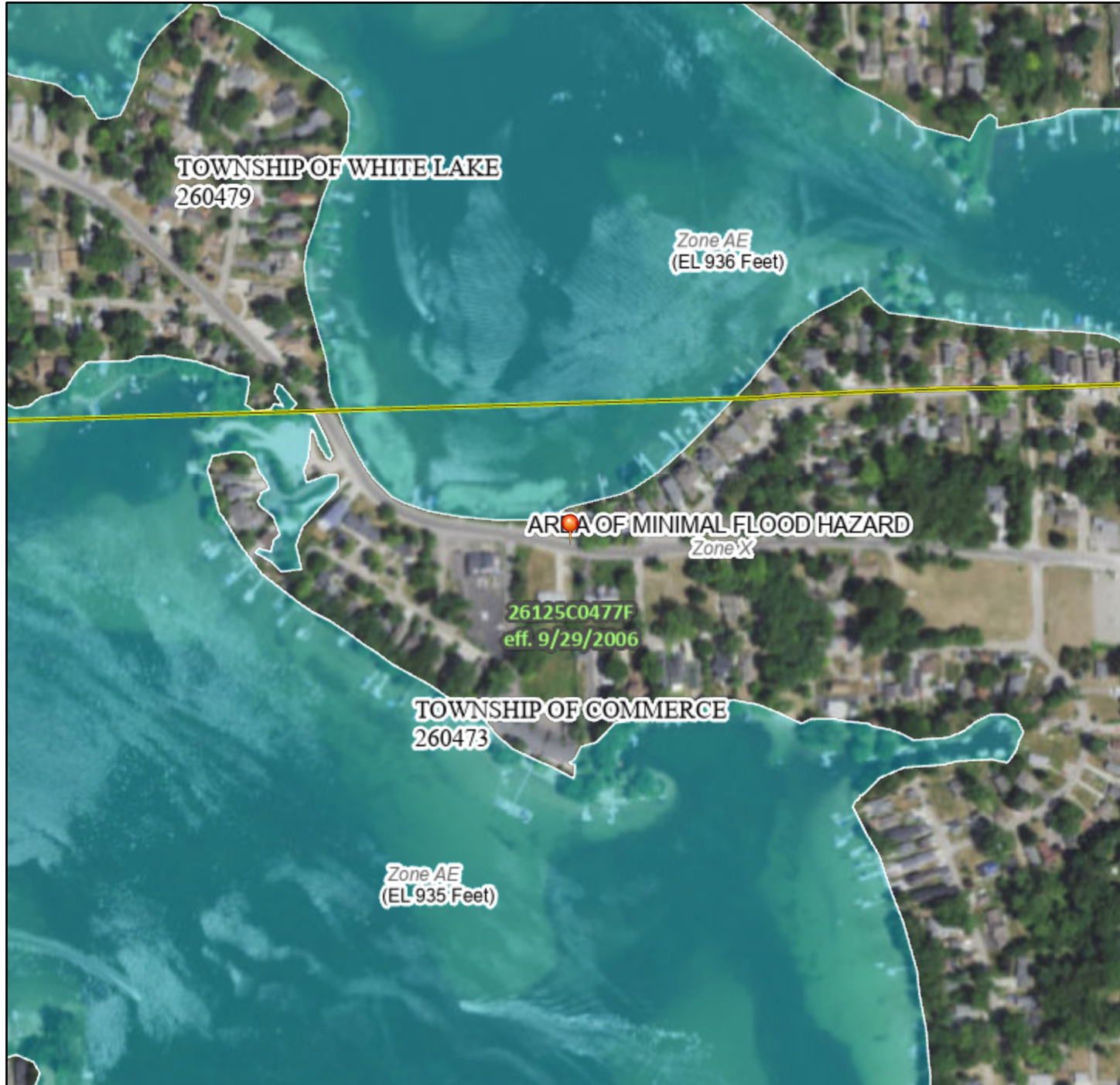


83°27'7"W 42°36'40"N

National Flood Hazard Layer FIRMMette



83°27'32"W 42°37'1"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000

83°26'55"W 42°36'35"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|-----------------------------|--|---|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
Zone A, V, A99 |
| | | With BFE or Depth Zone AE, AO, AH, VE, AR |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X |
| | | Future Conditions 1% Annual Chance Flood Hazard Zone X |
| | | Area with Reduced Flood Risk due to Levee. See Notes. Zone X |
| | | Area with Flood Risk due to Levee Zone D |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard Zone X |
| | | Effective LOMRs |
| | | Area of Undetermined Flood Hazard Zone D |
| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance |
| | | 17.5 Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| | | Jurisdiction Boundary |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
- The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 10:39 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

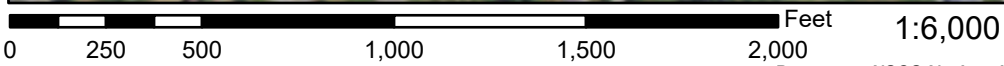
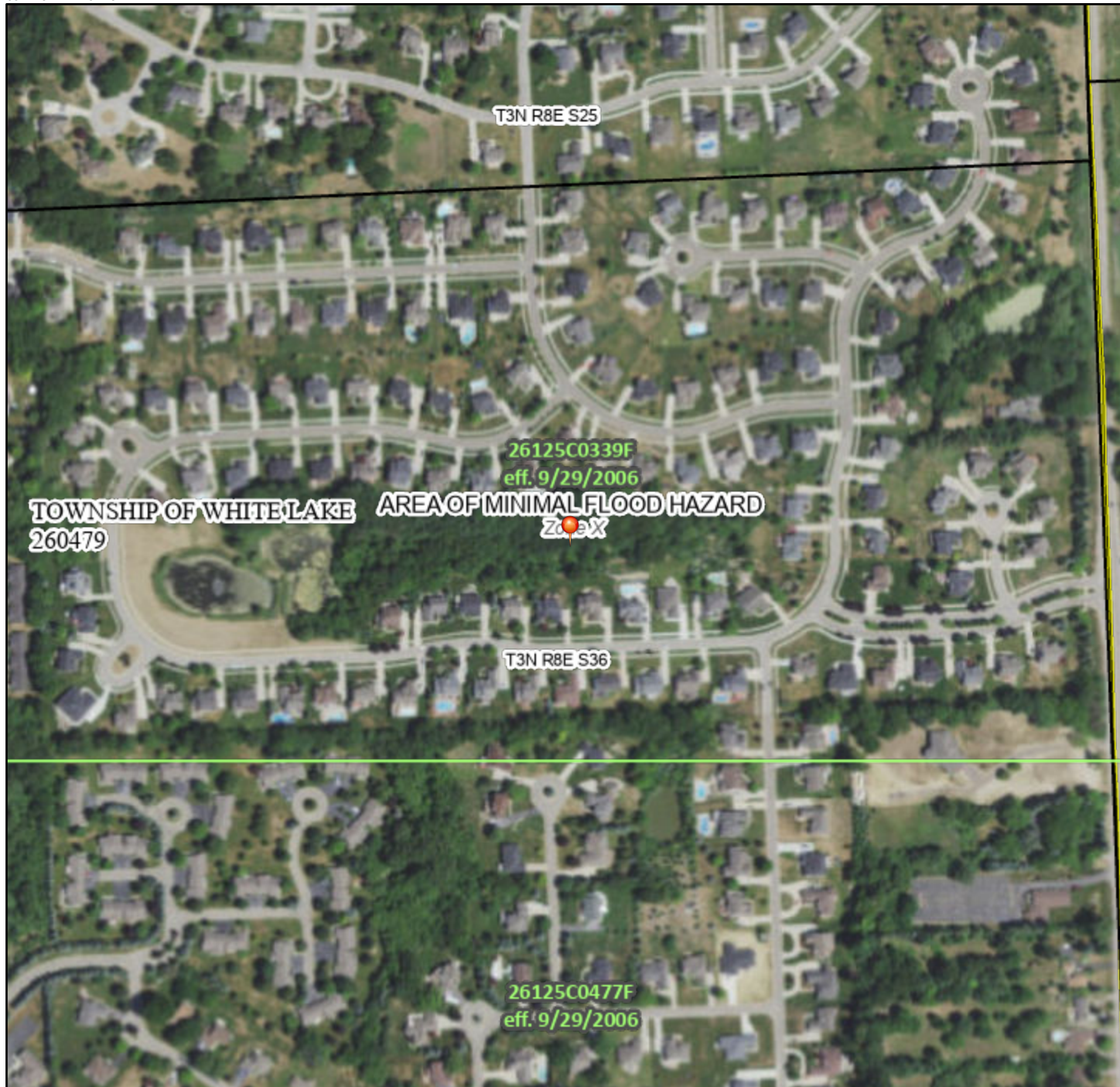
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516

National Flood Hazard Layer FIRMette



83°27'9"W 42°37'49"N



83°26'32"W 42°37'22"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, V, A99
 - With BFE or Depth Zone AE, AO, AH, VE, AR
 - Regulatory Floodway

- OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D

- OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D

- GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall

- OTHER FEATURES**
 - Cross Sections with 1% Annual Chance Water Surface Elevation
 - Cross Sections with 1% Annual Chance Water Surface Elevation
 - Coastal Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature

- MAP PANELS**
 - Digital Data Available
 - No Digital Data Available
 - Unmapped



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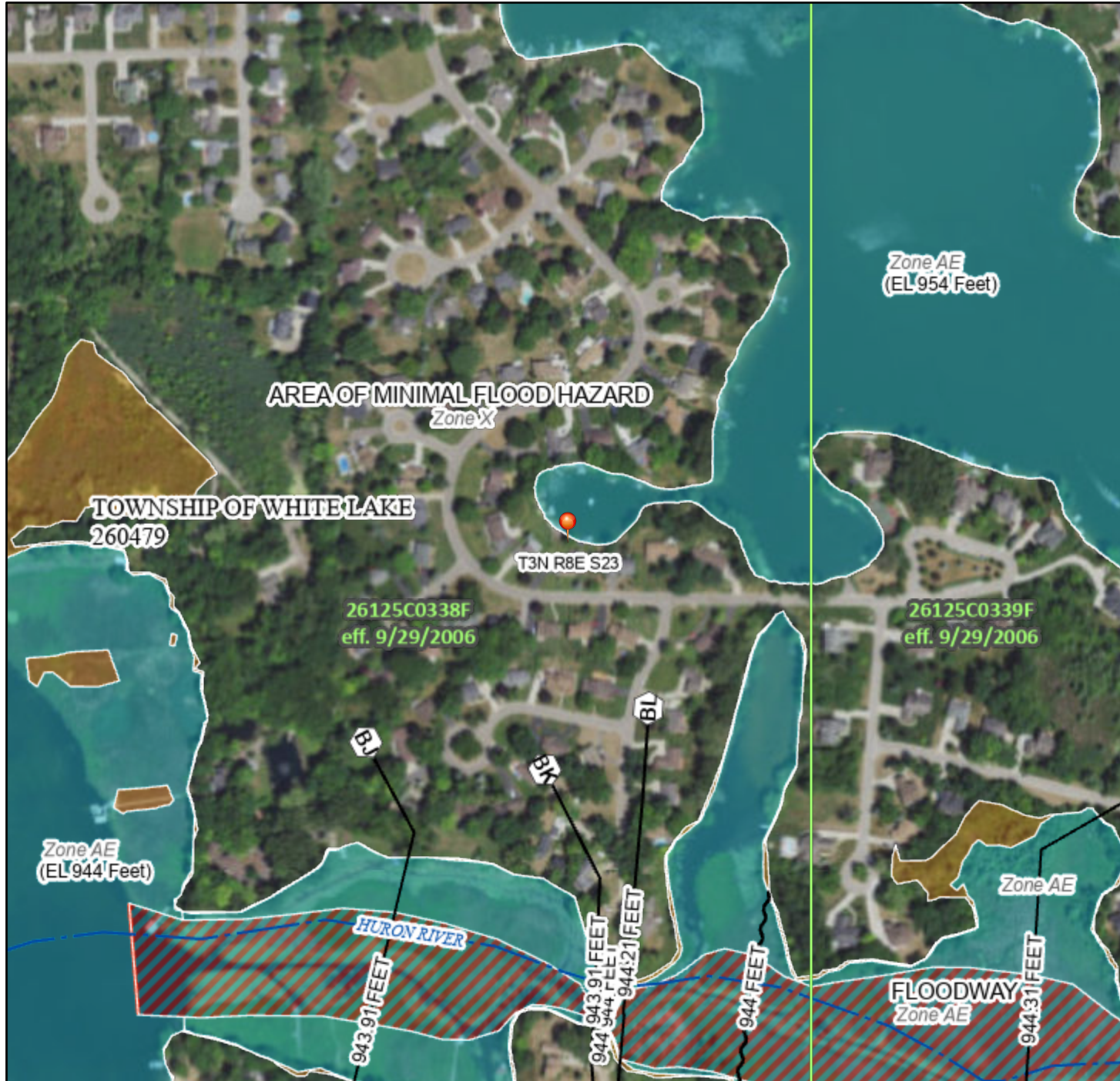
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **3/3/2022 at 10:53 AM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



83°28'34"W 42°39'7"N



Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) Zone A, V, A99	With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway

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		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D

OTHER AREAS OF FLOOD HAZARD	NO SCREEN	Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D

OTHER AREAS	GENERAL STRUCTURES	
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

	20.2	Cross Sections with 1% Annual Chance Water Surface Elevation
	17.5	Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

	Digital Data Available
	No Digital Data Available
	Unmapped

OTHER FEATURES	
	The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

MAP PANELS	
	Digital Data Available
	No Digital Data Available
	Unmapped



This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

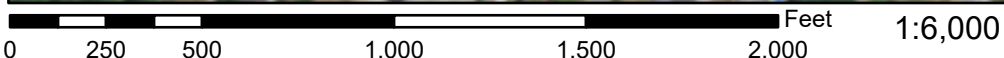
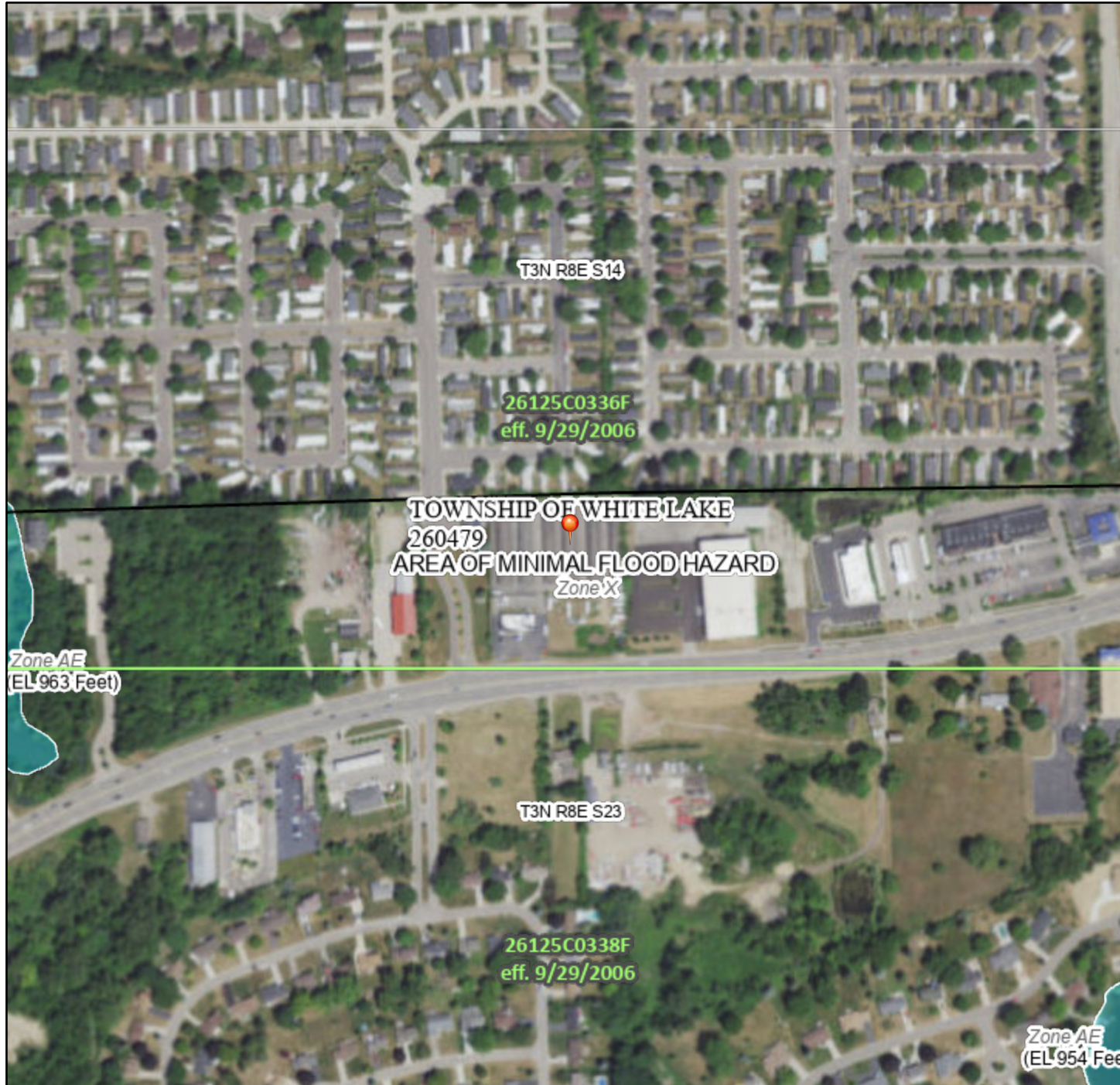
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/3/2022 at 11:10 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

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National Flood Hazard Layer FIRMette



83°28'45"W 42°39'39"N



83°28'7"W 42°39'12"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
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| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance |
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| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| MAP PANELS | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



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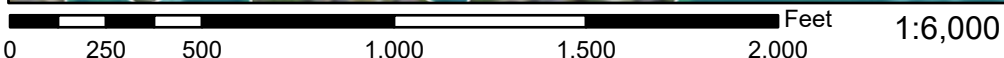
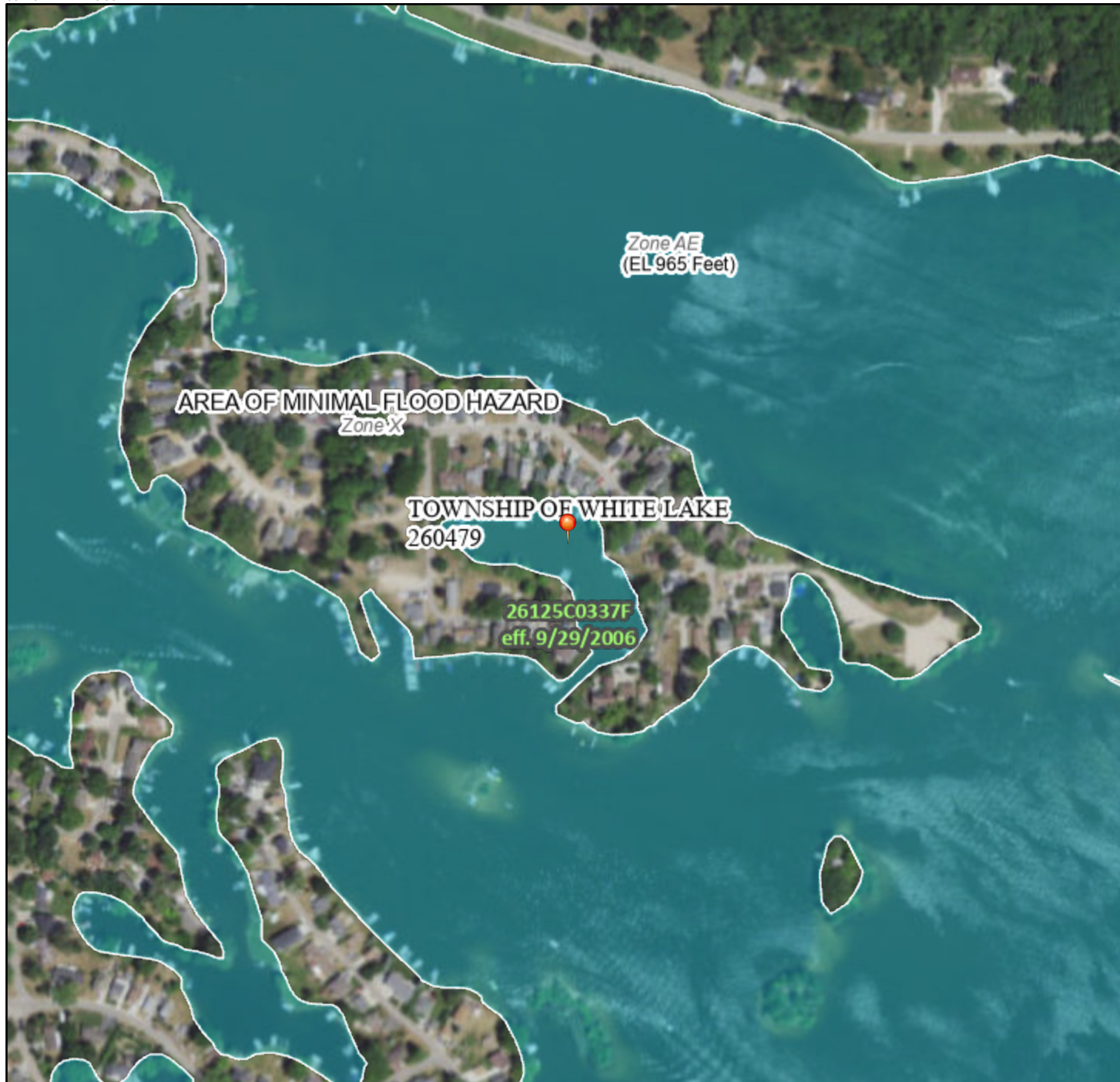
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519

National Flood Hazard Layer FIRMMette



83°28'2"W 42°40'30"N



83°27'24"W 42°40'4"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, V, A99
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- OTHER AREAS OF FLOOD HAZARD**
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 - Area with Reduced Flood Risk due to Levee. See Notes. Zone X
 - Area with Flood Risk due to Levee Zone D

- OTHER AREAS**
 - NO SCREEN Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D

- GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall

- OTHER FEATURES**
 - Cross Sections with 1% Annual Chance Water Surface Elevation
 - Coastal Transect
 - Base Flood Elevation Line (BFE)
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature

- MAP PANELS**
 - Digital Data Available
 - No Digital Data Available
 - Unmapped



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520

National Flood Hazard Layer FIRMMette



83°27'41"W 42°40'26"N



Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
GENERAL STRUCTURES		Area of Undetermined Flood Hazard <i>Zone D</i>
		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature
		Digital Data Available
		No Digital Data Available
		Unmapped

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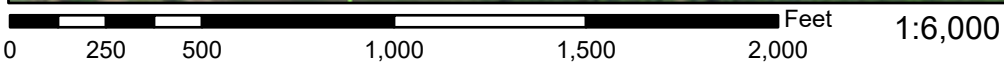
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National Flood Hazard Layer FIRMMette



83°28'16"W 42°40'14"N



83°27'39"W 42°39'48"N

Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

Legend

Section 9, Item B.

SEE FIS REPORT FOR DETAILED LEGEND AND INFORMATION

- | | | |
|------------------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
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| GENERAL STRUCTURES | | Channel, Culvert, or Storm Sewer |
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| | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| MAP PANELS | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |



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522



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

White Lake Township
FY2023 CWSRF Wastewater Asset Management Plan
Improvements Project Plan

APPENDIX VII

PRESENT WORTH CALCULATIONS

DRAFT

Present Worth Calculations - Alternative 2 assuming no replacement, and same salvage values as alternative 4
 20 year term with a 1.875% interest rate

Capital Cost		\$ 4,663,531.58		
	÷			1.01875 (Discount 1yr)
				\$ 4,577,699.71 ①
 Salvage Value		 \$ 1,605,763.94		
	÷			1.01875 (Discount 1yr)
				\$ 1,576,210.00
	x			0.689679894 P/F 20yr @ 1.875%
				\$ 1,087,080.35 ②
 Replacement Cost		 \$ 572,184.42		
	÷			1.01875 (Discount 1yr)
				\$ 561,653.42
	x			0.75680793 P/F 15yr @ 1.875%
				\$ 425,063.76 ③
 O&M		 \$ 40,000.00 (per year)		
	x			16.55040568 P/A 20yr @ 1.875%
				\$ 662,016.23 ④
 ① Capital		 \$ 4,577,699.71		
② Salvage	-	\$ 1,087,080.35		
		\$ 3,490,619.36		
③ Replacement	+	\$ 425,063.76		
		\$ 3,915,683.12		
④ O&M	+	\$ 4,577,699.35		
Present Worth =		\$ 4,577,699.35		

Present Worth Calculations - Alternative 4 - assuming no replacement
 20 year term with a 1.875% interest rate

Capital Cost		\$ 2,337,744.63		
	÷			1.01875 (Discount 1yr)
				\$ 2,294,718.65 ①
 Salvage Value		 \$ 1,044,429.38		
	÷			1.01875 (Discount 1yr)
				\$ 1,025,206.75
	x			0.689679894 P/F 20yr @ 1.875%
				\$ 707,064.48 ②
 Replacement Cost		 \$ -		
	÷			1.01875 (Discount 1yr)
				\$ -
	x			0.75680793 P/F 15yr @ 1.875%
				\$ - ③
 O&M		 \$ 40,000.00 (per year)		
	x			16.55040568 P/A 20yr @ 1.875%
				\$ 662,016.23 ④
 ① Capital		 \$ 2,294,718.65		
② Salvage	-	\$ 707,064.48		
		\$ 1,587,654.17		
③ Replacement	+	\$ -		
		\$ 1,587,654.17		
④ O&M	+	\$ 2,249,670.40		
Present Worth =		\$ 2,249,670.40		

**WHITE LAKE TOWNSHIP
INTER-OFFICE MEMORANDUM
COMMUNITY DEVELOPMENT DEPARTMENT**

DATE: April 11, 2022

TO: Rik Kowall, Supervisor
Township Board of Trustees

FROM: Sean O’Neil, AICP
Community Development Director

**SUBJECT: 9501 Highland Road
Rezoning request**
Property described as parcel number 12-23-129-007 (9501 Highland Road), located south of Highland Road and east of White Banks Blvd, consisting of approximately 1 acre. Applicant requests to rezone the parcel from **(LB) Local Business to (GB) General Business** or any other appropriate zoning district.

The above request is now ready for Township Board Consideration. The matter was considered by the Planning Commission at their regular meeting of March 17, 2022 at which time the **Planning Commission recommended approval** of rezoning request.

Please find enclosed the following related documents:

- ❑ Minutes from the Planning Commission meeting held on March 17, 2022.
- ❑ Review letter prepared by the Township Planning Consultant, Hunter Whitehill, dated February 21, 2022.
- ❑ Rezoning application from the applicant, Black Rock White Lake, LLC.
- ❑ Public hearing notice.

Please place this matter on the next available Township Board agenda. Do not hesitate to contact me should you require additional information.

**WHITE LAKE TOWNSHIP
PLANNING COMMISSION**

Township Annex, 7527 Highland Road
White Lake, MI 48383
March 17, 2022 @ 7:00 PM

CALL TO ORDER

Chairperson Anderson called the meeting to order at 7:01 PM and led the Pledge of Allegiance. Roll was called.

ROLL CALL

Steve Anderson
Merrie Carlock
Mark Fine
Debby Dehart
Scott Ruggles
Matt Slicker
T. Joseph Seward

Absent: Robert Seeley
Pete Meagher

Also Present: Sean O’Neil, Community Development Director
Lisa Kane, Recording Secretary

Visitors: 4 members of the public were present

APPROVAL OF AGENDA

Commissioner Carlock moved to approve the agenda of the March 17, 2022 Planning Commission Meeting.
Commissioner Fine supported and the **MOTION CARRIED** with a voice vote: 7 yes votes.

APPROVAL OF MINUTES

- a. Regular meeting minutes of February 3, 2022

Commissioner Carlock moved to approve the Minutes of February 3, 2022
Chairman Anderson abstained from the vote.
Commissioner Dehart supported and the **MOTION CARRIED** with a voice vote: 6 yes votes.

CALL TO THE PUBLIC (FOR ITEMS NOT ON THE AGENDA)

No members of the public spoke

PUBLIC HEARING

A. 9501 Highland Rezoning Request

Location: Property described as parcel number 12-23-129-007 (9501 Highland Road), located south of Highland Road and east of White Banks Blvd, consisting of approximately 1 acre.

Request: **Applicant requests to rezone the parcel from (LB) Local Business to (GB) General Business.**

Applicant: Black Rock White Lake, LLC
30553 S Wixom Road #300
Wixom, MI 48393

Applicant or representative: None present

Director O'Neil introduced the request for rezoning of a parcel which is adjacent to a parcel that is currently zoned as General Business and also owned by the applicant. The applicant intends to operate a restaurant which serves alcohol on the adjacent property, which is allowed in General Business zoning. This rezoning will allow the applicant to combine all parcels so that they are unified. Rezoning this parcel to General Business brings consistency to the area and avoids spot zoning. Any development on this property would be on the Township's water and sewer system. Underground storm water detention might be considered by engineering. There is no need for a rezoning traffic study with this request, however, there may be a traffic study required in the Site Plan review. Staff recommends approval of rezoning this parcel as it would be consistent with the future land use map in the Master Plan, which is Planned Business, and would make it compatible with the surrounding use.

Director O'Neil pointed out an error in the review letter from Hunter Whitehill of McKenna, item 5 should read "Rezoning the land to GB (General Business) is more appropriate than amending the list of uses in the LB (Local Business) district".

Public participant #1 asked what Planned Business zoning was used for.

Public participant #2 stated that he believed that Black Rock owns the property to the east of this parcel.

Commissioner Dehart inquired about the zoning of the other parcels that the applicant owns to the west of this parcel.

Director O'Neil explained that the parcel to the east that is owned by the applicant is zoned General Business.

Chairperson Anderson asked if it was known where on the parcel the applicant intends on building the restaurant.

Director O'Neil stated that there has been no official site plan submitted but he understands that they plan to build closer to the corner of Highland and White Banks Blvd.

Commissioner Slicker asked what the total acreage is of all of the parcels.

Director O'Neil stated that he believes it is approximately 3 acres.

Commissioner Seward stated that there was communication that the applicant was not following through with this project.

Director O'Neil stated that he did not receive any official communication from the applicant about discontinuing the project and the last communication that he had with the applicant was that they were actively planning to move the project forward.

Chairman Anderson opened public hearing at 7:24 p.m.

John Hunt of 871 E Oxhill Drive has concerns of parking causing problems at this location and the drainage at the south end of the parcel due to it being a swamp that was filled in with clay years ago. He would like to see that section of the parcel returned to residential.

Ed Blanker of 847 E Oxhill Drive wonders what other businesses might be permitted in this zoning if the applicant doesn't move forward with the project.

Dan Torossian of 860 E Oxhill Dr is also concerned about the drainage issues with the south end of the property if that area is paved. He stated he would be willing to purchase that land to avoid a drainage problem.

Commissioner Anderson closed public hearing at 7:33pm

Director O'Neil listed the uses that would be permitted and the special uses that could be requested, if this rezoning to General Business was approved.

Discussion occurred regarding the buffering that would be required in the site plan should this project move forward and what drainage requirements will be considered.

Chairperson Anderson questioned if whether the applicant not being in attendance would affect the progress of the rezoning request.

Commissioner Seward asked if the parcels had been combined and if a recommendation of rezoning would have negative impacts if the applicant does not follow through with the project or if there is a benefit to leaving it Local Business.

Director O'Neil stated that General Business is a more desirable zoning as there are more extensive uses permitted.

Commissioner Carlock asked if the adjoining parcel to the east should also be rezoned at this time.

Director O'Neil stated that there has been no request by the property owner to rezone that parcel.

Commissioner Ruggles explained the process should the residential neighbors purchase the southern section of the parcel from the current owners and rezone it to residential.

Discussion regarding whether the lot was able to be rezoned as Residential and the process of division and combination of lots.

Director O'Neil stated that the applicants would be encouraged to attend the Township Board meeting on April 19 at 7pm to be available to answer questions from the public.

Commissioner Seward moved forward a favorable recommendation to the Township Board, the rezoning from (LB) Local Business to (GB) General Business for the property described as parcel number 12-23-129-007, (9501 Highland Road) located south of Highland Road and east of White

**Banks Blvd, consisting of approximately 1 acre.
Commissioner Fine supported, and the MOTION CARRIED with a roll call vote (7 yes votes):
(Anderson/yes, Carlock/yes, Dehart/yes, Fine/yes, Ruggles/yes, Seward/yes, Slicker/yes)**

CONTINUING BUSINESS

None

NEW BUSINESS

None

OTHER BUSINESS

None

LIAISON'S REPORT

Commissioner Dehart: Zoning Board of Appeals is planning a special meeting on ordinances; the sign ordinance will be a focus. Feedback was requested from the Planning Commission regarding sign ordinance. The Township Board modified a recommendation from a recent Planning Commission meeting regarding a sign height.

Discussion regarding the consistency of decisions regarding the sign ordinance and necessity for variances to keep the taller height of a sign when modification occur with rebranding.

Director O'Neil suggested that the Zoning Board of Appeals produce a list that states items that need attention for the Planning Commission can review at a later meeting.

Commissioner Carlock: The Parks & Rec Board, Commissioner Carlock wasn't able to attend the last meeting, however, Commissioner Ruggles was present and stated that there were Horse Crossing signs requested of the Road Commission of Oakland County. The Parks & Rec Board could approve a resolution that would be helpful to the process. A resolution would need to be discussed by the Township Board and approval from the Board should help encourage the Road Commission to act on the resolution. The Township Board approved a one-day beer and wine license for the Parks & Rec summer event.

Commissioner Ruggles: The Township Board reviewed the conceptual plan of Pontiac Lake project however the applicants were not present so the review was tabled. The Police Department was approved for new fleet vehicles. Fire Chief John Holland has completed the probationary period and has been approved for a 3-year contract. The purchase of safety equipment, such as defibrillators, by the Fire Department was approved. The Planning Commission recommendation to the Township Board for the Oxbow Lake Private Launch rezoning and site plan was approved. The recommendation by the dangerous buildings officer for the demolition of a residence at 288 Tower Street was approved. The bid was approved for Bob Hoffman's company to proceed with the demolition. Upon inspection of the residence, it was determined that the house could be rehabilitated. Mr. Hoffman's company has purchased the property and will rehabilitate the house. The demolition order was rescinded and Mr. Hoffman was given a timeline to have the rehabilitation complete. There are ongoing negotiations on River Caddis for the Civic Center development.

Commissioner Slicker inquired if the federal Covid funds had been allocated. Director O'Neil stated that the money has been received by the Township but has not been allocated.

PLANNING CONSULTANT'S REPORT

No report

DIRECTOR'S REPORT

Director O'Neil presented that the Parks & Rec Board will begin reviewing their Master Plan update this spring and the Planning Department would begin reviewing the Capital Improvement Plan during the summer and the Future Land Use review would begin in the fall. Mr. O'Neil expects to have a request for proposal to review by May and with the next step being to select a firm and move forward updating Master Plan by fall of 2023. The Elizabeth Lake retail project has no updates to report. The Preserves at Hidden Lake has issues with their site plan and will return to the Planning Commission to request a revised Site Plan review. A project including 406 apartment units and 88 single family residential units at Hill Road and Highland Road is making progress. Comfort Care will likely return at an April meeting with modifications to their site plan which reduced the impact and density. New Hope White Lake will be opening with residents moving in soon. The old Sonic restaurant has been demolished and a mattress store and a Moe's Southwest restaurant will be built on that parcel.

COMMUNICATIONS

Nothing to share

NEXT MEETING DATES: April 7, 2022
April 21, 2022

ADJOURNMENT

**Commissioner Fine moved to adjourn the meeting at 8:20 p.m.
Commissioner Carlock supported and the MOTION CARRIED with a voice vote: 7 yes votes**

MCKENNA

February 21, 2022

Planning Commission
Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

Subject: Proposed Rezoning of Tax Parcel No. 12-23-129-007
Local Business (LB) to General Business (GB)

Applicant(s): Black Rock White Lake, LLC

Location: 9501 Highland Rd, east of Whitebanks Blvd, south of Highland Rd

Dear Planning Commissioners:

We have received an application from the applicant referenced above to rezone tax parcel 12-23-129-007, known as 9501 Highland Road, consisting of approximately 1.0 acre, from Local Business (LB) to General Business (GB). The site currently contains a single-family home. To the north and east are commercial uses and to the west and south are single family homes.



Source: Oakland County Property Gateway

HEADQUARTERS
235 East Main Street
Suite 105
Northville, Michigan 48167

○ 248.596.0920
F 248.596.0930
MCKA.COM

Communities for real life.

COMMENTS

1. **Existing Conditions.** The conditions of the site and the surrounding area are summarized below:

Location	Existing Land Use	Master Plan	Existing Zoning
Site	Residential	Planned Business	LB
North	Commercial	Planned Business	GB
East	Commercial	Planned Business	LB
South	Residential	Residential Resort	R1-C (single family residential)
West	Undeveloped	Planned Business	GB

2. **Zoning Ordinance.** Section 7.13 of the Zoning Ordinance provides standards for the review of rezoning proposals. The following review criteria are specified in Section 7.13 (A) through (N):
 - a. **Consistency with the goals, policies and future land use map of the White Lake Township Master Plan, including any subarea or corridor studies. If conditions have changed since the Master Plan was adopted, the consistency with recent development trends in the area.** The Future Land Use Map designation for the site is planned business which is consistent with the proposed GB district.
 - b. **Compatibility of the site's physical, geological, hydrological and other environmental features with the host of uses permitted in the proposed zoning district.** The site is presently occupied by a single-family home and there is no evidence of the site's physical, geological, hydrological and other environmental features that would limit the ability for the host of uses permitted in the GB district.
 - c. **Evidence the applicant cannot receive a reasonable return on investment through developing the property with one (1) of the uses permitted under the current zoning.** While no such evidence has been submitted, we observe that the uses permitted in the LB district do not allow for restaurants with alcohol. Return on investment through developing the property with a restaurant serving alcohol cannot be established with the existing LB zoning.
 - d. **The compatibility of all the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure, and potential influence on property values.** The properties to the north and west of the site are zoned GB General Business. There are single family residential uses to the south. The GB district can be compatible with the surrounding uses and zoning given that extensive landscaping be provided adjacent to residential lot lines during site plan review.
 - e. **The capacity of the Township's utilities and services sufficient to accommodate the uses permitted in the requested district without compromising the "health, safety and welfare" of the Township.** We defer to the Township Engineer regarding this matter.
 - f. **The capability of the street system to safely and efficiently accommodate the expected traffic generated by uses permitted in the requested zoning district. A rezoning traffic study shall be**

prepared as described in Section 6.3, if required based on the standards of Section 6.3.B.i of the Zoning Ordinance. A traffic assessment may be required at the time of preliminary site plan review if a development proposal is submitted in the future.

- g. **The apparent demand for the types of uses permitted in the requested zoning district in relation to the amount of land in the township currently zoned and available to accommodate the demand.** It's undetermined at this time if this standard can be met. We defer to the Planning Commission on if a market study should be provided by the applicant.
- h. **The boundaries of the requested rezoning district are reasonable in relationship to its surroundings, and construction on the site will be able to meet the dimensional regulations for the zoning district listed in the Schedule of Regulations.** The site only has a lot width of 89 feet which is a non-conformity in the existing LB district and will also be a non-conformity in the proposed GB district. Additionally, with a total of 30 feet required for two side yard setbacks the footprint of the building would be extremely limited. We recommend the parcel be combined with a neighboring parcel prior to being considered for site plan review.
- i. **The requested zoning district is considered to be more appropriate from the township's perspective than another zoning district.** The requested GB zoning district is more appropriate than any another zoning district.
- j. **If the request is for a specific use, is rezoning the land more appropriate than amending the list of permitted or special land uses in the current zoning district to allow the use?** Rezoning the land to GB is more appropriate than amending the list of uses in the GB district.
- k. **The requested rezoning will not create an isolated and unplanned spot zone.** The subject site is surrounded by GB zoning to the north and west so the requested rezoning would not create an isolated spot zone.
- l. **The request has not previously been submitted within the past one (1) year, unless conditions have changed or new information has been provided.** It is our understanding that this request had not been previously made.
- m. **An offer of conditions submitted as part of a conditional rezoning request shall bear a reasonable and rational relationship to the property for which rezoning is requested.** This standard is not applicable, as the application is not for a conditional rezoning.
- n. **Other factors deemed appropriate by the Planning Commission and Township Board.** If the Planning Commission or Township Board desire information on other considerations related to the proposal, we would be happy to assist them.

RECOMMENDATION

We recommend approval of the proposed rezoning of tax parcel 12-23-129-007, known as 9501 Highland Road, consisting of approximately 1.0 acre, from Local Business (LB) to General Business (GB). based on the following findings of facts:

- 1. The Future Land Use Map designation for the site is planned business which is consistent with the proposed GB district.
- 2. There is no evidence of the site's physical, geological, hydrological and other environmental features that would limit the ability for the host of uses permitted in the GB district.
- 3. The proposed GB district can be compatible with the surrounding uses and zoning given that extensive landscaping be provided adjacent to residential lot lines during site plan review.

- 4. The requested GB zoning district is more appropriate than any another zoning district.
- 5. Rezoning the land to GB is more appropriate than amending the list of uses in the GB district.
- 6. Rezoning the parcel to GB will not result in spot zoning.

If you have any questions or require additional information, please do not hesitate to contact us.

Respectfully submitted,

McKENNA



Hunter Whitehill
Associate Planner

cc: Mr. Justin Quagliata
Ms. Hannah Micallef

CHARTER TOWNSHIP OF WHITE LAKE
COMMUNITY DEVELOPMENT DEPARTMENT
7525 Highland Road, White Lake, Michigan 48383-2900
248-698-3300, Ext. 163

APPLICATION TO REZONE PROPERTY

Date: 1/31/2022

Applicant: BLACK ROCK WHITE LAKE, LLC

Address: 30553 S WIXOM RD #300, WIXOM, MI 48393

Phone No.: 2487700707 Fax No.: _____

E-mail: BRANDENBROOKE@AOL.COM

Applicant's Interest in Property: Rezone from Local Business to General Business

Property Owner: BRANDENBROOKE INVESTMENT CO

Owner's Address: 30553 S WIXOM RD #300, WIXOM, MI 48393


Phone No.: 2487700707 Fax No.: _____

Location of Property: 9501 Highland Rd

Sidwell No(s): 12-23-129-007

Total area of change: 1.0 acres

I, the undersigned (owner, attorney, or option holder) hereby request that this property now classified as LB Local Business District, be reclassified as GB General Business District.

Applicant's Signature: 
(If owner does not sign application, attach letter signed by owner, requesting zoning change.)

Please Print Name: LONNY MORGANROTH

Required Attachments:

- 1. Legal description of the property proposed to be rezoned.
- 2. Location map
- 3. Rezoning sign location map
- 4. Statement indicating why change is requested
- 5. Review fee (check payable to the Charter Township of White Lake)

**WHITE LAKE TOWNSHIP
NOTICE OF PUBLIC HEARING**

Notice is hereby given of a public hearing by the White Lake Township Planning Commission on **Thursday, March 17, 2022 at 7:00 P.M.** at the Township Annex, 7527 Highland Road, White Lake, Michigan 48383, to consider the following changes to the zoning map:

Property described as parcel number 12-23-129-007 (9501 Highland Road), located south of Highland Road and east of White Banks Blvd, consisting of approximately 1 acre.

Applicant requests to rezone the parcel from **(LB) Local Business to (GB) General Business** or any other appropriate zoning district.

Persons interested are requested to be present. Pertinent information relative to this rezoning request is on file at the Community Development Department and may be examined at any time during regular business hours of 8:00 a.m. to 5:00 p.m. Persons interested may visit the Community Development Department, contact the Community Development Department by telephone at 248-698-3300, ext. 5, or attend the Public Hearing on the date specified. Written comments are also welcome at 7525 Highland Road, White Lake, MI 48383. Individuals with disabilities requiring auxiliary aids or services should contact the Clerk's Office at least 5 days before the hearing.

Sean O'Neil, AICP
Community Development Director

CHARTER TOWNSHIP OF WHITE LAKE

**AN ORDINANCE TO AMEND CHAPTER 36, TRAFFIC AND VEHICLES, ARTICLE II –
VEHICLE CODES, OF THE WHITE LAKE TOWNSHIP
CODE OF ORDINANCES**

An Ordinance to Amend Chapter 36, Article II of the Charter Township of White Lake Code of Ordinances in its entirety, adopting by reference the Uniform Traffic Code, the Michigan Vehicle Code, 1949 PA 300, MCL 257.1 to 257.923, as amended, the Michigan Motor Carrier Safety Act, 1963 PA 181, MCL 480.11 to 480.25, as amended, Chapter 324, Part 821 of the Natural Resource Environmental Protection Act, 1994 PA 451, and Chapter 324, Part 811 of the Natural Resource Environmental Protection Act, 1994 PA 451.

THE CHARTER TOWNSHIP OF WHITE LAKE ORDAINS:

ARTICLE II. - VEHICLE CODES

DIVISION 1. - GENERALLY

DIVISION 2. - UNIFORM TRAFFIC CODE

Sec. 36-40. - Code adopted.

The Uniform Traffic Code for Cities, Townships, and Villages as promulgated by the Director of the Michigan Department of State Police pursuant to the Administrative Procedures Act of 1969, 1969 PA 306, MCL 24.201 to 24.328 and made effective October 30, 2002, and all future amendments and revisions to the Uniform Traffic Code when they are promulgated and effective in this state are incorporated by reference, and its provisions will be effective in this Township from the effective date of the ordinance from which this division is derived.

Sec. 36-41. - References in code.

References in the Uniform Traffic Code for Cities, Townships, and Villages to a "governmental unit" shall mean the Charter Township of White Lake.

Sec. 36-42. - Notice.

The township clerk shall publish the ordinance from which this division is derived in the manner required by law and shall publish, at the same time, a notice stating the purpose of the Uniform Traffic Code for Cities, Townships, and Villages and the fact that a complete copy of the code is available to the public at the office of the clerk for inspection.

Sec. 36-43. - Penalties.

The penalties provided by the Uniform Traffic Code for Cities, Townships, and Villages are adopted by reference.

Sec. 36-44. - Applicability to private property.

The Uniform Traffic Code for Cities, Townships, and Villages is hereby made applicable, for the purpose of enforcement and imposition of penalties, to the operation, parking and speed of motor vehicles upon the following properties, pursuant to resolution or agreement requesting same:

- (1) All properties of the Huron Valley School District situated within the boundaries of the Township of White Lake.
- (2) Whispering Meadows Association.
- (3) Bocovina East Association.
- (4) Whetherstone Condominium Association.
- (5) Twin Lakes Village Association.
- (6) Ivy Glen Park Home Owners Association
- (7) Cedarbrook Estates Manufactured Home Community

Sec. 36-45. - Parking on private property; violation as civil infraction.

No person shall park any motor vehicle on any private property in the Township without the express or implied consent, authorization or ratification of the owner, holder, occupant, lessee, agent or trustee of such property. A person who violates this section is responsible for a civil infraction.

DIVISION 3. - MICHIGAN VEHICLE CODE

Sec. 36-64. - Code adopted.

The Michigan Vehicle Code, 1949 PA 300, MCL 257.1 to 257.923, as amended, and all future amendments and revisions to the Michigan Vehicle Code when they are promulgated and effective in this state are incorporated by reference, and its provisions will be effective in this township from the effective date of the ordinance from which this division is derived. MCL 257.625(1)(c) of the Michigan Vehicle Code is specifically adopted by reference pursuant to Public Act 8 of 2012.

Sec. 36-65. - References in code.

References in the Michigan Vehicle Code to "local authorities" shall mean the Charter Township of White Lake.

Sec. 36-66. - Notice.

The township clerk shall publish the ordinance from which this division is derived in the manner required by law and shall publish, at the same time, a notice setting the purpose of the Michigan Vehicle Code and the fact that a complete copy of the code is available to the public at the office of the clerk for inspection.

Sec. 36-67. - Penalties.

The penalties provided by the Michigan Vehicle Code are adopted by reference. The township may not enforce any provision of the Michigan Vehicle Code for which the maximum period of imprisonment is greater than 93 days or for which a fine is greater than \$500.00, except for a violation of MCL 257.625(1)(c) which is a misdemeanor punishable by one or more of the following:

- (1) Community service of not more than 360 hours.
- (2) Imprisonment for not more than 180 days.
- (3) A fine of not less than \$200.00 or more than \$700.00.

Sec. 36-68. - Applicability to private property.

The Michigan Vehicle Code, 1949 PA 300, as amended, MCL 257.1 to 257.923, as amended, is hereby made applicable, for the purpose of enforcement and imposition of penalties, to the operation, parking and speed of motor vehicle upon the following properties, pursuant to resolution or agreement requesting same:

- (1) All properties of the Huron Valley School District situated within the boundaries of the Township of White Lake.
- (2) Whispering Meadows Association.
- (3) Bocovina East Association.
- (4) Whetherstone Condominium Association.
- (5) Twin Lakes Village Association.
- (6) Ivy Glen Park Home Owners Association
- (7) Cedarbrook Estates Manufactured Home Community

Sec. 36-69. - Parking on private property; violation as civil infraction.

No person shall park any motor vehicle on any private property in the township without the express or implied consent, authorization or ratification of the owner, holder, occupant, lessee, agent or trustee of such property. A person who violates this section is responsible for a civil infraction.

DIVISION 4. - SNOWMOBILES

Sec. 36-97. - Act adopted.

Chapter 324, Part 821 of the Natural Resource Environmental Protection Act, 1994 PA 451, MCL 324.82101 to 324.82161, as amended, and all future amendments and revisions to Chapter 324, Part 821 of the Natural Resource Environmental Protection Act when they are promulgated and effective in this state are incorporated by reference, and its provisions will be effective in this township from the effective date of the ordinance from which this division is derived.

Sec. 36-98. - References in Act.

References in Chapter 324, Part 821 of the Natural Resource Environmental Protection Act to "local unit of government" shall mean the Charter Township of White Lake.

Sec. 36-99. - Notice.

The township clerk shall publish the ordinance from which this division is derived in the manner required by law and shall publish, at the same time, a notice stating the purpose of Chapter 324, Part 821 of the Natural Resource Environmental Protection Act. A complete copy of Chapter 324, Part 821 of the Act is available to the public at the office of the clerk for inspection.

Sec. 36-100. - Penalties.

The penalties provided by Chapter 324, Part 821, of the Natural Resource Environmental Protection Act are adopted by reference, provided, however, that the township may not enforce any provision of Chapter 324, Part 821 of the Act for which the maximum period of imprisonment is greater than 93 days, or for which a fine is greater than \$500.00.

DIVISION 5. - MICHIGAN MOTOR CARRIER SAFETY ACT

Sec. 36-129. - Act adopted.

The Michigan Motor Carrier Safety Act, 1963 PA 181, MCL 480.11 to 480.25, as amended, and all future amendments and revisions to Michigan Motor Carrier Safety Act when they are promulgated and effective in this state are incorporated by reference, and its provisions will be effective in this township from the effective date of the ordinance from which this division is derived.

Sec. 36-130. - References in Act.

References in the Michigan Motor Carrier Safety Act to "local authorities" shall mean the Charter Township of White Lake.

Sec. 36-131. - Notice.

The township clerk shall publish the ordinance from which this division is derived in the manner required by law and shall publish, at the same time, a notice stating the purpose of the Michigan Motor Carrier Safety Act and the fact that a complete copy of the Act is available to the public at the office of the clerk for inspection.

Sec. 36-132. - Penalties.

The penalties provided by Motor Carrier Safety Act are adopted by reference, provided, however, that the Township may not enforce any provision of Motor Carrier Safety Act for which the maximum period of imprisonment is greater than 93 days, or for which a fine is greater than \$500.00.

DIVISION 6. - OFF ROAD VEHICLES

Sec. 36-163. - Act adopted.

Chapter 324, Part 811 of the Natural Resource Environmental Protection Act, 1994, PA 451, MCL 324.81101 to 324.81150, as amended, and all future amendments and revisions to Chapter 324, Part 811 of the Natural Resource Environmental Protection Act when they are promulgated and effective in this state are incorporated by reference, and its provisions will be effective in this township from the effective date of the ordinance from which this division is derived.

Sec. 36-164. - References in Act.

References in Chapter 324, Part 811 of the Natural Resource Environmental Protection Act to "local unit of government" shall mean the Charter Township of White Lake.

Sec. 36-165. - Notice.

The township clerk shall publish the ordinance from which this division is derived in the manner required by law and shall publish, at the same time, a notice stating the purpose of Chapter 324, Part 811 of the Natural Resource Environmental Protection Act. A complete copy of Chapter 324, Part 811 of the Act is available to the public at the office of the clerk for inspection.

Sec. 36-166. - Penalties.

The penalties provided by Chapter 324, Part 811 of the Natural Resource Environmental Protection Act are adopted by reference, provided, however, that the Township may not enforce any provision of Chapter 324, Part 811 of the Act for which the maximum period of imprisonment is greater than 93 days or for which a fine is greater than \$500.00.

ARTICLE II: SEVERABILITY.

If any section, clause or provision of this Ordinance shall be declared to be unconstitutional, void, illegal or ineffective by any court of competent jurisdiction, such selection, clause or provision declared to be unconstitutional, void or illegal shall thereby cease to be a part of this Ordinance, but the remainder of the Ordinance shall stand and be in full force and effect.

ARTICLE III: EFFECTIVE DATE.

This Ordinance shall take effect following publication in the manner prescribed by law.

ARTICLE IV: REPEALER.

All other ordinances or parts of ordinances in conflict with this ordinance are hereby repealed to the extent necessary to give this ordinance full force and effect.

ARTICLE V: ADOPTION.

This Ordinance is hereby declared to have been adopted by the Township Board of this Charter Township of White Lake at a meeting thereof duly called and held on the __ day of _____, 2022, and ordered to be given publication in the manner prescribed law.

BY: _____
Rik Kowall, Supervisor

BY: _____
Anthony Noble, Clerk

**CHARTER TOWNSHIP OF WHITE LAKE
AN ORDINANCE TO AMEND CHAPTER 18, ARTICLE II - FIRE CODE
OF THE WHITE LAKE TOWNSHIP CODE OF ORDINANCES**

THE CHARTER TOWNSHIP OF WHITE LAKE ORDAINS:

ARTICLE 1: AMENDMENT.

Chapter 18, Article II of the Township of White Lake Code of Ordinance, commonly referred to as the Fire Prevention and Protection Ordinance, is hereby amended to add a new subsection 113.11 under Section 18-25 (Changes in the code), as follows. The remaining sections and subsections in Section 18-25 are otherwise unaffected by this amendment and shall remain in full force and effect.

Section 113.11 shall be added to read as follows

SECTION 113.11: REQUEST FOR NON-EMERGENCY ASSISTANCE

White Lake Township shall be entitled to recover a reasonable fee from a building owner and/or operator in any case where a non-emergency response is requested to assist an uninjured individual who is unable (under their own power) to move themselves from an undesired position, while residing within a facility or building that employs staff responsible for resident care and assistance. This “Facilities, and buildings” includes, but is not limited to, assisted living centers, nursing homes, senior apartment buildings, or any facility which employs staff for resident care and assistance.

For the purpose of this section, cost recovery shall be evaluated on a quarterly basis, and fees shall be charged if any of the following apply:

1. Two (2) or more nonemergency responses to the same location or address; or
2. At the time of the response, the facility was sufficiently staffed; or
3. The facility is properly equipped with lifting equipment.

ARTICLE 2: SEVERABILITY.

ARTICLE 3: EFFECTIVE DATE.

ARTICLE 4: REPEALER.

ARTICLE 5: ADOPTION.

This Ordinance is hereby declared to have been adopted by the Township Board of this Charter Township of White Lake at a meeting thereof duly called and held on the ____ day of _____, 2022, and ordered to be given publication in the manner prescribed by the Charter of the Charter Township of White Lake.

BY: _____
Rik Kowall, Supervisor

BY: _____
Anthony L. Noble, Clerk

**WHITE LAKE TOWNSHIP
INTER-OFFICE MEMORANDUM
COMMUNITY DEVELOPMENT DEPARTMENT**

DATE: May 9, 2022

TO: Rik Kowall, Supervisor
Township Board of Trustees

FROM: Sean O’Neil, AICP
Community Development Director

**SUBJECT: Hypershine Car Wash
Preliminary site plan approval.**
Property described as parcel number 12-23-202-006 (9345 Highland Road), located on the south side of Highland Road, west of Fisk Road, consisting of approximately 4.91 acres.

The above request is now ready for Township Board Consideration. The matter was considered by the Planning Commission at their regular meeting of April 21, 2022 at which time the **Planning Commission recommended approval** of the preliminary site plan and **approved** the special land use for a car wash. The matter was considered by the Zoning Board of Appeals at their regular meeting of April 28, 2022 meeting for variances needed in regards to dumpster placement and landscaping, at which time the Zoning Board of Appeals **approved** the requested variances. The request is now ready to be considered by the Township Board.

Please find enclosed the following related documents:

- Minutes from the Planning Commission meeting held on April 21, 2022.
- Review letter prepared by Michael Leuffgen, Township Engineer, dated April 4, 2022.
- Review letter prepared by Justin Quagliata, Staff Planner, dated April 1, 2022.
- Review letter prepared by Jason Hanifen, White Lake Township Fire Marshal, dated March 21, 2022.
- Memo prepared by Jeanine Smith, Assessor, dated March 21, 2022.
- Minutes from the Zoning Board of Appeals meeting held April 28, 2022.
- Staff Review prepared by Justin Quagliata, Staff Planner, dated April 28, 2022.
- Plans and elevations submitted by the applicant.

Please place this matter on the next available Township Board agenda. Do not hesitate to contact me should you require additional information.

**WHITE LAKE TOWNSHIP
PLANNING COMMISSION**

Township Annex, 7527 Highland Road
White Lake, MI 48383
April 21, 2022 @ 7:00 PM

CALL TO ORDER

Chairperson Anderson called the meeting to order at 7:00 PM and led the Pledge of Allegiance. Roll was called.

ROLL CALL

Steve Anderson
Merrie Carlock
Pete Meagher
Debby Dehart
Scott Ruggles
Matt Slicker
Robert Seeley
T. Joseph Seward

Absent: Mark Fine

Also Present: Sean O'Neil, Community Development Director
Justin Quagliata, Staff Planner
Mike Leuffgen, DLZ
Kyle Gall, DLZ
Lisa Kane, Recording Secretary

Visitors: 20+ members of the public were present

APPROVAL OF AGENDA

Commissioner Meagher moved to approve the agenda of the April 21, 2022 Planning Commission Meeting.

Commissioner Carlock supported and the **MOTION CARRIED** with a voice vote: 8 yes votes.

APPROVAL OF MINUTES

- a. Regular meeting minutes of April 7, 2022

Commissioner Meagher moved to approve the Minutes of April 7, 2022

Commissioner Seward supported and the **MOTION CARRIED** with a voice vote: 8 yes votes.

CALL TO THE PUBLIC (FOR ITEMS NOT ON THE AGENDA)

None

PUBLIC HEARING

A. White Lake Hill LLC

Property described as parcel number 12-20-101-003 (1085 Hill Road), located on the north side of Highland Road, west of Hill Road, consisting of approximately 68.96 acres. Property described as parcel number 12-20-126-006, located north of Highland Road, east of Hill Road, consisting of approximately 41.06 acres.

Requests:

1) Preliminary site plan approval

2) Rezoning request: Applicant requests to rezone parcel number 12-20-101-003 from (AG) Agricultural and (PB) Planned Business to (PD) Planned Development or any other appropriate zoning district, and parcel number 12-20-126-006 from (R1-A) Single Family Residential to (PD) Planned Development or any other appropriate zoning district.

Applicant: White Lake Hill, LLC
31550 Northwestern Highway
Farmington Hills, MI 48334

Applicant Present: Mark Kassab

Director O'Neil presented the Fire Department's comments and Assessing's comments on the parcels.

Commissioner Slicker disclosed a professional relationship with the applicant and asked to recuse himself from voting.

Commissioner Meagher moved to allow Commissioner Slicker to recuse himself due to the professional relationship with the applicant. Commissioner Seward supported and the motion carried with a roll call vote (7 yes votes)
(Carlock/yes, Dehart/yes, Meagher/yes, Anderson/yes, Seeley/yes, Seward/yes, Ruggles/yes)

Commissioner Ruggles disclosed a professional relationship for consideration by the board, as his family has farmed that land in the past. It was determined that there were no conflicts of interest and Commissioner Ruggles remained present for the public hearing.

Mr. Leuffgen presented the engineering report from DLZ Engineering. Because sidewalks are not feasible on both sides of Hill Road and the applicant has offered a community benefit for sidewalk fund to compensate for that. The ordinance requires that work done within the 25-foot wetland buffer will need a plan in place to restore it to the original vegetative state. All roads, whether private or public, need to meet Road Commission of Oakland County requirements and this will be required to be indicated on the final site plan. The preliminary site plan provides a reasonable means of stormwater management. The sanitary sewer ordinance requires that sewer be extended across the full extent of the property frontage for the benefit of future use, however the grade and location of trees will make it difficult to extend all the way to the northern property line on Hill Road, therefore it may be left about 40 feet short. The recommendation is for the applicant to consider depositing funds in an escrow account for future use when there is a need for it by an adjoining property. The master plan does include sanitary sewer extending north on Hill Road. It should be considered to include a condition for a loop system for the water supply which provides a redundant source of water service to provide redundancy and reliability concern. A pump station analysis is recommended for the sewage system as the closed pump station has two pumps and a third pump may be warranted. There is a concern regarding building envelopes in relation to patios and decks extending into the sewer easements that should be limited as much as possible.

Commissioner Seeley inquired about the single point of road access and if there is a number of units that would indicate the need of a second road access.

Mr. Quagliata stated that the Fire Department indicated that the preliminary site plan met the intent of the fire code.

Commissioner Ruggles inquired about the loop water system and if the water main on Highland Road would meet the needs of the development.

Mr. Leuffgen explained that where this project would tie in to the water main is in a different pressure district than the water tower. There is not a water main on Hill Road but they are proposing installing one.

Commissioner Anderson inquired about the number of units, the need for the looping water system and if the residents nearby would benefit from the looping water system.

Mr. Leuffgen stated that the residents on Highland Road have direct access to the water main on Highland Road and would not require access to the looped water system.

Discussion occurred of the benefits of looped water system and whether it stabilizes water pressure.

Mr. Quagliata presented the project as 493 total units which consists of 87 detached single-family site condos and 406 multiple-family rental apartment units. The single-family homes will be governed by a declaration of covenant and the apartment rentals will remain owned and managed by the developer. The property on the west side of Hill Road has split zoning, which would be remedied by the rezoning. Rezoning to Planned Development is necessary to develop these properties as indicated on the preliminary site plan. The clubhouse is in the hub of the apartments providing amenities such as a patio and pool and the single-family dwellings will not have access to the clubhouse. The applicant has proposed a public benefit of \$100,000 Parks and Rec fund. Between the two parcels 22 wetlands are identified and are regulated by EGLE, the applicant has stated that any natural area that requires grading for walk-out basements will be returned to its natural, undisturbed state with only native plantings. The multi-family apartments on Hill Road will have a boulevard style entrance. The traffic impact statement recommends a signal be installed east of Hill Road with a right turn taper installed, which is consistent with generally accepted engineering standards. MDOT has jurisdiction of Highland Road and will need to approve any traffic light or changes to the roadway. The Planning Commission can consider waivers in exchange for amenities requested. The applicant would request a waiver for some recreation space. Parallel plans could be considered for parcels without Planned Development district approval, in which the applicant would request a waiver for density. The Planning Commission should consider if the proposed setbacks and lot coverage are appropriate for this project. They will request a 5-foot waiver for some lots' setbacks. There would be no deck or patio in any setback, however a waiver for some patios or decks in the storm water easement may be requested. The ordinance requires double striping and the applicant has indicated that they will seek a waiver for parking striping as double striping is more appropriate for commercial properties, not residential. A 930-foot waiver for the length of street due to topographies and natural features. Sidewalks will be installed on the west side of Hill Road but not on the east side of the road and the applicant has proposed a contribution to the Township Sidewalk Fund to accommodate for that. The applicant would also seek a waiver for a third sign as only two signs are allowed. The dumpster enclosure by the clubhouse would either need a concrete pad in front of it or to seek a waiver. Staff recommends approval as the rezoning and site plan are consistent and compatible with the master plan, subject to getting final site plan approval and all comments and reports in the final site plan are addressed.

Commissioner Seward is troubled by the statement that this is consistent with the master plan because this area is rural and it will increase traffic.

Mr. Quagliata stated that the master plan prescribes residential at this location at a greater density than what is proposed in this project.

Director O'Neil added that this property was rezoned about 15 years ago to Planned Business in preparation for a Super Target to be built. That project did not materialize but there was anticipation of another similar project being brought forward. This residential project will bring less traffic than a large scale commercial project would.

Mr. Quagliata stated that Hill Road will be paved to the north and that they do not expect that traffic will travel north on Hill Road as there isn't anywhere to cut through to.

Commissioner Anderson reminded the public that they would have an opportunity to speak after the applicant makes their presentation.

Commissioner Carlock inquired about the orientation of the single-family units on the southeast side of Hill Road and the road that would serve them.

Mr. Quagliata stated that the road to those units would be a private road that the Homeowner's Association would maintain. The roads that serve the rest of the single-family dwellings would be petitioned by the developer to the Road Commission of Oakland County to be public. However, the roads in the multi-family apartment complex would remain private and maintained by the owner of the property.

Commissioner Meagher inquired if there was a need for rental properties.

Mr. Quagliata stated that the applicant can respond to that market analysis.

Commissioner Dehart inquired if the signs would need a variance.

Mr. Quagliata stated that the process of preliminary site plan review includes the area, quantity, location and dimension for signs but only the location was included in the submitted plan. They would have to comply with the residential standards for signs which can be approved administratively. If the requested rezoning passes, they can request a waiver for the third sign that is indicated on the preliminary site plan. The recommendation could be made at final site plan review to recommend for approval to the Township Board some or all of the waivers requested.

Discussion occurred regarding the different residential zoning districts and the density and lot size requirements for them.

Mr. Quagliata stated that if this does get approval it will be governed by a development agreement and the final site plan is a part of the development agreement. The development agreement would have designation stating that they cannot change the product or method of ownership without Township approval. The final site plan requires a list of all waivers requested, the preliminary site plan considers number of units, road layout, and similar details.

Mark Kassab, representing White Lake Hills, LLC, stated that he and his partners bought this property about 17 years ago with the intent of developing it commercially. A PowerPoint presentation was shared featuring other nearby properties they have and the commissioners were invited to visit other properties they have developed in Novi, Wixom and Commerce Township. A market study was completed which indicates demand for both single-family homes and rental properties. There is a considerable grade to be

considered with this site, approximately 75% from Highland Road to the north end of the property. The survey found approximately 8.5 acres of wetlands on the site, however only .75 acres will be impacted by development. Mr. Kassab states that wetlands are a feature that they want to keep as it is desirable to home buyers. Mr. Kassab presented the different unit models and floor plans available. Every unit has a 2 car garage and a washer and dryer with rent ranging from \$2000-\$2700 and home sales ranging from \$450,000-\$500,000. Topography made it impossible for a second access road to the apartment complex. Regarding the sidewalks on Hill Road, they preferred to put sidewalks on both side but topography was a deterrence. The applicants funded a water main study that that found that the northeast portion has low pressure and the loop system through Meijer would alleviate the pressure issue. They have various building elevations to choose from so the building envelopes could be met to limit the impact on the stormwater easements. The public park requirement within the development is believed to be better met with a contribution to Stanley Park as a public benefit. The clubhouse amenities, such as dog wash, dog park and walking trails will be desirable to residents. There will be an Amazon delivery center for packages to be safely received. There will also be a full gym and yoga studio accessed with key card. Every residence will have a separate entryway, no common hallways. This is an all-ages community, with the ranch-style homes benefiting the aging. Single-family dwellings will have a master deed with CCR which will be turned over to a Homeowner's Association. Community benefits include paving Hill Road according to the traffic study comments, a contribution to Stanley Park instead of public park within development.

Commissioners thanked Mr. Kassab for his presentation.

Commissioner Seeley inquired about the willingness to scale back the waivers.

Mr. Kassab stated that they are extremely willing to work with the Township to meet any requirements.

Commissioner Anderson opened public comment at 8:22 PM

Derrick Near of 1850 Hill Road has concerns about the traffic that will travel north on Hill Road. GPS mapping systems navigate travelers north on Hill Road to get to any destination north of M59. Paving the road is going exacerbate the problem. He would like to see that the development only allow access to Highland Road.

Sean O'Callohan of 1831 Hill Road appreciates the rural area that he lives in and is concerned about increased crime. He would prefer there were no two-story buildings.

Robert Lousey of 6501 Manchester was drawn to this area by the rural nature and doesn't believe the project meets the character of Hill Road. He is also concerned about the crime that rental properties draw.

Laura Mahler of 1445 Hill Road is concerned about the density of this development. Mrs. Maher is concerned that the development has not obtained a permit from EGLE. This development is adverse to the character of Hill Road. She requests that the Planning Commission declines the request.

Tamar Near of 1850 Hill Road is concerned about the noise that will be generated by the construction, how long the project will take to complete and what will the hours of construction be.

Jim Powers of 3711 Ormon Road complimented the applicant for the presentation and appreciated that the development will create jobs and help with the tax base for the Township. He believes this will be a great attribute to the Township. He states that traffic is something that we all have to live with and he doesn't believe that crime will increase with a high rent development such as this.

John and Mary Rankin of 1829 Hill Road submitted an email which will be available on record.

Corbin McLaughlin of 1245 Hill Rd is concerned about car accidents on Highland Road and there is littering on Hill Road.

Andrea Liveright?? of 5347 Woodland is concerned about traffic and additional traffic if there is an accident on Highland Road as drivers use Hill Road to detour. She doesn't understand how it fits in with the master plan.

Anna Wilson of 1795 Hill Road enjoys the rural nature and is very upset about the idea of having so many people residing in this area.

Commissioner Anderson closed the public hearing at 8:42 PM

Director O'Neil explained the history of the master plan, how it is developed and that they would encourage residents to be a part of the process when they review the Master Plan.

Andrea Liveright of 5347 Woodland asked if consideration is taken about how the nearby residents feel when they develop the master plan.

Director O'Neil addressed some questions from the residents and informed that the wetlands permit is not required at this stage of the process.

Applicant Mr. Kassab replied to questions about density, traffic, crime and construction time frame. The income levels are expected to be over \$100,000 annually for residents of the rental apartments and it isn't anticipated that the crime rate will increase. The project that was planned for the parcel zoned Planned Business would have been something similar to a Super Target and the buffering would have been multi-family residential. The traffic study does not support increased traffic on Hill Road. This type of development is not determined by density, they aren't trying to cram as many dwellings into the lots as possible and are willing to consider less units to better meet the needs of the Township. Some waivers will be critical to create a proper development. They will abide by Road Commission of Oakland County and MDOT requirements. The duration of construction will likely be in one phase for the single-family and two phases for the multi-family complex, it will be limited by trades and materials availability.

Commissioner Ruggles asked about the anticipated duration of the phases.

Mr. Kassab responded that construction timeframe could be 2 years.

Commissioner Carlock has concerns with the natural areas to the north being preserved.

Commissioner Seward agrees with Commissioner Carlock about the north end wooded lot. He inquired about the possibility of deterring people from traveling north on Hill Road.

Commissioner Dehart sees the need for adding residential to support the local economy but has reservations because she appreciates the rural nature of White Lake.

Commissioner Seeley is concerned about the density and the size of the lots.

Mr. Quagliata addressed the concern about the rezoning stating that the rezoning to Planned Development allows the Planning Commission to consider waivers and whether or not they are appropriate.

Director O'Neil explained the broad range of the zoning of Planned Neighborhood and that the master plan doesn't perfectly align with all of the zoning districts but it is consistent with the future land use for this area and it falls within the prescribed range for density.

Discussion regarding the differences in zoning and the designations in the master plan for this area.

Commissioner Ruggles asked if the roads will be public or private.

Mr. Kassab stated that the roads in the single-family area will be public but the rental apartment homes will be private so that they can maintain them as the rental property management. He also explained that there is a waiver that they can sign so that the police can respond to violations on the private roads.

Commissioner Ruggles shares the concerns of many of the residents about the traffic on Hill Road and with the density.

Commissioner Meagher moved to forward a favorable recommendation, subject to the applicant addressing all of the staff and consultant comments and recommendations to the Township Board, the preliminary site plan for the property described as parcel number 12-20-101-003 (1085 Hill Road), located on the north side of Highland Road, west of Hill Road, consisting of approximately 68.96 acres. Property described as parcel number 12-20-126-006, located north of Highland Road, east of Hill Road, consisting of approximately 41.06 acres.

Commissioner Anderson supported, and the MOTION FAILED with a roll call vote (2 yes votes): (Carlock/no, Dehart/no, Meagher/yes, Anderson/yes, Seeley/no, Seward/no, Ruggles/no)

Commissioner Seeley moved to forward a favorable recommendation, subject to getting preliminary site plan approval, to the Township Board, the rezoning from parcel number 12-20-101-003 from (AG) Agricultural and (PB) Planned Business to (PD) Planned Development or any other appropriate zoning district.

Commissioner Dehart supported, and the MOTION CARRIED with a roll call votes (6 yes votes): (Carlock/yes, Dehart/yes, Meagher/yes, Anderson/yes, Seeley/yes, Seward/no, Ruggles/yes)

Commissioner Seeley moved to forward a favorable recommendation, subject to getting preliminary site plan approval, to the Township Board, the rezoning from parcel number parcel number 12-20-126-006 from (R1-A) Single Family Residential to (PD) Planned Development or any other appropriate zoning district.

Commissioner Meagher supported, and the MOTION CARRIED with a roll call votes (5 yes votes): (Carlock/yes, Dehart/no, Meagher/yes, Anderson/yes, Seeley/yes, Seward/no, Ruggles/yes)

Director O'Neil will have a conversation with the Township attorney about how to proceed.

Commissioner Anderson reminded the attendees that agendas are posted on the website and they will need to check to see when this project is coming back to the Planning Commission for consideration.

B. Hypershine Car Wash

Property described as parcel number 12-23-202-006 (9345 Highland Road), located on the south side of Highland Road, west of Fisk Road, consisting of approximately 4.91 acres.

Requests:

1) Preliminary site plan approval

2) Special land use approval

Applicant: EROP, LLC
2390 East Federal Drive
Decatur, IL 62526

Applicant present: Reid Cooksy of EROP, LLC

Mr. Quagliata presented the project for the parcel that was rezoned two years ago by a developer who wanted to bring plans forward for a carwash but it did not materialize. Driveways are required to meet setbacks from adjacent driveways and be offset from opposing driveways. The applicant will need to request from the Planning Commission a waiver from interlocking driveway rule or they would need a variance from the Zoning Board of Appeals. They are proposing a six-foot vinyl fence to provide screening from the residential properties. The outdoor lighting plan would be reviewed at final site plan review. There are concerns about the dumpster placement and the gate orientation which may require a variance from the Zoning Board of Appeals. The required number of stacking spaces and parking spaces are met. The ordinance requires a certain number of shrubs and trees in greenbelt. There is a water main easement that is deterring them from meeting the planting requirements. They will request a variance for one wall sign placement as the water main easement is deterring them from a monument sign.

Commissioner Dehart inquired about the previous applicant's proposal to give the rear portion of the parcel to the township.

Mr. Quagliata replied that the current applicant has not proposed the same offer.

Commissioner Slicker inquired about the need of a bypass lane.

Mr. Quagliata explained that the ordinance does not require a bypass lane and that they providing more stacking space than is required.

Mr. Quagliata stated that six variances would be requested: potentially two for the driveway, for the 450 ft separation although the Planning Commission can consider a waiver for driveways; one for the dumpster location; potentially two for the landscaping trees & shrubs in the greenbelt; and one for the sign.

Director O'Neil commented on the possible ways that the applicant could avoid requesting variances.

Commissioner Dehart inquired who determines the addition of a deceleration lane.

Director O'Neil responded that MDOT has jurisdiction over Highland Road.

Commissioner Slicker inquired about the greenbelt requirements.

Mr. Quagliata stated that the applicant meets the width for the greenbelt but did not indicate the proper number of trees and shrubs to be planted.

Commissioner Seeley also inquired about the bypass lane and if there is not a teller available in the pay booth how will someone exit who accidentally pulled in to the driveway.

Discussion occurred regarding the requirements of a frontage road for cross access between adjacent businesses.

Mr. Leuffgen of DLZ Engineering presented the second review for engineering feasibility. It was noted

that a 20-foot one way drive was required by the Fire Department for the exit of the carwash. A storm water management plan including a storm water detention pond with an outlet discharging to the MDOT storm system will need to be approved by MDOT. It is recommended that the sanitary sewer connection be a pressure sewer including a grinder station. Clarification from the Oakland County Water Resource Commissioner is needed at final site plan review on the need of an external oil gride separator. Mr. Leuffgen finds nothing that prohibits recommending an approval from engineering.

Commissioner Slicker inquired about the grade entering Highland Road to avoid parking lot run off.

Mr. Cooksy responded to concerns about stacking and circulation of the site. Membership based model, three lanes: two are membership lanes which use license plate readers and one is pay based. Vacuums are free after paying for wash with unlimited use. The entrance was aligned with the opposing boulevard entrance to avoid needing a variance. They weren't aware that they could plant within three feet of the watermain in the greenbelt and they will work with landscaping requirement.

Commissioner Slicker inquired about the bypass lane and how will patrons leave without paying for a carwash if they decide not to use the service.

Mr. Cooksy answered that there are constraints to the parcel including overhead electrical lines to creating a bypass lane and the throughput time is very fast so even with a lot of cars stacked they will get through the tunnel quickly.

Commissioner Dehart inquired about the orientation of the dumpster.

Mr. Cooksy responded that due to the size of the refuse truck, it will not be able to enter the rear of the property. He also is willing to work with the Township to find an alternative.

Commissioner Anderson inquired about the fees for the services.

Mr. Cooksy stated that that the fee structure model is mainly the monthly membership which ranges from \$30 - \$40 per month but there will be employees on site to assist customers but not in a booth to take payment.

Commissioner Meagher asked if someone needed to get through without paying would someone be available to help them continue through without paying for a wash.

Commissioner Seeley informed that there is an ordinance requirement for a frontage road and that would provide a bypass for people who didn't intend on obtaining carwash services.

Mr. Cooksy stated that they will provide a stub and an easement to the east that is part of the employee parking spaces for a future possible frontage road.

Commissioner Anderson opened public comment at 10:26 PM

Commissioner Anderson stated that two emails were received from the Kenneth T Johnson Jr and Rachel Cook who do not support the project.

Shannon Frescas of 9240 Steephollow Dr. is adamantly against this project, is concerned about the project and is very concerned about the noise.

Ken Moomah of 9218 Steephollow Dr. is concerned about the excess lighting in the parking lot. Mr. Moomah has also reminded the commission that routing the traffic through the Dance Studio would not be safe with all of the children entering and leaving the building. Mr. Moomah added the concern about the former Brendel's property being developed.

Richard Morris of 9211 Steephollow Dr. appreciates the quietness of living on Tull Lake. Mr. Morris is concerned about the noise and is concerned about the chemicals and impact of the cleaning agents.

Margaret Penner of 9651 Steephollow Dr. shares the other residents' concerns and is also concerned about the well head protection.

Darryl Davis of 9265 Steephollow Dr. would like a taller fence and landscaping to buffer the noise.

Dave Gian of 9315 Steephollow Dr agrees with all of the concerns from other residents and would like to see trees to buffer the rear of the lot. He would also like to know what the plan is for the runoff from the parking lot as well as the runoff from the cleaning of the cars.

Marcy Denesca of 4745 Berry Patch Lane is concerned about the impact on the lake.

Kathleen Grant of 9268 Steephollow Dr takes great pride in her neighborhood and the lake. Ms. Grant is concerned about the drainage and runoff.

Monica Wilcowski of 9292 Steephollow Dr believes there are other carwashes and doesn't see the need for another one.

Ken Moomah of 9218 Steephollow Dr. returned to ask if there was the possibility of the back part of the parcel being split and sold to other commercial development.

Mr. Quagliata responded that the area indicated is landlocked and would not be able to be split and sold because there would be no way to access it from Highland Road.

A member of the audience asked what the hours of operation would be.

Mr. Cooksy responded that the hours of operation would be 8am-8pm, 7 days of the week.

Commissioner Anderson closed public comments at 10:41 PM

Commissioner Carlock inquired about the water source, if it would be the water main at Highland Road and how run off from the parking lot and waste water would be managed.

Director O'Neil replied that they would be connected to the municipal water and sewer, runoff would

drain into the stormwater basin at the curb and the waste water generated from the carwash will enter a reclamation system for processing, but ultimately enter the sanitary sewer.

Commissioner Slicker asked why the Belle Tire doesn't have an access road.

Director O'Neil answered that the reciprocal access easements came in when there was a traffic study done with MDOT in about 2003, that is when the Township's access management plan was adopted and Belle Tire had been in operation for years before that. They do share the driveway with the old Tim Hortons restaurant. And they were required by the township to make a connection to the shopping center to the east.

Discussion occurred regarding the possibility of a frontage road.

Mr. Cooksy responded to questions from residents about the waste water, fence, trees and water shed. Concerning light and noise, studies have been done on these vacuum systems, which have mufflers, they are less than 60 decibels at the property line. The lights meet the ordinance allowances and will not impact the neighboring. No drainage will leave the site as it will be directed to the detention pond. Considering the sanitary discharge, the reclamation tanks inside separate oil and chemicals and it cleans the water and sends very minimal discharge into the sanitary sewer system. The 6-foot-tall fence is what is required by the Township and can plant trees on the west side. All chemicals are contained and employees will maintain the property. The noise study can be provided. The wash tunnel has silencers on the blowers at the end of the tunnel which mitigate the noise.

Discussion occurred about the noise study and the noise generated from the vacuums and from the tunnel itself.

Commissioner Carlock inquired about the special land use for this zoning.

Commissioner Meagher inquired about the screening wall composition.

Director O'Neil explained that the screening will include the 400-foot buffer of vacant land which will help mitigate all noise and light.

Discussion about the feasibility of the project due to the inability to provide a frontage lane.

Commissioner Slicker moved to table the project until the applicant can comply with the requirement for the front access road.

Commissioner Seward supported and the **MOTION FAILED** with a roll call vote (2 yes votes): (Carlock/no, Dehart/no, Meagher/no, Anderson/no, Seeley/no, Seward/yes, Ruggles/no, Slicker/yes)

Commissioner Seeley moved to forward a favorable recommendation, subject to the applicant addressing all of the staff and consultant comments and recommendations, the easement requirement, providing a waiver for the coordination of the driveway and subject to special approval, to the Township Board, the preliminary site plan for the property described as parcel number 12-23-202-006 (9345 Highland Road), located on the south side of Highland Road, west of Fisk Road, consisting of approximately 4.91 acres.

Commissioner Meagher supported, and the MOTION CARRIED with a roll call vote (6 yes votes):
(Carlock/yes, Dehart/yes, Meagher/yes, Anderson/yes, Seeley/yes, Seward/no, Ruggles/yes, Slicker/no)

Commissioner Meagher moved to approve the special land use for the property described as parcel number 12-23-202-006 (9345 Highland Road), located on the south side of Highland Road, west of Fisk Road, consisting of approximately 4.91 acres.

Commissioner Seeley supported and the MOTION CARRIED with a roll call vote (8 yes votes):
(Carlock/yes, Dehart/ yes, Meagher/ yes, Anderson/ yes, Seeley/yes, Seward/yes, Ruggles/yes, Slicker/yes)

CONTINUING BUSINESS

None

NEW BUSINESS

None

OTHER BUSINESS

None

LIAISON'S REPORT

None

DIRECTOR'S REPORT

COMMUNICATIONS

NEXT MEETING DATES: May 5, 2022
 May 19, 2022

ADJOURNMENT

Commissioner Meagher moved to adjourn the meeting at 11:27 PM
Commissioner Seeley supported and the MOTION CARRIED with a voice vote: 8 yes votes



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

April 4, 2022

Sean O' Neil
Community Development Department
Charter Township of White Lake
7525 Highland Road
White Lake, Michigan 48383

RE: Hypershine Car Wash- Preliminary Site Plan Review – 2nd Review

Ref: DLZ No. 2245-7382-03 Design Professional: Stonefield Engineering & Design

Dear Mr. O' Neil,

Our office has performed a Preliminary Site Plan review for the above-mentioned revised plan dated March 16, 2022. The plans were reviewed for feasibility based on general conformance with the Township Engineering Design Standards.

General Site Information

This site is located on the south side of M-59, west of Fisk Road, and north of Tull Lake. Total site acreage is approximately 4.854 acres.

Site Improvement Information:

- Construction of car wash building totaling 3756 square feet.
- Associated paved and curbed parking for both car wash employees and for patrons utilizing central vacuum system for their vehicles as well as maneuvering aisles. One (1) ADA accessible parking space is also proposed.
- Site to be serviced by watermain and sanitary sewer.
- Storm water runoff is proposed to be detained in proposed detention basin, located on southwestern side of the site, with discharge to the existing storm sewer in M-59.



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WLT-Hypershine Car Wash- Preliminary Site Plan Review.02
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We offer the following comments:

Note that comments from our February 22, 2022 review letter are in *italics*. Responses to those comments are in **bold**. New comments are in standard typeface.

The following items should be noted with respect to Planning Commission review:

- a) *Although the plan indicates that the existing asphalt walkway along the M-59 frontage is to remain, the paved walkway will need to be removed and replaced with an 8’ wide path (1’ inside ROW line) such that a greenbelt area between it and M-59 would be established. We defer to the Township and the Township Planning review letter dated February 18, 2022 for further comment and discussion.*
Comment addressed. The existing asphalt walkway shall be removed; an 8’ wide path located 1’ inside the ROW is now shown.
- b) *A plan indicating fire truck access and turning radii shall be provided so as to demonstrate fire truck accessibility to the site.* **Comment addressed. A Fire Truck Turning Exhibit plan sheet has now been provided.**
- c) *The proposed ADA parking space does not currently meet the required dimensions (8” stall with adjacent 8’ access aisle) per Zoning Ordinance 5.11.O.iii.* **Comment addressed. The proposed ADA space now meets Zoning Ordinance requirements.**
- d) *The proposed one-way drive on the east side of the proposed building and vacuum area does not appear to meet the minimum required width of 20’ for a one way drive per Zoning Ordinance 5.11 Q.v.* **The applicant has indicated the 20’ drive requirement is for site ingress/egress, not for internal drive isles. This appears consistent with the Ordinance considering that one way drive isles are shown within the Ordinance for angled or parallel parking adjacent at dimensions less than 20 feet. DLZ defers Ordinance interpretation to the Township’s Community Development Department.**
- e) *The location of the proposed dumpster pad appears to present a conflict regarding the flow and exit of traffic on site; it appears that a garbage truck could hinder traffic flows on site causing backup of vehicles coming from the West and heading eastbound on M-59, that intend to right hand turn into the carwash. There is also the concern that westbound traffic intending to left turn into the car wash would end up with a long queue in the left hand turn lane with the potential to cause conflicts with outbound traffic from the opposing boulevard entrance on the north side of M-59.* **Comment addressed. Per the design engineer’s response letter dated March 16, 2022, the dumpster and enclosure have been moved back out of the front yard setback; trash pickup shall occur during car**



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

wash off hours. The design engineer refers to MDOT for input with respect to potential queuing of vehicles in the M-59 westbound turn lane.

- f) *Preliminary detention basin contours and sizing calculations are required to demonstrate adequate required storage volume; clarification shall also be made relative to the ‘infiltration basin’ label shown on Sheet C-4 of the plan. Should the applicant desire to discharge to the existing M-59 storm sewer as shown on the plan, permission from MDOT would be required as this storm sewer is under MDOT jurisdiction. Design engineer shall also indicate method by which storm sewer shall be installed under M-59 for connection to the existing storm sewer on the north side of the road.*

Comment addressed. The design engineer states: “Proposed site discharge is to be reduced compared to existing discharge rates. Plans to be submitted to MDOT for stormwater and access approval prior to Final Site Plan. Stormwater design will be coordinated with MDOT as required. Final calculations are pending the results of geotechnical testing to confirm infiltration rates on site and will be provided at Final Site Plan. Storm pipe is to be jack and bored beneath Highland Road as required by MDOT. Drilling pit locations to be shown on demolition plan at Final Site Plan.”

- g) *Method of stormwater pretreatment shall be provided. Comment addressed. A mechanical water quality unit is proposed for storm water pretreatment. Details regarding manufacturer and TSS removal rated (80% required) shall be provided at time of FSP/FEP submittal.*
- h) *Storm sewer easements shall be shown on plan; it appears that a portion of the concrete pad with induction loops along the western side of property would encroach into the sewer easement, which is not allowed. Comment addressed. 10’ wide storm sewer easements are now shown on the plan. Per the design engineer, the proposed induction loops and concrete pad are not located in the storm easement.*
- i) *Clarification on the water reclaim system will be required along with coordination with White Lake Township DPS and Oakland County WRC regarding the potential need for an external 1000-gallon oil/grit separator; a 4’ diameter sampling MH located downstream of the oil/grit separator shall also be provided. A sampling manhole has been added upstream of the proposed duplex grinder station. In the design engineer’s response letter, the engineer states that oil and grit separation occurs internally. Further clarification with respect to the process used shall be required to be coordinated with White Lake Township DPS and Oakland County WRC at the time of Final Site Plan. The concern is adequately protecting the sanitary sewer grinder station from grit and oils.*
- j) *The proposed gas valve for the proposed gas lead encroaches into the existing watermain easement and shall be relocated. Comment addressed. Gas valve has now been located outside existing watermain easement.*
- k) *Storm/Sanitary Crossing CR1 elevation data appear to be in error; reference Sheet C-5. Elevations in this data table appear to have an elevation difference of approximately 30’ as compared to*



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

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surrounding topography. **Comment addressed. The elevation data error has now been corrected. As-Built plans for the Sanitary Sewer have been sent over separately.**

- l) *The proposed Evergreen trees shown along the western property line on the landscape plan Sheet C-7 will need to be planted a minimum horizontal distance of 10' from the storm sewer.* **Comment addressed. Location of proposed trees has been revised to meet the 10' horizontal separation requirement.**

The following items can be addressed at the time of Final Site Plan/ Final Engineering Plan Submittal:

FSP/FEP Comments-

General

- 1. *Plan shall contain notes per White Lake Township Engineering Design Standards Section A. 8. a.-d.* **Comment addressed.**

Paving/Grading

- 1. *All proposed barrier free ramps will need to meet ADA standards in terms of slopes and dimensions.* **Comment addressed. ADA notes/standards have been added to the grading plan sheet.**
- 2. *Bollard steel pipe shall be 6" minimum diameter per Zoning Ordinance 5.19N.i.d.* **Comment addressed. The pipe is now shown as 6" diameter.**
- 3. *Parking stall markings shall be per Zoning Ordinance 5. 11Q. xi. (dual striping).* **Comment addressed. Detail on Construction Details sheet has now been updated.**

Watermain

- 1. *We defer to the Fire Department with regard to items related to fire suppression including proposed hydrant locations.* **Comment remains as a notation.**

Sanitary Sewer

- 1. *Provide peak flows for the grinder station as the station will need to be sized to accommodate anticipated discharge.* **Comment remains. Design engineer notes that this information will be provided on the FSP/FEP.**



INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

WLT-Hypershine Car Wash- Preliminary Site Plan Review.02
April 4, 2022
Page 5 of 5

Permits

1. *Permission from White Lake Township will be required for work within the existing 15' wide watermain easement. **Comment remains as a notation.***

Recommendation

We recommend approval of the Preliminary Site Plan subject to confirmation that a 15' one way drive lane is acceptable per Comment d) above. Any remaining comments can be addressed at the time of Final Site Plan/ Final Engineering Plan submittal.

Please feel free to contact our office should you have any questions.

Sincerely,

DLZ Michigan

Michael Leuffgen, P.E.
Department Manager

Victoria Loemker, P.E.
Senior Engineer

Encl. None

Cc: Justin Quagliata, Community Development, *via email*
Hannah Micallef, Community Development, *via email*
Aaron Potter, DPS Director, White Lake Township, *via email*
John Holland, Fire Chief, White Lake Township, *via email*
Jason Hanifen, Fire Marshall, White Lake Township, *via email*

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**WHITE LAKE TOWNSHIP
PLANNING COMMISSION**

**REPORT OF THE
COMMUNITY DEVELOPMENT DEPARTMENT**

TO: Planning Commission

FROM: Sean O’Neil, AICP, Community Development Director
Justin Quagliata, Staff Planner

DATE: April 1, 2022

RE: Hypershine Auto Wash
Preliminary Site Plan and Special Land Use – Review #2

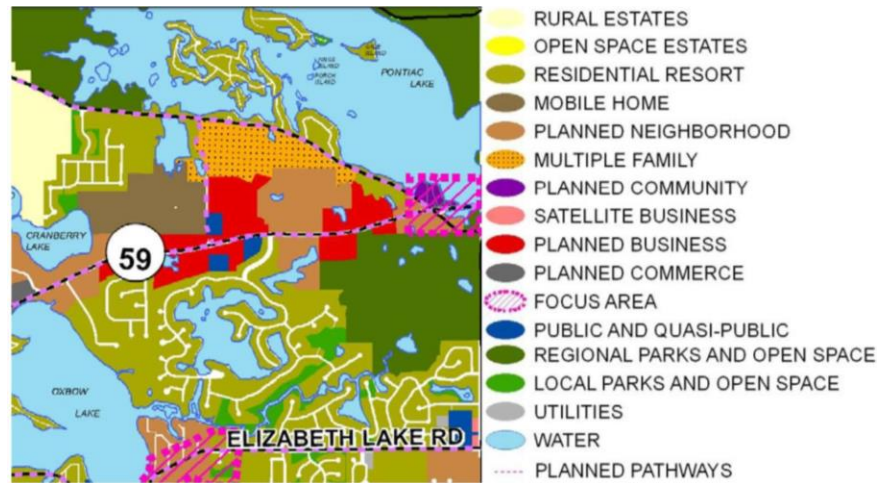
Staff reviewed the revised site plan prepared by Stonefield Engineering & Design (revision date March 16, 2022). The following comments from the first review dated February 18, 2022 are listed below. Responses to those comments are provided in **(red)**.

EROP, LLC has requested preliminary site plan and special land use approval to construct a 3,756 square foot automobile wash establishment at 9345 Highland Road (Parcel Number 12-23-202-006). The 4.85-acre subject site is zoned GB (General Business).

Master Plan

The Future Land Use Map from the Master Plan designates the subject site in the Planned Business category. All development in Planned Business is required to adhere to strict access management principles in order to minimize traffic conflict and maximize safety throughout the M-59 corridor. Connections to and segments of the Township’s community-wide pathway system are required as an integral part of all Planned Business development.

FUTURE LAND USE MAP



Zoning

Automobile wash establishments are permitted with special land use approval in the GB zoning district. At its meeting on July 21, 2020 the Township Board approved rezoning the parcel from Local Business (LB) and R1-C (Single Family Residential) to GB (General Business), which requires a minimum lot area of one (1) acre and 200 feet of lot width. The subject site contains 338.2 feet of frontage along Highland Road and 4.85 acres of lot area.

Physical Features

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetland Map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicate neither wetlands nor floodplain are present on or near the site. Currently a vacant house and three accessory buildings are located on the property. **A demolition plan shall be provided at final site plan.** (Comment remains as a notation. This requirement was acknowledged by the applicant's engineer in the response letter provided to the first review).

Access

The site fronts on Highland Road, which along the property is a five-lane road (counting the center turn lane). The site plan notes the existing paved shoulder along Highland Road would remain. **The existing paved shoulder shall be removed and converted to greenbelt.** (Comment addressed. The existing paved shoulder is to be removed. An eight-foot-wide asphalt sidewalk one-foot off the property line has been proposed). The zoning ordinance requires a minimum eight-foot-wide sidewalk placed one-foot from the inside edge of the right-of-way along the Highland Road property frontage. Direct pedestrian access from the sidewalk to the building is also required. **The applicant is not proposing to install the required sidewalk as part of the project; therefore, a variance from the public sidewalk standards is required from the Zoning Board of Appeals.** (Comment addressed. A sidewalk is now proposed). Along the front (north side) of the building, a 10-foot-wide sidewalk is provided.

Driveways must have a minimum of 455 feet of spacing provided from other driveways along the same side of the street, measured centerline to centerline. The centerline of the proposed driveway would be located approximately 242 feet from the existing driveway (Art of Dance) to the east and approximately 220 feet from the existing driveway (vacant Brendel’s Septic property) to the west; **therefore, variances are required from the Zoning Board of Appeals. (Comment outstanding; however, the applicant intends to seek a variance from the Zoning Board of Appeals).** The proposed Highland Road driveway must be aligned with the existing driveway on the opposite side of the street or offset 350 feet, measured centerline to centerline. **The centerline of the proposed driveway shall exactly offset the west side of the existing boulevard driveway (Fisk Corners) on the north side of Highland Road, or a variance shall be required from the Zoning Board of Appeals. (Comment outstanding; however, the applicant intends to seek a variance from the Zoning Board of Appeals).** The minimum distance between a proposed driveway and the nearest intersection shall not be less than the minimum required driveway-to-driveway spacing. Also, a proposed driveway on the approach to an intersection shall not be opposite a dedicated left-turn lane for the intersection, or within 100 feet upstream of that lane. This provision may be waived by the Planning Commission if supported by a traffic impact study. The nearest street intersection (Fisk Road and Highland Road – to the east) is approximately 422 feet from the subject site. **As the driveway is not 455 feet from the intersection, a variance from the Zoning Board of Appeals is required, or a waiver is required by the Planning Commission if supported by a traffic impact study. (Comment addressed. The applicant’s engineer stated the proposed driveway is approximately 524 feet from the Fisk Road intersection (measured centerline to centerline). A variance/waiver is not required).**

To minimize turning conflicts, boulevard-style access drives (or local streets) shall generally not be approved opposite undivided access drives, or vice versa. If cause has been shown for a Planning Commission waiver of this requirement, interlocking entering left turns must be minimized by aligning the entering side of the divided drive with the undivided drive. **The proposed undivided two-way driveway is opposite a boulevard-style access drive (Fisk Corners). A waiver from the coordination of divided and undivided driveways is required. (Comment outstanding. The applicant is requesting a Planning Commission waiver from this requirement. If cause has been shown for a waiver of this requirement, interlocking entering left turns must be minimized by aligning the entering side of the divided drive with the undivided drive).**

Utilities

Municipal water and sanitary sewer are available to serve the site. The Township Engineering Consultant will perform an analysis of utilities, stormwater, and grading to ensure compliance with all applicable ordinances as well as the Township Engineering Design Standards.

Staff Analysis

Special land uses for automobile wash establishments are evaluated using the general standards for all special land uses listed in Article 6, Section 10 of the zoning ordinance and the following specific standards for automobile wash establishments found in Article 4, Section 11:

- A. *Buildings shall be set back sixty (60) feet from the existing or proposed right-of-way line. The proposed front yard setback is 135.2 feet.*
- B. *Entrance and exit drives shall be no less than one hundred (100) feet from any street intersection and at least two hundred (200) feet from any residential district. The nearest street intersection (Fisk Road and Highland Road – to the east) is approximately 422 feet from the subject site. The proposed driveway exceeds the minimum 200-foot setback from a residential zoning district.*
- C. *Waiting spaces shall be provided in an amount equal to seven (7) times the maximum automobile capacity within the building. No vehicle shall be permitted to wait or stand within a dedicated right-of-way. The site plan states there would be four car capacity within the building; therefore, 28 stacking spaces are required. 32 stacking spaces are shown on the plan.*
- D. *The site shall be drained so as to dispose of all surface water in such a way as to preclude drainage of water onto adjacent property or heavy tracking onto a public street. A combination of alternatives may be used, including, but not limited to, blowers, hand-drying, length of exit drive and general site design. The Community Development Department defers to the Director of Public Services and Township Engineering Consultant on the stormwater management plan for the site.*
- E. *The site plan shall detail the location of all proposed vacuum stations. These areas shall be located so as not to conflict with any required parking, drive, or automobile standing areas. Self-contained, covered waste receptacles shall be provided at each proposed vacuum station to provide convenient disposal of customer refuse. Vacuum stations (quantity: 26) are located north of the building (25 spaces – 13’ by 18’ in size); **however, waste receptacles for each vacuum station are not shown. Trash receptacles are required to be of commercial quality and complement the building design and style. (Comment partially addressed. The applicant’s engineer stated waste receptacles are mounted at each vacuum; this shall be noted on the site plan. Additionally, if this project proceeds to final site plan, a detail of the trash receptacles shall be provided at that time).** The zoning ordinance states no noise, as measured from a property line, exceeding 70 dB(A) from 6:00 a.m. to 9:00 p.m. or 65 dB(A) from 9:00 p.m. to 6:00 a.m. shall be emitted. **The applicant shall confirm if it was intentional to provide 26 vacuum stations served by 25 parking spaces.** (Comment addressed. The applicant’s engineer stated there are 26 vacuums for 25 spaces because vacuums are provided on each side of each vehicle space).*

Staff recommends reducing the number of vacuum stations by 50 percent. (Comment remains as a notation. The applicant’s engineer stated 25 vacuums are anticipated to be required for the customer volume. The Planning Commission should determine if the number of vacuums are acceptable or if the number of vacuums should be reduced). Also, the applicant shall submit a predictive noise analysis to demonstrate noise levels for the site will not exceed the performance standards. (Comment remains as a notation. The applicant’s engineer stated the hours of operation are 8:00 a.m. to 8:00 p.m. and the site would comply with the performance standards. The Planning Commission should determine if a predictive noise analysis is required. In making its determination, the Planning Commission should consider the proposed use in relation to adjoining properties and uses).

F. *An outdoor lighting plan shall specify the type of fixtures to be used, light intensity, and method of shielding the fixtures so that light does not project onto adjoining properties or on any public or private street or right-of-way. Dropped fixtures shall not be allowed. The site plan shall include a photometric plan and catalog details for all proposed fixtures. Outdoor lights must meet the performance standards of Section 5.18.* Information on site lighting was provided and will be reviewed in detail during final site plan review. Following are initial comments on the lighting (photometric) plan:

- **Footcandles shall be measured at approximately six feet above grade. Revise accordingly, and the plan must contain a note confirming footcandles are measured at six feet above grade. (Comment addressed. Lighting calculations have been updated to reflect data at six-feet above grade).**
- **Complete catalog details (lighting fixture specification sheets) for all proposed fixtures shall be provided. Light fixture selections and colors are subject to review and approval by the Township. (Comment partially addressed. Partial lighting fixture specifications have been provided on Sheet C-10. Complete catalog details shall be submitted separately at final site plan).**
- **No wall-mounted decorative or architectural lighting shall be installed on the south (rear) facade of the building. (Comment addressed. The applicant’s engineer stated the south wall-packs would only turn on in emergency situations only). Up-lighting or outward shining lighting are also not permitted on the building. (Comment remains as a notation).**
- **The light pole detail indicating height (Sheet C-9) is inconsistent with the height labeled on the lighting plan. Revise accordingly to provide the total height, including the base, pole, and light fixture. (Comment outstanding. Total height shall be measured to the top of the fixture. Additionally, the light pole detail (Sheet C-10 of the revised plans) does not accurately represent the fixture to be utilized on the pole-mounted luminaries. For reference, the fixture is the assembly holding a lamp (bulb). Revise accordingly).**

- The Planning Commission may require special conditions for properties adjacent to residential uses and districts.

G. *A screen wall or obscuring fence shall be provided on those sides abutting a residential district, in accordance with the provisions of this Ordinance.* While the proposed building is located 427.7 feet from the residential zoning district to the south, **the required screening is not shown on the plan. If not provided, a variance shall be required from the Zoning Board of Appeals.** (Comment addressed. A six-foot-tall vinyl opaque fence has been proposed. If the project proceeds to final site plan, a fence detail shall be provided).

Development Standards

The site plan shows compliance with building and parking setback requirements. Proposed building height is 19'-4", which complies with the maximum building height allowed in the GB zoning district (35 feet or 2 stories, whichever is less). **The height of the parapet tower shall be dimensioned on the exterior elevations.** Based on a note on the site plan, it appears the maximum height of the parapet is 24 feet. (Comment outstanding. Sheet A-2 (exterior elevations) notes the parapet cap is 124'-3³/₄" tall. This appears to be an error, as the applicant's engineer stated the parapet tower height is 24'-3³/₄". Revise accordingly).

Building Architecture and Design

In accordance with the M-59 architectural character requirements, exterior building materials shall be composed primarily of high quality, durable, low maintenance material, such as masonry, stone, brick, glass, or equivalent materials. Buildings should be completed on all sides with acceptable materials. The proposed building materials for the project are a mix of brick veneer, and cultured stone veneer with a stone cap four feet up around the base of the building. Faux columns add architectural interest to the building, with an EFIS (exterior insulation finishing system) parapet tower at the west side of the building. Pre-fabricated decorative metal panels are located below the EFIS parapet on the south and west elevations. An aluminum parapet cap complimentary in color to the proposed building materials would be located on top of the walls around the building (with the exception of the parapet tower). Tinted mirrored windows are proposed on three elevations of the building (no windows on east side), with aluminum lattice canopies using aluminum kicker legs at each end to attach to the building. Aluminum clad fascia (stripe) is proposed on three elevations of the building (not proposed on the rear). **The fascia shall be removed from the building, or be the same color as the cap on top of the walls around the building. If the fascia (stripe) attracts attention to the building, a variance shall be required from the Zoning Board of Appeals.** (Comment partially addressed. The fascia is specified as 'sierra tan', the same color as the wall caps as to not attract attention to building. A note shall be added to the exterior elevations stating all cladding/fascia and wall caps shall be 'sierra tan' color).

A sample board of building materials to be displayed at the Planning Commission meeting and elevations in color are required by the zoning ordinance and must be submitted at final site plan. (Comment remains as a notation. This requirement was acknowledged by the applicant's engineer in the response letter provided to the first review).

Address identification characters are proposed on the east elevation of the building. A note on the plan states each character shall be a minimum of four inches high. **Six-inch-tall numbers visible from the street shall be required. The address location is subject to approval of the Township Fire Marshal.** (Comment remains as a notation. This requirement was acknowledged by the applicant’s engineer in the response letter provided to the first review. Revised elevations are to be provided at final site plan).

The applicant shall provide an explanation in writing for the purpose of the second overhead door (north door) on the east elevation of the building. (Comment partially addressed. The applicant’s engineer stated the second overhead door at the exit is to be utilized for chemical deliveries and maintenance access to mechanical equipment. Sheet A-1 (floor plan) shows equipment locations. Sheet A-1 shall be revised; it incorrectly identifies the east elevation of the building as the car wash entrance and the west elevation of the building as the car wash exit. Those labels (and directorial arrows) are reversed and shall be revised at the time of final site plan).

Parking

In addition to the required stacking spaces previously described, one parking space per each employee (working on the largest shift) must be provided. Four ‘Employee Only’ parking spaces are proposed at the northeast corner of the site. **The applicant shall verify the employee information provided with the parking data represents the number of employees working on the largest shift.** (Comment addressed. The response letter provided to the first review indicates four (4) employees would be the maximum number of employees on any shift).

The accessible parking stall detail on Sheet C-8 is inconsistent with the dimensions on the site plan, which shows a three-foot-wide access aisle west of the barrier-free space. In accordance with the zoning ordinance and Americans with Disabilities Act (ADA), the adjacent access aisle shall be eight-feet-wide. The plan shall be revised accordingly. (Comment addressed. ADA accessible space and standard detail has been revised to comply with ADA requirements. **The zoning ordinance also requires each individual parking space be delineated by dual stripes, two feet apart centered on the dividing lines and painted white. The plan (including the parking stall markings detail) shall be revised accordingly to indicate the required striping.** (Comment addressed. Parking stall striping and detail has been revised to provide dual striping).

The zoning ordinance requires one-way drives be a minimum of 20-feet-wide. The plan shall be revised accordingly, or a variance is required from the Zoning Board of Appeals. (Comment outstanding. A variance from this standard is required from the Zoning Board of Appeals. This variance request shall be added to the zoning relief table on Sheet C-1).

Off-Street Loading Requirements

The zoning ordinance requires one loading space for a development of this size. Such loading and unloading space must be an area 10 feet by 50 feet, with a 15-foot height clearance. **No loading space is proposed; therefore, a variance is required from the Zoning Board of Appeals.** (Comment partially addressed. A loading space is now proposed. The response letter provided to the first review indicates any loading/unloading would occur off-hours as to not conflict with customer traffic flow; a plan note stating such shall be provided on the final site plan).

Trash Receptacle Screening

The zoning ordinance requires dumpsters to be surrounded by a six-foot-tall to eight-foot-tall wall on three sides and an obscuring wood gate on a steel frame on the fourth side, located on a six-inch concrete pad extending 10 feet in front of the gate, with six-inch concrete-filled steel bollards to protect the rear wall and gates. **The bollards for the dumpster enclosure shown on Sheet C-8 shall be six-inch diameter instead of four-inch diameter, and bollards shall be provided six inches in front of (north) of each gate post.** (Comment addressed. Bollard detail has been revised from four-inch to six-inch bollards. Trash enclosure detail has been revised to show bollards six-inches from front gate posts). The proposed enclosure is located north of the building. The zoning ordinance prohibits trash enclosures within a required front yard setback, and does not allow enclosures closer to the front lot line than the principal building. The proposed dumpster enclosure is located closer to Highland Road than the automobile wash building, and does not meet the front yard setback. As proposed, **the following variances are required from the Zoning Board of Appeals: an 89-foot variance to project into the front yard, and a 10-foot variance to encroach into the front yard setback.** (Comment partially addressed. The trash enclosure detail was shifted south out of the front yard setback. However, the trash enclosure is projecting approximately 81.3 feet into the front yard (Sheet C-2 shall be revised to measure the projection to the northern extent of the trash enclosure). The applicant intends to seek a variance from the Zoning Board of Appeals).

At the time of trash pick-up, the location of the dumpster enclosure could cause conflict with traffic entering and exiting the site. Circulation must be considered when relocating the dumpster enclosure, or during consideration of a variance request to allow the dumpster location at the currently proposed location. (Comment remains as a notation. The response letter provided to the first review indicates all trash pickup would occur prior to 8:00 a.m. before the car wash opens).

An eight-foot-tall split-face block (8" CMU) screen wall is proposed around three sides of the dumpster enclosure, with steel doors on the north side of the structure. The zoning ordinance states dumpsters and trash storage enclosures shall be constructed of the same decorative masonry materials as the buildings to which they are accessory. Brickform concrete (simulated brick pattern) or stained, decorative CMU block are not permitted where the principal building contains masonry. Plain CMU block is also prohibited. **The dumpster enclosure shall match the same brick veneer as the facade of the building with a steel backed wood gate painted a complementary color to the brick veneer. The trash/recycle enclosure detail on Sheet C-8 shall be revised to show brick veneer on the outside walls of the concrete enclosure and indicate the color of the gate.** (Comment partially addressed. The gate as shown on the front elevation detail does not match the gate detail. Additionally, the gate detail states the cedar boards are to be stained "color as selected by owner." The color/stain of the gate is subject to review and approval by the Township. The gate shall be stained a color similar to 'sierra tan'. Revise accordingly).

Landscaping and Screening

Landscaping must comply with the provisions of the zoning ordinance and should be designed to preserve existing significant natural features and to buffer service areas, parking lots, and dumpsters. A mix of evergreen and deciduous plants and trees are preferred, along with seasonal accent plantings. A landscape plan is not required as part of the preliminary site plan, but was provided for consideration and will be reviewed in detail during final site plan review if the preliminary site plan is approved. Following are initial comments on the landscape plan:

- Interior Landscaping Requirements: for every new development requiring site plan review, except site condominiums as regulated in Article 6, Section 1, interior landscaping areas shall be provided, equal to at least 15 percent of the total lot area. These landscaped areas shall be grouped near all building entrances, building foundations, pedestrian walkways, and service areas, and may also be placed adjacent to fences, walls, or rights-of-way. These planting areas shall be so located as to breakup an otherwise continuous abutment of building facade with sidewalks and/or parking areas. All interior landscaping shall provide one large deciduous, small ornamental deciduous, or evergreen tree and five shrubs for every 300 square feet of required interior landscaping area.
- Parking Lot Landscaping: within every parking area containing 10 or more spaces, there shall be parking lot landscaping in accordance with this Subsection. These landscaping areas shall be located so as to better define parking spaces and drives. Landscaping on the perimeter of the parking lot does not satisfy the parking lot landscaping requirement. Island locations shall also be considered in a manner that will assist in controlling traffic movements. The requirements, for trees and islands, may be modified when it is found through careful coordination of parking lot landscaping with peripheral and building plantings an unnecessary duplication of plantings would be created. In addition, consideration shall be given to situations when an excess number of small islands would be created that would only serve to disrupt reasonable traffic patterns and maintenance activities. **Trees as previously described are not provided; therefore, a variance is required from the Zoning Board of Appeals.** (Comment addressed. Additional trees have been proposed).

- Transformer and Mechanical Equipment Screening: all ground mounted transformers, climate control, and similar equipment shall be screened from view from any street or adjacent property by a wall constructed of the same decorative exterior materials as the building and not less than the height of the equipment to be screened. As an alternative, the equipment may be screened by landscaping approved by the Planning Commission. All rooftop climate control equipment, transformer units, and similar equipment shall be screened. The materials used to screen the equipment shall be compatible in color and type with exterior finish materials of the building. All rooftop equipment shall conform to the maximum height regulations of this Ordinance. **The plans do not show proposed locations for mechanical units or provide the method of screening. The plans shall be revised accordingly to provide the location(s) and method of screening. (Comment partially addressed. Electric transformer has been shown on the plans screened by evergreen shrubs. The proposed shrubs shall be replaced with arborvitae. Revise accordingly).**
- Greenbelts are required between nonresidential parking areas adjacent to road rights-of-way and shall be at least 20-feet-wide and improved with one large deciduous or evergreen tree and eight shrubs for every 30 lineal feet, except they may be substituted in part with a masonry screen wall, 30 inches in height, at the discretion of the Planning Commission, in which case, a five-foot greenbelt adjacent to the screen wall must be provided. **Trees as previously described are not provided; therefore, a variance is required from the Zoning Board of Appeals. (Comment outstanding. The applicant intends to seek a variance from the Zoning Board of Appeals. Their reason for requesting the variance is the front greenbelt is within a watermain easement. This variance request shall be added to the zoning relief table on Sheet C-1).**
- **Arborvitae are not considered evergreen trees; they are considered shrubs. The Plant Schedule shall be revised accordingly. (Comment addressed. The proposed arborvitae have been replaced with White Spruce trees, which staff supports as preferable in the proposed locations. As previously stated, arborvitae shall screen the transformer).**
- **Trees identified for protection during construction and the means of protection shall be identified prior to final site plan. No construction shall occur until tree protection has been installed and approved by the Community Development Director. (Comment remains as a notation. This requirement was acknowledged by the applicant’s engineer in the response letter provided to the first review).**
- Trees shall not be planted closer than four feet to a property line. **Add note to landscape plan at final site plan. (Comment addressed. A note has been added to the landscape plan (Sheet C-7)).**
- All required landscape areas in excess of 200 square feet shall be irrigated to assist in maintaining a healthy condition for all plantings and lawn areas. **An irrigation plan shall be provided at final site plan. (Comment remains as a notation. This requirement was acknowledged by the applicant’s engineer in the response letter provided to the first review).**

- All required site irrigation systems shall include a rain sensor or similar measure to ensure irrigation does not occur during or shortly after precipitation events. All site plans shall note installation of required irrigation. **Add note to all plans. (Comment remains as a notation. This requirement was acknowledged by the applicant’s engineer in the response letter provided to the first review).**
- **Six-inch straight-faced (vertical) curb of concrete construction shall be used around landscape and parking areas. The standard Michigan Department of Transportation (MDOT) detail for six-inch straight-faced curb shall be provided on Sheet C-9 of the site plan. (Comment addressed. MDOT standard curb details have been added to Sheet C-9 of the plans).**
- **The zoning ordinance requires a land form buffer, buffer strip and obscuring fence, or screen wall between the subject site and the property to the west. No screening as previously described is proposed; therefore, a variance for the west screening is required from the Zoning Board of Appeals. (Comment addressed. A six-foot-tall vinyl fence has been proposed. If the project proceeds to final site plan, a fence detail shall be provided).**
- **Note 2 on the landscape plan mentions seed, and sod is required. (Comment addressed. Note 2 has been revised to indicate sod).**
- **Note 3 on the landscape plan mentions mulch. The zoning ordinance states the mulch product itself shall be at least doubled-shredded quality. (Comment addressed. Note 3 has been revised to specify double-shredded quality).**
- All required landscape areas in excess of 200 square feet must be irrigated to assist in maintaining a healthy condition for all landscape plantings and lawn areas. **An irrigation plan shall be required at final site plan. (Comment remains as a notation. This requirement was acknowledged by the applicant’s engineer in the response letter provided to the first review).**

Signs

The site plan does not show the location of a monument sign along Highland Road. Exterior elevations show two wall signs on the building (both on the parapet tower (north side and west side)). A maximum of one wall sign is permitted for each principal building; the one permitted wall sign must be located flat against the building's front facade or parallel to the front facade on a canopy. Total area of a wall sign cannot exceed 10 percent of the front facade of the building. **The wall sign on the west elevation shall be removed, or a variance is required from the Zoning Board of Appeals. (Comment remains as a notation. The response letter provided to the first review indicated the west wall sign is to be removed. Revised elevations are to be provided at final site plan).** Additionally, wall signs cannot extend above the roofline of a building. **A variance from the Zoning Board of Appeals is required to install a wall sign extending above the roofline of the building. (Comment outstanding; however, the applicant intends to seek a variance from the Zoning Board of Appeals).**

Planning Commission Options / Recommendation

The Planning Commission may recommend approval, approval with conditions, or denial of the preliminary site plan to the Township Board; action on the special land use is determined by the Planning Commission. **Staff recommends the plans be revised and resubmitted to address the items identified in this memorandum. A list of any requested variances shall also be provided. (Staff recommends the project is eligible for consideration by the Planning Commission. Any recommendation of approval of the preliminary site plan or approval of the special land use shall be conditioned on the applicant addressing all staff and consultant review comments and recommendations, and requesting and receiving the necessary variances from the Zoning Board of Appeals).**

Notes:

1. A notarized signature of the property owner shall be provided on the site plan application. Evidence, satisfactory to the Township Attorney, that the signatories on the application are authorized to execute on behalf of the property owner and applicant shall be a condition of any approvals.
 - a. Paragraph 5.h of the Operating Agreement of the LLC provides the Assistant Managers with authority to execute development documents related to a property only “Upon the Manager’s approval of a letter of intent or other document evidencing the approval of the acquisition of a parcel or parcels of real property (and such document being hereinafter referred to as an “LOI”) ...”
 - b. The LOI provided for the subject property is not signed by a Manager, but an Assistant Manager. Without the “Manager’s approval of the LOI,” the Assistant Managers are without authority to take any action related to the development of the subject property.
2. A date (including revision dates) shall be provided on the exterior elevations and floor plan. Said plans shall also be sealed by the Registered Architect who prepared the plans.



Site / Construction Plan Review

To: Sean O'Neil, Planning Department Director

Date: 3/21/2022

Project: Hypershine Auto Wash

Project ID #: DET-210462

Date on Plans: 3/16/2022

The Fire Department has the following comments with regards to the 2nd Review of Hypershine Auto Wash.

1. The access layout has the potential (depending on customer demand) to completely block fire department access, forcing the apparatus to remain and operate off of Highland Rd.
2. Customer approach and departure is likely to create traffic since there is only one means of site access.
3. The North drive exceeds the 150 feet threshold for dead-end fire apparatus access roads, and will require an approved turnaround. Dead-end fire apparatus access roads in excess of 150 feet shall be provided with width and turnaround provisions in accordance with table D103.4. (120-foot hammerhead, 60 foot "Y" or 96-foot diameter cul-de-sac).

Jason Hanifen
Fire Marshal
Charter Township of White Lake
(248)698-3993
jhanifen@whitelaketwp.com

Plans are reviewed using the International Fire Code (IFC), 2015 Edition and Referenced NFPA Standards.

Assessing Department

Memo

To: Sean O'Neil, Planning
From: Jeanine A Smith
Date: March 21, 2022
Re: Project Name: Hypershine Car Wash File No: Parcel Number:12-23-201-006

Comments:

No comment.

**WHITE LAKE TOWNSHIP
ZONING BOARD OF APPEALS
REGULAR MEETING
APRIL 28, 2022**

CALL TO ORDER

Chairperson Spencer called the meeting to order at 7:00 P.M. She then led the Pledge of Allegiance.

ROLL CALL

Present:

- Clif Seiber
- Tony Madaffer
- Debby Dehart, Planning Commission Liaison
- Niklaus Schillack, Vice Chairperson
- Jo Spencer, Chairperson

Others:

- Justin Quagliata, Staff Planner
- Hannah Micallef, Recording Secretary

15 members of the public present

APPROVAL OF AGENDA

MOVED by Member Schillack, SUPPORTED by Member Dehart, to approve the agenda as presented. The motion CARRIED with a voice vote (5 yes votes).

APPROVAL OF MINUTES:

- a. Zoning Board of Appeals Regular Meeting of March 24th, 2022

MOVED by Member Seiber, SUPPORTED by Member Schillack to approve the Zoning Board of Appeals Regular Meeting Minutes of March 24th, 2022 as presented. The motion CARRIED with a voice vote (5 yes votes).

NEW BUSINESS:

- A. Applicant: Andrew Giles
672 N. Milford Road Suite 152
Highland, MI 48357
Location: **471 Hillwood Drive**
White Lake, MI 48383 identified as 12-21-452-015
Request: The applicant requests to construct an accessory building (garage), requiring a variance from Article 3.1.6.E, R1-D Single Family Residential Front-Yard Setback.

Chairperson Spencer noted for the record that owners within 300 feet were notified. 23 letters were received in favor, 0 letters were received in opposition, and 1 letter was returned undeliverable from the U.S. Postal Service.

Staff Planner Quagliata presented his staff report. He noted the architectural plans did not scale.

Member Schillack asked staff about the submitted survey; he noted the well and septic field were not shown, and asked if identifying these items were required. Staff Planner Quagliata said yes; there was a checklist an applicant received with a building permit application requiring several different items be provided on a plan.

Benjamin Nelms, homeowner, was present to speak on behalf of his builder. Mr. Nelms said he was unaware the septic field and well were required to be identified on the plan. Mr. Nelms said the well was in the front of the house, and the septic field was in the rear of the house.

Mr. Schillack asked Mr. Nelms where the septic was in regard to the property lines. Mr. Nelms said the well was around 26 feet from the front property line, and the septic field was around 30 feet from the rear property line. He said his house was around 100 feet from Brendel Lake.

Staff Planner Quagliata said the topography was not shown on the survey.

Mr. Nelms said he wanted to build a garage for his children to play in it, and for his wife to park her vehicle in the winter.

Member Dehart asked Mr. Nelms if the orange traffic cones on his property were where the proposed garage was to be erected. Mr. Nelms confirmed, and said the walkway to the house would be redone during this project as well.

Member Seiber asked Mr. Nelms if there was to be a second floor on the proposed garage. Mr. Nelms said yes, and it would be used for storage with an attic access only. He would prefer storage tresses.

Member Schillack asked Mr. Nelms if he considered moving the garage closer to the house. Mr. Nelms said then he would have to consider the slope of the lot, and the slab was preexisting.

Chairperson Spencer opened the public hearing at 7:16 P.M.

Mike Krecek, 525 Hillwood, spoke in favor of the applicant's case.

Chairperson Spencer closed the public hearing at 7:18 P.M.

Member Seiber stated he understood the applicant's request based on the slope of the lot.

The ZBA discussed the standards from Article 7, Section 37 from the ClearZoning Ordinance:

- A. Practical Difficulty
 - Chairperson Spencer said the topography of the lot posed a practical difficulty. Member Schillack and Member Dehart agreed.
- B. Unique Situation
 - Chairperson Spencer said the lot was unique. Member Schillack agreed.
- C. Not Self-Created
 - Member Schillack said the applicant did not create the topography.
- D. Substantial Justice
 - Member Seiber said the surrounding neighbors had garages. Member Dehart said the neighbor's garages were closer to the road.
- E. Minimum Variance Necessary
 - Chairperson Spencer said the variances requested were the minimum necessary.

Member Schillack MOVED to approve the variance requested by Andrew Giles from Article 3.1.6.E of the Zoning Ordinance for Parcel Number 12-21-452-015, identified as 471 Hillwood Drive, in order to construct an accessory building (detached garage) that would encroach 15.18 feet into the required front yard setback. This approval will have the following conditions:

- **The Applicant shall obtain all necessary permits from the White Lake Township Building Department.**
- **Plans drawn to scale and a complete plot plan / survey shall be submitted to meet requirements of the Building Official.**
- **An as-built survey shall be required to verify the approved setbacks.**
- **The garage shall not include stairs or a second story or loft area or living space.**

Member Dehart SUPPORTED, and the motion CARRIED with a roll call vote (5 yes votes): (Schillack/yes, Dehart/yes, Seiber/yes, Spencer/yes, Madaffer/yes)

- B. Applicant: Andrew Bienkowski and Rachel Menard
2230 Wiggen Lane
White Lake, MI 48386
Location: **2230 Wiggen Lane**
White Lake, MI 48386 identified as 12-14-231-003
Request: The applicant requests to construct a single-family house, requiring variances from Article 3.1.6.E, R1-D Single Family Residential Front-Yard Setback, Side-Yard Setback, Rear-Yard Setback, and Maximum Lot Coverage. A variance from Article 3.11.Q, Natural Features Setback is also required

Chairperson Spencer noted for the record that 26 owners within 300 feet were notified. 0 letters were received in favor, 0 letters were received in opposition, and 0 letters were returned undeliverable from the U.S. Postal Service.

Staff Planner Quagliata presented his staff report.

Member Schillack asked staff if the previous construction was done by the current owner. Staff Planner Quagliata said no, it was done by the previous owner.

Member Dehart asked staff the distance of the existing house to the side-yard. Staff Planner Quagliata said a variance was received for the side yard and was not built to the variance received. The proposed house would decrease the nonconformity on the south and north side of the lot, but create nonconformities by encroaching into the rear yard setback and natural features setback.

Andrew Bienkowski and Rachel Menard, 2230 Wiggen Lane, were present. Their goal was to create a safe house built to code. A new house would provide that, as well as keep in line with what the other neighbors had done in the neighborhood. Mr. Bienkowski said the south end addition was preexisting, it was from the 1950s.

Member Dehart asked the applicants if the shed would be removed. Ms. Menard confirmed.

Chairperson Spencer stated the house could be downsized to be brought more into compliance with the zoning ordinance.

Chairperson Spencer opened the public hearing at 7:46 P.M.

Roger Harrington, 2240 Wiggen Lane, spoke in support of the applicant's request.

Chairperson Spencer closed the public hearing at 7:50 P.M.

Member Seiber said the front setback and side yard setbacks would be an improvement, but the proposed house would be pushed 9 feet closer the lake. The depth of the lot was shallow, and would only leave a 30-foot-deep building envelope. He stated the way the lake surrounded the lot made it difficult to achieve the setback from the lake.

The ZBA discussed the standards from Article 7, Section 37 from the ClearZoning Ordinance:

- A. Practical Difficulty
 - Member Seiber said the shape and lack of depth of the lot presented a practical difficulty.
- B. Unique Situation
 - Member Schillack said the lot was unique based on the shape.

C. Not Self-Created

- Chairperson Spencer said the proposed house could be downsized and the request was a self-created problem.

D. Substantial Justice

- Member Seiber said the neighboring houses did not fully comply with the zoning ordinance.
- Member Schillack said the proposed house could impact the view of the neighbors to the south.

E. Minimum Variance Necessary

- Chairperson Spencer said the proposed house could be downsized to reduce variance requests.

Member Dehart asked the applicants if they would consider reducing the rear corners of the house on the south and north sides to eliminate some of the requested variances. The ZBA discussed modifying the south side yard setback request to result in a setback of 7.5 feet.

Member Schillack MOVED to table the variance requests of Andrew Bienkowski and Rachel Menard for Parcel Number 12-14-231-003, identified as 2230 Wiggen Lane, to consider comments stated during this public hearing.

SUPPORT by Member Madaffer and the motion CARRIED with a roll call vote (5 yes votes): (Schillack/yes, Madaffer/yes, Dehart/yes, Spencer/yes, Seiber/yes).

C. Applicant: EROP, LLC (Jeff Justice)

3130 North Kandy Lane

Decatur, IL 62526

Location: **9345 Highland Road**

White Lake, MI 48386 identified as 12-23-202-006

Request: The applicant requests to construct an automobile wash establishment, requiring variances from Article 6.4.C.i, Minimum Driveway Spacing – Same Side of Road, Article 5.19.N.i.c, Dumpsters and Trash Storage Enclosures, Article 5.19.D, Required Minimum Screening and Landscaping, Article 5.9.F.iv, Prohibited Signs.

Chairperson Spencer noted for the record that 22 owners within 300 feet were notified. 0 letters were received in favor, 3 letters were received in opposition, and 1 letter was returned undeliverable from the U.S. Postal Service.

Staff Planner Quagliata presented his staff report.

Chairperson Spencer asked staff if the driveway would be shifted to align with the driveway across Highland Road. Staff Planner Quagliata said yes, the applicant had made the change after last week's Planning Commission meeting. The frontage road was stubbed at the east and west side property lines. The dumpster was moved closer to the building from its previously proposed location.

Reid Cooksey, 607 Shelby St, Detroit, was present to speak on behalf of the applicant. He said the comments from the applicant were took to heart. Front greenbelt landscaping was added, and the drive was shifted to align with the drive across Highland Road at Fisk Corners. The Michigan Department of Transportation (MDOT) approvals would be requested. The dumpster enclosure was placed where it was because the trash vehicles needed to be kept away from the drive into the tunnel and the vacuum spaces. The building was pushed as far back on the lot as it could; the DTE powerline prevented the building from being moved closer to the rear property line. Screening would be provided in the north and rear of the property.

Member Schillack asked Mr. Cooksey why the dumpster enclosure could not be located behind the front line of the building. Mr. Cooksey said due to the DTE overhead lines. In addition, heavy machinery driven over sensors and near the vacuum spaces had the potential to damage equipment.

Mr. Cooksey added the withdrawn sign variance was requested to provide the car wash visibility since there was a water main easement along the frontage that would prohibit a monument sign.

Chairperson Spencer opened the public hearing at 8:48 P.M. She read three letters in opposition of the applicant's request.

Mary Earley, 5925 Pineridge Court, spoke in opposition of the car wash in regards to traffic.

Robert Zawideh, 440 Berry Patch Lane, spoke regarding concerns of water runoff from the car wash to the lake. He was concerned about traffic as well.

Melissa Wheeler, 9229 Highland, owner of the Art of Dance, said her clients were voicing their concerns regarding the traffic.

David Gian, 9315 Steephollow Drive, had concerns about traffic and the lake.

Chairperson Spencer closed the public hearing at 9:04 P.M.

Member Dehart said the building provided a 428-foot setback from the back of the building to the rear property line.

Mr. Cooksey said the closest property to the car wash was the Art of Dance more than 70 feet away, and the decibels measured from the studio to the car wash would be zero. The vacuums were state of the art and were as muffled as could be. The soaps used would be bio degradable and environmentally friendly.

The ZBA discussed the proposed white vinyl fence versus a masonry screen wall. Staff Planner Quagliata stated a screen wall was usually suggested when the commercial activity was closer to a residential area. He added the Planning Commission was okay with the vinyl fence due to car wash being setback 428 feet from the rear property line. He added he also suggested the number of vacuums be reduced by 50 percent; however, the Planning Commission did not take offense to the proposed number of vacuums.

The ZBA discussed the standards from Article 7, Section 37 from the ClearZoning Ordinance:

- A. Practical Difficulty
 - Member Dehart said the access management standards posed a practical difficulty due to the width of the lot, and the dumpster location was a practical difficulty due to the DTE power lines.
- B. Unique Situation
 - Member Seiber said the access situation was unique; failure to grant the variance on the driveway would prohibit access to the site.
- C. Not Self-Created
 - Member Dehart said the applicant did not place the powerlines.
- D. Substantial Justice
 - Chairperson Spencer said if the driveway variances were not granted, the applicant would be denied substantial justice. The dumpster was necessary as well, as heavy machinery loading could not be done over the drives to the tunnel.
- E. Minimum Variance Necessary
 - Chairperson Spencer said the variance for the dumpster was reduced. Member Schillack understood the variance for the driveway was necessary and minimal.

Member Dehart MOVED to approve the variances requested by EROP LLC from Article 6.4.C.i and Article 5.19.N.i.c of the Zoning Ordinance for Parcel Number 12-23-202-006, identified as 9345 Highland Road, in order to allow construction of a driveway 197 feet from the driveway to the east and 262 feet from the driveway to the west, and a 40-foot variance to allow the dumpster enclosure to project in front of the principal building. This approval will have the following conditions:

- The Applicant shall obtain all necessary permits from the White Lake Township Building Department.
- The Applicant shall receive preliminary site plan approval from the Township Board and final site plan approval from the Planning Commission.
- The Highland Road site access drive shall align with the divided drive across the street (Fisk Corners boulevard-style access drive).

Member Madaffer SUPPORTED and the motion CARRIED with a roll call vote (4 yes votes): (Dehart/yes, Madaffer/yes, Seiber/yes, Spencer/yes, Schillack/no).

OTHER BUSINESS

Staff Planner Quagliata said there may be a Special Zoning Board of Appeals meeting in May to discuss zoning ordinance amendments.

ADJOURNMENT

MOVED by Member Seiber, SUPPORTED by Member Dehart to adjourn the meeting at 9:32P.M. The motion CARRIED with a voice vote (5 yes votes).

NEXT MEETING DATE: May 26, 2022 Regular Meeting

DRAFT

**WHITE LAKE TOWNSHIP
ZONING BOARD OF APPEALS**

**REPORT OF THE
COMMUNITY DEVELOPMENT DEPARTMENT**

TO: Zoning Board of Appeals
FROM: Justin Quagliata, Staff Planner
DATE: April 28, 2022

Agenda item: 7c
Appeal Date: April 28, 2022
Applicant: EROP, LLC (Jeff Justice)
Address: 3130 N. Kandy Lane
Decatur, IL 62526
Zoning: GB (General Business)
Location: 9345 Highland Road
White Lake, MI 48386

Property Description

The approximately 4.85-acre parcel identified as 9345 Highland Road is located on the south side of Highland Road, west of Fisk Road, and zoned GB (General Business).

Applicant’s Proposal

EROP LLC, the applicant, is proposing to construct an automobile wash establishment, and associated landscaping and parking, and install a prohibited sign.

Planner’s Report

The requested variances are listed in the following table.

Variance #	Ordinance Section	Subject	Standard	Requested Variance	Result
1 & 2	Article 6.4.C.i	Minimum driveway spacing	455 feet (same side of road)	242 feet (east) 209 feet (west)	213 feet (east) 246 feet (west)
3	Article 5.19.N.i.c	Dumpsters and trash storage enclosures	0-foot projection	80.2 feet	80.2 feet
4 & 5	Article 5.19.D	Required minimum screening and landscaping	20-foot greenbelt with 1 tree and 8 shrubs per 30 linear feet	11 trees 28 shrubs	0 trees 62 shrubs
6	Article 5.9.F.iv	Prohibited Signs	Above-the-roof signs prohibited	1 sign above the roof line on the building parapet	1 sign above the roof line on the building parapet

The variances are being processed concurrently with the preliminary site plan and special land use requests. The staff report for the preliminary site plan and special land use (attached) should be referenced for a more complete overview of the project. At its April 21, 2022 meeting the Planning Commission recommended approval of the preliminary site plan to the Township Board, with conditions, including the applicant receiving approval from the Zoning Board of Appeals. The special land use was approved by the Planning Commission with the same conditions.

Variances #1 and #2: Driveways must have a minimum of 455 feet of spacing provided from other driveways along the same side of the street, measured centerline to centerline. The centerline of the proposed driveway would be located approximately 213 feet from the existing driveway (Art of Dance) to the east and approximately 246 feet from the existing driveway (formerly utilized by Brendel’s Septic) to the west.

Variance #3: The proposed dumpster enclosure is located north of the building. The zoning ordinance prohibits trash enclosures within a required front yard setback and does not allow enclosures closer to the front lot line than the principal building. The proposed dumpster enclosure is located closer to Highland Road than the automobile wash building. An 80.2-foot variance is requested to allow the trash enclosure to project into the front yard.

Variances #4 and #5: Greenbelts are required between nonresidential parking areas adjacent to road rights-of-way and must be at least 20-feet-wide and improved with one large deciduous or evergreen tree and eight shrubs for every 30 linear feet, except they may be substituted in part with a masonry screen wall, 30 inches in height, at the discretion of the Planning Commission, in which case, a five-foot greenbelt adjacent to the screen wall must be provided. Eleven trees and 90 shrubs are required in the greenbelt, and 0 trees and 62 shrubs are proposed. Therefore, variances are requested to waive the installation of 11 trees and 28 shrubs.

Variance #6: A maximum of one wall sign is permitted for each principal building; the one permitted wall sign must be located flat against the building's front facade or parallel to the front facade on a canopy. Total area of a wall sign cannot exceed 10 percent of the front facade of the building. Exterior elevations show two wall signs on the building (both on the parapet tower (north side and west side)). The response letter provided to the first preliminary site plan and special land use review indicated the west wall sign is to be removed. Revised elevations would be provided if the project proceeds to final site plan. Wall signs cannot extend above the roofline of a building. A variance is requested to install a wall sign extending above the roofline of the building.

Zoning Board of Appeals Options:

Approval: I move to approve the variances requested by EROP LLC from Article 6.4.C.i, Article 5.19.N.i.c, Article 5.19.D, and Article 5.9.F.iv of the Zoning Ordinance for Parcel Number 12-23-202-006, identified as 9345 Highland Road, in order to allow construction of a driveway 242 feet from the driveway to the east and 209 feet from the driveway to the west, an 80.2-foot variance to allow the dumpster enclosure to project in front of the principal building, variances to waive the installation of 11 trees and 28 shrubs in the front (north) greenbelt, and a variance to allow one wall sign to be installed above the roofline of the building. This approval will have the following conditions:

- The Applicant shall obtain all necessary permits from the White Lake Township Building Department.
- The Applicant shall receive preliminary site plan approval from the Township Board and final site plan approval from the Planning Commission.
- The Highland Road site access drive shall align with the entering side of the divided drive across the street (east side of the Fisk Corners boulevard-style access drive).

- The wall sign on the parapet tower shall not exceed 12 square feet in size.
- No additional signage shall be permitted on the building or site.
- Any future modification to signage on the building or site, except for eliminating signage, shall require approval of the Zoning Board of Appeals.

Denial: I move to deny the variances requested by EROP LLC for Parcel Number 12-23-202-006, identified as 9345 Highland Road, due to the following reason(s):

Table: I move to table the variance requests of EROP LLC for Parcel Number 12-23-202-006, identified as 9345 Highland Road, to consider comments stated during this public hearing.

Attachments:

1. Staff report to the Planning Commission dated April 1, 2022.
2. Variance application dated April 5, 2022.
3. Applicant’s written statement dated April 20, 2022.
4. Preliminary site plan prepared by Stonefield Engineering and Design (revision date March 16, 2022).
5. Floor plan and exterior elevations prepared by REB Architects.

7.37 STANDARDS

General variances: The Zoning Board of Appeals may authorize a variance from the strict application of the area or dimensional standard of this Ordinance when the applicant demonstrates all of the following conditions "A - E" or condition F applies.

- A. Practical difficulty: A practical difficulty exists on the subject site (such as exceptional narrowness, shallowness, shape or area; presence of floodplain; exceptional topographic conditions) and strict compliance with the zoning ordinance standards would unreasonably prevent the owner from using of the subject site for a permitted use or would render conformity unnecessarily burdensome. Demonstration of a practical difficulty shall have a bearing on the subject site or use of the subject site, and not to the applicant personally. Economic hardship or optimum profit potential are not considerations for practical difficulty.
- B. Unique situation: The demonstrated practical difficult results from exceptional or extraordinary circumstances or conditions applying to the subject site at the time the Ordinance was adopted or amended which are different than typical properties in the same zoning district or the vicinity.

- C. Not self created: The applicants problem is not self created.
- D. Substantial justice: The variance would provide substantial justice by granting the property rights similar to those enjoyed by the majority of other properties in the vicinity, and other properties in the same zoning district. The decision shall not bestow upon the property special development rights not enjoyed by other properties in the same district, or which might result in substantial adverse impacts on properties in the vicinity (such as the supply of light and air, significant increases in traffic, increased odors, an increase in the danger of fire, or other activities which may endanger the public safety, comfort, morals or welfare).
- E. Minimum variance necessary: The variance shall be the minimum necessary to grant relief created by the practical difficulty.
- F. Compliance with other laws: The variance is the minimum necessary to comply with state or federal laws, including but not necessarily limited to:
 - i. The Michigan Right to Farm Act (P.A. 93 of 1981) and the farming activities the Act protects;
 - ii. The Americans with Disabilities Act of 1990 (as amended), and the needs of handicapped individuals the Act protects, including accessory facilities, building additions, building alterations, and site improvements which may not otherwise meet a strict application of the standards of this Ordinance.

Under no circumstances shall the Board of Appeals grant a variance to allow a use not permissible under the terms of this Ordinance in the district involved, or any use expressly or by implication prohibited by the terms of this Ordinance in said district.

**WHITE LAKE TOWNSHIP
PLANNING COMMISSION**

**REPORT OF THE
COMMUNITY DEVELOPMENT DEPARTMENT**

TO: Planning Commission

FROM: Sean O’Neil, AICP, Community Development Director
Justin Quagliata, Staff Planner

DATE: April 1, 2022

RE: Hypershine Auto Wash
Preliminary Site Plan and Special Land Use – Review #2

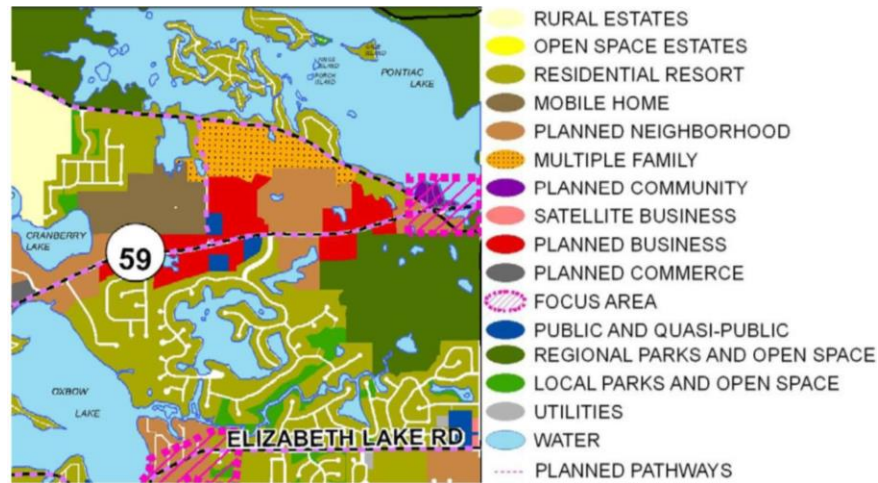
Staff reviewed the revised site plan prepared by Stonefield Engineering & Design (revision date March 16, 2022). The following comments from the first review dated February 18, 2022 are listed below. Responses to those comments are provided in **(red)**.

EROP, LLC has requested preliminary site plan and special land use approval to construct a 3,756 square foot automobile wash establishment at 9345 Highland Road (Parcel Number 12-23-202-006). The 4.85-acre subject site is zoned GB (General Business).

Master Plan

The Future Land Use Map from the Master Plan designates the subject site in the Planned Business category. All development in Planned Business is required to adhere to strict access management principles in order to minimize traffic conflict and maximize safety throughout the M-59 corridor. Connections to and segments of the Township’s community-wide pathway system are required as an integral part of all Planned Business development.

FUTURE LAND USE MAP



Zoning

Automobile wash establishments are permitted with special land use approval in the GB zoning district. At its meeting on July 21, 2020 the Township Board approved rezoning the parcel from Local Business (LB) and R1-C (Single Family Residential) to GB (General Business), which requires a minimum lot area of one (1) acre and 200 feet of lot width. The subject site contains 338.2 feet of frontage along Highland Road and 4.85 acres of lot area.

Physical Features

The Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wetland Map and the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map indicate neither wetlands nor floodplain are present on or near the site. Currently a vacant house and three accessory buildings are located on the property. **A demolition plan shall be provided at final site plan.** (Comment remains as a notation. This requirement was acknowledged by the applicant's engineer in the response letter provided to the first review).

Access

The site fronts on Highland Road, which along the property is a five-lane road (counting the center turn lane). The site plan notes the existing paved shoulder along Highland Road would remain. **The existing paved shoulder shall be removed and converted to greenbelt.** (Comment addressed. The existing paved shoulder is to be removed. An eight-foot-wide asphalt sidewalk one-foot off the property line has been proposed). The zoning ordinance requires a minimum eight-foot-wide sidewalk placed one-foot from the inside edge of the right-of-way along the Highland Road property frontage. Direct pedestrian access from the sidewalk to the building is also required. **The applicant is not proposing to install the required sidewalk as part of the project; therefore, a variance from the public sidewalk standards is required from the Zoning Board of Appeals.** (Comment addressed. A sidewalk is now proposed). Along the front (north side) of the building, a 10-foot-wide sidewalk is provided.

Driveways must have a minimum of 455 feet of spacing provided from other driveways along the same side of the street, measured centerline to centerline. The centerline of the proposed driveway would be located approximately 242 feet from the existing driveway (Art of Dance) to the east and approximately 220 feet from the existing driveway (vacant Brendel’s Septic property) to the west; **therefore, variances are required from the Zoning Board of Appeals. (Comment outstanding; however, the applicant intends to seek a variance from the Zoning Board of Appeals).** The proposed Highland Road driveway must be aligned with the existing driveway on the opposite side of the street or offset 350 feet, measured centerline to centerline. **The centerline of the proposed driveway shall exactly offset the west side of the existing boulevard driveway (Fisk Corners) on the north side of Highland Road, or a variance shall be required from the Zoning Board of Appeals. (Comment outstanding; however, the applicant intends to seek a variance from the Zoning Board of Appeals).** The minimum distance between a proposed driveway and the nearest intersection shall not be less than the minimum required driveway-to-driveway spacing. Also, a proposed driveway on the approach to an intersection shall not be opposite a dedicated left-turn lane for the intersection, or within 100 feet upstream of that lane. This provision may be waived by the Planning Commission if supported by a traffic impact study. The nearest street intersection (Fisk Road and Highland Road – to the east) is approximately 422 feet from the subject site. **As the driveway is not 455 feet from the intersection, a variance from the Zoning Board of Appeals is required, or a waiver is required by the Planning Commission if supported by a traffic impact study. (Comment addressed. The applicant’s engineer stated the proposed driveway is approximately 524 feet from the Fisk Road intersection (measured centerline to centerline). A variance/waiver is not required).**

To minimize turning conflicts, boulevard-style access drives (or local streets) shall generally not be approved opposite undivided access drives, or vice versa. If cause has been shown for a Planning Commission waiver of this requirement, interlocking entering left turns must be minimized by aligning the entering side of the divided drive with the undivided drive. **The proposed undivided two-way driveway is opposite a boulevard-style access drive (Fisk Corners). A waiver from the coordination of divided and undivided driveways is required. (Comment outstanding. The applicant is requesting a Planning Commission waiver from this requirement. If cause has been shown for a waiver of this requirement, interlocking entering left turns must be minimized by aligning the entering side of the divided drive with the undivided drive).**

Utilities

Municipal water and sanitary sewer are available to serve the site. The Township Engineering Consultant will perform an analysis of utilities, stormwater, and grading to ensure compliance with all applicable ordinances as well as the Township Engineering Design Standards.

Staff Analysis

Special land uses for automobile wash establishments are evaluated using the general standards for all special land uses listed in Article 6, Section 10 of the zoning ordinance and the following specific standards for automobile wash establishments found in Article 4, Section 11:

- A. *Buildings shall be set back sixty (60) feet from the existing or proposed right-of-way line. The proposed front yard setback is 135.2 feet.*
- B. *Entrance and exit drives shall be no less than one hundred (100) feet from any street intersection and at least two hundred (200) feet from any residential district. The nearest street intersection (Fisk Road and Highland Road – to the east) is approximately 422 feet from the subject site. The proposed driveway exceeds the minimum 200-foot setback from a residential zoning district.*
- C. *Waiting spaces shall be provided in an amount equal to seven (7) times the maximum automobile capacity within the building. No vehicle shall be permitted to wait or stand within a dedicated right-of-way. The site plan states there would be four car capacity within the building; therefore, 28 stacking spaces are required. 32 stacking spaces are shown on the plan.*
- D. *The site shall be drained so as to dispose of all surface water in such a way as to preclude drainage of water onto adjacent property or heavy tracking onto a public street. A combination of alternatives may be used, including, but not limited to, blowers, hand-drying, length of exit drive and general site design. The Community Development Department defers to the Director of Public Services and Township Engineering Consultant on the stormwater management plan for the site.*
- E. *The site plan shall detail the location of all proposed vacuum stations. These areas shall be located so as not to conflict with any required parking, drive, or automobile standing areas. Self-contained, covered waste receptacles shall be provided at each proposed vacuum station to provide convenient disposal of customer refuse. Vacuum stations (quantity: 26) are located north of the building (25 spaces – 13’ by 18’ in size); **however, waste receptacles for each vacuum station are not shown. Trash receptacles are required to be of commercial quality and complement the building design and style. (Comment partially addressed. The applicant’s engineer stated waste receptacles are mounted at each vacuum; this shall be noted on the site plan. Additionally, if this project proceeds to final site plan, a detail of the trash receptacles shall be provided at that time).** The zoning ordinance states no noise, as measured from a property line, exceeding 70 dB(A) from 6:00 a.m. to 9:00 p.m. or 65 dB(A) from 9:00 p.m. to 6:00 a.m. shall be emitted. **The applicant shall confirm if it was intentional to provide 26 vacuum stations served by 25 parking spaces.** (Comment addressed. The applicant’s engineer stated there are 26 vacuums for 25 spaces because vacuums are provided on each side of each vehicle space).*

Staff recommends reducing the number of vacuum stations by 50 percent. (Comment remains as a notation. The applicant’s engineer stated 25 vacuums are anticipated to be required for the customer volume. The Planning Commission should determine if the number of vacuums are acceptable or if the number of vacuums should be reduced).
Also, the applicant shall submit a predictive noise analysis to demonstrate noise levels for the site will not exceed the performance standards. (Comment remains as a notation. The applicant’s engineer stated the hours of operation are 8:00 a.m. to 8:00 p.m. and the site would comply with the performance standards. The Planning Commission should determine if a predictive noise analysis is required. In making its determination, the Planning Commission should consider the proposed use in relation to adjoining properties and uses).

F. *An outdoor lighting plan shall specify the type of fixtures to be used, light intensity, and method of shielding the fixtures so that light does not project onto adjoining properties or on any public or private street or right-of-way. Dropped fixtures shall not be allowed. The site plan shall include a photometric plan and catalog details for all proposed fixtures. Outdoor lights must meet the performance standards of Section 5.18.* Information on site lighting was provided and will be reviewed in detail during final site plan review. Following are initial comments on the lighting (photometric) plan:

- **Footcandles shall be measured at approximately six feet above grade. Revise accordingly, and the plan must contain a note confirming footcandles are measured at six feet above grade. (Comment addressed. Lighting calculations have been updated to reflect data at six-feet above grade).**
- **Complete catalog details (lighting fixture specification sheets) for all proposed fixtures shall be provided. Light fixture selections and colors are subject to review and approval by the Township. (Comment partially addressed. Partial lighting fixture specifications have been provided on Sheet C-10. Complete catalog details shall be submitted separately at final site plan).**
- **No wall-mounted decorative or architectural lighting shall be installed on the south (rear) facade of the building. (Comment addressed. The applicant’s engineer stated the south wall-packs would only turn on in emergency situations only). Up-lighting or outward shining lighting are also not permitted on the building. (Comment remains as a notation).**
- **The light pole detail indicating height (Sheet C-9) is inconsistent with the height labeled on the lighting plan. Revise accordingly to provide the total height, including the base, pole, and light fixture. (Comment outstanding. Total height shall be measured to the top of the fixture. Additionally, the light pole detail (Sheet C-10 of the revised plans) does not accurately represent the fixture to be utilized on the pole-mounted luminaries. For reference, the fixture is the assembly holding a lamp (bulb). Revise accordingly).**

- The Planning Commission may require special conditions for properties adjacent to residential uses and districts.

G. *A screen wall or obscuring fence shall be provided on those sides abutting a residential district, in accordance with the provisions of this Ordinance.* While the proposed building is located 427.7 feet from the residential zoning district to the south, **the required screening is not shown on the plan. If not provided, a variance shall be required from the Zoning Board of Appeals.** (Comment addressed. A six-foot-tall vinyl opaque fence has been proposed. If the project proceeds to final site plan, a fence detail shall be provided).

Development Standards

The site plan shows compliance with building and parking setback requirements. Proposed building height is 19'-4", which complies with the maximum building height allowed in the GB zoning district (35 feet or 2 stories, whichever is less). **The height of the parapet tower shall be dimensioned on the exterior elevations.** Based on a note on the site plan, it appears the maximum height of the parapet is 24 feet. (Comment outstanding. Sheet A-2 (exterior elevations) notes the parapet cap is 124'-3³/₄" tall. This appears to be an error, as the applicant's engineer stated the parapet tower height is 24'-3³/₄". Revise accordingly).

Building Architecture and Design

In accordance with the M-59 architectural character requirements, exterior building materials shall be composed primarily of high quality, durable, low maintenance material, such as masonry, stone, brick, glass, or equivalent materials. Buildings should be completed on all sides with acceptable materials. The proposed building materials for the project are a mix of brick veneer, and cultured stone veneer with a stone cap four feet up around the base of the building. Faux columns add architectural interest to the building, with an EFIS (exterior insulation finishing system) parapet tower at the west side of the building. Pre-fabricated decorative metal panels are located below the EFIS parapet on the south and west elevations. An aluminum parapet cap complimentary in color to the proposed building materials would be located on top of the walls around the building (with the exception of the parapet tower). Tinted mirrored windows are proposed on three elevations of the building (no windows on east side), with aluminum lattice canopies using aluminum kicker legs at each end to attach to the building. Aluminum clad fascia (stripe) is proposed on three elevations of the building (not proposed on the rear). **The fascia shall be removed from the building, or be the same color as the cap on top of the walls around the building. If the fascia (stripe) attracts attention to the building, a variance shall be required from the Zoning Board of Appeals.** (Comment partially addressed. The fascia is specified as 'sierra tan', the same color as the wall caps as to not attract attention to building. A note shall be added to the exterior elevations stating all cladding/fascia and wall caps shall be 'sierra tan' color).

A sample board of building materials to be displayed at the Planning Commission meeting and elevations in color are required by the zoning ordinance and must be submitted at final site plan. (Comment remains as a notation. This requirement was acknowledged by the applicant's engineer in the response letter provided to the first review).

Address identification characters are proposed on the east elevation of the building. A note on the plan states each character shall be a minimum of four inches high. **Six-inch-tall numbers visible from the street shall be required. The address location is subject to approval of the Township Fire Marshal.** (Comment remains as a notation. This requirement was acknowledged by the applicant's engineer in the response letter provided to the first review. Revised elevations are to be provided at final site plan).

The applicant shall provide an explanation in writing for the purpose of the second overhead door (north door) on the east elevation of the building. (Comment partially addressed. The applicant's engineer stated the second overhead door at the exit is to be utilized for chemical deliveries and maintenance access to mechanical equipment. Sheet A-1 (floor plan) shows equipment locations. Sheet A-1 shall be revised; it incorrectly identifies the east elevation of the building as the car wash entrance and the west elevation of the building as the car wash exit. Those labels (and directorial arrows) are reversed and shall be revised at the time of final site plan).

Parking

In addition to the required stacking spaces previously described, one parking space per each employee (working on the largest shift) must be provided. Four 'Employee Only' parking spaces are proposed at the northeast corner of the site. **The applicant shall verify the employee information provided with the parking data represents the number of employees working on the largest shift.** (Comment addressed. The response letter provided to the first review indicates four (4) employees would be the maximum number of employees on any shift).

The accessible parking stall detail on Sheet C-8 is inconsistent with the dimensions on the site plan, which shows a three-foot-wide access aisle west of the barrier-free space. In accordance with the zoning ordinance and Americans with Disabilities Act (ADA), the adjacent access aisle shall be eight-feet-wide. The plan shall be revised accordingly. (Comment addressed. ADA accessible space and standard detail has been revised to comply with ADA requirements. **The zoning ordinance also requires each individual parking space be delineated by dual stripes, two feet apart centered on the dividing lines and painted white. The plan (including the parking stall markings detail) shall be revised accordingly to indicate the required striping.** (Comment addressed. Parking stall striping and detail has been revised to provide dual striping).

The zoning ordinance requires one-way drives be a minimum of 20-feet-wide. The plan shall be revised accordingly, or a variance is required from the Zoning Board of Appeals. (Comment outstanding. A variance from this standard is required from the Zoning Board of Appeals. This variance request shall be added to the zoning relief table on Sheet C-1).

Off-Street Loading Requirements

The zoning ordinance requires one loading space for a development of this size. Such loading and unloading space must be an area 10 feet by 50 feet, with a 15-foot height clearance. **No loading space is proposed; therefore, a variance is required from the Zoning Board of Appeals.** (Comment partially addressed. A loading space is now proposed. The response letter provided to the first review indicates any loading/unloading would occur off-hours as to not conflict with customer traffic flow; a plan note stating such shall be provided on the final site plan).

Trash Receptacle Screening

The zoning ordinance requires dumpsters to be surrounded by a six-foot-tall to eight-foot-tall wall on three sides and an obscuring wood gate on a steel frame on the fourth side, located on a six-inch concrete pad extending 10 feet in front of the gate, with six-inch concrete-filled steel bollards to protect the rear wall and gates. **The bollards for the dumpster enclosure shown on Sheet C-8 shall be six-inch diameter instead of four-inch diameter, and bollards shall be provided six inches in front of (north) of each gate post.** (Comment addressed. Bollard detail has been revised from four-inch to six-inch bollards. Trash enclosure detail has been revised to show bollards six-inches from front gate posts). The proposed enclosure is located north of the building. The zoning ordinance prohibits trash enclosures within a required front yard setback, and does not allow enclosures closer to the front lot line than the principal building. The proposed dumpster enclosure is located closer to Highland Road than the automobile wash building, and does not meet the front yard setback. As proposed, **the following variances are required from the Zoning Board of Appeals: an 89-foot variance to project into the front yard, and a 10-foot variance to encroach into the front yard setback.** (Comment partially addressed. The trash enclosure detail was shifted south out of the front yard setback. However, the trash enclosure is projecting approximately 81.3 feet into the front yard (Sheet C-2 shall be revised to measure the projection to the northern extent of the trash enclosure). The applicant intends to seek a variance from the Zoning Board of Appeals).

At the time of trash pick-up, the location of the dumpster enclosure could cause conflict with traffic entering and exiting the site. Circulation must be considered when relocating the dumpster enclosure, or during consideration of a variance request to allow the dumpster location at the currently proposed location. (Comment remains as a notation. The response letter provided to the first review indicates all trash pickup would occur prior to 8:00 a.m. before the car wash opens).

An eight-foot-tall split-face block (8" CMU) screen wall is proposed around three sides of the dumpster enclosure, with steel doors on the north side of the structure. The zoning ordinance states dumpsters and trash storage enclosures shall be constructed of the same decorative masonry materials as the buildings to which they are accessory. Brickform concrete (simulated brick pattern) or stained, decorative CMU block are not permitted where the principal building contains masonry. Plain CMU block is also prohibited. **The dumpster enclosure shall match the same brick veneer as the facade of the building with a steel backed wood gate painted a complementary color to the brick veneer. The trash/recycle enclosure detail on Sheet C-8 shall be revised to show brick veneer on the outside walls of the concrete enclosure and indicate the color of the gate.** (Comment partially addressed. The gate as shown on the front elevation detail does not match the gate detail. Additionally, the gate detail states the cedar boards are to be stained "color as selected by owner." The color/stain of the gate is subject to review and approval by the Township. The gate shall be stained a color similar to 'sierra tan'. Revise accordingly).

Landscaping and Screening

Landscaping must comply with the provisions of the zoning ordinance and should be designed to preserve existing significant natural features and to buffer service areas, parking lots, and dumpsters. A mix of evergreen and deciduous plants and trees are preferred, along with seasonal accent plantings. A landscape plan is not required as part of the preliminary site plan, but was provided for consideration and will be reviewed in detail during final site plan review if the preliminary site plan is approved. Following are initial comments on the landscape plan:

- Interior Landscaping Requirements: for every new development requiring site plan review, except site condominiums as regulated in Article 6, Section 1, interior landscaping areas shall be provided, equal to at least 15 percent of the total lot area. These landscaped areas shall be grouped near all building entrances, building foundations, pedestrian walkways, and service areas, and may also be placed adjacent to fences, walls, or rights-of-way. These planting areas shall be so located as to breakup an otherwise continuous abutment of building facade with sidewalks and/or parking areas. All interior landscaping shall provide one large deciduous, small ornamental deciduous, or evergreen tree and five shrubs for every 300 square feet of required interior landscaping area.
- Parking Lot Landscaping: within every parking area containing 10 or more spaces, there shall be parking lot landscaping in accordance with this Subsection. These landscaping areas shall be located so as to better define parking spaces and drives. Landscaping on the perimeter of the parking lot does not satisfy the parking lot landscaping requirement. Island locations shall also be considered in a manner that will assist in controlling traffic movements. The requirements, for trees and islands, may be modified when it is found through careful coordination of parking lot landscaping with peripheral and building plantings an unnecessary duplication of plantings would be created. In addition, consideration shall be given to situations when an excess number of small islands would be created that would only serve to disrupt reasonable traffic patterns and maintenance activities. **Trees as previously described are not provided; therefore, a variance is required from the Zoning Board of Appeals.** (Comment addressed. Additional trees have been proposed).

- Transformer and Mechanical Equipment Screening: all ground mounted transformers, climate control, and similar equipment shall be screened from view from any street or adjacent property by a wall constructed of the same decorative exterior materials as the building and not less than the height of the equipment to be screened. As an alternative, the equipment may be screened by landscaping approved by the Planning Commission. All rooftop climate control equipment, transformer units, and similar equipment shall be screened. The materials used to screen the equipment shall be compatible in color and type with exterior finish materials of the building. All rooftop equipment shall conform to the maximum height regulations of this Ordinance. **The plans do not show proposed locations for mechanical units or provide the method of screening. The plans shall be revised accordingly to provide the location(s) and method of screening.** (Comment partially addressed. Electric transformer has been shown on the plans screened by evergreen shrubs. The proposed shrubs shall be replaced with arborvitae. Revise accordingly).
- Greenbelts are required between nonresidential parking areas adjacent to road rights-of-way and shall be at least 20-feet-wide and improved with one large deciduous or evergreen tree and eight shrubs for every 30 lineal feet, except they may be substituted in part with a masonry screen wall, 30 inches in height, at the discretion of the Planning Commission, in which case, a five-foot greenbelt adjacent to the screen wall must be provided. **Trees as previously described are not provided; therefore, a variance is required from the Zoning Board of Appeals.** (Comment outstanding. The applicant intends to seek a variance from the Zoning Board of Appeals. Their reason for requesting the variance is the front greenbelt is within a watermain easement. This variance request shall be added to the zoning relief table on Sheet C-1).
- **Arborvitae are not considered evergreen trees; they are considered shrubs. The Plant Schedule shall be revised accordingly.** (Comment addressed. The proposed arborvitae have been replaced with White Spruce trees, which staff supports as preferable in the proposed locations. As previously stated, arborvitae shall screen the transformer).
- **Trees identified for protection during construction and the means of protection shall be identified prior to final site plan. No construction shall occur until tree protection has been installed and approved by the Community Development Director.** (Comment remains as a notation. This requirement was acknowledged by the applicant's engineer in the response letter provided to the first review).
- Trees shall not be planted closer than four feet to a property line. **Add note to landscape plan at final site plan.** (Comment addressed. A note has been added to the landscape plan (Sheet C-7)).
- All required landscape areas in excess of 200 square feet shall be irrigated to assist in maintaining a healthy condition for all plantings and lawn areas. **An irrigation plan shall be provided at final site plan.** (Comment remains as a notation. This requirement was acknowledged by the applicant's engineer in the response letter provided to the first review).

- All required site irrigation systems shall include a rain sensor or similar measure to ensure irrigation does not occur during or shortly after precipitation events. All site plans shall note installation of required irrigation. **Add note to all plans. (Comment remains as a notation. This requirement was acknowledged by the applicant’s engineer in the response letter provided to the first review).**
- **Six-inch straight-faced (vertical) curb of concrete construction shall be used around landscape and parking areas. The standard Michigan Department of Transportation (MDOT) detail for six-inch straight-faced curb shall be provided on Sheet C-9 of the site plan. (Comment addressed. MDOT standard curb details have been added to Sheet C-9 of the plans).**
- **The zoning ordinance requires a land form buffer, buffer strip and obscuring fence, or screen wall between the subject site and the property to the west. No screening as previously described is proposed; therefore, a variance for the west screening is required from the Zoning Board of Appeals. (Comment addressed. A six-foot-tall vinyl fence has been proposed. If the project proceeds to final site plan, a fence detail shall be provided).**
- **Note 2 on the landscape plan mentions seed, and sod is required. (Comment addressed. Note 2 has been revised to indicate sod).**
- **Note 3 on the landscape plan mentions mulch. The zoning ordinance states the mulch product itself shall be at least doubled-shredded quality. (Comment addressed. Note 3 has been revised to specify double-shredded quality).**
- All required landscape areas in excess of 200 square feet must be irrigated to assist in maintaining a healthy condition for all landscape plantings and lawn areas. **An irrigation plan shall be required at final site plan. (Comment remains as a notation. This requirement was acknowledged by the applicant’s engineer in the response letter provided to the first review).**

Signs

The site plan does not show the location of a monument sign along Highland Road. Exterior elevations show two wall signs on the building (both on the parapet tower (north side and west side)). A maximum of one wall sign is permitted for each principal building; the one permitted wall sign must be located flat against the building's front facade or parallel to the front facade on a canopy. Total area of a wall sign cannot exceed 10 percent of the front facade of the building. **The wall sign on the west elevation shall be removed, or a variance is required from the Zoning Board of Appeals. (Comment remains as a notation. The response letter provided to the first review indicated the west wall sign is to be removed. Revised elevations are to be provided at final site plan).** Additionally, wall signs cannot extend above the roofline of a building. **A variance from the Zoning Board of Appeals is required to install a wall sign extending above the roofline of the building. (Comment outstanding; however, the applicant intends to seek a variance from the Zoning Board of Appeals).**

Planning Commission Options / Recommendation

The Planning Commission may recommend approval, approval with conditions, or denial of the preliminary site plan to the Township Board; action on the special land use is determined by the Planning Commission. **Staff recommends the plans be revised and resubmitted to address the items identified in this memorandum. A list of any requested variances shall also be provided. (Staff recommends the project is eligible for consideration by the Planning Commission. Any recommendation of approval of the preliminary site plan or approval of the special land use shall be conditioned on the applicant addressing all staff and consultant review comments and recommendations, and requesting and receiving the necessary variances from the Zoning Board of Appeals).**

Notes:

1. A notarized signature of the property owner shall be provided on the site plan application. Evidence, satisfactory to the Township Attorney, that the signatories on the application are authorized to execute on behalf of the property owner and applicant shall be a condition of any approvals.
 - a. Paragraph 5.h of the Operating Agreement of the LLC provides the Assistant Managers with authority to execute development documents related to a property only “Upon the Manager’s approval of a letter of intent or other document evidencing the approval of the acquisition of a parcel or parcels of real property (and such document being hereinafter referred to as an “LOI”) ...”
 - b. The LOI provided for the subject property is not signed by a Manager, but an Assistant Manager. Without the “Manager’s approval of the LOI,” the Assistant Managers are without authority to take any action related to the development of the subject property.
2. A date (including revision dates) shall be provided on the exterior elevations and floor plan. Said plans shall also be sealed by the Registered Architect who prepared the plans.

CHARTER TOWNSHIP OF WHITE LAKE
ZONING BOARD OF APPEALS APPLICATION

Section 11, Item A.

Community Development Department, 7525 Highland Road,
White Lake, Michigan, 48383
(248) 698-3300 x5

APPLICANT'S NAME: EROP, LLC (Jeff Justice) PHONE: 215-521-2348
ADDRESS: 3130 North Kandy Lane Decatur Illinois 62526
APPLICANT'S EMAIL ADDRESS: jeffj@hypershinecw.com
APPLICANT'S INTEREST IN PROPERTY: OWNER BUILDER OTHER: _____

ADDRESS OF AFFECTED PROPERTY: 9345 Highland Road PARCEL # 12 -23-202-006
CURRENT ZONING: General Business PARCEL SIZE: 4.85 AC

STATE REQUESTED VARIANCE AND ORDINANCE SECTION: FIVE (5) REQUIRED VARIANCES.
SEE ATTACHED VARIANCE REQUEST LETTER.
VALUE OF IMPROVEMENT: \$ 429,192.10 SEV OF EXISTING STRUCTURE: \$ UNKNOWN

STATE REASONS TO SUPPORT REQUEST: (ATTACH WRITTEN STATEMENT TO APPLICATION)

APPLICATION FEE: \$440.00 (CALCULATED BY THE COMMUNITY DEVELOPMENT DEPARTMENT)
APPLICANT'S SIGNATURE: *Jeff Justice* DATE: 4/5/2022

STONEFIELD

Wednesday, April 20, 2022

Charter Township of White Lake
Zoning Board of Appeals
Community Development Department
7525 Highland Road
White Lake, MI 48383

**RE: Variance Requests
Proposed Car Wash
9345 Highland Road
White Lake, MI 48383
Parcel ID: 12-23-202-006**

To the Members of the Zoning Board of Appeals:

Attached is an application for several variances requested for the proposed car wash development at 9345 Highland Road. The following outlines the variances being requested and addresses the criteria required for variances to be granted:

**I & 2. § 6.4.C.i Requirement: Minimum center-to-center driveway spacing (same side of road): 455 FT
Proposed: 213 FT to eastern drive
246 FT to western drive**

- A. Practical difficulty: The subject site’s only frontage is 338 FT along Highland Road. The parcels to the East and West both have existing driveways in locations on Highland Road which prohibit any proposed development at the subject site to comply with the 455 FT spacing requirement in either direction regardless of where the driveway is proposed on site.
- B. Unique situation: The subject site is unique in the fact that there are adjacent existing driveway locations and no potential for cross access or access via a side street.
- C. Not self-created: The problem is not self-created.
- D. Substantial justice: The granting of this variance would provide access to the site which would otherwise be landlocked without any permitted curb cut on Highland Road.
- E. Minimum variance necessary: The proposed driveway location is aligned with that across Highland Road at the request of the Planning Department. With 213 FT spacing provided to the eastern existing drive and 246 FT spacing provided to the western existing drive this proposed driveway location results in the minimum variance request necessary.

3. § 5.19.N.c **Requirement: No enclosures shall be permitted within a required front yard or street-side yard setback, nor closer to the front lot line than the principal building.**

Proposed: Trash enclosure proposed 80.2 FT closer to the setback than the principal building.

- A. Practical difficulty: The subject site is required to have a 60 FT setback for all structures and is also bound by overhead wires and utility poles to the South. These difficulties dictate the building placement on site which requires the trash enclosure to be located in front of the building for pick-up access.
- B. Unique situation: The required 60 FT setback in conjunction with the overhead wires and utility poles limiting vertical clearance are unique to the subject site.
- C. Not self-created: The problem is not self-created.
- D. Substantial justice: The granting of this variance would allow for an accessible path for sanitation to access the refuse container for trash pickup.
- E. Minimum variance necessary: The trash enclosure is proposed adjacent to the required exit gate and is located outside of the required 60 FT front yard setback. There is no other alternative location on site that would provide a lesser variance request. Trash pick up will always occur off hours as to not disrupt any traffic patterns.

4. § 5.19.D **Requirement: 20 FT Right-of-way greenbelt with 1 tree and 8 shrubs per 30 linear feet. (11 trees, 90 shrubs).**

Proposed: 20 FT Right-of-way greenbelt, 0 trees, 62 shrubs.

- A. Practical difficulty: The subject site's has a 20' wide water main easement along the 338 FT frontage of the site along Highland Road. This easement prohibits any plantings.
- B. Unique situation: The subject site is unique in the fact that a 20' water main easement encompasses the entire required 20' greenbelt.
- C. Not self-created: The problem is not self-created.
- D. Substantial justice: The granting of this variance would allow the water main to be protected from any potential damages caused by plantings.
- E. Minimum variance necessary: The maximum number of shrubs were provided along the frontage without encroaching into the water main easement.

5. § 5.9.F.iv

Requirement: Above the roof signs prohibited.

Proposed: Sign above the roof line on the building parapet. (See provided architectural elevations).

- A. Practical difficulty: The subject site's has a 20' wide water main easement along the 338 FT frontage of the site along Highland Road. This easement prohibits any structures including signage for the proposed development. The development is also bound by utility poles and overhead wires to the South of the building preventing the development to be shifted South.
- B. Unique situation: The subject site is unique in the fact that the developable area is bound by a large utility easement to the North as well as overhead wires and utility poles to the South.
- C. Not self-created: The problem is not self-created.
- D. Substantial justice: The granting of this variance would allow customers and emergency services to easily identify the subject site from Highland Road.
- E. Minimum variance necessary: The applicant is proposing only one (1) sign on the building which is to front Highland Road and includes only the tenant name "White Water Express Car Wash" (See provided architectural elevations).

Thank you for your time and consideration.

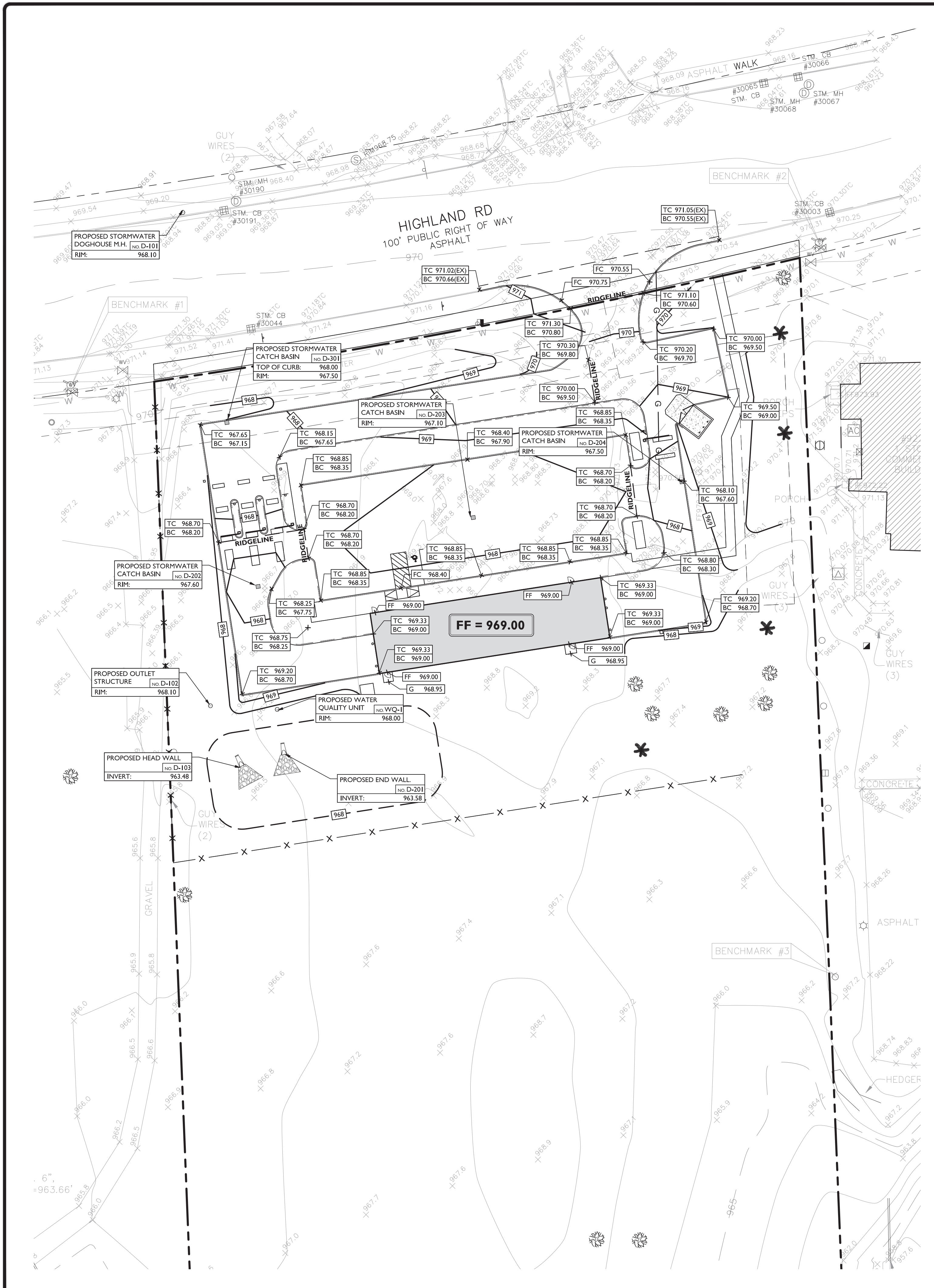
Best Regards,



J. Reid Cooksey
Stonefield Engineering and Design, LLC



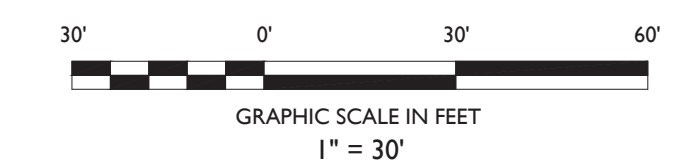
Erin McMachen
Stonefield Engineering and Design, LLC



SYMBOL	DESCRIPTION
---	PROPERTY LINE
100	PROPOSED GRADING CONTOUR
—RIDGE LINE—	PROPOSED GRADING RIDGELINE
←	PROPOSED DIRECTION OF DRAINAGE FLOW
X G 100.00	PROPOSED GRADE SPOT SHOT
X TC 100.50 BC 100.00	PROPOSED TOP OF CURB / BOTTOM OF CURB SPOT SHOT
X FC 100.00	PROPOSED FLUSH CURB SPOT SHOT

- GRADING NOTES**
- ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL STATE AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
 - THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
 - PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
 - THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
 - MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
 - CURB GUTTER: 0.50%
 - CONCRETE SURFACES: 1.00%
 - ASPHALT SURFACES: 1.00%
 - A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IF THIS CONDITION CANNOT BE MET. FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

- ADA NOTES**
- THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
 - THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
 - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
 - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP. AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL, THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
 - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00%. IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP, FOR ALTERATIONS, A CURB RAMP FLARE SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURB RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
 - ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
 - A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
 - THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¼ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¼ INCHES AND ½ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¼ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
 - THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ¼ INCH.



REVISION	DATE	ISSUE	BY	DESCRIPTION
2	03/16/2022	ECH		REVISED PER SITE PLAN REVIEW #1
1	01/03/2022	RAC/ECH		FOR PRELIMINARY SITE PLAN APPROVAL

NOT APPROVED FOR CONSTRUCTION

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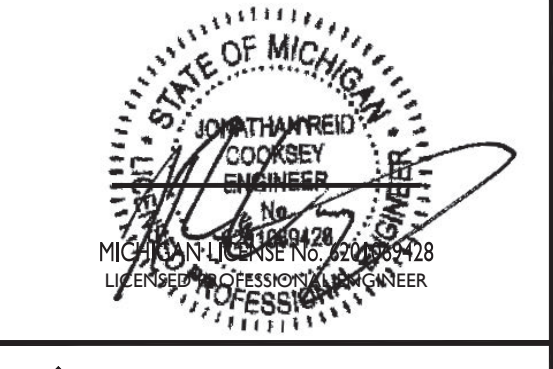
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HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9345 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN



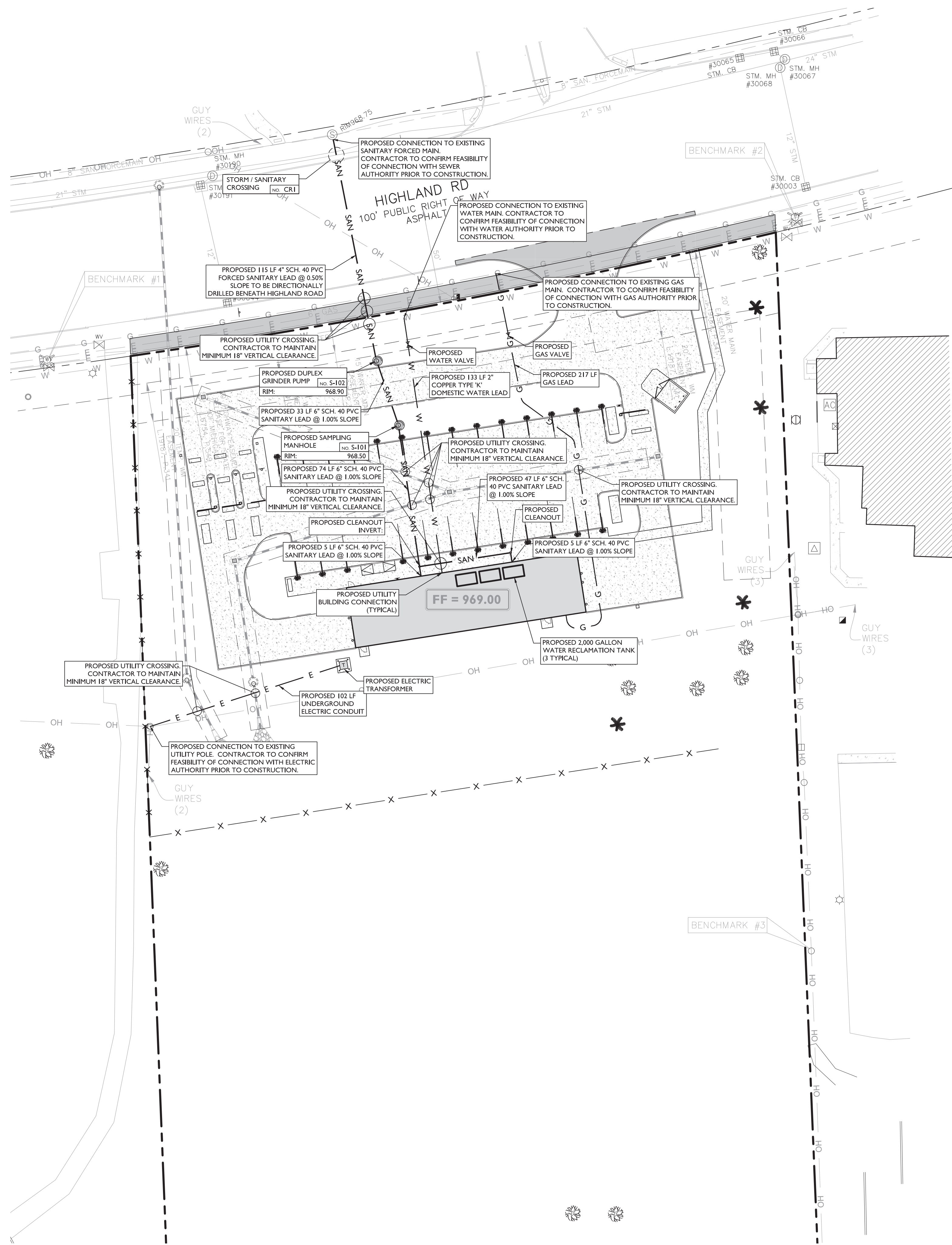
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engineering & design

SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE:
GRADING PLAN

DRAWING:
C-3

NOT FOR CONSTRUCTION. ALL DIMENSIONS SHOWN ARE IN FEET AND INCHES. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

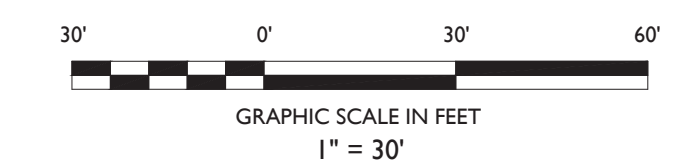


SYMBOL	DESCRIPTION
---	PROPERTY LINE
SAN	PROPOSED SANITARY LATERAL
W	PROPOSED DOMESTIC WATER SERVICE
E	PROPOSED ELECTRIC CONDUITS
G	PROPOSED GAS LINE
⊗	PROPOSED VALVE
⊕	PROPOSED WATER TEE / BEND
⊙	PROPOSED SANITARY MANHOLE / CLEANOUT
⊠	PROPOSED TRANSFORMER ON CONCRETE PAD WITH BOLLARDS



#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)
30003	CATCH BASIN	969.98	12	N	963.48
30044	CATCH BASIN	970.93	12	N	962.93
30065	CATCH BASIN	967.54	12	E	962.74
30066	CATCH BASIN	967.63	12	W	962.63
30067	STORM MANHOLE	967.78	12	SE	962.03
			12	NW	962.28
			24	E	959.38
			21	W	959.43
30068	STORM MANHOLE	967.89	12	S	962.39
			12	NE	962.29
30190	STORM MANHOLE	969.35	12	SW	961.53
			21	E	960.97
			21	W	960.90
30191	CATCH BASIN	968.78	12	NE	962.08
			12	S	962.28

- DRAINAGE AND UTILITY NOTES**
- THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IMMEDIATELY IN WRITING.
 - THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
 - THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION.
 - A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASUREMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
 - ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASUREMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
 - THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
 - CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK UP GRADIENT.
 - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
 - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.



REVISION	DATE	BY	DESCRIPTION
2	03/16/2022	ECH	REVISED PER SITE PLAN REVIEW #1
1	01/05/2022	BAC/ECH	FOR PRELIMINARY SITE PLAN APPROVAL

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HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-2006
9345 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN



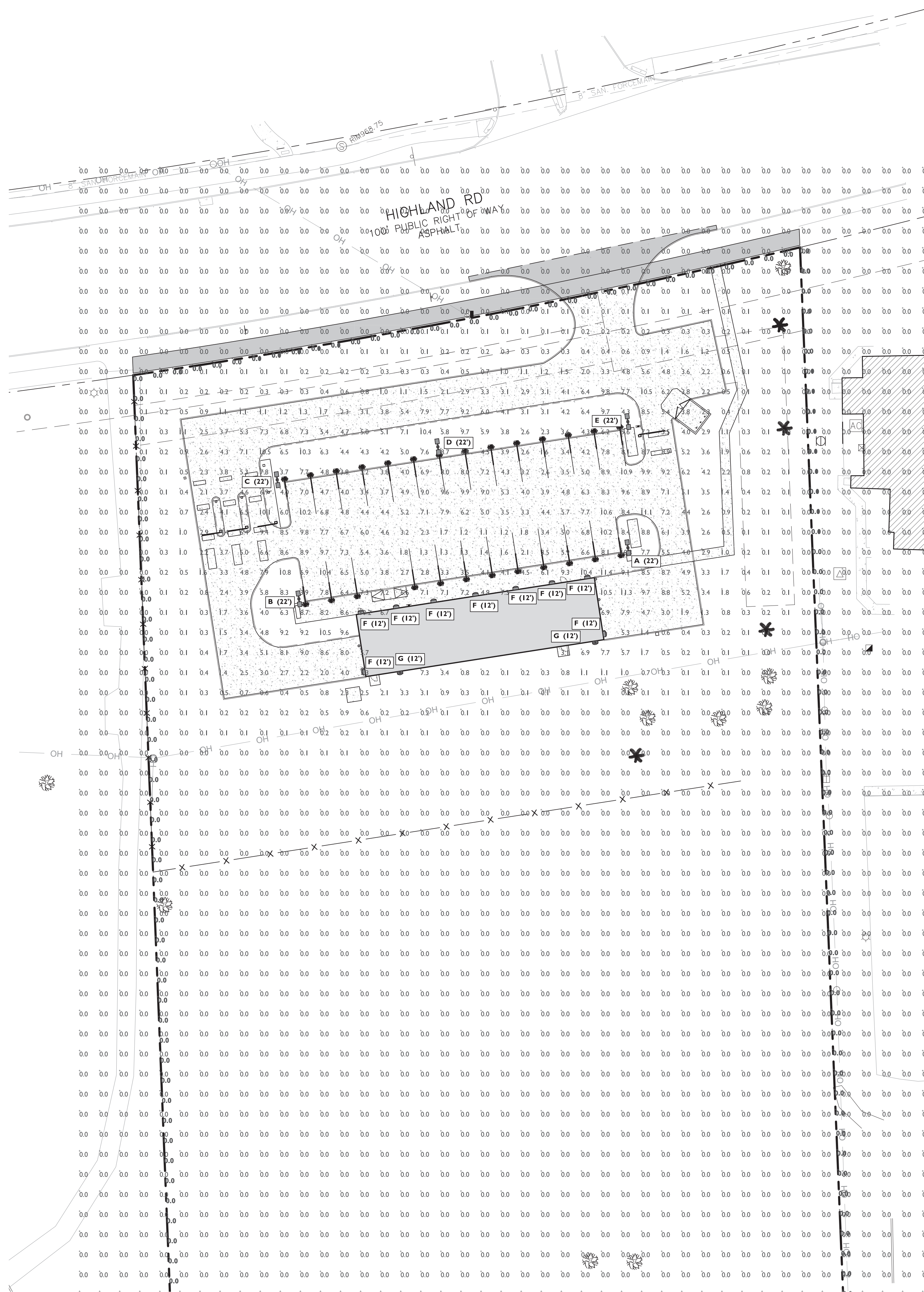
STONEFIELD
engineering & design

SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE: **UTILITY PLAN**

DRAWING: **C-5**

NOTES: 1. IDENTIFY ALL UTILITIES ALONG HIGHLAND ROAD, WHITE LAKE TOWNSHIP, MICHIGAN. PHOTOGRAPH UTILITIES.



PROPOSED LUMINAIRE SCHEDULE							
SYMBOL	LABEL	QUANTITY	LIGHTING SPECIFICATION	DISTRIBUTION	LLF	MANUFACTURER	IES FILE
	A	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	B	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	C	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	D	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	E	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	F	9	MIRADA OUTDOOR LED WALLPACK	FT	0.9	LSI LIGHTING	XWM-FT-LED-03L-40IES
	G	2	MIRADA OUTDOOR LED WALLPACK (EMERGENCY FIXTURE ONLY)	II	0.9	LSI LIGHTING	XWM-2-LED-03L-40IES

SYMBOL	DESCRIPTION
A (XX)	PROPOSED LIGHTING FIXTURE (MOUNTING HEIGHT)
XX	PROPOSED LIGHTING INTENSITY (FOOTCANDLES)
	PROPOSED AREA LIGHT
	PROPOSED BUILDING MOUNTED LIGHT

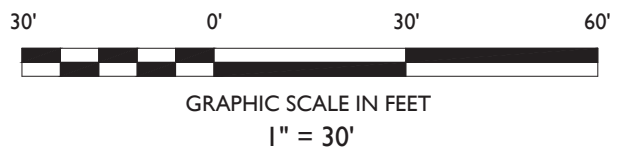
LIGHTING REQUIREMENTS		
CODE SECTION	REQUIRED	PROPOSED
§ 5.18.G	LIGHT FIXTURES SHALL BE FULL CUT OFF AT 90°	PROVIDED
§ 5.18.G.ii	MINIMUM PROPERTY LINE SETBACK: 5 FT	60.0 FT
§ 5.18.G.via	MAXIMUM FIXTURE HEIGHTS: WITHIN 25 FT OF PROPERTY LINE: 16 FT WITHIN 26-60 FT OF PROPERTY LINE: 20 FT WITHIN 61-100 FT OF PROPERTY LINE: 25 FT > 100 FT OFF PROPERTY LINE: 30 FT	N/A N/A 22 FT N/A
§ 5.18.G.iii	PERMITTED GLARE: ALL PROPERTY LINES: 0 FC	0.0 FC

LIGHTING STATISTICS			
DESCRIPTION	AVERAGE	MINIMUM	MAXIMUM
OVERALL PARCEL	0.56 FC	0.00 FC	15.3 FC
DEVELOPMENT AREA	2.91 FC	0.00 FC	15.3 FC
PROPERTY LINE	0.00 FC	0.00 FC	0.0 FC

(1) ALL CALCULATIONS MEASURED 6 FT ABOVE GRADE

SECURITY CAMERAS TO BE MOUNTED ON EACH POLE 10 FT ABOVE GRADE		
POLE LABEL	NUMBER OF CAMERAS	DIRECTION OF CAMERAS
A		
B		
C		
D		
E		

- GENERAL LIGHTING NOTES**
- THE LIGHTING LEVELS DEPICTED WITHIN THE PLAN SET ARE CALCULATED UTILIZING DATA OBTAINED FROM THE LISTED MANUFACTURER ACTUAL ILLUMINATION LEVELS AND PERFORMANCE OF ANY PROPOSED LIGHTING FIXTURE MAY VARY DUE TO UNCONTROLLABLE VARIABLES SUCH AS WEATHER, VOLTAGE SUPPLY, LAMP TOLERANCE, EQUIPMENT SERVICE LIFE AND OTHER VARIABLE FIELD CONDITIONS.
 - WHERE APPLICABLE, THE EXISTING LIGHT LEVELS DEPICTED WITHIN THE PLAN SET SHALL BE CONSIDERED APPROXIMATE. THE EXISTING LIGHT LEVELS ARE BASED ON FIELD OBSERVATIONS AND THE MANUFACTURER'S DATA OF THE ASSUMED OR MOST SIMILAR LIGHTING FIXTURE MODEL.
 - UNLESS NOTED ELSEWHERE WITHIN THIS PLAN SET, THE LIGHT LOSS FACTORS USED IN THE LIGHTING ANALYSIS ARE AS FOLLOWS:
 - LIGHT EMITTING DIODES (LED): 0.30
 - HIGH PRESSURE SODIUM: 0.72
 - METAL HALIDE: 0.72
 - THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC, IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY PROPOSED LIGHTING LOCATIONS THAT CONFLICT WITH EXISTING PROPOSED DRAINAGE, UTILITY, OR OTHER IMPROVEMENTS.
 - THE CONTRACTOR IS RESPONSIBLE TO PREPARE A WIRING PLAN AND PROVIDE ELECTRIC SERVICE TO ALL PROPOSED LIGHTING FIXTURES. THE CONTRACTOR IS REQUIRED TO PREPARE AN AS-BUILT PLAN OF WIRING AND PROVIDE COPIES TO THE OWNER AND STONEFIELD ENGINEERING & DESIGN, LLC.



REVISION	DATE	DESCRIPTION
2	03/16/2022	FOR PRELIMINARY SITE PLAN APPROVAL
1	01/03/2022	

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HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9145 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN



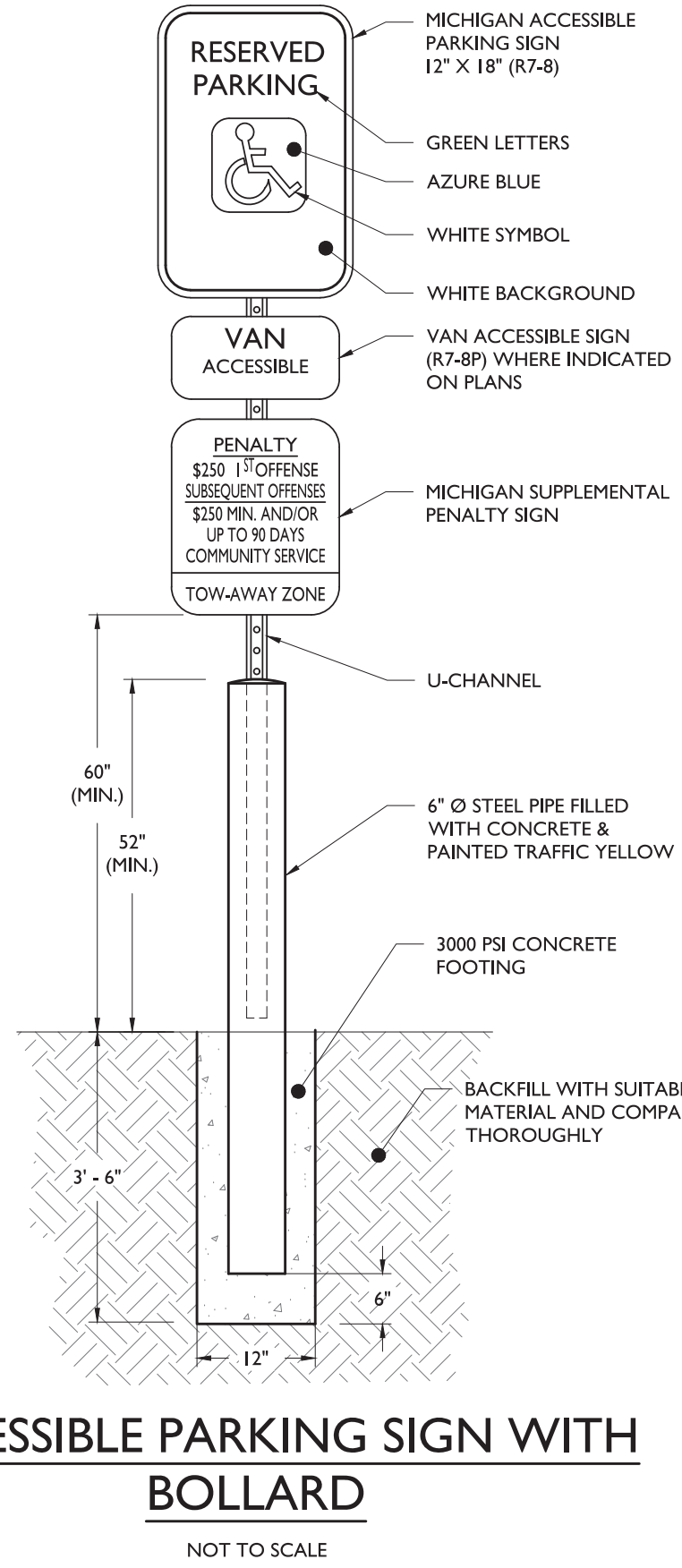
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SCALE: 1" = 30' PROJECT ID: DET-210462

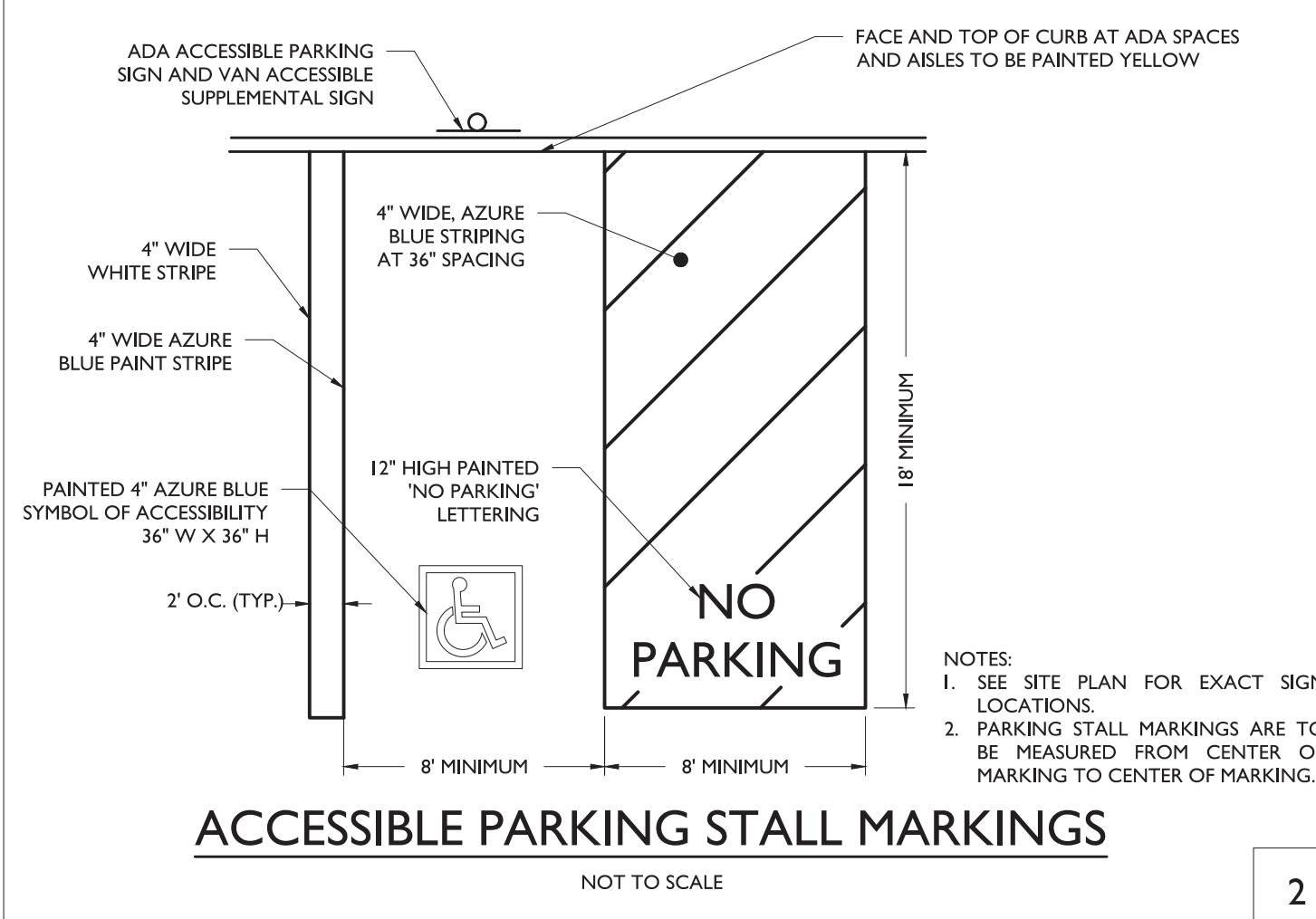
TITLE:
LIGHTING PLAN

DRAWING:
C-6

V:\PROJECTS\2021\12-23-202-006\HIGHLAND RD\WHITE LAKE TOWNSHIP_MICHIGAN\PROP\LIGHTING

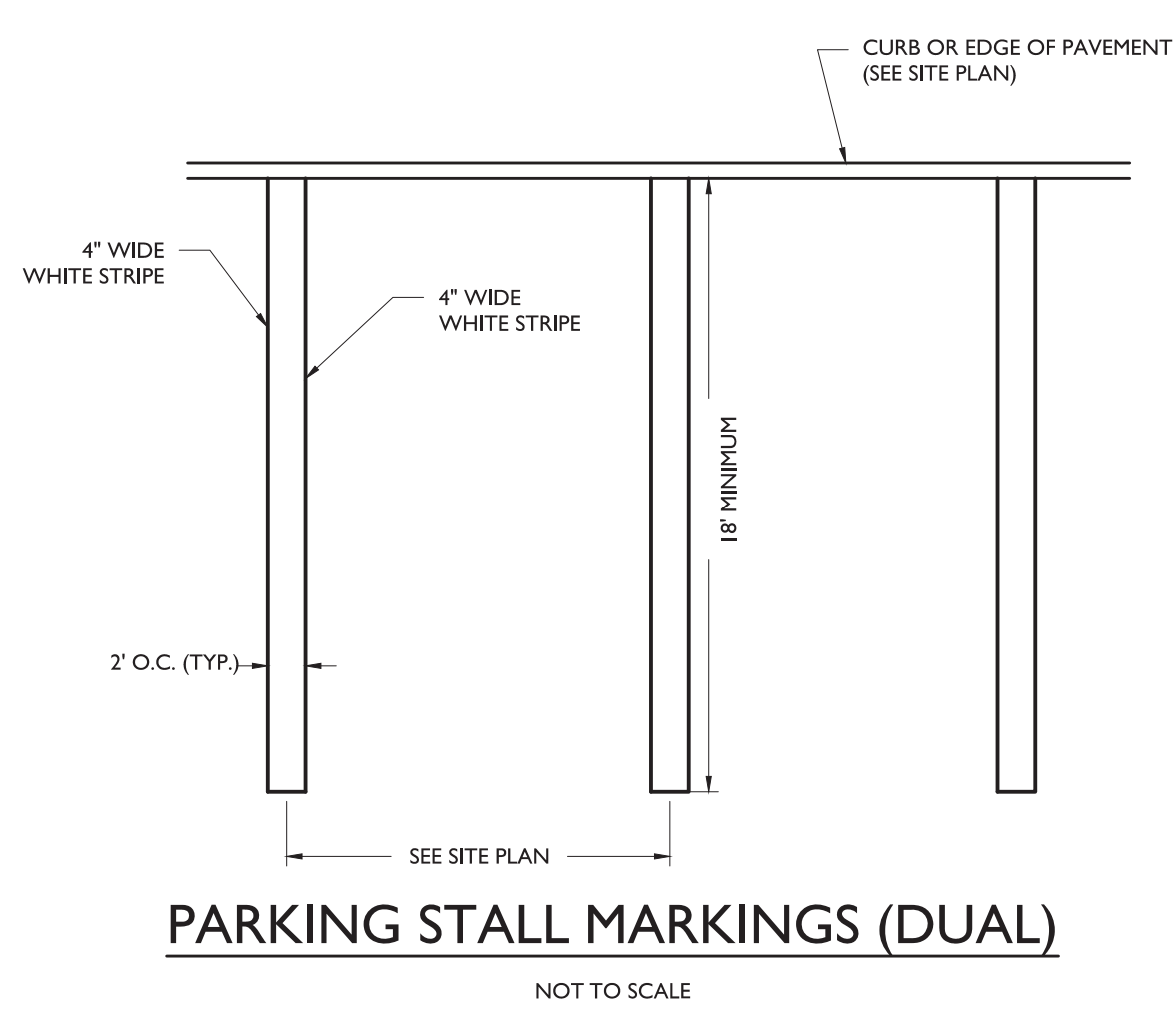


ACCESSIBLE PARKING SIGN WITH BOLLARD
NOT TO SCALE



ACCESSIBLE PARKING STALL MARKINGS
NOT TO SCALE

2

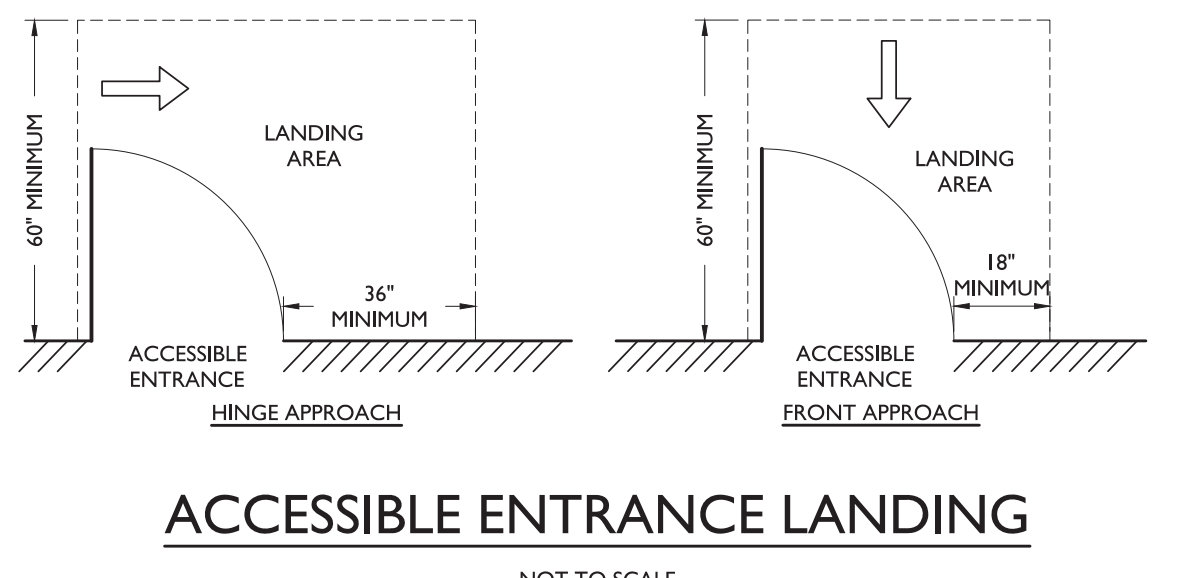


PARKING STALL MARKINGS (DUAL)
NOT TO SCALE

3

- PAVEMENT STRIPING & MARKINGS NOTES:**
1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
 2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
 3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
 4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
 5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.

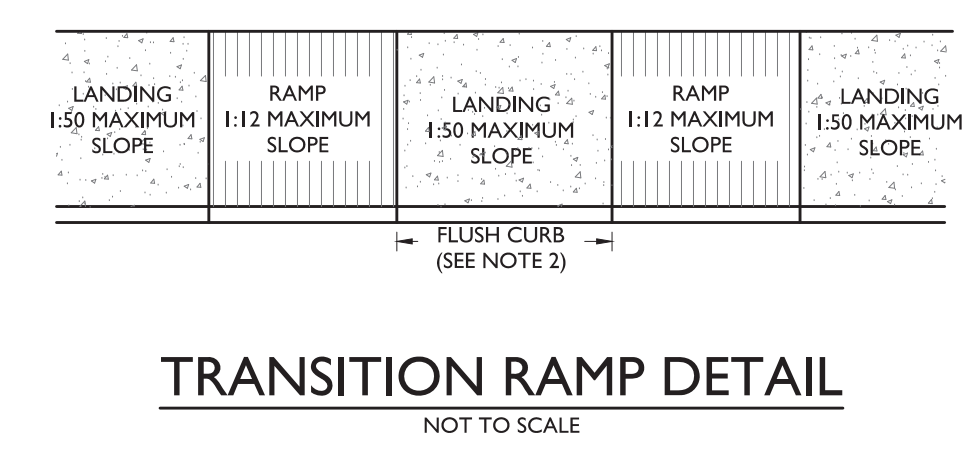
4



ACCESSIBLE ENTRANCE LANDING
NOT TO SCALE

- NOTES:**
1. MAXIMUM SLOPE ON LANDING SHALL BE 1:50 IN ALL DIRECTIONS
 2. DIMENSIONS SHOWN HERE ARE THE MINIMUM DIMENSIONS REQUIRED FOR AN ADA COMPLIANT LANDING AT THE ACCESSIBLE ENTRANCE. REFER TO SITE PLAN FOR SITE SPECIFIC DIMENSIONS THAT MAY SPECIFY A LARGER LANDING AREA.
 3. CONTRACTOR SHALL CONTACT THE ENGINEER BEFORE CONSTRUCTION IF THE ACCESSIBLE ENTRANCE ON SITE DOES NOT MATCH THE SCENARIO SHOWN ABOVE.

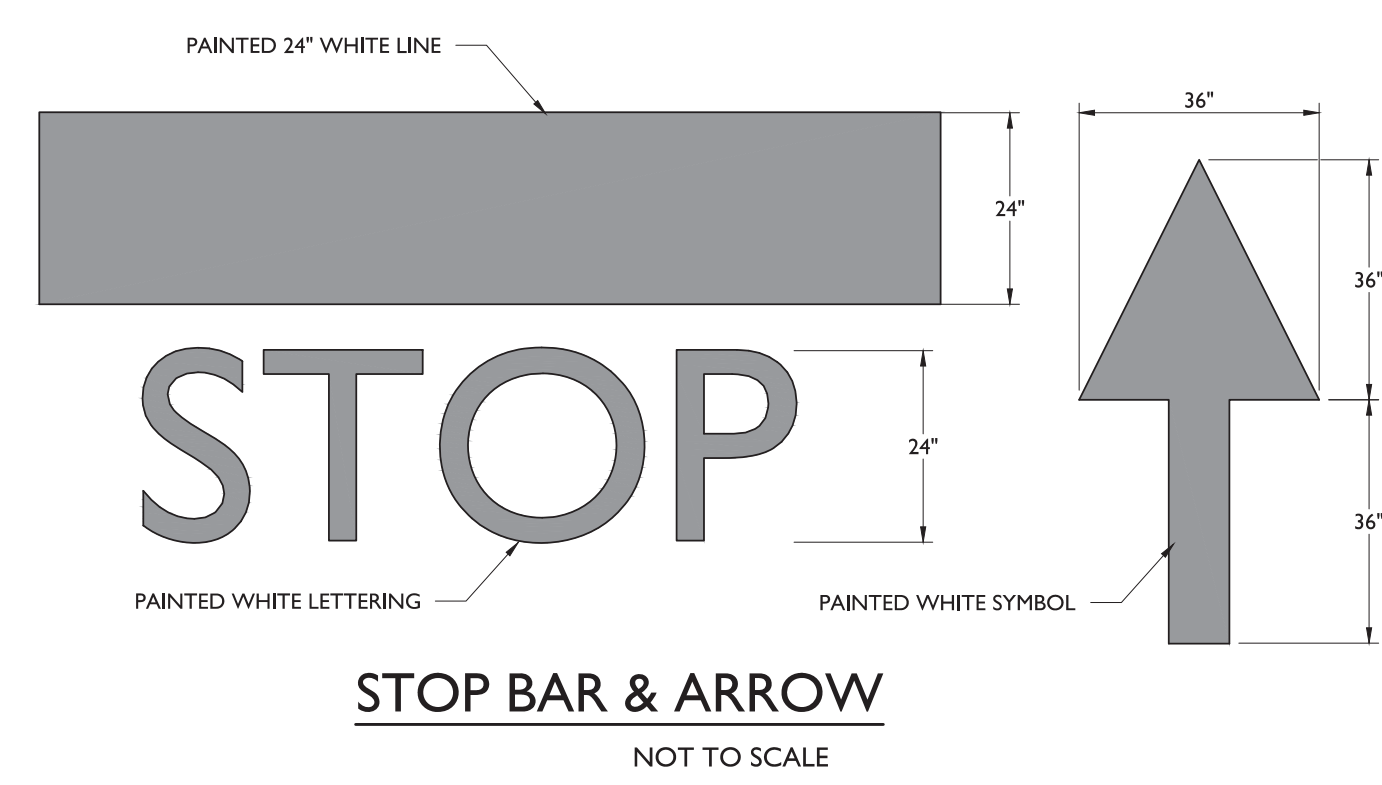
5



TRANSITION RAMP DETAIL
NOT TO SCALE

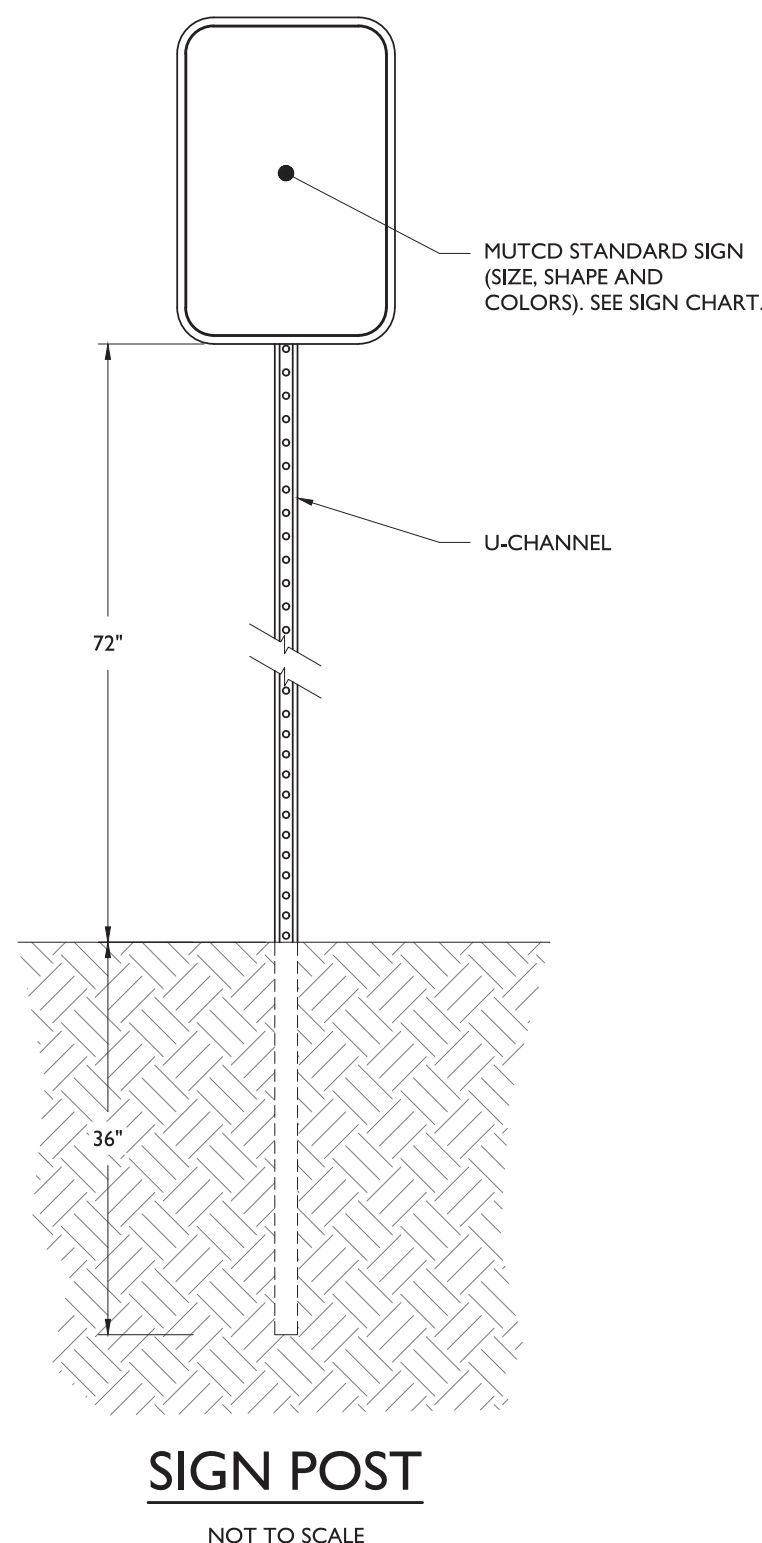
- NOTES:**
1. CROSS SLOPE ON RAMP SHALL NOT EXCEED 2%
 2. A FLUSH CURB SHALL HAVE A MINIMUM WIDTH OF 36". SEE PLAN FOR EXACT WIDTH.
 3. RAMP SHALL HAVE A MAXIMUM RISE OF 6" WITHOUT A HANDRAIL.

6



STOP BAR & ARROW
NOT TO SCALE

7

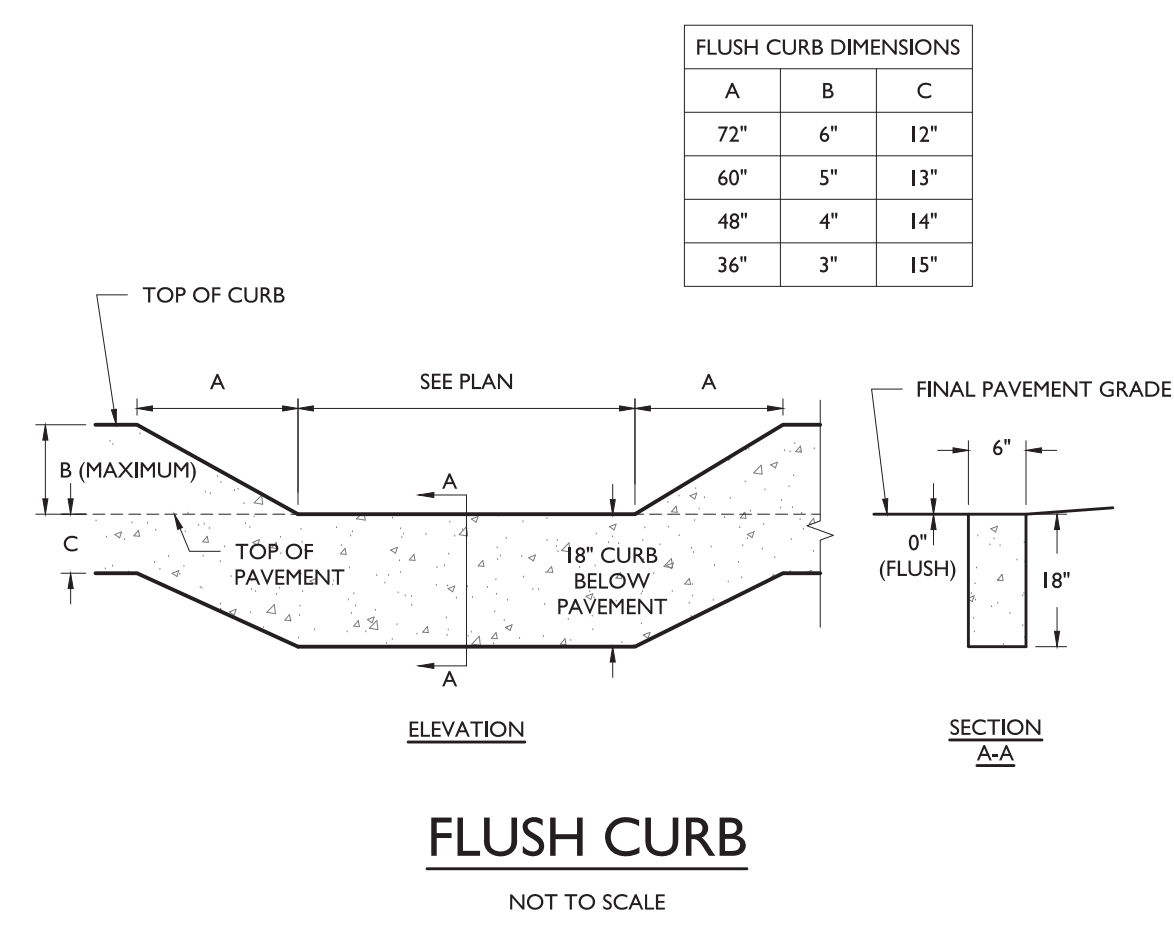


SIGN POST
NOT TO SCALE

M.U.T.C.D. NUMBER	TEXT	COLOR	LEGEND	BACKGROUND	SIZE OF SIGN (WIDTH X HEIGHT)	TYPE OF MOUNT
STOP SIGN (R1-1)		WHITE		RED	36"x36"	GROUND
DO NOT ENTER (R5-1)		RED		WHITE	30"x30"	GROUND

SIGN DATA TABLE
NOT TO SCALE

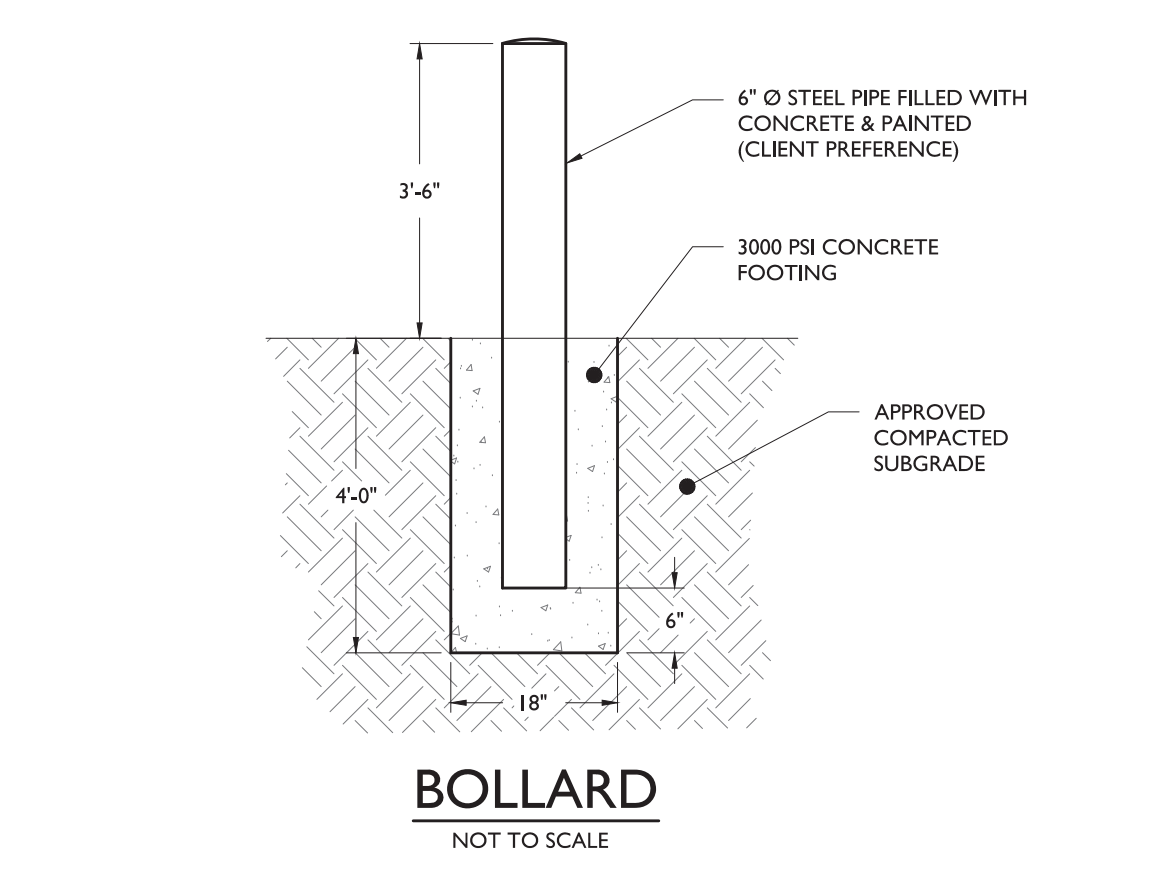
8



FLUSH CURB
NOT TO SCALE

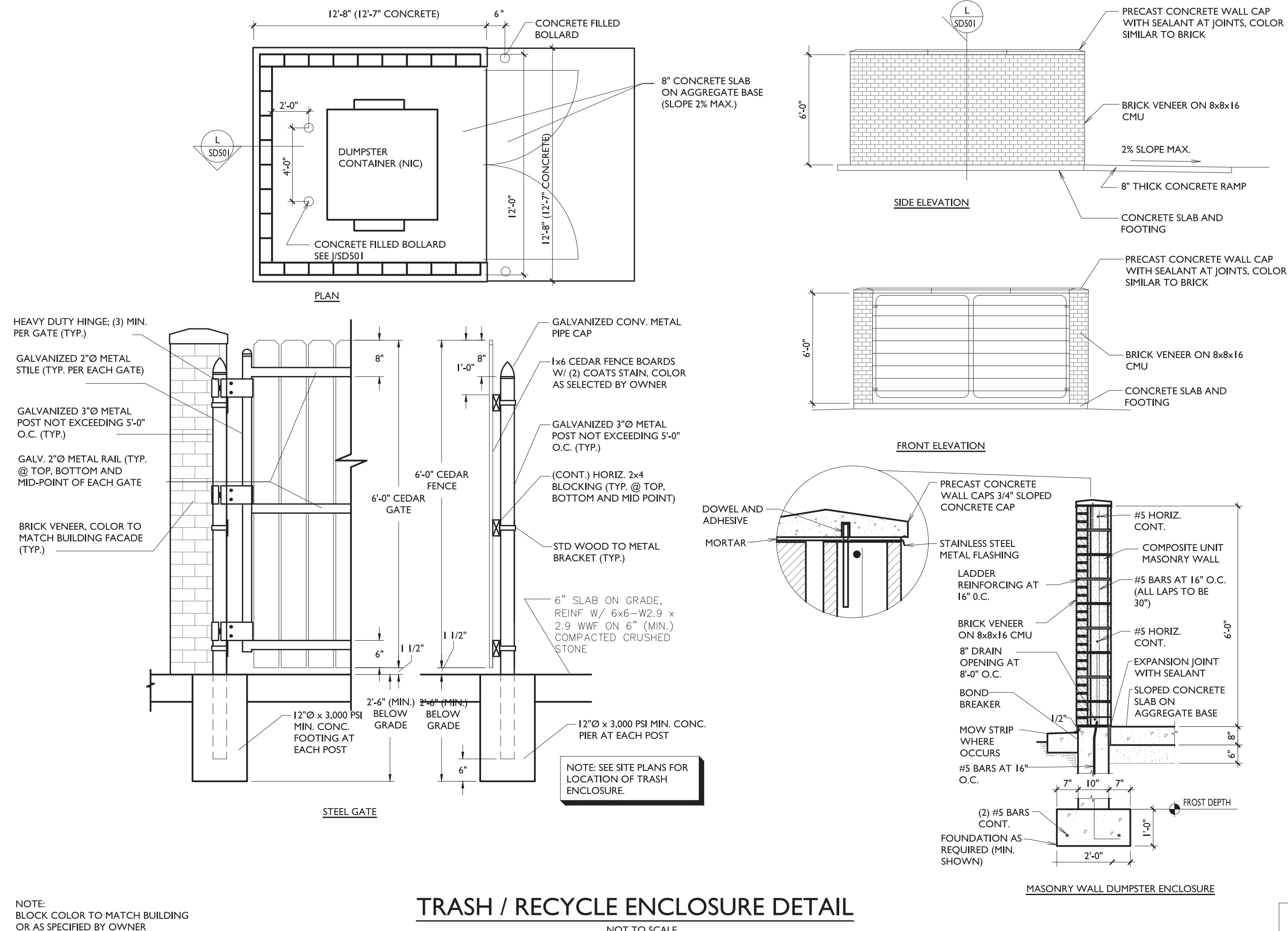
FLUSH CURB DIMENSIONS		
A	B	C
72"	6"	12"
60"	5"	13"
48"	4"	14"
36"	3"	15"

9



BOLLARD
NOT TO SCALE

10



TRASH / RECYCLE ENCLOSURE DETAIL
NOT TO SCALE

- NOTE:** BLOCK COLOR TO MATCH BUILDING OR AS SPECIFIED BY OWNER

11

DATE	ISSUE	BY	DESCRIPTION
03/16/2022	2	ECH	REVISED PER SITE PLAN REVIEW #1
01/05/2021	1	BAC/ECH	FOR PRELIMINARY SITE PLAN APPROVAL

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HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9345 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
MICHIGAN PROFESSIONAL ENGINEERS
MICHAEL J. STONEFIELD, P.E.
LICENSED PROFESSIONAL ENGINEER

STONEFIELD
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SCALE: AS SHOWN PROJECT ID: DET-21042
TITLE: CONSTRUCTION DETAILS
DRAWING: C-8

NOTES: 1. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), EXCEPT AS NOTED. 2. ALL SIGNS SHALL BE MOUNTED AS TO NOT OBSTRUCT THE SHAPE OF "STOP" (R1-1) AND "YIELD" (R1-2) SIGNS.

Type: _____

Mirada Medium Outdoor LED Area Light

Back to Quick Links

ORDERING GUIDE

TYPICAL ORDER EXAMPLE: **MRM LED 36L SIL FTA UNV DIM 50 70CR1 ALSCS04 BRZ IL**

Luminaire Profile	Light Source	Lumen Package	Light Output	Distribution	Orientation*	Voltage	Driver
MRM - Mirada	LED	7L - 7,000 lms 14L - 14,000 lms 17L - 17,000 lms 19L - 19,000 lms 24L - 24,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms	SIL - Square	2 - Spot 2 3 - Type 3 SW - Type 5 Wide FT - Forward Throw FTM - Forward Throw Automotive AM - Automotive Manhandle	(Blank) - Standard L - Optics rotated left 90° R - Optics rotated right 90°	UNV - Universal Voltage (120-277V) HV - High Voltage (347-480V)	DM - 0-10V Dimming (0-10V)

Color Temp	Color Rendering	Finish	Options
50 - 5,000 CCT 65 - 6,500 CCT 30 - 3,000 CCT AMB - Photocor Converted Amber**	70CRI - 70 CRI	BRZ - Bronze BLK - Black GPT - Graphite MSV - Metallic Silver WHT - White P/P - Platinum Plus SVG - Satin Verde Green	(Blank) - None IL - Integral Lenses (Legacy "Spot" Light Only)

Accessory Ordering Information*

Controls Accessories	Order Number*	Mounting Accessories*	Order Number*
PC120 Photocor for use with CRFP option (120V)	122514	Universal Mounting Bracket	684616LR
PC120-277 Photocor for use with CRFP option (208V/240V/277V)	122515	Adjustable Slip Filter (F - 2.38" Tension)	688130LR
Test Lock Photocor (267V) for use with CRFP**	122516	Enclosed Slip Filter (F - 2.38" Tension)	682510LR
Test Lock Photocor (480V) for use with CRFP**	122518	Quick Mount Pole Bracket (Square Pole)	687010LR
ArtLink 5 Pin Test Lock Controller**	681409	Quick Mount Pole Bracket (4.5" Round Pole)	688910LR
ArtLink 7 Pin Test Lock Controller**	681410	T5 T5 Quick Mount Pole Bracket (Square Pole)	689010LR
PM0524 24V Pin-Mounted Occupancy Sensor (24V)	682842LR	T5 T5 Quick Mount Pole Bracket (4.5" Round Pole)	688910LR
Shorting Cap for use with CRFP	148329	Wall Mount Bracket	382130LR
		Wood Pole Bracket (6" Minimum Pole Diameter)	711219LR

Feeding Accessories*

Description	Order Number	Miscellaneous Accessories	Order Number
Single Feeding (120V)	DFK30	IL - Integral Lenses (Legacy "Spot" Light Only)	680981
Single Feeding (120V)	DFK27	IL - Integral Lenses (Legacy "Spot" Light Only)	714115
Double Feeding (208V/240V)	DFK42	10" Linear Bird Spike Kit (2" Recommended per Luminaire)	736195
Double Feeding (480V)	DFK48		
Double Feeding (277V)	DFK47		

FOOTNOTES:

- Custom lumen and wattage packages available, consult factory. Values are within industry standard tolerances but not DLC listed.
- Not available with 5W distribution.
- Consult Factory for availability.
- Not available in HV.
- IMSBT is field configurable via the LSI app that can be downloaded from our smartphone's native app store.
- Control device or shorting cap must be ordered separately. See Accessory Ordering Information.
- Accessories are shipped separately and field install.
- Factory installed CRFP option required. See Options.
- "CCT" denotes Finish. See Finish options.
- Only available with ALS/ALSC/ALSC/ALSC control options.
- Feeding must be located in hand hole of pole.
- Only available in 9L and 12L Lumen Packages. Consult factory for lead time and availability.
- Only available in 9L and 12L Lumen Packages. Consult factory for lead time and availability.

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S9C-1048-A-660

SPECIFICATIONS FOR FIXTURES 'A' - 'E'

NOT TO SCALE

Type: _____

Mirada Wall Sconce (XWM)

Back to Quick Links

ORDERING GUIDE

TYPICAL ORDER EXAMPLE: **XWM 2 LED 03L 30 UE BRZ ALSC**

Luminaire Profile	Distribution	LED Technology	Lumen Package	Color Temperature	Voltage
XWM - Mirada Wall Sconce	2 - Type 2 3 - Type 3 FT - Type 4 Forward Throw	LED	0L - 0,000 lms 1L - 1,000 lms 4L - 4,000 lms 6L - 6,000 lms 12L - 12,000 lms	AL - 4,000K 42 - 4,200K 50 - 5,000K	UE - Universal Voltage (120-277V) HV - High Voltage (347-480V)

Finish	Controls (Choose One)	Options
BRZ - Bronze BLK - Black GPT - Graphite MSV - Metallic Silver WHT - White P/P - Platinum Plus SVG - Satin Verde Green	Wireless Controls ALSC - ArtLink Synapse Control System* ALSC01 - ArtLink Synapse Control System with 8-12' Motion Sensor* ALSC02 - ArtLink Synapse Control System with 12-20' Motion Sensor* ALSC03 - ArtLink Blue Wireless Motion & Photo Sensor Controller (8-24' mounting height)* ALSC04 - ArtLink Blue Wireless Motion & Photo Sensor Controller (25-40' mounting height)* Standalone Controls DM - 0-10V Dimming leads extended to housing exterior IMSBT1 - Integral Bluetooth™ Motion and Photo Sensor max 8-24' mounting height** IMSBT2 - Integral Bluetooth™ Motion and Photo Sensor max 25-40' mounting height** Button Type PhotoSensors PC120 - 120V PC120-277 - 208 - 277V PC147 - 347V	BB - Battery Back-up* CWB - Cold Weather Battery Backup* XPM - Pole Mounting Bracket SP1 - 10kV Surge Protection TB - Terminal Block

Accessory Ordering Information*

Description	Order Number	Description	Order Number
XWM SW BLK - Surface Wiring Box (Available in black only)	356915BLK	DK - Double Fusing	DFK20P
FK10P - Single Fusing	FK10P	DK - Double Fusing (240V)	DFK24P
FK27P - Single Fusing	FK27P	DK - Double Fusing (480V)	DFK48P
FK34P - Single Fusing	FK34P	10" Linear Bird Spike Kit (2" Recommended per Luminaire)	736195

FOOTNOTES:

- Consult Factory for availability.
- Not available in HV.
- Consult Factory for Site Layout.
- IMSBT is field configurable via the LSI app that can be downloaded from our smartphone's native app store.
- Fusing must be located in a hand hole for pole or in the junction box.
- Custom lumen and wattage packages available consult factory. Values are within industry standard tolerances but not DLC listed.

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S9C-1048-A-660

SPECIFICATIONS FOR FIXTURE 'F'

NOT TO SCALE

Type: _____

Mirada Wall Sconce (XWM)

Back to Quick Links

ORDERING GUIDE

TYPICAL ORDER EXAMPLE: **XWM 2 LED 03L 30 UE BRZ ALSC**

Luminaire Profile	Distribution	LED Technology	Lumen Package	Color Temperature	Voltage
XWM - Mirada Wall Sconce	2 - Type 2 3 - Type 3 FT - Type 4 Forward Throw	LED	0L - 0,000 lms 1L - 1,000 lms 4L - 4,000 lms 6L - 6,000 lms 12L - 12,000 lms	AL - 4,000K 42 - 4,200K 50 - 5,000K	UE - Universal Voltage (120-277V) HV - High Voltage (347-480V)

Finish	Controls (Choose One)	Options
BRZ - Bronze BLK - Black GPT - Graphite MSV - Metallic Silver WHT - White P/P - Platinum Plus SVG - Satin Verde Green	Wireless Controls ALSC - ArtLink Synapse Control System* ALSC01 - ArtLink Synapse Control System with 8-12' Motion Sensor* ALSC02 - ArtLink Synapse Control System with 12-20' Motion Sensor* ALSC03 - ArtLink Blue Wireless Motion & Photo Sensor Controller (8-24' mounting height)* ALSC04 - ArtLink Blue Wireless Motion & Photo Sensor Controller (25-40' mounting height)* Standalone Controls DM - 0-10V Dimming leads extended to housing exterior IMSBT1 - Integral Bluetooth™ Motion and Photo Sensor max 8-24' mounting height** IMSBT2 - Integral Bluetooth™ Motion and Photo Sensor max 25-40' mounting height** Button Type PhotoSensors PC120 - 120V PC120-277 - 208 - 277V PC147 - 347V	BB - Battery Back-up* CWB - Cold Weather Battery Backup* XPM - Pole Mounting Bracket SP1 - 10kV Surge Protection TB - Terminal Block

Accessory Ordering Information*

Description	Order Number	Description	Order Number
XWM SW BLK - Surface Wiring Box (Available in black only)	356915BLK	DK - Double Fusing	DFK20P
FK10P - Single Fusing	FK10P	DK - Double Fusing (240V)	DFK24P
FK27P - Single Fusing	FK27P	DK - Double Fusing (480V)	DFK48P
FK34P - Single Fusing	FK34P	10" Linear Bird Spike Kit (2" Recommended per Luminaire)	736195

FOOTNOTES:

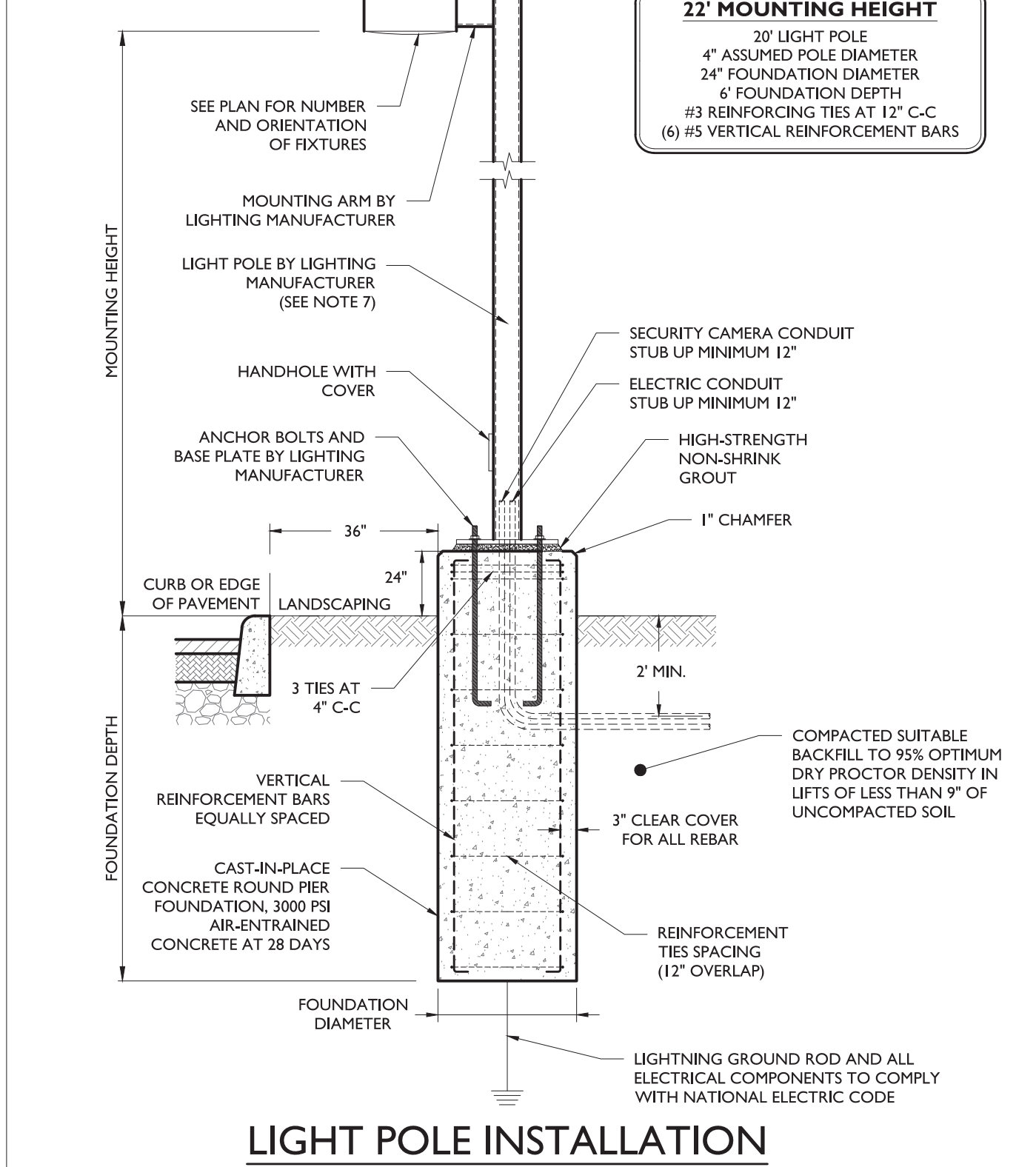
- Consult Factory for availability.
- Not available in HV.
- Consult Factory for Site Layout.
- IMSBT is field configurable via the LSI app that can be downloaded from our smartphone's native app store.
- Fusing must be located in a hand hole for pole or in the junction box.
- Custom lumen and wattage packages available consult factory. Values are within industry standard tolerances but not DLC listed.

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SPECIFICATIONS FOR FIXTURE 'G'

NOT TO SCALE



- NOTES:**
- MINIMUM SOIL BEARING PRESSURE OF 1500 PSF, SOIL FRICTION ANGLE OF 30 DEGREES, AND SOIL DRY UNIT WEIGHT OF 120 PCF SHALL BE CONFIRMED IN THE FIELD BY A QUALIFIED PROFESSIONAL.
 - CAST-IN-PLACE CONCRETE SHALL BE CONSOLIDATED USING VIBRATOR.
 - ALL REBAR TO BE NEW GRADE 60 STEEL.
 - PRE-CAST PIERS ACCEPTABLE UPON WRITTEN APPROVAL OF SHOP DRAWING BY ENGINEER.
 - CONCRETE TO BE INSTALLED A MINIMUM OF 7 DAYS PRIOR TO INSTALLING LIGHT POLE. POURED CONCRETE MIX REQUIRED TO OBTAIN 80% OF DESIGN STRENGTH PRIOR TO INSTALLING LIGHT POLE.
 - CONCRETE SHALL HAVE A MAXIMUM SLUMP OF 4" (WITHIN 1" TOLERANCE).
 - POLE SHALL BE RATED FOR 10 MPH HIGHER THAN MAXIMUM WIND SPEED 33FT ABOVE GROUND FOR THE AREA BASED ON ANSIS/ASCE 7-93.
 - POUR TO BE TERMINATED AT A FORM.
 - WORK SHALL CONFORM TO ACI BEST PRACTICES FOR APPROPRIATE TEMPERATURE AND WEATHER CONDITIONS.
 - CONTRACTOR TO TEMPORARILY SUPPORT ADJACENT SOIL AND STRUCTURES DURING EXCAVATION IF REQUIRED.

REVISED PER SITE PLAN REVIEW #1	FOR PRELIMINARY SITE PLAN APPROVAL	DESCRIPTION
2	03/16/2022	ECH
1	01/03/2022	BAC/ECH
		ISSUE
		DATE
		BY

NOT APPROVED FOR CONSTRUCTION

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Phone 248.247.1115

HYBERSHINE
PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9145 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN



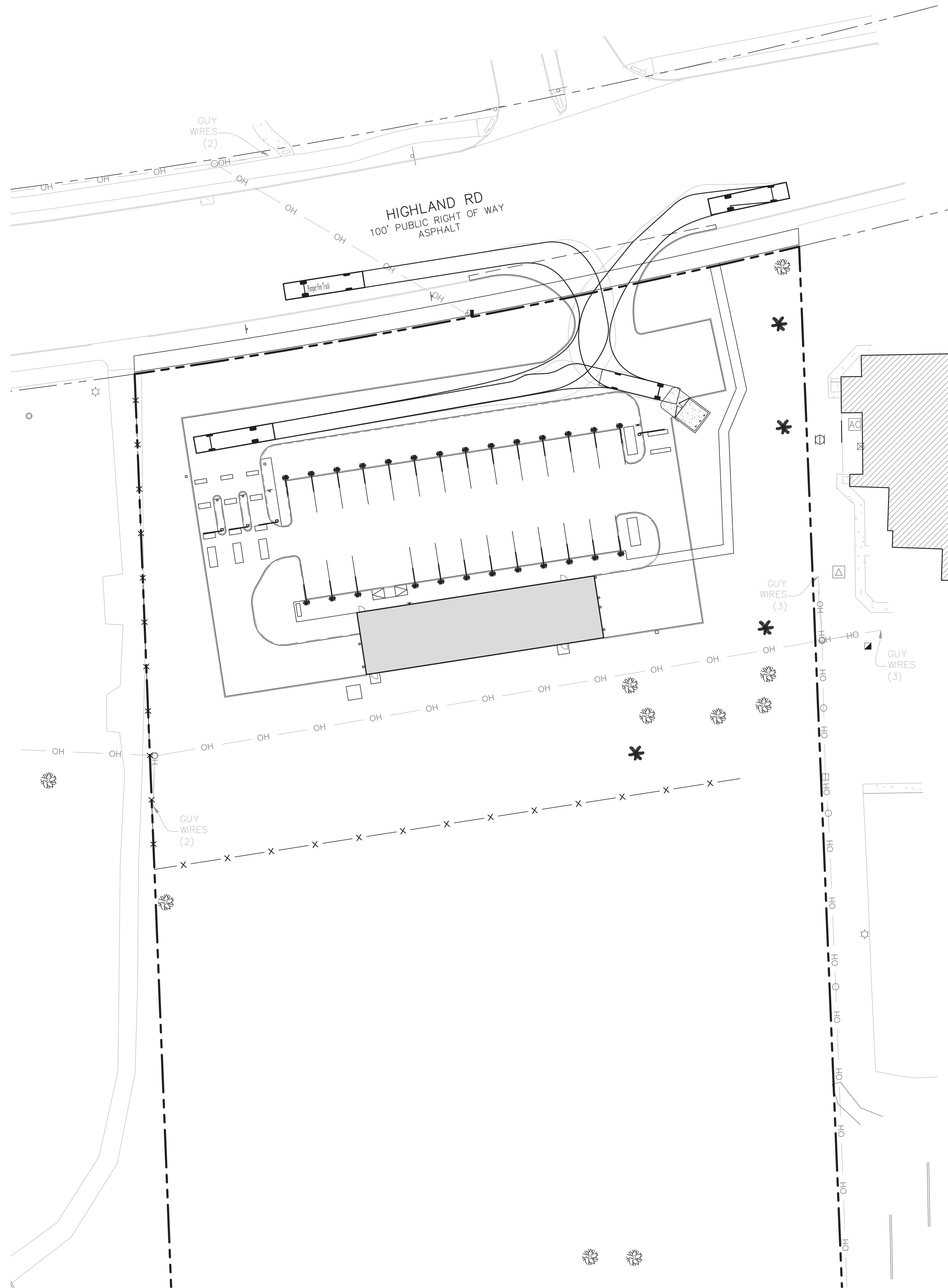
STONEFIELD
engineering & design

SCALE: AS SHOWN PROJECT ID: DET-210462

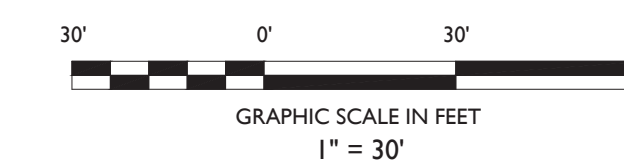
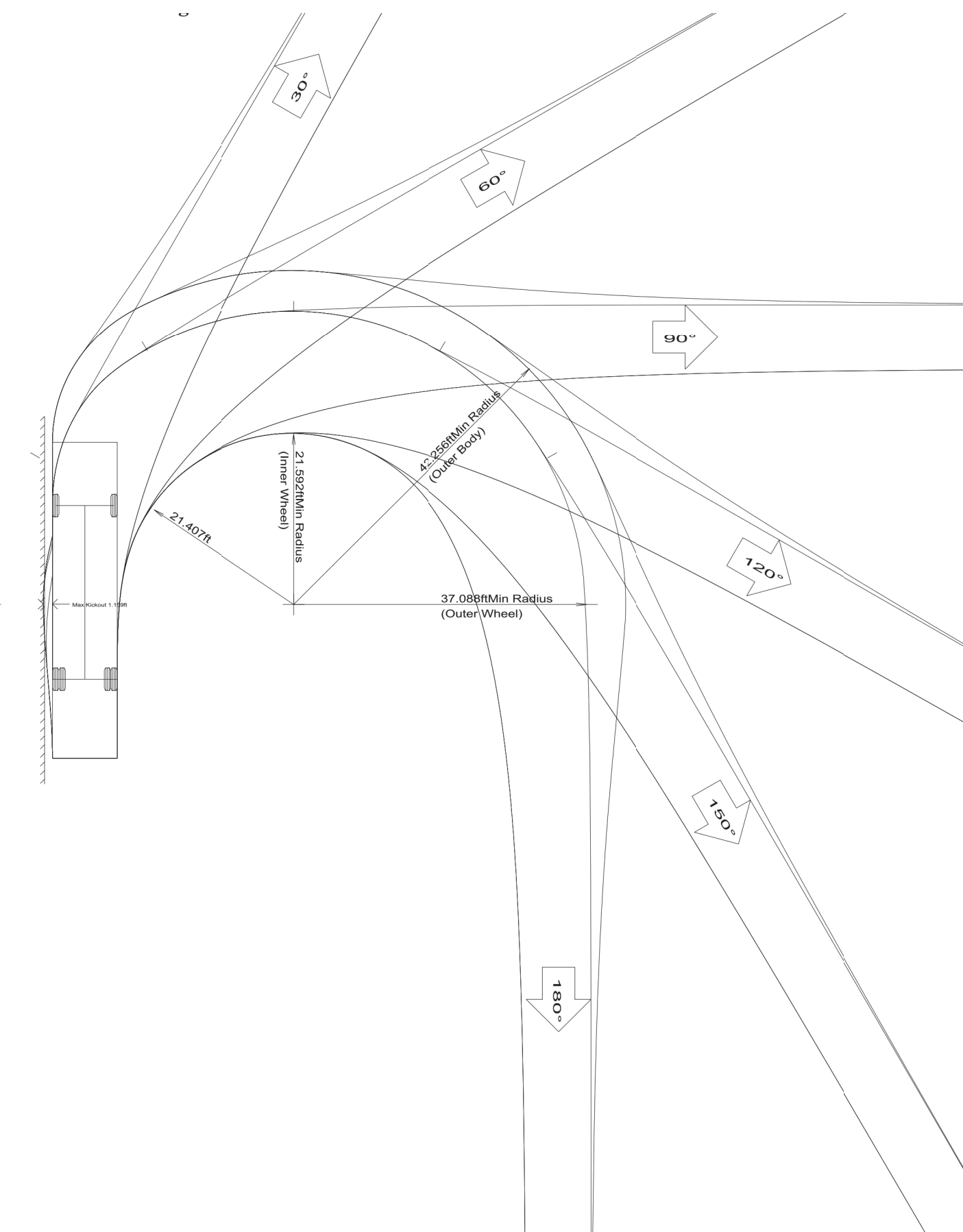
TITLE:
CONSTRUCTION DETAILS

DRAWING:
C-10

V:\PROJECTS\12-23-202-006\12-23-202-006-HIGHLAND ROAD, WHITE LAKE TOWNSHIP, MICHIGAN\PHOTOGRAPH\06-10-21-2021.DWG



Pumper Fire Truck
 Overall Length 40.000ft
 Overall Width 8.167ft
 Overall Body Height 7.745ft
 Min Body Ground Clearance 0.656ft
 Track Width 8.167ft
 Lock-to-lock time 5.00s
 Max Wheel Angle 45.00°



ISSUE	DATE	BY	DESCRIPTION
2	03/16/2022	ECH	REVISED PER SITE PLAN REVIEW #1
1	01/05/2022	RAC/ECH	FOR PRELIMINARY SITE PLAN APPROVAL

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SITE DEVELOPMENT PLANS

HYPERSHINE
 PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
 9345 HIGHLAND ROAD (M-59)
 WHITE LAKE TOWNSHIP
 OAKLAND COUNTY, MICHIGAN

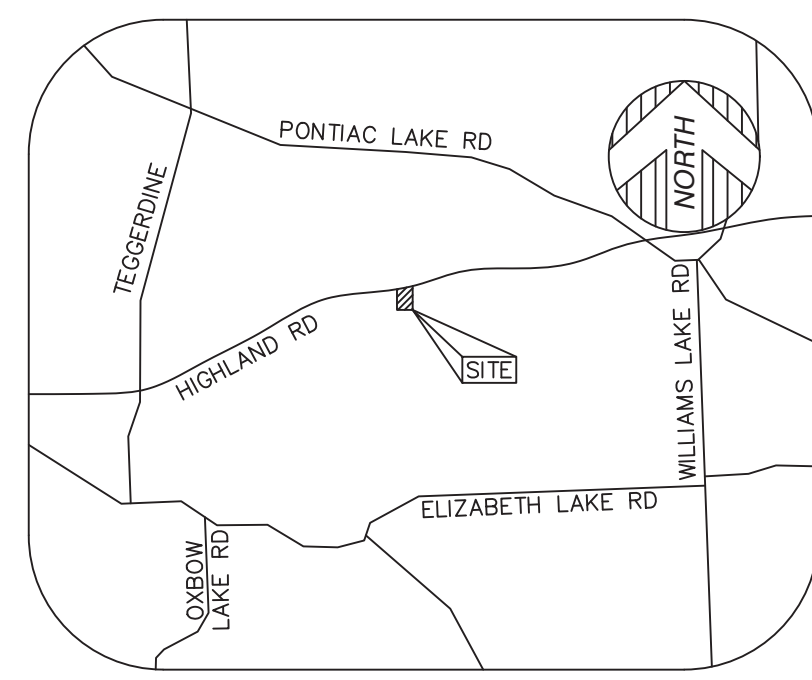


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SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE:
FIRE TRUCK TURNING EXHIBIT

DRAWING:
C-11



VICINITY MAP (NOT TO SCALE)

PARKING
NO MARKED PARKING ON SITE.

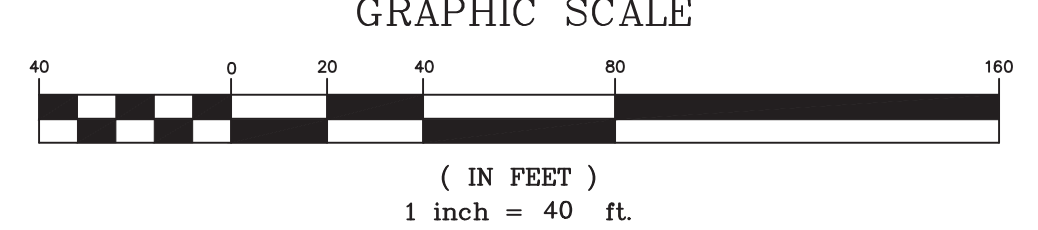
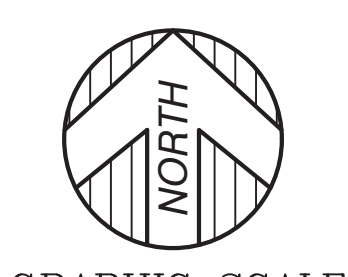
PARCEL AREA
211,476± SQUARE FEET = 4.854± ACRES

BASIS OF BEARING
SOUTH 75°05'00" WEST, BEING THE SOUTHERLY LINE OF SUBJECT PARCEL, AS DESCRIBED.

BENCHMARK
SITE BENCHMARK #1
ARROW ON FIRE HYDRANT, ±42' WEST OF NW PROPERTY CORNER.
ELEVATION = 973.53' (NAVD 88)
SITE BENCHMARK #2
ARROW ON FIRE HYDRANT, ±12' EAST OF NE PROPERTY CORNER.
ELEVATION = 972.98' (NAVD 88)
SITE BENCHMARK #3
MAG NAIL IN 3RD UTILITY POLE NORTH OF FENCE, E. OF E. LINE OF PROPERTY.
ELEVATION = 968.56' (NAVD 88)

LEGEND

●	SET 1/2" REBAR WITH CAP P.S. 47976
○	FOUND MONUMENT (AS NOTED)
⊙	FOUND SECTION CORNER (AS NOTED)
(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
0.00	GROUND ELEVATION
⊕	ELECTRIC METER
⊞	ELECTRIC PANEL
⊠	TRANSFORMER
○	UTILITY POLE
○	GAS LINE MARKER
○	GAS METER
⊞	TELEPHONE RISER
⊞	CABLE TV RISER
⊞	SANITARY MANHOLE
⊞	SQUARE CATCH BASIN
⊞	STORM DRAIN MANHOLE
⊞	FIRE HYDRANT
⊞	WATER VALVE
⊞	WELL
⊞	AIR CONDITIONING UNIT
⊞	LIGHTPOST/LAMP POST
⊞	SINGLE POST SIGN
⊞	DECIDUOUS TREE (AS NOTED)
⊞	CONIFEROUS TREE (AS NOTED)
---	PARCEL BOUNDARY LINE
---	PLATTED LOT LINE
---	ADJOINER PARCEL LINE
---	SECTION LINE
---	EASEMENT (AS NOTED)
---	BUILDING
---	CONCRETE CURB
---	RAISED CONCRETE
---	EDGE OF CONCRETE (CONC.)
---	EDGE OF ASPHALT (ASPH.)
---	EDGE OF GRAVEL
---	FENCE (AS NOTED)
---	TREE / BRUSH LINE (AS NOTED)
---	OVERHEAD UTILITY LINE
G	GAS LINE
S	SANITARY LINE
D	STORM LINE
W	WATER LINE
C	UNDERGROUND CABLE
T	COMMUNICATION LINE
---	UNDERGROUND PIPE (AS NOTED)
---	EDGE OF WATER (AS NOTED)
---	MINOR CONTOUR LINE
---	MAJOR CONTOUR LINE
---	BUILDING AREA
---	ASPHALT
---	CONCRETE



PROPERTY DESCRIPTION
LAND SITUATED IN THE TOWNSHIP OF WHITE LAKE, COUNTY OF OAKLAND AND STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:
PART OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SECTION 23 TOWN 3 NORTH, RANGE 8 EAST, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT, SAID POINT BEING DISTANT NORTH 02 DEGREES 24 MINUTES 30 SECONDS EAST, 1731.78 FEET, AND SOUTH 75 DEGREES 05 MINUTES WEST, 483.89 FEET, FROM THE SOUTHEAST CORNER OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SAID SECTION; THENCE RUNNING SOUTH 75 DEGREES 05 MINUTES WEST, 217.5 FEET, TO A POINT; THENCE NORTH 02 DEGREES 47 MINUTES 20 SECONDS EAST, 661.50 FEET, TO A POINT ON THE SOUTHERLY LINE OF M-59 HIGHWAY; THENCE NORTHEASTERLY ALONG SAID HIGHWAY LINE AND ALONG THE ARC OF CURVE TO THE LEFT (RADIUS BEING 3869.83 FEET, AND CENTRAL ANGLE BEING 03 DEGREES 05 SECONDS) 208.35 FEET, TO A POINT; THENCE SOUTH 02 DEGREES 43 MINUTES 15 SECONDS WEST, 623.2 FEET, TO THE POINT OF BEGINNING.
AND
PART OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SECTION 23, TOWN 3 NORTH, RANGE 8 EAST, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT, SAID POINT BEING DISTANT NORTH 02 DEGREES 24 MINUTES 30 SECONDS EAST, 1731.73 FEET, AND SOUTH 75 DEGREES 05 MINUTES WEST, 349.56 FEET, FROM THE SOUTHEAST CORNER OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SAID SECTION; THENCE RUNNING SOUTH 75 DEGREES 05 MINUTES WEST, 134.33 FEET TO A POINT; THENCE NORTH 02 DEGREES 43 MINUTES 15 SECONDS EAST, 623.2 FEET TO A POINT ON THE SOUTHERLY LINE OF M-59 HIGHWAY; THENCE NORTHEASTERLY ALONG SAID HIGHWAY LINE AND ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS BEING 3869.83 FEET, AND CENTRAL ANGLE BEING 01 DEGREE 55 MINUTES 30 SECONDS) 130.00 FEET, TO A POINT; THENCE SOUTH 02 DEGREES 43 MINUTES 15 SECONDS WEST, 605.5 FEET, TO THE POINT OF BEGINNING.

TITLE REPORT NOTE
ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE FIDELITY NATIONAL TITLE INSURANCE COMPANY COMMITMENT NO. GL2101033, DATED OCTOBER 04, 2021, AND RELISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.
10. RIGHT OF WAY IN FAVOR OF STATE OF MICHIGAN RECORDED ON MARCH 26, 1937 IN LIBER 53 OF MISCELLANEOUS RECORDS, PAGE 5. (AS SHOWN)
11. HIGHWAY EASEMENT RELEASE IN FAVOR OF STATE OF MICHIGAN RECORDED ON SEPTEMBER 16, 1976 IN LIBER 6754, PAGE 549. (AS SHOWN)
12. DECLARATION OF EASEMENT RECORDED ON APRIL 29, 1996 IN LIBER 16222, PAGE 297. (AS SHOWN)
13. EASEMENT FOR WATER MAIN IN FAVOR OF CHARTER TOWNSHIP OF WHITE LAKE RECORDED ON NOVEMBER 18, 1998 IN LIBER 19187, PAGE 341. (AS SHOWN)

SURVEYOR'S NOTE
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.

MANHOLE SCHEDULE

#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)
30003	CATCH BASIN	969.98	12	N	963.48
30044	CATCH BASIN	970.93	12	N	962.93
30065	CATCH BASIN	967.54	12	E	962.74
30066	CATCH BASIN	967.63	12	W	962.63
30067	STORM MANHOLE	967.78	12	SE	962.63
30068	STORM MANHOLE	967.89	12	SW	962.03
30190	STORM MANHOLE	969.35	12	S	962.39
30191	STORM MANHOLE	969.35	12	NE	962.29
30191	STORM MANHOLE	969.35	12	SW	961.53
30191	CATCH BASIN	968.78	12	E	960.97
30191	CATCH BASIN	968.78	12	W	962.90
30191	CATCH BASIN	968.78	12	NE	962.08
30191	CATCH BASIN	968.78	12	S	962.28

MANHOLE SCHEDULE

#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)
30003	CATCH BASIN	969.98	12	N	963.48
30044	CATCH BASIN	970.93	12	N	962.93
30065	CATCH BASIN	967.54	12	E	962.74
30066	CATCH BASIN	967.63	12	W	962.63
30067	STORM MANHOLE	967.78	12	SE	962.63
30068	STORM MANHOLE	967.89	12	SW	962.03
30190	STORM MANHOLE	969.35	12	S	962.39
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30191	CATCH BASIN	968.78	12	W	962.90
30191	CATCH BASIN	968.78	12	NE	962.08
30191	CATCH BASIN	968.78	12	S	962.28

SURVEYOR'S CERTIFICATION
TO ERPP LLC, AN ILLINOIS LIMITED LIABILITY COMPANY; AND FIDELITY NATIONAL TITLE INSURANCE COMPANY:
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 4, 5, 7A, 8, 11A, AND 11B OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 12/20/21.
DATE OF PLAT OR MAP: 12/22/21

Signature of Anthony T. Sycko, Jr., P.S. Professional Surveyor
Professional Engineer, Surveying & Environmental Services
Michigan License No. 47976
22556 GRATIOT AVE., EASTPOINTE, MI 48021
TSycko@kemttec-survey.com

Professional Engineer Seal: ANTHONY T. SYCKO, JR., PROFESSIONAL SURVEYOR, NO. 47976, LICENSED PROFESSIONAL ENGINEER, STATE OF MICHIGAN.

MANHOLE SCHEDULE (repeated):

#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)
30003	CATCH BASIN	969.98	12	N	963.48
30044	CATCH BASIN	970.93	12	N	962.93
30065	CATCH BASIN	967.54	12	E	962.74
30066	CATCH BASIN	967.63	12	W	962.63
30067	STORM MANHOLE	967.78	12	SE	962.63
30068	STORM MANHOLE	967.89	12	SW	962.03
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30191	STORM MANHOLE	969.35	12	SW	961.53
30191	CATCH BASIN	968.78	12	E	960.97
30191	CATCH BASIN	968.78	12	W	962.90
30191	CATCH BASIN	968.78	12	NE	962.08
30191	CATCH BASIN	968.78	12	S	962.28

DATE: DECEMBER 22, 2021
SCALE: 1" = 40'
PROJECT NO: 21-0795

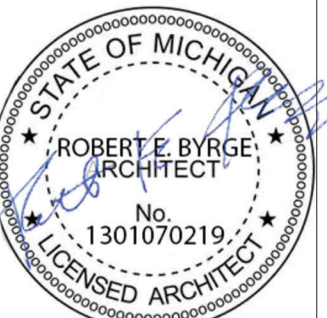
ALTA / NSPS LAND TITLE SURVEY
PREPARED FOR: STONEFIELD ENGINEERING AND DESIGN
9345 HIGHLAND RD, WHILE LAKE, MICHIGAN,
PART OF SECTION 23,
TOWN 3 NORTH, RANGE 8 EAST

Professional Engineer Seal: ANTHONY T. SYCKO, JR., PROFESSIONAL SURVEYOR, NO. 47976, LICENSED PROFESSIONAL ENGINEER, STATE OF MICHIGAN.

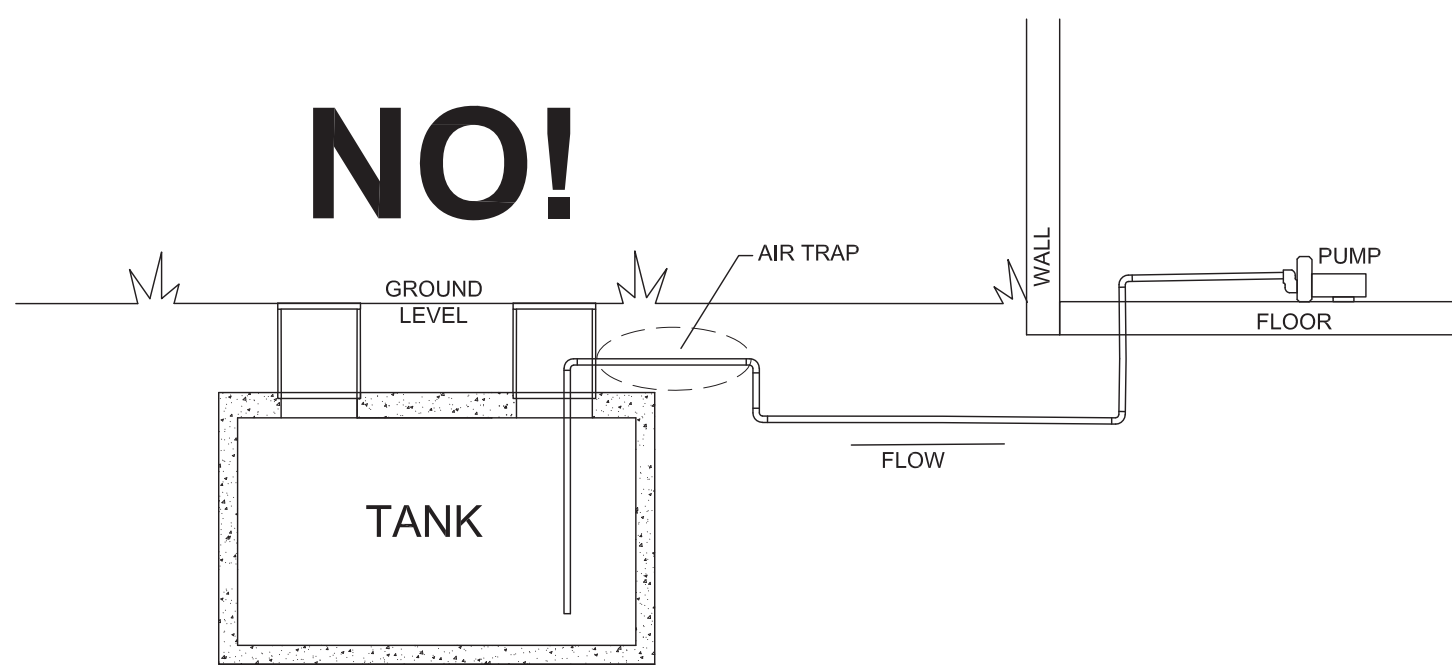
Professional Engineer Seal: KEM-TEC SURVEYING & ENVIRONMENTAL SERVICES, A GROUP OF COMPANIES, Detroit, MI. License No. 0197368097. Contact: Grand Blanc, MI. License No. 0881694001. Website: www.kemttecgroupofcompanies.com

DATE: DECEMBER 22, 2021
SCALE: 1" = 40'
PROJECT NO: 21-0795

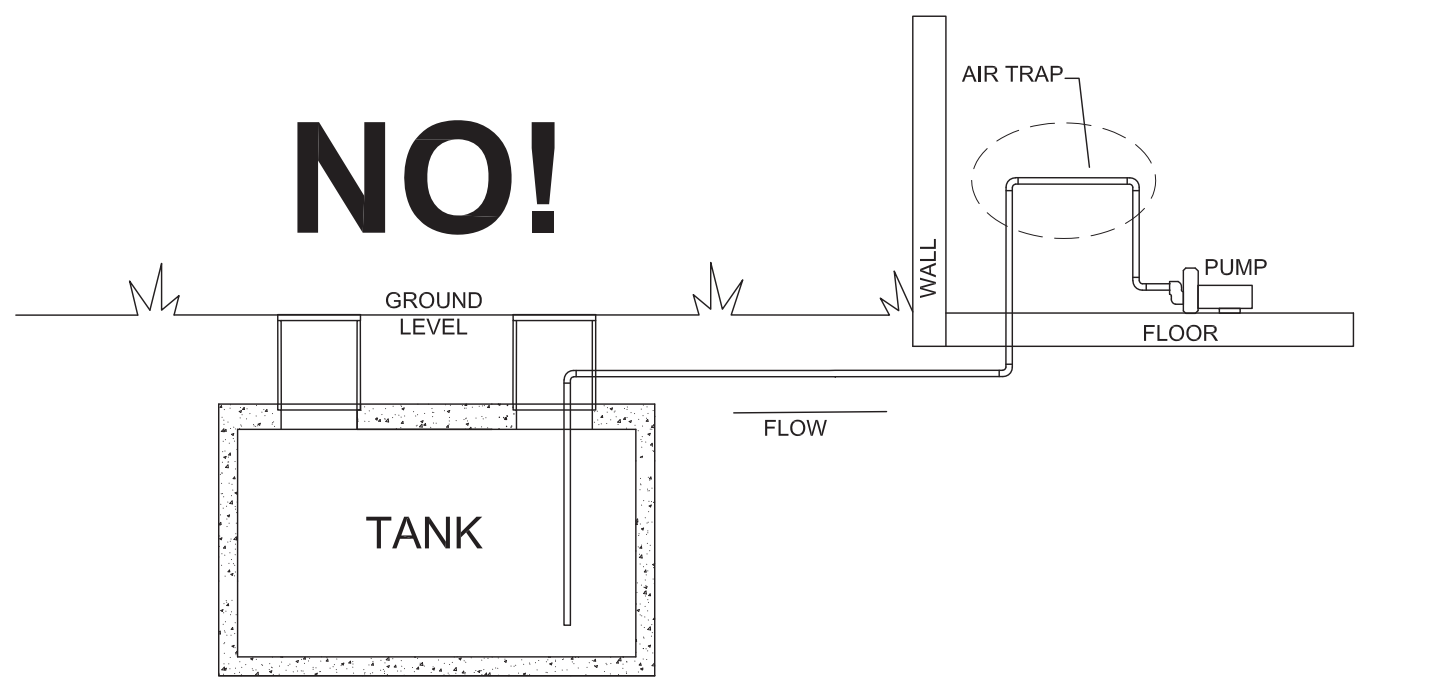
1 OF 1 SHEETS



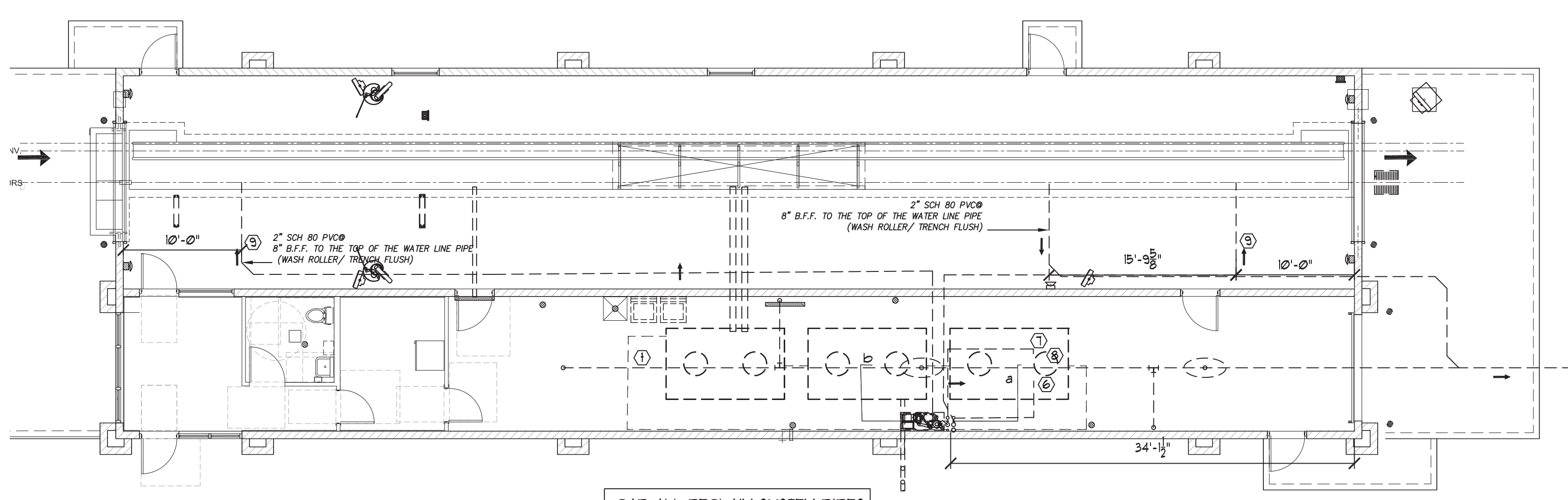
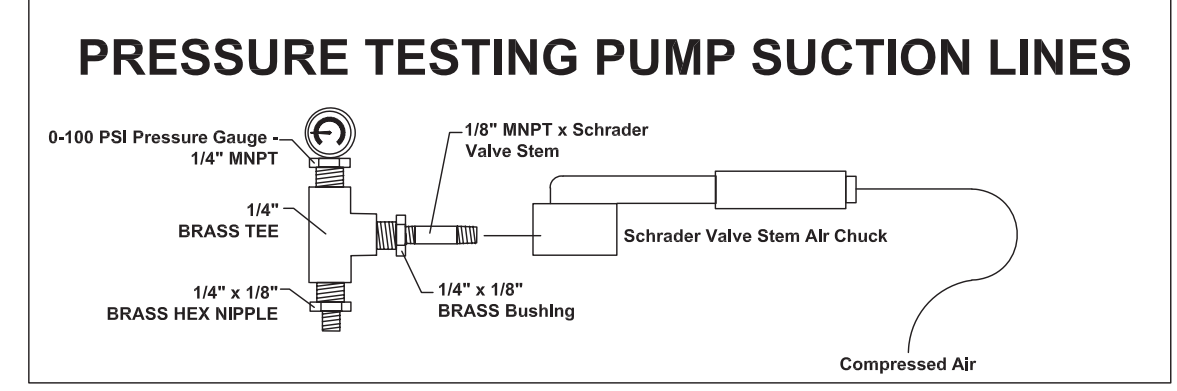
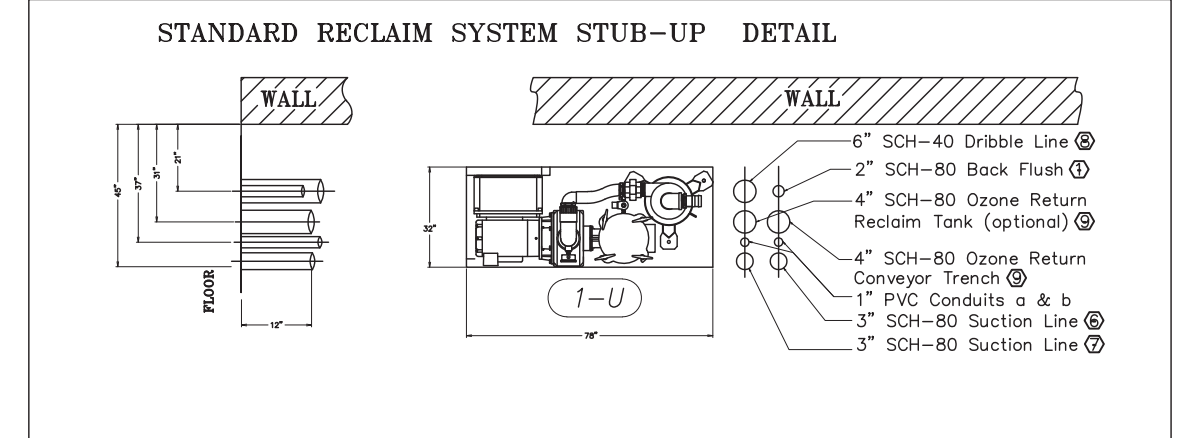
103 WIND HAVEN DR, STE 101
NICHOLASVILLE KY 40356
859.523.1500



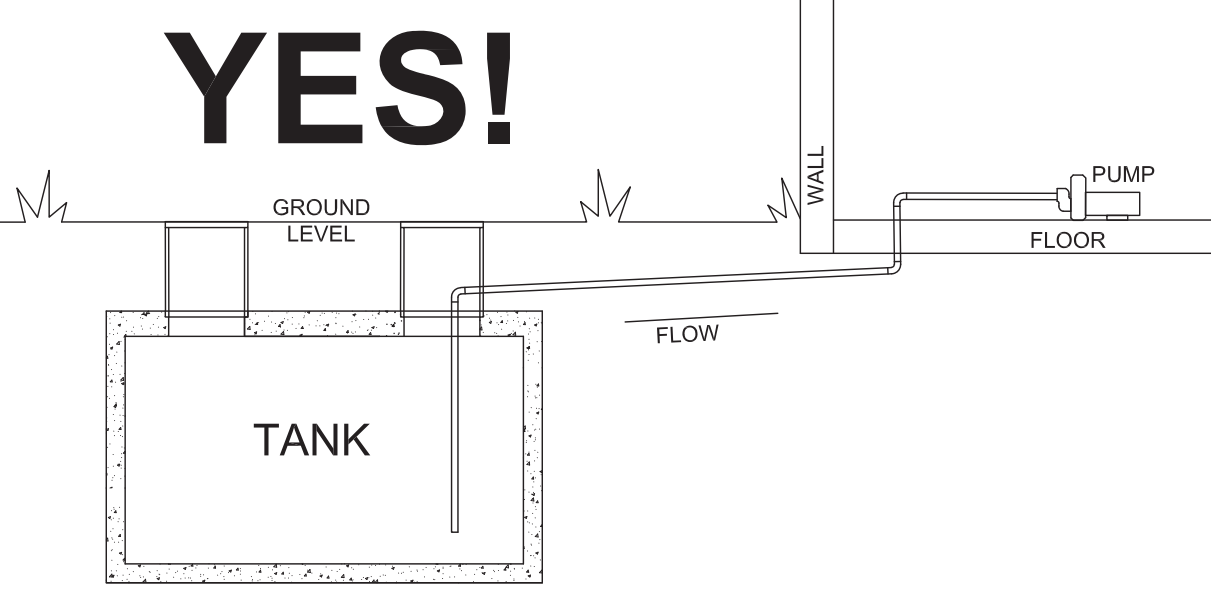
BELOW GROUND TANKS
ALL suction lines must NEVER slope down and then back up again (Air Trap).



BELOW GROUND TANKS
ALL suction lines must NEVER slope up and then back down again (Air Trap).

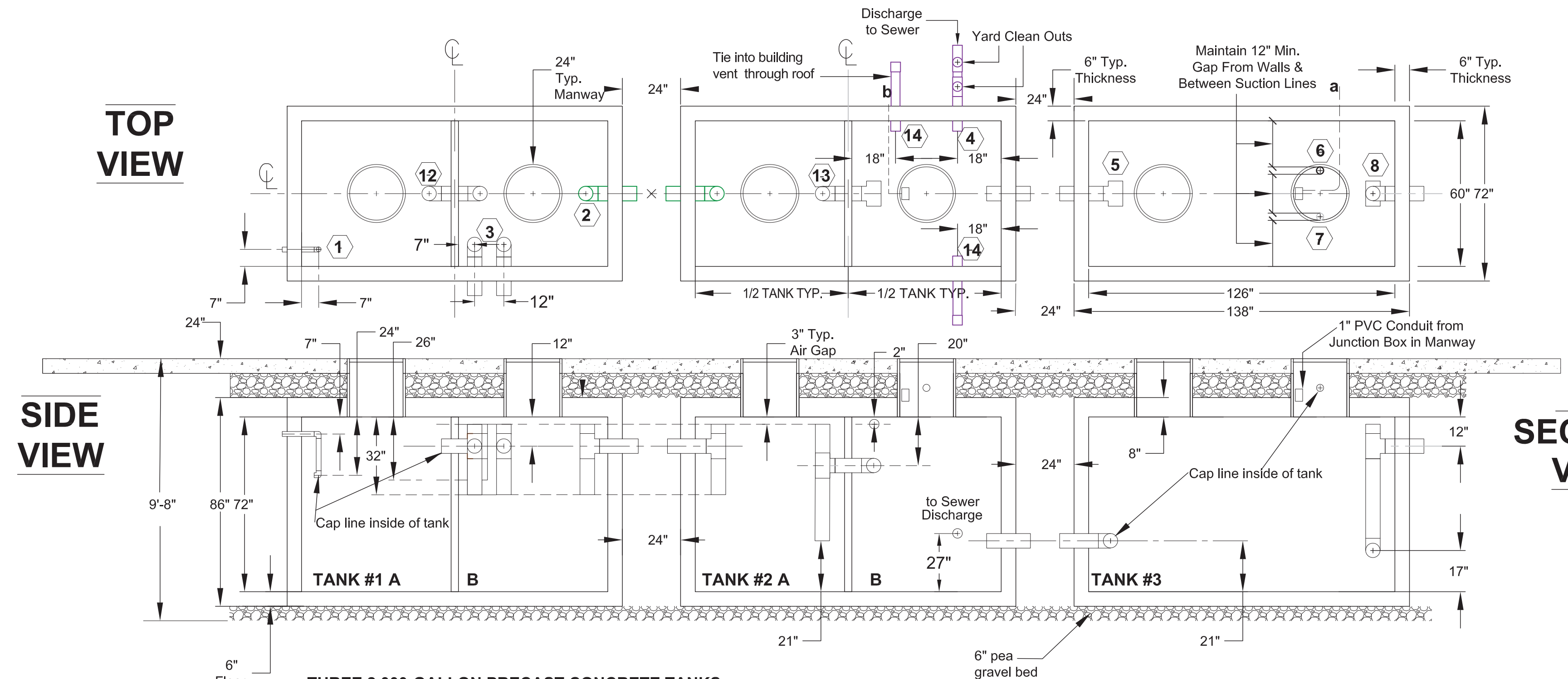


RECLAIM SYSTEM PLAN
SCALE: 1/8" = 1'-0"



BELOW GROUND TANKS
ALL suction lines require a continuous upward slope to the Equipment Room.

Three 2,000 Gallon Precast Concrete Tanks



THREE 2,000-GALLON PRECAST CONCRETE TANKS
138" Length x 72" Width x 86" Height

TANK #1 - 1A Underflow - 1B Primary Settlement
TANK #2 - Secondary Settlement w/ Baffle
TANK #3 - Future use

- PLUMBING LEGEND**
- 1 - 2" sch 80 PVC Pipe - Underflow Discharge - To TANK 1A
 - 2 - 6" sch 40 PVC Pipe - External Crossover - From TANK 1B to TANK 2A
 - 3 - Two 6" sch 40 PVC Pipes - Center Trench - To TANK 1B
 - 4 - 6" sch 40 PVC Pipe - Discharge to Sewer - From TANK 2B
 - 5 - 6" sch 40 PVC Pipe - External Crossover - From TANK 2B to TANK 3
 - 6 - 3" sch 80 PVC Pipe - Filter Pump Suction Line - From TANK 3
 - 7 - 3" sch 80 PVC Pipe - Optional Extra Suction Line - From TANK 3
 - 8 - 6" sch 40 PVC Pipe - AquaPrep Discharge - To TANK 3
 - 12 - 6" sch 40 PVC Pipe - Internal Crossover - From TANK 1A to TANK 1B
 - 13 - 6" sch 40 PVC Pipe - Internal Crossover - From TANK 2A to TANK 2B
 - 14 - 3" sch 40 PVC Pipe - Local Vent - from TANK 2B, Tie into building vent and exit through roof

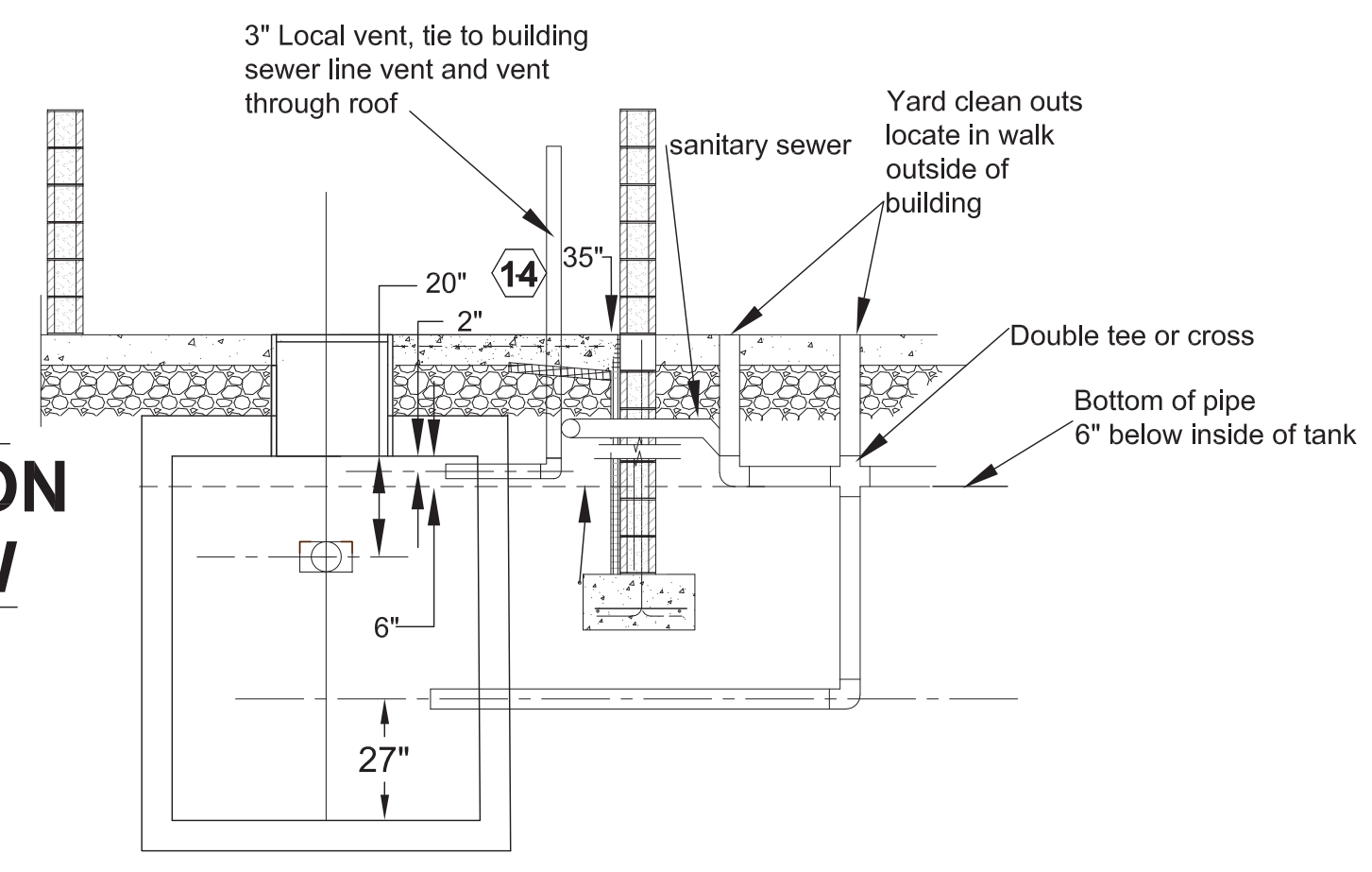
- ELECTRICAL LEGEND**
- a - 1" PVC Conduit - Low Water Protection Float Switch (FS-2) - TANK 3
 - b - 1" PVC Conduit - FOR FUTURE USE - TANK 2B

- NOTES:**
- All underground plumbing & tanks by other.
 - Actual tank dimensions may vary.
 - Plumbing should be placed as shown regardless of what tanks are used.
 - All pipes must be set below frost line.
 - Suction lines MUST be sch 80 PVC.
 - Do NOT install screens on foot valve.
 - All tank bottoms should be same elevation.
 - Consult engineer for elevations.

DRAWING NOT TO SCALE

(If Foot Valve is Raised, The Float Switch Also Needs to be Raised) Keep a 10" Distance Between Them!

BOTTOM OF TANK TOPS @ 32" B.F.F., TYP.



TANK #2 B
Section through end

REVISION	DATE

xx/xx/xx
Permit Set

PROJECT NUMBER

DRAWN BY: REB

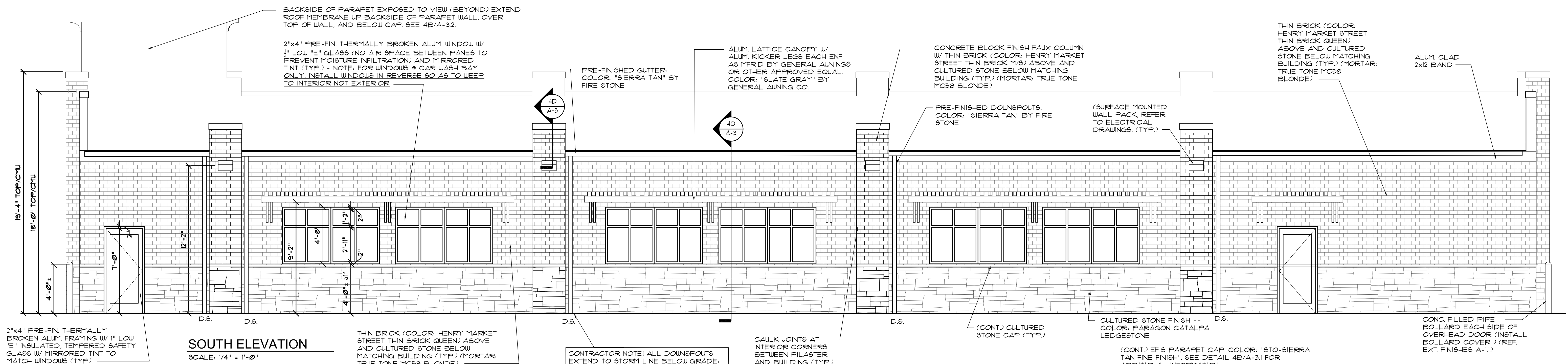
Hypershine Carwash
2703 E. Grand River
East Lansing MI 48823

Tank details & Stub up locations future sys.

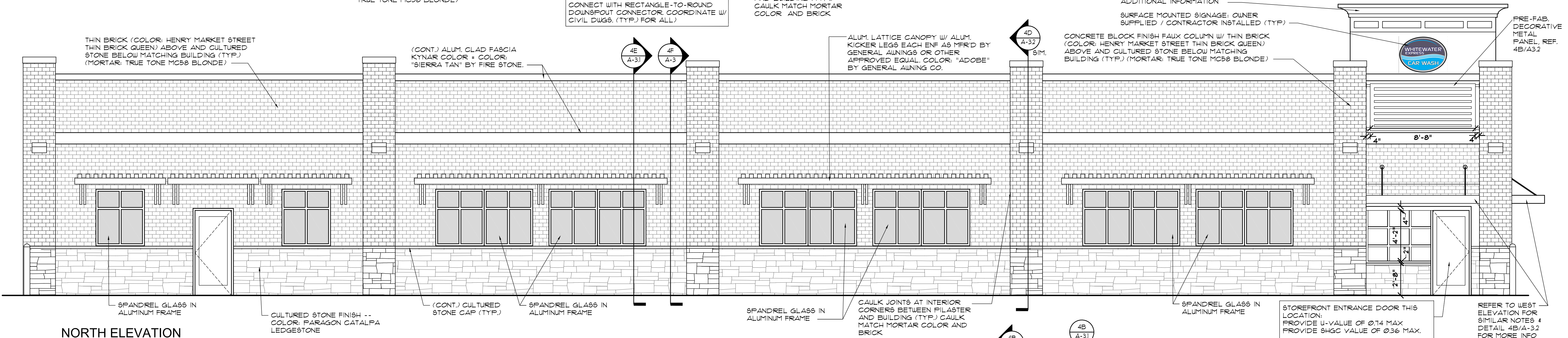
Not for Construction



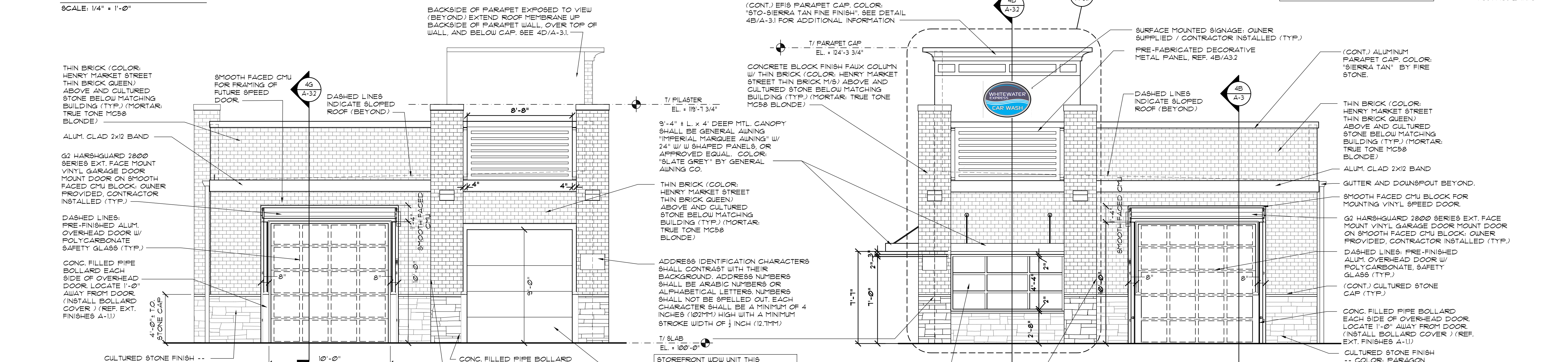
103 WIND HAVEN DR, STE 101
NICHOLASVILLE KY 40356
859.523.1500



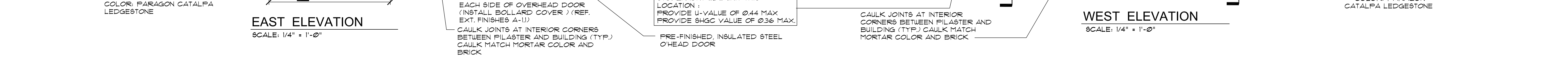
SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



NORTH ELEVATION
SCALE: 1/4" = 1'-0"



EAST ELEVATION
SCALE: 1/4" = 1'-0"



WEST ELEVATION
SCALE: 1/4" = 1'-0"

REVISION	DATE

xx/xx/xx
Permit Set

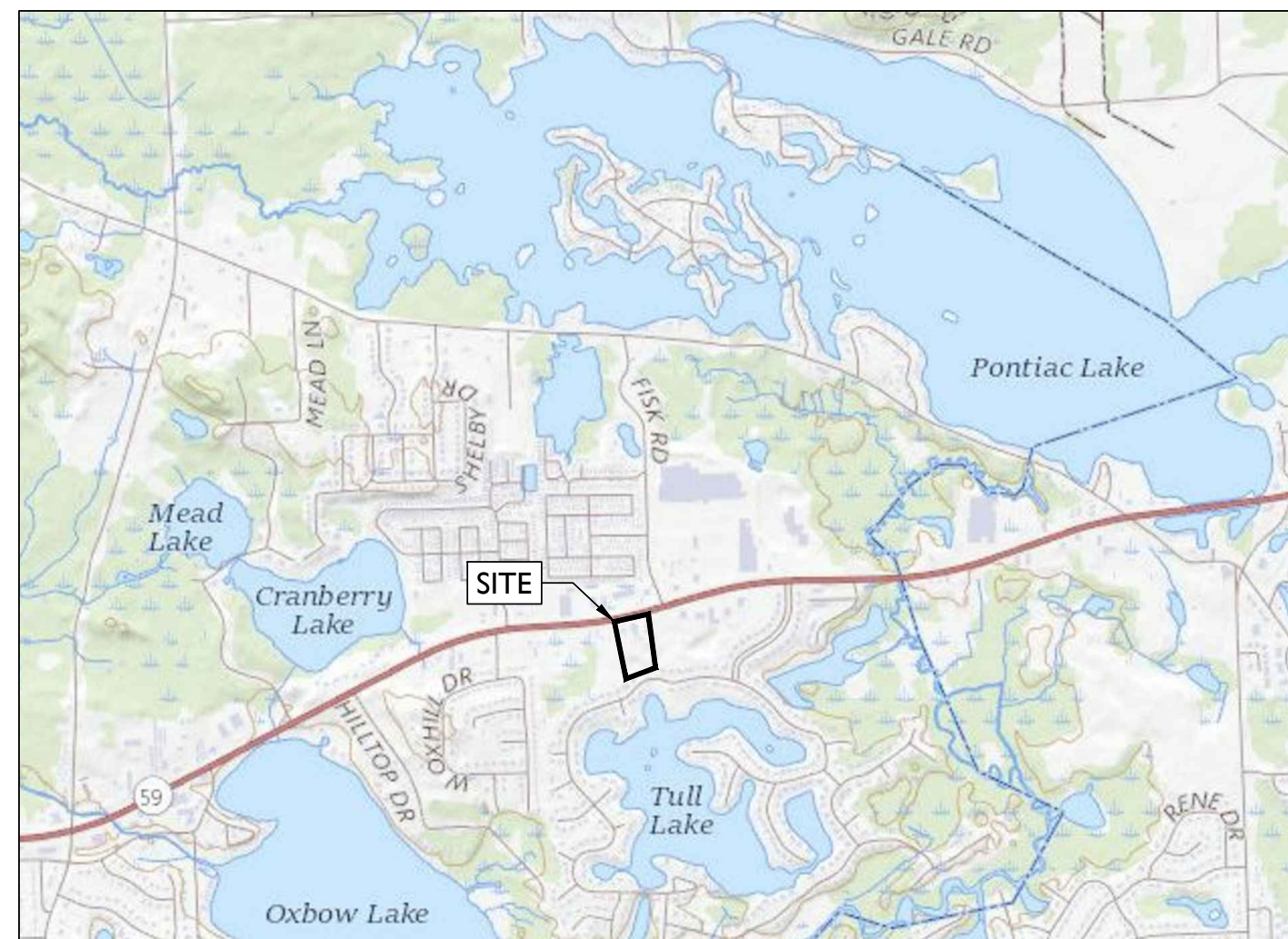
PROJECT NUMBER
-

DRAWN BY: REB

Hypershine Carwash
9345 Highland Road
White Lake MI 48386

Exterior Elevations

SHEET NUMBER
A-2



SOURCE: USGS NATIONAL MAPPER

LOCATION MAP

SCALE: 1" = 2,000'±

SITE DEVELOPMENT PLANS



PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
 9345 HIGHLAND ROAD (M-59)
 WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN

ZONING RELIEF TABLE			
RELIEF TYPE	CODE SECTION	REQUIRED	PROPOSED
VARIANCE	§ 6.4.C.i	MINIMUM CENTER-TO-CENTER DRIVEWAY SPACING (SAME SIDE OF ROAD): 455 FT	213 FT TO EAST EXISTING DRIVE
VARIANCE	§ 6.4.C.i	MINIMUM CENTER-TO-CENTER DRIVEWAY SPACING (SAME SIDE OF ROAD): 455 FT	246 FT TO WEST EXISTING DRIVE
WAIVER	§ 6.4.D.i	TO MINIMIZE TURNING CONFLICTS, BOULEVARD-STYLE ACCESS DRIVES (OR LOCAL STREETS) SHALL GENERALLY NOT BE APPROVED OPPOSITE UNDIVIDED ACCESS DRIVES, OR VICE VERSA	UNDIVIDED ACCESS DRIVE
VARIANCE	§ 5.19.N.c	NO ENCLOSURES SHALL BE PERMITTED WITHIN A REQUIRED FRONT YARD OR STREET-SIDE SIDE YARD SETBACK, NOR CLOSER TO THE FRONT LOT LINE THAN THE PRINCIPAL BUILDING.	80.2' PROJECTION INTO FRONT YARD
VARIANCE	§ 5.19.N.c	20 FT RIGHT-OF-WAY GREENBELT WITH 1 TREE AND 8 SHRUBS PER 30 LINEAR FEET. (REQUIRED: 11 TREES, 90 SHRUBS)	20' GREENBELT, 0 TREES, 62 SHRUBS
VARIANCE	§ 5.9.F.iv	PROHIBITED SIGNS: ABOVE THE ROOF SIGNS	ABOVE THE ROOF SIGN

APPLICANT

EROP, LLC
 3130 NORTH KANDY LANE
 DECATUR, ILLINOIS 62526
 215-521-2348

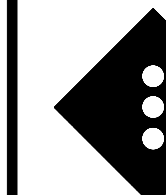
ARCHITECT

REB ARCHITECTS, PLLC
 WIND HAVEN DRIVE SUITE 101
 NICHOLASVILLE, KENTUCKY 40356
 859-523-1500

REVISION #	DATE	ISSUE	BY	DESCRIPTION
2	03/16/2022	ECH		REVISED PER SITE PLAN REVIEW #1
1	01/05/2022	BAC/ECH		FOR PRELIMINARY SITE PLAN APPROVAL

NOT APPROVED FOR CONSTRUCTION

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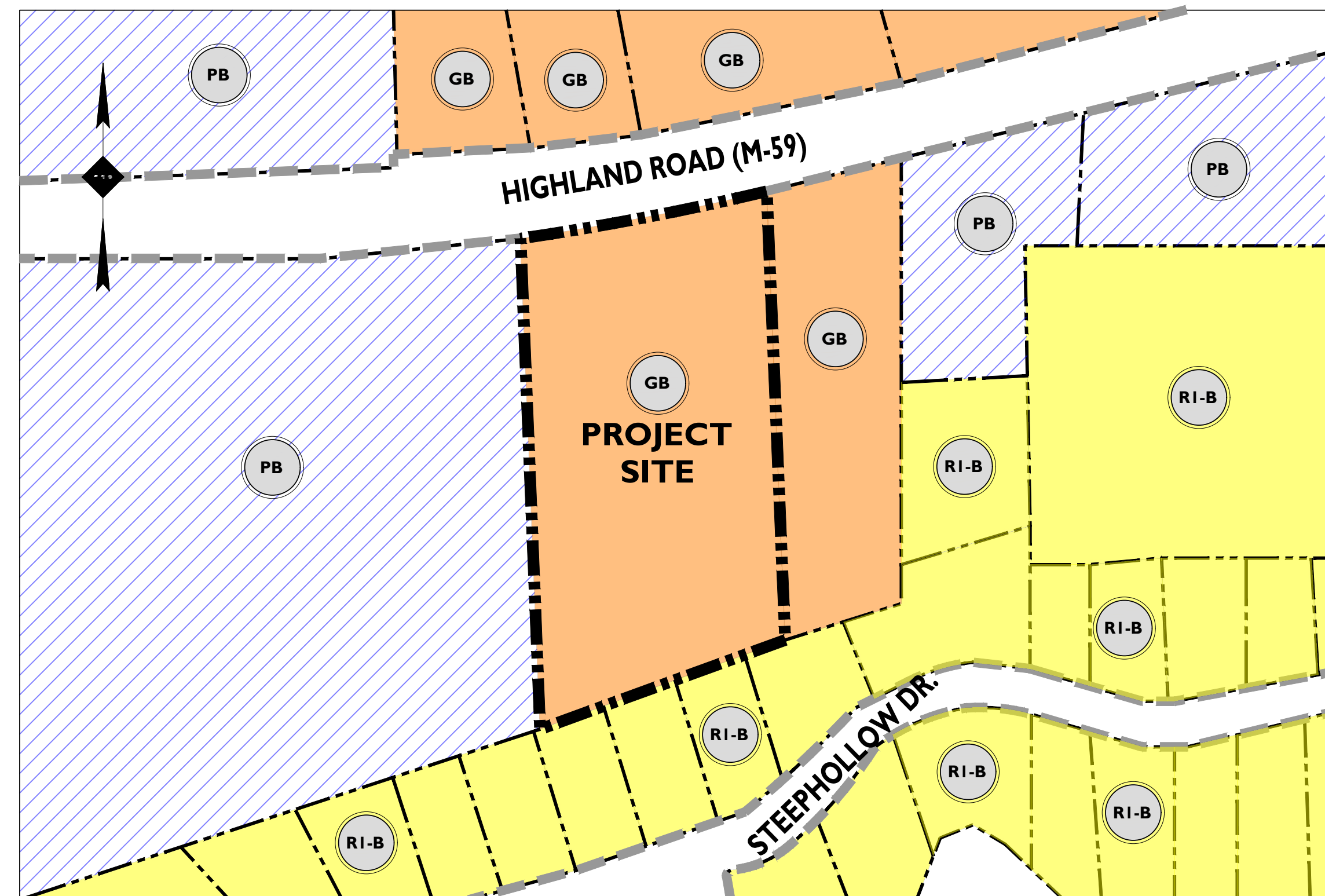
607 Shelby Suite 200, Detroit, MI 48226
 Phone 248.247.1115



SOURCE: GOOGLE EARTH PRO

AERIAL MAP

SCALE: 1" = 150'±



SOURCE: CITY OF WHITE LAKE ZONING MAP

ZONING MAP

SCALE: 1" = 150'±

WHITE LAKE CHARTER TOWNSHIP ENGINEERING NOTES:

- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TOWNSHIP'S CURRENT STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL NOTIFY THE TOWNSHIP ENGINEER AND/OR THE AUTHORITY HAVING JURISDICTION, 48 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.
- CONTRACTOR SHALL CONTACT MISS DIG AT 800-482-7171, 72 HOURS IN ADVANCE OF CONSTRUCTION, FOR EXISTING UNDERGROUND UTILITY LOCATIONS.
- IN ORDER TO VERIFY COMPLIANCE WITH APPROVED PLANS, FULL-TIME CONSTRUCTION OBSERVATION WILL GENERALLY BE REQUIRED DURING ALL PHASES OF UNDERGROUND SITE CONSTRUCTION INCLUDING INSTALLATION OF SANITARY SEWER, STORM SEWERS, DRAINS, WATERMANS AND APPURTENANCES AS WELL AS PRIVATE STREET CURBING AND PAVING CONSTRUCTION. INTERMITTENT OBSERVATIONS WILL BE MADE FOR SITE GRADING, PARKING LOT CURBING AND PAVING, RETAINING WALL CONSTRUCTION AND OTHER SURFACE ACTIVITY.



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PROPERTY DESCRIPTION:

THE LAND SITUATED IN THE TOWNSHIP OF WHITE LAKE, COUNTY OF OAKLAND, STATE OF MICHIGAN, IS DESCRIBED AS FOLLOWS:

PART OF THE EAST 1/2 OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SECTION 23, TOWN 3 NORTH, RANGE 8 EAST, BEGINNING AT A POINT DISTANT NORTH 02 DEGREES 24 MINUTES 20 SECONDS EAST, 1731.78 FEET AND SOUTH 75 DEGREES 05 MINUTES 00 SECONDS WEST 249.56 FEET FROM THE SOUTH 1/8 CORNER OF THE NORTHEAST 1/4; THENCE SOUTH 75 DEGREES 05 MINUTES 00 SECONDS WEST, 351.83 FEET; THENCE NORTH 02 DEGREES 47 MINUTES 20 SECONDS EAST, 661.50 FEET; THENCE NORTHEASTERLY ALONG THE SOUTHERLY LINE OF HIGHLAND ROAD, ALONG A CURVE TO THE LEFT, RADIUS OF 3869.83 FEET, DISTANCE OF 338.35 FEET; THENCE SOUTH 02 DEGREES 43 MINUTES 15 SECONDS WEST, 605.50 FEET TO THE POINT OF BEGINNING.

PLAN REFERENCE MATERIALS:

- THIS PLAN SET REFERENCES THE FOLLOWING DOCUMENTS INCLUDING, BUT NOT LIMITED TO:
 - ALTA / NSPS LAND TITLE SURVEY PREPARED BY KEM-TEC & ASSOCIATES INC. DATED 01/20/2022
 - ARCHITECTURAL PLANS PREPARED BY REB ARCHITECTS DATED 02/01/2022
 - GEOTECHNICAL REPORT PREPARED BY MATERIALS TESTING CONSULTANTS DATED 01/28/2022
 - AERIAL MAP OBTAINED FROM GOOGLE EARTH PRO
 - LOCATION MAP OBTAINED FROM USGS NATIONAL MAPPING SYSTEM
- ALL REFERENCE MATERIAL LISTED ABOVE SHALL BE CONSIDERED A PART OF THIS PLAN SET AND ALL INFORMATION CONTAINED WITHIN THESE MATERIALS SHALL BE UTILIZED IN CONJUNCTION WITH THIS PLAN SET. THE CONTRACTOR IS RESPONSIBLE TO OBTAIN A COPY OF EACH REFERENCE AND REVIEW IT THOROUGHLY PRIOR TO THE START OF CONSTRUCTION.

SHEET INDEX

DRAWING TITLE	SHEET #
COVER SHEET	C-1
SITE PLAN	C-2
GRADING PLAN	C-3
STORMWATER MANAGEMENT PLAN	C-4
UTILITY PLAN	C-5
LIGHTING PLAN	C-6
LANDSCAPING PLAN	C-7
CONSTRUCTION DETAILS	C-8 TO C-10
FIRE TRUCK TURNING EXHIBIT	C-11

ADDITIONAL SHEETS

DRAWING TITLE	SHEET #
ALTA / NSPS LAND TITLE SURVEY	1 OF 1
TANK DETAILS	1 OF 1

SITE DEVELOPMENT PLANS

HYPERSHINE

PROPOSED AUTO WASH

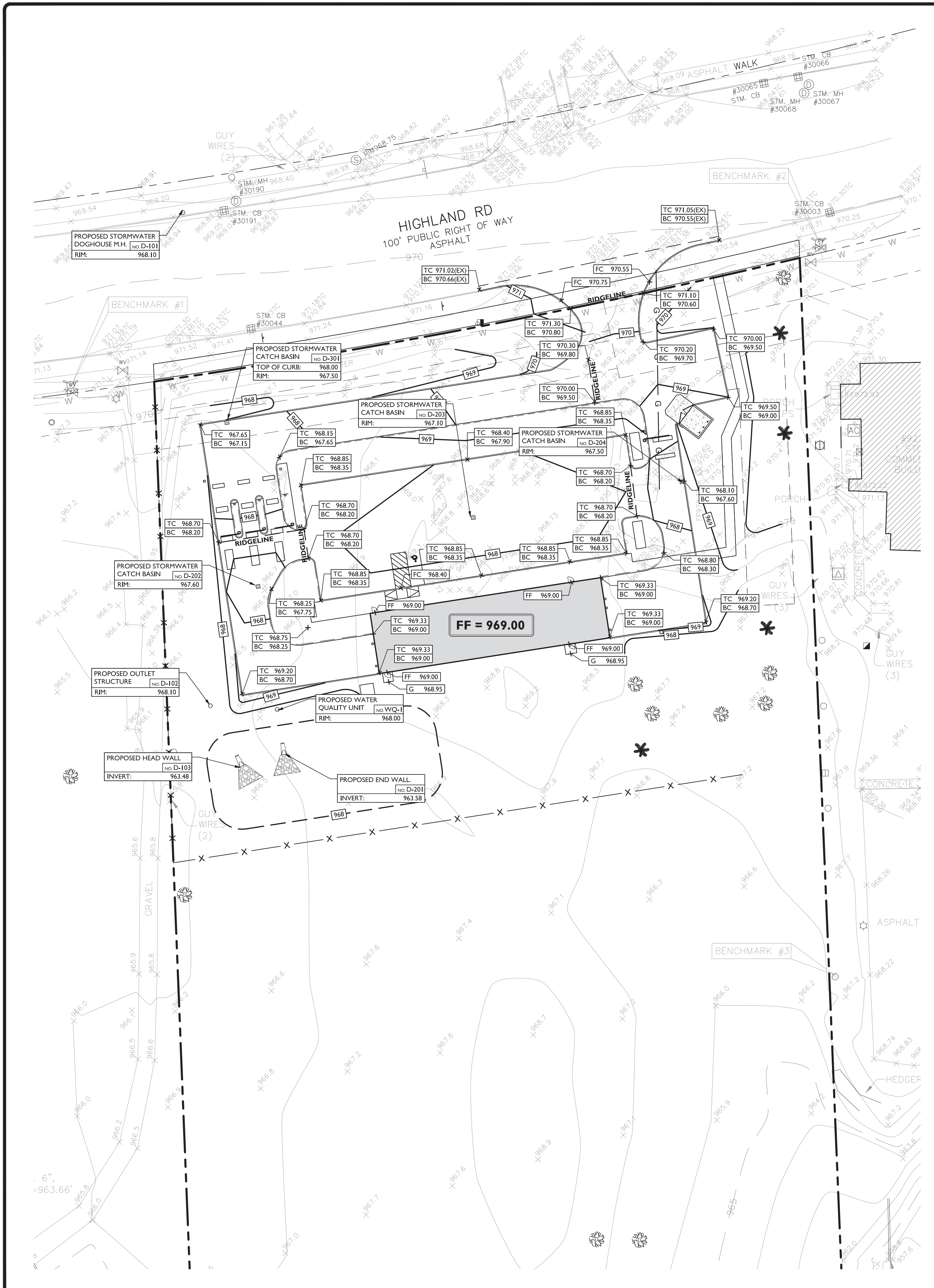
PARCEL ID: 12-23-202-006
 9345 HIGHLAND ROAD (M-59)
 WHITE LAKE TOWNSHIP
 OAKLAND COUNTY, MICHIGAN



SCALE: AS SHOWN PROJECT ID: DET-210462

TITLE:
COVER SHEET

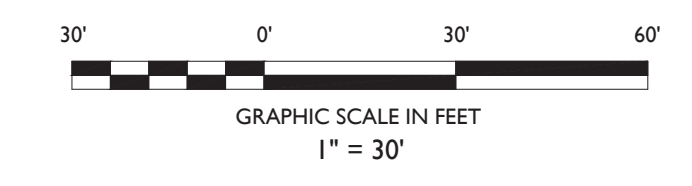
DRAWING:
C-1



SYMBOL	DESCRIPTION
---	PROPERTY LINE
100	PROPOSED GRADING CONTOUR
-----	PROPOSED GRADING RIDGELINE
←	PROPOSED DIRECTION OF DRAINAGE FLOW
X G 100.00	PROPOSED GRADE SPOT SHOT
X TC 100.50 BC 100.00	PROPOSED TOP OF CURB / BOTTOM OF CURB SPOT SHOT
X FC 100.00	PROPOSED FLUSH CURB SPOT SHOT

- GRADING NOTES**
- ALL SOIL AND MATERIAL REMOVED FROM THE SITE SHALL BE DISPOSED OF IN ACCORDANCE WITH LOCAL STATE AND FEDERAL REQUIREMENTS. ANY GROUNDWATER DE-WATERING PRACTICES SHALL BE PERFORMED UNDER THE SUPERVISION OF A QUALIFIED PROFESSIONAL. THE CONTRACTOR IS REQUIRED TO OBTAIN ALL NECESSARY PERMITS FOR THE DISCHARGE OF DE-WATERED GROUNDWATER. ALL SOIL IMPORTED TO THE SITE SHALL BE CERTIFIED CLEAN FILL. CONTRACTOR SHALL MAINTAIN RECORDS OF ALL FILL MATERIALS BROUGHT TO THE SITE.
 - THE CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY AND/OR PERMANENT SHORING WHERE REQUIRED DURING EXCAVATION ACTIVITIES INCLUDING BUT NOT LIMITED TO UTILITY TRENCHES TO ENSURE THE STRUCTURAL INTEGRITY OF NEARBY STRUCTURES AND STABILITY OF THE SURROUNDING SOILS.
 - PROPOSED TOP OF CURB ELEVATIONS ARE GENERALLY 4 INCHES TO 7 INCHES ABOVE EXISTING GRADES UNLESS OTHERWISE NOTED. THE CONTRACTOR WILL SUPPLY ALL STAKEOUT CURB GRADE SHEETS TO STONEFIELD ENGINEERING & DESIGN, LLC. FOR REVIEW AND APPROVAL PRIOR TO POURING CURBS.
 - THE CONTRACTOR IS RESPONSIBLE TO SET ALL PROPOSED UTILITY COVERS AND RESET ALL EXISTING UTILITY COVERS WITHIN THE PROJECT LIMITS TO PROPOSED GRADE IN ACCORDANCE WITH ANY APPLICABLE MUNICIPAL COUNTY, STATE AND/OR UTILITY AUTHORITY REGULATIONS.
 - MINIMUM SLOPE REQUIREMENTS TO PREVENT PONDING SHALL BE AS FOLLOWS:
 - CURB GUTTER: 0.50%
 - CONCRETE SURFACES: 1.00%
 - ASPHALT SURFACES: 1.00%
 - A MINIMUM SLOPE OF 1.00% SHALL BE PROVIDED AWAY FROM ALL BUILDINGS. THE CONTRACTOR SHALL ENSURE POSITIVE DRAINAGE FROM THE BUILDING IS ACHIEVED AND SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IF THIS CONDITION CANNOT BE MET.
 - FOR PROJECTS WHERE BASEMENTS ARE PROPOSED, THE DEVELOPER IS RESPONSIBLE TO DETERMINE THE DEPTH TO GROUNDWATER AT THE LOCATION OF THE PROPOSED STRUCTURE. IF GROUNDWATER IS ENCOUNTERED WITHIN THE BASEMENT AREA, SPECIAL CONSTRUCTION METHODS SHALL BE UTILIZED AND REVIEWED/APPROVED BY THE CONSTRUCTION CODE OFFICIAL. IF SUMP PUMPS ARE UTILIZED, ALL DISCHARGES SHALL BE CONNECTED DIRECTLY TO THE PUBLIC STORM SEWER SYSTEM WITH APPROVAL FROM THE GOVERNING STORM SEWER SYSTEM AUTHORITY.

- ADA NOTES**
- THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION WITHIN THE ADA PARKING SPACES AND ACCESS AISLES.
 - THE CONTRACTOR SHALL PROVIDE COMPLIANT SIGNAGE AT ALL ADA PARKING AREAS IN ACCORDANCE WITH STATE GUIDELINES.
 - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 5.00% RUNNING SLOPE AND A MAXIMUM OF 2.00% CROSS SLOPE ALONG WALKWAYS WITHIN THE ACCESSIBLE PATH OF TRAVEL (SEE THE SITE PLAN FOR THE LOCATION OF THE ACCESSIBLE PATH). THE CONTRACTOR IS RESPONSIBLE TO ENSURE THE ACCESSIBLE PATH OF TRAVEL IS 36 INCHES WIDE OR GREATER UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
 - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 2.00% SLOPE IN ANY DIRECTION AT ALL LANDINGS. LANDINGS INCLUDE, BUT ARE NOT LIMITED TO, THE TOP AND BOTTOM OF AN ACCESSIBLE RAMP. AT ACCESSIBLE BUILDING ENTRANCES, AT AN AREA IN FRONT OF A WALK-UP ATM, AND AT TURNING SPACES ALONG THE ACCESSIBLE PATH OF TRAVEL, THE LANDING AREA SHALL HAVE A MINIMUM CLEAR AREA OF 60 INCHES BY 60 INCHES UNLESS INDICATED OTHERWISE WITHIN THE PLAN SET.
 - THE CONTRACTOR SHALL MAINTAIN A MAXIMUM 8.33% RUNNING SLOPE AND A MAXIMUM 2.00% CROSS SLOPE ON ANY CURB RAMPS ALONG THE ACCESSIBLE PATH OF TRAVEL. WHERE PROVIDED, CURB RAMP FLARES SHALL NOT HAVE A SLOPE GREATER THAN 10.00%. IF A LANDING AREA IS PROVIDED AT THE TOP OF THE RAMP, FOR ALTERATIONS, A CURB RAMP FLARE SHALL NOT HAVE A SLOPE GREATER THAN 8.33% IF A LANDING AREA IS NOT PROVIDED AT THE TOP OF THE RAMP. CURB RAMPS SHALL NOT RISE MORE THAN 6 INCHES IN ELEVATION WITHOUT A HANDRAIL. THE CLEAR WIDTH OF A CURB RAMP SHALL BE NO LESS THAN 36 INCHES WIDE.
 - ACCESSIBLE RAMPS WITH A RISE GREATER THAN 6 INCHES SHALL CONTAIN COMPLIANT HANDRAILS ON BOTH SIDES OF THE RAMP AND SHALL NOT RISE MORE THAN 30" IN ELEVATION WITHOUT A LANDING AREA IN BETWEEN RAMP RUNS. LANDING AREAS SHALL ALSO BE PROVIDED AT THE TOP AND BOTTOM OF THE RAMP.
 - A SLIP RESISTANT SURFACE SHALL BE CONSTRUCTED ALONG THE ACCESSIBLE PATH AND WITHIN ADA PARKING AREAS.
 - THE CONTRACTOR SHALL ENSURE A MAXIMUM OF ¼ INCHES VERTICAL CHANGE IN LEVEL ALONG THE ACCESSIBLE PATH. WHERE A CHANGE IN LEVEL BETWEEN ¼ INCHES AND ½ INCHES EXISTS, CONTRACTOR SHALL ENSURE THAT THE TOP ¼ INCH CHANGE IN LEVEL IS BEVELED WITH A SLOPE NOT STEEPER THAN 1 UNIT VERTICAL AND 2 UNITS HORIZONTAL (2:1 SLOPE).
 - THE CONTRACTOR SHALL ENSURE THAT ANY OPENINGS (GAPS OR HORIZONTAL SEPARATION) ALONG THE ACCESSIBLE PATH SHALL NOT ALLOW PASSAGE OF A SPHERE GREATER THAN ¼ INCH.



REVISED PER SITE PLAN REVIEW #1	ECH	BY	DESCRIPTION
03/16/2022			
01/03/2022	RAC/ECH		
2	1		ISSUE

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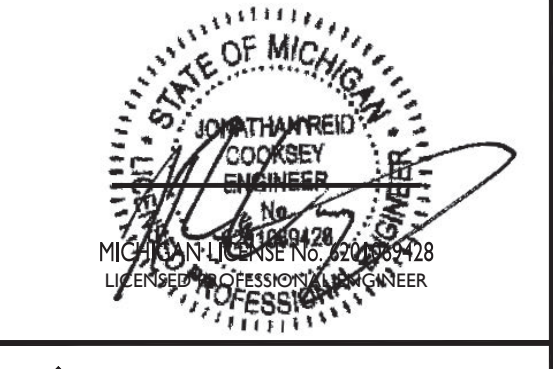
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HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-2006
9145 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN



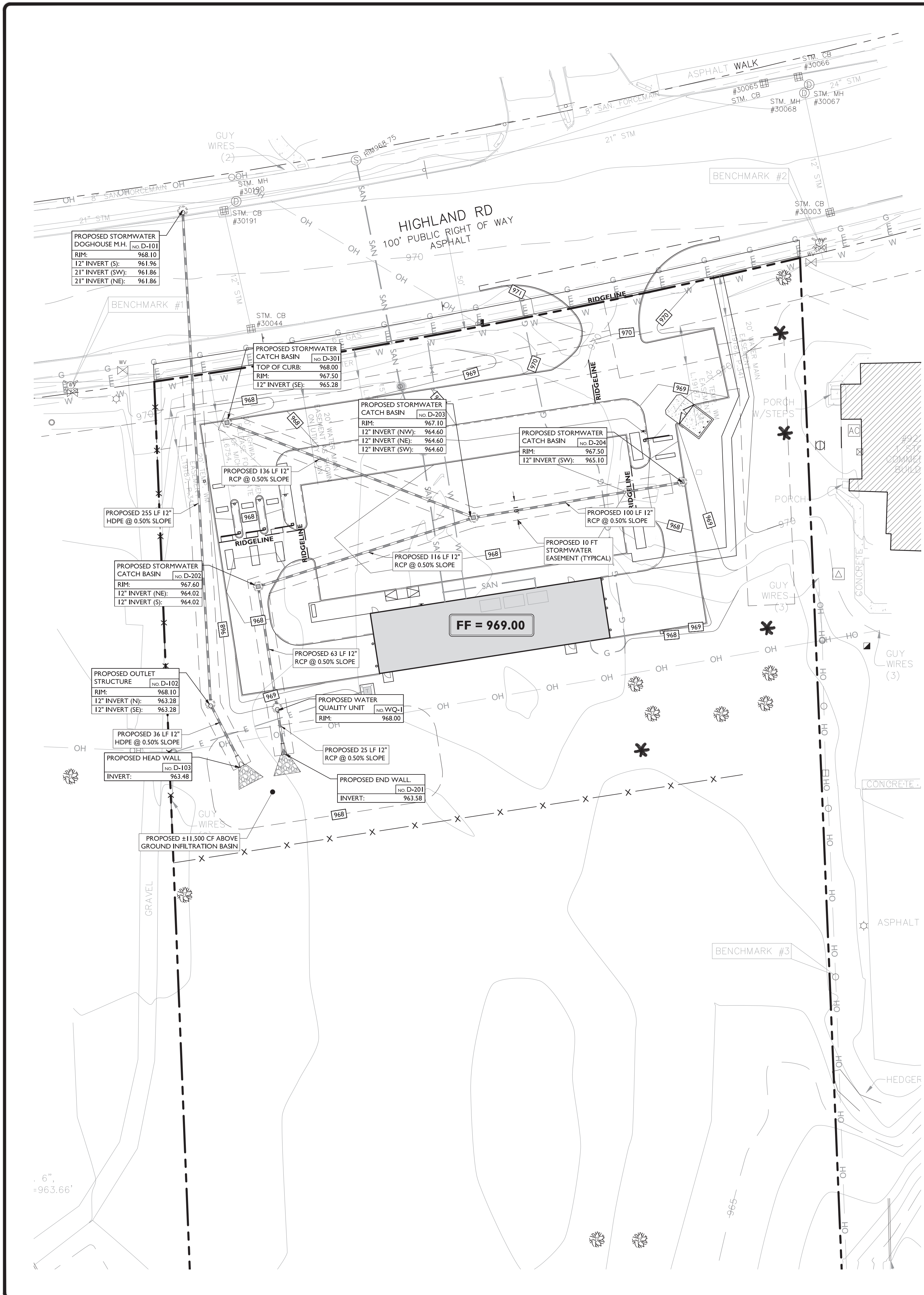
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SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE:
GRADING PLAN

DRAWING:
C-3

VERTICAL DATUM: MLLD (LOCAL MEAN SEA LEVEL) HIGHLAND ROAD, WHITE LAKE TOWNSHIP, MICHIGAN (NAD83) (GDA93)



SYMBOL	DESCRIPTION
---	PROPERTY LINE
—100—	PROPOSED GRADING CONTOUR
—RIDGE LINE—	PROPOSED GRADING RIDGE LINE
☐	PROPOSED STORMWATER STRUCTURES
—	PROPOSED STORMWATER PIPING
⊙	PROPOSED UNDERGROUND OUTLET STRUCTURE

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HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9345 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN



STONEFIELD
engineering & design

SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE:
**STORMWATER
MANAGEMENT PLAN**

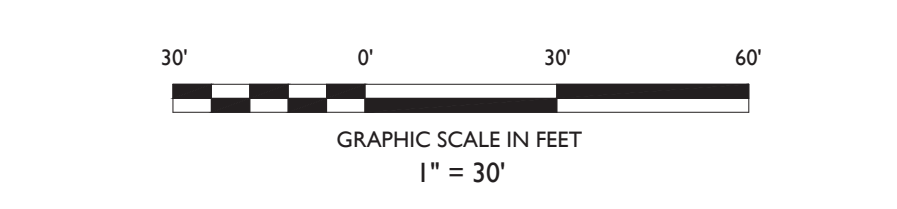
DRAWING:
C-4

MANHOLE SCHEDULE

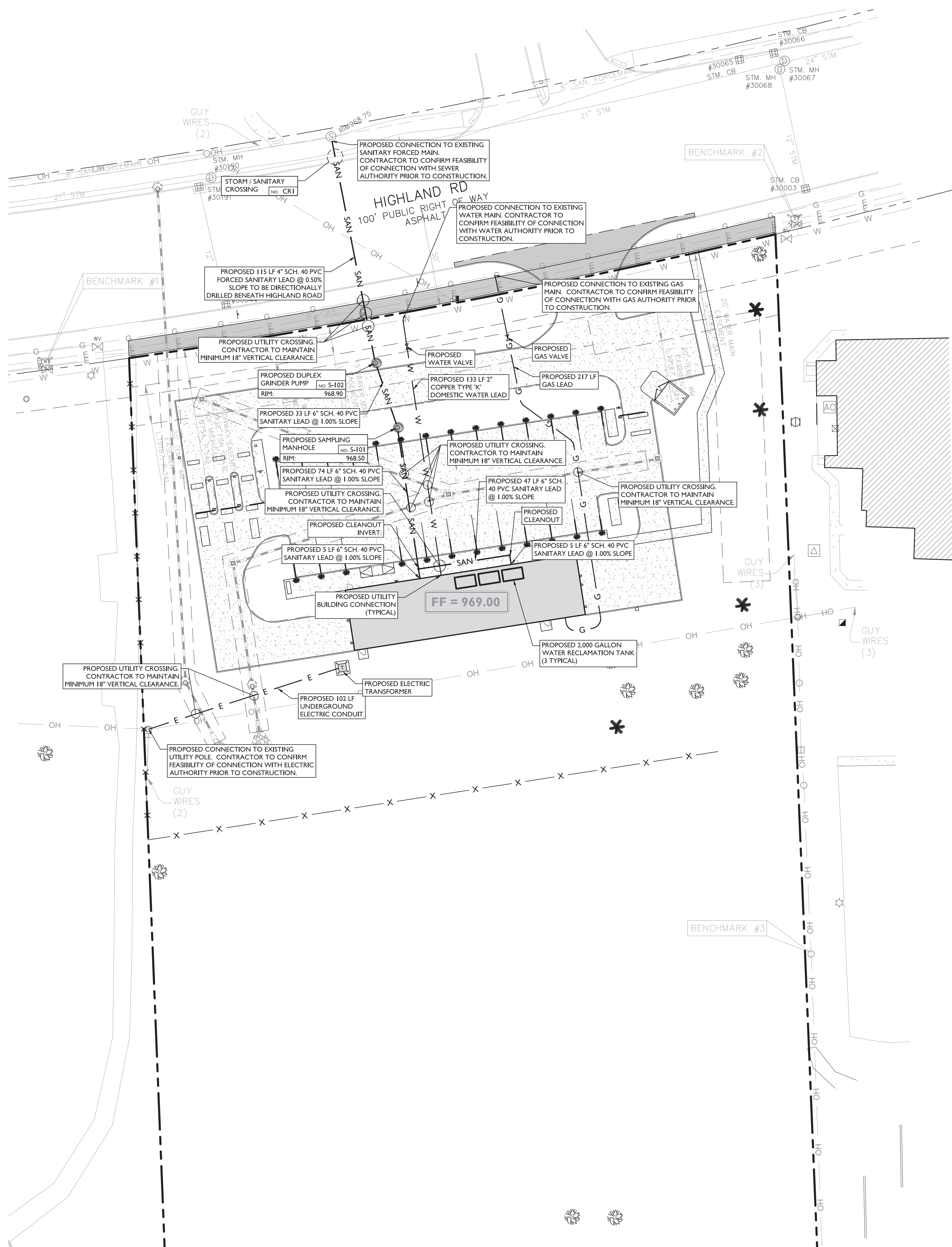
#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)
30003	CATCH BASIN	969.98	12	N	963.48
30044	CATCH BASIN	970.93	12	N	962.93
30065	CATCH BASIN	967.54	12	E	962.74
30066	CATCH BASIN	967.63	12	W	962.63
30067	STORM MANHOLE	967.78	12	SW	962.03
			12	SE	962.63
			12	NW	962.28
			24	E	959.38
			21	W	959.43
30068	STORM MANHOLE	967.89	12	S	962.39
			12	NE	962.29
30190	STORM MANHOLE	969.35	12	SW	961.53
			21	E	960.97
			21	W	960.90
30191	CATCH BASIN	968.78	12	NE	962.08
			12	S	962.28

- DRAINAGE AND UTILITY NOTES**
- THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR STORMWATER IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.
 - CONTRACTOR SHALL START CONSTRUCTION OF STORM LINES AT THE LOWEST INVERT AND WORK UP GRADIENT.
 - THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IMMEDIATELY IN WRITING.
 - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

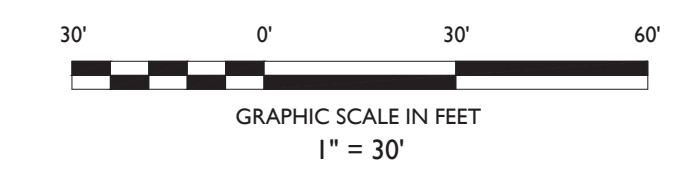
- EXCAVATION, SOIL PREPARATION, AND DEWATERING NOTES**
- THE CONTRACTOR IS REQUIRED TO REVIEW THE REFERENCED GEOTECHNICAL DOCUMENTS PRIOR TO CONSTRUCTION. THESE DOCUMENTS SHALL BE CONSIDERED A PART OF THE PLAN SET.
 - THE CONTRACTOR IS REQUIRED TO PREPARE SUBGRADE SOILS BENEATH ALL PROPOSED IMPROVEMENTS AND BACKFILL ALL EXCAVATIONS IN ACCORDANCE WITH RECOMMENDATIONS BY THE GEOTECHNICAL ENGINEER OF RECORD.
 - THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING SHORING FOR ALL EXCAVATIONS AS REQUIRED. CONTRACTOR SHALL HAVE THE SHORING DESIGN PREPARED BY A QUALIFIED PROFESSIONAL SHORING DESIGNER. SHORING DESIGNS SHALL BE SUBMITTED TO STONEFIELD ENGINEERING & DESIGN, LLC AND THE OWNER PRIOR TO THE START OF CONSTRUCTION.
 - THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL OPEN EXCAVATIONS ARE PERFORMED AND PROTECTED IN ACCORDANCE WITH THE LATEST OSHA REGULATIONS.
 - THE CONTRACTOR IS RESPONSIBLE FOR ANY DEWATERING DESIGN AND OPERATIONS, AS REQUIRED, TO CONSTRUCT THE PROPOSED IMPROVEMENTS. THE CONTRACTOR SHALL OBTAIN ANY REQUIRED PERMITS FOR DEWATERING OPERATIONS AND GROUNDWATER DISPOSAL.



NOTED: IDENTIFY ALL BODIES LOCATING HIGHLAND ROAD, WHITE LAKE TOWNSHIP, HIGHLAND ROAD, DETROIT, MI



SYMBOL	DESCRIPTION
---	PROPERTY LINE
SAN	PROPOSED SANITARY LATERAL
W	PROPOSED DOMESTIC WATER SERVICE
E	PROPOSED ELECTRIC CONDUITS
G	PROPOSED GAS LINE
⊗	PROPOSED VALVE
⊕	PROPOSED WATER TEE / BEND
⊙	PROPOSED SANITARY MANHOLE / CLEANOUT
⊠	PROPOSED TRANSFORMER ON CONCRETE PAD WITH BOLLARDS



#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)
30003	CATCH BASIN	969.98	12	N	963.48
30044	CATCH BASIN	970.93	12	N	962.93
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			21	W	960.90
30191	CATCH BASIN	968.78	12	NE	962.08
			12	S	962.28

- DRAINAGE AND UTILITY NOTES**
- THE CONTRACTOR IS REQUIRED TO CALL THE APPROPRIATE AUTHORITY FOR NOTICE OF CONSTRUCTION/EXCAVATION AND UTILITY MARK OUT PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH STATE LAW. CONTRACTOR IS REQUIRED TO CONFIRM THE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES IN THE FIELD. SHOULD A DISCREPANCY EXIST BETWEEN THE FIELD LOCATION OF A UTILITY AND THE LOCATION SHOWN ON THE PLAN SET OR SURVEY, THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IMMEDIATELY IN WRITING.
 - THE CONTRACTOR IS RESPONSIBLE TO PROTECT AND MAINTAIN IN OPERATION ALL UTILITIES NOT DESIGNATED TO BE REMOVED.
 - THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO ANY EXISTING UTILITY IDENTIFIED TO REMAIN WITHIN THE LIMITS OF THE PROPOSED WORK DURING CONSTRUCTION.
 - A MINIMUM HORIZONTAL SEPARATION OF 10 FEET IS REQUIRED BETWEEN ANY SANITARY SEWER SERVICE AND ANY WATER LINES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASUREMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
 - ALL WATER LINES SHALL BE VERTICALLY SEPARATED ABOVE SANITARY SEWER LINES BY A MINIMUM DISTANCE OF 18 INCHES. IF THIS SEPARATION CANNOT BE PROVIDED, A CONCRETE ENCASUREMENT SHALL BE UTILIZED FOR THE SANITARY SEWER SERVICE AS APPROVED BY STONEFIELD ENGINEERING & DESIGN, LLC.
 - THE CONTRACTOR TO PERFORM A TEST PIT PRIOR TO CONSTRUCTION (RECOMMEND 30 DAYS PRIOR) AT LOCATIONS OF EXISTING UTILITY CROSSINGS FOR WATER AND SANITARY SEWER CONNECTION IMPROVEMENTS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC IN WRITING.
 - THE CONTRACTOR IS RESPONSIBLE FOR COORDINATING GAS, ELECTRIC AND TELECOMMUNICATION CONNECTIONS WITH THE APPROPRIATE GOVERNING AUTHORITY.
 - CONTRACTOR SHALL START CONSTRUCTION OF ANY GRAVITY SEWER AT THE LOWEST INVERT AND WORK UP GRADIENT.
 - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD SET OF PLANS REFLECTING THE LOCATION OF EXISTING UTILITIES THAT HAVE BEEN CAPPED, ABANDONED, OR RELOCATED BASED ON THE DEMOLITION/REMOVAL ACTIVITIES REQUIRED IN THIS PLAN SET. THIS DOCUMENT SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.
 - THE CONTRACTOR IS RESPONSIBLE TO MAINTAIN A RECORD OF THE AS-BUILT LOCATIONS OF ALL PROPOSED UNDERGROUND INFRASTRUCTURE. THE CONTRACTOR SHALL NOTE ANY DISCREPANCIES BETWEEN THE AS-BUILT LOCATIONS AND THE LOCATIONS DEPICTED WITHIN THE PLAN SET. THIS RECORD SHALL BE PROVIDED TO THE OWNER FOLLOWING COMPLETION OF WORK.

REVISION	DATE	BY	DESCRIPTION
2	03/16/2022	ECH	REVISED PER SITE PLAN REVIEW #1
1	01/05/2022	BAC/ECH	FOR PRELIMINARY SITE PLAN APPROVAL

NOT APPROVED FOR CONSTRUCTION

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HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-2006
9345 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
MICHAEL J. COFFEY
REGISTERED PROFESSIONAL ENGINEER
LICENSE NO. 93838

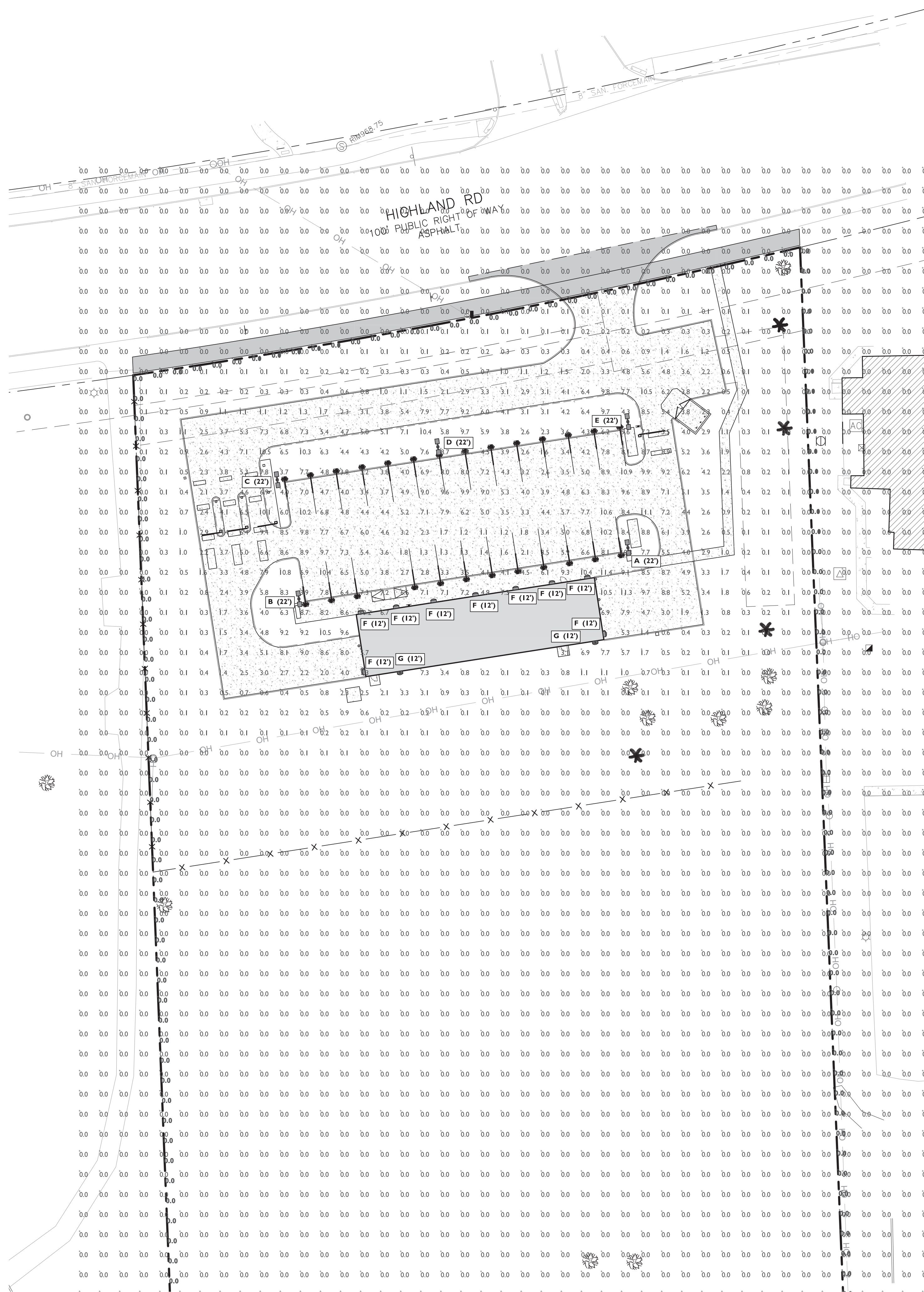
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SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE:
UTILITY PLAN

DRAWING:
C-5

NOTES: 1. IDENTIFY ALL UTILITIES ALONG HIGHLAND ROAD, WHITE LAKE TOWNSHIP, MICHIGAN. 2. PHOTOGRAPH UTILITIES.



PROPOSED LUMINAIRE SCHEDULE							
SYMBOL	LABEL	QUANTITY	LIGHTING SPECIFICATION	DISTRIBUTION	LLF	MANUFACTURER	IES FILE
	A	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	B	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	C	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	D	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	E	1	MIRADA MEDIUM OUTDOOR LED AREA LIGHT W/ INTEGRAL LOUVER FULL CUTOFF SHIELD (2 @ 90°)	III	0.9	LSI LIGHTING	MRM-LED-18L-SIL-3-40-70CRI-HLIES
	F	9	MIRADA OUTDOOR LED WALLPACK	FT	0.9	LSI LIGHTING	XWM-FT-LED-03L-40IES
	G	2	MIRADA OUTDOOR LED WALLPACK (EMERGENCY FIXTURE ONLY)	II	0.9	LSI LIGHTING	XWM-2-LED-03L-40IES

SYMBOL	DESCRIPTION
A (XX)	PROPOSED LIGHTING FIXTURE (MOUNTING HEIGHT)
XX	PROPOSED LIGHTING INTENSITY (FOOTCANDLES)
	PROPOSED AREA LIGHT
	PROPOSED BUILDING MOUNTED LIGHT

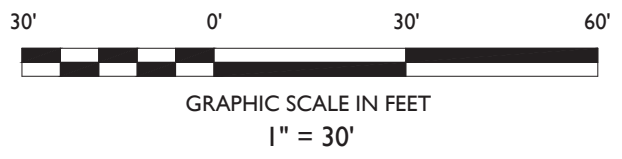
LIGHTING REQUIREMENTS		
CODE SECTION	REQUIRED	PROPOSED
§ 5.18.G	LIGHT FIXTURES SHALL BE FULL CUT OFF AT 90°	PROVIDED
§ 5.18.G.ii	MINIMUM PROPERTY LINE SETBACK: 5 FT	60.0 FT
§ 5.18.G.via	MAXIMUM FIXTURE HEIGHTS: WITHIN 25 FT OF PROPERTY LINE: 16 FT WITHIN 26-60 FT OF PROPERTY LINE: 20 FT WITHIN 61-100 FT OF PROPERTY LINE: 25 FT > 100 FT OFF PROPERTY LINE: 30 FT	N/A N/A 22 FT N/A
§ 5.18.G.iii	PERMITTED GLARE: ALL PROPERTY LINES: 0 FC	0.0 FC

LIGHTING STATISTICS			
DESCRIPTION	AVERAGE	MINIMUM	MAXIMUM
OVERALL PARCEL	0.56 FC	0.00 FC	15.3 FC
DEVELOPMENT AREA	2.91 FC	0.00 FC	15.3 FC
PROPERTY LINE	0.00 FC	0.00 FC	0.0 FC

(1) ALL CALCULATIONS MEASURED 6 FT ABOVE GRADE

SECURITY CAMERAS TO BE MOUNTED ON EACH POLE 10 FT ABOVE GRADE		
POLE LABEL	NUMBER OF CAMERAS	DIRECTION OF CAMERAS
A		
B		
C		
D		
E		

- GENERAL LIGHTING NOTES**
- THE LIGHTING LEVELS DEPICTED WITHIN THE PLAN SET ARE CALCULATED UTILIZING DATA OBTAINED FROM THE LISTED MANUFACTURER. ACTUAL ILLUMINATION LEVELS AND PERFORMANCE OF ANY PROPOSED LIGHTING FIXTURE MAY VARY DUE TO UNCONTROLLABLE VARIABLES SUCH AS WEATHER, VOLTAGE SUPPLY, LAMP TOLERANCE, EQUIPMENT SERVICE LIFE AND OTHER VARIABLE FIELD CONDITIONS.
 - WHERE APPLICABLE, THE EXISTING LIGHT LEVELS DEPICTED WITHIN THE PLAN SET SHALL BE CONSIDERED APPROXIMATE. THE EXISTING LIGHT LEVELS ARE BASED ON FIELD OBSERVATIONS AND THE MANUFACTURER'S DATA OF THE ASSUMED OR MOST SIMILAR LIGHTING FIXTURE MODEL.
 - UNLESS NOTED ELSEWHERE WITHIN THIS PLAN SET, THE LIGHT LOSS FACTORS USED IN THE LIGHTING ANALYSIS ARE AS FOLLOWS:
 - LIGHT EMITTING DIODES (LED): 0.30
 - HIGH PRESSURE SODIUM: 0.72
 - METAL HALIDE: 0.72
 - THE CONTRACTOR SHALL NOTIFY STONEFIELD ENGINEERING & DESIGN, LLC, IN WRITING, PRIOR TO THE START OF CONSTRUCTION, OF ANY PROPOSED LIGHTING LOCATIONS THAT CONFLICT WITH EXISTING PROPOSED DRAINAGE, UTILITY, OR OTHER IMPROVEMENTS.
 - THE CONTRACTOR IS RESPONSIBLE TO PREPARE A WIRING PLAN AND PROVIDE ELECTRIC SERVICE TO ALL PROPOSED LIGHTING FIXTURES. THE CONTRACTOR IS REQUIRED TO PREPARE AN AS-BUILT PLAN OF WIRING AND PROVIDE COPIES TO THE OWNER AND STONEFIELD ENGINEERING & DESIGN, LLC.



REVISION	DATE	DESCRIPTION
2	03/16/2022	REVISED PER SITE PLAN REVIEW #1
1	01/03/2022	FOR PRELIMINARY SITE PLAN APPROVAL

NOT APPROVED FOR CONSTRUCTION

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engineering & design

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Princeton, NJ • Tampa, FL • Boston, MA
www.stonefielddesign.com

607 Shelby Suite 200, Detroit, MI 48226
Phone 248.247.1115

HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9145 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN

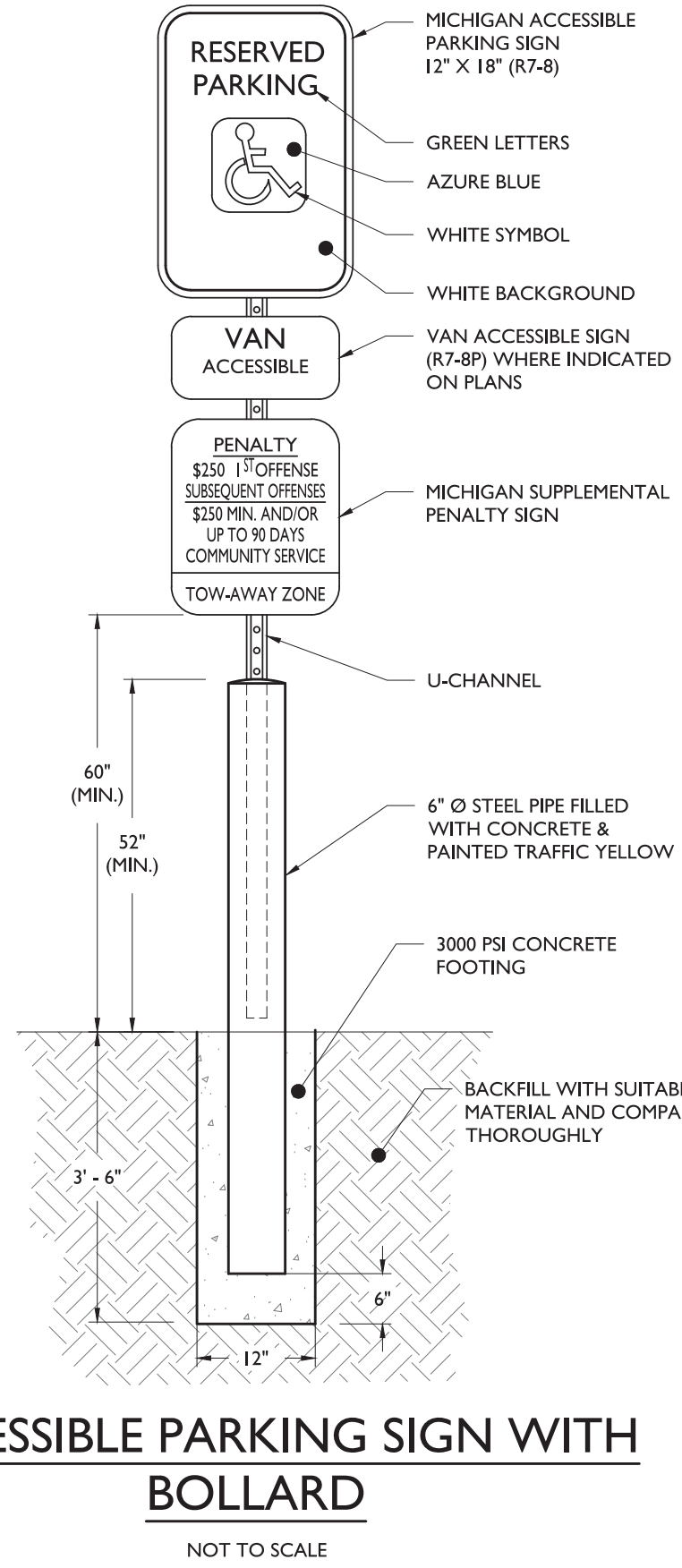


STONEFIELD
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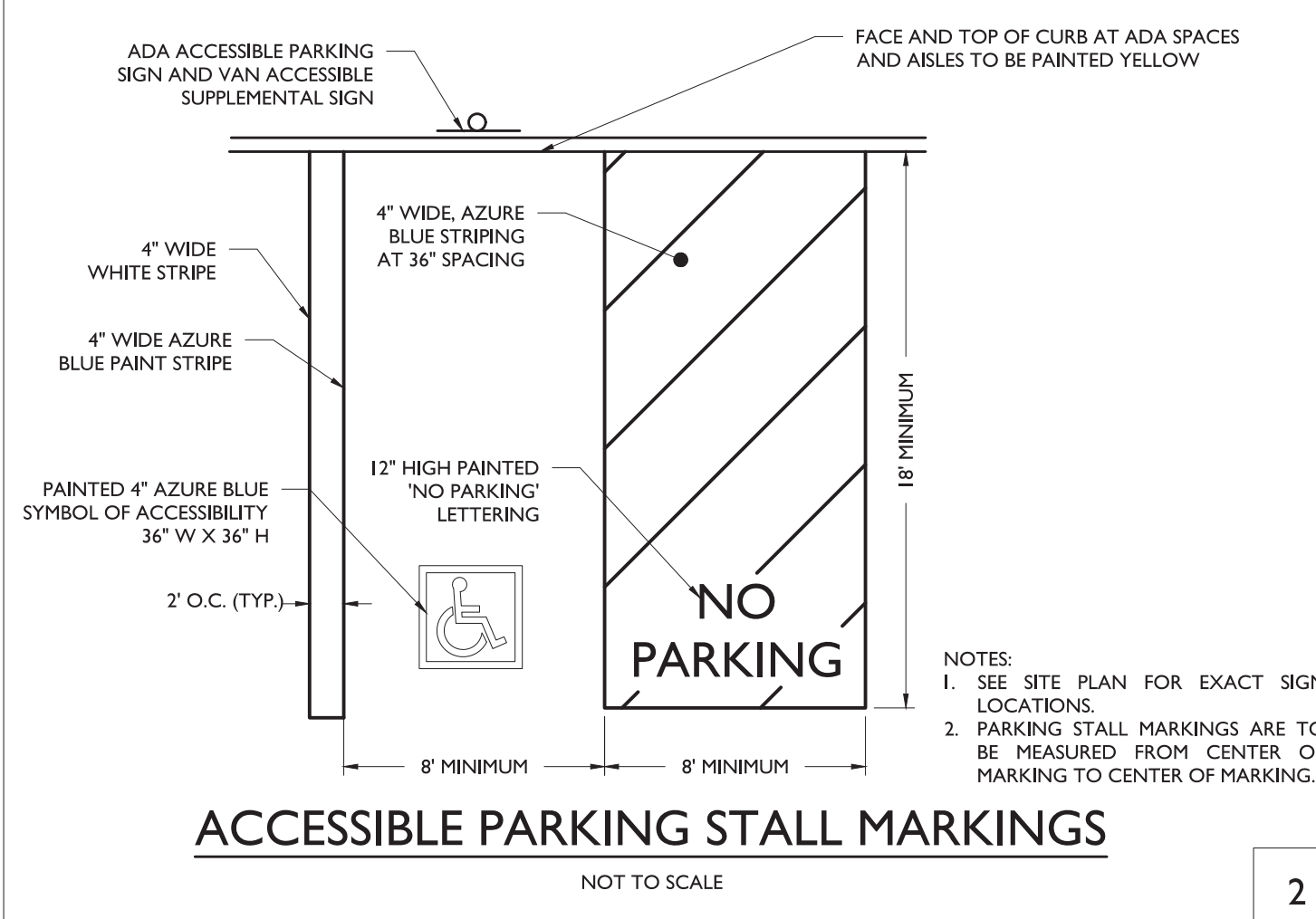
SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE:
LIGHTING PLAN

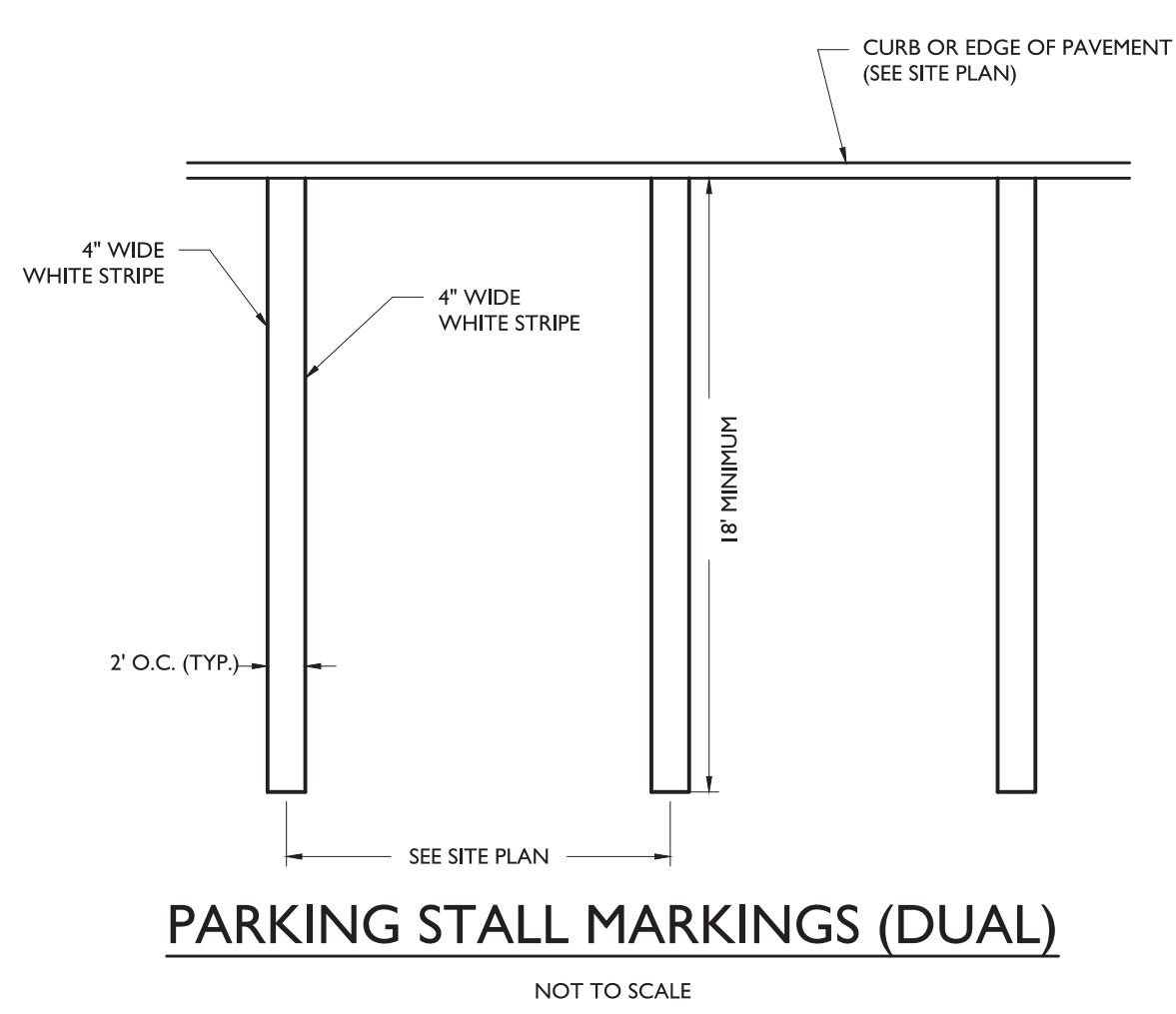
DRAWING:
C-6



ACCESSIBLE PARKING SIGN WITH BOLLARD
NOT TO SCALE

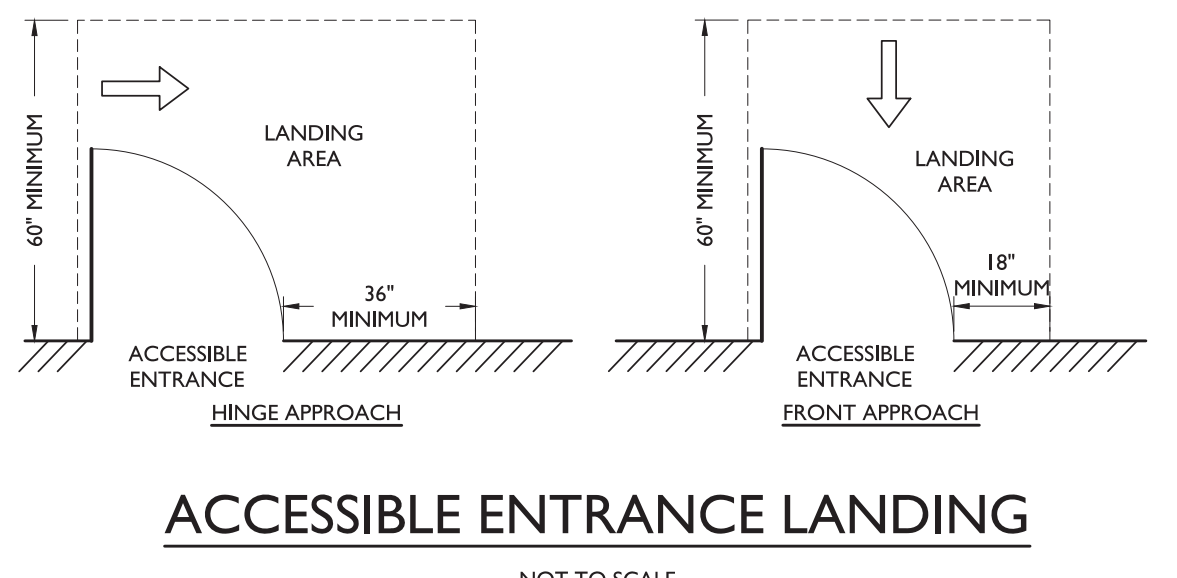


ACCESSIBLE PARKING STALL MARKINGS
NOT TO SCALE



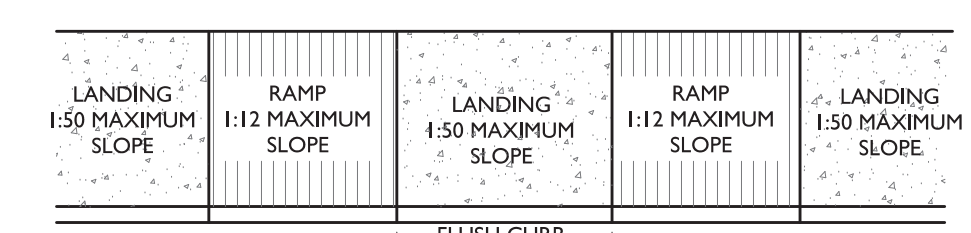
PARKING STALL MARKINGS (DUAL)
NOT TO SCALE

- PAVEMENT STRIPING & MARKINGS NOTES:**
1. ALL SIGNING AND STRIPING IN EXISTING CONDITION IN CONFLICT WITH THE PROPOSED DESIGN PLAN SHALL BE REMOVED.
 2. ALL PROPOSED SIGNING AND STRIPING SHALL CONFORM TO THE CURRENT MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION.
 3. PAVEMENT STRIPING AND MARKINGS SHALL BE INSTALLED IN CONFORMANCE WITH ALL APPLICABLE LOCAL, COUNTY AND STATE REQUIREMENTS.
 4. UNLESS OTHERWISE SPECIFIED, ALL STRIPING AND MARKINGS IN THE PUBLIC RIGHT-OF-WAY SHALL BE OF THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.
 5. UNLESS OTHERWISE SPECIFIED, ON SITE PARKING STALL STRIPING, FIRE LANE STRIPING AND DIRECTIONAL ARROWS SHALL BE EPOXY PAINT. ON SITE STOP BARS, "DO NOT ENTER" BARS, AND ASSOCIATED LETTERING SHALL BE THERMOPLASTIC PAINT OR PREFORMED THERMOPLASTIC MARKINGS.



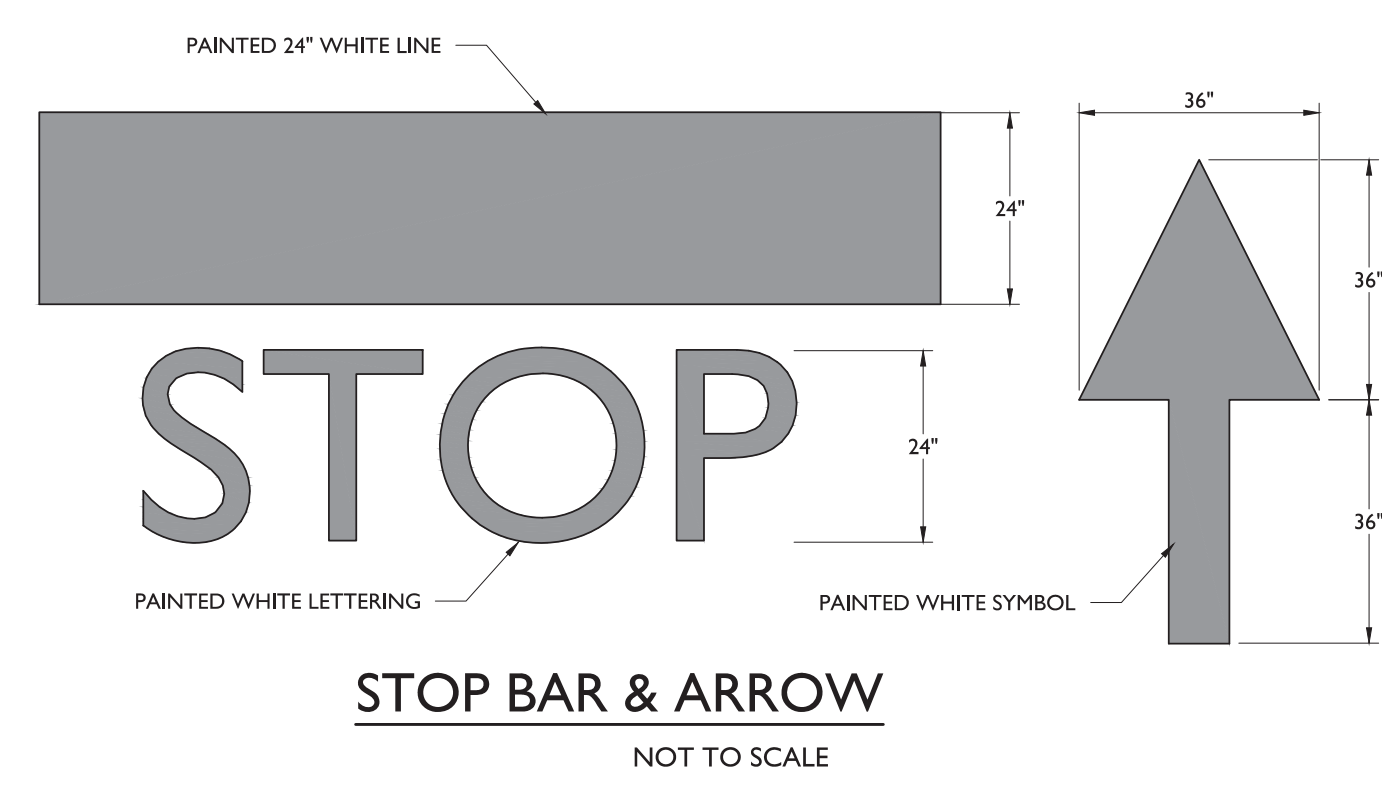
ACCESSIBLE ENTRANCE LANDING
NOT TO SCALE

- NOTES:**
1. MAXIMUM SLOPE ON LANDING SHALL BE 1:50 IN ALL DIRECTIONS
 2. DIMENSIONS SHOWN HERE ARE THE MINIMUM DIMENSIONS REQUIRED FOR AN ADA COMPLIANT LANDING AT THE ACCESSIBLE ENTRANCE. REFER TO SITE PLAN FOR SITE SPECIFIC DIMENSIONS THAT MAY SPECIFY A LARGER LANDING AREA.
 3. CONTRACTOR SHALL CONTACT THE ENGINEER BEFORE CONSTRUCTION IF THE ACCESSIBLE ENTRANCE ON SITE DOES NOT MATCH THE SCENARIO SHOWN ABOVE.

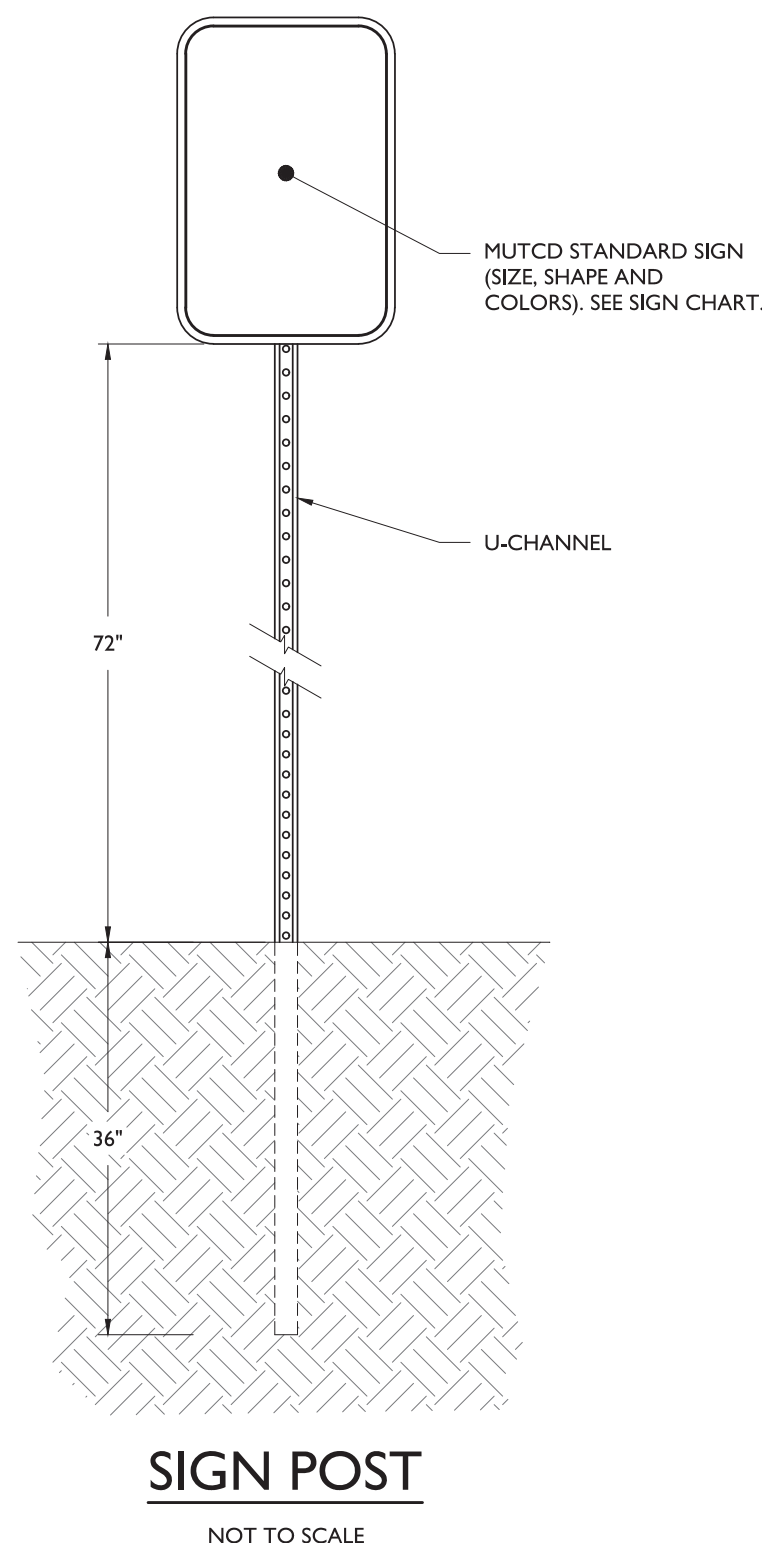


TRANSITION RAMP DETAIL
NOT TO SCALE

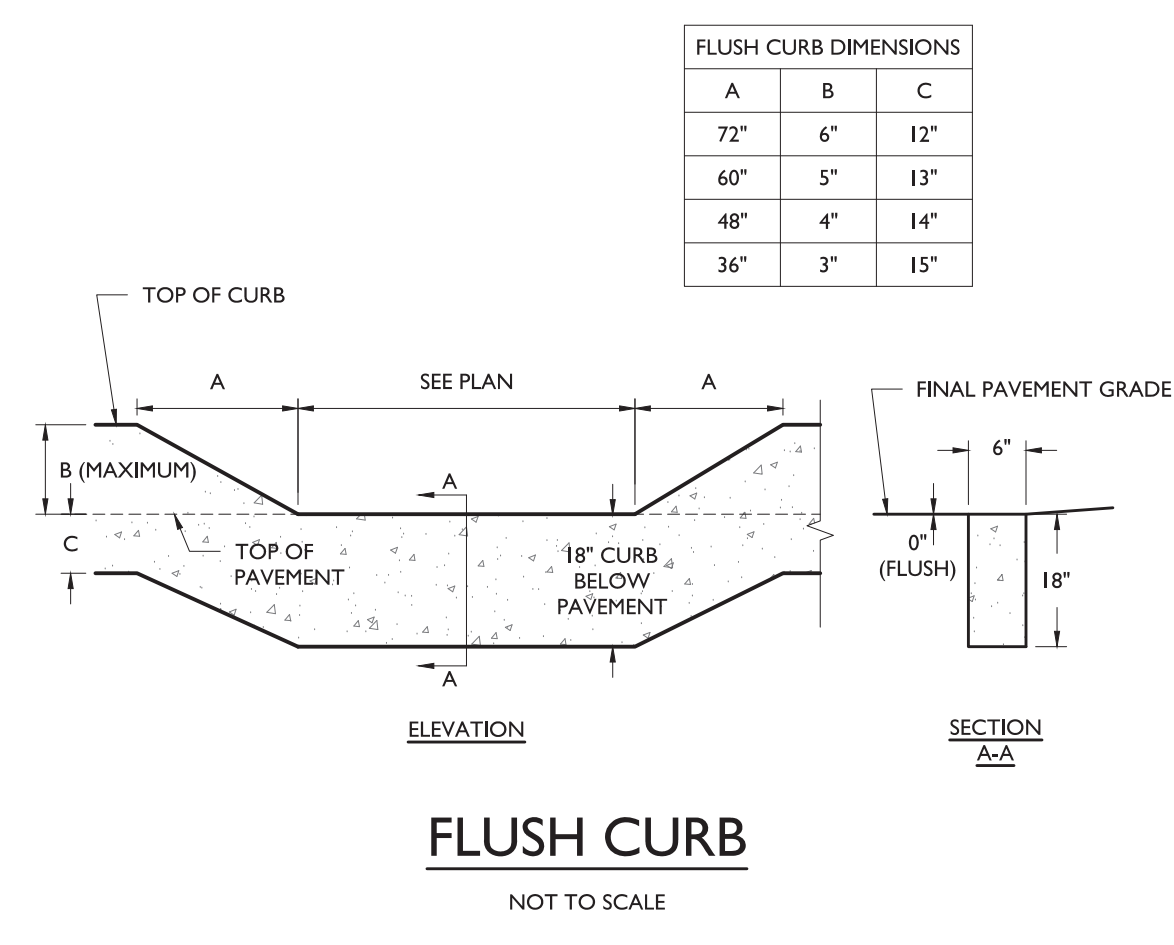
- NOTES:**
1. CROSS SLOPE ON RAMP SHALL NOT EXCEED 2%
 2. A FLUSH CURB SHALL HAVE A MINIMUM WIDTH OF 36". SEE PLAN FOR EXACT WIDTH.
 3. RAMP SHALL HAVE A MAXIMUM RISE OF 4" WITHOUT A HANDRAIL.



STOP BAR & ARROW
NOT TO SCALE



SIGN POST
NOT TO SCALE

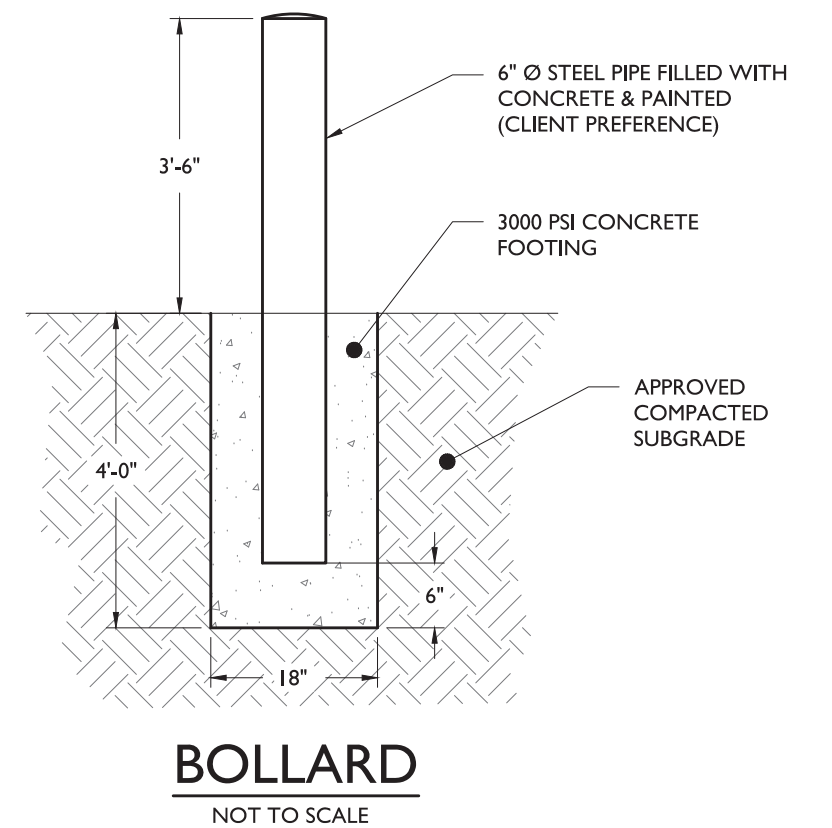


FLUSH CURB
NOT TO SCALE

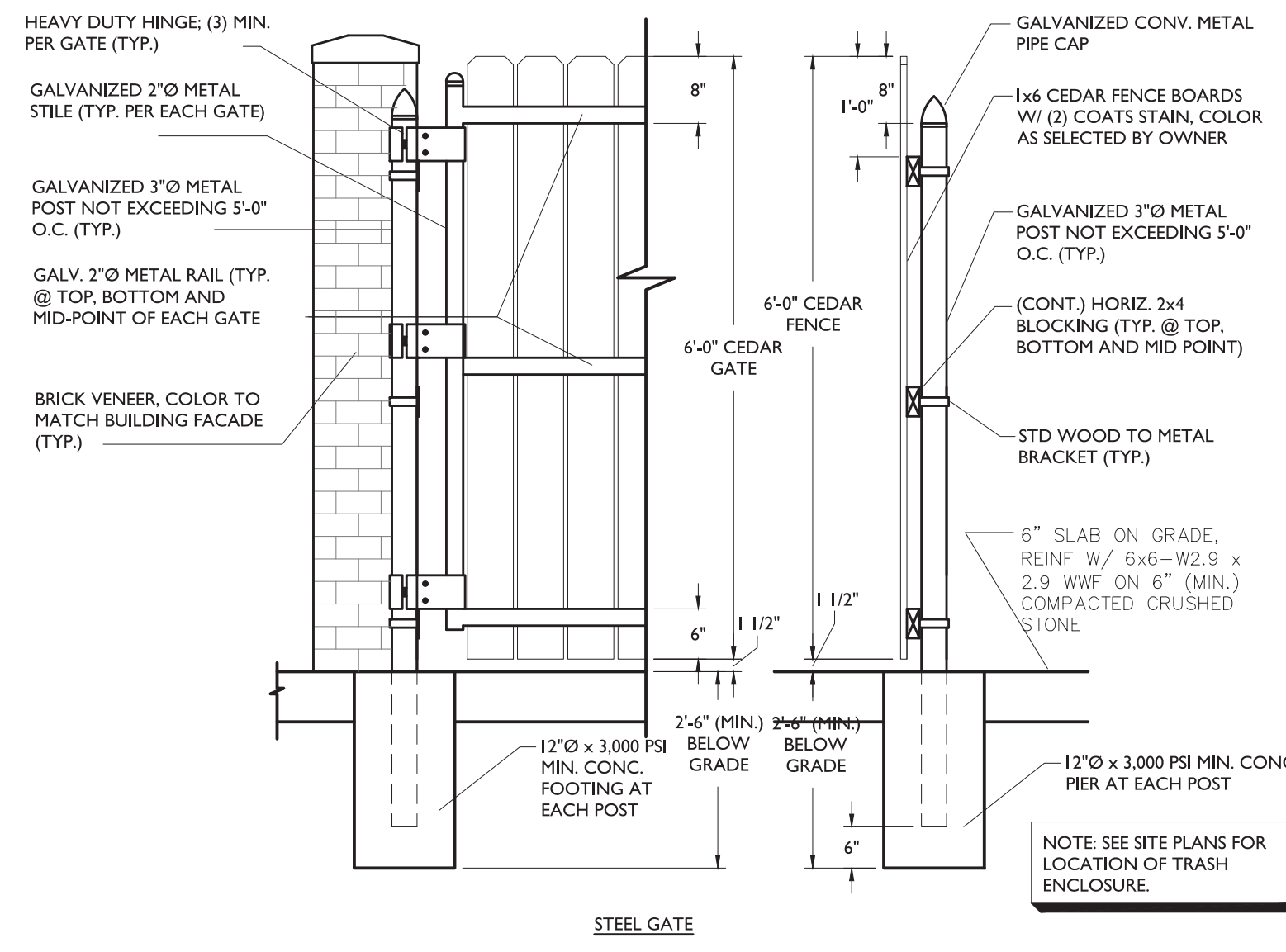
FLUSH CURB DIMENSIONS		
A	B	C
72"	6"	12"
60"	5"	13"
48"	4"	14"
36"	3"	15"

M.U.T.C.D. NUMBER	TEXT	COLOR	LEGEND	BACKGROUND	SIZE OF SIGN (WIDTH X HEIGHT)	TYPE OF MOUNT
STOP SIGN (R1-1)		WHITE	RED	36"x36"	GROUND	
DO NOT ENTER (R5-1)		RED	WHITE	30"x30"	GROUND	

SIGN DATA TABLE
NOT TO SCALE

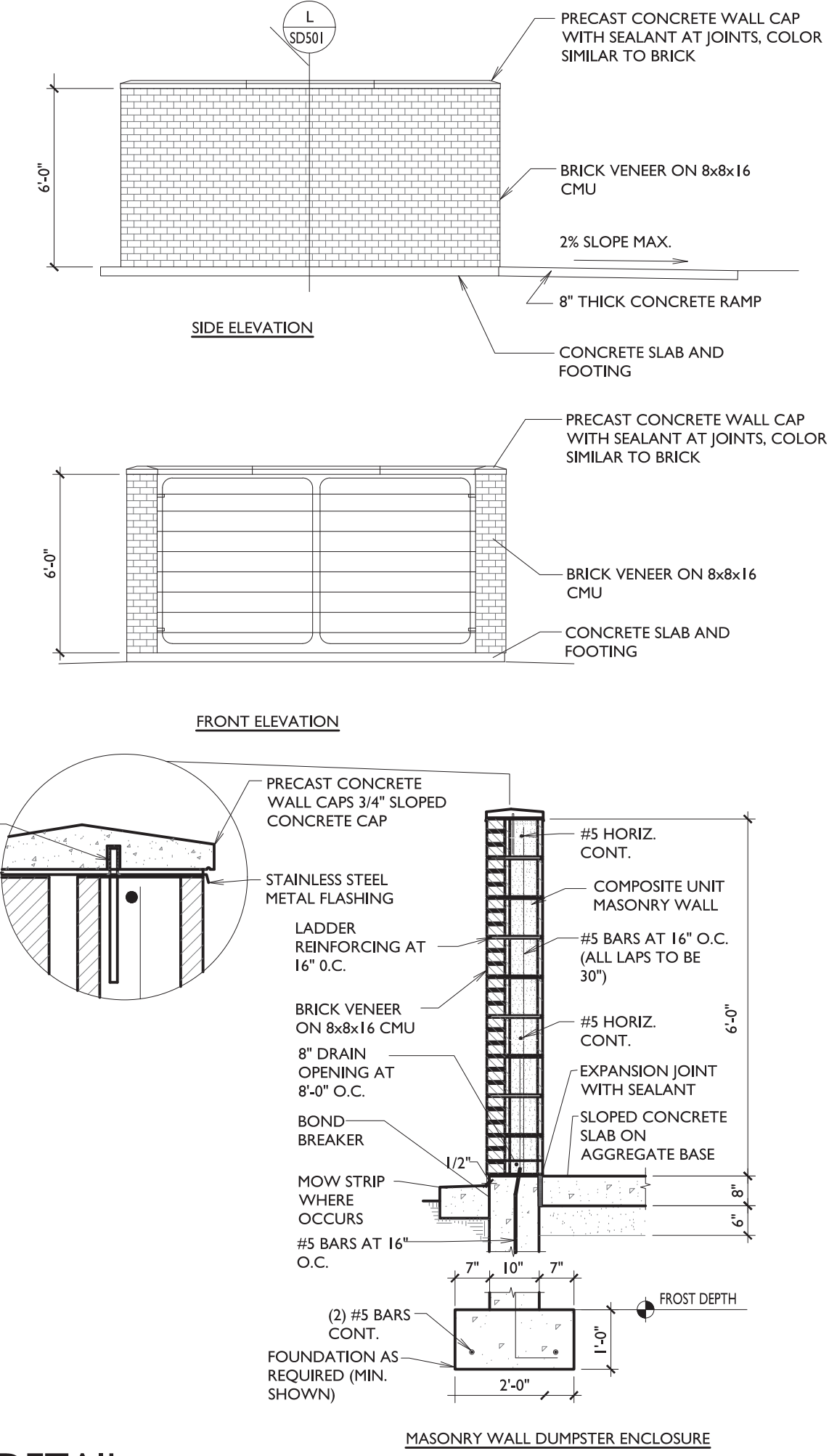


BOLLARD
NOT TO SCALE



TRASH / RECYCLE ENCLOSURE DETAIL
NOT TO SCALE

- NOTE:** BLOCK COLOR TO MATCH BUILDING OR AS SPECIFIED BY OWNER



MASONRY WALL DUMPSTER ENCLOSURE

NOTES: 1. ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), EXCEPT AS NOTED. 2. ALL SIGNS SHALL BE MOUNTED AS TO NOT OBSTRUCT THE SHAPE OF "STOP" (R1-1) AND "YIELD" (R1-2) SIGNS.

REVISION	DATE	BY	DESCRIPTION
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NOT APPROVED FOR CONSTRUCTION

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HYPERSHINE

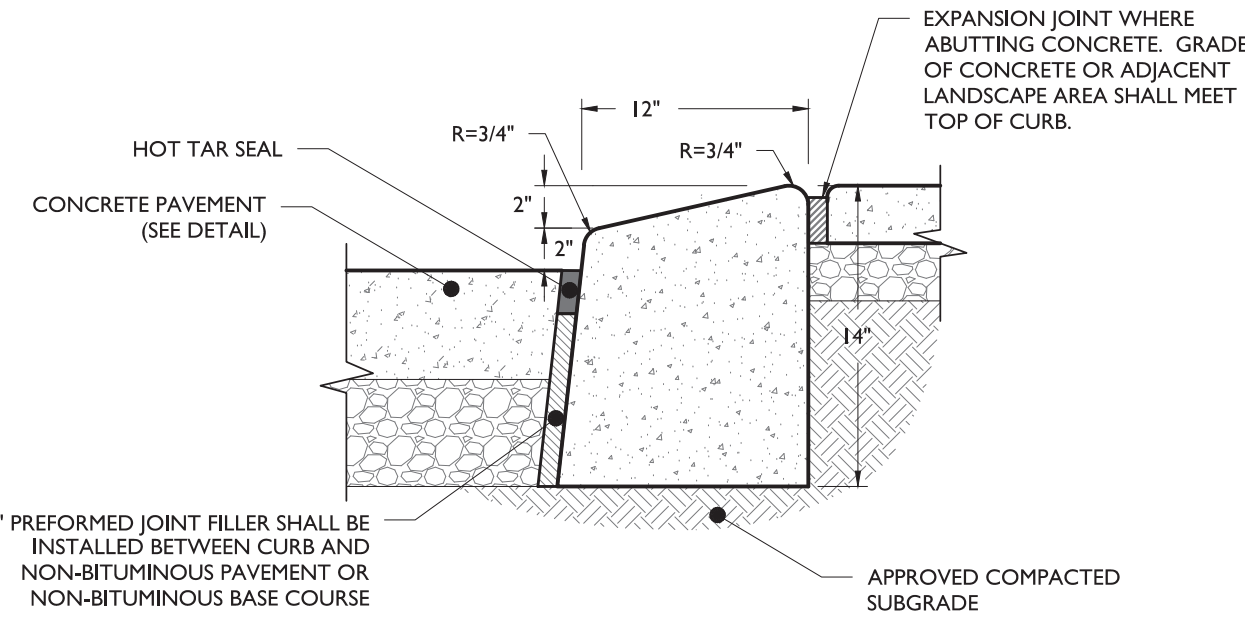
PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9345 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
MICHIGAN PROFESSIONAL ENGINEER
LANCE J. STONEFIELD, P.E.
No. 10559

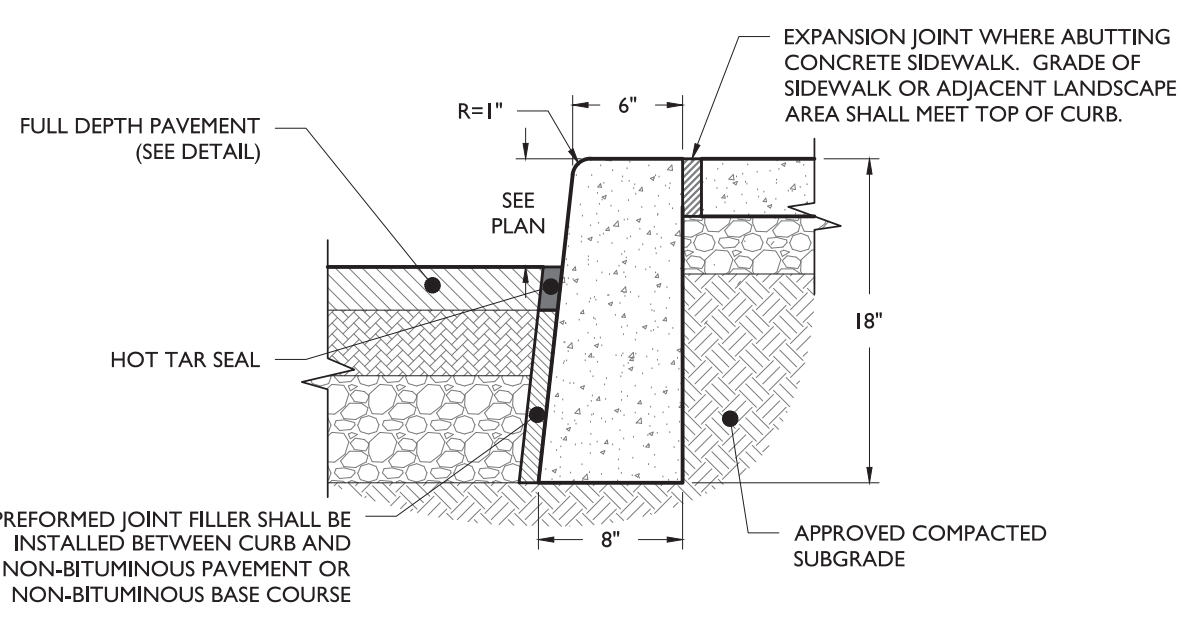
STONEFIELD
engineering & design

SCALE: AS SHOWN PROJECT ID: DET-21042
TITLE: CONSTRUCTION DETAILS
DRAWING: C-8



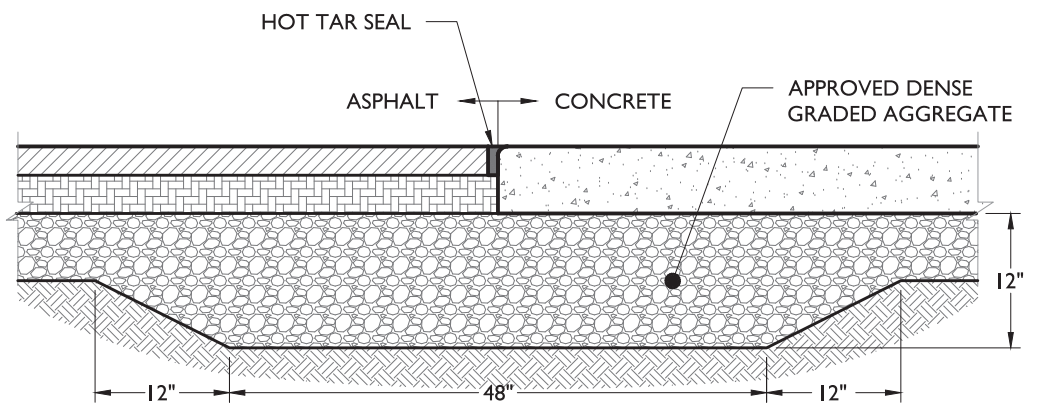
MOUNTABLE CONCRETE CURB

- NOTES:
- CONCRETE SHALL BE 3500 PSI AT 28 DAYS, AIR-ENTRAINED.
 - TRANSVERSE EXPANSION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM SURFACE.
 - HALF DEPTH CONTRACTION JOINTS SHALL BE PROVIDED AT 10 FOOT INTERVALS.
 - 18" CURB DEPTH SHALL BE MAINTAINED AT DEPRESSED OR FLUSH CURBED AREAS.



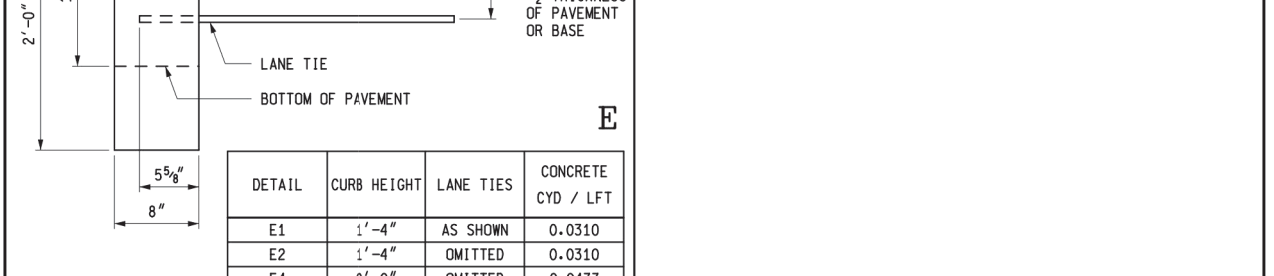
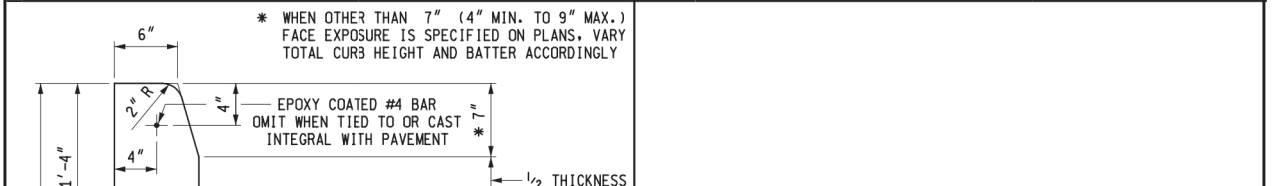
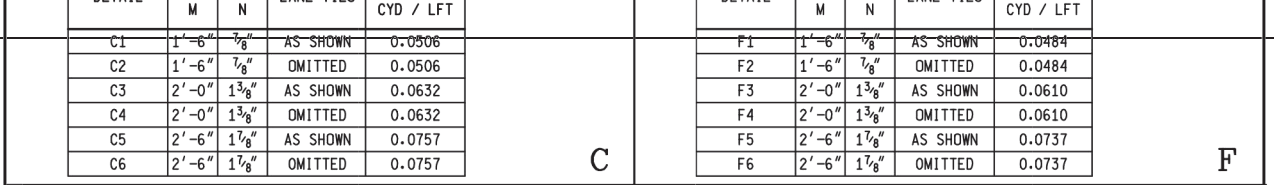
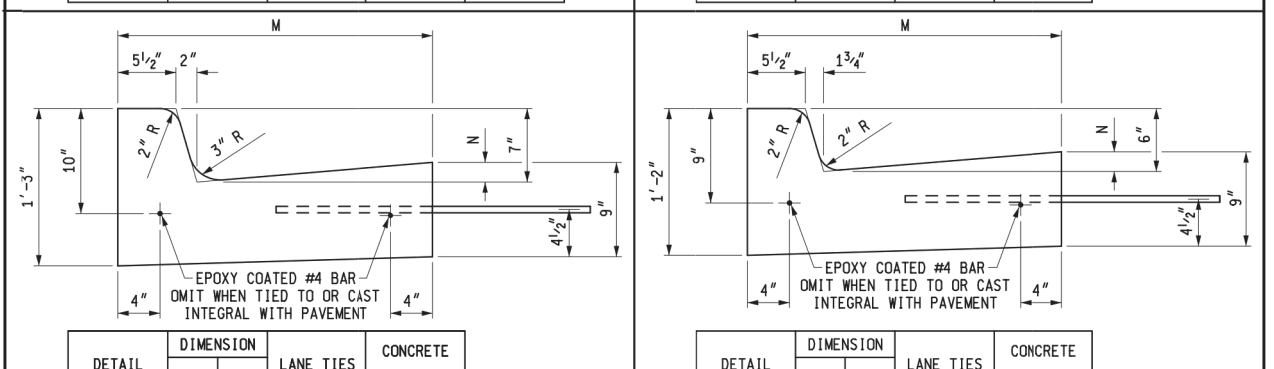
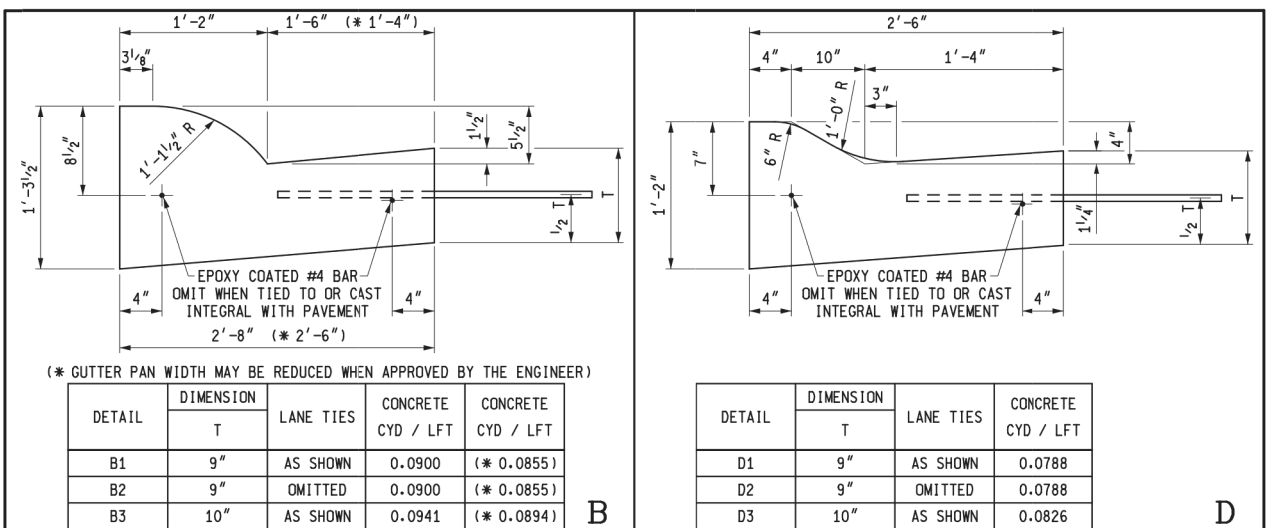
CONCRETE CURB DETAIL (ON-SITE)

- NOTES:
- CONCRETE SHALL BE 3500 PSI AT 28 DAYS, AIR-ENTRAINED.
 - TRANSVERSE EXPANSION JOINTS SHALL BE PROVIDED AT 20 FOOT INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM SURFACE.
 - HALF DEPTH CONTRACTION JOINTS SHALL BE PROVIDED AT 10 FOOT INTERVALS.
 - 18" CURB DEPTH SHALL BE MAINTAINED AT DEPRESSED OR FLUSH CURBED AREAS.



CONCRETE TO ASPHALT TRANSITION

NOT TO SCALE



MDOT DEPARTMENT OF TRANSPORTATION

BUREAU OF HIGHWAY DEVELOPMENT STANDARD PLAN FOR

CONCRETE CURB AND CONCRETE CURB & GUTTER

2-6-2014 PLAN DATE

R-30-G SHEET 1 OF 2

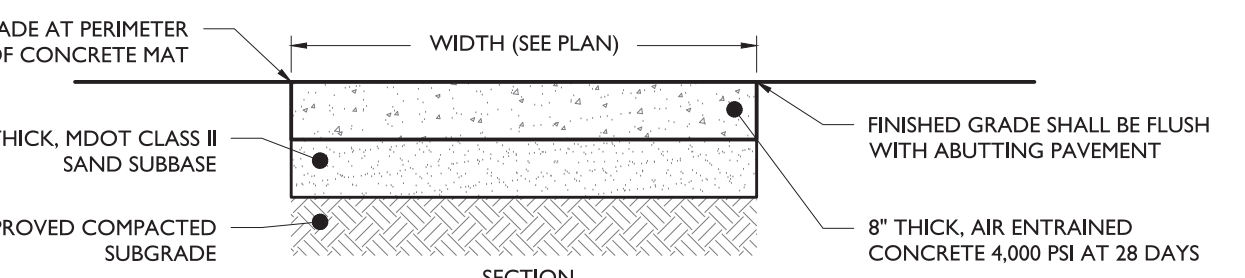
APPROVED BY: DIRECTOR, BUREAU OF FIELD SERVICES

APPROVED BY: DIRECTOR, BUREAU OF HIGHWAY DEVELOPMENT

MDOT CONCRETE CURB DETAILS

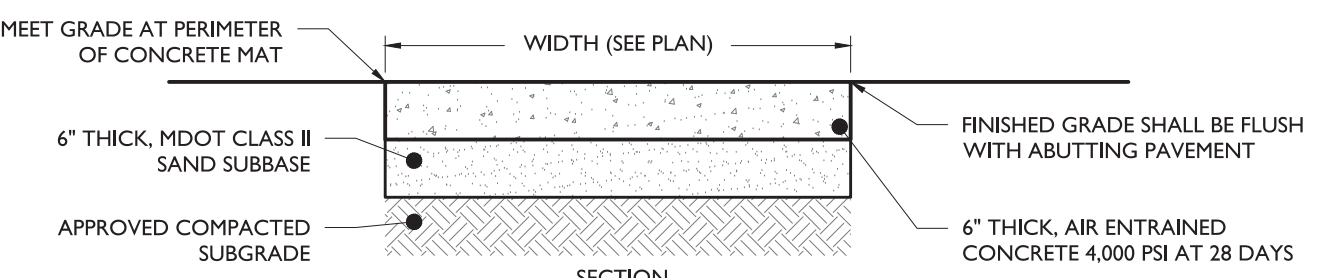
(RIGHT-OF-WAY)

NOT TO SCALE



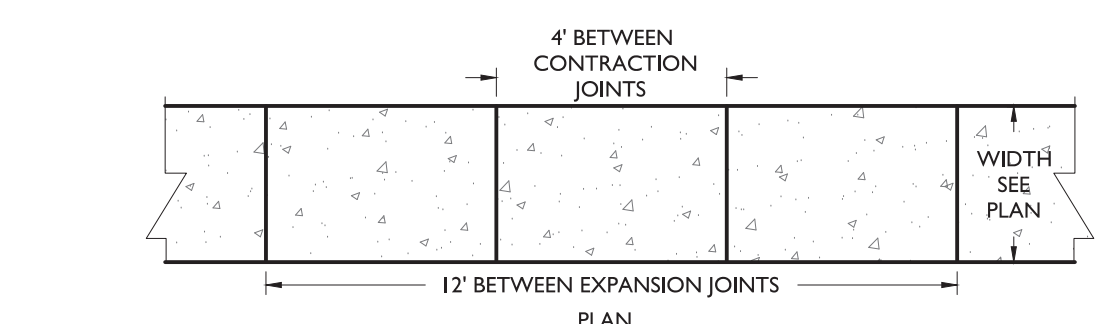
CONCRETE PAVEMENT

- NOTES:
- 1/2" EXPANSION JOINTS WITH WATER SEAL SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM THE SURFACE. LONGITUDINAL REBAR TO BE CUT AT EXPANSION JOINTS.
 - 1" DEEP BY 1/2" WIDE TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT MID-POINT BETWEEN EXPANSION JOINTS OR 6' INTERVALS MAX.
 - CONCRETE SHALL RECEIVE BROOM FINISH.
 - ALL EXPOSED CORNERS TO HAVE 12" CHAMFER.



CONCRETE MAT

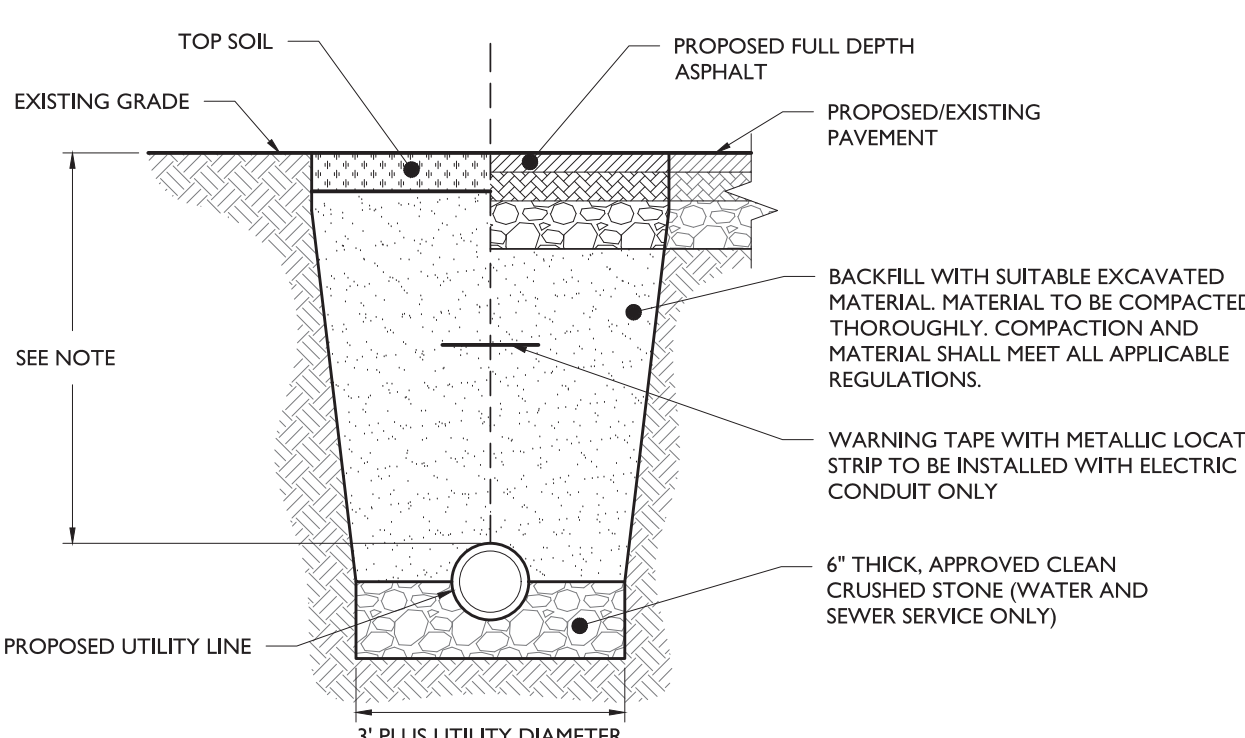
- NOTES:
- 1/2" EXPANSION JOINTS WITH WATER SEAL SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM THE SURFACE. LONGITUDINAL REBAR TO BE CUT AT EXPANSION JOINTS.
 - 1" DEEP BY 1/2" WIDE TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT MID-POINT BETWEEN EXPANSION JOINTS OR 6' INTERVALS MAX.
 - CONCRETE SHALL RECEIVE BROOM FINISH.
 - ALL EXPOSED CORNERS TO HAVE 12" CHAMFER.



CONCRETE WALKWAY

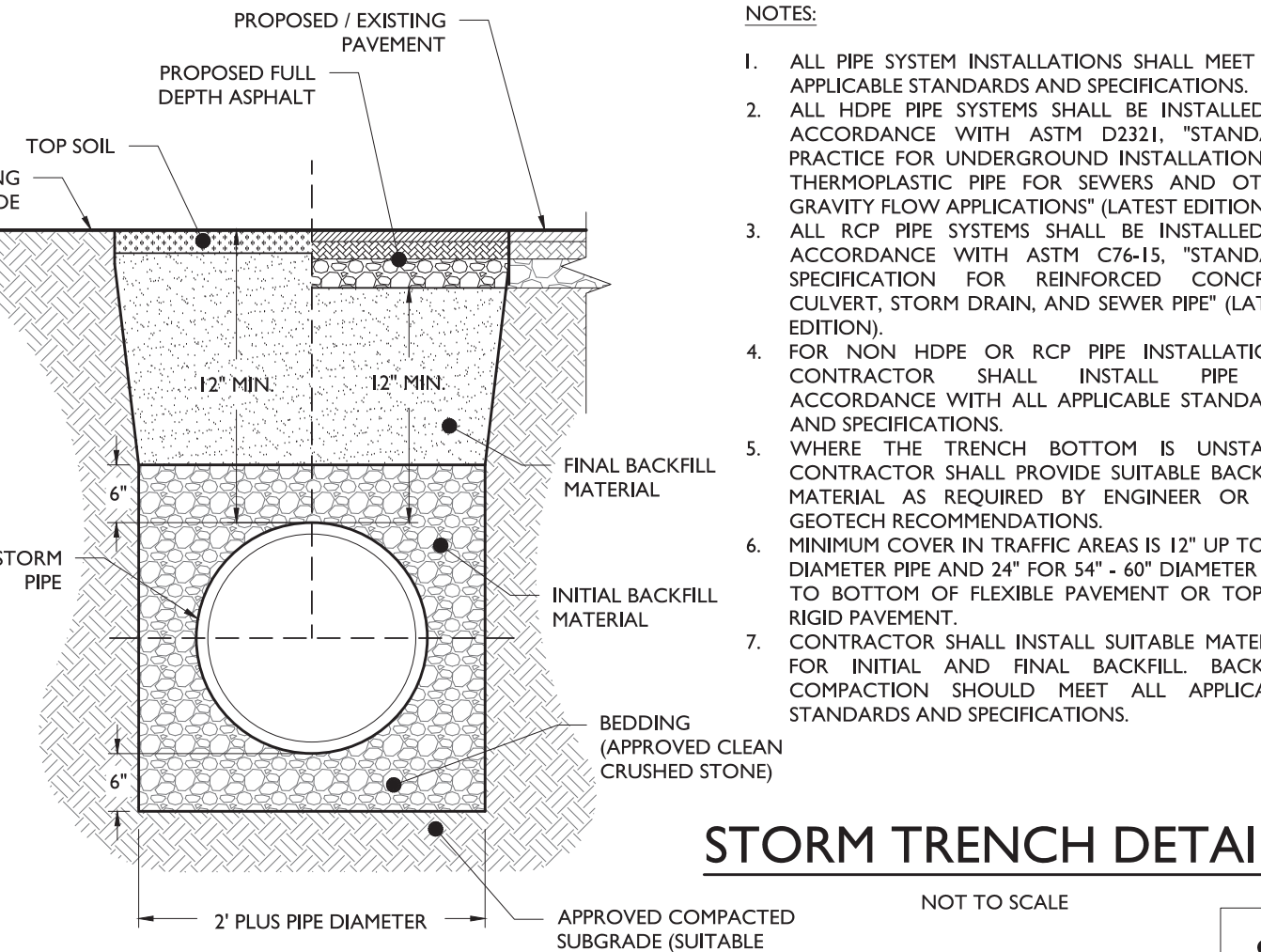
NOT TO SCALE

- NOTES:
- MAXIMUM CROSS SLOPE SHALL BE 1/4" PER FOOT.
 - 1/2" EXPANSION JOINTS SHALL BE PROVIDED AT 12' INTERVALS WITH PRE-MOLDED, BITUMINOUS JOINT FILLER, RECESSED 1/2" FROM THE SURFACE.
 - 1" DEEP BY 1/2" WIDE TOOLED CONTRACTION JOINTS SHALL BE PROVIDED AT 4' INTERVALS.
 - EXPANSION JOINT SHALL BE PROVIDED WHERE ADJACENT TO A BUILDING.



UTILITY TRENCH

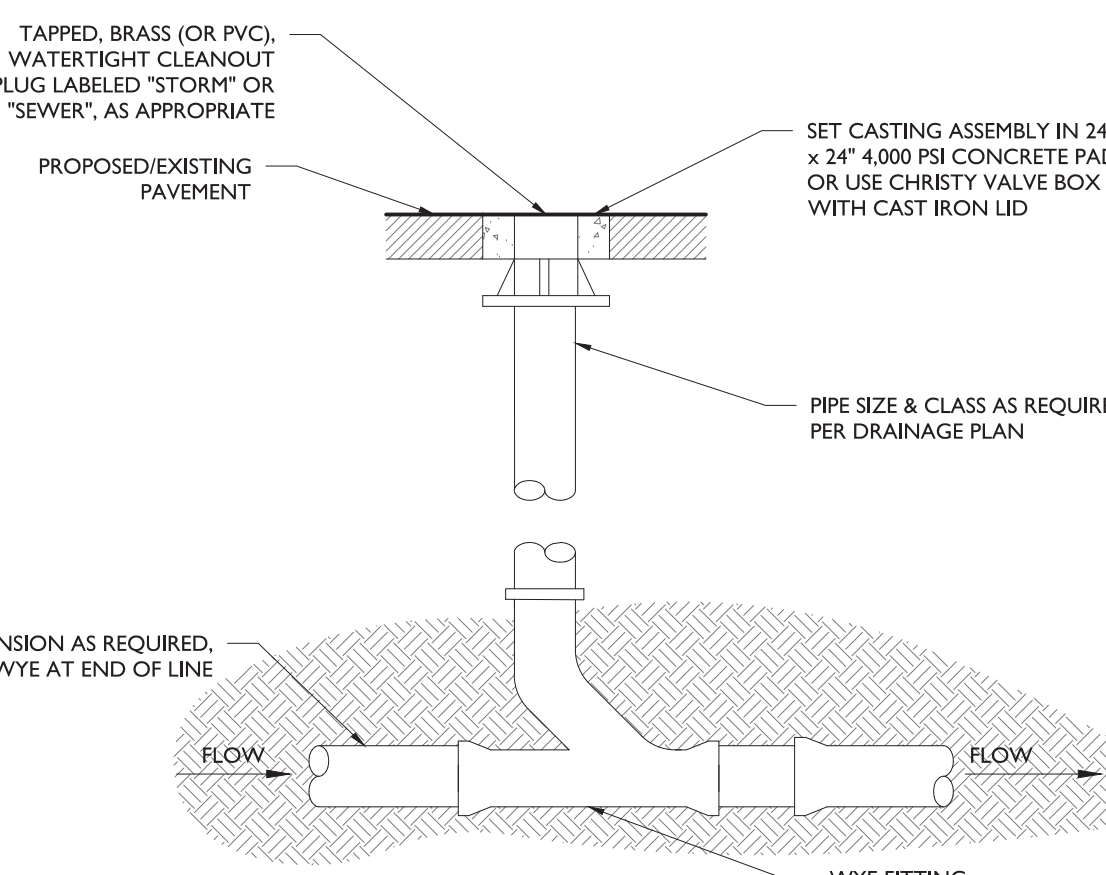
- NOTE:
- MINIMUM PIPE COVER SHALL BE AS FOLLOWS:
- ELECTRIC SERVICE - PER APPLICABLE UTILITY AUTHORITY
 - GAS SERVICE - PER APPLICABLE UTILITY AUTHORITY
 - SEWER SERVICE - 36" MINIMUM
 - WATER SERVICE - 48" MINIMUM



STORM TRENCH DETAIL

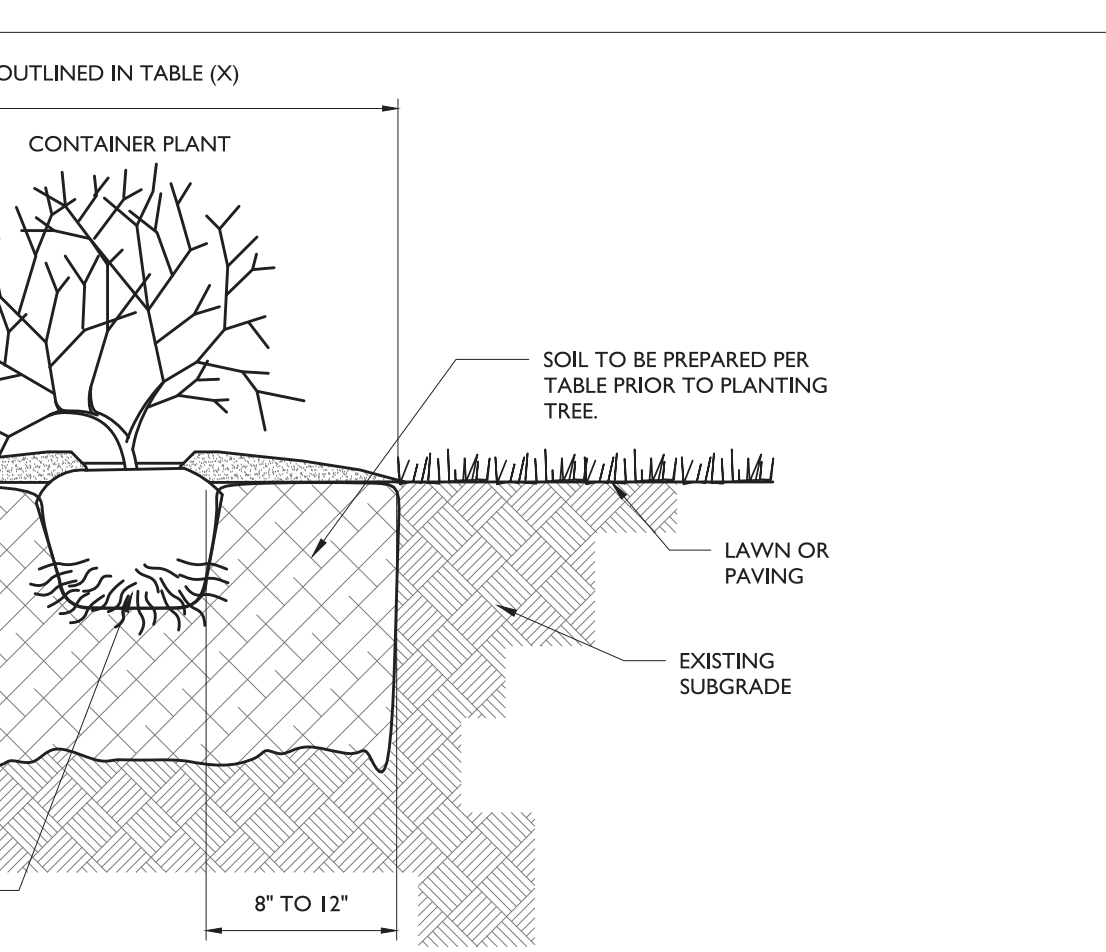
NOT TO SCALE

- NOTES:
- ALL PIPE SYSTEM INSTALLATIONS SHALL MEET ALL APPLICABLE STANDARDS AND SPECIFICATIONS.
 - ALL HDPE PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321, "STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS" (LATEST EDITION).
 - ALL RCP PIPE SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ASTM C76-15, "STANDARD SPECIFICATION FOR REINFORCED CONCRETE CULVERT, STORM DRAIN, AND SEWER PIPE" (LATEST EDITION).
 - FOR NON HDPE OR RCP PIPE INSTALLATIONS, CONTRACTOR SHALL INSTALL PIPE IN ACCORDANCE WITH ALL APPLICABLE STANDARDS AND SPECIFICATIONS.
 - WHERE THE TRENCH BOTTOM IS UNSTABLE, CONTRACTOR SHALL PROVIDE SUITABLE BACKFILL MATERIAL AS REQUIRED BY ENGINEER OR PER GEOTECH RECOMMENDATIONS.
 - MINIMUM COVER IN TRAFFIC AREAS IS 12" UP TO 48" DIAMETER PIPE AND 24" FOR 54" - 60" DIAMETER PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TOP OF RIGID PAVEMENT.
 - CONTRACTOR SHALL INSTALL SUITABLE MATERIAL FOR INITIAL AND FINAL BACKFILL. BACKFILL COMPACTION SHOULD MEET ALL APPLICABLE STANDARDS AND SPECIFICATIONS.



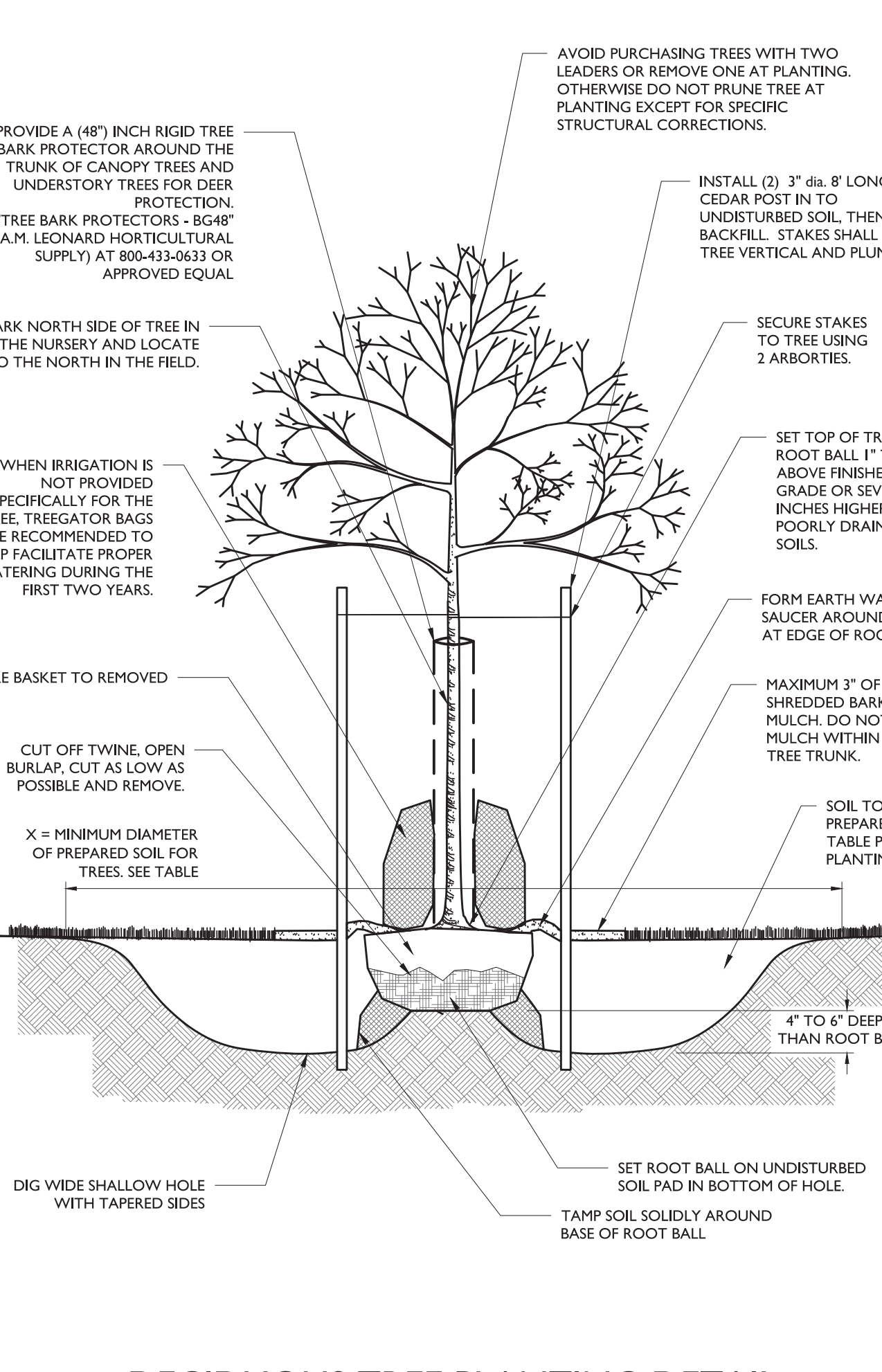
HARDSCAPE CLEAN-OUT

NOT TO SCALE



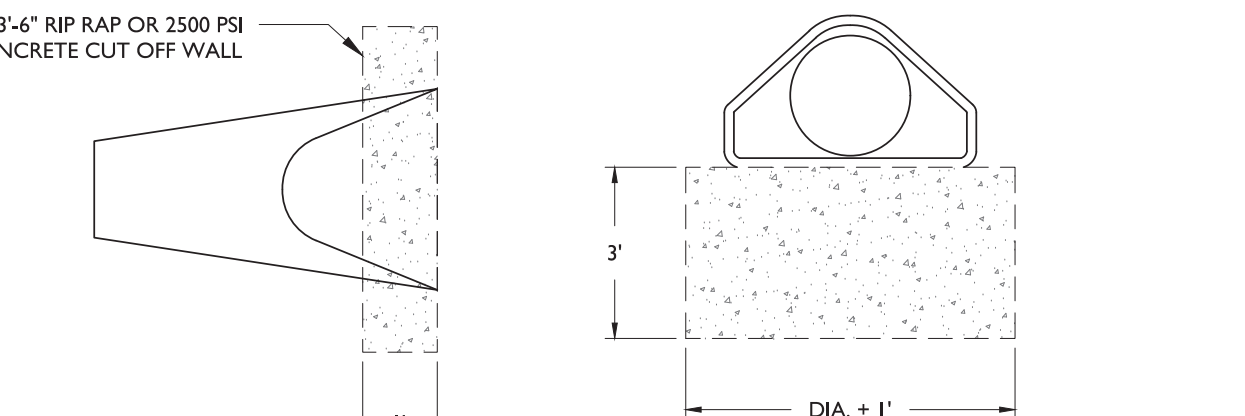
SHRUB PLANTING DETAIL

NOT TO SCALE



DECIDUOUS TREE PLANTING DETAIL

NOT TO SCALE



FLARED END SECTION DETAIL

NOT TO SCALE

REVISION	DATE	ISSUE	BY	DESCRIPTION
2	03/16/2022	ECH		REVISED PER SITE PLAN REVIEW #1 FOR PRELIMINARY SITE PLAN APPROVAL
1	01/03/2022	BAC/ECH		

NOT APPROVED FOR CONSTRUCTION

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Princeton, NJ • Tampa, FL • Boston, MA
www.stonefielddesign.com

607 Shelby Suite 200, Detroit, MI 48226
Phone 248.247.1115

HYPERSHINE

PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
9345 HIGHLAND ROAD (M-59)
WHITE LAKE TOWNSHIP
OAKLAND COUNTY, MICHIGAN

STATE OF MICHIGAN
JONATHAN W. COOPER
REGISTERED PROFESSIONAL ENGINEER
LICENSE NO. 93083

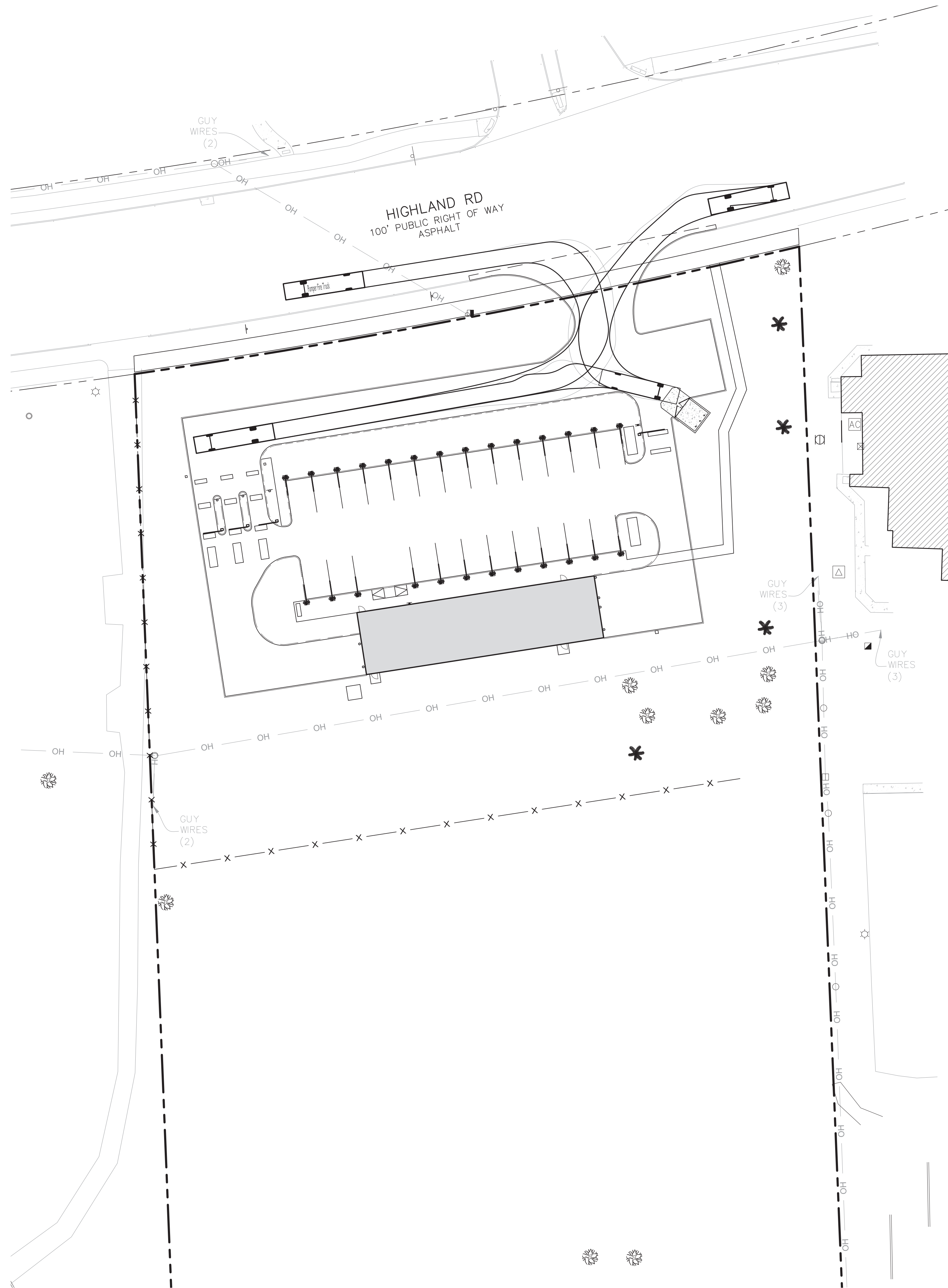
STONEFIELD engineering & design

SCALE: AS SHOWN PROJECT ID: DET-210462

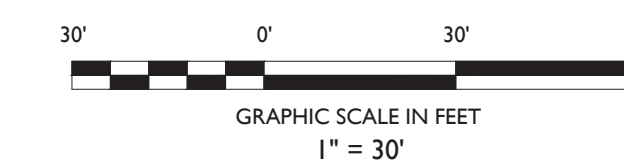
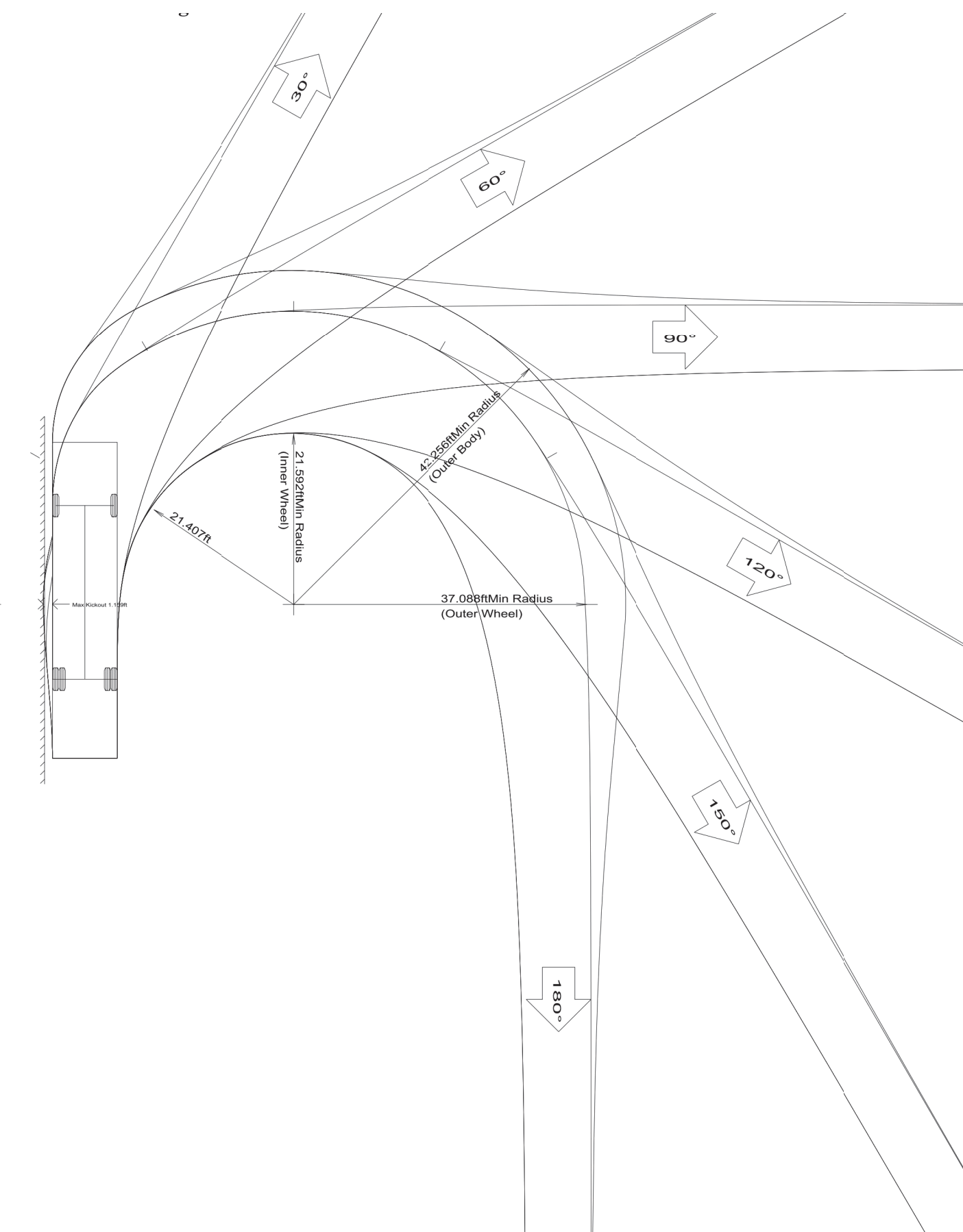
TITLE: CONSTRUCTION DETAILS

DRAWING: C-9

VERTICAL DIMENSIONS: 1/8"=1'-0" HORIZONTAL DIMENSIONS: 1/4"=1'-0" DATE: 03/16/2022



Pumper Fire Truck
 Overall Length 40.000ft
 Overall Width 8.167ft
 Overall Body Height 7.745ft
 Min Body Ground Clearance 0.656ft
 Track Width 8.167ft
 Lock-to-lock time 5.00s
 Max Wheel Angle 45.00°



ISSUE	DATE	BY	DESCRIPTION
2	03/16/2022	ECH	REVISED PER SITE PLAN REVIEW #1
1	01/05/2022	RAC/ECH	FOR PRELIMINARY SITE PLAN APPROVAL

NOT APPROVED FOR CONSTRUCTION

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 www.stonefielddesign.com

607 Shelby Suite 200, Detroit, MI 48226
 Phone 248.247.1115

SITE DEVELOPMENT PLANS

HYPERSHINE
 PROPOSED AUTO WASH

PARCEL ID: 12-23-202-006
 9345 HIGHLAND ROAD (M-59)
 WHITE LAKE TOWNSHIP
 OAKLAND COUNTY, MICHIGAN



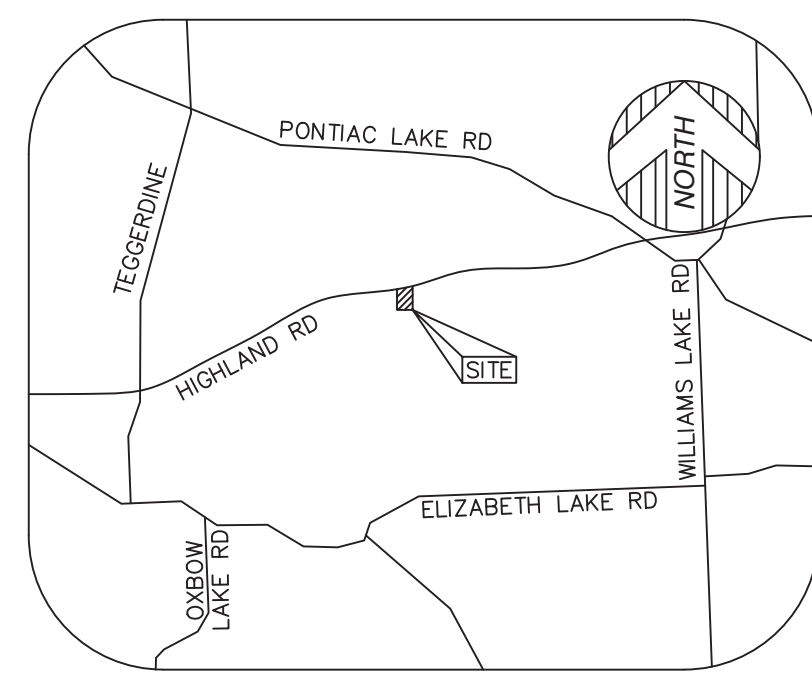
STONEFIELD
 engineering & design

SCALE: 1" = 30' PROJECT ID: DET-210462

TITLE:
FIRE TRUCK TURNING EXHIBIT

DRAWING:
C-11

V:\03\10217\121218\121218_HIGHLAND RD_9345_WHITE LAKE_TOWNSHIP_HICAD\PHOTOGRAPH\121218.DWG



VICINITY MAP (NOT TO SCALE)

PARKING
NO MARKED PARKING ON SITE.

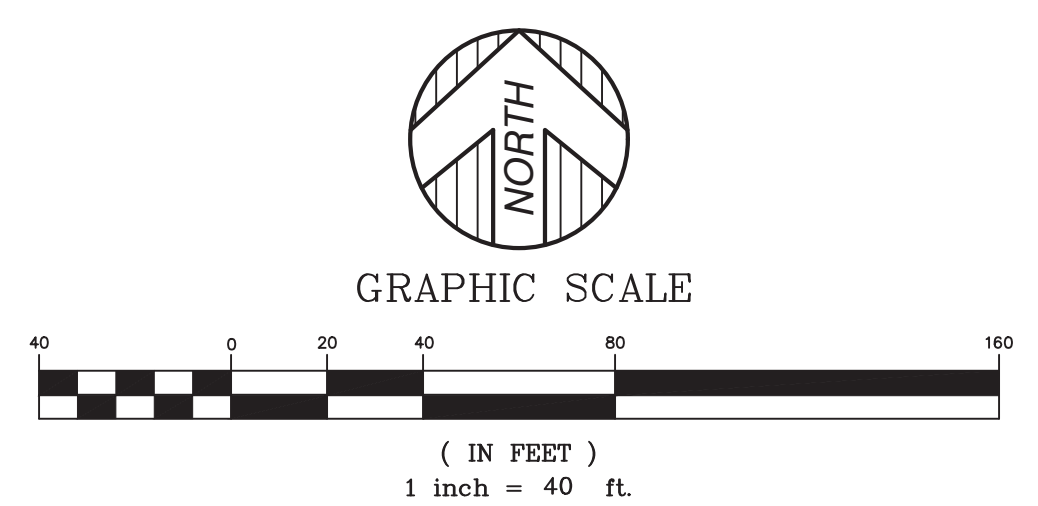
PARCEL AREA
211,476± SQUARE FEET = 4.854± ACRES

BASIS OF BEARING
SOUTH 75°05'00" WEST, BEING THE SOUTHERLY LINE OF SUBJECT PARCEL, AS DESCRIBED.

BENCHMARK
SITE BENCHMARK #1
ARROW ON FIRE HYDRANT, ±42' WEST OF NW PROPERTY CORNER.
ELEVATION = 973.53' (NAVD 88)
SITE BENCHMARK #2
ARROW ON FIRE HYDRANT, ±12' EAST OF NE PROPERTY CORNER.
ELEVATION = 972.98' (NAVD 88)
SITE BENCHMARK #3
MAG NAIL IN 3RD UTILITY POLE NORTH OF FENCE, E. OF E. LINE OF PROPERTY.
ELEVATION = 968.56' (NAVD 88)

LEGEND

●	SET 1/2" REBAR WITH CAP P.S. 47976
○	FOUND MONUMENT (AS NOTED)
⊙	FOUND SECTION CORNER (AS NOTED)
(R&M)	RECORD AND MEASURED DIMENSION
(R)	RECORD DIMENSION
(M)	MEASURED DIMENSION
0.00	GROUND ELEVATION
⊕	ELECTRIC METER
⊞	ELECTRIC PANEL
⊠	TRANSFORMER
○	UTILITY POLE
○	GAS LINE MARKER
○	GAS METER
⊞	TELEPHONE RISER
⊞	CABLE TV RISER
⊞	SANITARY MANHOLE
⊞	SQUARE CATCH BASIN
⊞	STORM DRAIN MANHOLE
⊞	FIRE HYDRANT
⊞	WATER VALVE
⊞	WELL
⊞	AIR CONDITIONING UNIT
⊞	LIGHTPOST/LAMP POST
⊞	SINGLE POST SIGN
⊞	DECIDUOUS TREE (AS NOTED)
⊞	CONIFEROUS TREE (AS NOTED)
---	PARCEL BOUNDARY LINE
---	PLATTED LOT LINE
---	ADJOINER PARCEL LINE
---	SECTION LINE
---	EASEMENT (AS NOTED)
---	BUILDING
---	CONCRETE CURB
---	RAISED CONCRETE
---	EDGE OF CONCRETE (CONC.)
---	EDGE OF ASPHALT (ASPH.)
---	EDGE OF GRAVEL
---	FENCE (AS NOTED)
---	TREE / BRUSH LINE (AS NOTED)
---	OVERHEAD UTILITY LINE
G	GAS LINE
S	SANITARY LINE
D	STORM LINE
W	WATER LINE
C	UNDERGROUND CABLE
T	COMMUNICATION LINE
---	UNDERGROUND PIPE (AS NOTED)
---	EDGE OF WATER (AS NOTED)
---	MINOR CONTOUR LINE
---	MAJOR CONTOUR LINE
---	BUILDING AREA
---	ASPHALT
---	CONCRETE



PROPERTY DESCRIPTION
LAND SITUATED IN THE TOWNSHIP OF WHITE LAKE, COUNTY OF OAKLAND AND STATE OF MICHIGAN, DESCRIBED AS FOLLOWS:
PART OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SECTION 23 TOWN 3 NORTH, RANGE 8 EAST, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT, SAID POINT BEING DISTANT NORTH 02 DEGREES 24 MINUTES 30 SECONDS EAST, 1731.78 FEET, AND SOUTH 75 DEGREES 05 MINUTES WEST, 483.89 FEET, FROM THE SOUTHEAST CORNER OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SAID SECTION; THENCE RUNNING SOUTH 75 DEGREES 05 MINUTES WEST, 217.5 FEET, TO A POINT; THENCE NORTH 02 DEGREES 47 MINUTES 20 SECONDS EAST, 661.50 FEET, TO A POINT ON THE SOUTHERLY LINE OF M-59 HIGHWAY; THENCE NORTHEASTERLY ALONG SAID HIGHWAY LINE AND ALONG THE ARC OF CURVE TO THE LEFT (RADIUS BEING 3869.83 FEET, AND CENTRAL ANGLE BEING 03 DEGREES 05 SECONDS) 208.35 FEET, TO A POINT; THENCE SOUTH 02 DEGREES 43 MINUTES 15 SECONDS WEST, 623.2 FEET, TO THE POINT OF BEGINNING.
AND
PART OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SECTION 23, TOWN 3 NORTH, RANGE 8 EAST, WHITE LAKE TOWNSHIP, OAKLAND COUNTY, MICHIGAN, DESCRIBED AS FOLLOWS: BEGINNING AT A POINT, SAID POINT BEING DISTANT NORTH 02 DEGREES 24 MINUTES 30 SECONDS EAST, 1731.73 FEET, AND SOUTH 75 DEGREES 05 MINUTES WEST, 349.56 FEET, FROM THE SOUTHEAST CORNER OF THE WEST 1/2 OF THE NORTHEAST 1/4 OF SAID SECTION; THENCE RUNNING SOUTH 75 DEGREES 05 MINUTES WEST, 134.33 FEET TO A POINT; THENCE NORTH 02 DEGREES 43 MINUTES 15 SECONDS EAST, 623.2 FEET TO A POINT ON THE SOUTHERLY LINE OF M-59 HIGHWAY; THENCE NORTHEASTERLY ALONG SAID HIGHWAY LINE AND ALONG THE ARC OF A CURVE TO THE LEFT (RADIUS BEING 3869.83 FEET, AND CENTRAL ANGLE BEING 01 DEGREE 55 MINUTES 30 SECONDS) 130.00 FEET, TO A POINT; THENCE SOUTH 02 DEGREES 43 MINUTES 15 SECONDS WEST, 605.5 FEET, TO THE POINT OF BEGINNING.

TITLE REPORT NOTE
ONLY THOSE EXCEPTIONS CONTAINED WITHIN THE FIDELITY NATIONAL TITLE INSURANCE COMPANY COMMITMENT NO. GL2101033, DATED OCTOBER 04, 2021, AND RELISTED BELOW WERE CONSIDERED FOR THIS SURVEY. NO OTHER RECORDS RESEARCH WAS PERFORMED BY THE CERTIFYING SURVEYOR.
10. RIGHT OF WAY IN FAVOR OF STATE OF MICHIGAN RECORDED ON MARCH 26, 1937 IN LIBER 53 OF MISCELLANEOUS RECORDS, PAGE 5. (AS SHOWN)
11. HIGHWAY EASEMENT RELEASE IN FAVOR OF STATE OF MICHIGAN RECORDED ON SEPTEMBER 16, 1976 IN LIBER 6754, PAGE 549. (AS SHOWN)
12. DECLARATION OF EASEMENT RECORDED ON APRIL 29, 1996 IN LIBER 16222, PAGE 297. (AS SHOWN)
13. EASEMENT FOR WATER MAIN IN FAVOR OF CHARTER TOWNSHIP OF WHITE LAKE RECORDED ON NOVEMBER 18, 1998 IN LIBER 19187, PAGE 341. (AS SHOWN)

SURVEYOR'S NOTE
THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEES THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES OTHER THAN THE STRUCTURE INVENTORY SHOWN HEREON.

MANHOLE SCHEDULE

#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)	
30003	CATCH BASIN	969.98	12	N	963.48	
30044	CATCH BASIN	970.93	12	N	962.93	
30065	CATCH BASIN	967.54	12	E	962.74	
30066	CATCH BASIN	967.63	12	W	962.63	
				SE	962.63	
30067	STORM MANHOLE	967.78	12	SW	962.03	
				12	SE	962.63
				24	E	959.38
				21	W	959.43
30068	STORM MANHOLE	967.89	12	S	962.39	
				12	NE	962.29
30190	STORM MANHOLE	969.35	12	SW	961.53	
				21	E	960.97
				21	W	960.90
30191	CATCH BASIN	968.78	12	NE	962.08	
				12	S	962.28

MANHOLE SCHEDULE

#	TYPE	RIM (FT)	SIZE (IN)	DIRECTION	INVERT (FT)	
30003	CATCH BASIN	969.98	12	N	963.48	
30044	CATCH BASIN	970.93	12	N	962.93	
30065	CATCH BASIN	967.54	12	E	962.74	
30066	CATCH BASIN	967.63	12	W	962.63	
				SE	962.63	
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MANHOLE SCHEDULE

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				21	E	960.97
				21	W	960.90
30191	CATCH BASIN	968.78	12	NE	962.08	
				12	S	962.28

SURVEYOR'S CERTIFICATION
TO EROP LLC, AN ILLINOIS LIMITED LIABILITY COMPANY; AND FIDELITY NATIONAL TITLE INSURANCE COMPANY:
THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 4, 5, 7A, 8, 11A, AND 11B OF TABLE A, THEREOF. THE FIELD WORK WAS COMPLETED ON 12/20/21.
DATE OF PLAT OR MAP: 12/22/21
ANTHONY T. SYCKO, JR., P.S.
PROFESSIONAL SURVEYOR
MICHIGAN LICENSE NO. 47976
22556 GRATIOT AVE., EASTPOINTE, MI 48021
TSycko@kemttec-survey.com

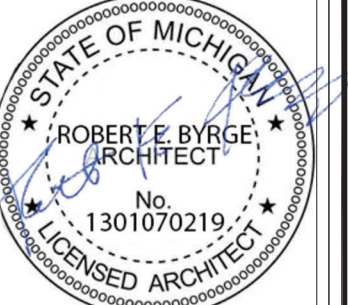


ALTA / NSPS LAND TITLE SURVEY
PREPARED FOR: STONEFIELD ENGINEERING AND DESIGN
9345 HIGHLAND RD, WHILE LAKE, MICHIGAN,
PART OF SECTION 23,
TOWN 3 NORTH, RANGE 8 EAST

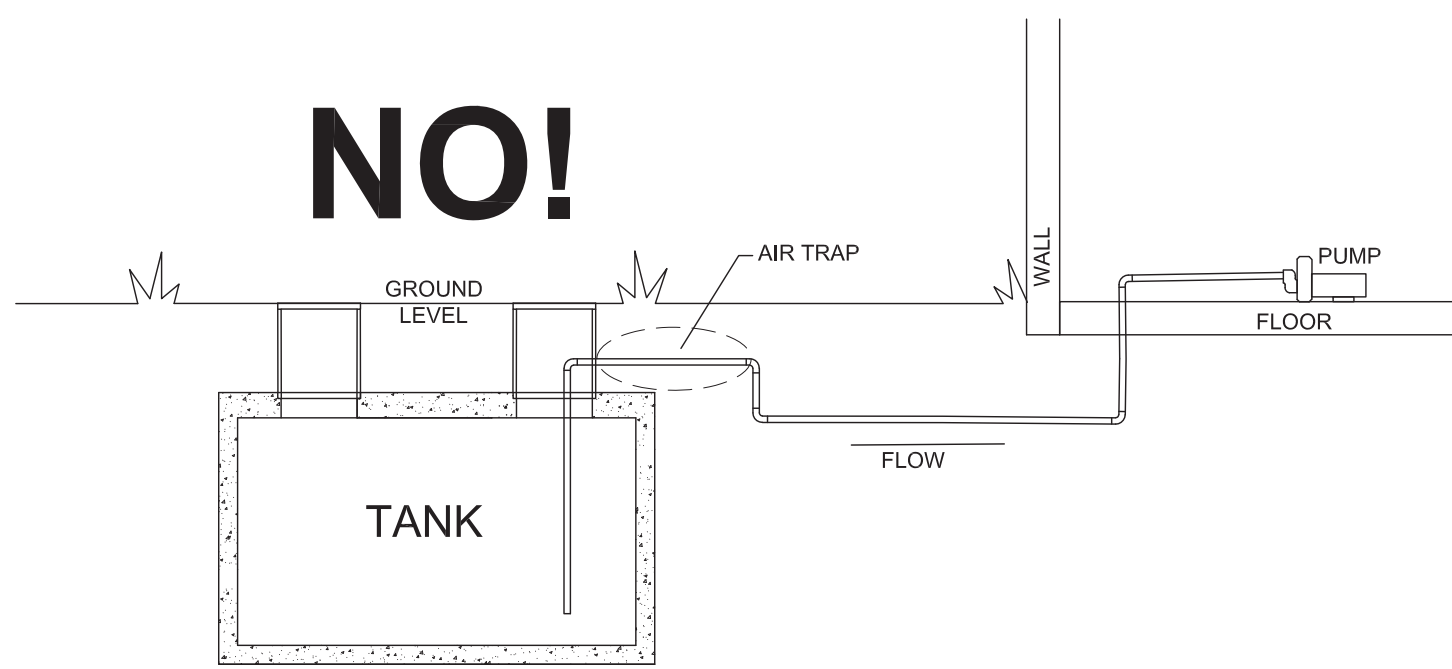
KEM-TEC
PROFESSIONAL ENGINEERING, SURVEYING & ENVIRONMENTAL SERVICES
A GROUP OF COMPANIES
Estimote (800) 255-7222 (919) 758-9977
Am Anbar (888) 694-0888 (734) 994-0888
Detroit (313) 758-9977
www.kemttecgroupofcompanies.com

DATE	BY	REVISION	DESCRIPTION
12/22/21	MRJ	1	PER NEW TITLE WORK
12/22/21	ATS	1	DATE
DECEMBER 22, 2021		1	DATE
01/13/22	JDM	1	BY

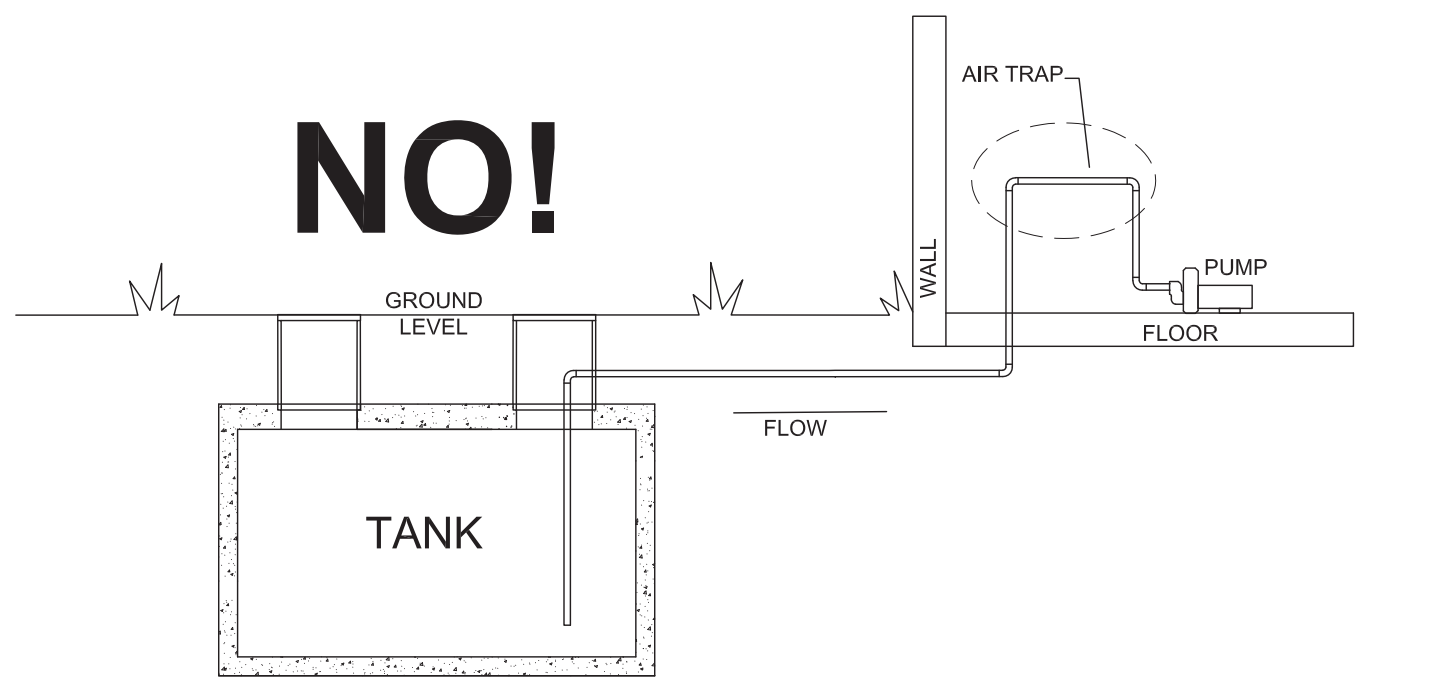
SCALE: 1" = 40'
1 OF 1 SHEETS



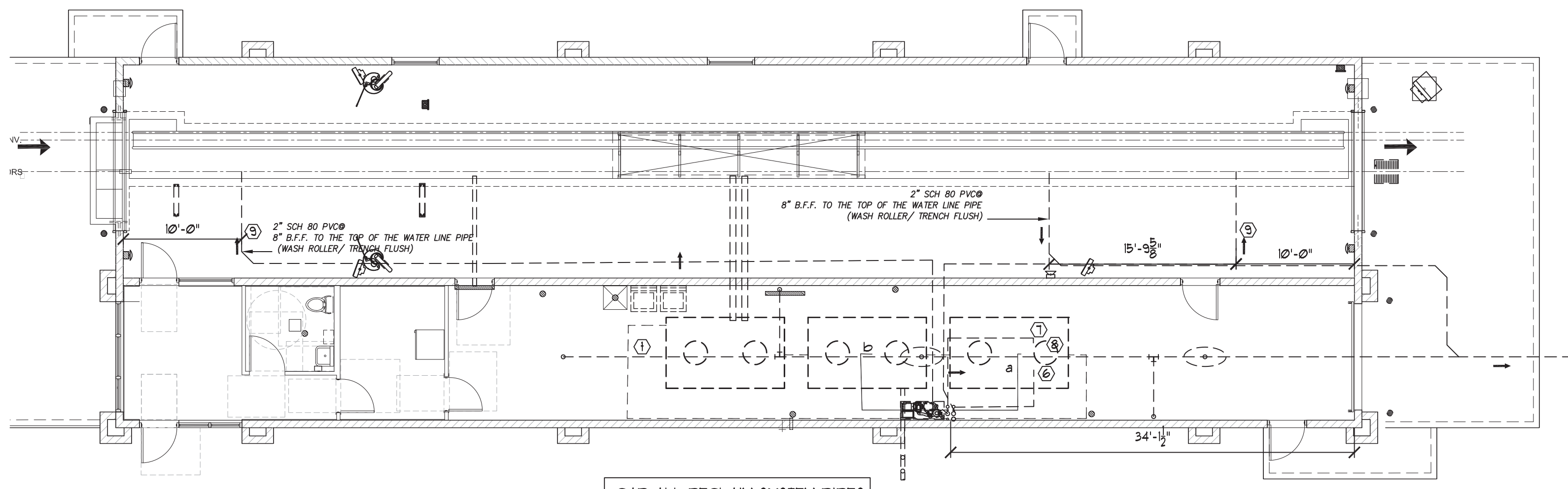
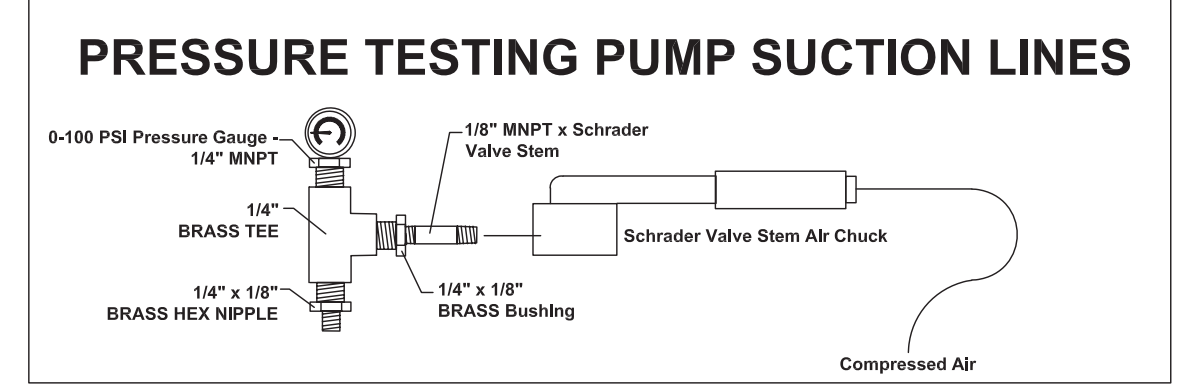
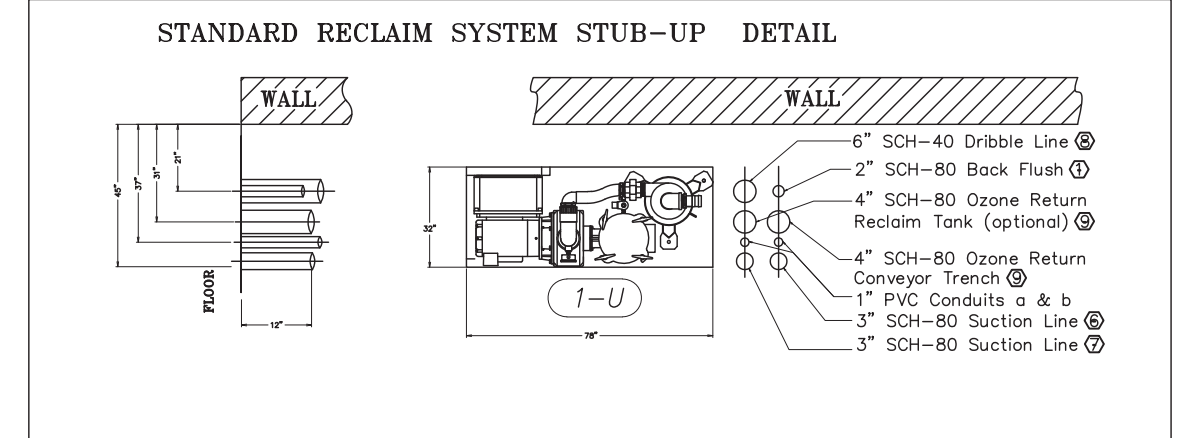
103 WIND HAVEN DR, STE 101
NICHOLASVILLE KY 40356
859.523.1500



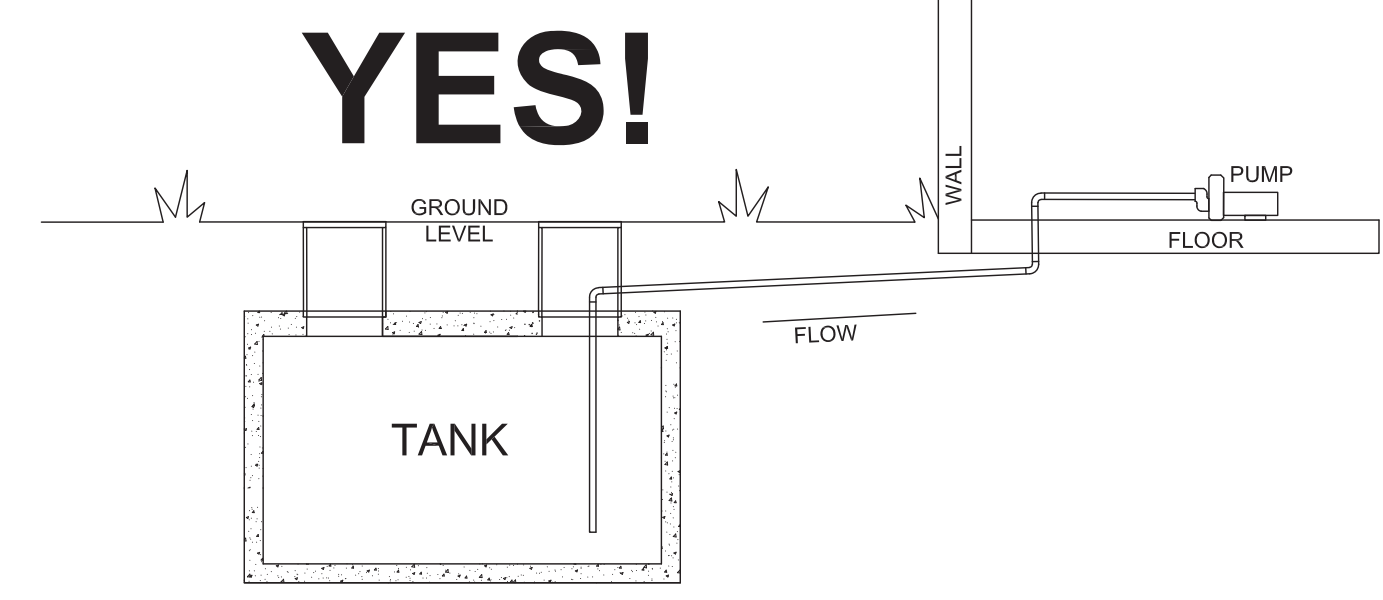
BELOW GROUND TANKS
ALL suction lines must NEVER slope down and then back up again (Air Trap).



BELOW GROUND TANKS
ALL suction lines must NEVER slope up and then back down again (Air Trap).

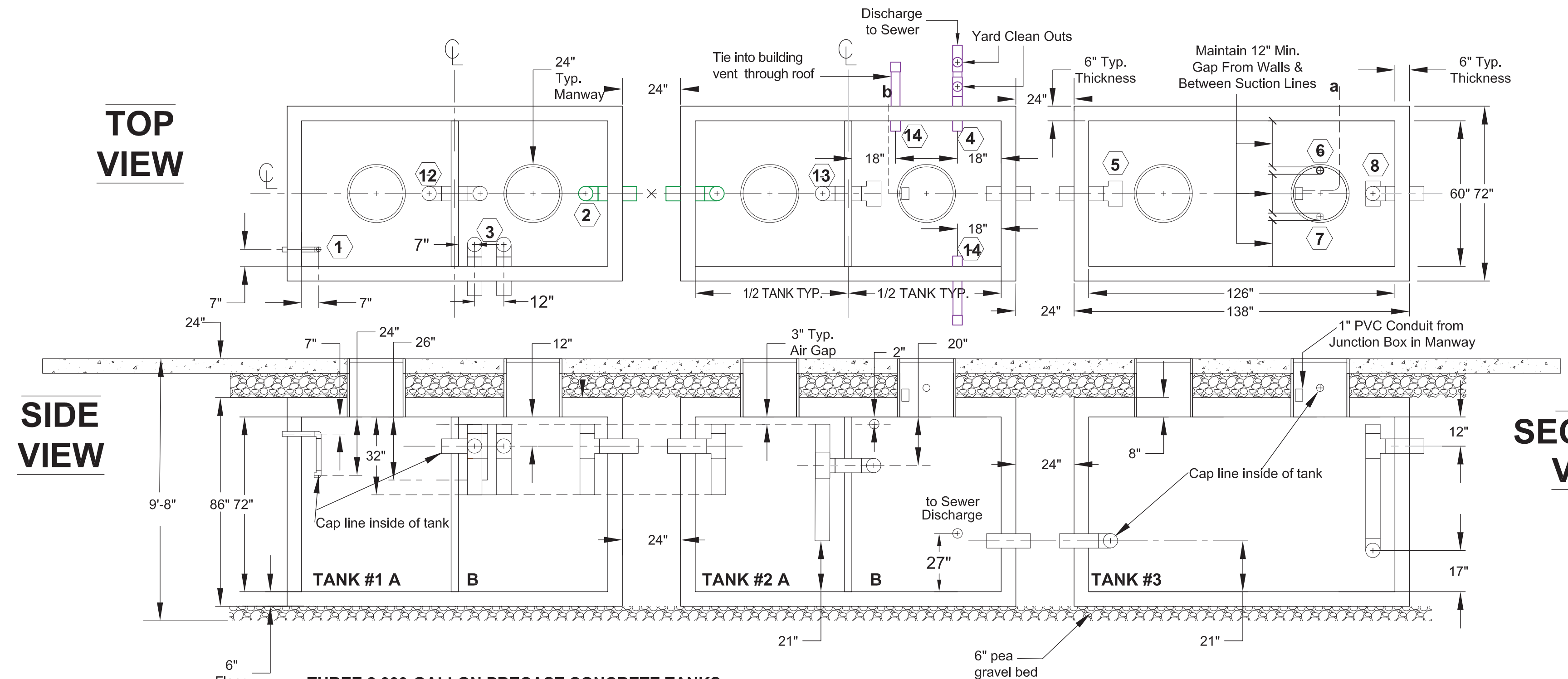


RECLAIM SYSTEM PLAN
SCALE: 1/8" = 1'-0"



BELOW GROUND TANKS
ALL suction lines require a continuous upward slope to the Equipment Room.

Three 2,000 Gallon Precast Concrete Tanks



THREE 2,000-GALLON PRECAST CONCRETE TANKS
138" Length x 72" Width x 86" Height

TANK #1 - 1A Underflow - 1B Primary Settlement
TANK #2 - Secondary Settlement w/ Baffle
TANK #3 - Future use

- PLUMBING LEGEND**
- 1 - 2" sch 80 PVC Pipe - Underflow Discharge - To TANK 1A
 - 2 - 6" sch 40 PVC Pipe - External Crossover - From TANK 1B to TANK 2A
 - 3 - Two 6" sch 40 PVC Pipes - Center Trench - To TANK 1B
 - 4 - 6" sch 40 PVC Pipe - Discharge to Sewer - From TANK 2B
 - 5 - 6" sch 40 PVC Pipe - External Crossover - From TANK 2B to TANK 3
 - 6 - 3" sch 80 PVC Pipe - Filter Pump Suction Line - From TANK 3
 - 7 - 3" sch 80 PVC Pipe - Optional Extra Suction Line - From TANK 3
 - 8 - 6" sch 40 PVC Pipe - AquaPrep Discharge - To TANK 3
 - 12 - 6" sch 40 PVC Pipe - Internal Crossover - From TANK 1A to TANK 1B
 - 13 - 6" sch 40 PVC Pipe - Internal Crossover - From TANK 2A to TANK 2B
 - 14 - 3" sch 40 PVC Pipe - Local Vent - from TANK 2B, Tie into building vent and exit through roof

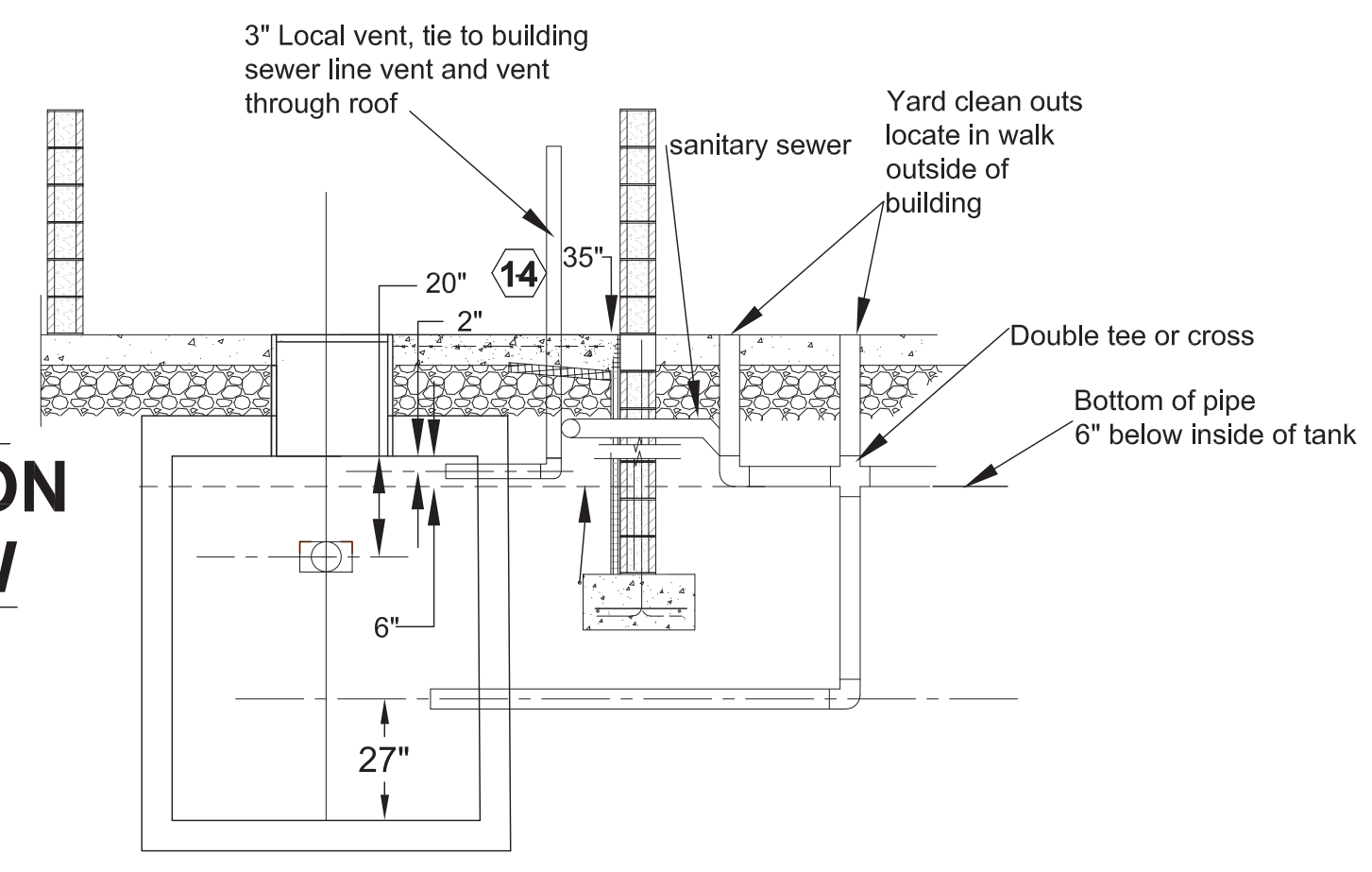
- ELECTRICAL LEGEND**
- a - 1" PVC Conduit - Low Water Protection Float Switch (FS-2) - TANK 3
 - b - 1" PVC Conduit - FOR FUTURE USE - TANK 2B

- NOTES:**
- All underground plumbing & tanks by other.
 - Actual tank dimensions may vary.
 - Plumbing should be placed as shown regardless of what tanks are used.
 - All pipes must be set below frost line.
 - Suction lines MUST be sch 80 PVC.
 - Do NOT install screens on foot valve.
 - All tank bottoms should be same elevation.
 - Consult engineer for elevations.

DRAWING NOT TO SCALE

(If Foot Valve is Raised, The Float Switch Also Needs to be Raised) Keep a 10" Distance Between Them!

BOTTOM OF TANK TOPS @ 32" B.F.F., TYP.



TANK #2 B
Section through end

REVISION	DATE

xx/xx/xx
Permit Set

PROJECT NUMBER

DRAWN BY: REB

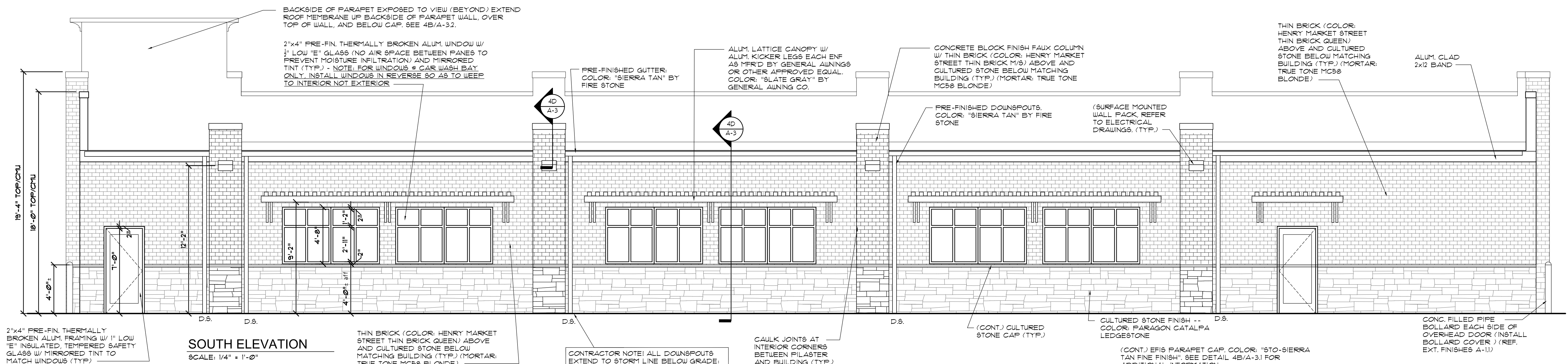
Hypershine Carwash
2703 E. Grand River
East Lansing MI 48823

Tank details & Stub up locations future sys.

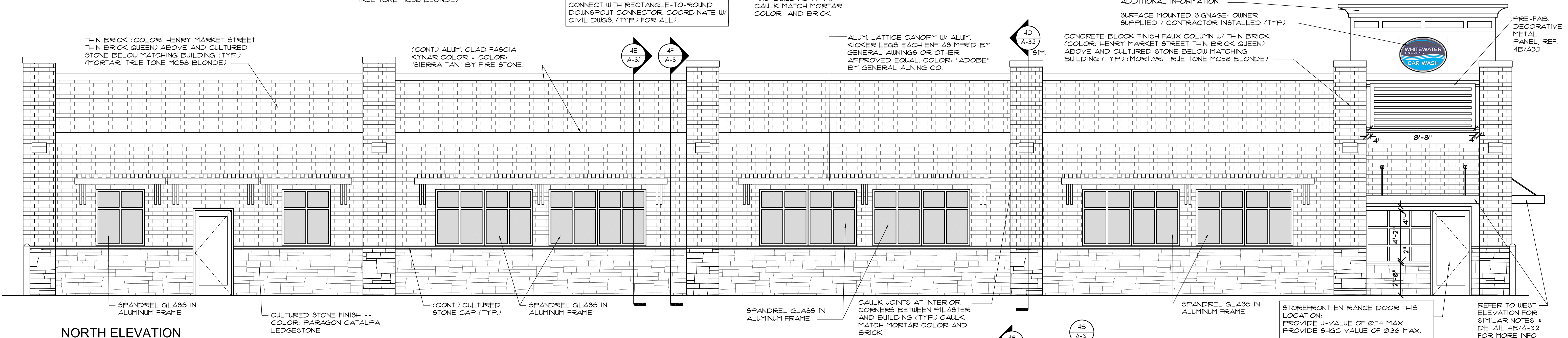
Not for Construction



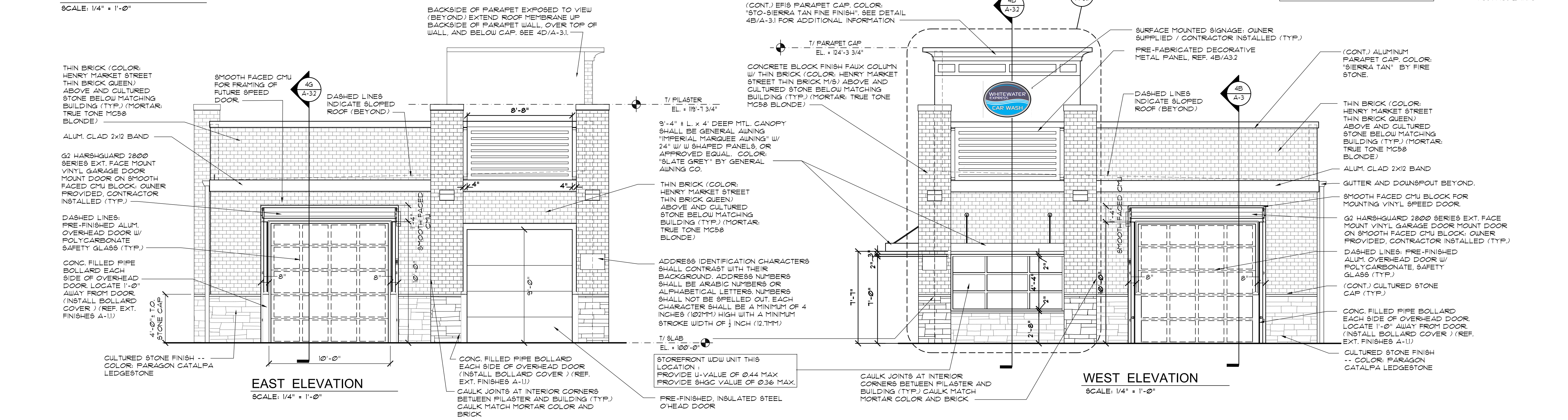
103 WIND HAVEN DR, STE 101
NICHOLASVILLE KY 40356
859.523.1500



SOUTH ELEVATION
SCALE: 1/4" = 1'-0"



NORTH ELEVATION
SCALE: 1/4" = 1'-0"



EAST ELEVATION
SCALE: 1/4" = 1'-0"

WEST ELEVATION
SCALE: 1/4" = 1'-0"

REVISION	DATE

xx/xx/xx
Permit Set

PROJECT NUMBER

DRAWN BY: REB

Hypershine Carwash
9345 Highland Road
White Lake MI 48386

Exterior Elevations

SHEET NUMBER
A-2

WHITE LAKE TOWNSHIP TOWNSHIP BOARD

REPORT OF THE COMMUNITY DEVELOPMENT DEPARTMENT

TO: Township Board

FROM: Justin Quagliata, Staff Planner

DATE: May 12, 2022

RE: Parks & Recreation Master Plan Update – Contract Award

The Parks and Recreation Committee is pleased to present the Township Board with its recommendation for the preferred consultant to assist with the Parks and Recreation Master Plan update. At its February 9 meeting the Committee reviewed a Request for Proposals (RFP) for the preparation of the Recreation Master Plan update. The RFP was advertised for five weeks and two consultants submitted a proposal for the project. At its April 13 meeting the Committee considered the proposals and chose to interview both consultants. On May 11 the Committee conducted interviews of the two consultants. Sealed bids were opened by staff at the meeting; prices for the consultants’ services were as follows:

Groya Consulting

- 5-Year Recreation Plan: \$29,375
- Expenses: not to exceed \$500 (mileage and at cost printing)

Beckett & Raeder

- 5-Year Recreation Plan: \$39,285
- Expenses: \$468 (mileage); printing at cost

The Parks and Recreation Committee unanimously voted to recommend approval of Groya Consulting. The Committee selected Groya Consulting for their past experience working on 5-Year Recreation Plans (including Commerce Township and West Bloomfield Township). Staff negotiated an \$875 reduction in the Groya Consulting fee. This reduction in fees does not alter the scope of work initially proposed. With cost **not to exceed \$29,000 including expenses**, staff believes the Township will receive exceptional services to create a high-quality 5-Year Parks and Recreation Master Plan.

Attachments

1. Groya Consulting Proposal and Price.
2. Beckett & Raeder Proposal and Price.

WHITE LAKE TOWNSHIP

5 Year Recreation Master Plan Proposal (2023-2027)

April 2022

Brendel Lake

Submitted By:

Leah Groya, AICP
L Groya Consulting LLC
leah@lgroyaconsulting.com
313.600.9786

Jason Macdonald, PLA
MAC Land Design LLC

To Justin Quagliata
Planner, White Lake Township

April 1, 2022

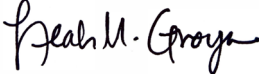
It's an exciting time for parks and recreation in beautiful White Lake Township! I recently completed 5-Year Parks + Recreation Plans for your neighbors to the south (West Bloomfield Township and Commerce Township) and have heard rumblings of a number of your projects moving forward. Between the new Township Library, your plans for an expanded Township Campus property, and your recent success in obtaining grants for Stanley Park and the Township Triangle Trail, it sounds as though the Township has been busy planning for and making investments into the overall quality of life of your residents. All of this, in turn, gets me excited to learn more and work with you to keep the ball rolling.

Based on your RFP, we have developed a proposal to assist in the development of a 5-Year Recreation Master Plan that will not only meet the requirements of the MDNR, but also support and dovetail nicely with the work you've done on your existing 5-Year Plan, the 2022-2027 CIP, as well as your Master Plan for Land Use.

Over the past 25 years, I have worked on a number of 5-Year Plans, park planning and construction projects, ped/bike safety and mobility projects, as well as written successful grant applications for a variety of southeast Michigan clients. I will be the Project Manager and lead person for your project with my long-time friend and colleague, Jason Macdonald (landscape architect) assisting me with GIS/mapping and capital improvement planning and cost estimating.

If you feel that we are the right fit, but something's not as you were envisioning in the scope of work or fees, we'd be happy to discuss and be sure our services fit the needs and budget of your project. We look forward to the opportunity to learn more about White Lake and how we can assist in developing a community-supported vision for the 2023 Recreation Master Plan. Should you have any questions or concerns regarding our proposal, please do not hesitate to contact me at 313.600.9786 or leah@lgroyaconsulting.com.

Respectfully,



Consulting Planner

TABLE OF CONTENTS

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As requested in your RFP, our Fee Proposal has been attached in a separate envelope.



PROJECT TEAM

Resumes for both team members are attached.

As former owners and partners at livingLAB in Detroit, Leah and Jason have worked together for 15 years on a variety of open space, park and trail projects throughout southeast Michigan. For the past year, Leah and Jason have both transitioned to being sole proprietors who collaborate together on a number of park and open space projects.



Leah Groya, AICP

Project Manger and Lead Contact (75% of project)

Leah will be your lead contact and complete the majority of the work associated with your Recreation Master Plan. While at livingLAB, Leah was the Project Manager for both the recently adopted West Bloomfield 5 Year Plan and the Commerce Township 5 Year Plan. Leah is also very familiar with the various grant opportunities for parks and recreation projects and recently completed 2 LWCF grant applications for Commerce Township and a Ralph Wilson Fund application for the I275 Trail. Leah is seen as a leader in parks and recreation and ped/bike planning in southeast Michigan including planning for the West Bloomfield Trail, the M5 Trail, and the I275 Metro Trail. She has used her lifelong love of the outdoors to focus her professional expertise and career.



Jason Macdonald, PLA

Landscape Architect and GIS Mapping (25% of project)

As a Landscape Architect, Jason strives to create unique, memorable, and inspiring outdoor spaces that can be enjoyed by everyone. Jason’s technical abilities, creativity, and attention to detail in design, graphic renderings, and construction documents make him a valuable team member at any phase of a project. Through planning, design, and construction, Jason has spent over 23 years contributing to amazing public spaces throughout southeast Michigan including the nearby and recently opened Dodge Park in Commerce Township.



SCOPE + SCHEDULE

PROJECT MANAGEMENT + COORDINATION + PROGRESS MEETINGS

Leah will work closely with the Township staff and Committee throughout the project including communicate regularly to discuss issues, status, schedule, coordination, and guidance. In addition to email/phone communication, we will establish a standing virtual meeting twice/month with the Staff Planner to review status, upcoming work and any outstanding issues. We will utilize the Township’s current 5 Year Plan as a foundation for the 2023 Plan.

INVENTORY

We will visit each public park within the Township and complete an inventory of the Townships’ existing parks, trails, open space and recreation facilities. The inventory will include a general assessment of existing pathways, trails and gaps. We will also drive by each school and review aerials to confirm outdoor facilities on school properties. Inventory of school facilities is not as detailed as Township parks, rather provides a general overview. The Inventory will also include a description of nearby, major state, county, or regional parks as well as any major private recreation facilities. The inventory will include:

- Identifying and updating/creating a map of the Township public parks and facilities. This will be presented in a format compatible with the GIS System currently used by the Township.
- A description and use of each park and the type and number of recreation facilities
- A description of any major private facilities that offer recreation opportunities to residents.
- Update on parks and recreation programs offered by the Township.
- A general assessment of accessibility of each park to people with varying abilities (per DNR rating).
- Reviewing and updating status reports for all MDNR grant assisted Parks & Recreation Facilities. Including any Post-Completion Self-Inspection forms required by the MDNR as a part of all Master Plan approvals.

OUTREACH + ENGAGEMENT

Community input and support for the 5 Year Plan is essential in moving toward implementation. There are a number of ways to gather input and engage stakeholders. At a minimum, the MDNR requires TWO forms of public input during the planning process, including the official public hearing prior to adoption. The results of the outreach efforts are used to develop goals and the Action Plan. We have suggested 2 methods of engagement here but are certainly open to discussing this further and tailoring it to meet your needs and what you have found to be successful in White Lake.

Online Community Survey

We would suggest, as you have done in the past, creating and distributing an online community survey to gather information about satisfaction with current offerings as well as priorities for the future. We think this should be brief (10-15 questions) and shared via your email lists, social media, etc. If done correctly, this has proven to be effective in gathering input from people that may not be able or interested in attending meetings. For the sake of this proposal, we have assumed the Township staff would take the lead on developing and distributing the survey. We have built time into this proposal to review and provide input on the survey questions and incorporate the results into the 5 Year Plan.

Public Workshop(s) or Engagement at Other Events

In addition to the online survey, we would strongly suggest doing 1-2 in person events to gather additional insight on community priorities and reaction to the draft plan. We can plan to either have these be stand alone meetings focused only on this 5 Year Plan, or, if there is an event/activity already planned in the Township that we can attend and have a presence at, we could do that. Sometimes we can get input from a non-typical cross-section of the community if we set up shop at a summer fair or host an ice cream social. We'd be interested in working with the Township to brainstorm ideas of how to best engage the largest number of people within the allotted time frame and budget.

PLAN DEVELOPMENT

Community Description

Utilizing the Townships' previous Plan, we will update the Community Description portion of the plan as needed including the following information per DNR requirements:

- Regional Setting
- General Demographic Characteristics (latest available)
- Jurisdiction of the Plan

Administrative Structure

We will compile an assessment of the current administrative structure of the Township and how parks and recreation is governed and administered in White Lake Township. Previous plans will be used as a starting point and updated as needed to include roles of the staff, budget information for operations, maintenance and capital improvements, programming, current funding sources, role of volunteers and the relationships with public schools and athletic organizations. This will include development/updates for a graphic organizational chart highlighting the organizational structure.

Description of Planning Process

We will summarize the Public Input process and the Planning Process as a part of the master plan documentation as required by the MDNR.

Basis For Action (Trends, Comparison to Standards, Engagement + Outreach Results)

We will include existing national recreation trend data and also summarize White Lake’s park and recreation resources to national benchmarks (NRPA Agency Performance Review). This section will also include an analysis of public spaces available to residents within a 10-minute walk (half-mile) to illustrate any gaps in the community. Any influencing planning initiatives developed by the Committee, Township, or other agencies will be summarized. This section will also include a more detailed summary of the results of the public outreach and engagement efforts.

NONMOTORIZED/TRAIL PLAN ELEMENT

Per your RFP, we understand that thinking about your evolving ped/bike trail network is an important part of this process. With biking, walking and running being the number one most desired activity in the Township (and the County, and the State, and the Country for that matter!), we support your decision to assess your current system, plan for future connectivity and identify priorities and funding sources to move forward with implementation. This will consider how to improve walkability, bikeability and overall connectivity within the Township and to/from adjacent communities and assets. There are certainly efficiencies in undertaking this work while developing an update to your 5-Year Plan. We have developed a scope of work that we think can propel you forward while being cognizant of time and budget.

Nonmotorized Existing Conditions

Utilizing the Township’s existing data and planning documents, as well as the SEMCOG Nonmotorized Plan and Oakland County Trails Plan, we will:

- conduct an inventory of existing major, nonmotorized facilities (not including sidewalks), not only noting location and connectivity, but general condition in comparison to current design standards. It should be noted that this scope does not include a detailed condition assessment, rather an overall/general assessment noting poor/fair/good condition.
- map location of publicly-owned property and destinations such as parks, schools, civic spaces (library, senior center, etc), primary shopping/employment areas, etc. within the Township.
- collect existing plans and routes for nonmotorized facilities in the Township and immediately adjacent areas to ensure connectivity beyond the Township borders.
- understand locations and scope of any major road/intersection improvements planned in the Township to identify opportunities to coordinate/include non motorized improvements.

- map pedestrian/bicycle crash locations (Michigan Traffic Crash Facts) to assist in understanding where there may be higher rates of pedestrian and bike activity in the Township and where they may be encountering safety issues (regardless of fault).
- map speed limits and traffic volumes on major corridors (using existing SEMCOG data).

Additional Outreach

We will have additional displays, materials, meetings and questions added to the Public Outreach efforts outlined for the 5-Year Master Plan. It is anticipated that our team will need to meet with additional agencies such as the State Recreation Areas, the Metroparks, and Road Commission to gather input and refine drafts as this task moves forward. We will be looking to gather input related to gaps and desired connections.

Proposed Nonmotorized Connections/Routes

Our team will prepare maps and supporting materials of proposed nonmotorized routes with a focus on connecting people to schools, recreation properties, and the emerging regional trail network. This portion of the plan will include:

- types and general location of proposed facilities such as shared use paths, side paths, bike lanes, etc.
- examples of types of proposed facilities and typical design treatments per type of facility
- recommendations related to phasing priorities and next steps needed to move the top priorities forward.

ACTION PLAN + CAPITAL IMPROVEMENTS PLAN

We will work with the staff and Committee to prepare Goals and Objectives that illustrates the vision for parks and recreation over the next 5+ years. This section of the plan will detail the over arching goals and provide specific details as to the objectives necessary to reach your goals. The plan will document desired capital improvements to meet your goals and categorize them as short-, mid-, long-term, or on-going priorities including magnitude of cost of the proposed capital improvements. We will also identify potential funding sources that might best align with the various capital projects.

The Action Plan (CIP) will be prepared as a separate section/chapter to be included in the final Recreation Master Plan. The Action Plan will be portrayed in table form and will include the following:

- Project description
- Budget with cost estimates and potential funding sources
- Short-, mid-, or long-term priority

PRESENTATIONS, PUBLIC HEARING + ADOPTION

- Prepare and provide written and graphic materials and assist with facilitating Committee input (1 Committee meeting) on goals, objectives and capital improvement priorities
- Present the DRAFT PLAN at a Committee meeting for final review and refinement. Provide .pdf of the DRAFT PLAN prior to the meetings for review.
- Present plan at an official public hearing in front the Committee (same night as adoption) and present plan to the Township Board (same night as adoption).
- Develop draft Resolution of Adoption language (1 for the Township and 1 for the Committee).

DEVELOPMENT + SUBMITTAL OF FINAL 5 YEAR PLAN

After adoption, we will provide:

- Two (2) unbound copies of the Master Plan (3-hole punched in binder)
- Electronic version as a .PDF file suitable for distribution and uploading to your websites.
- Final WORD file, XCEL files, TIF files, GIS files
- Final Powerpoint presentation summarizing the process and recommendations
- Assistance to the staff in submittal of the plan to meet the deadlines and format as required by the DNR including notification to the County, SEMCOG and via the MDNR MiGrants website.



PROPOSED SCHEDULE

We anticipate the Plan Process to take approximately 8-10 months to complete as outlined below. This schedule allows for submittal of your new Plan to the MDNR prior to the February 1st deadline.

Project Setup + Inventory	April - May
Outreach + Engagement	June - September
Plan Development	June - October
Draft Plan Approved by Committee	November
Draft Plan Available for Public Review for 30 Days	December
Public Hearing + Committee Adoption	January 2023
Township Board Adoption Transmit to County + SEMCOG Upload to MiGrants (MDNR)	January 2023



REFERENCES + EXPERIENCE

The following pages highlight relevant references and experience.

**Emily England, Parks + Recreation Director
Commerce Township**

eengland@commercetwp.com
248.926.0063

5-Year Parks + Recreation Master Plan as well as concept plans, grant applications and construction documents for several Township parks.

**Jennifer Tucker, Executive Director
West Bloomfield Parks and Recreation**

jtucker@wbparks.org
248.240.1396

5-Year Parks + Recreation Master Plan as well as concept plans and construction documents.

**Steve Anderson, Parks + Recreation Director
City of Plymouth**

sanderson@plymouthmi.gov
734.455.6620

5-Year Parks + Recreation Master Plan

**Melissa Prowse, Supervisor of Planning
Oakland County Parks**

prowsem@oakgov.com
248.858.4630

Oakland County Trails Master Plan

COMMERCE TOWNSHIP 5 Year Parks + Recreation Master Plan

Commerce Twp, MI

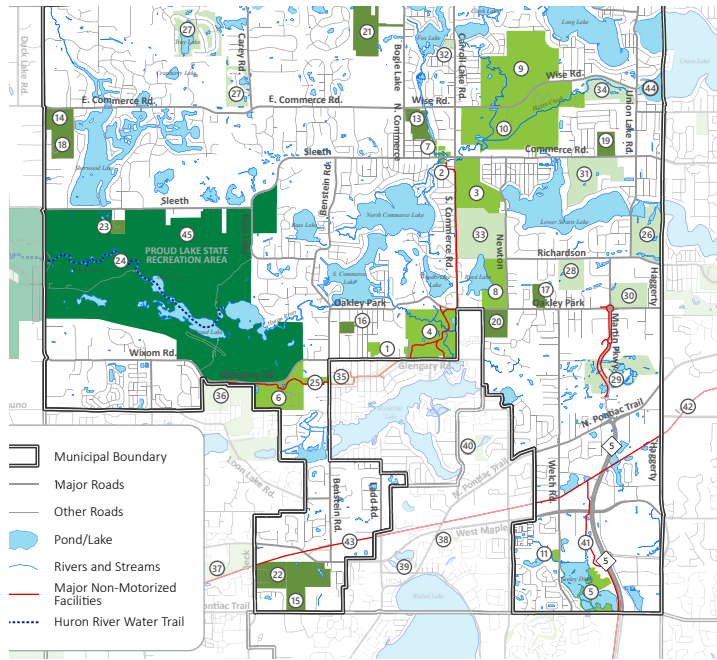
Client: Emily England, Commerce Twp Parks + Recreation Director
eengland@commercetwp.com 248.926.0063

Year: 2019 while with livingLAB

The Charter Township of Commerce Parks, Recreation and Trails Master Plan (2019-2023) was prepared and adopted by the Township Park and Recreation Committee and Township Board to serve as a guide and decision making document for future recreation facilities and programs. The Plan presents an inventory of existing facilities and programs within the Township as well as an evaluation of opportunities and priorities. Taking into account the existing facilities, as well as anticipated demand for improvements, the Plan presents goals, guidelines and a 5-year action plan.

Leah was the Project Manager for the development of this plan while with livingLAB. In addition to completing an inventory of each of the Township Parks, the project included an assesment of the existing trails and safety paths throughout the community. The assessment was used to develop non-motorized system priorities for the next 5 years as well as identify options to fund the development of the long-term vision.

The Plan was adopted by the Township Board, approved by the MDNR and has since been used to support a successful grant application, communicate priorities to the community, and during the Township's annual budgeting process.



	Magnitude of Cost	Short Term (1-2 yrs)	Mid-Term (3-5 yrs)	Long Term (5+ yrs)	On-Going	Potential Funding Sources
Dodge Park						
Implement Restroom/Change Room/Gathering Area (associated with Scarlet's Smile Playground/Splash Pad)	\$800,000 - \$1,000,000	X				Park Millage, LWCF, Gener
Evaluate Need for Expansion of Parking + Implement if Necessary	\$500,000 - \$600,000	X	X			Park Millage, General Funs
Hickory Glen Park						
Implement improvements based on Concept Plan (focus on ingress/egress and circulation issues)	\$800,000 - \$1.1M	X	X			Park Millage, General Funs
Maple Glen Park						
Signage and Benches (as planned during previous phase of improvements)	\$15,000 - \$25,000		X			Park Millage
Implement Phase 1B Improvements (new ingress/egress, parking, trails, softball field)	\$750,000 - \$1,000,000			X		Park Millage
Bicentennial Park						
Develop Concept Master Plan to incorporate numerous improvement ideas including reuse of tennis area, soccer improvements, lighting, connectivity to neighborhood, general updates, etc.	\$10,000 - \$15,000	X				Park Millage, General Funs
Implement improvements based on Concept Plan	TBD	X	X			Park Millage, General Funs
Byers Homestead Park						
Make Byers Home Accessible	\$100,000	X				Park Millage, General Funs
Tree Management	TBD				X	Park Millage, General Funs
Continue with implementation of County recommendations with focus on ensuring sound buildings, improved parking and circulation, connectivity to Mill Race, improved entry, screened outhouses, ADA compliance and drinking water.	TBD				X	Park Millage, General Funs
Mill Race Park						
Develop Concept Master Plan for Mill Race Parks	\$5,000 - \$10,000	X				Park Millage, General Funs
Improve trails + connectivity to school, Byers + Library	TBD	X				Park Millage, General Funs
Shoreline Stabilization	TBD				X	Park Millage, General Funs
Improve entrance, signage, parking and awareness	TBD	X				Park Millage, General Funs

COMMERCE TOWNSHIP Victory Park Concept + Grant Application

Commerce Twp, MI

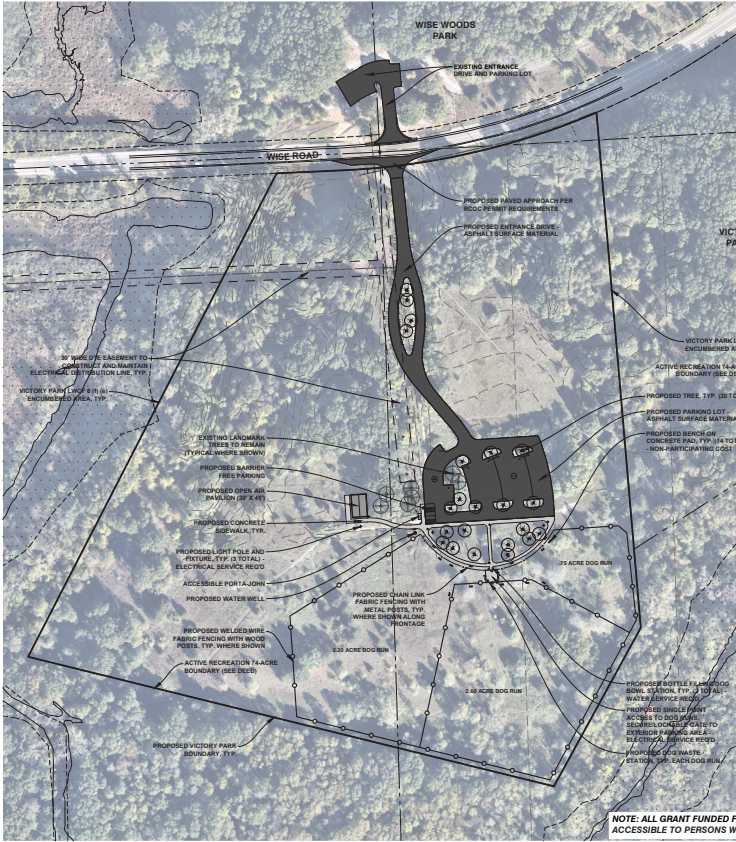
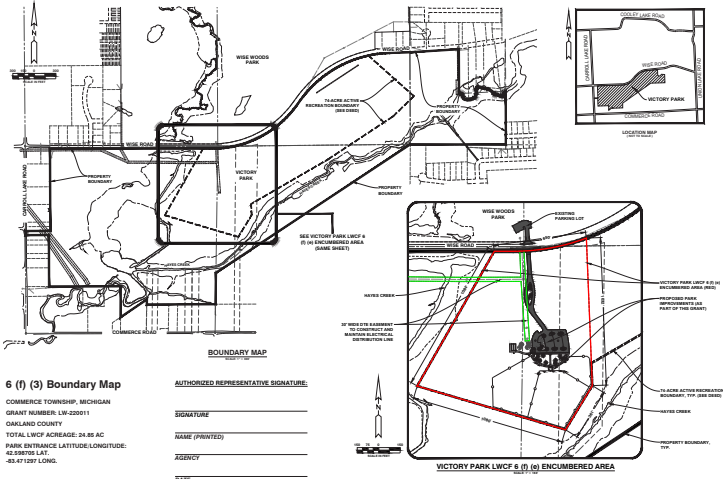
Client: Emily England, Commerce Twp Parks + Recreation Director
eengland@commercetwp.com 248.926.0063

Year: 2022

Victory Park is the Township's newest park, and at 246-acres, is also one of the largest and most environmentally- and historically-rich properties in the community. The Township purchased the property (and Wise Woods Park across the street) in 2011 from the State of Michigan. The property was a former outlying portion of Proud Lake Recreation Area and a Nike Missile Defense Site in the 50's and 60's. The property has remained vacant since the Township purchase.

Our team worked closely with the Township to create a concept plan to develop the very first public improvements within Victory Park as well as prepared and submitted a LWCF grant application to assist with funding the project. The focus of the project was to provide access and promote the property as a public park that can be enjoyed by everyone. The plan illustrates a vision for universal access including a paved drive, paved parking lot with van-accessible spaces, a 5.5-acre dog park, 30'x45' pavilion, concrete walkways connecting the various spaces, and related amenities such as universally accessible grills, barrier free porta-john, picnic tables, lighting, dog waste stations and water bottle filling stations.

In the future, the Township and community have discussed continuing to make improvements at Victory Park such as more formalized trails, a restroom building, a playground, canoe/kayak launch, and possibly rustic group camping.



JOINT PLYMOUTH 5 Year Parks + Recreation Master Plan

Plymouth, MI

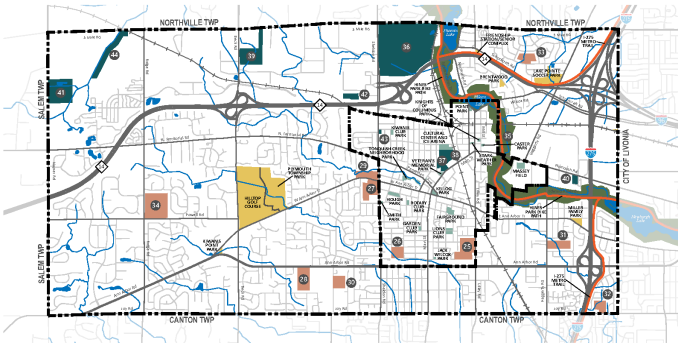
Client: Steve Anderson, City of Plymouth Parks + Recreation Director
sanderson@plymouthmi.gov 734.455.6620

Year: 2018 while with livingLAB

The City of Plymouth and Charter Township of Plymouth are western Wayne County communities with more than 36,000 residents. Leah served as Project Manager while at livingLAB and worked closely with both communities on the development of the first Joint Plan cooperatively prepared and adopted by both the Township and City.

The Plan considered the existing facilities in and around the City and Township, as well as the anticipated demand for additional or improved facilities and programs. The Plan was approved by the Michigan Department of Natural Resources and provides for five years of grant eligibility with the State.

The planning process included inventorying existing facilities, holding public workshops in both communities, incorporating telephone survey results and working closely with both administrations. The Plan was organized so each community could easily reference their individual and collective goals, objectives and plan for improvements. The Plan was unanimously approved by both governing bodies.



RECREATION INVENTORY		LEGEND	
 City of Plymouth Parks	 County Parks	 Major Roads	 RECREATION INVENTORY MAP JOINT PLYMOUTH COMMUNITY PARKS & RECREATION MASTER PLAN 2018 - 2022
 Plymouth Township Parks	 Other Facilities	 Other Roads	
 Plymouth-Canton Schools	 36. St. John's Golf Course and Conference Center	 Railroad	
25. East Middle School	37. Plymouth Arts & Recreation Complex (PARC)	 Rivers and Streams	
26. Smith Elementary School	38. Billek Family-Mitroka Lounge Plymouth	 Municipal Boundary	
27. West Middle School	39. USA Hockey Arena	Recreation Inventory Source: Inventory conducted by livingLAB, December 2017	
28. Pioneer Middle School	40. Victory Ice Arena		
29. 8th Elementary School	41. Western Wayne County Conservation Assoc.		
30. Webster Elementary School	42. TOM/Watson Soccer Fields		
31. Allen Early Learning Academy	43. Plymouth Community Arts Council (PCAC)		
32. Sanwalter Academy	44. Linear Park (Township owned)		
33. Farrist Elementary School	 Nonmotorized Trails		
34. Miller Woods			



WEST BLOOMFIELD 5 Year Parks + Recreation Master Plan

West Bloomfield, MI

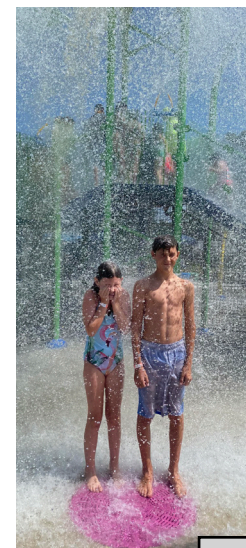
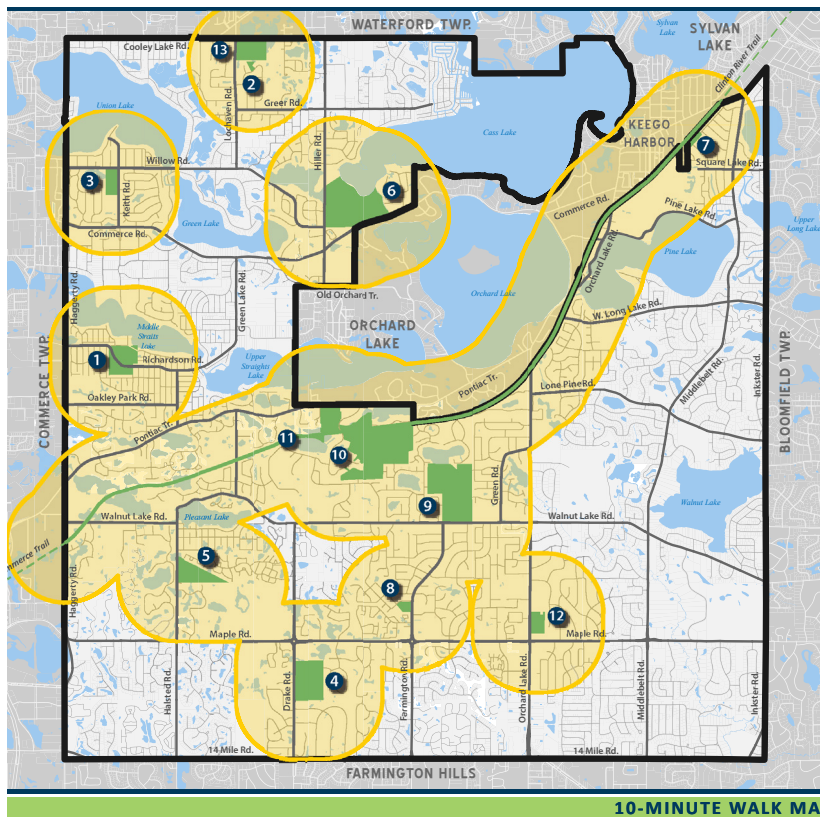
Client: Jennifer Tucker, WB Parks + Recreation, Executive Director
jtucker@wbparks.org 248.240.1396

Year: 2022 on behalf of livingLAB

The West Bloomfield Parks + Recreation Commission adopted their latest 5-Year Master Plan in January 2022 to serve as a guide and decision making document for future recreation facilities and programs. The plan was developed with a considerable amount of input from both staff and the general public. Leah served as Project Manager and facilitated a brainstorming session with staff to identify priorities for a variety of topics such as Programs, Facilities, Green Practices, and Marketing. The Plan also incorporated input from several online surveys as well as virtual public meetings.

The 9-month planning process included an inventory of West Bloomfield’s existing facilities and programs as well as an evaluation of opportunities and needs. The Plan includes goals, objectives, as well as capital improvement priorities for the next 5+ years. The Plan was approved by the Michigan Department of Natural Resources and provides for five years of grant eligibility with the State.

The Plan also included a process to develop a long-term Concept Plan for Drake Sports Park, one of the communities most heavily used parks. The process included a site visit to a park in a neighboring community, discussions with maintenance and programming staff, as well as review with the general public. The resulting Concept Plan was used to submit a MDNR Trust Fund Grant application in the hopes of moving implementation forward.



COMMERCE TOWNSHIP Dodge Park Concept Plan + Grant Application

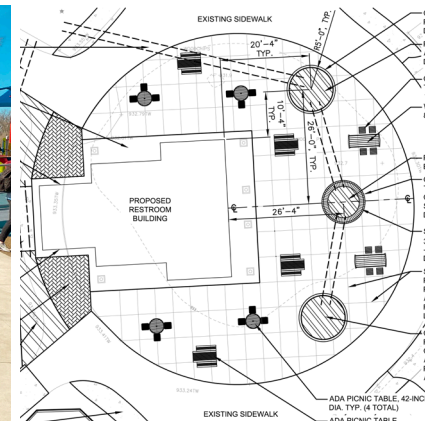
Commerce Township, MI

Client: Emily England, Commerce Twp Parks + Recreation Director
eengland@commercetwp.com 248.926.0063

Year: 2018 while at livingLAB

Several years ago, a non-profit organization approached the Township to build a universally accessible playground at the 106-acre Dodge Park. Leah served as Project Planner and Grant Writer while at livingLAB and worked closely with the Township staff and an Advisory Committee to develop a concept plan to evaluate supporting the universally accessible playground. The analysis looked at providing additional parking and barrier-free spaces, circulation and access to loading/unloading zones, relief from an existing pedestrian bottleneck, as well as a universally accessible restroom and changing building, a central gathering space, additional pavilion and associated amenities. At the same time, the local soccer organization was building a third, full-size soccer field at the park.

Through the planning process, the team worked closely with the Advisory Committee to develop design goals, understand the needs of the various stakeholders, work through a number of alternatives and gather consensus. Leah also assisted the Township submit a successful Land and Water Conservation Fund grant application to the MDNR for assistance in funding the universally accessible restroom/changing room. Construction was completed in 2021 and has proven to be a heavily used park at all times of the year.



MDOT I275 Metro Trail Assessment + Grant Application

Wayne County, MI

Client: Matt Galbraith, MDOT Metro Region Planner
galbraithM2@michigan.gov

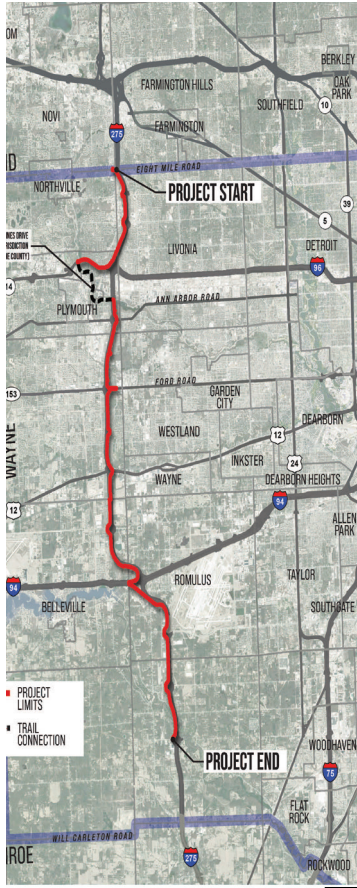
Year: 2022 on behalf of livingLAB + Wade Trim

On behalf of livingLAB, Leah served as Project Planner for the assessment of 24.8 miles of the I275 Metro Trail in Wayne County. The trail, originally built in the 1960s, has seen investment over the past decade as the demand and interest in a connected regional trail network increased. MDOT hired a team of planners, landscape architects, and engineers, led by Wade Trim, to evaluate the condition of the trail and develop recommendations for its continued improvement.

Along with a civil engineer, Leah evaluated the entire 24.8 miles of trail utilizing GIS/GPS technology to note elements such as pavement condition, drainage issues, visibility, connections, signage, structures, etc. The results of this field work was the foundation for the development of recommendations to not only elevate the design and condition of the trail, but to increase usership, safety, and enjoyment.

The team worked closely with a number of stakeholders including the I275 Trail Friends Group, MTGA, Wayne County, and the communities along the trail to ensure coordination between various projects, identify opportunities for trailheads and connectivity, and develop an implementation and funding strategy.

Leah was an advisor and writer for a 2022 Ralph C Wilson Maintenance Fund grant application submitted by MDOT to improve a number of locations where the I275 Metro Trail crosses wide and busy roads.



LEAH GROYA

PROFESSIONAL PLANNER



Using her lifelong love of the outdoors to focus her professional expertise and career, Leah has had considerable success in planning and project funding. Over the past 25 years, she has specialized in work that improves mobility and safety of pedestrians and bicyclists; parks and recreation plans; open space planning; and securing millions in project funding for her clients. From existing conditions, community outreach, funding, and implementation, Leah is known for her organization and communication skills, ability to facilitate diverse stakeholders, and propensity for moving projects forward. Her leadership skills make her a sought after project manager and partner.

EDUCATION

BS Urban + Regional Planning
Michigan State University 1997

American Institute of Certified Planners - #135999

TRAINING

Safe Routes to School Michigan

AASHTO Bicycle Facility Design

Professional Certificate in Watershed Management : MSU

AFFILIATIONS

American Association of Planning

Michigan Association of Planning

mParks | MRPA

Association of Pedestrian and Bicycle Professionals

EXPERIENCE

PEDESTRIAN + BICYCLE MOBILITY

- MDOT Grand Region Nonmotorized Plan | MI
- MDOT Grand Region Bike/Ped Committee Facilitation | MI
- Jackson + Jackson Co Nonmotorized Plan | Jackson, MI
- Dearborn Multi-Modal Plan | Dearborn, MI
- I275 Metro Trail Asset Management Study | MDOT
- Iron Belle Trail Planning Assessment | Downriver, MI
- Walk Woodbridge Plan | Detroit, MI
- Detroit Bike Share Feasibility Study | Detroit, MI
- MoGo Bike Share Station Siting | Detroit, MI
- Joe Louis Greenway Brochure | Detroit, MI
- Connecting Lenawee Plan | Lenawee Co, MI
- MDOT University Region Nonmotorized Plan | MI

PARK + OPEN SPACE PLANNING

- West Bloomfield Recreation Master Plan | West Bloomfield, MI
- Plymouth Community Recreation Master Plan | Plymouth, MI
- Pontiac Recreation Master Plan | Pontiac, MI
- Commerce Township Recreation Master Plan | Commerce, MI
- Redford Township Recreation Master Plan | Redford, MI
- Eliza Howell Park Concept Plan | Detroit, MI
- Gainsboro Park | Pleasant Ridge, MI
- Dodge Park | Commerce, MI
- Rogell Park | Detroit, MI
- Wise Woods + Victory Park Master Plan | Commerce, MI
- North Branch Greenway Vision | Macomb County, MI



Jason Macdonald
PLA, ASLA
landscape architect + principal
MAC Land Design, LLC

As a designer Jason pays special attention to, and evaluates things that most people don't. Scale, space, surroundings, proportions, environment, relationships, and functionality to name just a few. Being a Landscape Architect allows him to combine his observations and principles of design to plan and develop unique, memorable, relevant and enjoyable "places and spaces".

During his 24 years of experience designing and planning the world in which we live, work, and play Jason has influenced a wide range of projects. His ability to look at projects with a balanced perspective of design creativity and the realities of construction allows Jason to successfully guide projects through the transition from someone's imagination to successful implementation.

Jason's creativity, technical ability, and attention to detail make him a valuable team member in any phase of a project. His strengths include preliminary/conceptual design and planning, graphic renderings, GIS mapping, 3D modeling, construction plans and specifications, field work and construction observation, and placing himself in the shoes of the end-user.



EDUCATION

Bachelor of Landscape Architecture,
Michigan State University: 1998

REGISTRATIONS AND AFFILIATIONS

Professional Landscape Architect, MI #3901001519

American Society of Landscape Architects

WORK EXPERIENCE

livingLAB, 2011 - 2021

Wade Trim, 2007 - 2011

J Eppink Partners, 2002 - 2007

Gibbs Planning Group, 1998 - 2002

PROFESSIONAL GOAL

CREATE PLACES AND SPACES THAT ARE MEMORABLE:

To collaborate with clients, stakeholders, and communities to help bring that far-fetched, "back-of-the-napkin" sketch to life. To never lose sight of the fact that each project offers a real opportunity to make an impact on everyone. To plan, design and implement truly special spaces for users of all ages and abilities.

RELEVANT PROJECT EXPERIENCE

- West Bloomfield Recreation Master Plan: West Bloomfield, MI
- Dodge Park: Commerce Twp., MI
- Drake Park Master Plan Update: West Bloomfield, MI
- Commerce Twp. Recreation Master Plan: Commerce Twp., MI
- Eliza Howell Park Master Plan: Detroit, MI
- Victory Park Master Plan & Grant: Commerce Twp. MI.
- Eagle Plaza: Royal Oak, MI
- Rogell Park Master Plan & Construction Documents: Detroit, MI
- Richardson Community Center Master Plan: Commerce Twp., MI
- DTE Beacon Park: Detroit, MI
- Connecting Lenawee Non-Motorized Map: Lenawee Co., MI
- Maple Glen Park: Commerce Twp., MI
- Gainsboro Park: Pleasant Ridge, MI
- West Bloomfield Trail: West Bloomfield, MI
- Joe Louis Greenway Map & Brochure: Detroit, MI
- Children's Park: Village of Lake Orion, MI
- North Branch River Greenway Vision Plan: Macomb Co., MI
- Salt River Greenway Vision Plan: Macomb Co., MI
- Clinton River Water Trail Map: Oakland and Macomb Co., MI
- Grand River Workspace Green Parking Lot: Detroit, MI
- Downriver Linked Greenways Map: Wayne Co., MI
- Hickory Glen Park: Commerce Twp., MI
- Community Sports Park: West Bloomfield, MI



INSURANCE



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
3/25/2022

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).


PRODUCER McNish Group, Inc. 26622 Woodward Ave. Ste 200 Royal Oak MI 48067 License#: .0019816 LGROYAC-01	CONTACT NAME: PHONE (A.C. No. Ext): 248-544-4800 FAX (A.C. No): 248-544-4801 E-MAIL ADDRESS: certs@mcnish.com INSURER(S) AFFORDING COVERAGE INSURER A: Secura Insurance Company NAIC # 22543 INSURER B: USLI INSURER C: Hartford Accident & Indemnity Company 22357 INSURER D: INSURER E: INSURER F:
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COVERAGES **CERTIFICATE NUMBER: 1719710271** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSUR LTR	TYPE OF INSURANCE	ADD'L SUBR	INS'D	WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:				BP3355416	11/22/2021	11/22/2022	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COM/OP AGG \$ 2,000,000 \$
A	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO OWNED <input type="checkbox"/> AUTOS ONLY HIRED <input checked="" type="checkbox"/> AUTOS ONLY SCHEDULED <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY				BP3355416	11/22/2021	11/22/2022	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$							EACH OCCURRENCE \$ AGGREGATE \$ \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below			Y/N	35WECAR4AED	2/22/2022	2/22/2023	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
B	Professional Liability				SP1576482	11/18/2021	11/18/2022	Limit 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER INFO ONLY	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
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FEE PROPOSAL

White Lake Township
5 Year Recreation Master Plan
2023-2027

April 1, 2022
revised May 12, 2022

Submitted By:

Leah Groya, AICP
L Groya Consulting LLC
leah@lgroyaconsulting.com
313.600.9786

Jason Macdonald, PLA
MAC Land Design LLC

Our fee proposal below coincides with the Township’s RFP and scope of work outlined in our Proposal dated April 1, 2022. **We can complete the 5-Year Master Plan and the Nonmotorized Element for \$28,500 plus expenses not to exceed \$500 (mileage and at cost printing) as detailed below.**

5 YEAR MASTER PLAN	\$21,500
Project Coordination	\$3,000
Inventory	\$3,625
Outreach (Survey Support + 1 In Person Event)	\$3,000
Plan Development	\$6,000
Action Plan	\$2,750
Presentations + Hearing + Adoption	\$2,625
Submittal	\$500
EXPENSES	\$500
NONMOTORIZED ELEMENT	\$7,000
Condition Assessment, Mapping, Additional Meetings, Coordination with Adjacent Communities and Agencies, Supplemental Outreach Materials, Proposed Connections/Routes	

B R *i*
Beckett&Raeder

*Landscape Architecture
Planning, Engineering &
Environmental Services*

White Lake Township Five-Year Recreation Plan

Proposal for Professional Services

April 1, 2022



River Raisin Heritage Corridor | Monroe, Michigan



innovative

Cover Letter 3

i.

Business Organization 4-11

ii.

Previous Experience 12-19

iii.

References 20-21

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B R i
Beckett & Raeder

Landscape Architecture
Planning, Engineering &
Environmental Services

April 1, 2022

Justin Quagliata
White Lake Township
7525 Highland Road
White Lake, MI 48383

Regarding: White Lake Township Five-Year Recreation Plan Proposal

i
initiative

Mr. Quagliata,

On behalf of Beckett & Raeder, Inc. (BRI), I enthusiastically submit our proposal for your consideration to update White Lake Township's Parks and Recreation Master Plan. Our multi-disciplinary team of planners and landscape architects gives us perspective on how to apply mobility, design, connectivity, and accessibility best practices to the Township's recreational system.

BRI has a long-standing relationship with the Township, starting with our successful renovation of Bloomer Park as a natural area and the Master Plan for Hidden Pines Park. More recently, BRI has completed the 2020-2021 Master Plan for Stanley Park where we are beginning the Phase 1 implementation after receiving a Land and Water Conservation grant. We believe that continuity in visioning and execution is of tremendous value. Not only is it more efficient but it lends itself to a more cohesively designed system for its residents and visitors to enjoy. We believe our history of working in the Township makes us well positioned to help establish and achieve the greater recreational vision.

We look forward to delivering you a user-friendly and practical plan that enhances the Township's character and serves the public's needs. Please do not hesitate to contact me at 734.663.2622 or bbarrick@bria2.com if I may offer any further information.

Thank you,



Brian Barrick, PLA, ASLA
Principal

Beckett & Raeder, Inc.
535 West William, Suite 101
Ann Arbor, MI 48103

Petoskey Office
113 Howard St.
Petoskey, MI 49770

Traverse City Office
148 East Front Street, Suite 207
Traverse City, MI 49684

Toledo
419.242.3428 ph

734 663.2622 ph
734 663.6759 fx

231 347.2523 ph
231 347.2524 fx

231 933.8400 ph
231 944.1709 fx

www.bria2.com

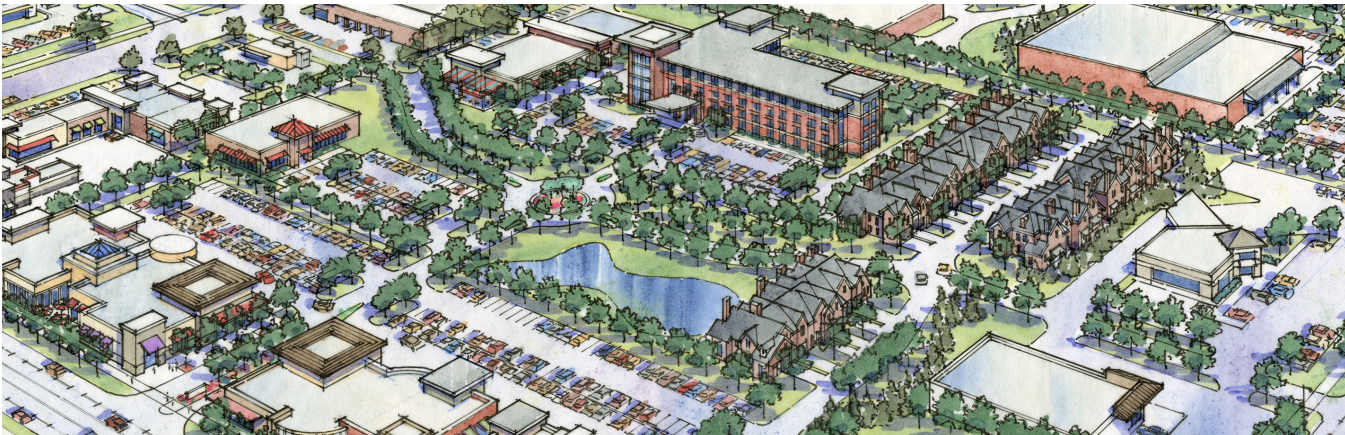


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Business Organization

Business Organization



Norton Shores, Michigan

Beckett & Raeder, Inc. is a Michigan Corporation headquartered in Ann Arbor with additional offices in Petoskey and Traverse City, Michigan. The firm includes landscape architects, planners, civil engineers, LEED accredited professionals, and support staff maintaining registrations in the States of Michigan, Ohio, Indiana, and Illinois and certification at the national level.

HISTORY

Beckett & Raeder, Inc. was established as a Michigan corporation in 1966 with its corporate office in Ann Arbor, Michigan. BRI is also licensed to operate in the State of Ohio.

SERVICES

Major areas of practice and scope of services include sustainable design, land use programming and analysis, master planning, campus planning, placemaking, site planning and civil engineering, site development, municipal engineering, storm water management, downtown revitalization and redevelopment, community planning and urban design, economic development, public/private development services, and environmental services.

OWNERS, PRINCIPALS, AND/OR OFFICERS

- Deborah Cooper, President
- John Iacoangeli, Executive V. P & Treasurer
- Christy Summers, Secretary
- Brian Barrick, Principal
- John Beckett, Principal
- Kristofer Enlow, Principal
- Christopher DeGood, Principal

PHILOSOPHY

All commissions accepted by the firm are accomplished under the direct supervision of one of the firm’s seven principals. Senior Associates, Associates, Project Landscape Architects, Planners, and Engineers are assigned to projects in accordance with their individual expertise and the requirements of the project. In keeping with the philosophy of the office, the project team is involved in all aspects of the work through its entire duration. The firm routinely engages other consultants, as the work plan requires.

LOCATIONS

Ann Arbor
 535 W. William,
 Suite 101
 Ann Arbor, MI 48103
 Tel: 734.663.2622
 Fax: 734.663.6759

Traverse City
 148 E. Front St.
 Suite 207
 Traverse City, MI 49684
 Tel: 231.933.8400
 Fax: 231.944.1709

Petoskey
 113 Howard Street
 Petoskey, MI 49770
 Tel: 231.347.2523
 Fax: 231.347.2524

WEBSITE
www.bria.com

CONTACT:
 Brian Barrick, PLA, ASLA
 Principal
 734.663.2622 | bbarrick@bria2.com

Our Services



Michigan Recreation and Park Association (mParks), Outstanding Park Design Award, 2018, Petoskey Downtown Greenway, South Segment | Petoskey, Michigan

INFRASTRUCTURE

- Storm Water Management
- Water Distribution Systems
- Sanitary Sewer Systems
- Capacity Analysis
- Capital Improvement Program
- Wellhead Design & Protection
- Pavement Evaluation
- Streets and Roads
- Onsite Sewage Treatment
- Utility Marking
- Parking

COMMUNITY PLANNING & ZONING

- Comprehensive Master Plans
- Brownfield Redevelopment
- Zoning Ordinance /Codes
- Specialized Zoning Ordinance

- Provisions Development
- Standards and Guidelines Site Plan Review
- Strategic Planning
- Expert Witness Zoning Testimony
- Community Development
- Greenway Planning
- New Urbanism

ENVIRONMENTAL SERVICES

- Site Evaluation & Analysis
- Low Impact, Conservation Design
- Wetland Delineation
- Constructed Wetland Design & Installation
- Wetland Restoration
- Storm Water Management

ANALYSIS & EVALUATION

- Site Analysis
- Feasibility Studies
- Site Selection Studies
- Buildout Analysis
- Market Analysis
- Demographics
- Natural Features Interpretive Studies

PROJECT CONSTRUCTION

- Construction Administration
- Field Inspection
- Storm Water Operator
- Bridge Inspection
- Specification Writing
- Project Cost Estimating
- Construction Drawings

Our Services



2016 Honor Award, Michigan Chapter, Landscape Architectural Sustainability Marshbank Park | West Bloomfield Township, Michigan

DOWNTOWN & ECONOMIC DEVELOPMENT

- Brownfield Redevelopment
- Grant Writing
- Downtown Management
- Downtown Master Plans
- Special Finance Districts
- Adaptive Reuse Studies
- Retail Market Analysis
- Strategic Planning/Visioning Workshops
- Physical Design Plans
- Streetscape Design & Implementation
- Wayfinding & Signage
- Tax Increment Financing & Development Plans
- DDA Creation

SITE DESIGN

- Planting Design
- Irrigation Design
- Grading Plans
- Utility Plans
- Pavement Design
- Lighting Design
- Site Design Guidelines
- Park Design
- URBAN DESIGN
- Corridor Design & Planning
- Streetscape Design
- Waterfront Design

FACILITY DESIGN

- Marina Design
- Playground Design
- Athletic Facility Design
- K-12 Site Development

- Subdivision Design
- Campgrounds
- Parks Design
- Higher Education

MASTER PLANNING

- Campus Planning
- Traditional Neighborhood & Small Town Design
- Community Master Planning
- Watershed Planning
- Recreation Master Planning
- Park Master Planning
- Rural Land Planning Services
- Land Use Planning

Selected Recent Awards



Design charrette for City of East Jordan Master Plan | City of East Jordan, Michigan

MICHIGAN RECREATION & PARK ASSOCIATION

Design Award, Outstanding Facility 2017
Silver Lake State Park
Mears, Michigan

Landscape Design Award, 2014
White Lake Bloomer Park
White Lake Charter Township,
Michigan

Outstanding Park Design Award, 2013
Argo Cascades
Ann Arbor, Michigan

Design Award, Landscape Design, 2011
Bear River Valley Recreation Area
City of Petoskey, Michigan

Landscape Design Award, 2011
Marshbank Park
West Bloomfield Township,
Michigan

Landscape Design Award, 2010
Outdoor Learning Center
Central Michigan University
Mount Pleasant, Michigan

URBAN DESIGN AWARDS

Urban Design, 2018
Jackson Downtown Streetscape
Jackson, MI

Urban Design, 2017
Jackson Blackman Park Expansion
Jackson, MI

HONOR AWARDS

Honor Award
Monroe Coastal Zone
Management Plan
Monroe, MI

Honor Award
River Raisin Esplanade
Monroe, MI

Honor Award
"Michigan Social Erosion
and Sedimentation Control
Guidebook"
State of Michigan

Honor Award
"Housing for the Elderly
Development Process"
Michigan State Development
Authority

AMERICAN SOCIETY OF LANDSCAPE ARCHITECTS

Merit Award, Michigan Chapter, 2017, General Design
Chicago Drive Corridor
Grandville, Michigan

Merit Award, Michigan Chapter, 2017, Planning & Analysis
Peshawbestown Community
Master Plan
Peshawbestown, Michigan

Merit Award, Michigan Chapter, 2016, Landscape Architectural Design
Jackson Blackman Park Expansion,
Jackson, Michigan

Merit Award, Michigan Chapter, 2016, Landscape Architectural Sustainability
Wall Street East Parking Structure,
Ann Arbor, Michigan

Honor Award, Michigan Chapter, 2016, Landscape Architectural Sustainability
Marshbank Park
West Bloomfield Township,
Michigan

Selected Recent Awards



River Raisin Heritage Corridor | Monroe, Michigan

Merit Award, Michigan Chapter, 2015, Landscape Architectural Design
Munger Graduate Residences,
University of Michigan
Ann Arbor, Michigan

Merit Award, Michigan Chapter, 2014, Historic Significance
Petoskey Bayfront Park
Petoskey, Michigan

Merit Award, Michigan Chapter, 2013, Planning & Analysis
River Raisin Heritage Corridor
East Master Plan
Monroe, Michigan

Merit Award, Michigan Chapter, 2010
Outdoor Learning Center
Central Michigan University
Mt. Pleasant, Michigan

EDUCATION DESIGN SHOWCASE

Project of Distinction, 2017 Outstanding Design and Architecture
Lasch Family Golf Center,
Michigan State University
East Lansing, Michigan

NATIONAL TRUST FOR HISTORIC PRESERVATION

Richard H. Driehaus National Preservation Honor Award, 2014
McGregor Pool
Wayne State University
Detroit, Michigan

MICHIGAN HISTORIC PRESERVATION NETWORK

Government/Institution Award, 2016
River Raisin Heritage Corridor,
East Master Plan
Monroe, Michigan

Cultural Landscape Award, 2014
McGregor Memorial
Conference Center Reflecting
Pool and Sculpture Garden
for Contribution to Historic
Preservation in Michigan
Wayne State University
Detroit, Michigan

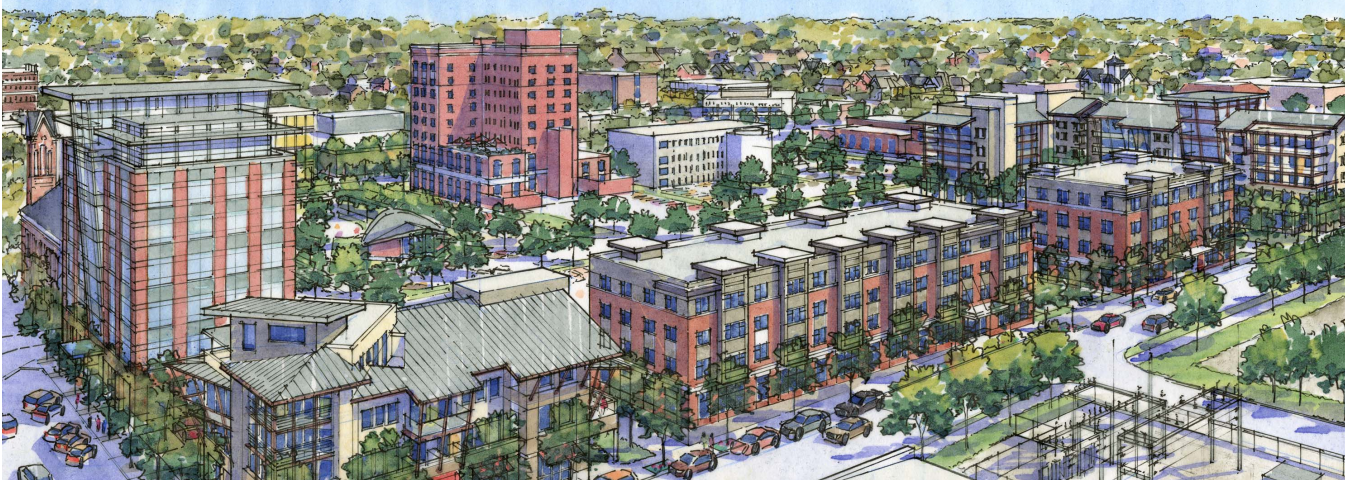
GREAT LAKES PARK TRAINING INSTITUTE

Great Lakes Park, Facility, & Recreation Program Award, 2013
Marshbank Park
West Bloomfield Township,
Michigan

OAKLAND COUNTY

Oak Land Award, 2012
Marshbank Park
West Bloomfield Township,
Michigan

Professional Affiliations & Organizations



Jackson Streetscape Master Plan | Jackson, Michigan

Beckett & Raeder, Inc. is staffed by registered professional engineers, landscape architects, community planners, and environmental and ecological professionals and has specialized training and maintains professional affiliation with the following:

ACCREDITATIONS

- U.S. Green Building Council LEED Accredited Professionals
- Form Based Code Institute (FBCI)
- Congress for the New Urbanism Accreditation (CNU-A)

CERTIFICATIONS

- Michigan Economic Development Association Certified Economic Development Professional
- Certified Stormwater Operator
- Housing Development Finance Professional (HDFP)
- Project Management Boot Camp
- PASER Road Rating
- Planning and Zoning Instructor (MAP)
- Certificate of Real Estate
- Certified Playground Safety Inspector (CPSI)
- American Institute of Certified Planners (AICP)
- National Charrette Institute Certification (NCI)

REGISTRATIONS

- Professional Registered Engineers
 - » State of Michigan (PE)
 - » State of Ohio (PE)
- Professional Landscape Architects
 - » State of Michigan (PLA)
 - » State of Ohio (PLA)
 - » State of Illinois (PLA)
 - » State of Indiana (PLA)
 - » Council of Landscape Architects Registration Boards
- Residential Builder License
 - » State of Michigan

SPECIALIZED TRAINING

- EPA Brownfield Redevelopment
- People, Places and Placemaking
- Economics of Place
- Neighborhoods, Streets and Connections
- Form Planning and Regulation
- Collaborative Public Involvement
- Applied Placemaking
- Complete Streets
- Geographic Information Systems
- FEMA ICS-100, IS-00029, EFS 15
- FEMA ICS-200, IS-00700 (NIMS)
- Green Roof Design
- Charrette System Training (NCI)

Professional Affiliations & Organizations

MEMBERSHIPS

American Planning Association (APA)	American Society of Landscape Architects (ASLA)	American Society of Civil Engineers (ASCE)	American Public Works Association (APWA)	Congress for the New Urbanism	Urban Land Institute
Michigan Recreation and Parks Association	Improving Michigan's Access to Geographic Information Networks (IMAGIN)	Institute of Transportation Engineers (ITE)	Michigan Association of Physical Plant	Administrators (MIAPPA)	Michigan Association of Planning (MAP)
MAP Planners in Private Practice	Michigan Complete Streets	Michigan Downtown Association (MDA)	National Trust for Historic Preservation	Michigan Historic Preservation Network	Michigan Municipal League (MML)
National Society of Professional Engineers	Michigan Rural Network	Michigan Society of Professional Engineers	Michigan School Business Officials (MSBO)	National Complete Streets	South Oakland County Municipal Engineers (SOCME)



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ii.

Previous Experience

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Landscape Architecture
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Environmental Services

Bloomer Park

White Lake Township, Michigan
MRPA 2014 Landscape Design Award



The Bloomer Park property is 28 acres of stunning beauty. Dramatic topographic features in the park include tall bluffs along Grass Lake, several glacial kettle wetlands, and rolling upland hills. While State Park status protected the park from development and preserved its spectacular ecosystems for many years, the park began falling into disrepair beginning in the 1970s as State budgets dwindled. Eventually, all the State Park amenities were removed and the park was largely forgotten.

White Lake Township's purchase of the property became an opportunity to re-envision it as a recreational asset. After decades of neglect, Township residents cast a vision for the property as a "natural area" park with passive recreational uses. With the assistance of Beckett & Raeder, the White Lake Township Parks and Recreation Committee held community meetings to guide development of a detailed plan for the park sensitive to its natural features.

Construction began in late Summer 2012 and was completed in Spring 2013. The end result spectacularly achieves its goal of complimenting the park's natural

features. Improvements included universally accessible limestone fines paths, benches and interpretive panels, a picnic shelter, and an overlook platform where visitors can enjoy the experience of being out over the water, relaxing on the benches or trying their luck at the universally accessible fishing area. Other improvements included vehicular parking and trail surfaces that are permeable and universally accessible limestone. Any storm water that runs off the permeable parking area is directed to an infiltration bioswale. The park improvements also feature natural timber and fieldstone construction hearkening back to State Park aesthetics defined by local materials.

Role: Final design and engineering, construction administration, grant administration

Consultant Fee: \$36,640

Timeframe: 2011-2013

Owner Contact: Sean O'Neil, White Lake Township Planning Director, Ph 248.698.3300
E- mail: soneil@whitelaketwp.com



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City of Farmington Hills Department
of Special Services Parks and
Recreation Master Plan

Farmington Hills, Michigan



Farmington Hills is home to impressive recreational assets like the Nature Center where visitors learn from nature, Ice Arena to practice sports, and the Longacre House to hold events. Community events account for almost 30% of the Recreation Division's activities. Some of the highlights include the Annual Great Campout, Fly & Fry, and the Fashion Show fundraiser. The DSS also takes steps toward improving its carbon footprint through water bottle refill stations, installation of LED lights, and the increase of recycling bins in the parks.

A thorough on-the-ground inventory was conducted on all of the existing parks, natural areas, and recreation facilities owned or leased by the City of Farmington Hills. Each park and facility were visited, and a detailed inventory of the number, type, level of accessibility, and condition of recreation equipment and facilities were documented in order to determine areas where the department can focus on improvement efforts.

Farmington Hills sought out the community's opinion in two different formats: two group visioning sessions and a community-wide survey. The two approaches allow for different types of interaction: a survey allows people to respond candidly in anonymity, and a face-to-face visioning session with City leaders and residents allows for productive exchange, consensus-building, and education. The combination of the two provides for breadth and depth on important recreation matters. The findings from all of the community engagement influence the action plan which is a set of strategies that guides the Department of Special Services in their decision-making process over the next five years.

The action plan represents thoughtful steps that an agency can take to improve its recreation system within a 1 to 5 year time horizon. The action plan is categorized by major themes that emerged from residents and on-the-ground assessments. The four topics of consideration that rose to the top were: Accessibility, User experience, Connectivity, System Wide Environment, and Communication.



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Environmental Services

Eaton County Crandell Park Site Plan Eaton County, Michigan

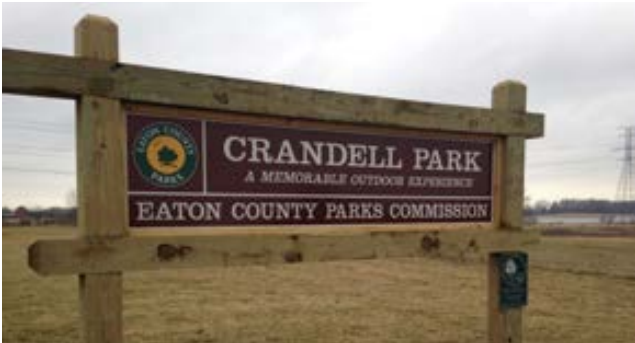
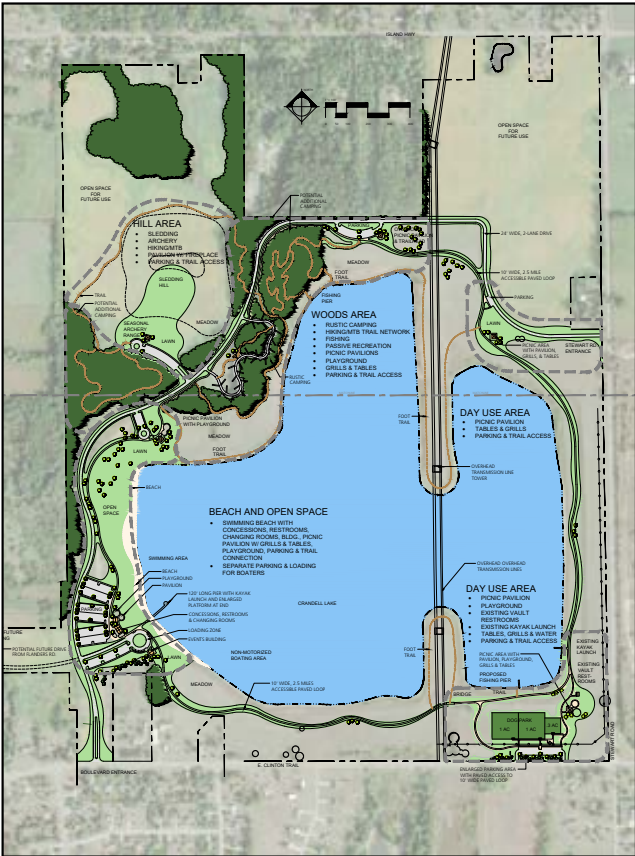
Beckett & Raeder, Inc. (BRI) assisted Eaton County in the development of a site design plan for Crandell Park. BRI and the County identified opportunities to improve the park through community engagement sessions, on site inventory data collection, and analysis of the community's needs.

In addition to an online survey distributed through local municipalities county wide, two public input sessions were held virtually due to COVID 19. BRI's innovative real time voting and discussion exercises harnessed valuable feedback from the community to guide the direction of the design plan. Moreover, meetings were held with the Parks and Recreation Commission to create sustainable goals and objectives for a realistic implementation plan.

Action items were organized in phases to serve as a tool for budgeting purposes and a capital improvement schedule. A preliminary opinion of cost was completed to give the County a target number for each phase.

Crandell Park was acquired through an MDNR Trust Fund grant. The site plan was thoughtfully designed to capture the natural features of the park, while providing several passive and active recreation opportunities requested by the community. A list of projects to develop Crandell Park into the proposed vision were included in the Parks and Recreation Plan to be eligible for grant funding through the MDNR.

The proposed improvements show connections by paved or natural pathways for the park users to be able to navigate the entire parcel.



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Downtown Greenway

Petoskey, Michigan

Petoskey's Downtown Greenway serves as a vital non-motorized corridor linking the Little Traverse Wheelway, Bay View Community, northeast side neighborhoods, and a senior residential facility with the retail, commercial, recreational, and cultural assets of downtown Petoskey. On a larger, regional scale, the Downtown Greenway connects to the 26-mile long Little Traverse Wheelway, and ultimately, to the 35-mile long Petoskey-to-Mackinaw Trail and the National Park Service's North Country Trail. Beckett & Raeder, Inc. (BRI) served as the City's consultant for master planning the greenway, negotiating purchase of the former rail corridor right-of-way from MDOT, applying for Michigan Natural Resources Trust Fund Grants, and implementing sections of trail following successful grant awards. When fully complete, Petoskey's Downtown Greenway will include pedestrian sidewalks, non-motorized trails, a downtown trolley, trailheads with public parking, a visitors center with restrooms, festival and memorial plazas, a seasonal ice rink, and lighting and landscape treatments.

The MNRTF funded North Segment is the first to be implemented and includes a non-motorized trail, trailhead parking, roadway crossings, pedestrian lighting, benches, trash receptacles, interpretive and wayfinding signage, and right-of-way restoration with native plant materials. The trail is 10-foot wide concrete with sawcut joints to provide a smooth non-motorized surface. Sidewalks connecting trailhead parking along Arlington Drive to the trail are 8-foot wide. City street crossings are concrete crosswalks with signage to signal trail users of vehicular traffic. All crossings are universally accessible and include design features such as visual and textural warnings. All trail surfaces, and other project elements, conform to the the United States Architectural and Transportation Barriers Compliance Board's Accessibility Guidelines for Outdoor Developed Areas.

Benches, trash receptacles and interpretive signage are located where topography, sun/shade patterns, or interesting views of Little Traverse Bay make them appropriate. Furnishings were designed in accordance with the Northern Michigan Disability Network's suggestions and United States Access Board's Outdoor Accessibility Guidelines. Benches are configured with arms and backs and include adjacent space for a wheelchair or other mobility aid. Interpretive and wayfinding signage is at an appropriate height/



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angle, contains large print and includes multi-sensory information when possible. In short, the project exceeds ADA standards with a mindset of true universal accessibility.

Completed in 2018, the south segment of the Downtown Greenway Non-motorized Trail has accomplished several important objectives of the City in one plan. With the completed north segment, the south segment connects downtown and suburban neighborhoods with the center of Downtown Petoskey. The trail also serves as an important link to the Emmet Street corridor, a busy residential district in which the City intends to promote redevelopment opportunities and improvements in placemaking. Regionally, this segment connects to other recreation facilities and nonmotorized trails.

Upon completion of the south segment, direct non-motorized transportation routes from seasonal/vacation and fulltime residential districts are now connected to the heart of Downtown Petoskey and numerous recreational facilities.

Beckett & Raeder, Inc. is currently working with the City of Petoskey to prepare conceptual drawings for the final segment of the Downtown Greenway, which will span Pennsylvania Park in the heart of Downtown, provide nonmotorized access to a block of businesses within the park without streetside access, and connect the north and south segments of the Downtown Greenway.

Downtown Greenway North Segment
Completed Fall 2014
Construction Budget: Approx. \$425,000

Downtown Greenway South Segment
Completed Fall 2018



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*Landscape Architecture
Planning, Engineering &
Environmental Services*

City of Dearborn Recreation & Parks Master Plan
Dearborn, Michigan



The City of Dearborn's Recreation & Park Master Plan encompasses 42 parks, totaling over 1,037 acres of recreational facilities and amenities, and 11 departmental divisions that collaborate together to offer the best in recreation and leisure experiences.

The mission of the department is to fulfill the social, educational, and recreational needs of children, adults, and families by providing quality programs and activities in clean and well maintained facilities. To accomplish this, the plan follows the Michigan Department of Natural Resources guidelines to include a thorough inventory and accessibility assessment of the expansive park system, and an examination of trends and opportunities specific to their communities current and future recreational demands.

The development of the plan took place during the COVID-19 pandemic, making it even more difficult to reach a very diverse population. To start, the online survey was translated and advertised in Arabic. Secondly, the Beckett & Raeder team created virtual community input sessions with real time voting options to gather candid feedback from the participants. Thirdly, stakeholders were virtually interviewed for an added layer of insight into where improvements could be made.

Beckett & Raeder developed achievable goals and objectives that relate to the needs of the community and tied it directly to the Capital Improvement Plan. The action plan not only describes what to do, but many of the actions have a timeframe and price tag attached to streamline their development.

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Charlevoix County Parks and Recreation Plan

Charlevoix, Michigan



In 2019, Charlevoix County completed an update to the 2015 Parks & Recreation Plan, with final adoption in 2020. The new Parks & Recreation Plan is valid through the end of 2024. The purpose of keeping the Parks & Recreation Plan current is to keep up with current trends and to plan for the future. The approved plan also allows the county to be eligible for grant funding through the Michigan Department of Natural Resources.

The Charlevoix County Parks Committee and the Planning Commission met on a regular basis throughout the process. Charlevoix County is dedicated to serving the residents and visitors of the area and responding to their recreational needs and desires. Parks and recreation services ultimately improve the quality of life for the community.

The county is committed to listening to feedback from residents and park users to gather as much information as possible to make educated decisions. There were three community input sessions held to give the residents and visitors a chance to express their opinions regarding the parks and recreation system. An online survey was also developed and distributed to gather candid feedback. Over 250 people participated throughout this process.

Beckett & Raeder, Inc. provided Charlevoix County with planning services to create a working document to guide the next five years of parks and recreation services.

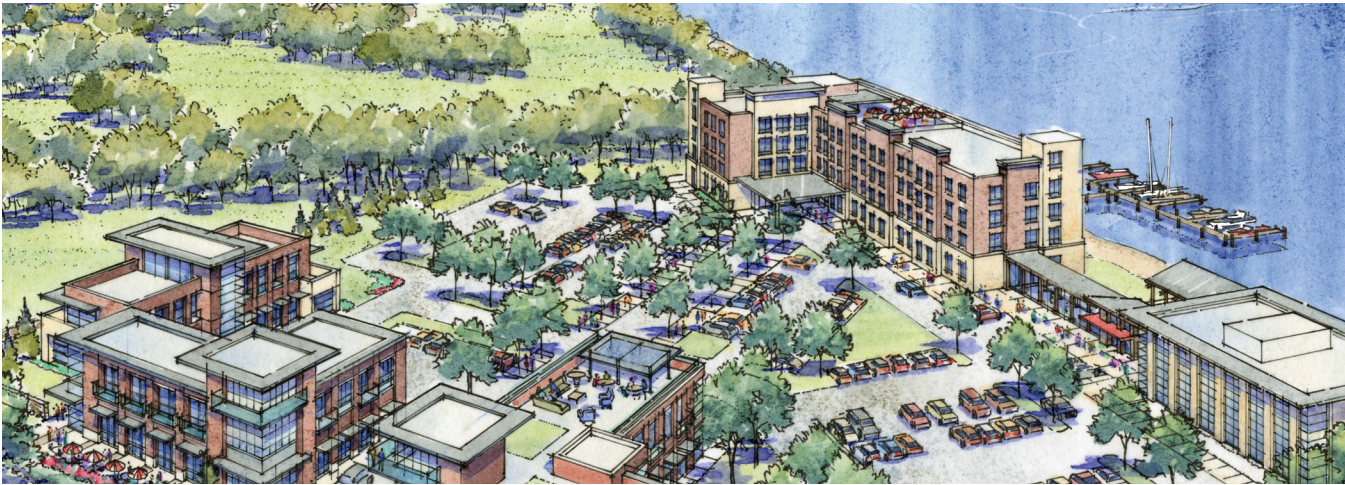


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iii.

References

References



M-115 and M-55 Corridor Redevelopment | Cadillac, Michigan

Community	Reference Contact	Year	Link to Project
White Lake Township	Sean O’Neil Community Development Director 248.698.3300 soneil@whitelaketwp.com	2012-2013	https://www.bria2.com/bloomer-park
Farmington Hills	Ellen Schnackel Director of Special Services 248.473.1807 eschnackel@fhgov.com	2019-2023	https://bria2.net/wp-content/uploads/2021/01/Farmington-Hills-Parks-Recreation-Plan_2019.pdf
Eaton County	Troy Stowell Parks & Recreation Director 517.627.7351 parksdept@eatoncounty.org	2021-2025	https://acrobat.adobe.com/link/track?uri=urn%3Aaid%3Asc%3AUS%3Af4b9a39c-24f4-4f40-9fa9-5aead648f209#pageNum=1
Petoskey	Kendall Klingelsmith Parks & Recreation Director 231.347.2500 kklingelsmith@petoskey.us	Ongoing	https://www.bria2.com/petoskey-greenway
Dearborn	Dan Plamondon Parks & Recreation Director 313.943.2410 dplamondon@ci.dearborn.mi.us	2021-2025	https://acrobat.adobe.com/link/track?uri=urn:aid:scds:US:9f9fa509-643f-477d-9d44-6a3d23f95f58#pageNum=1
Charlevoix	Kent Knorr Recreation Director 231.547.7183 kentk@charlevoixmi.gov	2020-2024	https://bria2.net/wp-content/uploads/2021/02/Charlevoix-County-Parks-Rec_Report_2020.pdf



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iv.

Resumes



BRI'S AWARD-WINNING TEAM

BRI has won more Daniel Burnham Awards for a Comprehensive Plan, bestowed by the Michigan Association of Planners and juried by partner State chapters, than any other firm in Michigan. These honors have recognized the firm specialization in unique and custom planning projects, such as one of the first joint master plans in the State (Onkama Township and Village), a Tribal master plan (Peshawbestown), large-scale regional collaborations (Lakes to Land initiative serving 18 local units of government with 9 master plans), new analytical methods (City of Jackson), and resiliency (City of Trenton). Because we understand good work, we are eager to preserve and further it: In addition to these bottom-up efforts, the team also engages in highly targeted updates that move a community toward its established goals with new data, continued community conversation, and fresh eyes.



SPECIALTY GIS SERVICES

At BRI, anything worth planning is worth mapping. Our GIS services go beyond putting colors on a page and include investigative analyses into land revenue potential, economic/built environment relationships, property reuse classification, green and gray infrastructure systems, and network analyses. It is a joy to find new problems for spatial analysis to help solve.



LANDSCAPE ARCHITECTURE: THE MAKING OF GREAT PLACES

Landscape architecture is BRI's original service and provides its longest and widest reach across Michigan and beyond. We have helped create many of the State's great places, including waterfronts from Petoskey to Detroit, countless downtown streetscapes, and a vast array of facilities across Michigan's beautiful State Parks. Students throughout Michigan have studied among our lush and functional campus designs and have spent their excess energy on our K-12 playground and athletic facilities. We have been leaders in low-impact design, providing sensitive solutions that address community needs in a manner that respects the land itself. We are advocates for both the journey on a well-designed trail and the destination to a comfortable, vibrant space.

ENGINEERING

In 1983, BRI's services were broadened to include civil engineering, providing a complete development solution to clients. We offer our clients engineering services that provide creative alternatives to achieve cost effective solutions while maintaining functionality and pleasing aesthetics. We offer a full range of engineering services that include all phases of planning, design, community meeting facilitation, and construction.





Brian Barrick, PLA, ASLA
Principal, Landscape Architect

Brian Barrick is a Principal with Beckett & Raeder, Inc. and provides leadership in landscape architecture, historic site assessments, public and stakeholder participation, urban design, natural resource planning, placemaking, and project management. Brian has more than 20 years of experience in site development, environmental and natural systems planning and design, contract documents and construction administration. His work experience includes urban and downtown design and planning; parks, open space and trails projects; office, commercial, institutional and industrial projects; and municipal master planning projects.

EDUCATION

Bachelor of Landscape Architecture Minor in Natural History, Ball State University, Muncie, Indiana

REGISTRATIONS

Licensed Landscape Architect, States of Michigan, Illinois, Ohio

Michigan DEQ Certified Stormwater Operator (Management/construction Site) 2000

AFFILIATIONS

American Society of Landscape Architects

National Complete Streets Michigan Complete Streets

Michigan Recreation & Parks Association

SELECTED EXPERIENCE

Marshbank Park
West Bloomfield Township, MI
Honor Award, Landscape Architectural Sustainability – Michigan American Society of Landscape Architects, 2016

Design Award, Landscape Design – Michigan Recreation & Park Association, 2011

Great Lakes Park, Facility, & Recreation Program Award – Great Lakes Park Training Institute, 2013

Oakland Award – Oakland County, 2012

Bear River Valley Recreation Area
Petoskey, MI
Design Award, Landscape Design – Michigan Recreation & Park Association, 2011

Bloomer Park
White Lake Township, MI
Design Award, Landscape Design – Michigan Recreation & Park Association, 2014

Charlevoix Downtown Park & Marina
Charlevoix, MI

Library Plaza
Charlevoix, MI

Downtown Greenway
Petoskey, MI

Hidden Pines Park
White Lake Township, MI

Airline Trails Extension Master Plan & Grants
West Bloomfield Township, MI

Lillie Park East & South
Pittsfield Charter Township, MI

Hickory Woods Park
Pittsfield Charter Township, MI

Wall Park
Pittsfield Charter Township, MI

Township Park
Pittsfield Charter Township, MI

Montibeller Park
Pittsfield Charter Township, MI



Caitlin Jackson, PLA, ASLA

Senior Associate, Landscape Architect

Caitlin has worked on a variety of project types in her 8 years at BRI including university site development, park design and corridor revitalization. She has experience in site design, community facilitation, master planning, construction document production, plant materials, cost estimating, hardscape detailing, three-dimensional modeling and photo manipulation. She is a Certified Charrette Planner through the National Charrette Institute in Charrette System Planning.

EDUCATION

Bachelor of Landscape Architecture, Michigan State University, East Lansing

LICENSES & CERTIFICATES

Licensed Landscape Architect

Certified Charrette Planner, National Charrette Institute

AFFILIATIONS

American Society of Landscape Architects

American Planning Association

SELECTED EXPERIENCE

River Raisin Heritage Corridor East Master Plan

Monroe, MI

Merit Award – Michigan American Society of Landscape Architects, 2013

Acme Township Placemaking, Master Plan, and Parks & Recreation Plan

Acme Township, MI

Daniel Burnham Award for a Comprehensive Plan – Michigan Association of Planning, 2015

Frankfort Recreation Plan

Frankfort, MI

Michigan Avenue Streetscape

Jackson, MI

Blackman Park Expansion

Jackson, MI

Monroe Parks & Recreation Plan

Monroe, MI

Pittsfield Township Parks & Recreation Plan

Pittsfield Township, MI

Parks & Recreation Master Plan

Pleasant Ridge, MI

State Street Corridor Improvement Study

Saginaw, MI

Mellus Park Conceptual Design

Lincoln Park, MI

MSU Special Housing Needs Spartan Village Redevelopment

East Lansing, MI

Midland Farmers Market Place Plan

Midland, MI

Traverse City Farmers Market

Traverse City, MI



Michelle Bennett, AICP

Senior Associate, Planner, Project Manager

Michelle’s professional planning experience has focused on master planning and zoning amendments with a resiliency lens. Her experience managing large-scale state and municipal projects and converting demographic, housing, and economic data into a digestible format for the public is critical for implementation that is equitable and sustainable. Michelle’s other favorite task is training and empowering Planning Commission’s to carry out planning goals.

EDUCATION

Bachelor of Arts, Urban Studies & Economics, University of California, San Diego

Master of Urban and Regional Planning, University of Michigan, Ann Arbor

CERTIFICATIONS

American Institute of Certified Planners

AFFILIATIONS

American Planning Association

Emerging Planning Professionals

TEACHING EXPERIENCE

University of Michigan, Legal Aspects of the Planning Process

Michigan Association of Planning, Planning and Zoning Essentials

Michigan Association of Planning, Environmental Planning Module

SELECTED EXPERIENCE

City of Dearborn Parks & Recreation Plan
Dearborn, MI

Eaton Rapids Area Joint Recreation Plan
Eaton Rapids, Eaton Rapids Township, and Hamlin Township, MI

Eaton County Parks and Recreation Plan
Eaton County, MI

City of Farmington Hills Parks and Recreation Master Plan
Farmington Hills, MI

Orion Township Parks and Recreation Master Plan
Orion Township, MI

City of River Rouge Parks and Recreation Master Plan
River Rouge, MI

City of Sandusky Parks and Recreation Master Plan
Sandusky, MI

City of Warren Master Plan
Warren, MI
Daniel Burnham Award for a Comprehensive Plan – Michigan Association of Planning, 2021

City of Sturgis Master Plan
Sturgis, MI
Excellence Award in Community Outreach – Michigan Association of Planning, 2020

Kalamazoo County Master Plan
Kalamazoo County, MI
Daniel Burnham Award for a Comprehensive Plan – Michigan Association of Planning, 2019

City of Trenton Coastal Resiliency Master Plan
Trenton, MI
Daniel Burnham Award for a Comprehensive Plan – Michigan Association of Planning, 2017

City of Roseville Master Plan
Roseville, MI

Groveland Township Master Plan
Groveland Township, MI



Rowan Brady

Project Planner & Urban Technology

Rowan joined Beckett & Raeder as an Intern in 2018. After finishing his undergraduate degree in the Spring of 2019, Rowan remained at Beckett & Raeder, Inc. while completing his Master’s degree in Urban and Regional Planning at the University of Michigan-Ann Arbor. Rowan is a Geographic Information System (GIS) specialist and contributes data input, analysis, and mapping to many of BRI’s community planning projects.

EDUCATION

Bachelor of Arts, Environmental Science
Minors: Urban Studies
University of Michigan, Ann Arbor

Master of Urban and Regional Planning, University of Michigan, Ann Arbor

AFFILIATIONS

Michigan Association of Planning

PUBLICATIONS & PRESENTATIONS

Tapping into Economic Potential: The Impact of Microbreweries in Michigan

Outstanding Graduate Student Project – Michigan Association of Planning, 2021

Shoreline Planning - Michigan Association of Planning Conference Presentation, 2021

SELECTED EXPERIENCE

Project Rising Tide
21 Michigan Communities
Innovation in Economic Planning and Development Award – Michigan Association of Planning, 2018

Michigan Economic Development Corporation,
Economic Development Board
Training Curriculum

Michigan Department of Health and Human Services,
Climate Health Adaptation Program

Wexford County M-115 Corridor Study
Wexford County, MI

Traverse City and Garfield Township Recreation Authority
Traverse City, MI

City of Ypsilanti Sustainability Plan
Ypsilanti, MI

Michigan Department of Natural Resources, Park General Management Plans

City of Warren Master Plan
Warren, MI
Daniel Burnham Award for a Comprehensive Plan – Michigan Association of Planning, 2021

City of Lincoln Park Master Plan
Lincoln Park, MI

Clam Lake Township Master Plan
Clam Lake Township, MI

Banks Township Master Plan
Banks Township, MI

City of East Jordan Master Plan
East Jordan, MI
Excellence Award in Community Outreach – Michigan Association of Planning, 2021

Hayes Township Master Plan
Hayes Township, MI

Lake City Area Master Plan
Lake City, MI
Lake Township, MI
Forest Township, MI



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Authorized Negotiator

Authorized Negotiation



East Jordan Marina | City of East Jordan, Michigan

Beckett & Raeder, Inc. (BRI) authorizes Brian Barrick, PLA, ASLA, Principal and Shareholder of the Firm, as the negotiator of this potential contract with White Lake Township.

Brian may be reached by phone at 734.663.2622 or by e-mail at bbarrick@bria2.com.

Facsimile may be sent to 734.663.6759.

Brian may also be reached by mail at:

Beckett & Raeder, Inc.
535 West William, Suite 101
Ann Arbor, Michigan 48103



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Scope of Work

Scope of Work



River Raisin Heritage Corridor | Monroe, Michigan

UNDERSTANDING OF PROJECT

White Lake Township seeks a Parks and Recreation Master Plan that complies with the Michigan Department of Natural Resources guidelines to continue to be eligible for state grants. To accomplish this, the Township wants to update demographic and socioeconomic trends to ensure its “Community Description” reflects its residents’ composition and preferences. Moreover, this plan calls for an in-depth, on-the-ground inventory of its system, including properties that are not owned by the Township, to describe its recreational assets and deficiencies. The Township also wants a public input process that helps determine projected needs and how to meet them with planning efforts. Incorporated into this plan will be a Non-Motorized Pathways and Trails Plan that connects parks to other destinations. Finally, the Township seeks goals, objectives, and an action plan with specific projects that are attached to overarching goals, responsible parties, and with estimated timelines.

Scope of Work

TASK 1: PROJECT ORGANIZATION

Task 1.1 Kick-off Meeting

BRI and White Lake Township would convene a kick-off meeting with a Steering Committee of representative stakeholders (i.e. Parks and Recreation Committee, Planning Commission, staff, Board of Trustees, a member at large) to meet and discuss project expectations, the process and timeline, the role of the Steering Committee, a final work plan, and any other specific considerations.

Task 1.2 Document Review

BRI will review the Township’s previous planning documents that have a bearing on this project and will identify elements which should be adopted into the Parks and Recreation Master Plan to ensure alignment with other Township goals and objectives. All data which will influence the five-year plan will be taken into consideration, including the Capital Improvement Plan. The Township will provide all relevant previous planning reports, background information, and GIS data.

Task 1.3 Notifications and Submission

BRI will be tasked with writing public hearing notices and other required notifications during the process. At the end of the process, BRI will also submit all of the necessary documents to the MDNR.

TASK 2: EXISTING CONDITIONS

Task 2.1: Demographics

The Township’s demographics and socioeconomic indicators will be reviewed, using 2020 Census data when possible, with an emphasis on how these trends relate to recreational facilities, services, and programming. Information will be presented in a visually engaging format.

Task 2.2: Built and Natural Systems

Compile and review information on existing built systems including transportation networks, location of significant cultural and natural features, existing land use patterns, and how forecasted development patterns may affect recreation.

Task 2.3: Administrative Structure

This section will update the organizational chart, partnerships, volunteers, and grant history. The purpose of this section is to demonstrate the Township’s current networks, resources, and where there may be gaps in partner-building. As written in the RFP, the Township will complete this update, and BRI will incorporate it into the plan.

Task 2.4: Recreation Inventory

A thorough onsite recreation inventory and accessibility assessment will be conducted for the four parks that White Lake Township owns and operates, and up to 10 properties that provide recreation but are owned by other entities. The inventory will be benchmarked against the National Recreation and Park Association standards and will suggest improvements based on the park’s MDNR category: mini parks, neighborhood parks, and community park, etc. This will include state standards for specific activities or facilities (i.e. basketball courts, tennis, etc.). Accessibility will be scored using the MDNR scale.

Then, a one-pager that details each of the facility’s characteristics, amenities, accessibility, and suggested improvements will be created. Park amenities and programming will be compiled into one matrix so that deficiencies will become clearer to the Township and an action strategy will be easier to devise.

A regional inventory will also be conducted, primarily through mapping and describing regional parks major features.

Task 2.5: Non-Motorized Trail

This plan will start by mapping the extent of the current non-motorized system, including the labeling and description of existing path types. This map will help BRI to visualize gaps in the system and where and how they can be connected. With the Steering Committee, it can be determined which gaps to prioritize, and identify which type of path should be installed. For three priority links, cross sections will be drawn to convey how the path would “fit in” to the existing landscape, with measurements, materials, and screening options (where applicable) included.

Scope of Work

TASK 3: COMMUNITY ENGAGEMENT

Task 3.1 Steering Committee Meetings

Six meetings will be held with the Steering Committee where the public can be invited to join in the process. The meetings will be held to discuss the following:

- Survey questions
- Review existing conditions, one meeting for the Non-Motorized Trail Plan (2)
- Draft goals and actions (2)
- Draft plan

Task 3.2 Survey

An electronic survey will be developed, hosted, and conducted by BRI. The survey allows for questions to be asked at a more granular level about residents' preferences, attitudes, and behaviors. BRI will analyze the data collected from the survey and will provide a summary of the results highlighting the statistics. Findings will be placed in the plan where relevant, and the complete findings will be provided in the Appendix.

Task 3.3 Input Session

This could be organized in several ways, depending on what the Township thinks would be the most fruitful. A session could be held in person at Township Hall or at a Township event. BRI will create a series of interactive questions to solicit feedback on the community's priorities.

Task 3.4 Adoption Meetings

BRI will attend the public hearing with the Parks and Recreation Committee and a session with the Board of Trustees. A presentation will be shown to summarize the plan's process, major findings, and action strategies.

TASK 4: IMPLEMENTATION

Task 4.1 Goal and Action Formation

This section will begin with a summary of trends, issues, and opportunities for White Lake's recreation system. This summary will lead to a series of goals that are supported by more specific actions. This process will begin by reviewing what has been accomplished in the current plan and what no longer remains relevant. Based on community engagement and onsite inventory, the Steering Committee will meet to shape this plan's goals and actions. Each project will be given a priority level, cost estimate, responsible party to hold accountable, partners, and potential funding source.

Task 4.2 Final Draft

BRI will present the draft plan to the Steering Committee. Upon their agreement, BRI will guide the Township through the 30-day review and adoption process through the appropriate approving bodies.

Deliverables

BRI will complete a highly visual and concise final Parks and Recreation Master Plan:

- A digital version (physical copies upon request, printed at cost)
- A USB with all data collected and GIS shapefiles
- Community engagement results



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Schedule

Preliminary Schedule

TASKS	MONTHS										
	1	2	3	4	5	6	7	8	9	10	
Task 1.0 Project Initiation											
1.1 Kick-off Meeting	●										
1.2 Document Review	●	●	●	●	●	●	●	●	●	●	●
1.3 Notifications and Submission									●	●	
Task 2.0 Existing Conditions											
2.1 Demographics	●										
2.2 Built and Natural Systems	●										
2.3 Administrative Structure		●									
2.4 Recreation Inventory			●								
2.5 Non-Motorized Trail Plan			●	●	●	●	●				
Task 3.0 Community Engagement											
3.1 Steering Committee Meetings (6)	●	●	●	●	●	●	●	●	●	●	●
3.2 Survey		●									
3.3 Input Sessions				●							
3.4 Adoption Meetings									●	●	●
Task 4.0 Implementation											
4.1 Goal Formation & Action Strategies					●	●	●				
4.2 Final Draft + Edits								●			



Thank You.

Brian Barrick, PLA, ASLA

734.663.2622 | bbarrick@bria2.com

B R *i*
Beckett & Raeder

*Landscape Architecture
Planning, Engineering &
Environmental Services*

White Lake Township Five-Year Recreation Plan

Fee Proposal

April 1, 2022



River Raisin Heritage Corridor | Monroe, Michigan



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Estimated Costs

Estimated Costs

Task	Hours	Cost Per Task
TASK 1.0 PROJECT INITIATION	34	\$4,330.00
1.1 Kick-off Meeting	12	\$1,700.00
1.2 Document Review	12	\$1,560.00
1.3 Notifications and Submission	10	\$1,070.00
TASK 2.0 EXISTING CONDITIONS	130	\$15,030.00
2.1 Demographics	10	\$1,070.00
2.2 Built and Natural Systems	10	\$1,070.00
2.3 Administrative Structure	6	\$810.00
2.4 Recreation Inventory	64	\$6,960.00
2.5 Non-Motorized Trail Plan	40	\$5,120.00
TASK 3.0 COMMUNITY ENGAGEMENT	83	\$10,325.00
3.1 Steering Committee Meetings (6)	35	\$4,825.00
3.2 Survey	14	\$1,470.00
3.3 Input Sessions	24	\$2,680.00
3.4 Adoption Meetings	10	\$1,350.00
TASK 4.0 IMPLEMENTATION	84	\$9,600.00
4.1 Goal Formation & Action Strategies	28	\$3,440.00
4.2 Final Draft + Edits	56	\$6,160.00
	Total	\$39,285.00
 Expenses		
Mileage Allowance - BRI		\$468
Printing Allowance - BRI		AT COST, UPON REQUEST
GRAND TOTAL		\$39,753.00



Thank You.

Brian Barrick, PLA, ASLA
734.663.2622 | bbarrick@bria2.com

**WHITE LAKE TOWNSHIP
TOWNSHIP BOARD**

**REPORT OF THE
COMMUNITY DEVELOPMENT DEPARTMENT**

TO: Township Board
FROM: Justin Quagliata, Staff Planner
DATE: May 12, 2022
RE: Stanley Park Biological Assessment Proposal

The Parks and Recreation Committee is recommending Township Board approval of a herpetological services proposal for Stanley Park. While the Land and Water Conservation Fund (LWCF) grant was tentatively awarded by the Michigan Department of Natural Resources (MDNR), federal agency review and approval is still in progress. The National Park Service (NPS) indicated there has been documented occurrences of Eastern Massasauga Rattlesnakes (EMR), which is a threatened/endangered species, in the project area. The project is being required to go through the U.S. Fish and Wildlife Service (USFWS) formal consultation process to confirm no adverse effect to EMR would result from the park improvements. USFWS may require the Township obtain a biological assessment on the Stanley Park property. If required, this assessment would need to be completed by a herpetology consultant to be acceptable by federal agencies. Ultimately, USFWS would review the assessment and issue a decision on the matter, which must be acceptable to NPS to obtain compliance with federal requirements. A representative of USFWS plans to visit Stanley Park, and they may be able to complete habitat identification during the field visit and get everything needed to complete a consultation. Staff will wait for USFWS to visit the park and provide direction on whether the assessment is needed or not. Board approval of this expense subject to the outcome of the USFWS site visit would allow the Township to be prepared to proceed with the biological assessment, if necessary, as soon as possible.

Herpetological Resource and Management, LLC (HRM) proposed a flat fee not to exceed \$16,200. The Township may be able to obtain 50% reimbursement of the cost of the study. Pre-award costs would be taken from the LWCF grant, thereby reducing the money available for construction. Note USFWS provided staff a list of biologists who are permitted by USFWS to work with EMR – there are only three such individuals in Michigan. Staff contacted all three Michigan based consultants; HRM was the only consultant to respond. Also note HRM was the EMR consultant for Indian Springs.

Attachment

- 1. Stanley Park Herpetological Services Proposal dated April 19, 2022.



P.O. BOX 110
CHELSEA, MI 49240
(517) 522-3524 OFFICE
(313) 268-6189 MOBILE
WWW.HERPRMAN.COM

April 19, 2022

Justin Quagliata, Staff Planner
White Lake Township
7525 Highland Road
White Lake, MI 48383

Subject: Stanley Park Improvements Rare Herpetological Services Proposal

Dear Mr. Quagliata:

Herpetological Resource and Management, LLC (HRM) is pleased to provide the following proposal for professional services to White Lake Township to conduct herpetological field assessments within the proposed project area focused on the Federally protected Eastern Massasauga Rattle Snake and State protected herpetofauna. HRM maintains all necessary permits to conduct the requested services and can mobilize project team in late April following authorization.

We at HRM are pleased to have the opportunity to work on this project and apply our expertise on Michigan herpetofauna. Please feel free to contact us if you have any questions or need additional information.

Sincerely,

A handwritten signature in blue ink that reads "David A. Mifsud".

David A. Mifsud, CWB, PWS, CPE

Scope of Services

Herpetological Resource and Management (HRM) proposes the following Scope of Services targeting the Federally protected Eastern Massasauga Rattle Snake (EMR) as the State of Michigan listed Endangered, Threatened, or Special Concern herpetofauna associated with the Project. This assessment will be conducted pursuant federal requirement. The Project Area consists of Stanley Park, located in White Lake Township, Michigan.

This baseline assessment will be completed to identify and evaluate concerns for rare herpetofauna associated with proposed improvements proposed to Stanley Park based on the conceptual design provided by Beckett&Raeder dated February 2021.

A review of has confirmed the presence of federal threatened Eastern Massasauga Snake (*Sistrurus catenatus*) (EMR), as well as several state listed species of herpetofauna on or near the project area. To accurately assess the range of rare species potentially present, HRM proposes sampling from Late April through May to capture several life stages and activities of rare herpetofauna. The following services will be provided:

Scope of Services

Task 1: Review existing documentation, species occurrence data, and proposed designs for project area, and secure all necessary permits.

Task 2: Conduct biological and habitat assessment associated with project area to evaluate herpetofauna community composition with emphasis on EMR and other protected species.

Task 3: Develop report summarizing objective, methods, results, discussion and recommendations including Best Management Practices and restoration/enhancement recommendations targeting amphibians and reptiles. Map distribution of observed herpetofauna within project assessment area.

Methods

Various target species of amphibians and reptiles are active at different times of the day and in different seasons, sampling will be conducted during a variety of times when amphibians and reptiles are active. Surveys will be conducted during late spring, early summer to capture the greatest diversity of herpetofauna. Amphibians and reptiles inhabit several different habitats and microhabitats; therefore, multiple methods will be used to completely sample the area. Sampling will include visual encounter surveys, dip netting, trap, auditory, and cover surveys. No voucher samples will be taken (unless dead), but photographs will be taken when possible. All data will be contributed to the Michigan Herp Atlas project.

Stanley Park Improvement Herpetological Services Proposal

Schedule

Work is anticipated to be conducted April through May 2022.

Budget

Compensation for HRM team directly engaged in the work of this proposal will be based on flat fee not to exceed of \$16,200.00. All other services or requested items/materials not outlined in the proposal will be billed at an hourly rate of \$110 per hour or actual cost of item. A breakdown of this estimate is provided below.

Task 1	\$900.00
Task 2 (6 days)	\$9,000.00
Task 3	\$3,500.00
Travel	\$2,000.00
Client correspondence/meetings	\$800.00
Project Total:	\$16,200.00*

* Total includes survey (2-3 trained biologist with experience sampling rare herpetofauna), equipment, travel, report, and any additional deliverables specified above (including one report revision) and based on a flat rate not to exceed amount listed. All other services not stated above will be billed based on *time and materials* at the hourly rate of \$110.00 unless otherwise mutually agreed upon in writing. All other services not stated above will require a change of scope. Please note the pricing reflects discount for nonprofit organizations. This cost estimate is valid for 30 days.

GENERAL TERMS AND CONDITIONS

1. These General Terms and Conditions, the attached proposal, and any stipulated exhibits or attachments shall constitute the entire agreement between Herpetological Resources and Management (hereafter referred to as HRM) and the CLIENT (herewith defined as the acceptor of this agreement) and shall not be modified except as hereinafter provided.

2. CLIENT may terminate this agreement upon written notice to HRM, at least ten (10) days prior to the date of termination. Upon receipt of termination notice, HRM shall immediately initiate efforts to stop all work in progress, including subcontracts. Insofar as possible, all ongoing work elements will be brought to a logical termination point. All finished or unfinished documents, data, studies, surveys, drawings, maps, reports, photographs, etc. prepared by HRM and any subcontractors will be delivered to CLIENT and shall become the property of the CLIENT, upon receipt of equitable compensation by HRM for performance of such work, provided that the release of said documents does not violate or contravene professional ethical standards.

HRM may terminate or suspend work under this agreement, as its option, if the CLIENT fails to pay invoices within thirty (30) days of presentation for payment. In the event HRM should choose to terminate the agreement for the cause herein stated, the CLIENT agrees to pay all unpaid invoices and to compensate HRM for other work performed as stipulated in Paragraph #1 of this section. Work may be resumed upon bringing the account to "current" status.

3. Additions to or deletions from this agreement shall only be accomplished by executing the appropriate "Contract Modification Record" wherein such modifications and consequent compensation adjustments may be addressed.

4. The scope of services to be provided under this agreement is stated in the proposal attached hereto and shall not be modified except as heretofore provided.

5. HRM will bill for services provided every thirty (30) days, unless otherwise stipulated, and payment will be on a "Net 30 Days" basis. Accounts more than thirty (30) days old will be subject to interest of 2% (two percent) per month on the unpaid balance. The basis of payment for work performed under this agreement is stipulated in the accompanying proposal, which shall only be modified in writing, by manual agreement. All invoices will be directed to:

6. HRM agrees to furnish, if requested by CLIENT, a certificate reflecting their general liability insurance coverage in sufficient amounts, and agrees that such coverage shall be maintained during the terms of this agreement. HRM shall be responsible for determining that its subcontractors, where required, likewise carry and maintain adequate insurance coverage.

7. HRM Agrees to indemnify and hold CLIENT, its directors, employees and agents harmless from each and every claim, suit, judgement or damage to or for injury or death of any persons, caused by or arising out of or in connection with the operations of HRM and its subcontractors under this agreement, except as same may be due to the sole negligence of CLIENT.

8. The CLIENT agrees that, in the event that they shall enter into a contract for the services provided by HRM under the terms of this agreement, they shall require in such contract that the contractor provide an Owner's General Liability Insurance Policy, which shall, at a minimum, indemnify the Owner and HRM against claims for damages because of bodily injury or death and for property damage caused by acts of the contractor or any sub-contractors, including defense costs, with limits of liability not less than \$1,000,000.00 per occurrence.

9. Neither CLIENT nor HRM may assign or transfer their individual interests in this agreement without the written consent of the other party. CLIENT and HRM bind themselves and their successors and assigns to the other party with respect to all covenants of this agreement.

10. In the event that a dispute should arise concerning performance of this agreement, and should such dispute result in litigation, it is hereby agreed that the prevailing party in such an action shall be entitled to recover all costs incurred during such litigation, including, but not limited to, staff time, attorney's fees, court costs, etc., in addition to any monetary damages or awards arising out of such action.

Rik Kowall, Supervisor
Anthony Noble, Clerk
Mike Roman, Treasurer



Trustees
Scott Ruggles
Michael Powell
Andrea C. Voorheis
Liz Fessler Smith

WHITE LAKE TOWNSHIP DEPARTMENT OF PUBLIC SERVICES

7525 Highland Road, White Lake, Michigan 48383-2900, (248) 698-7700, www.whitelaketwp.com

May 10, 2022

Honorable Board of Trustees
Charter Township of White Lake
7525 Highland Road
White Lake, MI 48383

RE: Town Hall/PD Generator Purchase

Dear Board of Trustees:

DPS has researched several different options for a permanent replacement of the failed Township Hall/PD generator. After receiving initial quotes and starting the process of the repair of the existing generator it was discovered that the engine has major damage and is in need of at least a rebuild. This is on top of the \$10k cost to replace the radiator and failed sensors. As the unit is very old, we would not recommend a rebuild as the preferred option.

We then turned our attention to replacement while we rented a unit for now. One of the quotes we received was for a fixed standby unit that would stay with the building. The rest of the quotes were trailer mounted portable units. Michigan Cat provided a quote to purchase the unit that we are currently renting. They would also credit 70% of the rental fees that we have paid toward the purchase.

The Michigan Cat unit runs perfectly and is very reasonably priced. They by far give us more portability along with having a sound attenuated enclosure. By far this is a good option for what we are paying for the unit verses purchasing a new generator. Due to the current supply chain demand, we would have to wait approximately 1 year for a new generator to be built. After we relocate to the new Township Hall, the unit's multi-port / multi-tap flexibility can be used for a lot of different events as well as at the smaller well houses.

I recommend that the Township Board approve the purchase the generator we are currently renting from Michigan Cat. This would be a general fund expenditure.

Please feel free to contact me if you have any questions.

Sincerely,

Aaron D. Potter
Director, Dept. of Public Services
Charter Township of White Lake

GENERATOR QUOTES

	New Generator Price	Monthly Rental Fee	Portable/Fixed
Oak Electric - Waterford - 248-623-4900	\$42,856.00		Fixed
100 KW Generac Generator Protector Plus Industrial Generator 1800 RPM			
Wolverine Power - Wixom - 248-960-0360	\$68,100 (100 KVA)		Portable
Nick Baker- 616-283-5804	\$104,890 (150 KVA)		Portable
American Generator - Waterford - Geoff - 248-623-4919	\$94,530.70		Portable
100 kWe Diesel - multi-voltage			
Michigan Cat - David Perlin - 248-880-1158	\$25,000	\$2,336.00	Portable
100 KW CAT Diesel Generator (120/240V 3 PH Delta)			

Additional Fees

60Hz, 4-Position Voltage Selector Switch
Purchase price for generator we are currently renting

24800 Novi Road, Novi, MI 48375 | Phone: (248) 349-4800

Equipment Sales and Security Agreement between Michigan CAT ("Seller:") and

DATE: 5/10/22	CUST #: 8113335	SSN or FED ID #:	SALESMAN: David Perlin
BUYER'S NAME: Debra Nigohosian		COMPANY: Charter Township of White Lake	
ADDRESS 1: 7525 Highland Rd	ADDRESS 2:	COUNTY: Oakland	
CITY: White Lake	STATE: MI	ZIP: 48386	PHONE: 248-698-7700 FAX:
SALES CONTACT:	SUPPORT CONTACT:	POINT OF POSESSION:	

QTY	UNIT #	MAKE, MODEL, DESCRIPTION	SERIAL NUMBER	CASH PRICE

FINANCIAL ARRANGEMENTS:

No Warranty included for generator or cables

	TOTAL CASH PRICE
--	-------------------------

BUYER WARRANTS THE FOLLOWING TRADE-INS AND ALL ADDITIONAL SECURITY ARE FREE & CLEAR OF ALL LIENS AND ENCUMBRANCES

YEAR	MFGR	MODEL	SERIAL NUMBER	TRADE ALLOWANCE

I. Total Trade Allowance _____

II. Less Amount Owed To: _____

III. Net Trade Allowance (I-II) _____

IV. Other (Specify) _____

V. Trade Down Payment (Transfer \$ to item 3 at right) _____

1. CASH DOWN PAYMENT	
2. RENT APPLIED	
3. TRADE DOWN PAYMENT (item V at left)	\$0.00
4. TOTAL DOWN PAYMENT	
5. UNPAID CASH PRICE	
6. STATE SALES TAX @	
7. CASH DUE ON DELIVERY (5+6)	\$27,150.00

FINANCING: This sale is contingent on Buyer's ability to qualify for and obtain financing for payment terms of "Lease" or "Installment Sale Contract" as described above within 45 days execution from date of this agreement, which Buyer agrees to apply for immediately and accept promptly, including providing current financial statements or other financial or operational information required to obtain financing. In the event financing is not obtained, Buyer shall be charged rental on a monthly basis at Seller's current published rental rate effective from date of receipt of equipment by Buyer and Buyer agrees to pay such charges within 30 days from date of invoice.

DEMOS: Demos are limited to 2 days unless otherwise specified in writing. After 2 days, Buyer will be charged rental on a monthly basis at Seller's current published rental rate and Buyer agrees to pay such charges within 30 days from date of invoice.

WARRANTY: BUYER BUYS THE EQUIPMENT WITH THE FOLLOWING WARRANTY

AS IS, WHERE IS
 SPECIAL-Attached
 STANDARD
 EXTENDED PT
 EXTENDED PT + H
 PREMIER

BUYER ACKNOWLEDGES AND AGREES THAT EACH UNIT OF EQUIPMENT (a) IS THE SIZE, DESIGN AND MODEL SELECTED BY BUYER, (b) SUITABLE FOR BUYER'S INTENDED PURPOSES AND (c) CONTAINS ALL SAFETY FEATURES DEEMED NECESSARY BY BUYER. BUYER ACKNOWLEDGES THAT SELLER IS NOT THE MANUFACTURER OF THE EQUIPMENT AND DOES NOT MAKE AND IS NOT AUTHORIZED TO GIVE ANY OTHER WARRANTY. THE WARRANTY PROVIDED ABOVE IS THE SOLE WARRANTY, IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, OR THE CONDITION, QUALITY, DESCRIPTION OF DURABILITY OF THE EQUIPMENT. SELLER ASSIGNS TO BUYER, TO THE EXTENT ASSIGNABLE, ANY WARRANTIES OF THE EQUIPMENT BY ITS MANUFACTURER, PROVIDED THAT ANY ACTION TAKEN BY BUYER BY REASON THEREOF SHALL BE AT THE EXPENSE OF BUYER. IN THE EVENT THAT SELLER HAS ASSUMED ANY RESPONSIBILITIES WHATSOEVER, SELLER'S SOLE OBLIGATION AND BUYER'S SOLE REMEDY FOR BREACH OF SUCH WARRANTY, IS SELLER'S PROVIDING OF PARTS AND SERVICE THE SELLER DETERMINES ARE REQUIRED FOR PERFORMANCE OF THE WARRANTY.

SELLER'S ACCEPTANCE: This Equipment Sales and Security Agreement shall be effective only upon acceptance by an Officer of Seller, which shall be signified by Seller's Officer's execution hereof. Buyer has read and agrees to all of the terms and conditions and the "Additional Terms" on the reverse side of this Equipment Sales and Security Agreement by signing of this Agreement.

IN WITNESS WHEREOF, the parties have executed this Equipment Sales and Security Agreement this _____
 If Buyer is a corporation, this individual signing this Agreement on its behalf warrants that it is authorized by authority of its Board of Directors.

Accepted By _____ Date _____ Accepted By _____ Date _____
Authorized Signature
 Title _____ Signed **X**
 Prepared By _____ Title (Officer, Partner, Owner, Member) _____

**White Lake Township - Treasurer's Annual Report
For the Year ended December 31, 2021**

Date: May 17, 2022
To: White Lake Twp. Board of Trustees
From: Mike Roman – Treasurer

Subject: 2021 Annual Treasurer's Report

All investments within Township funds are made in accordance with Michigan Public Act 20 per the Township's investment policy. Safety of capital is our foremost objective, followed by liquidity and finally yield.

INVESTMENT INCOME

General, Police and Fire fund investments earned approximately \$88,315 in interest income in 2021 utilizing mainly FDIC insured certificates and the Oakland County Municipal Pool. All of our Financial Institutions received four-star(excellent) or five-star (superior) ratings through Bauer Financial Inc. which is an independent bank research firm. I have included these ratings in this package.

The average yield earned on General Fund, Police, Fire Dept. investments in 2021 was .39% compared to 1.13% in 2020 as interest rates hit all-time lows again in 2021. Market yield benchmarks are provided and are based on U.S. Treasury Bill yields. We exceeded all benchmarks which I have included in this package.

LEGACY COSTS

In regard to Legacy costs that affect White Lake Township, we continued funding our OPEB (Other post-employment benefits) liability by transferring \$790,000 to MERS (Municipal Employees Retirement System) in 2021. The OPEB transfers help to fund retiree healthcare obligations of the Township. Total transfers to MERS for OPEB amount to \$5,057,500 through the end of 2021. Our OPEB funds are currently invested in the MERS Total Market Portfolio. The value of these assets as of 12-31-21 amounts to \$7,138,431. The activity summary for 2021 is attached along with MERS Total Market Portfolio information that describes this Portfolio's objective, asset breakdown and performance.

TAXABLE VALUE WITHIN OUR TOWNSHIP

Our 2021 Taxable value of our Ad Valorem tax roll increased from approximately \$1.239 billion to \$1.287 billion dollars an increase of approximately \$48 million dollars over the 2020 taxable value. As our general operating millage declined slightly due to the Headlee rollback, the increase in taxable value generated approximately \$29,867 in additional 2021 General Fund tax revenue over 2020.

Respectfully yours,

Mike Roman
White Lake Township Treasurer

MERS Total Market Portfolio

Retiree Health Funding Vehicle (RHFV) and Investment Services Program (ISP)



Objective

The MERS Total Market Portfolio is a diversified portfolio that provides current income and capital appreciation while minimizing the volatility of the capital markets.

Fund Expenses

Administrative Fee	0.18%
Investment Management Expenses	0.28%
Total Annual Operating Expense	0.46%

The total annual operating expense is deducted from the rate of return of the fund. This means that for every \$1,000 invested in the MERS Total Market Portfolio, an employer is charged \$4.60 in fees each year.

Asset Allocation

Global Equity	53.7%
U.S. Stocks	23.9%
European Stocks	11.3%
Japanese Stocks	8.0%
Emerging Market Stocks	10.6%
Global Fixed Income	23.2%
U.S. Treasury Bonds	13.0%
U.S. Investment Grade Bonds	0.0%
U.S. High Yield Bonds	0.1%
Emerging Market Bonds	6.8%
Short Duration Bonds	3.3%
Private Markets	23.1%

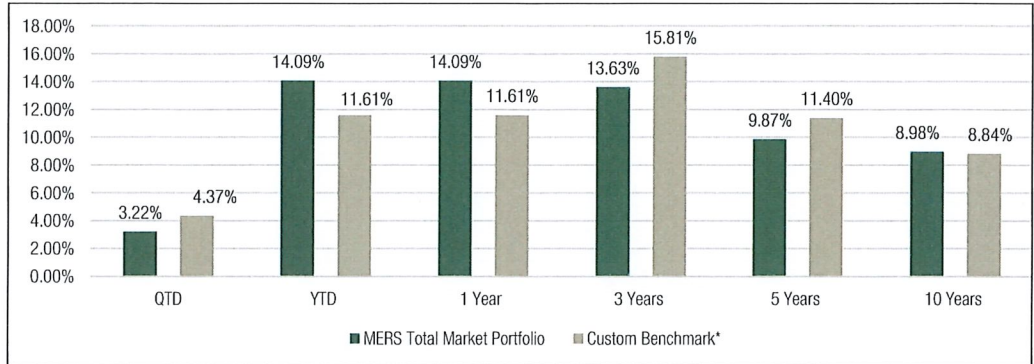
Risk Analysis



Standard Deviation (5-Year) Describes the volatility of the historical returns of the fund. A higher standard deviation indicates more risk due to higher fluctuation above and below the average.	7.80%
Sharpe Ratio (5-Year) Measures returns generated per unit of risk taken. The higher the Sharpe Ratio, the more you are being compensated for the amount of risk you are taking.	1.11

Performance – Annualized

Fund Inception: October 1975



Performance – By Calendar Year

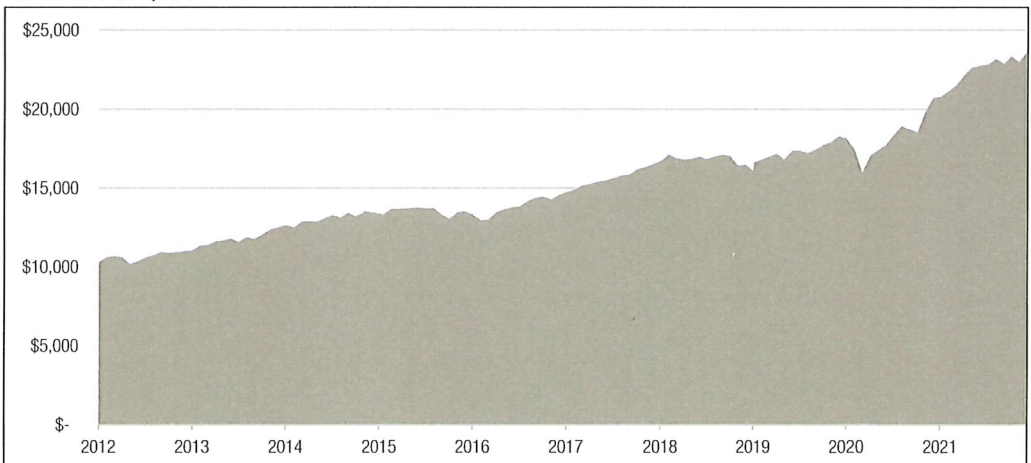
Year	MERS Total Market Portfolio	Custom Benchmark*
2020	13.29%	15.19%
2019	13.52%	20.83%
2018	-3.62%	-5.36%
2017	13.21%	16.72%
2016	10.67%	6.30%
2015	-0.97%	-2.33%
2014	6.35%	2.74%
2013	14.48%	14.36%

Top Ten Holdings

Invesco S&P 500 QVM Multi-Factor ETF	6.06%
SPDR Short Term Treasury ETF	5.28%
iShares JP Morgan USD EM Bond ETF	2.18%
iShares 20+ Year Treasury Bond ETF	1.67%
J.P. Morgan Betabuilders Japan ETF	1.62%
Invesco S&P 400 QVM Multi-Factor ETF	1.53%
SPDR BBG EM Local Bond ETF	1.28%
SPDR BBG EM USD Bond ETF	0.90%
Vanguard Short Term Treasury	0.78%
Apple Inc	0.61%

Growth of \$10,000

Balance After 10 Years: \$23,634.01



This graph shows the growth of \$10,000. If someone invested \$10,000 in the MERS Total Market Portfolio ten years ago with no additional contributions or withdrawals, they would have \$23,634.01 as of 12/31/2021.

Fund Restrictions

A 2.00% redemption fee is charged for shares sold within 90 days of purchase. The charge is applied on a first-in, first-out basis.

*Custom Benchmark: 45% Russell 3000, 20% MSCI ACWI ex USA IMI (Net), 25% BBG BARC Agg, 10% BBG BARC Global Agg ex US. Benchmark does not have expenses.

Disclaimers

Returns:

Return information prior to 10/1/2014 are presented after the Total Annual Operating Expense. After 10/1/2014, returns are presented net of Investment Manager expenses only. Past performance is no guarantee of future results. Current performance may be higher or lower. Funds are subject to investment risk from a number of sources, including the management style of the fund and market volatility. Markets are volatile and can rise or decline significantly in response to company, political, regulatory, market, or economic developments. A fund's total return, like securities prices generally, will fluctuate within a wide range. As a result, you could lose money over short or even long periods. Funds are also subject to investment-related risk, which is the chance that returns from companies invested in by the fund will trail returns from other asset classes or the overall market.

Fees:

The Total Annual Operating Expense consists of MERS' administrative fee and investment management expenses. MERS' administrative fee includes costs related to bookkeeping, setting trade activity, holding assets in custody at a bank, and running the day-to-day operations of the plan, which include legal, accounting, auditing, compliance, printing, and overhead costs. The investment management expenses are incurred in the direct management of the fund. These vary based on the level of assets. As assets increase, these are expected to decline.

General:

MERS, as a governmental plan, is exempted by state and federal law from registration with the SEC. The MERS Funds consist of a portfolio of assets managed in a separate account in a collective trust, specifically for MERS Plans. Unlike a mutual fund, only the participants in a MERS Plan can invest in the MERS Funds. Because the MERS Funds are not mutual funds, a prospectus is not available.

This summary is designed to provide descriptive information only. Investors should research all possible investment choices. Please make independent investment decisions carefully and seek the assistance of independent experts where appropriate. We recommend investors define their goals, risk tolerance, time horizon, and investment objectives to determine whether this fund is appropriate for you. Please make independent investment decisions carefully and seek the assistance of independent experts where appropriate.

Bank of New York Mellon, as the custodian for the MERS Funds, calculates the unit value as of the close of business each day. The MERS Funds invest in a broad selection of securities. Some securities may not be priced daily or prices may be determined on a delayed basis. These securities are reflected in the unit value of the fund at their most recent market value adjusted for interim cash flows.

MERS Funds are constructed utilizing several underlying investment strategies within a particular asset class. Consequently, a fund's asset allocation may vary over time as a result of underlying manager activity.

Funds are subject to investment risks from a number of sources, including the management style of the fund and market volatility. Markets are volatile and can rise or decline significantly in response to company, political, regulatory, market or economic developments. A fund's total return, like securities prices generally, will fluctuate within a wide range. As a result, an investor could lose money over short or even long periods. Funds are also subject to investment-related risk, which is the chance that returns from companies invested in by the fund will trail returns from other asset classes or the overall market.

MERS has made every effort to ensure that the information provided is accurate and up to date. For more information about this fund, please contact the MERS Service Center at 800.767.MERS (6377) or visit www.mersofmich.com.

Charter Twp of White Lake RHFV U & Non twp EE's MAP/POLC MAFF

Activity From **01/01/2021** to **12/31/2021**.

Investment: **All Investments**

Source: **All Sources**

Activity Summary

Activity	Balance	Shares
Beginning Balance	\$5,528,765.76	218,515.3268
Contributions	790,000.00	29,208.1428
Cash Earnings	.00	.0000
Dividends	.00	.0000
Distributions	.00	.0000
Other	.00	.0000
Transfers	.00	.0000
Fees	-11,765.50	-427.2300
Gain/Loss	831,430.49	.0000
Ending Balance	\$7,138,430.75	247,296.2396

State:

Institution Name:
 OR

FDIC#:
 OR

Tell Me More	Star Rating	Name	FDIC Certificate Number
Tell Me More (/star-ratings/tell-me-more?cert=57990&type=B&urlink=www.hvsn.com)	5 STARS	Huron Valley State Bank - Milford, MI (/star-ratings/tell-me-more?cert=57990&type=B&urlink=www.hvsn.com)	57990

Star ratings are current as of 04/22/2022 .

Bank star ratings are based on 12/31/2021 financial data; credit union star ratings are based on 12/31/2021 financial data.

Downloadable reports on individual institutions as well as on groups of institutions are also available from the "Tell Me More" Button.

Three easy ways to lookup an institution. First, select Bank Rating or Credit Union Rating, then...(<https://www.bauerfinancial.com/>)

1. Select a State. An alphabetical list of all institutions in that state will display below.
2. Select by institution name. Begin typing and a list will appear with the institutions that match your input.
3. If you know the FDIC Certificate Number or NCUA Charter Number, enter the unique number.



STAR RATING DEFINITIONS:	
5 STARS	Superior (These institutions are recommended by Bauer.)
4 STARS	Excellent (These institutions are recommended by Bauer.)
3 1/2 STARS	Good
3 STARS	Adequate
2 STARS	Problematic
1 STAR	Troubled
ZERO STARS	Our lowest rating
S.U. START UP	Start-up. Institutions that are too new to rate. (Obsolete beginning with June 30, 2018 financial data.)
N.R. NOT RATED	Credit Unions that either: have less than \$1.5 million in assets, are not NCUA insured or are too new to rate.
FDIC/ RSLVD	Institution has failed or is operating under regulatory conservatorship.

Financial data is compiled for U.S. banks and thrifts from call report data as reported to federal regulators. Although the financial data obtained from these sources is consistently reliable, the accuracy and completeness of the data cannot be guaranteed by BauerFinancial, Inc. CEO names and addresses are subject to change. While our staff makes every effort to ensure that these are current, the accuracy and completeness cannot be guaranteed by BauerFinancial.

All institutions are subject to federal regulatory capital requirements, but those requirements vary among institutions and are dependent on many factors. In general, banks are required to maintain a leverage capital ratio of at least 4%, a tier 1 risk-based capital ratio of at least 6% and a total risk-based capital ratio of at least 8%.

In addition to the capital ratio, other criteria are used to determine the BauerFinancial™ Star-Rating. Some of these include but are not limited to: profitability/loss trend, evaluating the level of delinquent loans, chargeoffs and repossessed assets, the market versus book value of the investment portfolio, regulatory supervisory agreements, the community reinvestment rating (CRA), historical data and liquidity.

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<https://www.addtoanv.com/share#url=https%3A%2F%2Fwww.bauerfinancial.com/star-ratings/?ref=#2-loadhere>

State:

Institution Name:
 OR

FDIC#:
 OR

Tell Me More	Star Rating	Name	FDIC Certificate Number
Tell Me More (/star-ratings/tell-me-more?cert=32541&type=B&urlink=www.dcbk.org)	5 STARS	Desert Community Bank, a trade name for Flagstar Bank FSB - Troy, MI (/star-ratings/tell-me-more?cert=32541&type=B&urlink=www.dcbk.org)	32541
Tell Me More (/star-ratings/tell-me-more?cert=32541&type=B&urlink=www.flagstar.com)	5 STARS	Flagstar Bank FSB - Troy, MI (/star-ratings/tell-me-more?cert=32541&type=B&urlink=www.flagstar.com)	32541

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ZERO STARS	Our lowest rating
S.U. START UP	Start-up. Institutions that are too new to rate. (Obsolete beginning with June 30, 2018 financial data.)
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[\(/#facebook\)](#) [\(/#twitter\)](#)

<https://www.addtoanv.com/share#url=https%3A%2F%2Fwww.bauerfinancial.com/star-ratings/?ref=#2-loadhere>

State:

Select One

Section 11, Item E.

Institution Name:

OR

FDIC#:

OR

Tell Me More	Star Rating	Name	FDIC Certificate Number
Tell Me More (/star-ratings/tell-me-more?cert=628&type=B&urlink=www.jpmorganchase.com)	5 STARS	Chase, a trade name for JPMorgan Chase Bank N.A. - Columbus, OH (/star-ratings/tell-me-more?cert=628&type=B&urlink=www.jpmorganchase.com)	628
Tell Me More (/star-ratings/tell-me-more?cert=628&type=B&urlink=www.jpmorganchase.com)	5 STARS	J.P.Morgan, a trade name for JPMorgan Chase Bank N.A. - Columbus, OH (/star-ratings/tell-me-more?cert=628&type=B&urlink=www.jpmorganchase.com)	628
Tell Me More (/star-ratings/tell-me-more?cert=628&type=B&urlink=www.jpmorganchase.com)	5 STARS	JPMorgan Chase Bank N.A. - Columbus, OH (/star-ratings/tell-me-more?cert=628&type=B&urlink=www.jpmorganchase.com)	628

Star ratings are current as of 04/22/2022 .

Bank star ratings are based on 12/31/2021 financial data; credit union star ratings are based on 12/31/2021 financial data.

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(https://www.addtoany.com/share#url=https%3A%2F%2Fwww.bauerfin

**White Lake Township
Market Yield Benchmarks
For the year ended December 31, 2021**

Benchmarks	4 week	13 week	26 week	52 week
US Treasury Bills - Coupon yield @ 12-31-21	0.06%	0.06%	0.19%	0.38%

White Lake Township
Quarterly Cash and Investment Report
As of December 31, 2021

Account	Account number	Financial Institution	12/31/2021	FDIC Insured	General fund *	Other funds**	Current Yield	Account purpose
Construction - Checking	858127850	Chase Bank	100	0		100	0.00%	Construction account
Drug Forfeiture - Savings	2952433130	Chase Bank	102,732	0		102,732	0.05%	Police use only
Flexible Spending - Checking	816891295	Chase Bank	16,716	0		16,716	0.00%	Flexible spending payroll clearing
General fund - Checking	220002988771	Chase Bank	131,889	0	131,889	0	0.00%	General fund use
General fund - Savings	2952431126	Chase Bank	904,983	0	904,983	0	0.05%	General fund use
Parks & Rec. - Savings	2330804721	Chase Bank	155,449	0		155,449	0.05%	Parks & Recreation use
Pontiac Lake Sewer - Savings	2330493491	Chase Bank	80,805	0		80,805	0.05%	Debt service Pontiac Lake sewer bonds
Public Act 188 - Checking	600582378	Chase Bank	60,777	0		60,777	0.00%	Special Assessment funded by WLT
Public Act 188 - Savings	2330545589	Chase Bank	326,559	0		326,559	0.05%	Special Assessment funded by WLT
Special Assess. Sewer Debt - Savings	2932485036	Chase Bank	42,604	0		42,604	0.05%	SAD -contract 7 & 8, Castlewood & Nordic Dr.
Sewer Phase 1 & 2 - Savings	2952433155	Chase Bank	237,591	0		237,591	0.05%	Debt service for Phase 1 & 2 sewer bonds
Sewer Maintenance - Savings	2952433148	Chase Bank	1,084,682	250,000		1,084,682	0.05%	Sewer maintenance
Special Assessment Rubbish - Savings	2952431134	Chase Bank	353,083	0		353,083	0.05%	To pay for trash pick up
Trust & Agency - Checking	220002982994	Chase Bank	84,764	0		84,764	0.00%	Trust and agency use
Trust & Agency - Savings	2952433163	Chase Bank	304,075	0		304,075	0.05%	Trust and agency use
Chase Bank - Totals			3,886,809	250,000	1,036,872	2,849,937		
Current Tax - CDARS **	CDARS	Flagstar Bank	5,000,000	5,000,000		5,000,000	0.05%	Tax bill receipts - April / May settlement
Current Tax - Savings **	101433598	Flagstar Bank	3,728,653	0		3,728,653	0.15%	Tax bill receipts - April / May settlement
General Fund - CDARS	CDARS	Flagstar Bank	10,913,518	10,913,518	10,913,518	0	.05% - .10%	General fund use
Improvement Revolving - Savings	108363912	Flagstar Bank	796,368	250,000		796,368	0.25%	Improvement Revolving use
Library Bond fund **	5492	Flagstar Bank	23,216	0		23,216	0.25%	To service Bond Debt for new Library
Water Capital Savings	120527744	Flagstar Bank	79,548	0		79,548	0.25%	Water Capital use
SAD Savings - Non sewer	8959	Flagstar Bank	126,866	0		126,866	0.25%	SAD savings Twin Lakes Road
Flagstar Bank - Totals			20,668,169	16,163,518	10,913,518	9,754,651		
Water Capital - Savings	602000309	H.V.S.B.	442,122	0		442,122	0.10%	Debt Service Water Capital & other use
Water Operating - Checking	202002952	H.V.S.B.	273,060	0		273,060	0.00%	For Water operating
Water Operating - Money Market Savings	515	H.V.S.B.	1,482,184	250,000		1,482,184	0.30%	For Water operating
Huron Valley State Bank - Totals			2,197,366	250,000	0	2,197,366		
General Fund - ARPA - O.C. Pool	77808	O.C. Pool	1,641,278	0	1,641,278		0.26%	From American Rescue Plan Act
General fund - O.C. Pool	77801	O.C. Pool	8,832,792	0	8,832,792		0.26%	General fund use
Parks & Rec. - O.C. Pool	77803	O.C. Pool	820,612	0		820,612	0.26%	Parks & Recreation use
Pontiac Lake Sewer - O.C. Pool	77804	O.C. Pool	170,629	0		170,629	0.26%	Debt service Pontiac Lake sewer bonds
Improvement Revolving - O.C. Pool	77807	O.C. Pool	7,057,738	0		7,057,738	0.26%	Improvement Revolving Savings
Trust & Agency - O.C. Pool	77806	O.C. Pool	431,650	0		431,650	0.26%	Trust and agency use
Water Capital - O.C. Pool	77802	O.C. Pool	2,142,982	0		2,142,982	0.26%	Water Capital use
Total Oakland County Municipal Pool			21,097,681	0	10,474,070	10,623,611		
Totals			47,850,025	16,663,518	22,424,460	25,425,565		

* General Fund amounts includes Police , Fire and Building Dept.

** Other funds include Current Tax and Library Bond funds.

White Lake Township
Cash and Investment Balances
As of December 31, 2021

Breakdown by type of Investment	Total	FDIC Insured	General fund *	Other funds **
Total Insured CDARS	15,913,518	15,913,518	10,913,518	5,000,000
Total O.C. Pool	21,097,681	0	10,474,070	10,623,611
Total Insured Savings	750,000	750,000	0	750,000
Total Uninsured Checking & Savings	10,088,826	0	1,036,872	9,051,954
Totals by type of investment	47,850,025	16,663,518	22,424,460	25,425,565

* General Fund amounts include Police , Fire and Building Dept.

** Other funds include Current Tax and Library Bond funds.

White Lake Township

Memo

To: White Lake Twp. Board of Trustees

From: Mike Roman

Date: May 17, 2022

Re: 2022 OPEB Employer Contributions

In 2021 the Board budgeted for the following OPEB (Other Post Employment Benefits) employer contributions for retiree health care benefits:

<u>Fund/Department</u>	<u>Amount</u>
General Fund	270,000
Fire Fund	150,000
Police Fund	250,000
Building Dept.	50,000
Water Dept.	70,000
Total Contribution	<u>790,000</u>

I recommend the Board to authorize the Treasurer to transfer the funds to the OPEB investment fund.

**OAKLAND COUNTY SHERIFF'S OFFICE
2022-2024 MARINE PATROL SERVICES AGREEMENT WITH
THE CHARTER TOWNSHIP WHITE LAKE**

This Agreement is made and entered into between the CHARTER TOWNSHIP OF WHITE LAKE, a Michigan Constitutional and Municipal Corporation and political subdivision of the State of Michigan, located within Oakland County, whose address is 7525 Highland Road, White Lake, MI 48383 (hereafter the "MUNICIPALITY"), and the COUNTY OF OAKLAND, a Michigan Constitutional and Municipal Corporation and political subdivision of the State of Michigan, whose address is 1200 North Telegraph Road, Pontiac, Michigan 48341 (hereafter the "COUNTY"), and/or the OAKLAND COUNTY SHERIFF, in the capacity of a Michigan Constitutional Officer, whose address is County Service Center, Building. #38 East, 1200 N. Telegraph Road, Pontiac, Michigan 48341-1044 (hereafter the "SHERIFF"). In this Agreement, whenever the COUNTY and SHERIFF are intended as joint or co-obligors they will be referred to collectively as the "OAKLAND COUNTY SHERIFF'S OFFICE" or, as abbreviated, the "O.C.S.O.", otherwise, "COUNTY" and "SHERIFF" shall refer only to individual described herein.

INTRODUCTORY STATEMENTS

Whereas, the O.C.S.O. is authorized to enforce MARINE LAW but, absent an agreement such as this, has only limited responsibility to do so within the MUNICIPALITY; and

Whereas, the O.C.S.O. and the MUNICIPALITY may enter into an agreement where the O.C.S.O. would enforce MARINE LAW in the MUNICIPALITY; and

Whereas, the MUNICIPALITY desires to contract with the O.C.S.O. for the enforcement of MARINE LAW in the MUNICIPALITY; and

Whereas, the O.C.S.O. is agreeable to enforcing MARINE LAW within in the MUNICIPALITY with the additional personnel provided under the terms and conditions of this Agreement;

NOW, THEREFORE, in consideration of these premises and the mutual promises, representations, and agreements set forth in this Agreement, and for other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the COUNTY, the SHERIFF, and the MUNICIPALITY mutually agree:

1. Besides the terms "COUNTY", "MUNICIPALITY", "SHERIFF", "OAKLAND COUNTY SHERIFF'S OFFICE", and "O.C.S.O." as defined above, the parties agree that for all purposes, and as used throughout this Agreement, the following terms and expressions whether used in the singular or plural, possessive or nonpossessive, and/or either within or without quotation marks, shall be defined and interpreted as provided herein. The parties further agree that as defined herein the terms "MUNICIPALITY OFFICIAL", "MUNICIPALITY AGENT", "COUNTY OFFICIAL", "SHERIFF'S DEPUTY" and "SHERIFF'S DEPUTIES" shall include any person who, at the time relevant to any issue, claim, or interpretation of this Agreement, was either a "MUNICIPALITY OFFICIAL", "MUNICIPALITY AGENT", "COUNTY OFFICIAL", or "SHERIFF'S DEPUTY" but, for any reason, is no longer employed in that capacity.

a. "CLAIM" shall be defined to include any and all losses, complaints, demands for relief, damages, lawsuits, causes of action, proceedings, judgments, deficiencies, penalties, costs and expenses, including, but not limited to, reimbursement for reasonable attorney fees, witness fees, court costs, investigation, litigation expenses, amounts paid in settlement, and/or any other amount for which either party becomes

legally and/or contractually obligated to pay, whether direct, indirect or consequential, whether based upon any alleged violation of the constitution (federal or state), any statute, rule, regulation, or the common law, whether in law or equity, tort, contract, or otherwise, and/or whether commenced or threatened.

b. "COUNTY OFFICIAL" shall be defined to include any and all COUNTY representatives elected by popular vote to a COUNTY office or such persons appointed, pursuant to state law, to fill a vacant elected office pending an election.

c. "MARINE LAW" means Subchapter 5 ("Watercraft and Marine Safety") of the Natural Resources and Environmental Protection Act (Public Act 451 of 1994), rules promulgated thereunder by the Michigan Department of Natural Resources, and local ordinances adopted in conformity with this Act.

d. "MARINE PATROL SERVICES" shall be defined and interpreted as the prevention and detection of MARINE LAW violations and the enforcement of MARINE LAWS upon all lakes or waterways designated by the MUNICIPALITY. The MARINE PATROL SERVICES contemplated and to be provided under this Agreement are strictly limited to those governmental MARINE PATROL SERVICES authorized by law to be performed by the O.C.S.O.

e. "MUNICIPALITY OFFICIAL" shall be defined to include any and all MUNICIPALITY representatives elected by popular vote to a MUNICIPALITY office or such persons appointed, pursuant to state law, to fill a vacant elected office pending an election, and those individual MUNICIPALITY employees or agents whose specific job responsibilities mandate the enforcement of state statutes or local ordinances such as the Fire Marshall, Engineering or Housing Inspector, Ordinance Officer, or Weighmaster.

f. "MUNICIPALITY AGENT" shall be defined to include any and all MUNICIPALITY employees, managers, departments, divisions, volunteers, agents, representatives, predecessors, successors, attorneys, or auditors, other than MUNICIPALITY OFFICIALS as defined above (whether such persons act, or acted, in their personal, representative, or official capacities), and/or any and all persons acting by, through, under, or in concert with any of them.

g. "MUNICIPALITY LIAISON" shall be defined as the chief elected official of the MUNICIPALITY (i.e., City Mayor or Township Supervisor) or such other individual as designated in writing by the MUNICIPALITY LIAISON to act in this capacity for all purposes under this Agreement.

h. "O.C.S.O. LIAISON" shall be defined as a SHERIFF'S DEPUTY contracted for and assigned to provide LAW ENFORCEMENT SERVICES to the MUNICIPALITY under this Agreement, who is designated by the SHERIFF to maintain all lines of communications with the MUNICIPALITY LIAISON, as defined herein. The O.C.S.O. LIAISON will generally be the commanding officer, if one, or a SHERIFF'S DEPUTY designated, in writing, by the SHERIFF to perform this function.

i. "SHERIFF'S DEPUTY" or "SHERIFF'S DEPUTIES" shall be defined to include any Captain, Lieutenant, Sergeant, Deputy II, Deputy I, Special Deputy, Patrol Investigator, Detective Sergeant, or any other person or persons of any rank, classification, or title who, pursuant to state law, is a sworn Deputy of the SHERIFF.

2. The SHERIFF shall assign SHERIFF'S DEPUTIES, in such Number(s) and Rank(s) as shown in SCHEDULE A - SHERIFF'S DEPUTIES CONTRACTED FOR AND TO BE ASSIGNED TO MUNICIPALITY (hereafter "SCHEDULE A"), which is attached to, incorporated in and made part of this Agreement, to perform any and all O.C.S.O. MARINE PATROL SERVICES contemplated in this Agreement within the corporate limits of the MUNICIPALITY. MARINE PATROL SERVICES, as defined above, shall not include O.C.S.O. police-related "Support Services," such as Arson Investigation, Detective and Crime Lab services, which the O.C.S.O. now provides on a County-wide basis, unless expressly stated to the contrary herein. Nevertheless, such additional "Support Services" shall continue to be made available, at no additional cost to the MUNICIPALITY, to the same extent that the O.C.S.O. continues to make such law enforcement "Support Services" available, at no additional charge, to all other communities within Oakland County.

a. The MUNICIPALITY acknowledges that, except as provided for under the terms of this Agreement, the SHERIFF has only limited responsibility for MARINE PATROL SERVICES in the MUNICIPALITY and is not otherwise required, except as provided herein, to assign any specific Number(s) or Rank(s) of SHERIFF'S DEPUTIES to provide MARINE PATROL SERVICES to the MUNICIPALITY.

b. The SHERIFF will make every reasonable effort to provide professional MARINE PATROL SERVICES to the MUNICIPALITY, following generally accepted standards for police protection, with the levels of staff provided for in SCHEDULE A.

c. Notwithstanding any other provision in this Agreement, this Agreement shall not be interpreted to include any warranty, promise or guaranty, either express or implied, or of any kind or nature whatsoever, in favor of the MUNICIPALITY and/or any other person or MUNICIPALITY resident that the O.C.S.O.'S provision of MARINE PATROL SERVICES under this Agreement will result in any specific reduction or prevention of criminal activity within the MUNICIPALITY or any other performance-based outcome.

3. The O.C.S.O. and the MUNICIPALITY agree that the sole and exclusive purpose of this Agreement is to provide governmental MARINE PATROL SERVICES in and for the MUNICIPALITY. Except as otherwise expressly provided for in this Agreement, the MUNICIPALITY agrees that this Agreement does not, and is not intended to, create, by implication or otherwise, any specific, direct or indirect obligation, duty, promise, benefit, and/or special right to O.C.S.O.' s MARINE PATROL SERVICES in favor of or to the benefit of any particular person(s) beyond the O.C.S.O.'S and/or any SHERIFF'S DEPUTY'S law enforcement officer duty, as established under existing law, to the general public.

4. Except as otherwise expressly provided for in this Agreement, any SHERIFF'S DEPUTY contracted for and assigned to provide MARINE PATROL SERVICES to the MUNICIPALITY, as provided for in SCHEDULE A, shall work, during those hours for which the MUNICIPALITY is being charged, only on MUNICIPALITY-related police matters. It is understood and agreed, however, that "Mutual Aid" between communities may be provided to surrounding communities. "Mutual Aid," as used in the previous sentence, means that any SHERIFF'S DEPUTY contracted for and assigned to the MUNICIPALITY may be absent from the MUNICIPALITY, at MUNICIPALITY expense, when temporarily called to the aid of another community due to an emergency or other exceptional circumstance or because a SHERIFF'S DEPUTY possesses some special skill or qualification temporarily needed in that other community.

5. Under the terms of this Agreement, the O.C.S.O. shall assign to the MUNICIPALITY the Number(s) and Rank(s) of SHERIFF'S DEPUTIES shown in SCHEDULE A to perform all of the MARINE PATROL SERVICES contemplated under this Agreement.

a. Except as may otherwise be expressly provided in this subparagraph or in SCHEDULE A, whenever any SHERIFF'S DEPUTY contracted for and assigned to provide MARINE PATROL SERVICES to the MUNICIPALITY is not present in the MUNICIPALITY'S geographical area, due to any of the reasons described in subparagraphs 1 - 3 below, such periods of time shall be included in and counted toward the hours allotted for MARINE PATROL SERVICES set forth in SCHEDULE A:

1. Travel time, on a daily basis, to or from the O.C.S.O. in Pontiac, Michigan, at the beginning of or end of any shift by any SHERIFF'S DEPUTY if that SHERIFF DEPUTY'S shift starts or ends in Pontiac;
2. Appearance in any Court or at any meeting with any other law enforcement agency in connection with any prosecution or Court appearance related to MUNICIPALITY marine patrol activities;
3. Performance of any MARINE PATROL SERVICES for the MUNICIPALITY that takes any SHERIFF'S DEPUTY outside the MUNICIPALITY'S geographical area; and

b. Subject to the SHERIFF'S right to consolidate the assigned shifts of SHERIFF'S DEPUTIES in order to concentrate marine patrol efforts to meet particular marine law enforcement priorities and needs, the SHERIFF shall assign SHERIFF DEPUTIES contracted for under this Agreement so as to provide the broadest possible coverage of MARINE PATROL SERVICES to the MUNICIPALITY.

c. All O.C.S.O. policies, procedures, employment contracts, etc., which may be applicable to this Agreement shall be made available by the SHERIFF for inspection by the MUNICIPALITY LIAISON at the O.C.S.O., by appointment, during normal business hours.

6. The MUNICIPALITY shall not have the right under this Agreement to assign, delegate, or otherwise, transfer, promise, commit, or lend any O.C.S.O.'S or SHERIFF DEPUTY'S services, duties, or obligations under this Agreement to any other public or private person, corporation, entity, or organization of any kind. In the event that the MUNICIPALITY perceives the need for any SHERIFF'S DEPUTY'S MARINE PATROL SERVICES beyond those SHERIFF'S DEPUTIES' services contracted for in SCHEDULE A, due to some unusual MUNICIPALITY circumstances that, in the MUNICIPALITY'S judgment, may require additional MARINE PATROL SERVICES, the MUNICIPALITY shall address such concerns for additional MARINE PATROL SERVICES to the SHERIFF as provided for in this Agreement (i.e., preceding Paragraph).

7. The MUNICIPALITY will pay the O.C.S.O. for all SHERIFF'S DEPUTIES' MARINE PATROL SERVICES rendered pursuant to this Agreement at the hourly rates shown in SCHEDULE A. The MUNICIPALITY further agrees to reimburse the O.C.S.O. for any and all additional hours of work, overtime, and/or holiday pay costs incurred by the O.C.S.O. in providing MARINE PATROL SERVICES to the MUNICIPALITY under the terms of this Agreement. For every bi-weekly period (corresponding to established O.C.S.O. payroll periods) during which any SHERIFF'S DEPUTY renders any MARINE PATROL SERVICES to the MUNICIPALITY under the terms of this Agreement, the O.C.S.O. shall prepare and send to the

MUNICIPALITY an invoice that sets forth the bi-weekly amount due for each SHERIFF'S DEPUTY'S MARINE PATROL SERVICES rendered during that bi-weekly period, plus any charges for any additional hours of work, overtime, and/or holiday pay, as provided for herein, during that bi-weekly billing period. All overtime charges are to be itemized and designated for the reason incurred. The MUNICIPALITY agrees to pay to the COUNTY the full amounts due on any such invoice within 30 days of the invoice date.

- a. If the MUNICIPALITY purchases or otherwise obtains a special event insurance policy for itself or any lake associations for an event that occurs during the SHERIFF'S DEPUTIES' MARINE PATROL SERVICES scheduled hours described in this Agreement, the County of Oakland and O.C.S.O., including County Agents, shall be named as additional insureds on the insurance policy.

8. If the MUNICIPALITY fails, for any reason, to pay the COUNTY any monies when and as due under this Agreement, the MUNICIPALITY agrees that unless expressly prohibited by law, the COUNTY or the County Treasurer, at their sole option, shall be entitled to set-off from any other MUNICIPALITY funds that are in the COUNTY'S possession for any reason. Funds include but are not limited to the Delinquent Tax Revolving Fund ("DTRF"). Any set-off or retention of funds by the COUNTY shall be deemed a voluntary assignment of the amount by the MUNICIPALITY to the COUNTY. The MUNICIPALITY waives any CLAIMS against the County or its Officials for any acts related specifically to the COUNTY'S off-setting or retaining such amounts. This paragraph shall not limit the MUNICIPALITY'S legal right to dispute whether the underlying amount retained by the COUNTY was actually due and owing under this Agreement. If the County chooses not to exercise its right to set-off or if any setoff is insufficient to fully pay the COUNTY any amounts due and owing the COUNTY under this Agreement, the COUNTY shall have the right to charge up to the then-maximum legal interest on any unpaid amount. Interest charges shall be in addition to any other amounts due to the COUNTY under this Agreement. Interest charges shall be calculated using the daily unpaid balance method and accumulate until all outstanding amounts and accumulated interest are fully paid. Nothing in this section shall operate to limit the COUNTY's right to pursue or exercise any other legal rights or remedies under this Agreement against the MUNICIPALITY to secure reimbursement of amounts due the County under this Agreement. The remedies in this Section shall be available to the COUNTY on an ongoing and successive basis if the MUNICIPALITY at any time becomes delinquent in its payment. Notwithstanding any other term and condition in this Agreement, if the COUNTY pursues any legal action in any court to secure its payment under this Agreement, the MUNICIPALITY agrees to pay all costs and expenses, including attorney's fees and court costs, incurred by the COUNTY in the collection of any amount owed by the MUNICIPALITY.

9. The MUNICIPALITY and the O.C.S.O. agree and warrant that neither the O.C.S.O. nor any SHERIFF'S DEPUTY, by virtue of this Agreement or otherwise, shall be considered or claimed to be an employee of the MUNICIPALITY and further agree that, at all times and for all purposes under the terms of this Agreement, the O.C.S.O.'S legal status and relationship to the MUNICIPALITY shall be that of an INDEPENDENT CONTRACTOR. The MUNICIPALITY also agrees that in any writing or any other communication prepared by, for, or at the direction of the MUNICIPALITY, the MUNICIPALITY shall neither state, suggest, nor imply that any employment status and/or employment relationship exists between any SHERIFF'S DEPUTY and the MUNICIPALITY.

10. The MUNICIPALITY and the O.C.S.O. agree and warrant that, at all times and for all purposes relevant to this Agreement, the O.C.S.O. shall remain the sole and exclusive employer of all SHERIFF'S DEPUTIES and that the O.C.S.O. shall remain solely and exclusively responsible for the payment of all SHERIFF'S DEPUTIES' wages, compensation, overtime

wages, expenses, fringe benefits, pension or retirement benefits, travel expenses, mileage allowances, training expenses, transportation costs, and/or other allowances or reimbursements of any kind, including, but not limited to, workers' disability compensation, unemployment compensation, Social Security Act protection(s) and benefits, any employment taxes, and/or any other statutory or contractual right or benefit based, in any way, upon any SHERIFF'S DEPUTY'S status as an employee of the O.C.S.O. Except as expressly provided otherwise in this Agreement, the MUNICIPALITY shall not grant, give, allow, pay, reimburse, compensate, or otherwise provide any wages, fringe benefits, privileges, gifts, equipment, automobiles, personal property, supplies, benefits, entitlement, consideration (monetary or otherwise) or any other thing of value, either directly or indirectly, to, for the use by, or on behalf of, any individual SHERIFF'S DEPUTY. Any consideration, monetary or otherwise, paid directly to the COUNTY and/or any personal property, automobiles, or any portable equipment (e.g., portable telephones, portable computers, beepers, etc.) supplied, provided, and/or leased directly to the COUNTY shall not, for any purpose of this Agreement, be interpreted as being provided by the MUNICIPALITY, either directly or indirectly, to, for the use by, or on behalf of, any individual SHERIFF'S DEPUTY.

11. Except as expressly provided for in this Agreement, the parties agree that this Agreement does not, and is not intended to, transfer, delegate, or assign to the other Party any civil or legal responsibility, duty, obligation, duty of care, cost, legal obligation, or liability associated with any governmental function delegated and/or entrusted to either party under any existing law or regulation.

12. Except as expressly provided for under the terms of this Agreement, no SHERIFF'S DEPUTY while acting under the terms of this Agreement shall perform any services directly or otherwise be available to perform any other work or assignments, and no SHERIFF'S DEPUTY shall be otherwise employed or utilized, in any manner or capacity, by the MUNICIPALITY.

13. The MUNICIPALITY shall not provide, furnish or assign any SHERIFF'S DEPUTY with any job instructions, job descriptions, job specifications, or job duties, or in any manner attempt to control, supervise, train, or direct any SHERIFF'S DEPUTY in the performance of any O.C.S.O.'S duty or obligation under the terms of this Agreement.

14. The MUNICIPALITY agrees to promptly notify and/or provide the SHERIFF with any information that may come to its knowledge or possession regarding any act contrary to the terms and conditions of this Agreement, or any other questionable act(s) or omission(s), or any allegation of same, by any SHERIFF'S DEPUTY. The MUNICIPALITY also agrees that it shall promptly deliver to the SHERIFF written notice and copies of any complaint(s), charge(s), or any other accusation(s) or allegation(s) of wrongdoing, whether civil or criminal in nature, which the MUNICIPALITY becomes aware of regarding any SHERIFF'S DEPUTY. The MUNICIPALITY agrees to cooperate with the O.C.S.O. in any investigation conducted by the SHERIFF into the character and/or fitness of any SHERIFF'S DEPUTY.

15. The O.C.S.O. shall be solely and exclusively responsible for providing SHERIFF'S DEPUTIES with all necessary tools, boats, automobiles, radios, communications equipment, firearms, and any and all other equipment that the O.C.S.O., in its sole judgment, deems required or beneficial for the completion of any O.C.S.O.'S duty under the terms of this Agreement. The O.C.S.O. shall also be solely and exclusively responsible for any and all SHERIFF'S DEPUTIES' business expenses, licenses, taxes, uniform or equipment costs, insurance(s), supplies, etc., except that any stationery, notices, forms, MUNICIPALITY ordinance appearance tickets, etc., which are required to bear the name of the MUNICIPALITY, shall be supplied to the O.C.S.O. by the MUNICIPALITY at the MUNICIPALITY'S sole cost and expense. In the event that the MUNICIPALITY wants any special or additional personal

property or equipment (i.e., cellular telephones, beepers, personal items or equipment, portable computers, automobiles, motorcycles, etc.) to be provided, at MUNICIPALITY expense or otherwise, to any SHERIFF'S DEPUTY assigned to the MUNICIPALITY, the MUNICIPALITY shall direct such requests to the O.C.S.O. which shall solely decide whether such personal property or special equipment shall be provided. Any and all such additional personal property, portable or individual use equipment or property, and/or any special equipment to be provided by the MUNICIPALITY shall be provided directly and exclusively to the O.C.S.O., and then ONLY pursuant to a separate written lease agreement between the MUNICIPALITY and the COUNTY. As intended by this Paragraph and elsewhere in this Agreement, no personal property, supplies, or other equipment, nor the use thereof, shall be provided or made available by the MUNICIPALITY directly to any SHERIFF'S DEPUTY, except through a written lease as provided for in this paragraph.

16. Each party shall be responsible for any CLAIMS made against that Party and for the acts of its Employees or Agents.

17. In any CLAIMS that may arise from the performance of this Agreement, each party shall seek its own legal representation and bear the costs associated with such representation, including any attorney fees.

18. Except as otherwise provided in this Agreement, neither Party shall have any right under this Agreement or under any other legal principle to be indemnified by the other Party or any of its agents or employees in connection with any CLAIM.

19. This Agreement does not, and is not intended to, impair, divest, delegate or contravene any constitutional, statutory, and/or other legal right, privilege, power, obligation duty, or immunity of the Parties. Nothing in this Agreement shall be construed as a waiver of governmental immunity for either Party.

20. Subject to the following Paragraph, this Agreement shall become effective at 12:01 A.M., May 1, 2022, and shall remain in effect continuously until it expires, without any further act or notice being required by either party, at 11:59 P.M. on September 30, 2024. In addition, any party may terminate this Agreement, prior to its September 30, 2022 expiration, upon written notification to all others at least thirty (30) days prior to the proposed termination date, which date shall be clearly stated in the written notice. Upon the expiration or termination of this Agreement, all further O.C.S.O.'S obligations to provide MARINE PATROL SERVICES to the MUNICIPALITY under this Agreement shall end.

21. This Agreement, and any subsequent amendments, shall not become effective prior to the approval by concurrent resolutions of the COUNTY Board of Commissioners and the MUNICIPALITY Governing Body. The approval and terms of this Agreement shall be entered in the official minutes and proceedings of the COUNTY Board of Commissioners and MUNICIPALITY Governing Body and shall also be filed with the office of the Clerk for the COUNTY and the MUNICIPALITY. In addition, this Agreement and any subsequent amendments shall be filed with the Secretary of State for the State of Michigan by the O.C.S.O. and shall not become effective or implemented prior to its filing with the Secretary of State.

22. The parties shall send, by first class mail, or alternatively may deliver in person, any correspondence and written notices required or permitted by this Agreement to each signatory to this Agreement, or any signatory successor in office, to the addresses shown in this Agreement. Except as otherwise provided for herein, all correspondence or written notices shall be considered delivered to a party as of the date that such notice is deposited with sufficient

postage with the U.S. Postal Service or delivered to such person's office during normal working hours.

23. This Agreement is neither intended, nor shall it be interpreted, to create, change, modify, supplement, supersede, or otherwise affect or control, in any manner or at any time, the terms or conditions of employment of any SHERIFF'S DEPUTY with the O.C.S.O., any applicable O.C.S.O. employment and/or union contract, and/or any O.C.S.O. rule(s), regulation(s), hours of work, shift assignment, order(s), policy(ies), procedure(s), directive(s), ethical guideline(s), etc., which shall, solely and exclusively, govern and control the employment relationship between the O.C.S.O. and any SHERIFF'S DEPUTY and/or the conduct and actions of any SHERIFF'S DEPUTY. To illustrate, but not otherwise limit, this Agreement does not and shall not be interpreted to limit, modify, control, or otherwise affect, in any manner:

a. The complete and unilateral discretion of the SHERIFF to either continue or revoke the deputization of any SHERIFF'S DEPUTY, or any other person who, in the SHERIFF'S sole judgment, he does not believe is qualified or otherwise fit to be a SHERIFF'S DEPUTY.

b. The O.C.S.O.'S sole and exclusive right, obligation, responsibility, and discretion to employ, compensate, assign, reassign, transfer, promote, reclassify, discipline, demote, layoff, furlough, discharge any SHERIFF'S DEPUTY and/or pay any and all SHERIFF'S DEPUTY'S wages, salaries, allowances, reimbursements, compensation, fringe benefits, or otherwise decide any and all such terms and conditions of employment and make any and all employment decisions that affect, in any way, the employment of any SHERIFF'S DEPUTY with the O.C.S.D, subject only to its collective bargaining Agreements.

c. The SHERIFF'S sole and exclusive right, obligation, and responsibility to determine, establish, modify, or implement any and all operational policies, procedures, orders, rules, regulations, ethical guidelines, and/or any other judgment, policy or directive which, in any way, governs or controls any activity of any SHERIFF'S DEPUTY, any necessary SHERIFF'S DEPUTY'S training standards or proficiency(ies), any level or amount of required supervision, any and all standards of performance, any sequence or manner of performance, and any level(s) of experience, training, or education required for any SHERIFF'S DEPUTY performing any O.C.S.O. duty or obligation under the terms of this Agreement.

24. This Agreement is made and entered into in the State of Michigan and shall in all respects be interpreted, enforced and governed under the laws of the State of Michigan. The language of all parts of this Agreement shall in all cases be construed as a whole, according to its fair meaning, and not construed strictly for or against any party. As used in this Agreement, the singular or plural number, the possessive or nonpossessive, shall be deemed to include the other whenever the context so indicates or requires.

25. Absent an expressly written waiver, the failure of any party to pursue any right granted under this Agreement shall not be deemed a waiver of that right with regard to any existing or subsequent breach or default under this Agreement. No failure or delay by any party in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall a single or partial exercise of any right, power or privilege preclude any other or further exercise of any other right, power or privilege.

26. This Agreement shall be binding upon the COUNTY, the SHERIFF, and the MUNICIPALITY to the extent permitted by law, upon their successors and assigns, and all persons acting by, through, under, or in concert with any of them.

27. This Agreement, consisting of eleven (11) pages, including SCHEDULE A, (incorporated herein), sets forth the entire Agreement between the O.C.S.O. and the MUNICIPALITY with regard to the O.C.S.O.'S provision of MARINE PATROL SERVICES and/or any SHERIFF'S DEPUTY'S services to the MUNICIPALITY, and fully supersedes any and all prior agreements or understandings between them in any way related to the subject matter hereof. It is further understood and agreed that the terms of this Agreement are contractual and are not mere recitals and that there are no other agreements, understandings, or representations between the O.C.S.O. and the MUNICIPALITY in any way related to the subject matter hereof, except as expressly stated herein. This Agreement shall not be changed or supplemented orally. This Agreement may be amended only by concurrent resolutions of the COUNTY Board of Commissioners and the MUNICIPALITY Governing Body according to the procedures set forth in this Agreement.

IN WITNESS WHEREOF, Rik Kowall, Supervisor for the MUNICIPALITY, hereby acknowledges that he or she has been authorized by a resolution of the MUNICIPALITY Governing Body (a certified copy of which is attached) to execute this Agreement on behalf of MUNICIPALITY and hereby accepts and binds the MUNICIPALITY to the terms and conditions of this Agreement on this _____ day of _____, 2022.

WITNESSES:

CHARTER TOWNSHIP OF WHITE LAKE,
a Michigan Municipal Corporation

BY: _____
Rik Kowall
Supervisor

BY: _____
Anthony Noble
Clerk

IN WITNESS WHEREOF, DAVID T. WOODWARD, Chairperson, Oakland County Board of Commissioners, hereby acknowledges that he has been authorized by a resolution of the Oakland County Board of Commissioners (a certified copy of which is attached) to execute this Agreement on behalf of the COUNTY OF OAKLAND and hereby accepts and binds the COUNTY OF OAKLAND to the terms and conditions of the Agreement on this _____ day of _____, 2022.

WITNESS:

COUNTY OF OAKLAND, a Michigan
Municipal Corporation

BY: _____
DAVID T. WOODWARD
Chairperson, Oakland County Board
of Commissioners

IN WITNESS WHEREOF, MICHAEL J. BOUCHARD, in his official capacity as the Oakland County Sheriff, a Michigan Constitutional Officer, hereby accepts and binds the COUNTY OF OAKLAND to the terms and conditions of the Agreement on this _____ day of _____, 2022.

WITNESS:

OAKLAND COUNTY SHERIFF, a Michigan
Constitutional Officer

BY: _____
MICHAEL J. BOUCHARD,
Oakland County Sheriff

**SCHEDULE A
MARINE PATROL AGREEMENT
2022-2024**

Ranks: The Sheriff's Deputies to be assigned to Municipality under the Agreement to which this Schedule is attached will be Marine Deputies with a rank or classification of "PTNE", Part Time, Non-Eligible (for Benefits.)

Rates: The Hourly Rates upon which Municipality's payment obligation shall be determined are as follows:

	2022	2023	2024
Marine Deputy with Boat	\$40.13	\$41.34	\$42.77
Marine Deputy with Boat Overtime Rate	\$53.44	\$54.91	\$56.62
Marine Deputy without Boat	\$28.97	\$30.18	\$31.16
Marine Deputy without Boat Overtime Rate	\$42.28	\$43.75	\$45.46

Lakes: The designated lakes and waterways upon which Marine Patrol Services as defined in Section 1.d. of the Agreement to which this Schedule is attached are to be provided shall be identified in writing by the municipality. Within this writing, the MUNICIPALITY may include any requested schedule and a "NOT TO EXCEED" amount of billings for lake or waterway.

Invoices: The invoices submitted by the O.C.S.O. to Municipality for Marine Patrol Services shall identify the designated lake or waterway to which they relate.


INTEROFFICE MEMORANDUM WHITE LAKE TOWNSHIP

Rik Kowall, Supervisor
Anthony L. Noble, Clerk
Mike Roman, Treasurer

Trustees
Scott Ruggles
Liz Fessler Smith
Andrea C. Voorheis
Michael Powell



OFFICE OF THE CLERK

TO: Board of Trustees
FROM: Anthony L. Noble 
SUBJECT: First Reading/Fee Ordinance #129 Amendment
DATE: May 17, 2022

Attached are the changes requested to Introduce the First Reading to Amend the Fee Ordinance.

The request under Sections 22 and 30 are changes and updates requested by their respective departments to align the fees with the amounts assessed and collected for Oakland County.

Under Section 31, the change is related to Freedom of Information to reflect consistency with other departments. The fee currently reads \$1.00 and should read \$0.10.

All other changes are for spelling and format only such as changing the word "Fee" to read "Fees" under section 31 (E).

**CHARTER TOWNSHIP OF WHITE LAKE
AN ORDINANCE TO AMEND SECTION 22 AND 33 OF
ORDINANCE NO. 129, WHITE LAKE TOWNSHIP FEE ORDINANCE.**

THE CHARTER TOWNSHIP OF WHITE LAKE ORDAINS:

ARTICLE 1: AMENDMENT.

Section 22 – Sewer Systems (Chapter 38; Article III and Section 33 _ Assessing of Ordinance No. 129, The Fee Ordinance is hereby amended as follows:

SECTION 22 –SEWER SYSTEM (CHAPTER 38; ARTICLES III, IV, V CODE OF ORDINANCE)

- A. Plumbing Permit\$50.00
- B. Grinder pump design, (residential) engineering fee.....\$550.00
- C. Grinder pump design, (commercial) engineering fee.....\$660.00
- D. Grinder pump inspection, (residential or commercial) engineering fee\$330.00
- E. Capital Connection Charge (See table below)

<u>Type of Charge</u>	<u>Collected by</u>	<u>Recipient</u>	<u>Amount</u>	
S. Commerce Waste Water Treatment Facility Capital Charge (not connected to public water supply)	Charter Township of White Lake	Charter Township of Commerce	\$2,142.00 per residential equivalent unit, provided that the minimum charge shall be \$4,896.00 regardless of the number of residential equivalent units assigned. Alternatively, users may request that Commerce Township calculate the appropriate meter size for the facility or use intended using the American Water Works Association standard for sizing: "AWWA M22 Sizing Water Service Lines and Meters" and apply the charges shown on the chart below.	
S. Commerce Waste Water Treatment Facility Capital Charge (connected to public water supply)	Charter Township of White Lake	Charter Township of Commerce	Meter Size	Amount
			1 inch or less	\$4,896.00
			1.5 inches	\$11,785.00
			2.0 inches	\$15,278.00
			3.0 inches	\$58,653.00
			4.0 inches	\$77,142.00
			6.0 inches	\$147,013.00
			8.0 inches	\$313,344.00
			10.0 inches	\$489,600.00
12.0 inches	\$705,024.00			

Capital Fee for the Eastern District Sanitary Sewer Extension Project	Charter Township of White Lake	Charter Township of White Lake	\$2,100.00 per Residential Equivalent Unit
Lateral Benefit Fee for the Eastern District Sanitary Sewer Extension Project	Charter Township of White Lake	Charter Township of White Lake	\$2,100.00 per Residential Equivalent Unit
Capital Fee for the S. Bogie Lake Sanitary Sewer Extension Project	Charter Township of White Lake	Charter Township of White Lake	\$2,888.00 per Residential Equivalent Unit
Lateral Benefit Fee for the S. Bogie Lake Sanitary Sewer Extension Project	Charter Township of White Lake	Charter Township of White Lake	\$2,888.00 per Residential Equivalent Unit
Usage Charge per Residential Equivalent Unit (Connected to public water supply)	Oakland County Water Resources Commissioner	Oakland County Water Resources Commissioner	\$86.86 beginning with 2022 1 st quarter usage
			\$92.85 beginning with 2023 1 st quarter usage
			\$99.26 beginning with 2024 1 st quarter usage
			\$106.10 beginning with 2024 1 st quarter usage
Usage Charge per Residential Equivalent Unit (Not connected to public water supply)	Oakland County Water Resources Commissioner	Oakland County Water Resources Commissioner	\$152.80 beginning with 2022 1 st quarter usage
			\$163.35 beginning with 2023 1 st quarter usage
			\$174.62 beginning with 2024 1 st quarter usage
			\$186.67 beginning with 2025 1 st quarter usage
Usage Charge Per 100 CCF (connected to public water supply) - Commodity Charge	Oakland County Water Resources Commissioner	Oakland County Water Resources Commissioner	\$3.58 beginning with 2022 1 st quarter usage
			\$3.83 beginning with 2023 1 st quarter usage
Industrial Pre-Treatment Program (IPP) for all uses other than residential, churches, schools, and government buildings	Oakland County Water Resources Commissioner	Oakland County Water Resources Commissioner	\$2.205-28 per quarter per Residential Equivalent Unit
Sanitary Sewer Fee	Oakland County Water Resources Commissioner	Charter Township of White Lake	\$40.50 per quarter per Residential Equivalent Unit

- F. Grinder Pump Replacement Cost (plus 5% administration fee and cost of shipping)
- G. Grinder Pump Easement Agreement engineering fee.....\$100.00
- H. Professional Service Fees
 - a. Fee for Township Attorney for review of documents for sanitary sewer extension acceptance.....(Each for first review) \$250.00
(Attorney standard hourly rate for each review thereafter)
 - b. Fee for Township Attorney for additional work agreements.....
(Attorney standard hourly rate)
 - c. Fee for Township Engineer for review of documents for sanitary sewer extension acceptance.....(For first review) \$250.00
(\$100.00 for each review thereafter)

SECTION 30 – TREASURER’S OFFICE

- A. Maps/Photographs/Copies
 - a. Township Map\$ 5.00
 - b. Zoning Map.....\$ 5.00
 - c. 8x14 and 11x14 Copies per page (no charge until \$5.00 or more\$ 10
 - d. Large Format Plotts 24” x 36”
 - Black and White.....\$3.50
 - Color\$6.00
 - e. Miscellaneous Copies per page (no charge until \$5.00 or more)\$.10
 - f. Labels per sheet.....\$1.00
 - g. Master Plan on digital media\$10.00
- B. Historical Society Remembrance Book \$35.00
- C. Non-Sufficient Funds Returned Check Fee\$50.00
- D. Passport Processing.....\$35.00**
- E. Trailer Tax..... (per unit occupied) \$3.00
- F. Dog License
 - a. Spayed/Neutered\$ ~~15.00~~10.50
 - b. Not Spayed/Neutered\$~~25.00~~ 18.00
 - c. Senior Citizen Dog Spayed/Neutered\$ ~~14.00~~9.75
 - d. Senior Citizen Dog Not Spayed/Neutered\$~~23.00~~16.50
 - e. Non-resident administrative fee\$ 5.00
 - f. Delinquent License (after June 1).....\$40.00**~~33.00~~
- G. Community Hall Rental\$200.00
 - a. Refundable security deposit.....\$200.00
 - b. Cancellation Fee (at least 1 week prior to event).....\$50.00
 - c. Art Classes/Activities (plus \$20.00 refundable key deposit).....\$25.00

SECTION 31 – ASSESSING DEPARTMENT

- A. Miscellaneous Copies per page (no charge until \$5.00 or more).....\$ ~~10.00~~**
- B. Mortgage Letters\$5.00
- C. Labels per sheet\$1.00

D. Application Fee for Parcel Combinations.....\$50.00

E. Special Assessment Administrative Fees

		<u>Maximum Administrative Fee</u>
Establishment Administrative Fee	7%	\$70,000
Renewals Administrative Fee	7%	\$10,000
Subsequent Years Administrative Fee		
Value:		
\$0 - \$50,000	7%	\$2,500
Over \$50,000	5%	\$5,000
Additional Fee for Individual Invoicing	2.5%	\$18,750
Emergency Sewer Connection Administration Fee	5%	N/A
Rubbish Collection Administrative Fee	5%	N/A

ARTICLE 2: SEVERABILITY.

ARTICLE 3: EFFECTIVE DATE.

ARTICLE 4: REPEALER.

ARTICLE 5: ADOPTION.

MASTER AGREEMENT FOR MUNICIPAL STREET LIGHTING

This Master Agreement For Municipal Street Lighting ("Master Agreement") is made between DTE Electric Company ("Company") and Charter Township of White Lake ("Customer") (collectively referred to as the "Parties") as of March 23, 2022.

RECITALS

A. Customer may, from time to time, request Company to furnish, install, operate and/or maintain street lighting equipment for Customer.

B. Company may provide such services, subject to the terms of this Master Agreement.

Therefore, in consideration of the foregoing, Company and Customer hereby agree as follows:

AGREEMENT

1. Master Agreement. This Master Agreement sets forth the basic terms and conditions under which Company may furnish, install, operate and/or maintain street lighting equipment for Customer. Upon the Parties' agreement as to the terms of a specific street lighting transaction, the Parties shall execute and deliver a Purchase Agreement in the form of the attached Exhibit A (a "Purchase Agreement"). In the event of an inconsistency between this Agreement and any Purchase Agreement, the terms of the Purchase Agreement shall control.

2. Rules Governing Installation of Equipment and Electric Service. Installation of street light facilities and the extension of electric service to serve those facilities are subject to the provisions of Company's Rate Book for Electric Service (the "Tariff"), Rule C 6.1, Extension of Service (or any other successor provision), as amended and approved by the Michigan Public Service Commission ("MPSC") from time to time.

3. Contribution in Aid of Construction. In connection with each Purchase Agreement and in accordance with the applicable Orders of the MPSC, Customer shall pay to Company a contribution in aid of construction ("CIAC") for the cost of installing Equipment (as defined in the applicable Purchase Agreement) and recovery of costs associated with the removal of existing equipment, if any. The amount of the CIAC (the "CIAC Amount") shall be an amount equal to the total construction cost (including all labor, materials and overhead charges), less an amount less than or equal to three (3) years' revenue expected from such Equipment, and less an amount equal to the Post Charge revenue if selected by Customer. The CIAC Amount will be as set forth on the applicable Purchase Agreement. The CIAC Amount does not include charges for any additional cost or expense for unforeseen underground objects, or unusual conditions encountered in the construction and installation of Equipment. If Company encounters any such unforeseen or unusual conditions, which would increase the CIAC Amount, it will suspend the construction and installation of Equipment and give notice of such conditions to the Customer. The Customer will either pay additional costs or modify the work to be performed. If the work is modified, the CIAC Amount will be adjusted to account for such modification. Upon any such

suspension and/or subsequent modification of the work, the schedule for completion of the work shall also be appropriately modified.

4. Payment of CIAC Amount. Customer shall pay the CIAC Amount to Company as set forth in the applicable Purchase Agreement. Failure to pay the CIAC Amount when due shall relieve Company of its obligations to perform the work required herein until the CIAC Amount is paid, at which point the schedule for completion of the work shall be appropriately modified.

5. Post Charge. For newly installed underground-fed lighting systems of greater than five (5) lights, Customer has the option to select a Post Charge, in lieu of paying all or some of the up-front CIAC Amount, pursuant to the terms of the Purchase Agreement. The Post Charge is a monthly rate, calculated based on the portion of the CIAC Amount that is not paid up front (rounded up to the nearest \$1,000.00 increment).

6. Modifications. Subject to written permission of the respective municipality, after installation of the Equipment, any cost for additional modifications, relocations or removals will be the responsibility of the requesting party.

7. Maintenance, Replacement and Removal of Equipment. In accordance with the applicable Orders of the MPSC, under the Street Lighting Rate (as defined below), Company shall provide the necessary maintenance of the Equipment, including such replacement material and equipment as may be necessary. Customer may not remove any Equipment without the prior written consent of Company. To the extent that Customer or any other local government authority requires Company to obtain any permits in order to perform any maintenance, repair, replacement or restoration of Equipment under this Master Agreement, Company shall not be responsible for any delay or interruption of service due to such permitting requirements. Customer acknowledges that compliance with such permitting requirements may result in additional charges to Customer (including, without limitation, trip charges associated with demobilizing and remobilizing personnel and materials to the worksite in connection with the pendency of required permit applications).

8. Street Lighting Service Rate.

a. Upon the installation of the Equipment, the Company will provide street lighting service to Customer under Option 1 of the Municipal Street Lighting Rate set forth in the Tariff, as approved by the MPSC from time to time (the "Street Lighting Rate"), the terms of which are incorporated herein by reference.

b. The provision of street lighting service is also governed by rules for electric service established in MPSC Case Number U-6400. The Street Lighting Rate is subject to change from time to time by orders issued by the MPSC.

9. Contract Term. This initial term of this Master Agreement shall commence upon date of installation and terminate on the later of (a) five (5) years from the date hereof or (b) the date on which the final Purchase Agreement entered into under this Master Agreement is terminated. If the optional Post Charge is selected, the initial term of this Master Agreement shall be the later of (a) ten (10) years from the date hereof or (b) the date on which the final Purchase Agreement entered into under this Master Agreement is terminated. Upon expiration of the initial

term, this Master Agreement shall continue on a month-to-month basis until terminated by mutual written consent of the parties or by either party with thirty (30) calendar days' prior written notice to the other party. Upon termination of this Master Agreement for any reason, before or after the expiration of the initial term, Company shall have the right to disconnect the Equipment and/or remove any Company-owned equipment and a portion of the Equipment corresponding to the extent to which Customer has not paid in full for the Equipment; provided, however, that Company shall not withdraw service, and Customer shall not substitute another source of service, without at least twelve (12) months' written notice to the other party

10. Customer Obligations upon Termination. In the event that this Master Agreement is terminated before the end of the initial term by Company due to an Event of Default or by Customer for convenience, Customer will promptly pay Company which shall include all of the following:

- a. If applicable, the un-recouped portion of the Company Capital Investment prorated for the remainder of the initial three-year period.
- b. If applicable, the aggregate total of remaining Post Charge payments that would have come due over the remainder of the applicable period ten (10) years for Post Charge.
- c. The aggregate total of remaining Luminaire Charge payments that would have been charged over the remainder of the applicable initial contract term.
- d. Any Company costs and expenses associated with disconnecting and de-energizing the Equipment from Company power supply sources; and
- e. The cost incurred by the Company to remove Company's Lighting System and restoration of impacted property as commercially reasonable as possible to its original condition.

11. Design Responsibility for Street Light Installation. Company installs municipal street lighting installations following Illuminating Engineering Society of North America ("IESNA") recommended practices. If the Customer submits its own street lighting design for the street light installation or if the street lighting installation requested by Customer does not meet the IESNA recommended practices, Customer acknowledges Company is not responsible for any compliance or noncompliance with IESNA standards or any issues arising therefrom.

12. New Subdivisions. Company agrees to install street lights in new subdivisions when subdivision occupancy reaches a minimum of 80%, pursuant to a Purchase Agreement. If Customer wishes to have installation occur prior to 80% occupancy pursuant to a Purchase Agreement, then Customer acknowledges that Customer will be financially responsible for all damages (knockdowns, etc.) and requests for modifications (movements due to modified curb cuts from original design, etc.), and that the CIAC Amount and schedule for completion of the work shall be appropriately modified.

13. Force Majeure. The obligation of Company to perform this Master Agreement shall be suspended or excused to the extent such performance is prevented or delayed because of acts beyond Company's reasonable control, including without limitation acts of God, fires, adverse

weather conditions (including severe storms and blizzards), malicious mischief, strikes and other labor disturbances, compliance with any directives of any government authority, including but not limited to obtaining permits, and force majeure events affecting suppliers or subcontractors.

14. Subcontractors. Company may sub-contract, in whole or in part, any of its obligations under this Master Agreement.

15. Waiver; Limitation of Liability. To the maximum extent allowed by law, Customer hereby waives, releases, and fully discharges Company from and against any and all claims, causes of action, rights, liabilities, or damages whatsoever, including attorney's fees, arising out of the installation of the Equipment and/or any replacement Equipment, including claims for bodily injury or death and property damage, except to the extent that unless such matter is caused by or arises as a result of the sole negligence of Company and/or its subcontractors. Company shall not be liable under this Master Agreement for any special, incidental, or consequential damages, including loss of business or profits, whether based upon breach of warranty, breach of contract, negligence, strict liability, tort or any other legal theory, and whether or not Company has been advised of the possibility of such damages. In no event will Company's liability to Customer for any and all claims related to or arising out of this Master Agreement exceed the CIAC Amount set forth in the Purchase Order to which the claim relates.

16. Notices. All notices required by this Master Agreement shall be in writing. Such notices shall be sent to Company at **DTE Electric Company, Community Lighting Group, 8001 Haggerty Rd, Belleville, MI 48111** and to Customer at the address set forth on the applicable Purchase Agreement. Notice shall be deemed given hereunder upon personal delivery to the addresses set forth above or, if properly addressed, on the date sent by certified mail, return receipt requested, or the date such notice is placed in the custody of a nationally recognized overnight delivery service. A party may change its address for notices by giving notice of such change of address in the manner set forth herein.

17. Representations and Warranties. Company and Customer each represent and warrant that: (a) it has full corporate or public, as applicable, power and authority to execute and deliver this Master Agreement and to carry out the actions required of it by this Master Agreement; (b) the execution and delivery of this Master Agreement and the transactions contemplated hereby have been duly and validly authorized by all necessary corporate or public, as applicable, action required on the part of such party; and (c) this Master Agreement constitutes a legal, valid, and binding agreement of such party.

18. Miscellaneous.

a. This Master Agreement is the entire agreement of the parties concerning the subject matter hereof and supersedes all prior agreements and understandings. Any amendment or modification to this Master Agreement must be in writing and signed by both parties.

b. Customer may not assign its rights or obligations under this Master Agreement without the prior written consent of Company. This Master Agreement shall be binding

upon and shall inure to the benefit of the parties' respective successors and permitted assigns. This Master Agreement is made solely for the benefit of Company, Customer and their respective successors and permitted assigns and no other party shall have any rights to enforce or rely upon this Master Agreement.

c. A waiver of any provision of this Master Agreement must be made in writing and signed by the party against whom the waiver is enforced. Failure of any party to strictly enforce the terms of this Master Agreement shall not be deemed a waiver of such party's rights hereunder.

d. The section headings contained in this Master Agreement are for convenience only and shall not affect the meaning or interpretation thereof.

e. This Master Agreement shall be construed in accordance with the laws of the State of Michigan, without regard to any conflicts of law principles. The parties agree that any action with respect to this Master Agreement shall be brought in the courts of the State of Michigan and each party hereby submits itself to the exclusive jurisdiction of such courts.

f. This Master Agreement may be executed in one or more counterparts, each of which shall be deemed an original but all of which together will constitute one and the same instrument.

g. The invalidity of any provision of this Master Agreement shall not invalidate the remaining provisions of the Master Agreement.

Company and Customer have executed this Master Agreement as of the date first written above.

Company:

DTE Electric Company

By: _____

Name: _____

Title: _____

Date: _____

Customer:

Charter Township of White Lake

By: _____

Name: _____

Title: _____

Date: _____

Purchase Agreement

This Purchase Agreement (this “Agreement”) is dated as of March 23, 2022 between DTE Electric Company (“Company”) and Charter Township of White Lake (“Customer”).

This Agreement is a “Purchase Agreement” as referenced in the Master Agreement for Municipal Street Lighting dated March 23, 2022 (the “Master Agreement”) between Company and Customer. All of the terms of the Master Agreement are incorporated herein by reference. In the event of an inconsistency between this Agreement and the Master Agreement, the terms of this Agreement shall control.

Customer requests Company to furnish, install, operate, and maintain street lighting equipment as set forth below:

1. DTE Work Order Number:	64831500	
	If this is a conversion or replacement, indicate the Work Order Number for current installed equipment: N/A	
2. Location where Equipment will be installed:	[Elizabeth Lake Rd roundabouts at Teggerdine and Oxbow Lake Rd], as more fully described on the map attached hereto as <u>Attachment 1</u> .	
3. Total number of lights to be installed:	11	
4. Description of Equipment to be installed (the “ <u>Equipment</u> ”):	Install nine (9) 30’ direct buried, black, fiberglass poles, (9) 58w LED with black housing, (1) wood pole, (2) 58w LED with gray housing, and (2) 6’ support arms. The RCOC contractor to install the streetlighting conduit (2” schedule 40 gray PVC).	
5. Estimated Total Annual Luminaire Charges	\$2,735.04	
6. Estimated Total Annual Post Charges if selected	\$0.00	
7. Computation of Contribution in aid of Construction (“ <u>CIAC Amount</u> ”)	Total estimated construction cost, including labor, materials, and overhead:	\$47,597.74
	Revenue credit:	\$8,205.12
	CIAC Amount (cost minus revenue) Paid by the RCOC	\$39,392.62
	Credit for Post Charge, if selected	\$0.00
8. Payment of CIAC Amount:	Due promptly upon execution of this Agreement \$39,392.62 (RCOC)	
9. Term of Agreement	<p>5 years. Upon expiration of the initial term, this Agreement shall continue on a month-to-month basis until terminated by mutual written consent of the parties or by either party with thirty (30) days prior written notice to the other party.</p> <p>If Post Charge “box” is checked the Customer agrees to following term:</p> <p>10 years. Upon expiration of the initial term, this Agreement shall continue on a month-to-month basis until terminated by mutual written consent of the parties or by either party with thirty (30) days prior written notice to the other party.</p>	

10. Does the requested Customer lighting design meet IESNA recommended practices?	(Check One) <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO If "No", Customer must sign below and acknowledge that the lighting design does not meet IESNA recommended practices _____
11. Customer Address for Notices:	Charter Township of White Lake 7525 Highland Rd. White Lake, MI 48383

12. Special Order Material Terms:

All or a portion of the Equipment consists of special order material: (check one) YES NO

If "Yes" is checked, Customer and Company agree to the following additional terms.

A. Customer acknowledges that all or a portion of the Equipment is special order materials ("SOM") and not Company's standard stock. Customer will purchase and stock replacement SOM and spare parts as provided in Section B below. When replacement equipment or spare parts are installed from Customer's inventory, Company will credit Customer in the amount of the then-current material cost of Company standard street lighting equipment in lieu of which the SOM is being used.

B. Customer will maintain an inventory of at least 0 posts and 0 luminaires and any other materials agreed to by Company and Customer, and will replenish the stock by ordering materials no later than thirty (30) calendar days after the materials are drawn from inventory. Costs of initial inventory are included in this Agreement. If Customer fails to maintain the required inventory, Company, after 30 days' notice to Customer, may (but is not required to) order replacement SOM and Customer will reimburse Company for its costs (including the labor costs associated with Company's management of the supply chain for the SOM) no later than thirty (30) calendar days after receipt of Company's invoice for such costs. Customer's acknowledges that failure to maintain required inventory could result in extended outages due to SOM lead times.

C. The inventory will be stored at N/A. Access to Customer's inventory site must be provided between the hours of 9:00 am to 4:00 pm, Monday through Friday with the exceptions of federal Holidays. If Company is unable to access the site during such hours for any reason, Company (i) shall be relieved from any obligation or commitment to complete the work as scheduled, and (ii) may, at its option, procure the inventory itself and have Customer to reimburse Company's costs for doing so. Customer shall name an authorized representative to contact regarding inventory: levels, access, usage, transactions, and provide the following contact information to Company:

Name: N/A Title: N/A
Phone Number: N/A Email: N/A

Customer will immediately notify Company of any changes in the Authorized Customer Representative. Customer must comply with SOM manufacturer's recommended inventory storage guidelines and practices. Damaged SOM will not be installed by Company.

D. In the event that SOM is damaged by a third party, Company may (but is not required to) pursue a damage claim against such third party for all of Company's costs incurred because of the claim, including all labor and replacement materials. Company will notify Customer as to whether Company will pursue such claim within a reasonable time of the SOM being damaged.

E. In the event that SOM becomes obsolete, discontinued, or incompatible with Company's infrastructure, Customer shall select new alternate SOM that is compatible with Company's then-existing infrastructure. If Customer does not select compatible alternate SOM, Company reserves the right to select compatible SOM that is, in its reasonable judgment, substantially similar, or replace the SOM with standard materials, in either case being entitled to reimbursement from Customer for Company's costs in providing such transition of supply (including internal overhead and labor costs).

F. Should Customer experience, in Company’s reasonable judgment, excessive LED equipment failures that are not supported by LED manufacturer warranties, Company will replace the LED equipment with other Company supported Solid State or High Intensity Discharge luminaires at Company’s discretion. The full cost to complete these replacements to standard street lighting equipment will be the responsibility of Customer.

Company and Customer have executed this Purchase Agreement as of the date first written above.

Company:

Customer:

DTE Electric Company

Charter Township of White Lake

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

Date: _____

Attachment 1 to Purchase Agreement
Map of Location

