

GENOA CHARTER TOWNSHIP BOARD
Regular Meeting
Tuesday, September 2, 2025
6:30 p.m.

AGENDA

Call to Order:

Invocation:

Pledge of Allegiance:

Roll Call:

Call to the Public (Public comment must be addressed to the Chairperson and will be limited to three minutes per person) *:

Approval of Consent Agenda:

- 1) Payment of Bills: September 2, 2025
- 2) Request to approve the August 18, 2025 meeting minutes

Approval of Regular Agenda:

- 3) Public Hearing on the proposed Special Assessment Roll for the **Timber Green Court Private Road Improvement Special Assessment Project** (winter tax 2025).
 - A) Call to the Property Owners
 - B) Call to the Public
- 4) Request for approval of **Resolution #5** – Confirming the Special Assessment Roll for the **Timber Green Court Private Road Improvement Special Assessment Project** (winter tax 2025). (Roll Call)
- 5) Public Hearing on the proposed termination of the **Edwin Drive Private Road Maintenance Special Assessment Project**.
 - A) Call to the Property Owners
 - B) Call to the Public
- 6) Request for approval of **Resolution #7** - Resolution to terminate the **Edwin Drive Private Road Maintenance Special Assessment Project** (summer tax 2025), amend the confirmed special assessment roll, rescind prior resolutions, and dissolve the Edwin Drive Private Road Maintenance Special Assessment Project. (Roll Call)

- 7) Consideration of a recommendation for approval of a special land use application, impact assessment, and site plan for a private road serving 7 parcels on 20.39 acres. The property is located at 6025 Brighton Road. The special land use is required for the shared driveway to cross a regulated wetland impacting the 25-foot natural features setback. The proposed development is for the following parcels: 4711-26-300-011 and 4711-27-400-012. The request is submitted by Boss Engineering.
 - A) Disposition of Special Use Application
 - B) Disposition of Environmental Impact Assessment (5-20-25)
 - C) Disposition of Site Plan (8-22-25)

- 8) Consideration of a recommendation for approval of a special land use application, site plan and impact assessment for a drive through restaurant within a multi-tenant commercial building. The property is located at 1111 S. Latson Road (4711-09-100-043) on the east side of Latson Road, south of Grand River Avenue. The request is submitted by Kevin Bahnam.
 - A) Disposition of Special Use Application
 - B) Disposition of Environmental Impact Assessment (5-27-25)
 - C) Disposition of Site Plan (5-27-25)

- 9) Consideration of a request for the Township to ask the Livingston County Road Commission to perform a speed study on Chilson Road south of Brighton Road in the vicinity of Chestnut Springs Drive.

- 10) Consideration of a request for approval of a voucher system to support Township resident basic membership in the Brighton Senior Center at a cost of \$25.00 per resident.

Items for Discussion:

- 11) Discussion of a park development plan and grant support proposal from K2 Environmental Consulting for the 77-acre Township owned property on Brighton Road east of Chilson Road.

Correspondence
 Member Updates
 Board Comments
 Adjournment

*Citizen's Comments- In addition to providing the public with an opportunity to address the Township Board at the beginning of the meeting, an opportunity to comment on individual agenda items *may* be offered by the Chairman as they are presented.

BOARD PACKET

CHECK REGISTERS FOR TOWNSHIP BOARD MEETING

MEETING DATE: September 2, 2025

All information below through August 27, 2025

August 29, 2025 Bi Weekly Payroll	\$	135,928.77
INVOICES ON HOLD	\$	184,249.66
TOWNSHIP GENERAL EXPENSES	\$	97,395.77
OPERATING EXPENSES DPW (503 FN)	\$	5,896.62
OPERATING EXPENSES Lake Edgewood (593FN)	\$	18.00
OPERATING EXPENSES Oak Pointe (592FN)	\$	1,929.45
TOTAL	\$	425,418.27

August 29, 2025 Bi Weekly Payroll

08/26/2025 12:27 PM		PAYROLL REGISTER REPORT FOR GENOA CHARTER TOWNSHIP			
		Payroll ID: 325			
		Pay Period End Date: 08/22/2025 Check Post Date: 08/29/2025 Bank ID: FNBCK			
* YTD values reflect values AS OF the check date based on all current adjustments, checks, void checks					
TWP MED REIMBUR	0.00	0.00	124.04	2,232.72	
UNIFORM ALLOW	0.00	0.00	0.00	4,950.00	
VACATION PAY	227.50	0.00	7,522.24	136,648.35	
VACATION PTIME	0.00	0.00	0.00	1,108.78	
WELL IQ	0.00	0.00	812.13	6,614.83	
ZBA CHAIR	1.00	0.00	221.58	1,994.22	
ZBA MINUTES	1.00	0.00	188.91	1,889.10	
ZBA MINUTES OT	0.00	0.00	0.00	0.00	
ZBA PER DIEM	4.00	0.00	846.32	5,712.66	
ZO	80.00	0.00	2,673.08	40,724.17	
Gross Pay This Period	134,950.95	Deduction Refund	0.00	Ded. This Period	38,748.73
				Net Pay This Period	96,202.22
				Gross Pay YTD	2,321,330.89
				Dir. Dep.	96,006.83

08/26/2025 12:30 PM		Check Register Report For Genoa Charter Township				Page 1 of 1	
		For Check Dates 08/29/2025 to 08/29/2025					
Check Date	Bank	Check Number	Name	Check Gross	Physical Check Amount	Direct Deposit	Status
08/29/2025	FNBCK	EFT1084	FLEX SPENDING (TASC)	1,122.48	1,122.48	0.00	Open
08/29/2025	FNBCK	EFT1085	INTERNAL REVENUE SERVICE	31,407.96	31,407.96	0.00	Open
08/29/2025	FNBCK	EFT1086	PRINCIPAL FINANCIAL	4,981.00	4,981.00	0.00	Open
08/29/2025	FNBCK	EFT1087	PRINCIPAL FINANCIAL	2,410.50	2,410.50	0.00	Open
Totals:		Number of Checks: 004		39,921.94	39,921.94	0.00	
Total Physical Checks:							
Total Check Stubs:		4					

Direct Deposit \$96,006.83
 Physical Check \$39,921.94
 TOTAL \$135,928.77

Invoices on Hold - Requesting Approval to Pay

Bank Cod	Post Date	Invoice #	Vendor Sort Name	Amount	Description
261C2	8/19/2025 12:00:00 AM	GEN080825	CHLORIDE SOLUTIONS, LLC	2,541.21	DUST CONTROL 8/4/25
261C2	8/19/2025 12:00:00 AM	GEN080125	CHLORIDE SOLUTIONS, LLC	2,290.00	DUST CONTROL 7/28/2025
TOTAL FOR FUND 401				4,831.21	
503FN	8/27/2025 12:00:00 AM	8082522544354	ADVANCE AUTO PARTS	17.11	ANTIFREEZE-TRUCK 20
503FN	8/27/2025 12:00:00 AM	8082523232794	ADVANCE AUTO PARTS	254.31	BATTERY FOR TRUCK # 14
503FN	8/27/2025 12:00:00 AM	08123	FIRE PROTECTION PLUS INC	69.93	ANNUAL INSPECTIONS-SPLIT INVOICE W/MHOG & OP VACTOR TRUCK SERVICE-500-HR SERVICES PLUS ESSENTIAL
503FN	8/27/2025 12:00:00 AM	268026	JACK DOHENY COMPANIES, INC	16,225.14	REPAIRS TO RETURN TO OPERATION RENTAL OF COMBO SEWER CLEANER MOUNTED ON A KW
503FN	8/27/2025 12:00:00 AM	268172	JACK DOHENY COMPANIES, INC	13,500.00	T880 (VACTOR) 28 DAYS
503FN	8/27/2025 12:00:00 AM	268805	JACK DOHENY COMPANIES, INC	333.33	VACTOR HOSE AND TUBE CLAMPS
503FN	8/27/2025 12:00:00 AM	11-0229990	MARSHALL'S EXPRESS	114.45	OIL CHANGE FOR TRUCK # 4
503FN	8/27/2025 12:00:00 AM	11-0230188	MARSHALL'S EXPRESS	74.45	OIL CHANGE FOR TRUCK #11
503FN	8/27/2025 12:00:00 AM	35097	MYERS AUTOMOTIVE	867.71	OIL CHANGE AND NEW BRAKES FOR TRUCK # 7 MAINT. INSPECTION FOR TRUCK #14- BRAKES, EXHAUST,
503FN	8/27/2025 12:00:00 AM	35121	MYERS AUTOMOTIVE	60.00	SUSPENSION, FLUIDE, BELTS & LIGHTS
503FN	8/27/2025 12:00:00 AM	1145215	RANDY'S SERVICE STATION	1,342.55	4 TIRES FOR TRUCK # 9
503FN	8/27/2025 12:00:00 AM	1333723	RED WING BUSINESS ADVANTAGE ACCOUNT	225.00	WORK BOOTS FOR ALEX CHIMPOURAS
TOTAL FOR FUND 233				33,083.98	
592FN	8/27/2025 12:00:00 AM	8-14-2025	DEBOTTIS DEVELOP&ASPHALT SEAL COATI	4,671.00	ASPHALT MAINTENANCE, CRACK REPAIRS, AND SEAL COAT
592FN	8/27/2025 12:00:00 AM	08123	FIRE PROTECTION PLUS INC	38.85	ANUAL INSPECTIONS-SPLIT INVOICE W/DPW AND MHOG
592FN	8/27/2025 12:00:00 AM	530380413B	UIS SCADA	9,132.50	OAK POINTE WTP ALARM DIALER UPGRADES
592FN	8/27/2025 12:00:00 AM	7173422	WATER SOLUTIONS UNLIMITED, INC	2,292.43	WSU 110
592FN	8/27/2025 12:00:00 AM	161710040	AMERICAN AQUA	507.63	FILTERS AND MEMBRANE FOR 4688 BRIGHTON RD
592FN	8/27/2025 12:00:00 AM	162011846	AMERICAN AQUA	464.10	FILTERS (4) FOR 5340 GLENWAY DRIVE
592FN	8/27/2025 12:00:00 AM	BRI/132638	CITY ELECTRIC SUPPLY	85.16	4 - TIME DELAY FUSES FOR TRANSFER ASPHALT MAINT, PATCH REMOVAL AND INSTALLATION,
592FN	8/27/2025 12:00:00 AM	8-14-25	DEBOTTIS DEVELOP&ASPHALT SEAL COATI	9,487.00	CRACK SEALING & SEAL COAT OF PLANT DRIVEWAY 20K SQ
592FN	8/27/2025 12:00:00 AM	530380437	UIS SCADA	537.00	TROUBLESHOOT VFD AT WWTP TRANSFER PUMP VFD FAULTING AT OPWWTP- UPDATED
592FN	8/27/2025 12:00:00 AM	530380438	UIS SCADA	1,680.00	COMPUTERS TO LATEST VTSCADA SOFTWARE
592FN	8/25/2025 12:00:00 AM	5-6-7- 2025	GENOA TWP OAK POINTE SEWER BOND	92,439.01	SEWER DEBT FEES FOR MAY, JUNE AND JULY 2025
TOTAL FOR FUND 592				121,334.68	
593FN	8/27/2025 12:00:00 AM	23942224	PVS NOLWOOD CHEMICALS, INC	2,553.60	CALCIUM NITRATE
TOTAL FOR FUND 590				2,553.60	

Invoices on Hold - Requesting Approval to Pay

Bank Cod	Post Date	Invoice #	Vendor Sort Name	Amount	Description
FNBCK	8/13/2025 12:00:00 AM	S106428166.001	ETNA SUPPLY COMPANY	4,500.00	25-1" COPPER METER HORNS FOR INVENTORY
FNBCK	8/27/2025 12:00:00 AM	S106196532.002	ETNA SUPPLY COMPANY	7,210.00	6" CORDONEL METER FOR PRENTIS ESTATES
FNBCK	8/27/2025 12:00:00 AM	S106443625.001	ETNA SUPPLY COMPANY	5,670.00	1 PORT MXU METER READING DEVICES
FNBCK	8/26/2025 12:00:00 AM	161822012	AMERICAN AQUA	33.00	DURA CUBE DELIVERED
FNBCK	8/26/2025 12:00:00 AM	161821572	AMERICAN AQUA	78.10	SUPPLIES
FNBCK	8/26/2025 12:00:00 AM	6018962050	STAPLES	854.34	SUPPLIES INVOICE DATED 1-6-25 WE DID NOT RECEIVE
FNBCK	8/26/2025 12:00:00 AM	6019120944	STAPLES	10.29	SUPPLIES INVOICE DATED 12-10-25
FNBCK	8/26/2025 12:00:00 AM	6019241708	STAPLES	531.72	SUPPLIES INVOICE DATED 12-12-24
FNBCK	8/26/2025 12:00:00 AM	6035569712	STAPLES	100.83	SUPPLIES INVOICE DATED 6-27-25
FNBCK	8/26/2025 12:00:00 AM	IN6050706	MICHIGAN OFFICE SOLUTIONS	303.13	KIP/KIP860 CONTRACT FOR AUGUST 2025
FNBCK	8/26/2025 12:00:00 AM	7-21-25 8-19-25	CAPITAL ONE	238.26	DPW CHARGES TO WALMART CARD GRINDER MAINT, ENVIRONMENTAL FEE, RLAT RATE
FNBCK	7/31/2025 12:00:00 AM	5/1/25 TO 7/31/25	MHOG UTILITIES	491.30	SEWER, SWR DEBT BASE FLAT FEE
FNBCK	8/31/2025 12:00:00 AM	427931	MICHIGAN TOWNSHIP ASSOC	367.00	2025 SUPERVISOIRS PROFESSIONAL DEVELOPMENT
FNBCK	8/19/2025 12:00:00 AM	921367-89597	FOSTER SWIFT COLLINS & SMITH PC	13.73	LEGAL SERVICES RENDERED SPLIT BETWEEN 79
FNBCK	7/31/2025 12:00:00 AM	0007236410	LIVINGSTON PRESS & ARGUS	494.30	7-1-255 TO 7-31-25 PLANNING AND ZONING,
FNBCK	8/21/2025 12:00:00 AM	6039029384	STAPLES	38.99	SELF INKING STAMP
FNBCK	8/21/2025 12:00:00 AM	3677150	DYKEMA GOSSETT PLLC	147.60	FOR PROFESSIONAL SERVICES RENDERED RE: LATSON
FNBCK	8/25/2025 12:00:00 AM	8-14-2025	FRANKENMUTH BAVARIAN INN LODGE	343.04	KEVIN SPICHER CONFIRMATION # 1427YF
FNBCK	8/25/2025 12:00:00 AM	8-21-2025	FRANKENMUTH BAVARIAN INN LODGE	182.82	TODD WALKER CONFIRMATION # 1428JC OCTOBER 27-
FNBCK	8/22/2025 12:00:00 AM	6040246513	STAPLES	443.04	SUPPLIES
FNBCK	8/26/2025 12:00:00 AM	25-2445	ELECTION SOURCE	394.70	ELECTION OFFICE SUPPLIES/EQUIPMENT
TOTAL FOR FUND 101				22,446.19	
TOTAL FOR ALL FUNDS				184,249.66	

Check Disbursement Report for Checks Dated 8/14/25 to 8/27/25

Check Date	Bank	Check #	Invoice	Payee	Description	Amount
08/14/2025	FNBCK	39753	8-14-2025	UNITED STATES POSTAL SERVICE	POSTAGE	200.00
08/15/2025	FNBCK	194(E)#	00169751-2	MERS-MICH. EMPLOYEES RETIRE	DUE FROM #233 UTILITY FUND	2,103.61
08/15/2025	FNBCK	194(E)	00169751-2	MERS-MICH. EMPLOYEES RETIRE	RETIREMENT	470.00
08/21/2025	FNBCK	39764#	9-1-25 9-30-25	BLUE CROSS & BLUE SHIELD OF MI	DUE FROM #233 UTILITY FUND	33,786.32
08/21/2025	FNBCK	39764	9-1-25 9-30-25	BLUE CROSS & BLUE SHIELD OF MI	HEALTH/LIFE INSURANCE	26,626.92
08/21/2025	FNBCK	39765	201899074343	CONSUMERS ENERGY	UTIL:ELECTRICITY & NAT.GAS	15.00
08/21/2025	FNBCK	39765	2010009530284	CONSUMERS ENERGY	UTIL:ELECTRICITY & NAT.GAS	136.32
08/21/2025	FNBCK	39766#	RIS0006557747	DELTA DENTAL	DUE FROM #233 UTILITY FUND	2,641.55
08/21/2025	FNBCK	39766	RIS0006557747	DELTA DENTAL	HEALTH/LIFE INSURANCE	1,618.49
08/21/2025	FNBCK	39767	71894	MANER COSTERISAN	AUDIT SERVICES (MANER COSTERISAN)	16,900.00
08/21/2025	FNBCK	39768	1142606	MEI TOTAL ELEVATOR SOLUTIONS	REPAIRS & MAINTENANCE	2,791.11
08/21/2025	FNBCK	39769#	001941137716	MUTUAL OF OMAHA	DUE FROM #233 UTILITY FUND	2,157.22
08/21/2025	FNBCK	39769	001941137716	MUTUAL OF OMAHA	HEALTH/LIFE INSURANCE	1,342.75
08/21/2025	FNBCK	39770	8/17/2025	PAIGE BURGESS	REPAIRS & MAINTENANCE	2,125.00
08/21/2025	FNBCK	39771	8-3-2025	PAIGE BURGESS	REPAIRS & MAINTENANCE	2,125.00
08/21/2025	FNBCK	39772	6605242	TOSHIBA AMERICAN BUSINESS SOLUTIONS	EQUIP / SOFTWARE / SOFTWARE MAINTENANCE	601.96
08/21/2025	FNBCK	39773	6629449	TOSHIBA AMERICAN BUSINESS SOLUTIONS	EQUIP / SOFTWARE / SOFTWARE MAINTENANCE	601.96
08/21/2025	FNBCK	39774	6120346189	VERIZON WIRELESS	PHONE/INTERNT/CABLE/ALARM	80.02
08/25/2025	FNBCK	39775	IN7104131010	GOTO GROUP, INC	PHONE/INTERNT/CABLE/ALARM	724.61
08/26/2025	FNBCK	39776	8/28/25 9/27/25	COMCAST	PHONE/INTERNT/CABLE/ALARM	347.93
Total for fund 101 GENERAL FUND						97,395.77
08/20/2025	503FN	6412#	7-14-25 8-8-25	HOME DEPOT CREDIT SERVICES	DUE FROM LE #590	31.96
08/20/2025	503FN	6412	7-14-25 8-8-25	HOME DEPOT CREDIT SERVICES	DUE FROM OP #592	20.62
08/20/2025	503FN	6412	7-14-25 8-8-25	HOME DEPOT CREDIT SERVICES	DUE FROM OP #592	188.49
08/20/2025	503FN	6412	7-14-25 8-8-25	HOME DEPOT CREDIT SERVICES	DUE FROM HOWELL TOWNSHIP	39.18
08/20/2025	503FN	6412	7-14-25 8-8-25	HOME DEPOT CREDIT SERVICES	DUE FROM G/O	539.39
08/20/2025	503FN	6412	7-14-25 8-8-25	HOME DEPOT CREDIT SERVICES	DUE FROM MHOG	1,046.90
08/20/2025	503FN	6412	7-14-25 8-8-25	HOME DEPOT CREDIT SERVICES	ROUTINE MAINTENANCE	395.94
08/20/2025	503FN	6413#	7/8/25 8/7/25	CARDMEMBER SERVICE	DUE FROM GENERAL FUND #101	2,159.80
08/20/2025	503FN	6413	7/8/25 8/7/25	CARDMEMBER SERVICE	DUE FROM OP #592	15.00
08/20/2025	503FN	6413	7/8/25 8/7/25	CARDMEMBER SERVICE	DUE FROM G/O	118.53
08/20/2025	503FN	6413	7/8/25 8/7/25	CARDMEMBER SERVICE	DUE FROM MHOG	(330.62)
08/20/2025	503FN	6413	7/8/25 8/7/25	CARDMEMBER SERVICE	ROUTINE MAINTENANCE	56.07
08/20/2025	503FN	6413	7/8/25 8/7/25	CARDMEMBER SERVICE	SUPPLIES & TOOLS	328.82
08/20/2025	503FN	6413	7/8/25 8/7/25	CARDMEMBER SERVICE	CUSTOMER LINE	66.91
08/21/2025	503FN	6414	8/12/25 TO 9/11/25	COMCAST	SECURITY CAMERAS AT BARNS & INTERNET	226.81
08/21/2025	503FN	6415	8-18-2025	UNITED STATES POSTAL SERVICE	POSTAGE AND SHIPPING	354.10

Check Disbursement Report for Checks Dated 8/14/25 to 8/27/25

Check Date	Bank	Check #	Invoice	Payee	Description	Amount
08/26/2025	503FN	6416#	6120346188	VERIZON WIRELESS	DUE FROM OP #592	40.01
08/26/2025	503FN	6416	6120346188	VERIZON WIRELESS	AIR CARDS/JETPACKS	554.22
08/26/2025	503FN	6416	6120346188	VERIZON WIRELESS	CELL PHONES	44.49
Total for fund 233 DPW UTILITIES						5,896.62
08/20/2025	593FN	4658	201009530283	CONSUMERS ENERGY	UTILITIES - GAS - SEWER	18.00
Total for fund 590 LAKE EDGEWOOD OPERATING						18.00
08/19/2025	592FN	6429	7-30-2025	GENOA TOWNSHIP DPW FUND	TOOLS/SUPPLIES ALL SYS - SEWER	1,415.13
08/20/2025	592FN	6430	8-7-2025	AT&T	INTERNET - WATER	247.68
08/20/2025	592FN	6431	206704087329	CONSUMERS ENERGY	UTILITIES - GAS - SEWER	133.32
08/21/2025	592FN	6432	203322925322	CONSUMERS ENERGY	UTILITIES - GAS - SEWER	133.32
Total for fund 592 OAKPOINTE OPERATING						1,929.45



Manage your account online at : www.chase.com/cardhelp

Customer Service: 1-800-945-2028

Mobile: Download the Chase Mobile® app today

September 2025						
S	M	T	W	T	F	S
	1	2	3	4	5	6
	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	1	2	3	4
5	6	7	8	9	10	11

New Balance
\$2,414.51
 Minimum Payment Due
\$40.00
 Payment Due Date
09/01/25

INK CASH(SM) POINT SUMMARY

Previous points balance	42,300
+ 1 Point per \$1 earned on all purchases	2,838
+ 2Pts/\$1 gas atm, retns, o/c apply, hm impr	491
- Points redeemed this statement period	42,300

Total points available for redemption 3,329

Late Payment Warning: If we do not receive your minimum payment by the due date, you may have to pay a late fee, and existing and new balances may become subject to the Default APR.

Minimum Payment Warning: Enroll in Auto-Pay and avoid missing a payment. To enroll, go to www.chase.com

ACCOUNT SUMMARY

Account Number:	
Previous Balance	\$10,146.39
Payment, Credits	-\$10,719.39
Purchases	+\$2,987.51
Cash Advances	\$0.00
Balance Transfers	\$0.00
Fees Charged	\$0.00
Interest Charged	\$0.00
New Balance	\$2,414.51
Opening/Closing Date	07/08/25 - 08/07/25
Credit Limit	\$45,500
Available Credit	\$43,085
Cash Access Line	\$2,275
Available for Cash	\$2,275
Past Due Amount	\$0.00
Balance over the Credit Limit	\$0.00

all systems
 UTILITY DEPT.

AUG 11 2025

RECEIVED

233-000-084-990
zjt
 08-12-25

YOUR ACCOUNT MESSAGES

Starting October 26th, 2025, the Chase DiningSM storefront in Ultimate Rewards will be decommissioned and Chase cardmembers will no longer be able to redeem points towards pre-paid restaurant reservations. Chase cardmembers will still be able to redeem for cash back, travel and more through Ultimate Rewards.

0000001 FIS33339 C 1
 0309

N Z 07 25/08/07

Page 1 of 2

05686 MA DA 19886 21910000010451968601



P.O. BOX 15123
 WILMINGTON, DE 19850-1523
 For Undeliverable Mail Only

Make your payment at
chase.com/paycard

Payment Due Date: 09/01/25
New Balance: \$2,414.51
Minimum Payment Due: \$40.00

Account number:

\$ _____ Amount Enclosed
 Make/Mail to Chase Card Services at the address below:



CARDMEMBER SERVICE
 PO BOX 4099
 CAROL STREAM IL 60197-4099

19896 BEX Z 21925 C
 GREG TATARA
 MHOG SEWER & WATER AUTH
 2911 DORR RD
 BRIGHTON MI 48116-9436



⑆500016028⑈9869102728041⑆



ACCOUNT ACTIVITY

Date of Transaction	Merchant Name or Transaction Description	\$ Amount
07/08	Amazon.com*NL36X0Z31 Amzn.com/bill WA <i>Calo</i>	93.04 ✓
07/09	AMAZON MKTPL*NL69P4VM0 Amzn.com/bill WA <i>9to</i>	25.49 ✓
07/24	AMAZON MKTPL*JT1VY0WT3 Amzn.com/bill WA <i>DPW Supplies</i>	328.82 ✓
08/05	Amazon.com*F95DK2XK3 Amzn.com/bill WA <i>DPW Trucks</i> JAMES AULETTE TRANSACTIONS THIS CYCLE (CARD) \$503.42	56.07 ✓
07/17	STATE MI EGLE MIENVIRO 517-2845483 MI <i>MHOQ (NPDES)</i>	-150.00 ✓
07/29	VOIP.MS TERREBONNE QC <i>OPW</i> ALEX CHIMPOURAS TRANSACTIONS THIS CYCLE (CARD) \$135.00-	15.00 ✓
07/08	Microsoft-G100397001 800-6427676 WA <i>101-261-751-000</i>	753.30
07/10	GoToCom*GoToConnect goto.com MA <i>101-265-850-000</i>	737.77
07/11	WALMART.COM 8009256278 800-966-6546 AR <i>101-241-750-000</i>	179.64
07/20	Amazon.com*5M4AZ6YQ3 Amzn.com/bill WA <i>101-261-751-000</i>	13.85
07/20	Amazon.com*243TD5XR3 Amzn.com/bill WA <i>101-261-750-000</i>	165.13
07/20	AMAZON MKTPL*ZV1HI50Q3 Amzn.com/bill WA <i>101-261-751-000</i>	28.79
07/25	QDOBA 2876 HOWELL MI <i>101-171-955-000</i>	245.30
08/01	Amazon.com*G47AA7K63 Amzn.com/bill WA <i>101-261-751-000</i> KELLY VANMARTEH TRANSACTIONS THIS CYCLE (CARD) \$2159.80	36.02
07/26	Payment ThankYou - Image Check	-10,146.39
07/28	STATEMENT CREDIT - <i>Rewards</i>	-423.00 ✓
07/10	GoToCom*GoToConnect goto.com MA <i>MHOQ</i>	242.38 ✓
08/04	RINGCENTRAL INC. 888-898-4591 CA <i>DPW-Phone</i> GREG TATARA TRANSACTIONS THIS CYCLE (CARD) \$10260.10- INCLUDING PAYMENTS RECEIVED	66.91 ✓

2025 Totals Year-to-Date

Total fees charged in 2025	\$0.00
Total interest charged in 2025	\$38.88

Year-to-date totals do not reflect any fee or interest refunds you may have received.

INTEREST CHARGES

Your Annual Percentage Rate (APR) is the annual interest rate on your account.

Balance Type	Annual Percentage Rate (APR)	Balance Subject To Interest Rate	Interest Charges
PURCHASES			
Purchases	17.49%(v)(d)	- 0 -	- 0 -
CASH ADVANCES			
Cash Advances	29.24%(v)(d)	- 0 -	- 0 -
BALANCE TRANSFERS / MY CHASE LOAN			
Balance Transfers	17.49%(v)(d)	- 0 -	- 0 -
My Chase Loan	17.49%(v)(d)	- 0 -	- 0 -

31 Days in Billing Period

(v) = Variable Rate

(d) = Daily Balance Method (including new transactions)

(a) = Average Daily Balance Method (including new transactions)

Please see Information About Your Account section for the Calculation of Balance Subject to Interest Rate, Annual Renewal Notice, How to Avoid Interest on Purchases, and other important information, as applicable.

GENOA CHARTER TOWNSHIP BOARD
Regular Meeting
August 18, 2025

MINUTES

Call to Order

Supervisor Spicher called the regular meeting of the Genoa Charter Township Board to order at 6:30 pm at the Township Hall.

Invocation

Supervisor Spicher led the invocation for the Board and the members of the public.

Pledge of Allegiance

The Pledge of Allegiance was recited.

Roll Call

The following members were present constituting a quorum for the transaction of business: Kevin Spicher, Janene Deaton, Candie Hovarter, Robin Hunt, Bill Reiber, Rick Soucy, and Todd Walker.

Also present was Township Manager Kelly VanMarter and 21 people in the audience.

Call to the Public

The call to the public was opened at 6:32 pm.

Ms. Debra Beattie of 3109 Pineview Trail thanked the board for their detailed discussions on expenditures over the past few months.

Ms. Rochelle Huntsman of 1662 Edwin Drive requested the board reconsider rescinding the Edwin Drive Private Road Maintenance Special Assessment District. She stepped away from organizing this, but will return to organizing it.

Mr. Mark Parker of 4668 Summer Ridge Drive stated he signed up for text and email notices from the township and he would like to have a link to click to bring residents directly to the board packet.

Mr. Kelly Grooms of 1655 Edwin Drive is concerned with the way the road improvement project was handled. Not all of the residents were aware of the contractors that were chosen. He would like the agreement rescinded.

Mr. Mike Refalo of 1619 Edwin Drive stated that there has been fighting between the neighbors

and lies have been said about him. The residents signed the invoice for the contractor because they were told he was sick and couldn't do it. This is not true. He and his family have taken care of this road from 1964 until 2008. He is willing to handle the maintenance again, however is not in favor of using the vendor because while he was working on Edwin Drive he was yelling and cursing at residents.

Ms. Liz Sinistaj of 1622 Edwin Drive has lived here for four years. When she moved in, the road was impeccable. She signed the invoice that was given to her by Ms. Huntsman because she wants to have the road maintained and is willing to pay. She would like to have it settled.

Mr. Phil Brown of 1681 Edwin Drive stated he and his neighbors decided to have asphalt millings laid on the road. That was not done and instead two days later, the road was graded and had a chloride treatment. All of the residents did not agree to this. The call to the public was closed at 6:50 pm.

Approval of Consent Agenda:

Moved by Hunt, supported by Soucy, to approve the Consent Agenda as presented. **The motion carried unanimously.**

- 1. Payment of Bills: August 18, 2025**
- 2. Request to approve the August 4, 2025 regular meeting minutes.**

Approval of Regular Agenda:

Moved by Reiber, supported by Hovarter, to approve the Regular Agenda as presented. **The motion carried unanimously.**

- 3. Public Hearing on the proposed Timber Green Court Private Road Improvement Special Assessment Project (winter tax 2025).**
 - a) Call to the Property Owners**
 - b) Call to the Public**

The call to the property owners was opened at 6:51 pm.

Mr. Bob Moran of 3985 Timber Green Court requests the board approve their request for the special assessment district. The contractor is present if there are any questions. There are approximately six other residents here tonight.

The call to the property owners was closed at 6:53 pm.

The call to the public was opened at 6:53 pm with no response.

- 4. Request for approval of Resolution #3 - Approving the Project Cost Estimates, Special Assessment District and causing the Special Assessment Roll to be prepared**

for the Timber Green Court Private Road Improvement Special Assessment Project (winter tax 2025). (Roll Call)

Moved by Soucy, supported by Walker, to approve Resolution #3 - Approving the Project Cost Estimates, Special Assessment District and causing the Special Assessment Roll to be prepared for the Timber Green Court Private Road Improvement Special Assessment Project for Winter Tax 2025. **The motion carried unanimously with a roll call vote (Soucy - yes; Hovarter - yes; Walker - yes; Reiber - yes; Hunt - yes; Spicher - yes; Deaton - yes)**

5. Request for approval of Resolution #4 - Resolution Acknowledging the Filing of the Special Assessment Roll, Scheduling the Second Hearing for September 2, 2025 and Directing the Issuance of Statutory Notices for the Timber Green Court Private Road Improvement Special Assessment Project (winter tax 2025). (Roll Call)

Moved by Hunt, supported by Soucy, to approve Resolution #4 - Acknowledging the Filing of the Special Assessment Roll, Scheduling the Second Hearing for September 2, 2025 and Directing the Issuance of Statutory Notices for the Timber Green Court Private Road Improvement Special Assessment Project for Winter Tax 2025. **The motion carried unanimously with a roll call vote (Hovarter - yes; Walker - yes; Reiber - yes; Hunt - yes; Deaton - yes; Soucy - yes; Spicher - yes)**

6. Request for approval of Resolution #6 - Resolution Scheduling Public Hearing for Tuesday, September 2, 2025 on Proposed Termination of the Edwin Drive Private Road Maintenance Special Assessment Project (summer tax 2025), Amendment of the Confirmed Special Assessment Roll, Rescission of Prior Resolutions and Dissolution of the Edwin Drive Private Road Maintenance Special Assessment District. (Roll Call)

Ms. Deaton is concerned that if the project is rescinded, then there will be no maintenance of this road. If the roads are not properly maintained, it will affect property values. She asked Mr. Refalo why they did not want to use the contractor that was selected. Mr. Refalo stated that he had not reviewed who the contractor was because Ms. Huntsman asked him to maintain the road. The two gradings that were approved by the township board have been done. The one that was done in July was not appropriate. It should have waited to be done in September. They would like to have a resolution that states they are allowed to obtain competitive bids for the work.

Ms. Hunt stated that the board followed the law, and it is no fault of theirs that the vendor that was approved is not the vendor that the residents want.

Mr. Reiber stated the residents want the road maintenance to be done and Ms. Huntsman did the work to obtain the competitive bids and brought it to the township. He asked if there was another person who would consider managing the project.

Mr. Walker would like to see more residents in favor of this special assessment district. He recommends not having the township involved until the drama between the residents is resolved. Mr. Soucy and Mr. Reiber agreed.

Moved by Soucy, supported by Walker, to approve Resolution #6 to schedule a public hearing on September 2, 2025 on the proposed termination of the Edwin Drive Private Road Maintenance Special Assessment Project, amendment of the confirmed special assessment roll, rescission of the prior resolutions and dissolution of the Edwin Drive Private Road Maintenance Special Assessment District. **The motion carried unanimously with a roll call vote (Reiber - yes; Walker- yes; Hovarter- yes; Soucy- yes; Deaton- yes; Spicher - yes; Hunt - yes)**

- 7. Consideration of a request for approval of a proposal from Network Services Group, LLC for the purchase and installation of a new Township Server with a cost not to exceed \$64,070 from Fund 249, Building and Grounds, Server Upgrades Line Item No. 249-265-981-016.**

Ms. Deaton stated BS&A software uses a lot of the server space; however, the township will be switching to the online version, so she asked if that will free up enough space where it doesn't have to be replaced. Mr. Adam VanTassell stated as new updates continue to come out from software programs, the current server will not be able to accommodate them. Servers usually last approximately five years before needing to be upgraded. The current server is eight years old and needs to be replaced.

Mr. Reiber noted that the three quotes are for different types of servers. Supervisor Spicher stated that each of the companies proposed different types of servers, and Mr. VanTassell reviewed them and is recommending which one is best for the township. Mr. VanTassell confirmed his confidence in his recommendation of NSG LLC.

Moved by Walker, supported by Hunt, to approve the proposal from NSG LLC for the purchase and installation of a new Township Server for \$64,070.00 from Fund Line Item 249-265-981-016. **The motion carried unanimously.**

- 8. Consideration of a request for approval of a proposal from Network Services Group, LLC for 1 year for the upgrade of the Township Cybersecurity system for a monthly fee of \$27.25 per computer and a monthly fee of \$127.00 per server and \$625.00 installation from Fund 101, Software/Software Maintenance Line Item No. 101-261-751-000.**

Mr. VanTassell stated the proposal is for both the anti-virus and the cyber security services.

Mr. Reiber asked if the township could obtain a floating license which allows an unlimited number of devices to be using the service at the same time. Mr. VanTassell stated that would allow the product to be used on non-township owned devices, which he would not recommend..

Moved by Soucy, supported by Walker, to approve the proposal from NSG LLC for one year for the upgrade of the Township Cybersecurity system for a monthly fee of \$27.25 per computer and a monthly fee of \$127.00 per server and \$625.00 installation from Fund Line Item 101-261-751-000. **The motion carried unanimously.**

Member Updates

Mr. Walker stated he spoke with the Clerk from Schwartz Creek regarding the MyGenoa app. He provided an update regarding the renovations of the Brighton Area Fire Authority Station #31 on Grand River.

Mr. Reiber spoke to Lieutenant Young from the Sheriff's office regarding providing training classes to Genoa residents, such as CPR, active shooter response, stop the bleeding, etc. They will do the training at no cost. If there are any costs associated with materials, etc. he is suggesting that the township pay for them. He provided a review of the previous Planning Commission meeting.

Ms. Hovarter volunteered at the Melon Festival last weekend.

Mr. Soucy provided a review of the previous ZBA meeting.

Board Comments

Ms. Deaton stated she is working hard on cleaning up the voter roll. Also, she is following state law and adding a second ballot box. The box was free from the state, but the township will pay for installation. She found a grant that may reimburse us for that, if it is still available. BAFA has kindly agreed to video monitor the box for the township. It will be installed at the fire department off on Chilson road.

Ms. VanMarter stated the next board meeting is on Tuesday, September 2, due to the Labor Day Holiday on Monday, September 1. She thanked Adam VanTassell for coming to the township hall at 6 am yesterday to assist due to a down fiber line. There are only three signs left on poles in the entire township and Ms. Aulette anticipates them being removed by the end of this week.

Supervisor Spicher stated there are 33 people signed up for the Planning and Zoning for Everyone event on September 10.

Adjournment

Moved by Soucy, supported by Reiber, to adjourn the meeting at 8:07 pm. **The motion carried unanimously.**

Respectfully Submitted,

Patty Thomas
Recording Secretary

Approved: Janene Deaton, Clerk
Genoa Charter Township

Kevin Spicher, Supervisor
Genoa Charter Township

DRAFT



2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Honorable Board of Trustees
FROM: Kelly VanMarter, Township Manager
DATE: August 25, 2025
RE: Timber Green Court Private Road Improvement Special Assessment District

Agenda items 3 and 4 are provided in advancement of the Timber Green Court Private Road Improvement special assessment project. In accordance with Public Act 188 of 1954, notice of the second public hearing was mailed to property owners in the proposed district on Friday, August 22, 2025 and published in the Livingston Daily on both August 22 and 29, 2025. As of the date of this letter, I have not received any written objections to the proposed district.

For your consideration at Monday’s meeting, there is first the requirement for a public hearing for both the property owners and the general public to hear objections to the special assessment roll. This is agenda item #3.

After the conclusion of the public hearing, the Township Board of Trustees will consider adoption of **Resolution #5** which:

- Confirms the special assessment roll.
- Sets that the assessment may be paid in 15 installments due annually on December 1 with a 2% annual interest rate.
- Provides that the assessment can be paid in full by September 29, 2025 to avoid interest.

I look forward to discussing this with you at Monday’s meeting. If, following the public hearing, you choose to approve the district, I request your consideration of Resolution 5 with disposition via roll call as follows:

Agenda Item #4 - Resolution #5 (Requires Roll Call)

Moved by _____ and supported by _____ to approve **Resolution #5** – Confirming the Special Assessment Roll for the **Timber Green Court Private Road Improvement Special Assessment Project** (winter tax 2025).

Sincerely,

Kelly VanMarter

SUPERVISOR

Kevin Spicher

CLERK

Janene Deaton

TREASURER

Robin L. Hunt

TRUSTEES

Rick Soucy

Bill Reiber

Candie Hovarter

Todd Walker

MANAGER

Kelly VanMarter

Resolution No. 5
Timber Green Court Private Road Improvement Special Assessment Project
(winter tax 2025)

GENOA CHARTER TOWNSHIP

At a regular meeting of the Township Board of the Genoa Charter Township, Livingston County, Michigan, (the “Township”) held at the Township Hall on Tuesday, September 2, 2025 at 6:30 p.m., there were

PRESENT:

ABSENT:

The following preamble and resolution were offered by _____ and seconded by _____:

Resolution Confirming Special Assessment Roll

WHEREAS, the Board of Trustees of the Township has determined to proceed with the **Timber Green Court Private Road Improvement Special Assessment Project (winter tax 2025)** within the Township as described in Exhibit A (the “Project”) and in accordance with Act No. 188, Michigan Public Acts of 1954, as amended;

WHEREAS, the Board of Trustees of the Township has determined to advance the costs of the Project from Township funds and to use special assessments to raise the money necessary to reimburse the Township for the advance of such funds;

WHEREAS, the Township Supervisor has prepared the Special Assessment Roll entitled Special Assessment Roll for the Timber Green Court Private Road Improvement Special Assessment Project (winter tax 2025) (the “Proposed Roll”) and has filed the Proposed Roll with the Township Manager and Township Clerk;

WHEREAS, the Township Board has scheduled a public hearing on the Proposed Roll and notice of the hearing has been properly provided;

WHEREAS, the Township Board conducted the public hearing on the Proposed Roll on September 2, 2025.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. Roll Confirmed. In accordance with Act No. 188, Michigan Public Acts of 1954, as amended, and the laws of the State of Michigan, the Township Board hereby confirms the Special Assessment Roll for the **Timber Green Court Private Road Improvement Special Assessment Project (winter tax 2025)** (the “Roll”) (Exhibit B). The estimated cost of the Project is subject to quarterly periodic redetermination of costs, without further notice, pursuant to MCL 41.724(4).

2. Future Installments - Principal. The Township Board determines that each special assessment may be paid in fifteen (15) equal installments. The first installment shall be due December 1, 2025. Each subsequent installment shall be due at intervals 12 months from the due date of the first installment.

3. Future Installments - Interest. Special assessments may be paid in full up to September 29, 2025 without interest. Thereafter, all unpaid installments shall bear interest, payable annually on each installment due date, at a rate of two percent (2%).

4. Warrant. The Township Clerk is hereby directed to attach a warrant (in the form of Exhibit C to this resolution) to the Roll and to deliver such warrant and the Roll to the Township Treasurer, who shall thereupon collect the special assessments in accordance with the terms of this resolution, the Clerk's warrant and the statutes of the State of Michigan.

5. Inconsistent Prior Resolutions. All previously adopted resolutions that are in conflict with this resolution are repealed to the extent of such conflict.

A vote on the foregoing resolution was taken and was as follows:

YES:

NO:

ABSENT:

RESOLUTION DECLARED _____.

CLERK'S CERTIFICATE

The undersigned, being the duly qualified and acting Clerk of the Township, hereby certifies that (1) the foregoing is a true and complete copy of a resolution duly adopted by the Township Board at the September 2, 2025 meeting of the Township Board, at which meeting a quorum was present and remained throughout; (2) the original thereof is on file in the records in the Township Manager's office; (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended); and (4) minutes of such meeting were kept and will be or have been made available as required thereby.

Janene Deaton, Genoa Charter Township Clerk

EXHIBIT A – THE PROJECT

**TIMBER GREEN COURT PRIVATE ROAD IMPROVEMENT PROJECT
(winter tax 2025)**

**DESCRIPTION OF PROJECT
A FIFTEEN-YEAR SPECIAL ASSESSMENT DISTRICT
WITH PROJECTED COSTS AS FOLLOWS:**

This private road improvement project (the “Project”) involves improvements to Timber Green Court in the Timber Green subdivision which is located west of Chilson Road between Latson Road and Coon Lake Road in Section 29 of Genoa Charter Township. The project includes removal of existing asphalt and asphalt curb to a depth of four inches (4”), proof rolling the aggregate base, undercutting any soft spots using 21AA crushed concrete, removal of sediment from drainage swales, re-build four (4) catch basins, add an additional 600 square feet to widen the pavement at the far west side of the roadway, remove a single large cottonwood tree whose root system is damaging the roadway, and repave with two and a half inches (2.5”) of 3C/3E1 asphalt base course followed by one and a half inches (1.5”) of 5E1 wearing surface. The project also includes a 10% contingency cost and \$9,300.00 for engineering inspection services. This project benefits equally the property owners of Lots 1-9, Unit A and Unit B-2 of the Timber Green Condominium Subdivision in Genoa Charter Township.

The total cost of the project is \$210,803.70. This includes a construction cost of \$181,367 plus a ten (10%) percent contingency of \$18,136.70, \$9,300 for on-site engineering services and \$2,000 for administration costs. There are eleven (11) parcels which front on the roads proposed for improvement. A majority of homeowners representing over 72% of property and 71% of frontage have signed petitions. The interest for the district is 2%. The total principle cost per parcel is \$19,163.90. For a fifteen (15) year district, the annual principle payment per parcel is \$1,277.60 with 2% interest applied to the outstanding balance.

TIMBER GREEN ROAD IMPROVEMENT SAD						
CONSTRUCTION COST		\$	181,367.00			
10% CONSTRUCTION COTINGENCY		\$	18,136.70			
ENGINEERING		\$	9,300.00			
ADMINISTRATIVE COSTS		\$	2,000.00			
TOTAL		\$	210,803.70			
INTEREST %				2		
NUMBER OF PROPERTIES				11		
TOTAL PER PARCEL		\$	19,163.90			
YEAR	PAYMENT	TO INTEREST	TO PRINCIPAL	OUTSTANDING		
1	2025 \$ 1,405.36	\$ 127.76	\$ 1,277.60	\$ 17,886.36		
2	2026 \$ 1,635.33	\$ 357.73	\$ 1,277.60	\$ 16,608.76		
3	2027 \$ 1,609.77	\$ 332.18	\$ 1,277.60	\$ 15,331.17		
4	2028 \$ 1,584.22	\$ 306.62	\$ 1,277.60	\$ 14,053.58		
5	2029 \$ 1,558.67	\$ 281.07	\$ 1,277.60	\$ 12,775.98		
6	2030 \$ 1,533.12	\$ 255.52	\$ 1,277.60	\$ 11,498.38		
7	2031 \$ 1,507.57	\$ 229.97	\$ 1,277.60	\$ 10,220.79		
8	2032 \$ 1,482.01	\$ 204.42	\$ 1,277.60	\$ 8,943.19		
9	2033 \$ 1,456.46	\$ 178.86	\$ 1,277.60	\$ 7,665.59		
10	2034 \$ 1,430.90	\$ 153.31	\$ 1,277.60	\$ 6,387.99		
11	2035 \$ 1,405.35	\$ 127.76	\$ 1,277.60	\$ 5,110.39		
12	2036 \$ 1,379.80	\$ 102.21	\$ 1,277.60	\$ 3,832.79		
13	2037 \$ 1,354.25	\$ 76.66	\$ 1,277.60	\$ 2,555.20		
14	2038 \$ 1,328.70	\$ 51.10	\$ 1,277.60	\$ 1,277.60		
15	2039 \$ 1,303.15	\$ 25.55	\$ 1,277.60	\$ -		
	\$ 21,974.65	\$ 2,810.71	\$ 19,163.96			

EXHIBIT B - THE ROLL

08/13/2025
11:45 AM

Tentative Special Assessment Listing for GENOA TOWNSHIP
Population: Special Assessment District (X080425)

Page: 1/1
DB: Genoa

PARCEL	ASSESSMENT NAME	ASSESSMENT	OWNER ADDRESS
4711-29-201-001	X080425, Timber Green	19,163.96p	MORAN ROBERT JR & KATHLEEN D 3985 TIMBER GREEN CT
4711-29-201-002	X080425, Timber Green	19,163.96p	HICKEY MARK & LAURA LIVING TRUST 3900 TIMBER GREEN CT
4711-29-201-003	X080425, Timber Green	19,163.96p	PHILLION GERALD & SALLY 3878 TIMBER GREEN CT
4711-29-201-004	X080425, Timber Green	19,163.96p	SLATER GEORGE & DEBORAH LTS 9.3 3846 TIMBER GREEN CT
4711-29-201-005	X080425, Timber Green	19,163.96p	DOTY DONALD & KENT CAROLANN 3818 TIMBER GREEN CT
4711-29-201-006	X080425, Timber Green	19,163.96p	DELUCA KENNETH & LORI 3790 TIMBER GREEN CT
4711-29-201-007	X080425, Timber Green	19,163.96p	REINAGLE JEREMIAH & AUDREY 3789 TIMBER GREEN CT
4711-29-201-008	X080425, Timber Green	19,163.96p	BERGER JAMES & ANNE 32002 CAMBRIDGE ST
4711-29-201-009	X080425, Timber Green	19,163.96p	MURPHY ROBERT TRUST 3861 TIMBER GREEN CT
4711-29-201-015	X080425, Timber Green	19,163.96p	GRINNEN SHAWN & LINDA 3920 TIMBER GREEN CT
4711-29-201-016	X080425, Timber Green	19,163.96p	MCCOY ANTHONY & ALICIA LTS 9.3 3929 TIMBER GREEN CT
# OF PARCELS: 11	TOTALS:	210,803.56	

EXHIBIT C

WARRANT

TO: Esteemed Treasurer
Genoa Township
Livingston County, Michigan

I certify that attached to this Warrant is a true copy of the special assessment roll for the **Timber Green Court Private Road Improvement Special Assessment Project (winter tax 2025)** (the "Roll") confirmed by the Township Board on September 2, 2025 (the "Confirming Resolution"). You are hereby directed to proceed to collect the amounts due on such Roll in accordance with this Warrant, the Confirming Resolution and the statutes of the State of Michigan.

Janene Deaton
Genoa Charter Township Clerk



2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Honorable Board of Trustees
FROM: Kelly VanMarter, Township Manager
DATE: August 25, 2025
RE: Termination of Edwin Drive Road Maintenance Special Assessment District

Agenda items 5 and 6 are provided in advancement of the termination of the Edwin Drive Private Road Maintenance Special Assessment District. Notice of the public hearing was mailed to property owners in the district on Friday, August 22, 2025 and published in the Livingston Daily on both August 22 and 29, 2025. As of the date of this letter, I have not received any comments on the proposed termination of the district.

For your consideration at Monday's meeting, there is first the requirement for a public hearing for both the property owners and the general public to hear objections to the proposed termination of the district. This is agenda item #5.

After the conclusion of the public hearing, the Township Board of Trustees will consider adoption of **Resolution #7** which:

- Terminates the district.
- Amends the confirmed roll.
- Rescinds prior Resolutions
- Dissolves the project.

Any funds remaining after payment of project expenses including legal and additional administrative costs will be refunded to the property owners. If, following the public hearing, you choose to approve the district, I request your consideration of Resolution 7 with disposition via roll call as follows:

Agenda Item #6 - Resolution #7 (Requires Roll Call)

Moved by _____ and supported by _____ to approve **Resolution #7** - Resolution to terminate the **Edwin Drive Private Road Maintenance Special Assessment Project** (summer tax 2025), amend the confirmed special assessment roll, rescind prior resolutions, and dissolve the Edwin Drive Private Road Maintenance Special Assessment Project.

Sincerely,

Kelly VanMarter

SUPERVISOR

Kevin Spicher

CLERK

Janene Deaton

TREASURER

Robin L. Hunt

TRUSTEES

Rick Soucy

Bill Reiber

Candie Hovarter

Todd Walker

MANAGER

Kelly VanMarter

**Resolution #7
Edwin Drive Road Maintenance
Special Assessment Project (Summer Tax 2025)**

GENOA CHARTER TOWNSHIP

At a regular/special meeting of the Township Board (the "Township Board") of Genoa Charter Township, Livingston County, Michigan, (the "Township") held at the Township Hall on September 2, 2025, at 6:30 p.m., there were

PRESENT:

ABSENT:

The following preambles and resolution were offered by _____ and seconded by _____:

RESOLUTION TO TERMINATE THE EDWIN DRIVE PRIVATE ROAD MAINTENANCE SPECIAL ASSESSMENT PROJECT (SUMMER TAX 2025), AMEND THE CONFIRMED SPECIAL ASSESSMENT ROLL, RESCIND PRIOR RESOLUTIONS, AND DISSOLVE THE EDWIN DRIVE ROAD MAINTENANCE SPECIAL ASSESSMENT DISTRICT

WHEREAS, the Township Board previously approved the creation of Edwin Drive Road Maintenance Special Assessment District (the "District") pursuant to Public Act 188 of 1954, as amended ("Act 188"), for the purpose of grading, gravel application, dust control, and snow removal on the privately owned and maintained Edwin Drive;

WHEREAS, on April 7, 2025, the Township Board adopted (i) Resolution #1 to proceed with the private road maintenance project and direct preparation of plans and cost estimates; and (ii) Resolution #2 to approve the private road maintenance project, schedule the first hearing, and direct issuance of statutory notices; and

WHEREAS, on April 21, 2025, the Township Board adopted (i) Resolution #3 to approve the private road maintenance project, cost estimates, and (ii) Resolution #4 dated to acknowledge filing of the special assessment roll, schedule the second hearing, and direct issuance of statutory notices; and

WHEREAS, on May 5, 2025, the Township Board adopted Resolution #5 to confirm the special assessment roll for the Edwin Drive Private Road Maintenance Project (Summer Tax 2025) (the "Project");

WHEREAS, the Township Board has determined, based on the record of the September 2, 2025 public hearing, that continuation of the Project is no longer feasible and that it is in the best interest of the Township and property owners within the District to terminate the Project and dissolve the District; and

WHEREAS, the Township Board further finds it appropriate to amend the confirmed special assessment roll to eliminate all future installments, rescind Resolutions #1-#5 authorizing the Project or levy of future installments, and provide for the refund of any surplus funds after payment of all project, legal and administrative expenses.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Edwin Drive Private Road Maintenance Project is hereby terminated. No further work shall be performed under the Project except to complete payment of valid and authorized expenses incurred to date.

2. The confirmed special assessment roll for the Edwin Drive Private Road Maintenance Special Assessment District is hereby amended to reflect only the amounts necessary to pay actual project expenses incurred through the date of this Resolution, with all remaining future installments set to \$0.

3. Township Treasurer is authorized and directed to pay all valid expenses of the Project, including legal and administrative costs, from the assessments collected for the Project. The Township Treasurer shall refund any remaining funds collected from the Summer 2025 levy to the property owners of record within the District on a pro rata basis according to their respective share of the assessment.

4. The Township Treasurer and Assessor are directed to remove the District from all future tax rolls and to take all necessary steps to ensure that no further special assessments for this Project are levied.

5. Resolutions #1 through #5 are rescinded to the extent they authorize continuation of the Project or levy of future installments.

6. The Edwin Drive Private Road Maintenance Special Assessment District, as established by prior resolutions of the Township Board, is hereby dissolved, and shall have no further legal force or effect.

7. The Township Manager, Treasurer, and Clerk are authorized and directed to take all actions necessary to implement this Resolution, including removal of the District from the Township's tax rolls.

8. This Resolution shall become effective immediately upon its adoption and shall be recorded in the minutes of the Township Board as soon as is practicable after its passage.

A vote on the foregoing resolution was taken and was as follows:

YES:

NO:

ABSENT:

RESOLUTION DECLARED _____.

Certification

The undersigned, being the duly qualified and acting Clerk of Genoa Charter Township, Livingston County, Michigan, hereby certifies that (1) the foregoing is a true and complete copy of a resolution duly adopted by the Township Board at a regular meeting, at which meeting a quorum was present and remained throughout, (2) the original thereof is on file in the records in my office, (3) the meeting was conducted, and public notice thereof was given, pursuant to and in full compliance with the Open Meetings Act (Act No. 267, Public Acts of Michigan, 1976, as amended) and (4) minutes of such meeting were kept and will be or have been made available as required thereby.

Dated: September 2, 2025

Janene Deaton, Township Clerk
Genoa Charter Township



2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Honorable Board of Trustees
FROM: Amy Ruthig, Planning Director
DATE: August 26, 2025
RE: 6025 Brighton Road, vacant parcel #4711-27-400-012 Private Road Special Land Use, Site Plan and Environmental Impact Assessment

In consideration of the approval recommendation by the Township Planning Commission on August 11, 2025, please find the attached private road site plan, special land use application and environmental impact assessment for your consideration. The applicant proposes to construct a private road with a shared residential driveway to accommodate 7 new home sites by the land division process. The property is located at 6025 Brighton Road (4711-26-300-011) including adjacent vacant parcel# 4711-27-400-012 on the north side of Brighton Road, east of Clifford Road. The request is petitioned by Mr. Kevin Van Kannel. The properties are zoned Low Density Residential (LDR) which requires a 1-acre minimum.



SUPERVISOR

Kevin Spicher

CLERK

Janene Deaton

TREASURER

Robin L. Hunt

TRUSTEES

Rick Soucy

Bill Reiber

Candie Hovarter

Todd Walker

MANAGER

Kelly VanMarter

In order to install the shared driveway portion of the project, a Special Land Use is required for the crossing of a wetland. Procedurally, the Planning Commission has approval authority over the site plan for the private road. The Township Board has approval authority over the special land use and impact assessment. The Township Board is to be considered if the special land use approval requirements have been met as stated in Article 19 of the Township Zoning Ordinance.

The project was heard before the Planning Commission on August 11, 2025 following a public hearing and was recommended for approval. If the Township Board finds that the special land use application meets the approvals requirements and based on the Planning Commission's recommendations, I offer the following for your consideration:

SPECIAL LAND USE Moved by _____, Supported by _____ to APPROVE the Special Land Use for a private road with a shared driveway crossing regulated wetland and 25- foot natural features buffer for seven new homes on 20.39 acres located at 6025 Brighton Road (4711-26-300-011) including adjacent vacant parcel# 4711-27-400-012. The requirements of Article 19.03 of the Zoning Ordinance are generally met.

ENVIRONMENTAL IMPACT ASSESSMENT Moved by _____, Supported by _____ to APPROVE the Environmental Impact Assessment dated May 20, 2025 for a private road with a shared driveway for 7 new homes on 20.39 acres located at 6025 Brighton Road (4711-26-300-011) and adjacent vacant parcel 4711-27-400-012.

SITE PLAN Moved by _____, Supported by _____ to APPROVE the Site Plan dated August 22, 2025 for a private road with a shared driveway for 7 new homes on 20.39 acres located at 6025 Brighton Road (4711-26-300-011) and adjacent vacant parcel 4711-27-400-012 with the following conditions:

1. EGLE permit is required prior to land division approval.

If you should have any questions, please feel free to contact me.

Best Regards,

A handwritten signature in blue ink that reads "Amy Ruthig". The signature is written in a cursive style and is placed on a light blue rectangular background.

Amy Ruthig

GENOA TOWNSHIP
APPLICATION FOR PRIVATE ROAD
2911 Dorr Road, Brighton MI 48116 (810) 227-5225

A private road requiring approval of the Township shall be any road providing access to more than four dwelling units or two non-residential principal buildings. This does not include drives within a multiple family complex or parking lot aisles, but does include collector type roadways within such a development.

APPLICANT: Mr. Kevin Van Kannel

OWNER ADDRESS: 5300 Old Hickory, Brighton, MI 48116

SITE ADDRESS: 6025 Brighton Rd, Brighton, MI 48116

APPLICABILITY OF PUBLIC VS. PRIVATE ROAD STANDARDS

All private roads in Genoa Township shall be constructed to the standards of the Livingston County Road Commission unless the Planning Commission and Township Board determine your road qualifies under the following ordinance criteria:

1. Explain how there will be no need for the roadway to be dedicated as a public road in the future.

There will only be 7 homes for the development.

2. Explain how dedication of the road as a public street would not result in continuity in the public street system at the present time or in the future.

Olde Barn Court is a single access, dead end road ending in a tee turnaround

& dead end shared driveway.

3. What uses (number of lots, number of residential units, number of buildings, etc) will have access from the private road. Will the expected traffic volumes along the roadway be below three hundred vehicles per average weekday, based on accepted trip generation figures?

There will be 7 single family homes accessing the private road (3 from the private road & 4 from the shared drive). At 9.44 trips/day/home, there will be 66 trips/day.

4. Are there any significant natural features such as mature trees, natural slopes, wetlands or other water bodies would be preserved through construction and maintenance as a private road?

Mature trees along Brighton Road (outside of LCDC clear vision area) and on the north end of the site will be preserved by the use of selective grading where possible.

5. What financial and administrative mechanisms will be provided to ensure maintenance of the private road?

There will be a private road agreement prepared, allocating maintenance costs to the co-owners.

AFFIDAVIT

The undersigned says that they are the owner (owner, lessee, or other specified interest) involved in this petition and that the foregoing answers and statements herein contained and the information herewith submitted are in all respects true and correct to the best of his/her knowledge and belief.

By: Kevin Van Kannel 

Address: 65300 Old Hickory, Brighton Phone: (734) 434-5900

Contact Information - Review Letters and Correspondence shall be forwarded to the following:		
<u>1.) Brent LaVanway</u>	of <u>Boss Engineering</u>	at <u>(517) 548-1670</u>
<i>Name</i>	<i>Business Affiliation</i>	<i>Fax No.</i>



FEE EXCEEDANCE AGREEMENT	
As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.	
PROJECT NAME:	<u>The Farm</u>
PROJECT LOCATON & DESCRIPTION:	<u>Part of SW 1/4 Section 26 & SE 1/4 Section 27</u> <u>T.2N.,R.5E., Genoa Township, Livingston County, MI</u>
SIGNATURE:	DATE:
PRINT NAME: <u>Kevin Van Kannel</u>	PHONE: <u>(810) 355-6300</u>
COMPANY NAME & ADDRESS:	<u>65300 Old Hickory, Brighton, MI 48116</u>



GENOA CHARTER TOWNSHIP
Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: Mr. Kevin Van Kannel, 65300 Old Hickory, Brighton, MI 48116

If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: (Same as Owner)

SITE ADDRESS: 6025 Brighton Rd, Brighton, MI 48116 PARCEL #(s): 4711-26-300-011

APPLICANT PHONE: (810) 355-6300 OWNER PHONE: ()

OWNER EMAIL: kvankannel@utecit.com

LOCATION AND BRIEF DESCRIPTION OF SITE: The site is located on the north side of Brighton Rd,
approximately 1,835 feet east of the Clifford Road intersection. The property consists of a single-family home, a couple of
accessory structures, and undeveloped land. The property is zoned as Low Density Residential (LDR), with 666 lineal feet of
frontage along Brighton Rd. The surrounding properties of the site are zoned as Low Density Residential (LDR).

BRIEF STATEMENT OF PROPOSED USE: The site is proposed to be split into 7 parcels for the
construction of a private road & shared driveway for residential use. A private road application has been
submitted to the Township, and this site plan application is needed as part of the special land use permit
for the portion of the shared drive that crosses the natural features setback and wetland.

THE FOLLOWING BUILDINGS ARE PROPOSED: No buildings are proposed at this time.

**I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE
PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY
KNOWLEDGE AND BELIEF.**

BY: _____

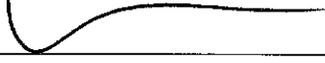
ADDRESS: 6025 Brighton Rd Brighton MI 48116

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) Brent LaVanway of Boss Engineering at BrentL@bosseng.com
Name Business Affiliation E-mail Address

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE:  DATE: 6/6/25
PRINT NAME: Kevin Van Kannel PHONE: 810-355-6300
ADDRESS: 6025 Brighton Rd Brighton, MI 48116



GENOA CHARTER TOWNSHIP Special Land Use Application

This application **must** be accompanied by a site plan review application and the associated submittal requirements. (The Zoning Official may allow a less detailed sketch plan for a change in use.)

APPLICANT NAME & ADDRESS: Mr. Kevin Van Kannel, 65300 Old Hickory, Brighton, MI 48116
Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.

APPLICANT PHONE: (810) 355-6300 EMAIL: kvankannel@utecit.com

OWNER NAME & ADDRESS: Mr. Kevin Van Kannel, 65300 Old Hickory, Brighton, MI 48116

SITE ADDRESS: 6025 Brighton Rd, Brighton, MI 48116 PARCEL #(s): 4711-26-300-011

OWNER PHONE: (810) 355-6300 EMAIL: kvankannel@utecit.com

Location and brief description of site and surroundings:

The site is located on the north side of Brighton Rd, approximately 1,835 feet east of the Clifford Road intersection. The property consists of a single-family home, a couple of accessory structures, and undeveloped land. The property is zoned as Low Density Residential (LDR), with 666 lineal feet of frontage along Brighton Rd. The surrounding properties of the site are zoned as Low Density Residential (LDR).

Proposed Use:

The site is proposed to be split into 7 parcels for the construction of a private road & shared driveway for residential use. A private road application has been submitted to the Township, and this special land use permit is required since the shared drive crosses the natural features setback.

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

- a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

The property is currently zoned LDR, with no change proposed in the Township Master Plan. The proposed development is residential with parcels having a minimum area of 2-acres. This aligns with the statement purpose of LDR zoning, which is for a residential development located between rural residential areas and the more developed areas of the Township, with minimum lot size of 1-acre.

- b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

The use is designed as residential using LDR setback and lot sizing requirements, to align with the neighboring properties.

- c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

The development will not be served by public drainage or water and sewer facilities, as an onsite retention basin is proposed while with each parcel will have a septic system and well. With only 7 single family residential homes being proposed, the impact on public facilities (such as Brighton Area Schools, and police and fire departments) and public roads will be minimal.

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

The proposed land division creates 7 parcels on site, that are proposed for single family homes. This type of development conforms with current surrounding land uses for the site. The increase in light, noise or air pollution is minimal with only 7 single family homes being proposed while having a minimal impact on surrounding properties.

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.

No, the use is single-family residential. Special use required because the shared driveway crosses the existing wetland and natural features setback.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED KEVIN VAN KANNEL STATES THAT THEY ARE THE FREE OWNER OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

BY: [Signature] KEVIN VAN KANNEL

ADDRESS: 6025 BRILITON RD BRILITON, MI 48116

Contact Information - Review Letters and Correspondence shall be forwarded to the following:		
Brent LaVanway	of Boss Engineering	at 517 548-1670
Name	Business Affiliation	Email

FEE EXCEEDANCE AGREEMENT	
As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.	
SIGNATURE: <u>[Signature]</u>	DATE: <u>5/22/25</u>
PRINT NAME: <u>Kevin Van Kannel</u>	PHONE: <u>(810) 355-6300</u>

The Brighton Area Fire Authority Fire Marshal's letter dated June 4, 2025, stated the following: "All previous concerns cited for the project have been addressed. The fire authority has no further concerns regarding the amended Special Land Use Change based on the recently submitted documents."

Commissioner Rauch addressed the deficiency in the buffer to the rear of the site, noting that the noise study shows it is below the Township ordinance.

Commissioner McBain is concerned with the safety of the outdoor seating. Mr. Tousignant stated that they can add signage and pavement markings in this area. There is also fencing delineating the seating area.

Commissioner McCreary is concerned with the safety of the traffic flow in, out, and within this site and the site to the north. Mr. Tousignant stated this was discussed when the adjacent site was developed, noting that it is a one-way in and out. Commissioner Rauch stated that the change in user from what was previously approved has decreased the amount of traffic, possibly in half. There are pavement markings at the entrance and exit as well as within the site.

The call to the public was opened at 8:13 pm with no response.

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Special Land Use Application for a drive through restaurant within a multi-tenant commercial building. **The motion carried unanimously.**

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Environmental Impact Assessment dated 5/27/25 for a drive through restaurant within a multi-tenant commercial building. **The motion carried unanimously.**

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Site Plan dated 5/27/25 for a drive through restaurant within a multi-tenant commercial building. **The motion carried unanimously.**

OPEN PUBLIC HEARING #3... Consideration for a Special Land Use application, impact assessment, private road with a shared driveway for 7 new homes on 20.39 acres located at 6025 Brighton Road. Special Land Use is required for shared driveway crossing regulated wetland and 25-foot natural features buffer. The proposed development is for the following parcels: 4711-26-300-011 and 4711-27-400-012. The request is submitted by Boss engineering.

- A. Recommendation of Special Use Application
- B. Recommendation of Environmental Impact Assessment (5-20-25)
- C. Recommendation of Site Plan (7-22-25)

Mr. Brent Lavanway of Boss Engineering and Mr. Kevin VanKannel, the property owner and developer, were present. Mr. Lavanway provided a review of the property and the proposed project. He stated they are requesting a Special Land Use for the crossing of the regulated wetland. They are working with the health department and the State of Michigan for the wetland crossing approval.

Mr. Borden reviewed his letter dated July 31, 2025.

Shared Residential Driveway (Section 15.04):

1. Construction is subject to review and comment by the Township Engineer and Brighton Area Fire Authority.
2. If necessary, the applicant must obtain a permit from the County.
3. The applicant must obtain a permit from EGLE for the wetland crossing.

Private Road Review (Section 15.05):

1. The Private Road Easement and Maintenance Agreement has been provided and is subject to review and comment by the Township Attorney.
2. The design and construction requirements are subject to review and comment by the Township Engineer and Brighton Area Fire Authority.
3. If favorable action is considered by the Township, it should be conditioned upon approval by the Livingston County Road Commission.

Special Land Use Review (Section 19.03):

1. As long as impacts to the wetland are minimized and properly mitigated to the Commission's satisfaction, the Township may find that the request is consistent with the Master Plan.
2. The applicant must address any comments provided by Township staff, the Township Engineer, and the Brighton Area Fire Authority.
3. The wetland crossing requires approval by the Planning Commission for activity within 10 feet of the wetland itself. He recommends that if this item is approved, this should be a condition of approval.

Ms. Byrne reviewed her letter dated August 4, 2025.

1. Section 15.05.03.d of Genoa Township's Ordinance states that for any single means of access serving more than five lots, it shall include a turn-around with a center landscaped island or continuous loop. A hammerhead turnaround is provided in the plan set. This ordinance requirement may be adjusted by the Planning Commission in particular cases. The BAFA has approved this, and she agrees.
2. Brighton Area Fire Authority has required that the width of the private road be increased to 26 feet wide from the 22-foot road width required in the Genoa Township Zoning Ordinance. Due to this, the gravel shoulder has been reduced from five feet to three feet wide and she has no engineering related concern to this reduced shoulder width.

The Brighton Area Fire Authority Fire Marshal's letter dated August 5, 2025, stated that all previous comments have been addressed in the recent submittal.

Commissioner McCreary is concerned about the wetland crossing. She asked if it would affect Baetcke Lake. Mr. LaVanway stated the disturbance is 1/100 of an acre. The application for the wetland crossing has been prepared and submitted to EGLE by Boss Engineering's wetland specialist. This is a very low impact project, and they do have a detention basin and forebay and will not affect that lake.

Commissioner Reiber asked why the road will be paved and not gravel. Mr. LaVanway stated that was considered, but because it comes off a paved road and the types and costs of the homes and the clientele it will attract, a paved road would be preferred.

Commissioner Rauch asked if the parcels utilize the hammerhead turnarounds as the beginning of their driveways. Mr. Lavanway stated they do not plan to use them as driveways. The Commission, Mr. Lavanway and Mr. VanKannel discussed the hammerhead turnarounds. Mr. VanKannel can revisit the turnaround design and the placement of the homes on the site, but he would not like to be limited at this time. Commissioner Rauch stated he would like to see the turnarounds used as driveways. Mr. Lavanway stated that due to the topography of the site, those locations may not be the best for installing the driveways.

The call to the public was opened at 8:43 pm.

Ms. Linda Rally of 5117 Forest View Court is concerned with drivers wanting to make left turns onto and off of Brighton Road. There are already concerns with the existing roads.

Ms. Debra Beattie of 3109 Pineview Trail is concerned with the small wetland. It appears to be a drain into the larger wetland. All of these new properties will be sending more water into the wetland. She does not believe the 10 foot encroachment into the wetland should be approved. She is not in favor of the types of turnarounds proposed.

The call to the public was closed at 8:46 pm.

Mr. VanKannel stated he understands the concerns with the left hand turns. He lives off of Old Hickory and does not experience problems. The wetland is just a four-foot wide flat piece of land that is mostly dry. Photos of the wetland were shown. Mr. Lavanway stated that this is Wetland A. Wetland B is the larger wetland. Commissioner Rauch stated that the Township has a responsibility to protect wetlands.

Moved by Commissioner Rauch, supported by Commissioner Rassel, to recommend to the Township Board approval of the Special Land Use for a shared driveway crossing regulated wetland and 25-foot natural features buffer for seven new homes on 20.39 acres located at 6025 Brighton Road for Parcels 4711-26-300-011 and 4711-27-400-012 as the Planning

Commission finds that the encroachment within the 25 foot natural features setback and crossing meet the intent of the Township Zoning Ordinance. **The motion carried unanimously.**

Moved by Commissioner Rauch, supported by Commissioner McCreary, to recommend to the Township Board approval of the Environmental Impact Assessment dated 5/20/25 for a private road with a shared driveway for seven new homes on 20.39 acres located at 6025 Brighton Road for Parcels 4711-26-300-011 and 4711-27-400-012. **The motion carried unanimously.**

Moved by Commissioner Rauch, supported by Commissioner McCreary, to recommend to the Township Board approval of the Site Plan dated 7/22/25 for a private road with a shared driveway for seven new homes on 20.39 acres located at 6025 Brighton Road for Parcels 4711-26-300-011 and 4711-27-400-012, with the following conditions:

- All conditions stated in the township engineer and township planner's review letters shall be met.
- The petitioner shall have receipt of a permit from EGLE for the wetland crossing prior to the issuance of Land Use Permit.
- The hammerheads for Parcels 3 and 4 shall be identified as being utilized for the driveways for their concurrent parcel.
- Delineation signs for the wetlands shall be added to the site plan prior to presentation to the Township Board.

The motion carried unanimously.

The Planning Commission took a break from 9:04 to 9:14 pm.

OPEN PUBLIC HEARING #4... Consideration of an ordinance amendment to Article 13 entitled "Environmental Protection Regulations" and Article 21 entitled "Administration and Enforcement". **STAFF REQUESTS ARTICLE 13 "ENVIRONMENTAL PROTECTION REGULATIONS" TO BE POSTED TO THE SEPTEMBER 8, 2025 PLANNING COMMISSION MEETING.**

A. Recommendation of Zoning Ordinance Amendment to Article 21 entitled "Administration and Enforcement".

Ms. Ruthig stated that she is still working on Article 13, so she is requesting that it be postponed until the September meeting. She reviewed the changes proposed for Article 21. The Board, Ms. Ruthig and Mr. Borden discussed the amendments and additional changes that are needed.

The call to the public was opened at 9:26 pm with no response.

Moved by Commissioner Rassel, supported by Commissioner McCreary, to postpone Article 13 "Environmental Protection Regulations" until the September 8, 2025 Planning Commission meeting. **The motion carried unanimously.**



July 31, 2025

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Amy Ruthig, Planning Director
Subject:	Olde Barn Court – Private Road and Special Land Use Review #2
Location:	6025 Brighton Road – north side of Brighton Road, east of Clifford Road
Zoning:	LDR Low Density Residential

Dear Commissioners:

At the Township’s request, we have reviewed the revised submittal materials (plans dated 7/22/25) proposing the construction of a private road and shared residential driveway to accommodate 7 new home sites (to be created via land division) on a 20.39-acre parcel of land.

A. Summary

Shared Residential Driveway (Section 15.04):

1. Construction is subject to review and comment by the Township Engineer and Brighton Area Fire Authority.
2. If necessary, the applicant must obtain a permit from the County.
3. The applicant must obtain a permit from the State for the wetland crossing.

Private Road Review (Section 15.05):

1. The Private Road Easement and Maintenance Agreement is subject to review and comment by the Township Attorney.
2. The design and construction requirements are subject to review and comment by the Township Engineer and Brighton Area Fire Authority.
3. If favorable action is considered by the Township, it should be conditioned upon approval by the Livingston County Road Commission.

Special Land Use Review (Section 19.03):

1. So long as impacts to the wetland are minimized and properly mitigated to the Commission’s satisfaction, the Township may find that the request is consistent with the Master Plan.
2. The applicant must address any comments provided by staff, the Township Engineer, and/or Brighton Area Fire Authority.
3. The wetland crossing requires approval by the Planning Commission for activity within 10 feet of the wetland itself.



Aerial view of site and surroundings (looking north)

B. Proposal/Process

The applicant seeks to construct a private road and shared residential driveway for access to/from 7 new home sites to be created via the land division process.

Procedurally, the Planning Commission has review and approval authority over the site plan for the private road; however, the proposed road/shared driveway crosses a wetland. As such, the request also needs special land use approval, per Section 13.02.04.

The Township Board has the final approval authority over the special land use and the private road maintenance agreement.

C. Shared Residential Driveway (Section 15.04)

- 1. Number Served.** The proposed shared driveway will provide access to/from 4 home sites (parcels 2-5). This standard is met.
- 2. Width.** The proposed shared driveway has a width of 20 feet. This standard is met, though the applicant may reduce the entire driveway width to 16 feet, while certain portions may be further reduced to 12 feet.
- 3. Construction.** This standard is subject to review and comment by the Township Engineer and Brighton Area Fire Authority.
- 4. Easement.** The proposed shared driveway is within a 33-foot wide easement. This standard is met.
- 5. Access Permits.** The proposed shared driveway will connect to the proposed private road (reviewed in Paragraph D below). If necessary, the applicant must obtain a permit from the County.

Additionally, the proposed shared driveway crosses a wetland, which will require a permit from the State (as well as special land use approval from the Township, as reviewed in Paragraph E below).

D. Private Road (Section 15.05)

- 1. Public versus Private Road Standards.** The project will be served by a private road and shared residential driveway. Access to/from the development will be via the intersection of the proposed private road with Brighton Road.

Based on our review, the proposal demonstrates compliance with the standards to allow a private road (as opposed to public).

The submittal includes a Private Road Easement and Maintenance Agreement, as required. This document is subject to review and comment by the Township Attorney.

- 2. AASHTO Standards.** The applicant must address any comments provided by the Township Engineer with respect to this standard.
- 3. Easement Width.** The typical private road cross-section on Sheet 6 depicts a 66-foot wide easement. This standard is met.
- 4. Road Design.** The proposed roadway width is 26 feet, which complies with the Ordinance requirement for residential lots of 2 acres or more.
- 5. Maximum Length/Turnarounds.** In total, the proposed private road and shared residential driveway are approximately 900 feet in length. Two tee turnarounds are provided, as required.

The applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority with respect to this standard.

- 6. Grading.** The applicant must address any comments provided by the Township Engineer with respect to this standard.
- 7. Horizontal Curve.** The applicant must address any comments provided by the Township Engineer with respect to this standard.
- 8. Intersection Design.** The proposed private road intersects Brighton Road at a 90-degree angle, as required.

If favorable action is considered by the Township, it should be conditioned upon approval by the Livingston County Road Commission.

- 9. Minimum Offsets.** The proposed private road aligns with Timberline Lane on the opposite side of Brighton Road.

From our perspective, this standard is met; however, the applicant must address any comments provided by the Township Engineer.

- 10. Boulevard Medians.** The proposal does not include a boulevard median.
- 11. Vertical Clearance.** A note on Sheet 4 states that “a minimum vertical clearance of 15 feet shall be maintained along the length of all apparatus access roads.” This standard is met.
- 12. Street Names.** Street names are subject to County approval following review and comment by the Township.

The applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority.

13. **Signs.** A note on Sheet 4 states that street signs will comply with the Michigan Manual of Uniform Traffic Control Devices and Road Commission standards, as required.
14. **Yard Setback.** The proposed private road easement does not abut an exterior property line.
15. **Impact Assessment.** The submittal includes an Environmental Impact Assessment, as required.
16. **Project Phasing.** A note on Sheet 4 states that “the private road, shared driveway, and infrastructure are proposed to be built in a single phase.”

E. Special Land Use (Section 19.03)

1. **Master Plan.** The Township Master Plan identifies the subject site as Low Density Residential. Per the Plan, “this designation is for single family residential development located between rural residential areas and the more developed areas of the Township.”

The existing zoning (LDR) and proposed development pattern are consistent with the Future Land Use classification.

The Commission must consider the balancing of seemingly opposing goals of the Plan. More specifically, the Plan includes the following statements:

- Allow the pattern of homes on large rural lots to continue where it exists, particularly south of I-96; and
- Protect natural areas by limiting development to areas with existing infrastructure and strictly enforcing the natural features setback.

The lots that require access via the wetland crossing are more than double the minimum LDR standard for lot area, which helps to preserve the large rural lot development pattern; however, strict enforcement of the natural features setback precludes access to the northerly half of the subject site.

In our opinion, so long as impacts to the wetland are minimized and properly mitigated, the Commission may find that the request is consistent with the Township Master Plan.

2. **Compatibility.** The subject area includes single-family development of varying densities – save for the development abutting the golf course, the residences on the north side of Brighton Road are generally on larger lots, while those on the south side are on slightly smaller lots.

The area also contains several environmental conditions – large, wooded areas, areas of wetlands, and open water (the wetlands on site appear to lead directly to a lake).

The proposal entails lots that are at least double the minimum requirement of the zoning district. As such, the applicant is not over-developing the land, which should ultimately be beneficial to these environmental conditions.

3. **Public Facilities and Services.** The project does not entail public roads, water or sewer; however, the applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority related to this criterion.

- 4. Impacts.** As previously noted, the wetland crossing requires approval by the State (EGLE). Given the extent of the encroachment, it also requires specific consideration by the Planning Commission since it is within 10 feet of the wetland itself.

Provided approval is granted by the State, we anticipate that impacts of the wetland crossing will be properly mitigated to the greatest extent possible.

Section 15.04.01 allows the applicant to reduce the width of the shared residential driveway at the crossing to as little as 12 feet. However, the International Fire Code requires a minimum access width of 20 feet, per the Brighton Area Fire Authority.

As such, the applicant cannot utilize this option to further reduce potential impacts on the wetland itself.

- 5. Mitigation.** If further concerns arise as part of the review process, the Township may require additional efforts to mitigate potential adverse impacts.

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,

SAFE BUILT



Brian V. Borden, AICP
Michigan Planning Manager



August 4, 2025

Ms. Amy Ruthig
Genoa Township
2911 Dorr Road
Brighton, MI 48116

**Re: The Farm
Site Plan Review No. 2**

Dear Ms. Ruthig:

Tetra Tech conducted a review of the site plan submittal for The Farm last dated July 22, 2025. The site plan was prepared by Boss Engineering on behalf of Mr. Kevin Van Kennel. The development is located on 20 acres north of Brighton Road, 1.3 miles east of Chilson Road. The Petitioner is proposing 7 single-family units. The proposed site includes storm sewer, on-site detention, and private road improvements. We offer the following comments:

TRAFFIC AND ROADWAYS

1. Section 15.05.03.d of Genoa Township's Ordinance states that for any single means of access serving more than five lots, it shall include a turn-around with a center landscaped island or continuous loop. A hammerhead turnaround is provided in the plan set. This ordinance requirement may be adjusted by the planning commission in particular cases. This layout should be approved by the fire department prior to site plan approval.
2. Brighton Area Fire Authority has required that the width of the private road be increased to 26-foot wide from the 22-foot road width required in the Genoa Township Zoning Ordinance. Due to this, the gravel shoulder has been reduced from 5 feet to 3 feet wide and we have no engineering related concern to this reduced shoulder width.

We recommend that the petitioner address the above comments to the planning commissions satisfaction prior to final site plan approval. Please call or email if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Shelby Byrne'.

Shelby Byrne, P.E.
Project Engineer

A handwritten signature in black ink that reads 'Sydney Streveler'.

Sydney Streveler, EIT
Civil Engineering Group



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

August 5, 2025

Amy Ruthig
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: The FARM - Residential development with 7 homes
6025 Brighton Rd.
Genoa Twp., MI

Dear Amy,

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on July 23, 2025 and the drawings are dated April 21, 2025 with latest revisions dated July 22, 2025. The project is based on the proposed combination of two parcels totaling 20.39 acres. The new parcel will be subdivided into seven single-family home lots. The plan review is based on the International Fire Code (IFC) 2024 edition requirements.

All previous comments have been addressed in the recent submittal.

If you have any questions about the comments on this plan review, please contact me at 810-229-6640.

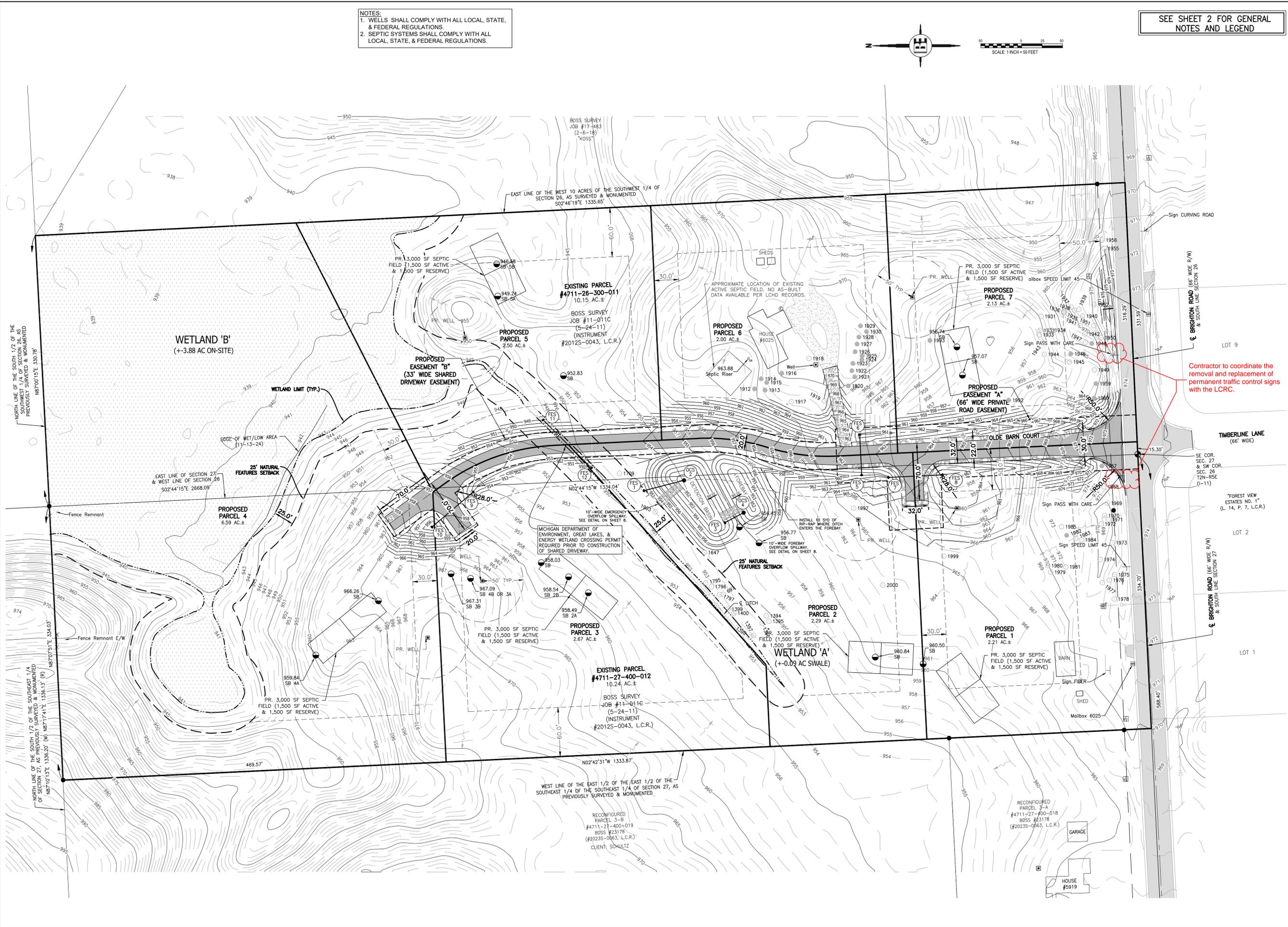
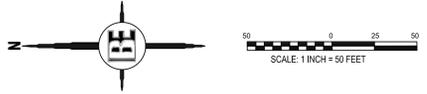
Cordially,

A handwritten signature in black ink, appearing to read "R. Boisvert".

Rick Boisvert, CFPS
Fire Marshal
cc: Amy Ruthig amy@genoa.org

NOTES:
 1. WELLS SHALL COMPLY WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS.
 2. SEPTIC SYSTEMS SHALL COMPLY WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS.

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO LIABILITY SHALL BE ASSUMED FOR INACCURACIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL, STATE, AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL, STATE, AND FEDERAL AGENCIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE LOCAL, STATE, AND FEDERAL AGENCIES.

BEBOSS
 Engineering
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 3121 E. GRAND RIVER AVE.
 HOWELL, MI. 48843
 517.546.4836 FAX 517.548.1670

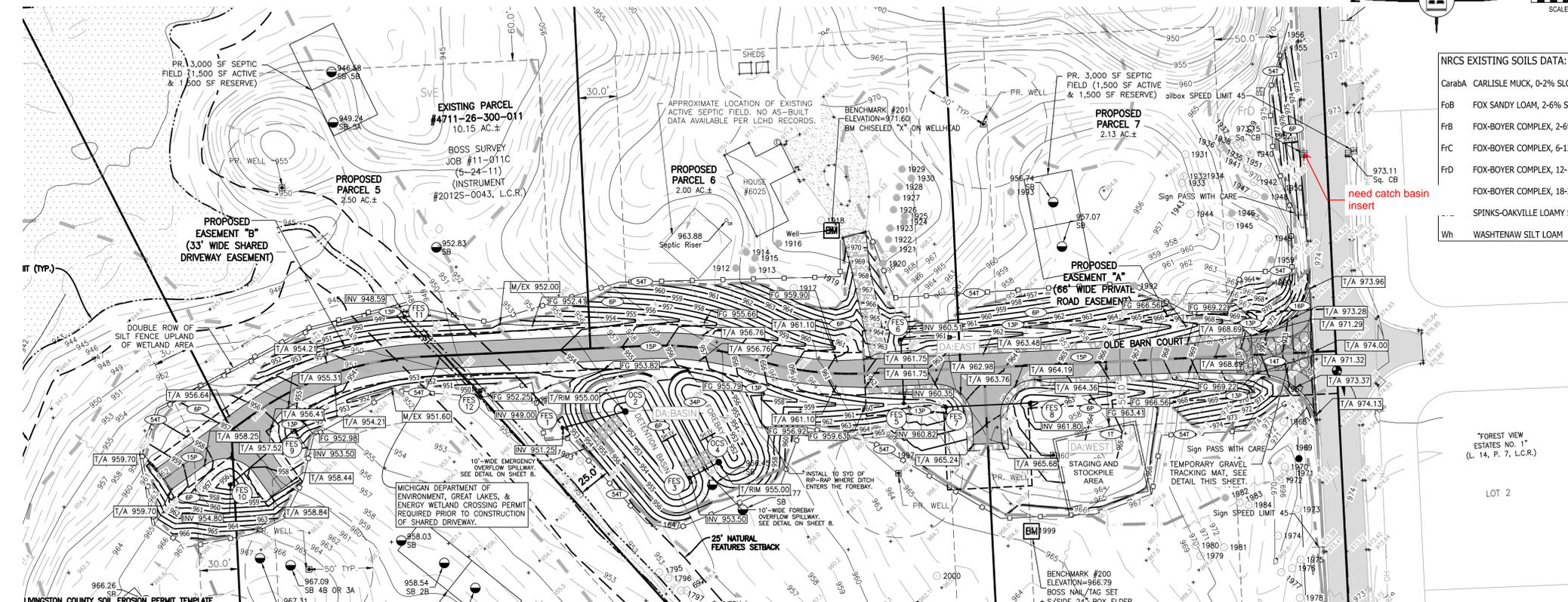
THE FARM
 PREPARED FOR
 MR. KEVIN VAN KANDEL
 6330 OLD HOOKERY
 BRIGHTON, MI 48116
 (500) 300-0000

NO.	BY	DATE	REVISION
1	NL	5/20/25	INITIAL TWP REVIEW
NO	BY	DATE	REVISION

DESIGNED BY: NL
 DRAWN BY: NL
 CHECKED BY: BL
 SCALE: 1" = 50'
 JOB NO: 24-380
 DATE: 4/21/25
 SHEET NO. **5**



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



NRCS EXISTING SOILS DATA:

Caraba CARLISLE MUCK, 0-2% SLOPES
 Fob FOX SANDY LOAM, 2-6% SLOPES
 Frb FOX-BOYER COMPLEX, 2-6% SLOPES
 Frc FOX-BOYER COMPLEX, 6-12% SLOPES
 Ffd FOX-BOYER COMPLEX, 12-18% SLOPES
 Ffo FOX-BOYER COMPLEX, 18-25% SLOPES
 Wh WASHTENAW SILT LOAM

SOIL EROSION CONTROL MEASURES

1	STRIPPING & STOCKPILE TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS A DIVERSION. STOCKPILE SHOULD BE TEMPORARILY SEEDED.
6	SEEDING WITH MULCH AND/OR MATING	STABILIZES EROSION OF VEGETATION COVER. EFFECTIVE FOR DRAINAGES WITH LOW VELOCITY. EASILY PLACED IN SMALL QUANTITIES BY EXPERIENCED PERSONNEL. SHOULD INCLUDE PERMANENT PROTECTION (SEE 13).
13	RII-RAP, RUBBER, CARBONS	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED. EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS. PERMITS RUNOFF TO INFILTRATE SOIL. ASSOCIATES ENERGY TO AVOID SLOTTED OUTLETS.
14	AGGREGATE COVER	STABILIZES SOIL SURFACE. THIS MINIMIZES EROSION. FORMS PROTECTION THROUGH A RESILIENT WEARER. MAY BE USED AS PART OF PERMANENT SOIL CONSTRUCTION OF PAVED AREAS.
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VELOCITY.
16	CURB & GUTTER	KEEPS HIGH VELOCITY RUNOFF FROM PAVED AREAS FROM LEAVING PAVED SURFACE. COLLECTS AND CONVEYS RUNOFF TO SLOTTED DRAINAGE SYSTEM OR PAVED DRAINAGEWAY.
34	SEDIMENT BASIN	RETAINS SEDIMENT. RELEASES RUNOFF AT NON-EROSIVE RATES. CONTROLS RUNOFF AT SYSTEM OUTLETS. CAN BE VISUAL MONITORED.
54	SOIL FENCE	SEES GEOTEXTILE FABRIC AND POST OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY. (SEE DETAIL THIS SHEET)

T = TEMPORARY, P = PERMANENT
 TOTAL DISTURBED AREA = 2.48 AC.

- NOTES:**
- LIVINGSTON COUNTY DRAIN COMMISSION SESC PERMIT SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
 - THE SESC PERMIT IS VALID FOR THE MASS EARTH MOVEMENT AND INSTALLATION OF ROADS, DRAINS, AND UTILITIES ONLY. THE PERMIT IS NOT FOR INDIVIDUAL BUILDING UNITS. IT IS REQUIRED THAT TEMPORARY STABILIZATION OF THE ENTIRE SITE BE COMPLETED AND APPROVAL FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE MUST BE OBTAINED PRIOR TO THE ISSUANCE OF PERMITS FOR INDIVIDUAL BUILDING UNITS.
 - ANY DEWATERING REQUIRED SHALL HAVE A DEWATERING PLAN SUBMITTED PRIOR TO STARTING THE ACTIVITY AND MAY REQUIRE EGLE APPROVAL.
 - DITCHES/ SWALES WITH GRADES 3% AND GREATER WILL NEED CHECK DAMS (SEE BELOW DETAIL) TO PREVENT SCOURING OF THE DITCH BOTTOMS.
 - HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%. ON SLOPES OVER 1%, STABILIZATION SHALL BE DONE WITH SEED & STRAW MULCH WITH A TACKIFIER, OR STRAW BLANKETS PEGGED IN PLACE.

DRAINAGE AREA TABLE

DRAINAGE AREA	TOTAL AREA (AC)	IMP. AREA (AC)	C VALUE	A°C
BASIN	0.57	0.07	0.30	0.17
WEST	0.57	0.10	0.34	0.20
EAST	0.26	0.11	0.55	0.14
TOTALS	1.40	0.28	0.37	0.51

DRAINAGE NARRATIVE:

PRE-DEVELOPMENT: THE SUBJECT PROPERTY CURRENTLY CONTAINS ONE SINGLE FAMILY HOME AND SEVERAL ACCESSORY STRUCTURES. RUNOFF FROM THE SOUTH PART OF THE PROPERTY FLOWS TO A POT HOLE IN THE SOUTHEAST CORNER OF THE PROPERTY. RUNOFF FROM THE REMAINDER OF THE PROPERTY SHEET FLOWS TO A WETLAND DITCH THAT BISECTS THE SITE, AND DISCHARGES TO A LARGER WETLAND BODY AT BAETCKE LAKE NORTH OF THE SITE.

POST-DEVELOPMENT: A FOREBAY AND A DETENTION BASIN ARE PROPOSED TO BE GRADED TO HANDLE THE RUNOFF GENERATED BY THE PRIVATE ROAD. THE FOREBAY AND BASIN ARE SIZED TO HANDLE THE FLOW FROM THE INCREASED IMPERVIOUS SURFACE AREA FROM THE ROAD. RUNOFF FROM THE ROAD AND ASSOCIATED GRADING WILL BE COLLECTED BY THE ROADSIDE DITCHES AND CONVEYED TO THE FOREBAY. THE FOREBAY WILL OUTLET TO THE DETENTION BASIN THROUGH AN OUTLET CONTROL STANDPIPE. THE DETENTION BASIN WILL OUTLET TO A WETLAND DITCH ON SITE THROUGH AN OUTLET CONTROL STANDPIPE. BASIN CALCULATIONS AND DETAILS ARE SHOWN ON SHEET 8.

- NOTIFY LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE 24 HOURS PRIOR TO START OF GRADE WORK.
- IN ACCORDANCE WITH PUBLIC ACT NO. 53, OF 1974 THE PERMIT HOLDER SHALL CALL MISS DG FOR STAKING AND LOCATING OF UTILITIES, AT LEAST 72 HOURS IN ADVANCE OF THE START OF ANY WORK.
- PERMITTING STANDARDS
 - IMPORTANT NOTICES: RETENTION/RETENTION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. INGRESS/EGRESS MUST HAVE LARGE CRUSHED ROCK TO REDUCE THE TRACKING OF SOIL ONTO THE PUBLIC TRAFFIC AREAS. SEE DETAIL ITEMS BELOW.
 - 3/4" M.D.O.T SPECIFICATION TYPE SILT FABRIC FENCE AS SHOWN ON PLANS SHALL BE PLACED AND MAINTAINED ALONG PERIMETER ON ALL LOW LIVING AREAS OF THE CONSTRUCTION SITE TO FILTER RUNOFF BEFORE LEAVING PROJECT SITE.
 - ALL TEMPORARY EROSION CONTROL DEVICES AS NOTED ON PLANS SHALL BE INSTALLED PRIOR TO THE START OF MASSIVE EARTH DISTRIBUTION.
 - PLAN DOES DENOTE A DETAILED EROSION CONTROL DEVICE TO RESTRICT TRACKING OF MATERIAL ONTO THE HIGHWAY. STONE DAMPERS SHALL BE INSTALLED AT ALL INGRESS/EGRESS AREAS OF THE SITE PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. DAMPERS SHALL BE OF CRUSHED STONE AND SHALL HAVE A MINIMUM LENGTH OF 100' LINEAL FEET.
 - RETENTION PONDS
 - RETENTION/RETENTION/SEDIMENTATION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
 - DETENTION POND OUTLETS SHALL BE OF THE STANDPIPE AND STONE FILTER SYSTEM, WITH TRASH SCREEN. OUTLET FLOW SHALL NOT EXCEED 0.20 CUBIC FEET OF WATER PER SECOND/PER ACRE. POND DIKES SHALL HAVE A MINIMUM OF ONE (1) FOOT OF FREEBOARD. AN EMERGENCY SPILLWAY SHALL BE CONSTRUCTED WITHIN THE FREEBOARD LEVEL.
 - THE EMERGENCY SPILLWAY FROM THE DETENTION POND SHALL BE SLOTTED AND PEGGED, OR RIP RAPPED, 15 FEET PAST THE TOE OF THE SLOPE OF THE BERM.
 - DIKES AND BERMS SHALL BE FREE OF ALL ORGANIC MATTER.
 - RETENTION/DETENTION PONDS SHALL BE FENCED WITH A 4" CHAIN LINK FENCE, INCLUDING A 12" ACCESS GATE FOR MAINTENANCE UNLESS MINIMUM 1/4" HORIZONTAL TO 1" VERTICAL SIDE SLOPES ARE PROVIDED. THE FENCE SHALL BE INSTALLED AT THE OUTER PORTION OF THE BERM, TO ALLOW FOR MAINTENANCE WORK TO BE DONE INSIDE THE FENCE.
 - ALL UNIMPROVED DISTURBED AREAS SHALL BE STRIPPED OF TOPSOIL WHICH WILL BE STORED ON SITE DURING THE EXCAVATING STAGE. TOPSOIL SHALL BE SEEDING AND MULCHED, OR MATED WITH STRAW IN THE NON-GROWING SEASON, IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETED, TO PREVENT WIND AND WATER EROSION.
 - SOIL EROSION CONTROLS SHALL BE MONITORED DAILY BY THE ON-SITE ENGINEER, OR CONTRACTOR, WHICHEVER CASE APPLIES.
 - SLOPES AND DITCHES
 - ON SITE DITCHES SHALL BE OF THE FLAT BOTTOM TYPE MINIMUM WIDTH OF 2' WITH A MINIMUM OF 3" HORIZONTAL TO 1" VERTICAL, SIDE SLOPES, 3:1.
- DITCHES WITH STEEP SLOPES WILL NEED FLOW CHECKS TO PREVENT SCOURING OF THE DITCH BOTTOM. THESE SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR INSPECTOR.
- SLOPES IN EXCESS OF 3 HORIZONTAL TO 1 VERTICAL SHALL NOT BE USED EXCEPT WITH A MECHANICAL DEVICE SUCH AS A RETAINING WALL, TERRACING, OR OTHER APPROVED DEVICE.
- STORM DRAINS
 - ALL STORM WATER STRUCTURES, CATCH BASINS AND/OR MANHOLES, IF BLOCK, SHALL BE PLACED ON BOTH THE INSIDE AND OUTSIDE OF THE STRUCTURES. GROUTING AND POINTING WILL BE NECESSARY AT THE CASTING AND STRUCTURE JOINT TO PREVENT LEAKAGE AND THE RESULTING SOIL MOVEMENT, AROUND THE STRUCTURE.
 18. COUNTY CODE REQUIRES A MINIMUM PIPE SIZE OF 12" IN DIAMETER. IF SMALLER PIPE IS NEEDED FOR OUTLET PURPOSES THE 12" CAN BE BAFLED TO THE CORRECT SIZE. ALL PIPE SHALL MEET THE 12" DIAMETER CODE SIZE.
 19. ALL STORM DRAIN OUTLETS 15" IN DIAMETER OR LARGER SHALL HAVE ANIMAL GUARDS INSTALLED TO PREVENT ENTRANCE TO THE SYSTEM.
 20. ALL STORM DRAINAGE PIPE 30" IN DIAMETER OR LARGER SHALL BE POINTED, AT THE JOINTS ON THE INSIDE WITH MORTAR, AFTER BACKFILLING.
 21. ALL STORM DRAIN OUTLETS THAT DO NOT EMPTY INTO THE RETENTION/DETENTION POND SHALL HAVE A TEMPORARY 6"X10"X' SUMP INSTALLED AT THE TERMINATION OF THE STORM SEWER. UPON COMPLETION OF THE STABILIZATION WORK THE SUMP AREA SHALL BE FILLED AND RIP RAPPED WITH STONE. SILT TRAPS SHALL BE INSPECTED AFTER EACH STORM.
 22. STORM WATER OUTLETS DO NOT DENOTE RIP RAP. ALL OUTLETS SHALL BE RIP RAPPED OVER KEYS FILTER FABRIC WITH A MINIMUM OF 15 SQ. YARDS OF 6" OR LARGER STONE.
 23. RIP RAP AS NOTED ON THE PLAN SHALL BE OF A FUNNEL SHAPE CONSTRUCTION, WITH SHALL INCREASE AS DISTANCE FROM THE OUTLET POINT INCREASES AT A 3:1 RATIO.
 24. RIP RAP SHALL BE 6" IN DIAMETER OR LARGER, GROUTING MAY BE NECESSARY, AND SHALL BE A MINIMUM OF 6" IN DEPTH WITH THE STONE SET IN THE CEMENT SLURRY.
 25. STORM WATER OUTLET IS IN NEED OF A SPLASH BLOCK WHICH IS NOT NOTED ON THE PLAN. INSTALL SPLASH BLOCK IF SLOPE OF THE PIPE IS 4% OR GREATER.
 26. IT WILL BE NECESSARY FOR THE DEVELOPER TO HAVE THE STORM DRAINAGE LINES CLEANED PRIOR TO FINAL INSPECTION BY THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE. IF REQUIRED, THIS WORK SHALL BE DONE BY A PROFESSIONAL SEWER CLEANING FIRM AND CERTIFIED IN WRITING BY THE PROJECT ENGINEER. ALL Sumps and TEMPORARY SILT TRAPS SHALL ALSO BE CLEANED AT THIS TIME.
 27. ALL UNIMPROVED DISTURBED AREAS SHALL BE RE-TOP SOILED, WITH A MINIMUM OF 3" OF MATERIAL, SEEDED, MULCHED AND TACKED WITHIN 15 DAYS OF THE COMPLETION OF THE MASSIVE EARTH DISRUPTION. IN THE NON-GROWING SEASON STRAW MATING WILL BE USED. HYDROSEEDING WILL BE AN ACCEPTABLE ALTERNATE FOR MULCHING. EXTREME CARE SHOULD BE EXERCISED IN SPRING AND FALL PERIODS AS A FRESH MAT WILL BRING THE END OF THE HYDROSEEDING, WHICH WILL AFFECT THE EFFECTIVENESS OF THIS PROCEDURE.
 28. IN THE NON-GROWING SEASON, TEMPORARY PROTECTION OF MASSIVELY EXPOSED AREAS FOR

PROPOSED CONST. SCHEDULE FOR THE YEAR 2025

ACTIVITY	JUNE	JULY	AUG	SEP	OCT
DEMOL & CLEAR					
MASS GRADING					
ROAD CONST.					
FINAL GRADING					
SEED & MULCH					

SURFACE WATER & COUNTY DRAINS

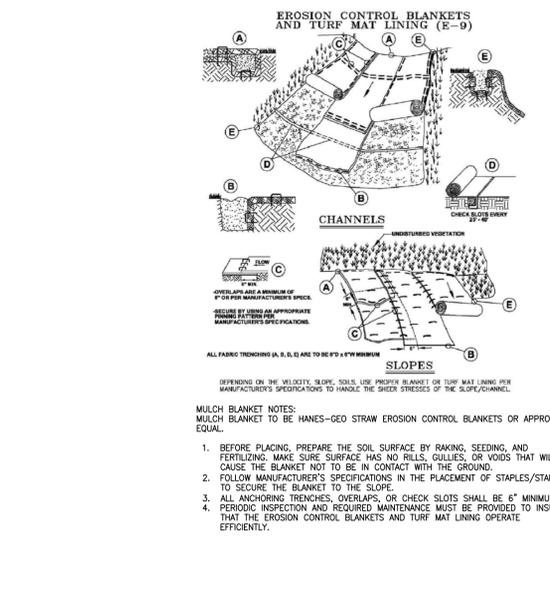
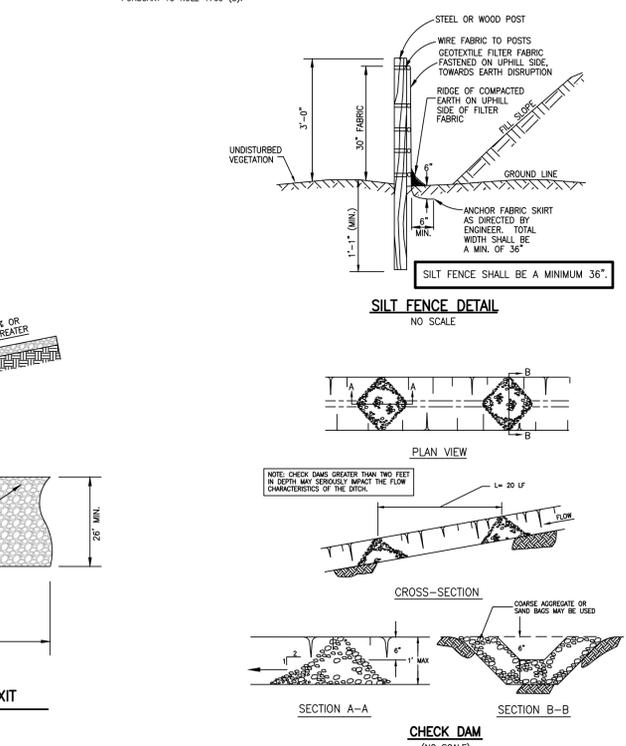
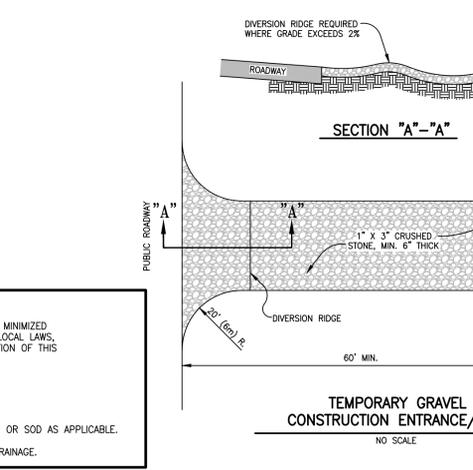
WETLAND LAKES - APPROXIMATELY 585 FT NE TO BAETCKE LAKE
 STREAMS - N/A
 BASINS - ON SITE
 DRAINS - APPROXIMATELY 350 FT SW TO BOLDER CREEK TWP DRAIN
 PONDS - APPROXIMATELY 410 FT E AT 4920 BRIGHTON OAKS TRAIL

CONTROLS & MEASURES NARRATIVE

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING, REPLACE MULCH	COLLECT GRASS, TREE, AND SHRUB CLIPPINGS. DISPOSE IN APPROVED CONTAINER. REPLACE DEAD SOO, TREES AND SHRUBS.
CLEAN INLETS	REMOVE LITTER, SEDIMENT, AND DEBRIS. DISPOSE OF IN APPROVED LANDFILL.
COLLECT LITTER	DISPOSE OF WITH INLET DEBRIS.
SWEEP PARKING LOT	REMOVE MUD, DIRT, GREASE AND OIL WITH PERIODIC SWEEPING.
DUST CONTROL	SPRINKLE WATER AS NEEDED.

- CONSTRUCTION SEQUENCE**
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION IS MINIMIZED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXECUTION OF THIS PROJECT.
- 1 DAY 1. INSTALL SILT FENCE AS SHOWN ON PLANS.
 - 20 DAYS 2. ROUGH GRADE AND INSTALL STORM DRAINAGE.
 - 1 DAY 3. INSTALL INLET PROTECTION ON STORM INLETS.
 - 4 DAYS 4. INSTALL PAVEMENT & GRAVEL ROAD SURFACE.
 - 4 DAYS 5. FINE GRADE AROUND SITE, SPREAD TOPSOIL, SEED OR SOO AS APPLICABLE.
 - 1 DAY 6. REMOVE ALL EROSION CONTROL STRUCTURES.
 - 1 DAY 7. REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE.

39. HOMEOWNER/BUILDER SHALL INSTALL POSITIVE DRAINAGE FROM THE MOUNDED AREA SO AS NOT TO ALLOW EXCESSIVE FLOW ONTO ADJACENT LOTS.
40. DRAINAGE EASEMENTS WITHIN THE SUBDIVISION SHALL NOT BE ENCROACHED UPON. OPEN SWALES SHALL NOT BE FILLED OR ENCROACHED UPON. STRAW BALE BARRIERS OR SILT FENCES SHALL BE INSTALLED BETWEEN THE CONSTRUCTION AND THE OPEN DRAIN TO PREVENT SILTATION OF THE SYSTEM. ENCLOSED DRAINS WILL HAVE PERIODIC CATCH BASINS OR MANHOLES. LOT GRADES SHALL NOT BE RAISED OVER THE ESTABLISHED STRUCTURE TOPS.
41. THE ISSUING BUILDING DEPARTMENT SHALL NOT ISSUE THE CERTIFICATE OF OCCUPANCY UNTIL THE FINAL INSPECTION LETTER FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE HAS BEEN OBTAINED.
42. FOR THE LIVINGSTON COUNTY DRAIN COMMISSIONER THE SEEDING, FERTILIZER AND MULCH MINIMUM SPECIFICATIONS SHALL BE AS FOLLOWS:
 - TOP-SOIL 218 LBS. PER ACRE
 - GRASS SEED 150 LBS. PER ACRE
 - FERTILIZER 3" IN DEPTH 1.5 TO 2 TONS PER ACRE (ALL MULCHING MUST HAVE A TIE DOWN, SUCH AS TACKIFIER, NET BINDING, ETC.)
 - HYDRO-SEEDING HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%. IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.
43. SANITARY SEWER TAP TO THE SANITARY COUNTY DRAIN, SHALL ONLY BE MADE AFTER SECURING IN WRITING CLEARANCE FROM THE TOWNSHIP AND A SEWER TAP PERMIT FROM THE LIVINGSTON COUNTY DEPARTMENT OF BUILDING & SAFETY.
44. A TAP PERMIT WILL BE NEEDED BY THE OWNER/DEVELOPER OF THIS PROJECT TO TAP TO THE LEGALLY ESTABLISHED COUNTY STORM DRAIN. THE OWNER/DEVELOPER SHALL MAKE A WRITTEN REQUEST TO THE DRAIN COMMISSIONER TO REQUEST THE TAP TO THE STORM SEWER. THE FEES FOR SUCH TAP ARE AS FOLLOWS:
 - A. NON REFUNDABLE ADMINISTRATIVE FEE OF \$50.00, TO BE PAID AT THE TIME OF APPLICATION.
 - B. INSPECTION FEES ARE BASED ON TIME AND MATERIAL BASES FROM PORT TO PORT FOR THE ON-SITE INSPECTOR. INSPECTORS RATE, VEHICLE MILEAGE, AND 0.5 HOURS OF REPORT PREPARATION TIME SHALL BE CHARGED, AS WELL AS ANY NECESSARY MATERIALS. TIME AND MATERIAL FEES ARE PAID AT THE COMPLETION OF THE TAP INSTALLATION.
45. SINGLE FAMILY RESIDENCE CONSTRUCTION
 37. PRIOR TO THE START OF SINGLE FAMILY RESIDENCES, THE BUILDER OR HOMEOWNER SHALL INSTALL A STRAW BALE BARRIER AND/OR SILT FENCE BEHIND THE CURB, OR BEHIND THE CROWN OF THE ROAD DITCH BACK SLOPE. PRIOR TO THE START OF THE DRAINING, THE HOMEOWNER OR BUILDER SHALL INSTALL THE DRAINWAY CULVERT AND AGGREGATE MATERIAL TO ALLOW FOR ENTRANCE TO THE LOT.
 38. IF THE LIVINGSTON COUNTY HEALTH DEPARTMENT REQUIRES A MOUNDED SEPTIC FIELD, THE



BEBOSS Engineering
 Engineers Surveyors Planners Landscape Architects
 3121 E. GRAND RIVER AVE.
 HOWELL, MI. 48843
 517.546.4836 FAX 517.548.1670

PROJECT: THE FARM
 PREPARED FOR: MR. KEVIN VAN KANDEL
 65300 OLD HICKORY
 BRIGHTON, MI 48116
 (300) 300-0000

TITLE: DRAINAGE, GRADING, & SESC PLAN
 DATE: 5/20/25
 INITIAL TWP REVIEW PER: 1 NL
 REVISION PER: NO BY

DESIGNED BY: NL
 DRAWN BY: NL
 CHECKED BY: BL
 SCALE: 1" = 50'
 JOB NO: 24-380
 DATE: 4/21/25
 SHEET NO. 7

**IMPACT ASSESSMENT
FOR
PRIVATE ROAD PETITION
"OLDE BARN COURT"
GENOA TOWNSHIP, LIVINGSTON COUNTY
MICHIGAN**

Prepared for:

**KEVIN VAN KANNEL
5300 OLD HICKORY
BRIGHTON, MI 48116
(810) 355-6300**

Prepared by:

**BOSS ENGINEERING COMPANY
3121 E. GRAND RIVER
HOWELL, MI 48843
(517) 546-4836**

Issue Date: April 21,2025
Revised: May 20,2025

24-380 EIA

INTRODUCTION

The purpose of this Impact Assessment (IA) report is to show the effect that this proposed development may have on various factors in the general vicinity of the project. The format used for presentation of this report conforms to the *Submittal Requirements for Impact Assessment* guidelines in accordance with Section 18.07 of the published Zoning Ordinance for Genoa Township, Livingston County, Michigan.

DISCUSSION ITEMS

A. Name(s) and address(es) of person(s) responsible for preparation of the impact assessment and a brief statement of their qualifications.

Prepared For:
Kevin Van Kannel
5300 Old Hickory
Brighton, MI 48116
(810) 355-6300

Prepared By:
BOSS ENGINEERING COMPANY
Civil Engineers, Land Surveyors, Landscape Architects and Planners
3121 E. Grand River
Howell, MI 48843
(517) 546-4836

Boss Engineering has been successfully providing engineering, surveying, planning and landscape architecture services on land development projects since 1969. Since its beginning, Boss Engineering has strived to provide unparalleled professional services with integrity and respect to every client. Today, Boss provides a complete lineup of consulting services for each project, ranging from conceptual design through final construction. The company currently employs a variety of professions including civil engineers, surveyors, landscape architects and sanitarians.

B. Map(s) and written description / analysis of the project site including all existing structures, manmade facilities, and natural features. The analysis shall also include information for areas within 10 feet of the property. An aerial photograph or drawing may be used to delineate these areas.

The site is located on the north side of Brighton Rd, approximately 1,835 feet east of the Clifford Road intersection. The property consists of a single-family home, a couple of accessory structures, and undeveloped land. The property is zoned as Low Density Residential (LDR), with 666 lineal feet of frontage along Brighton Rd. The surrounding properties of the site are zoned as Low Density Residential (LDR).

C. Impact on natural features: A written description of the environmental characteristics of the site prior to development and following development, i.e., topography, soils, wildlife, woodlands, mature trees (eight inch caliper or greater), wetlands, drainage, lakes, streams, creeks or ponds. Documentation by a qualified wetland specialist shall be required wherever the Township determines that there is a potential regulated wetland. Reduced copies of the Existing Conditions Map(s) or aerial photographs may accompany written material.

The total site area is 20.39 acres. Current drainage patterns on site consist of slopes up to approximately 30%, with water being directed towards a wetland and a low area. The wetland begins as a narrow ditch, bisecting the property as it runs north, before transitioning into a larger wetland area in the northwest corner of the property which continues offsite to Baetcke Lake. The low area is in the southeast corner of the property along Brighton Road.

Boss Engineering completed a wetland delineation on May 12, 2025, in accordance with the 1987 USACOE Wetland Delineation Manual and the regional supplement for the Midwest region August 2010 and/or the regional supplement for the northcentral and northeast region January 2012. A routine methodology was used. Wetland transects, USACOE regional wetland data sheets (OMB 2024) were completed and boundary surveyed as part of the overall investigation. According to the National Wetlands Inventory the wetland onsite is classified as a mix of Palustrine Scrub-Shrub (PSS1C) & Palustrine Forested (PFO1C) wetland with an area of 7.76 acres. This wetland continues offsite to the northeast and changes classification to a Palustrine Emergent (PEMC) wetland of 0.75 acres along the edge of Baetcke Lake. Wetland disturbance will be limited to that required for the shared driveway crossing. A wetland permit from the Michigan Department of Environment, Great Lakes, & Energy will be obtained prior to construction of the shared driveway.

Vegetated areas onsite are mainly within or bordering the wetland area, with a tree line located along Brighton Road, while the remainder of the site is open area. A tree survey was completed by Boss Engineering on May 12, 2025, locating all trees with a caliper of eight (8) inches or greater within 100-feet of the private road easement and around the proposed detention basin. The proposed road will run through the tree line along Brighton Road, and the shared driveway will cross the narrow ditch portion of the wetland and through a portion of the wooded area in the northeast part of the property. Tree removal will be limited to that required for installation of the road, driveway, forebay, detention basin, and associated ditches and grading. The tree inventory list on sheet 3B of the attached site/construction plan shows which trees are proposed to be removed. The USDA Soil Conservation Service soil classification for the site is a majority Fox-Boyer Complex with some Carlisle Muck in wetland areas and Spinks-Oakville Loamy Sands for the southeast pothole area.

D. Impact on storm water management: Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from County Soil Conservation Service.

Surface runoff during periods of construction will be controlled by proper methods set forth by the Livingston County Drain Commissioner, including silt fence, temporary gravel entrance, and seed and mulch.

At the time of construction, there may be some temporary dust, noise, vibration and smoke, but these conditions will be of relatively short duration and shall be controlled by applying appropriate procedures to minimize the effects, such as watering if necessary for dust control.

The Site Plan documents show the proposed locations of all site improvements along with detailed soil erosion control information. The plans will be reviewed by the Livingston County Drain Commissioner's office for compliance with their regulations prior to issuance of a Soil Erosion Control permit.

E. Impact on surrounding land use: Description of the types of proposed uses and other man made facilities, including any project phasing, and an indication of how the proposed use

conforms or conflicts with existing and potential development patterns. A description shall be provided of any increases of light, noise or air pollution which could negatively impact adjacent properties.

The proposed land division creates 7 parcels on site, that are proposed for single family homes. This type of development conforms with current surrounding land uses for the site. The increase in light, noise or air pollution is minimal with only 7 single family homes being proposed while having a minimal impact on surrounding properties.

F. Impact on public facilities and services: Description of number of expected residents, employees, visitors, or patrons, and the anticipated impact on public schools, police protection and fire protection. Letters from the appropriate agencies may be provided, as appropriate.

With only 7 single family residential homes being proposed the impact on public facilities such as, Brighton Area Schools, and police and fire departments will be minimal.

G. Impact on public utilities: Description of the method to be used to service the development with water and sanitary sewer facilities, the method to be used to control drainage on the site and from the site, including runoff control during periods of construction. For sites service with sanitary sewer, calculations for pre- and post development flows shall be provided in equivalents to a single family home. Where septic systems are proposed, documentation or permits from the Livingston County Health Department shall be provided.

The development has no impact on public utilities, as it is not to be served by either public water or sanitary sewer. The site will utilize wells and septic fields to service the future houses of the individual lots. Soil borings were conducted with the Health Department, final approval of septic systems and wells are pending.

With regards to storm water management, the project will be required to meet all local, county and state storm water and erosion control requirements. All of the required information is included in the Site Plan documents. The increased volume of runoff due to development of the private road, along with the existing site runoff, will be detained onsite and outlet at a controlled rate into existing wetlands. Existing slopes and drainage patterns that are outside of the proposed development area will remain the same.

H. Storage or handling of any hazardous materials: Description of any hazardous substances expected to be used, stored or disposed of on the site. The information shall describe the type of materials, location within the site and method of containment. Documentation of compliance with federal and state requirements, and a Pollution Incident Prevention Plan (PIPP) shall be submitted, as appropriate.

There will be no hazardous materials used or disposed of on this site, such as gas cans, paint, etc.

I. Impact on traffic and pedestrians: A description of the traffic volumes to be generated based on national reference documents, such as the most recent edition of the Institute of Transportation Engineers Trip Generation Manual, other published studies or actual counts of similar uses in Michigan.

According to the Institute of Transportation Engineers Trip Generation 10th edition, with the construction of 7 single family homes, the expected number of trips generated by this development will be 66.08 total trips per day with an AM peak volume of 5.18 trips and a PM peak

volume of 6.93 trips. No center turn lane or bypass lane will be required by the Livingston County Road Commission.

J. A detailed traffic impact study shall be submitted for any site over ten (10) acres in size which would be expected to generate 100 directional vehicle trips (i.e. 100 inbound or 100 outbound trips) during the peak hour of traffic of the generator or on the adjacent streets.

The site is over 10 acres, however the proposed development will not generate 100 directional vehicle trips during the peak hour of traffic, therefore a detailed traffic impact study is not necessary.

K. Special Provisions: General description of any deed restrictions, protective covenants, master deed or association bylaws.

None at this time.

L. A list of all sources shall be provided.

Genoa Township's *Submittal Requirements for Impact Assessment*

Genoa Township Zoning Ordinances

Soil Survey of Livingston County, Michigan, U.S.D.A. Soil Conservation Service

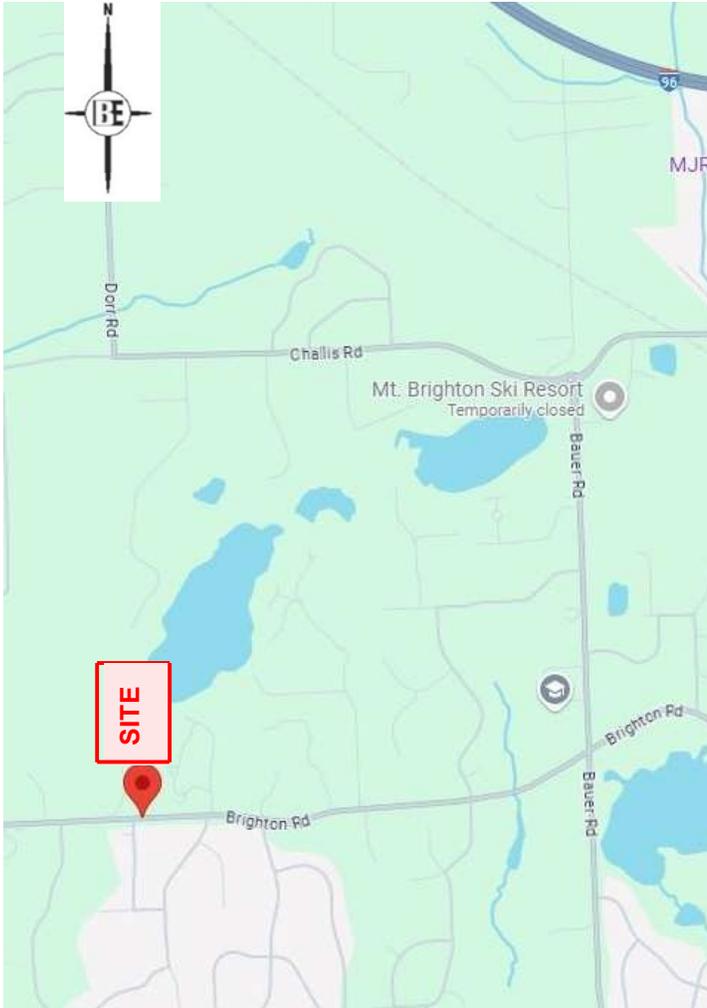
National Wetland Inventory Plan, United States Department of the Interior, Fish and Wildlife Service

Trip Generation Manual, 10th edition, Institute of Transportation Engineers

WETLAND DELINEATION FOR:

VAN KANNEL

**6025 Brighton Road
Brighton / Genoa Township
LIVINGSTON COUNTY, MI**



I. Summary

A wetland delineation site visit was conducted at the property (parcel #'s 4711-27-400-011 and -012) in Genoa Township, MI on May 12, 2025.

The location is shown in the map figure at left. The gross overall site – both parcels - is 20.39 acres. During the site visit 2 wetlands were identified. Wetland ‘A’ is an approximately 0.09 acre drainage swale and Wetland ‘B’ is approximately 3.88 acres in size on-site – expanding north and west off the property. The site is bisected by a Section line. Parcel # – 011 is located in the SW ¼ of Section 26 and Parcel #-012 is located in the SE ¼ of Section 27. The purpose of the delineation was to determine existing conditions.

Report Index:

- I. Summary
- II. Individual Wetland Descriptions
- III. Reference Maps & Aerials
- IV. Representative Photos
- V. Boundary Map
- VI. Data Sheets

As part of the work the following information was reviewed for this report:

- National Wetland Inventory (NWI) Map 1
- USDA NRCS Soil Survey Map 2
- Aerial Map 3

Relatively normal conditions for the season existed for the site visit.

Wetland ‘A’ appears to be a partially ‘ditched’ natural drainage swale. Wetland ‘B’ is a fringe wetland to Baetcke Lake located northeast off-site. Wetland ‘A’ appears to have tertiary overflow connection to Wetland ‘B’ – a defined connecting channel was difficult to determine.

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Patrick Cleary, PLA

May 22, 2025
Boss Project #24-380-1

The delineation was completed in accordance with the 1987 U.S. Army Corps of Engineers (USACOE) Wetland Delineation Manual, the Regional Supplement for the Northcentral and Northeast Region (NCNE) January 2012, and USACOE NC NE Plant List 2022. Wetlands were determined by the soil, vegetation and hydrology criteria that have been established by the USACOE - and adopted by the Michigan Department of Environment, Great Lakes and Energy (EGLE).

Due to the proximity of Wetland 'B' to the Lake (minimum water surface area of 36-acres plus additional fringe wetlands), and a presumed hydraulic connection between Wetlands 'A' and 'B', both wetland areas are most likely regulated wetlands. EGLE is the final arbiter for wetland determinations in the state (non-coastal).

There is a minimum wetland setback of 25-feet from wetlands contained in the Genoa Township Zoning ordinance. Permits and restrictions for any impact to wetlands for this site will be administered by EGLE.

II. Wetland Descriptions

Two wetlands were flagged in the field – Wetland 'A' (Transects A1, A2, A3) and 'B' (Transects B1, B2, B3):

Wetland 'A': This wetland approximately bisects the site, south to north and appears to have been a natural drainage swale that was excavated deeper for most of its length. The 'ditching' begins on-site at marker A1. The approximate total 0.09-acre swale continues to be more defined at an average width of 5-7-feet with progressively steeper (3:1) eroded banks and transitioning to surface water for a portion, to approximately a total of 3/4 of its length. Curiously, before it reaches the larger Wetland 'B' the swale spreads out with minimal definition. However, there still appears to be an overflow function with a hydraulic connection to Wetland 'B' and the approximate centerline was marked in the field to its connection to Wetland 'B'.

Three (3) Transects (A1, A2, A3) with 1 representative upland data sheet (total of 4), were completed to describe the varying conditions along the length of this linear wetland.

TRANSECT A1: This was documented perpendicularly to the swale at the south end at marker A3 (see 'Wetland Boundary Map' & Photo 1).

Soils & Hydrology: Soil at the center of the defined (3:1 side slopes) swale was a 10YR 4/2 mucky sand with few but prominent 10YR 3/6 copper red mottles developing at 7-inches through 14-inches. The soil was saturated at the surface, but no standing water was observed at this location. The soil appeared to meet the Sandy Mucky Mineral (S1) criteria.

Additional Hydrologic Indicators: The swale meets the definitions of Geomorphic Position (D2), the FAC-Neutral Test (D5), drainage patterns (B10), and water-stained leaves (B9).

Vegetation: Vegetation in the middle of the swale was dominated by Fowl Manna Grass (*Glyceria striata*) with clusters of Jewelweed (*Impatiens capensis*). Just outside the ditched swale, on both sides, were more decidedly upland species including Poison Ivy (*Toxicodendron radicans*) and Japanese Honeysuckle (*Lonicera japonica*) vines, seedling Boxelder (*Acer negundo*), and Black Cherry (*Prunus serotina*). There were also scattered Yellow Avens (*Geum aleppicum*), Garlic Mustard (*Alliaria petiolate*), and Dame's Rocket (*Hesperis matronalis*). There were also scattered larger Boxelder in the Tree Stratum – but overall density of vegetation outside of the swale was relatively low.

TRANSECT A2: This was documented perpendicularly to the swale at the south end at marker A6 (see 'Wetland Boundary Map' & Photo 2). This was also the transect that included the representative Upland data sheet information.

Soils & Hydrology: This transect was noted by the presence of standing water and darker soil within the swale. Soil at the center of the defined (3:1) partially eroded swale was a 10YR 2/2 mucky sand through 8-inches, then turning to a light sand (10YR 5/2, 8-12 inches, 10YR 6/2, 12-inches plus). There was no evident mottling through the sample soil section. Beginning between markers A5 & A6 through A8 was the wettest part of the wetland with standing water. No obvious flow was observed. The soil continued to appear to meet the Sandy Mucky Mineral (S1) criteria.

Outside of the swale at the transect the soil was a 10YR 4/3 sandy to loamy sand through 14-inches. Sampling taken elsewhere in the immediate area were similar with a few areas with a 10YR 5/2 to 10YR 6/2 color sand beginning at 12-14-inches.

Additional Hydrologic Indicators: The swale meets the definitions of Geomorphic Position (D2), the FAC-Neutral Test (D5), drainage patterns (B10), water-stained leaves (B9), and sparsely vegetated concave surface (B8).

Vegetation: This transect was noted by the significant reduction in overall vegetation. Vegetation in the middle of the swale were in clumps with the primary littered with water-stained leaves. There were 2 wetland dominants noted again here – Jewelweed (*Impatiens capensis*) and Fowl Manna Grass (*Glyceria striata*), but the grass cover percentage was greatly reduced (50% to 8%). Just outside the ditched swale, on both sides, were more decidedly upland species including Poison Ivy and Japanese Honeysuckle vines, seedling Boxelder, and Black Cherry.

Further outside of the swale were scattered amounts of Dame's Rocket / Mother-Of-The-Evening (*Hesperis matronalis*), Dead Nettle (*Lamium purpureum*), May-Apple (*Podophyllum peltatum*), Orchard Grass (*Dactylis glomerata*), Garlic Mustard (*Alliaria petiolate*), and Common Burdock (*Arctium minus*). The herbaceous stratum density was relatively low. Within the 15-foot plot size there were more Japanese Honeysuckle and Multiflora Rose (*Rosa multiflora*). Within the 30-ft plot size were several larger trees including Black Oak (*Quercus velutina*), larger Boxelder, Red Maple (*Acer rubrum*), and Black Cherry. The overall area was generally forested with a relatively sparsely vegetated understory and a lot of leaf clutter.

TRANSECT A3: This was documented perpendicularly to the swale at the south end at marker A10 (see 'Wetland Boundary Map' & Photo 3).

Soils & Hydrology: This transect was noted by a much less defined swale, no evident previous additional excavation, no standing water, and less mucky – although still saturated at this point. Soil at the center of the swale (5-8% side slopes) was a 10YR 3/2 mucky sand with few but prominent 10YR 3/6 copper red mottles developing at 8-inches through 14-inches. The soil appeared to still meet the Sandy Mucky Mineral (S1) criteria.

Further north of this section the soil remained at a 10YR 2/2 to 10YR 3/2 color but without mottles and saturation – although still relatively more moist than the surroundings. The approximate centerline of the swale was continued to Wetland 'B' by this relative moisture transition, slight topographic definition, and the FAC to FACU vegetation bordering either side (May-Apple for example). From A11 to A15 this centerline may be more of an overflow or conveyance than wetland but indeterminant.

Additional Hydrologic Indicators: The swale meets the definitions of Geomorphic Position (D2), the FAC-Neutral Test (D5), drainage patterns (B10), water-stained leaves (B9), and sparsely vegetated concave surface (B8).

Vegetation: This transect was noted by being back to more overall vegetation – particularly more Fowl Manna Grass (20%). In addition to the increase in grass density the Jewelweed remained at a noticeable percentage (13%) and there was the addition of ferns – Sensitive Fern (*Onoclea sensibilis*) and Cinnamon Fern (*Osmundastrum cinnamomeum*) – in small percentages (5% & 7% respectively). Just outside the swale, on both sides, continued to be more decidedly upland species including Poison Ivy, Japanese Honeysuckle - and Virginia Creeper (*Parthenocissus quinquefolia*) - vines, seedling Boxelder, Black Cherry, and also seedling Green Ash (*Fraxinus pennsylvanica*) and American Elm (*Ulmus americana*). The overall area continued to be generally forested with a relatively sparsely vegetated understory and a lot of leaf clutter.

The boundary of Wetland 'A' was primarily determined by Geomorphic Position (D2), Saturation (A3) and corresponding FACW & OBL vegetation. In its present condition, with varying stretches of standing water, and no apparent regular flow the swale will most likely be considered a conveyance or 'linear wetland' by EGLE (not a 'stream').

Wetland 'B': This wetland is located in approximately the west 1/3 of the site. The wetland continues off-site & is a fringe wetland to Baetcke Lake with open water approximately at another 200-ft northwest of the site. There is approximately a total of 3.88-acres of wetland on-site. Wetland 'B' intersects Wetland 'A' between markers B7 & B8 (see the 'Wetland Boundary Map' & Photo 4).

Three (3) Transects (B1, B2, B3) with 1 representative upland data sheet (total of 4), were completed to describe the varying conditions along the perimeter of this fringe wetland.

TRANSECT B1: This was documented between markers B2 and B3 near the north end of the site (see 'Wetland Boundary Map' & Photo 5).

Soils & Hydrology: This transect was noted for its distinct line between sandy slope and thick muck. Soil at the bottom of the defined (20-25%) sandy slope was a distinct 10YR 2/1 muck through 14-inches from a 10YR 4/3 loamy sand. There was standing water and a presumed water table at this water's edge location. The soil sample met the Muck (A10) criteria.

Additional Hydrologic Indicators: The wetland at this transect meets the definitions of Geomorphic Position (D2), the FAC-Neutral Test (D5), drainage patterns (B10), water-stained leaves (B9) and inundation seen from aerial imagery (C9 & B7).

Vegetation: This transect was marked by a distinct change from forested to open wetland. Vegetation in the obvious wetland was dominated by Reed Canary Grass (*Phalaris arundinacea*) (50%) followed by Hardstem Rush (*Schoenoplectus acutus*) (20%). Cattail (*Typha angustifolia*) was a lesser percentage (15%) at the wetland edge of the plot but dominant further into the wetland to the north and west.

On the upland bank side of the plot shrub & tree plot sizes were more decidedly upland species including Japanese Honeysuckle (*Lonicera japonica*), Multiflora Rose (*Rosa multiflora*), and a few Hazelnut (*Corylus americana*). There was also seedling and larger Green Ash (*Fraxinus pennsylvanica*), American Elm (*Ulmus americana*), Swamp White Oak (*Quercus bicolor*), and Boxelder (*Acer negundo*).

TRANSECT B2: This was documented at marker B15 on the south side of where Wetland 'A' and Wetland 'B' intersect, facing more west (see 'Wetland Boundary Map' & Photo 6).

Soils & Hydrology: This transect was noted for its distinct line between sandy slope and thick muck but at less of a steep slope (8-10% vs 20-25%). Soil at the bottom of the slope was again a distinct 10YR 2/1 muck through 14-inches from a 10YR 4/3 loamy sand. There was no standing water but saturation & sparse vegetation. At the time of the visit it appeared that the area was recently inundated. The soil sample met the Muck (A10) criteria.

Additional Hydrologic Indicators: The wetland at this transect meets the definitions of Geomorphic Position (D2), the FAC-Neutral Test (D5), drainage patterns (B10), water-stained leaves (B9) and inundation seen from aerial imagery (C9 & B7).

Vegetation: This transect was marked by a distinct change from forested to open wetland but with less vegetation at the edge. Dominant vegetation in the obvious wetland included less Reed Canary Grass (5%) but Blue Flag Iris (*Iris versicolor*) (15%) and Sensitive Fern (15%) along with Hardstem Rush (7%) & Yellow Avens (8%). Further into the wetland was dominated by shrubs – what appeared to be Speckled Alder (*Alnus incana*) and not open water or Cattail.

On the upland bank side of the plot shrub & tree plot sizes were again more decidedly upland species including Japanese Honeysuckle, Multiflora Rose along with seedling and larger Green Ash, American Elm, Swamp White Oak, and Boxelder.

Further upland there were many of the same species as noted around Wetland 'A' (listed in Data Sheet A2-2 & B2-2) and with the addition of Trillium (*Trillium grandiflorum*) and unfortunate Japanese Barberry (*Berberis thunbergii*) in scattered clusters.

TRANSECT B3: This was documented at marker B21. This marker was at a mostly enclosed depression off the 'main' wetland but had an evident surface connection so not documented as a separate wetland (see 'Wetland Boundary Map' & Photos 7 & 8).

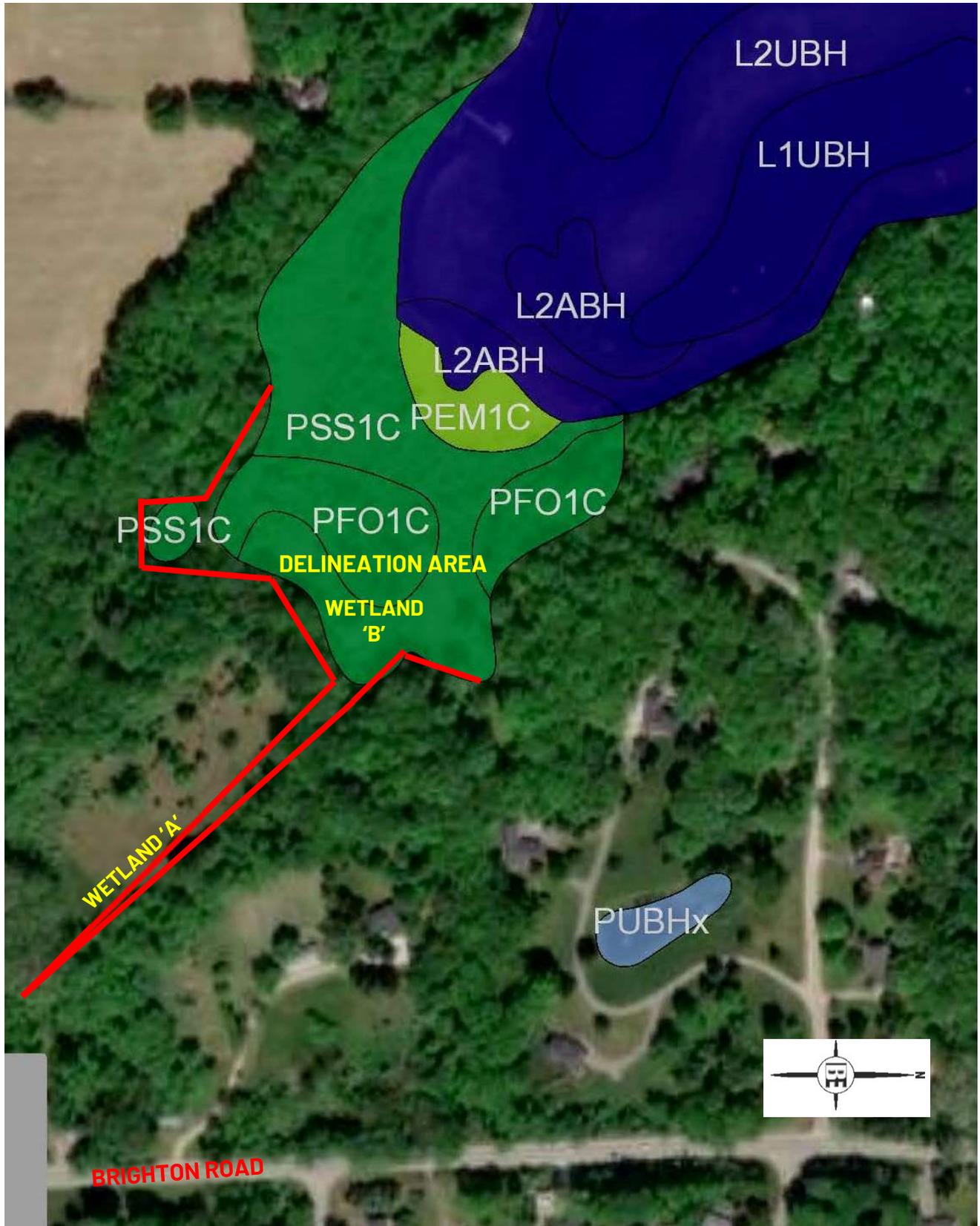
Soils & Hydrology: This transect was noted for its distinct line between sandy slope (7-8%) and thick muck with standing water. Soil at the bottom of the slope was again a distinct 10YR 2/1 muck through 14-inches from a 10YR 4/3 loamy sand. There was shallow, mucky standing water at the edge that became deeper approximately another 8-feet further in. At the time of the visit it also appeared that the area was recently inundated. The soil sample met the Muck (A10) criteria.

Additional Hydrologic Indicators: The wetland at this transect meets the definitions of Geomorphic Position (D2), the FAC-Neutral Test (D5), drainage patterns (B10), water-stained leaves (B9) and inundation seen from aerial imagery (C9 & B7).

Vegetation: This transect was marked by a distinct change from forested to shrub-scrub wetland. There was less vegetation at the edge but dominated by Speckled Alder further in. Dominant vegetation in the obvious wetland included Common Duckweed (*Lemna minor*) (25%+), Sensitive Fern (16%), Yellow Avens (12%) & Blue Flag Iris (7%).

The boundary of Wetland 'B' was primarily determined by Geomorphic Position (D2) with a distinct, abrupt change from sandy soil to muck and a corresponding abrupt change from upland vegetation species to FACW & OBL vegetation.

III. Reference Maps



MAP 1 – National Wetland Inventory (NWI) Map



MAP 2 – USDA NRCS Hydric Soils Map



MAP 3 – Livingston County GIS Parcel Aerial Map

IV. Site Photos



PHOTO 1 – Wetland 'A' – Looking North, near marker A3



PHOTO 2 – Wetland 'A' – Looking North, near marker A6



PHOTO 3 – Wetland 'A', Looking North, between markers A9 & A10, swale becoming less defined



PHOTO 4 – Wetland 'B' - Looking West, where Wetlands Meet



PHOTO 5 – Wetland 'B' Looking West, near marker B2



PHOTO 6 – Wetland 'B' Looking West, near marker B15

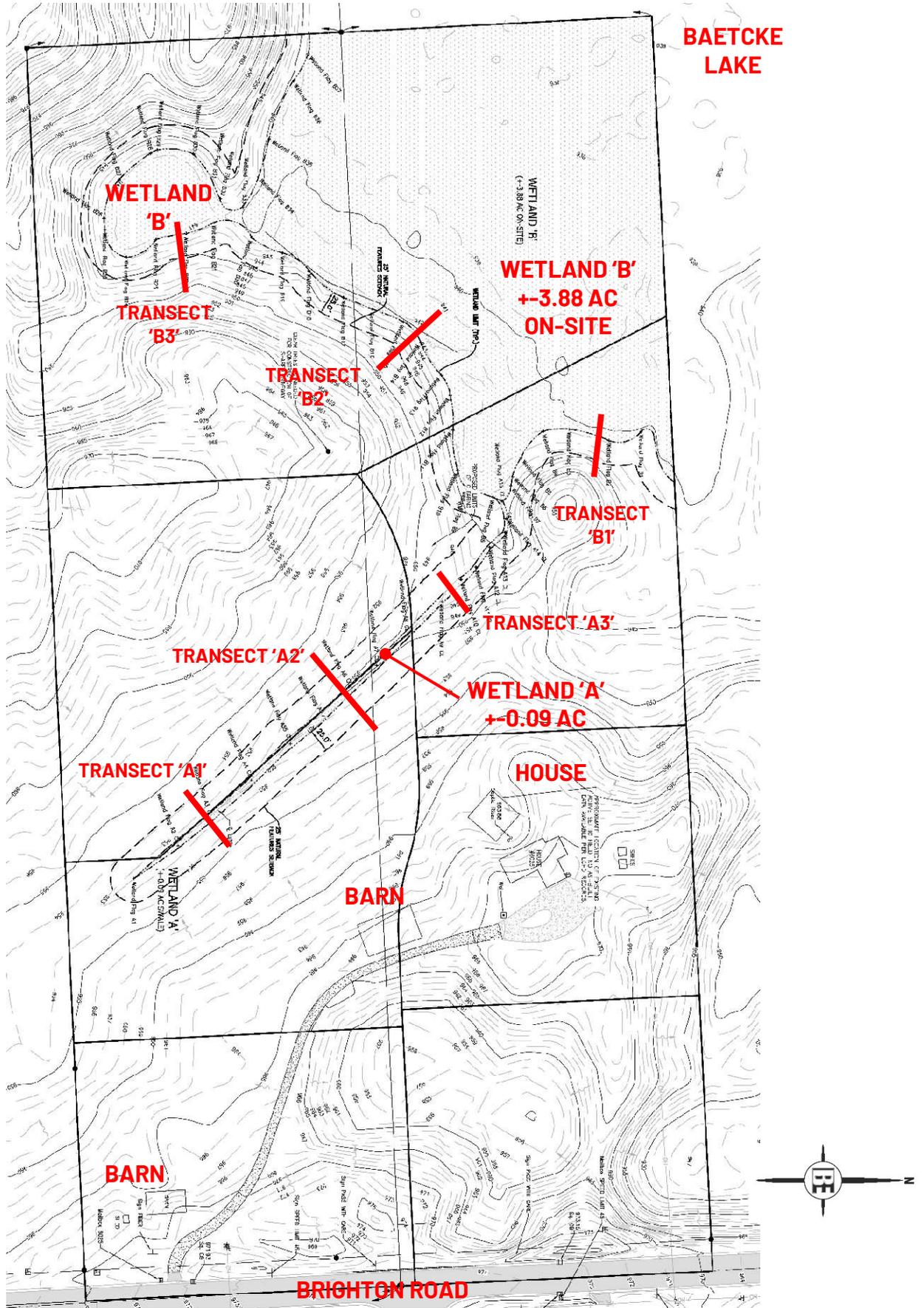


PHOTO 7 – Wetland 'B', Looking West, near marker B21, at 'narrows'



PHOTO 8 – Wetland 'B', Looking southwest, near marker B22

WETLAND BOUNDARY MAP



U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Van Kannel / 6025 Brighton Road City/County: Genoa Twnshp, Livingston Sampling Date: 5/12/25
 Applicant/Owner: Kevin & Carolyn Van Kannel State: MI Sampling Point: A1-1
 Investigator(s): Patrick Cleary Section, Township, Range: Sections 27 & 28, T2N-R5E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave
 Slope (%): 33 Lat: 42 deg 32' 49" N Long: 83 deg 49' 52"W Datum: NAVD88
 Soil Map Unit Name: Carisle Muck (CarabA), Fox-Boyer Complex (FrB/FrC) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks:
 TRANSECT A1-1 - WETLAND: Sample taken at A3. Defined 5'-7'- wide swale - appears to have been ditched out at some point (wetland portion starts at A-1, swale continues a little further, less defined)

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)
1. <u>Acer negundo</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
2. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
			<u>15</u> =Total Cover	
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>50</u> x 1 = <u>50</u> FACW species <u>28</u> x 2 = <u>56</u> FAC species <u>45</u> x 3 = <u>135</u> FACU species <u>22</u> x 4 = <u>88</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>145</u> (A) <u>329</u> (B) Prevalence Index = B/A = <u>2.27</u>
1. <u>Acer negundo</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Prunus serotina</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
3. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
4. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
			<u>20</u> =Total Cover	
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Impatiens capensis</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Glyceria striata</u>	<u>50</u>	<u>Yes</u>	<u>OBL</u>	
3. <u>Geum aleppicum</u>	<u>8</u>	<u>No</u>	<u>FACW</u>	
4. <u>Alliaria petiolata</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
5. <u>Hesperis matronalis</u>	<u>2</u>	<u>No</u>	<u>FACU</u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
			<u>85</u> =Total Cover	
Woody Vine Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
2. <u>Lonicera japonica</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
			<u>25</u> =Total Cover	

Remarks: (Include photo numbers here or on a separate sheet.)
 Heavily vegetated with Fowl Manna Grass & clusters of Jewelweed in center, the vines, shrubs & trees on the swale edges

SOIL

Sampling Point: A1-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-7	10YR 4/2	100					Mucky Sand	
7-14	10YR 4/2	85	10YR 3/6	15	C	M	Mucky Sand	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
Silty mucky sand through 7" then progressively more silt and a little clay through 14"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Saturated at surface but no surface water; defined swale / channel with steep banks

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Van Kannel / 6025 Brighton Road City/County: Genoa Twnshp, Livingston Sampling Date: 5/12/25
 Applicant/Owner: Kevin & Carolyn Van Kannel State: MI Sampling Point: A2-1
 Investigator(s): Patrick Cleary Section, Township, Range: Sections 27 & 28, T2N-R5E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave
 Slope (%): 33 Lat: 42 deg 32' 49" N Long: 83 deg 49' 52"W Datum: NAVD88
 Soil Map Unit Name: Carisle Muck (CarabA), Fox-Boyer Complex (FrB/FrC) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks:
 TRANSECT A2-1 - WETLAND: Sample taken at A6. Defined 6'-7- wide swale - appears to have been ditched out at some point. Relatively lower, water at surface, flow indeterminant

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. <u>Acer negundo</u>	15	Yes	FAC	
2. _____	_____	_____	_____	Total Number of Dominant Species Across All Strata: <u>7</u> (B)
3. _____	_____	_____	_____	Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4%</u> (A/B)
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
15 =Total Cover				
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet:
1. <u>Acer negundo</u>	10	Yes	FAC	
2. <u>Prunus serotina</u>	5	Yes	FACU	OBL species <u>8</u> x 1 = <u>8</u>
3. _____	_____	_____	_____	FACW species <u>37</u> x 2 = <u>74</u>
4. _____	_____	_____	_____	FAC species <u>32</u> x 3 = <u>96</u>
5. _____	_____	_____	_____	FACU species <u>20</u> x 4 = <u>80</u>
15 =Total Cover				UPL species <u>0</u> x 5 = <u>0</u>
15 =Total Cover				Column Totals: <u>97</u> (A) <u>258</u> (B)
15 =Total Cover				Prevalence Index = B/A = <u>2.66</u>
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators:
1. <u>Impatiens capensis</u>	20	Yes	FACW	
2. <u>Glyceria striata</u>	8	Yes	OBL	<u>X</u> 2 - Dominance Test is >50%
3. <u>Onoclea sensibilis</u>	7	No	FACW	<u>X</u> 3 - Prevalence Index is ≤3.0 ¹
4. <u>Osmundastrum cinnamomeum</u>	5	No	FACW	<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
5. <u>Geum aleppicum</u>	5	No	FACW	<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)
6. _____	_____	_____	_____	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
45 =Total Cover				
Woody Vine Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u>Toxicodendron radicans</u>	7	Yes	FAC	
2. <u>Lonicera japonica</u>	15	Yes	FACU	
22 =Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)
 Sparsely vegetated with clumps of Jewelweed, less Fowl Manna Grass, more Sensitive & Cinnamon Ferns in center; vine, shrub, tree at edges

SOIL

Sampling Point: A2-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 2/2	100					Mucky Sand	
8-12	10YR 5/2	100					Mucky Sand	
12-13	10YR 6/2	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
Silty mucky sand through 8" then progressively more sandy through 13"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): 0
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Surface water present, beginning between A-5 & A-6; more water-stained leaves, much less overall herbaceous vegetation

SOIL

Sampling Point: A2-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 4/3	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
Darker sand, somewhat moist

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Sandy, relatively flat but draining toward swale

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Van Kannel / 6025 Brighton Road City/County: Genoa Twnshp, Livingston Sampling Date: 5/12/25
 Applicant/Owner: Kevin & Carolyn Van Kannel State: MI Sampling Point: A3-1
 Investigator(s): Patrick Cleary Section, Township, Range: Sections 27 & 28, T2N-R5E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave
 Slope (%): 8 Lat: 42 deg 32' 49" N Long: 83 deg 49' 52"W Datum: NAVD88
 Soil Map Unit Name: Carisle Muck (CarabA), Fox-Boyer Complex (FrB/FrC) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: TRANSECT A3-1 - WETLAND: Sample taken at A10. Defined 6'-7'- wide swale - much less defined channel A10-A15 - swale identified by slight depression and vegetation or lack there of	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status		
1. <u>Acer negundo</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)	
2. <u>Acer rubrum</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>		
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
	<u>15</u>	<u>=Total Cover</u>			
Sapling/Shrub Stratum (Plot size: <u>15</u>)					
1. <u>Acer negundo</u>	<u>5</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>20</u> x 1 = <u>20</u> FACW species <u>33</u> x 2 = <u>66</u> FAC species <u>27</u> x 3 = <u>81</u> FACU species <u>15</u> x 4 = <u>60</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>95</u> (A) <u>227</u> (B) Prevalence Index = B/A = <u>2.39</u>	
2. <u>Prunus serotina</u>	<u>3</u>	<u>No</u>	<u>FACU</u>		
3. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>Yes</u>	<u>FACW</u>		
4. <u>Ulmus americana</u>	<u>3</u>	<u>No</u>	<u>FACW</u>		
5. <u> </u>					
	<u>16</u>	<u>=Total Cover</u>			
Herb Stratum (Plot size: <u>5</u>)					
1. <u>Impatiens capensis</u>	<u>13</u>	<u>Yes</u>	<u>FACW</u>		
2. <u>Glyceria striata</u>	<u>20</u>	<u>Yes</u>	<u>OBL</u>		
3. <u>Onoclea sensibilis</u>	<u>5</u>	<u>No</u>	<u>FACW</u>		
4. <u>Osmundastrum cinnamomeum</u>	<u>7</u>	<u>No</u>	<u>FACW</u>		
5. <u> </u>					
6. <u> </u>					
7. <u> </u>					
8. <u> </u>					
9. <u> </u>					
10. <u> </u>					
	<u>45</u>	<u>=Total Cover</u>			
Woody Vine Stratum (Plot size: <u>15</u>)					
1. <u>Toxicodendron radicans</u>	<u>7</u>	<u>Yes</u>	<u>FAC</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
2. <u>Parthenocissus quinquefolia</u>	<u>12</u>	<u>Yes</u>	<u>FACU</u>		
	<u>19</u>	<u>=Total Cover</u>			

Remarks: (Include photo numbers here or on a separate sheet.)
 More sparsely vegetated with clumps of Jewelweed, more Fowl Manna Grass, few Sensitive & Cinnammon Ferns; Larger Red Maple at 30' edge

SOIL

Sampling Point: A3-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-8	10YR 3/2	100					Mucky Sand	
8-13	10YR 3/2	85	10YR 3/6	15	C	M	Mucky Sand	Prominent redox concentrations

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:
Mucky sand with few prominent mottles beginning at 8"

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No surface water but still saturated, somewhat less mucky

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Van Kannel / 6025 Brighton Road City/County: Genoa Twnshp, Livingston Sampling Date: 5/12/25
 Applicant/Owner: Kevin & Carolyn Van Kannel State: MI Sampling Point: B1-1
 Investigator(s): Patrick Cleary Section, Township, Range: Sections 27 & 28, T2N-R5E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave
 Slope (%): 20-25 Lat: 42 deg 31' 48" N Long: 83 deg 49' 52"W Datum: NAVD88
 Soil Map Unit Name: Carisle Muck (CarabA), Fox-Boyer Cmplx (FrB/FrC), Spinks-Oakville Loam Sand (SvE) NWI classification: PFO1C / PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: TRANSECT B1-1 - WETLAND: Sample taken between B2 & B3. Distinct topographic and vegetative line from forest to open wetland, sand to muck.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																	
1. <u>Acer negundo</u>	5	No	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>9</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
2. <u>Ulmus americana</u>	15	Yes	FACW																	
3. <u>Fraxinus pennsylvanica</u>	10	Yes	FACW																	
4. <u>Quercus bicolor</u>	15	Yes	FACW																	
5. <u> </u>	45	=Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																				
1. <u>Corylus americana</u>	3	No	FACU	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;">Total % Cover of:</td> <td style="width:50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u>35</u></td> <td>x 1 = <u>35</u></td> </tr> <tr> <td>FACW species <u>105</u></td> <td>x 2 = <u>210</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>45</u></td> <td>x 4 = <u>180</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>190</u> (A)</td> <td><u>440</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>2.32</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>35</u>	x 1 = <u>35</u>	FACW species <u>105</u>	x 2 = <u>210</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>45</u>	x 4 = <u>180</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>190</u> (A)	<u>440</u> (B)	Prevalence Index = B/A = <u>2.32</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>35</u>	x 1 = <u>35</u>																			
FACW species <u>105</u>	x 2 = <u>210</u>																			
FAC species <u>5</u>	x 3 = <u>15</u>																			
FACU species <u>45</u>	x 4 = <u>180</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>190</u> (A)	<u>440</u> (B)																			
Prevalence Index = B/A = <u>2.32</u>																				
2. <u>Fraxinus pennsylvanica</u>	7	No	FACW																	
3. <u>Ulmus americana</u>	8	Yes	FACW																	
4. <u>Lonicera japonica</u>	7	No	FACU																	
5. <u>Rosa multiflora</u>	15	Yes	FACU																	
	40	=Total Cover																		
Herb Stratum (Plot size: <u>5</u>)																				
1. <u>Phalaris arundinacea</u>	50	Yes	FACW	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. <u>Typha angustifolia</u>	15	No	OBL																	
3. <u>Schoenoplectus acutus</u>	20	Yes	OBL																	
4. <u> </u>																				
5. <u> </u>																				
6. <u> </u>																				
7. <u> </u>																				
8. <u> </u>																				
9. <u> </u>																				
10. <u> </u>																				
	85	=Total Cover																		
Woody Vine Stratum (Plot size: <u>15</u>)																				
1. <u>Rubus allegheniensis</u>	13	Yes	FACU	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
2. <u>Lonicera japonica</u>	7	Yes	FACU																	
	20	=Total Cover																		

Remarks: (Include photo numbers here or on a separate sheet.)
 Heavily vegetated with Reed Canary Grass at wetland edge, with some Hardstem Rush, Cattail wet edge of plot; vines, shrubs & trees on bank

SOIL

Sampling Point: B1-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 2/1	100					Muck	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Thick muck at well defined edge from sandy bank

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): 0
 Water Table Present? Yes No Depth (inches): 0
 Saturation Present? Yes No Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water at surface with apparent water level line

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Van Kannel / 6025 Brighton Road City/County: Genoa Twnshp, Livingston Sampling Date: 5/12/25
 Applicant/Owner: Kevin & Carolyn Van Kannel State: MI Sampling Point: B2-1
 Investigator(s): Patrick Cleary Section, Township, Range: Sections 27 & 28, T2N-R5E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave
 Slope (%): 8-10 Lat: 42 deg 31' 48" N Long: 83 deg 49' 52"W Datum: NAVD88
 Soil Map Unit Name: Carisle Muck (CarabA), Fox-Boyer Cmplx (FrB/FrC), Spinks-Oakville Loam Sand (SvE) NWI classification: PFO1C / PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: TRANSECT B2-1 - WETLAND: Sample taken at B15. Distinct soil and vegetative line from sand to muck, forested to scrub-shrub, but less of a steep topographic change	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Acer negundo</u>	8	No	FAC	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>10</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>70.0%</u> (A/B)																																
2. <u>Ulmus americana</u>	15	Yes	FACW																																	
3. <u>Fraxinus pennsylvanica</u>	7	No	FACW																																	
4. <u>Quercus bicolor</u>	10	Yes	FACW																																	
5. <u>Acer rubrum</u>	10	Yes	FAC																																	
	50	=Total Cover																																		
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																				
1. <u>Alnus incana</u>	3	No	FACW	Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td align="right">Total % Cover of:</td> <td></td> <td align="right">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>22</u></td> <td align="right">x 1 =</td> <td align="center"><u>22</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>78</u></td> <td align="right">x 2 =</td> <td align="center"><u>156</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>28</u></td> <td align="right">x 3 =</td> <td align="center"><u>84</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>27</u></td> <td align="right">x 4 =</td> <td align="center"><u>108</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td align="right">x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>155</u> (A)</td> <td></td> <td align="center"><u>370</u> (B)</td> </tr> <tr> <td>Prevalence Index = B/A =</td> <td></td> <td></td> <td align="center"><u>2.39</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>22</u>	x 1 =	<u>22</u>	FACW species	<u>78</u>	x 2 =	<u>156</u>	FAC species	<u>28</u>	x 3 =	<u>84</u>	FACU species	<u>27</u>	x 4 =	<u>108</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>155</u> (A)		<u>370</u> (B)	Prevalence Index = B/A =			<u>2.39</u>
Total % Cover of:		Multiply by:																																		
OBL species	<u>22</u>	x 1 =	<u>22</u>																																	
FACW species	<u>78</u>	x 2 =	<u>156</u>																																	
FAC species	<u>28</u>	x 3 =	<u>84</u>																																	
FACU species	<u>27</u>	x 4 =	<u>108</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>155</u> (A)		<u>370</u> (B)																																	
Prevalence Index = B/A =			<u>2.39</u>																																	
2. <u>Fraxinus pennsylvanica</u>	7	No	FACW																																	
3. <u>Ulmus americana</u>	8	Yes	FACW																																	
4. <u>Lonicera japonica</u>	10	Yes	FACU																																	
5. <u>Rosa multiflora</u>	12	Yes	FACU																																	
	40	=Total Cover																																		
Herb Stratum (Plot size: <u>5</u>)																																				
1. <u>Phalaris arundinacea</u>	5	No	FACW	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																
2. <u>Iris versicolor</u>	15	Yes	OBL																																	
3. <u>Schoenoplectus acutus</u>	7	No	OBL																																	
4. <u>Geum aleppicum</u>	8	No	FACW																																	
5. <u>Onoclea sensibilis</u>	15	Yes	FACW																																	
6. <u> </u>																																				
7. <u> </u>																																				
8. <u> </u>																																				
9. <u> </u>																																				
10. <u> </u>																																				
	50	=Total Cover																																		
Woody Vine Stratum (Plot size: <u>15</u>)																																				
1. <u>Rubus allegheniensis</u>	5	Yes	FACU	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																																
2. <u>Toxicodendron radicans</u>	10	Yes	FAC																																	
	15	=Total Cover																																		

Remarks: (Include photo numbers here or on a separate sheet.)
 At transect sparsely vegetated but thicker vegetation in the area - shrubs & trees at edge of respective plot sizes

SOIL

Sampling Point: B2-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 2/1	100					Muck	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Thick muck at well defined edge from sandy bank

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Surface water present at spots in the area but not at the transect; sparsely vegetated

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Van Kannel / 6025 Brighton Road City/County: Genoa Twnshp, Livingston Sampling Date: 5/12/25
 Applicant/Owner: Kevin & Carolyn Van Kannel State: MI Sampling Point: B2-2
 Investigator(s): Patrick Cleary Section, Township, Range: Sections 27 & 28, T2N-R5E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave
 Slope (%): 10-25 Lat: 42 deg 32' 49" N Long: 83 deg 49' 52"W Datum: NAVD88
 Soil Map Unit Name: Carisle Muck (CarabA), Fox-Boyer Complex (FrB/FrC) NWI classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "I" X Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling p x

Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: TRANSECT B2-2 - REPRESENTATIVE UPLAND: Sample taken near B15. Undulating, steeper sloping terrain	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer negundo</u>	<u>15</u>	<u>Yes</u>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>12</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)
2. <u>Acer rubrum</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
3. <u>Quercus velutina</u>	<u>20</u>	<u>Yes</u>	<u>UPL</u>	
4. <u>Prunus serotina</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
		<u>50</u> =Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15</u>)				
1. <u>Acer negundo</u>	<u>12</u>	<u>Yes</u>	<u>FAC</u>	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>40</u> x 3 = <u>120</u> FACU species <u>89</u> x 4 = <u>356</u> UPL species <u>31</u> x 5 = <u>155</u> Column Totals: <u>165</u> (A) <u>641</u> (B) Prevalence Index = B/A = <u>3.88</u>
2. <u>Prunus serotina</u>	<u>7</u>	<u>No</u>	<u>FACU</u>	
3. <u>Rosa multiflora</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
4. <u>Berberis thunbergii</u>	<u>8</u>	<u>Yes</u>	<u>FACU</u>	
5. <u>Ulmus americana</u>	<u>3</u>	<u>No</u>	<u>FACW</u>	
		<u>40</u> =Total Cover		
Herb Stratum (Plot size: <u>5</u>)				
1. <u>Geum aleppicum</u>	<u>2</u>	<u>No</u>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Hesperis matronalis</u>	<u>8</u>	<u>Yes</u>	<u>FACU</u>	
3. <u>Arctium minus</u>	<u>5</u>	<u>No</u>	<u>FACU</u>	
4. <u>Alliaria petiolata</u>	<u>8</u>	<u>Yes</u>	<u>FAC</u>	
5. <u>Lamium purpureum</u>	<u>3</u>	<u>No</u>	<u>UPL</u>	
6. <u>Dactylis glomerata</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	
7. <u>Taraxacum officinale</u>	<u>3</u>	<u>No</u>	<u>FACU</u>	
8. <u>Podophyllum peltatum</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	
9. <u>Trillium grandiflorum</u>	<u>8</u>	<u>Yes</u>	<u>UPL</u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
		<u>50</u> =Total Cover		
Woody Vine Stratum (Plot size: <u>15</u>)				
1. <u>Parthenocissus quinquefolia</u>	<u>10</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
2. <u>Lonicera japonica</u>	<u>15</u>	<u>Yes</u>	<u>FACU</u>	
		<u>25</u> =Total Cover		
Remarks: (Include photo numbers here or on a separate sheet.) Generally open forested understory with a lot of leaf clutter				

SOIL

Sampling Point: B2-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 4/3	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): _____
 Water Table Present? Yes No Depth (inches): _____
 Saturation Present? Yes No Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Sandy, undulating terrain

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024
 Requirement Control Symbol EXEMPT:
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Van Kannel / 6025 Brighton Road City/County: Genoa Twnshp, Livingston Sampling Date: 5/12/25
 Applicant/Owner: Kevin & Carolyn Van Kannel State: MI Sampling Point: B3-1
 Investigator(s): Patrick Cleary Section, Township, Range: Sections 27 & 28, T2N-R5E
 Landform (hillside, terrace, etc.): swale Local relief (concave, convex, none): concave
 Slope (%): 7-8 Lat: 42 deg 32' 50" N Long: 83 deg 49' 52"W Datum: NAVD88
 Soil Map Unit Name: Carisle Muck (CarabA), Fox-Boyer Complex (FrB/FrC) NWI classification: PSS1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Hydric Soil Present? Yes <u>X</u> No <u> </u>	
Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	

Remarks:
 TRANSECT B3-1 - WETLAND: Sample taken at B22. Distinct soil & vegetative line from sand to muck, forested to scrub-shrub, less of a steep topographic change. Transect in a mostly enclosed depression off the main wetland but evident surface connection - not numbered separately

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>7</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>87.5%</u> (A/B)
1. <u>Acer negundo</u>	<u>3</u>	<u>No</u>	<u>FAC</u>	
2. <u>Ulmus americana</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	
3. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
4. <u>Quercus bicolor</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
5. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
	<u>33</u> =Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>37</u> x 1 = <u>37</u> FACW species <u>93</u> x 2 = <u>186</u> FAC species <u>13</u> x 3 = <u>39</u> FACU species <u>20</u> x 4 = <u>80</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>163</u> (A) <u>342</u> (B) Prevalence Index = B/A = <u>2.10</u>
1. <u>Alnus incana</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	
2. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
3. <u>Ulmus americana</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
4. <u>Lonicera japonica</u>	<u>8</u>	<u>No</u>	<u>FACU</u>	
5. <u>Rosa multiflora</u>	<u>7</u>	<u>No</u>	<u>FACU</u>	
	<u>50</u> =Total Cover			
Herb Stratum (Plot size: <u>5</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Lemna minor</u>	<u>25</u>	<u>Yes</u>	<u>OBL</u>	
2. <u>Iris versicolor</u>	<u>7</u>	<u>No</u>	<u>OBL</u>	
3. <u>Schoenoplectus acutus</u>	<u>5</u>	<u>No</u>	<u>OBL</u>	
4. <u>Geum aleppicum</u>	<u>12</u>	<u>No</u>	<u>FACW</u>	
5. <u>Onoclea sensibilis</u>	<u>16</u>	<u>Yes</u>	<u>FACW</u>	
6. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
7. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
8. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
9. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
10. <u> </u>	<u> </u>	<u> </u>	<u> </u>	
	<u>65</u> =Total Cover			
Woody Vine Stratum (Plot size: <u>15</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
1. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<u>Yes</u>	<u>FACU</u>	
2. <u>Toxicodendron radicans</u>	<u>10</u>	<u>Yes</u>	<u>FAC</u>	
	<u>15</u> =Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)
 At transect sparsely vegetated but thicker vegetation in the area - shrubs & trees at edge of respective plot sizes; some open water

SOIL

Sampling Point: B3-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-14	10YR 2/1	100					Muck	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- 2 cm Muck (A10)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- 5 cm Mucky Peat or Peat (S3)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Loamy Mucky Mineral (F1)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

- Iron-Manganese Masses (F12)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

Thick muck at well defined edge from sandy bank

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- True Aquatic Plants (B14)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Gauge or Well Data (D9)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes No Depth (inches): 0
 Water Table Present? Yes No Depth (inches): 0
 Saturation Present? Yes No Depth (inches): 0
 (includes capillary fringe)

Wetland Hydrology Present? Yes No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Thick muck transitioning quickly to deeper standing water then shrubs at the interior

PROPERTY DESCRIPTION:

PROPERTY DESCRIPTION AS SUPPLIED:
 PROPERTY DESCRIPTIONS PER BOSS ENGINEERING SURVEY, JOB NO. 11-011C,
 DATED 5-24-11, AS RECORDED IN INSTRUMENT #2012S-0043, LIVINGSTON
 COUNTY RECORDS:

DESCRIPTION OF PARCEL 4711-26-300-011, AS SURVEYED:
 PART OF THE SOUTHWEST 1/4 OF SECTION 26, T2N-R5E, GENOA TOWNSHIP, LIVINGSTON COUNTY,
 MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF
 SECTION 26, SAID POINT ALSO BEING THE SOUTHEAST CORNER OF SECTION 27; THENCE ALONG THE
 WEST LINE OF SECTION 26, ALSO BEING THE EAST LINE OF SECTION 27, N 02°34'25" W, 1334.04
 FEET (RECORDED AS N 02°33'50" W, 1334.08 FEET); THENCE ALONG THE NORTH LINE OF THE SOUTH
 1/2 OF THE SOUTHWEST 1/4 OF SECTION 26, AS SURVEYED AND MONUMENTED, N 87°10'05" E,
 330.78 FEET (RECORDED AS N 87°26'10" E, 326.51 FEET); THENCE ALONG THE EAST LINE OF THE
 WEST 10 ACRES OF THE SOUTHWEST 1/4 OF SECTION 26, AS SURVEYED AND MONUMENTED, S 02°36'30" E,
 1335.65 FEET (RECORDED AS S 02°31'47" E, 1334.09 FEET); THENCE ALONG THE CENTERLINE OF
 BRIGHTON ROAD (66 FOOT WIDE RIGHT OF WAY) AND THE SOUTH LINE OF SECTION 27, S 87°19'30"
 W, 334.70 FEET (RECORDED AS 334.72 FEET); THENCE ALONG THE WEST LINE OF THE EAST 1/2 OF THE
 EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 27, AS SURVEYED, N 02°32'41" E, 1333.89 FEET
 (RECORDED AS N 02°32'14" W, 1333.91 FEET); THENCE ALONG THE NORTH LINE OF THE SOUTH 1/2 OF
 THE SOUTHWEST 1/4 OF SECTION 27, AS SURVEYED, N 87°17'41" E, 334.03 FEET (RECORDED AS
 N 87°17'45" W, 334.10 FEET); THENCE ALONG THE EAST LINE OF SECTION 27, ALSO BEING THE WEST
 LINE OF SECTION 26, S 02°34'25" E, 1334.04 FEET (RECORDED AS S 02°33'50" E, 1334.08 FEET), TO
 THE POINT OF BEGINNING, CONTAINING 10.15 ACRES, MORE OR LESS AND SUBJECT TO THE RIGHTS
 OF THE PUBLIC OVER THE EXISTING BRIGHTON ROAD. ALSO SUBJECT TO ANY OTHER EASEMENTS OR
 RESTRICTIONS OF RECORD.

DESCRIPTION OF PARCEL 4711-27-400-012, AS SURVEYED:
 PART OF THE SOUTHWEST 1/4 OF SECTION 27, T2N-R5E, GENOA TOWNSHIP, LIVINGSTON COUNTY,
 MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF
 SECTION 27, SAID POINT ALSO BEING THE SOUTHWEST CORNER OF SECTION 26; THENCE ALONG THE
 CENTERLINE OF BRIGHTON ROAD (66 FOOT WIDE RIGHT OF WAY) AND THE SOUTH LINE OF SECTION
 27, S 87°19'30" W, 334.70 FEET (RECORDED AS 334.72 FEET); THENCE ALONG THE WEST LINE OF
 THE EAST 1/2 OF THE EAST 1/2 OF THE SOUTHWEST 1/4 OF SECTION 27, AS SURVEYED, N 02°32'41"
 E, 1333.89 FEET (RECORDED AS N 02°32'14" W, 1333.91 FEET); THENCE ALONG THE NORTH LINE OF
 THE SOUTH 1/2 OF THE SOUTHWEST 1/4 OF SECTION 27, AS SURVEYED, N 87°17'41" E, 334.03 FEET
 (RECORDED AS N 87°17'45" W, 334.10 FEET); THENCE ALONG THE EAST LINE OF SECTION 27, ALSO
 BEING THE WEST LINE OF SECTION 26, S 02°34'25" E, 1334.04 FEET (RECORDED AS S 02°33'50" E,
 1334.08 FEET), TO THE POINT OF BEGINNING, CONTAINING 10.24 ACRES, MORE OR LESS AND
 SUBJECT TO THE RIGHTS OF THE PUBLIC OVER THE EXISTING BRIGHTON ROAD. ALSO SUBJECT TO ANY
 OTHER EASEMENTS OR RESTRICTIONS OF RECORD.

TRAFFIC STATEMENT

USE INSTITUTE OF TRANSPORTATION ENGINEERS TRIP GENERATION MANUAL
 - 10TH EDITION CODE NUMBER 210 (SINGLE-FAMILY DETACHED HOUSING).
 THE SITE CONTAINS 7 DWELLING UNITS.

FOR SINGLE-FAMILY DETACHED HOUSING:

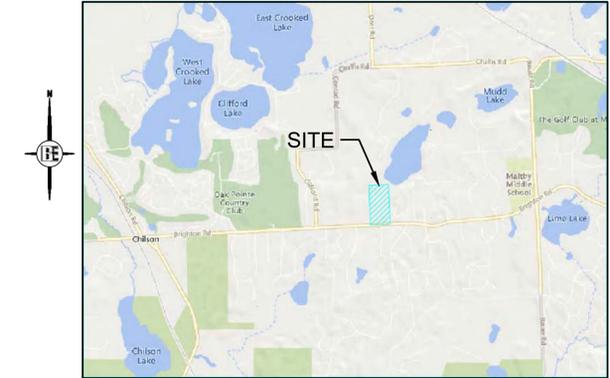
WEEKDAY = 9.44 TRIPS / DWELLING UNIT X 7 HOMES = 66.08 TRIPS
 AM PEAK = 0.74 TRIPS / DWELLING UNIT X 7 HOMES = 5.18 TRIPS
 PM PEAK = 0.99 TRIPS / DWELLING UNIT X 7 HOMES = 6.93 TRIPS

CONCLUSION:

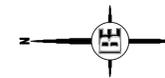
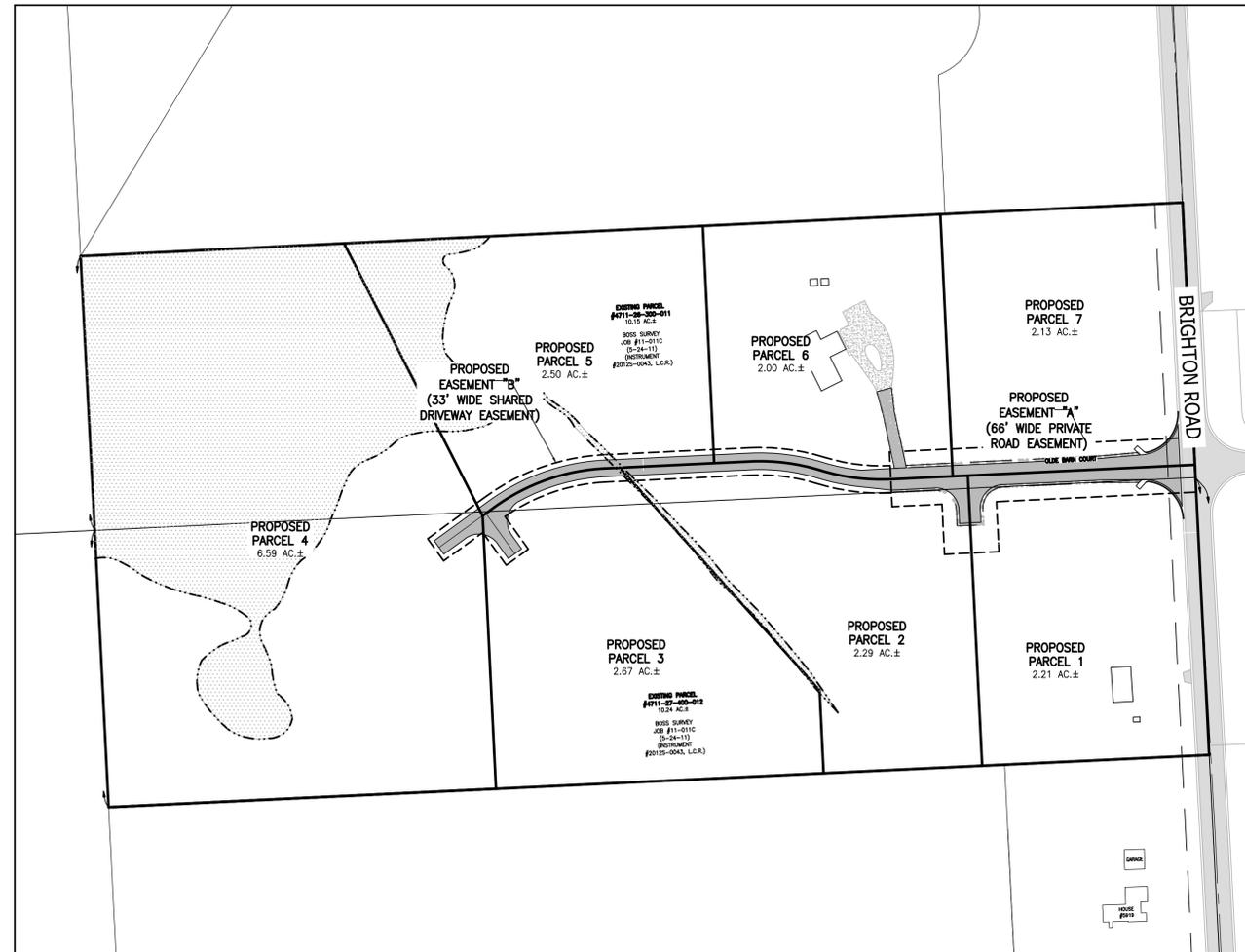
THE NUMBER OF TRIPS GENERATED FOR THIS SITE WILL HAVE A NEGLIGIBLE
 IMPACT ON THE BRIGHTON ROAD TRAFFIC DAILY AND IN THE AM & PM
 PEAK HOURS.

SITE PLAN / CONSTRUCTION PLANS FOR THE FARM

A RESIDENTIAL DEVELOPMENT PART OF S.W. 1/4 SECTION 26 & S.E. 1/4 SECTION 27, T.2N., R.5E. GENOA TOWNSHIP, LIVINGSTON COUNTY, MI



LOCATION MAP
 NO SCALE



OVERALL SITE MAP

NO SCALE

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER
2	GENERAL NOTES & LEGEND
3A	EXISTING CONDITIONS & DEMOLITION PLAN
3B	TREE INVENTORY & WETLAND DELINEATION PLAN
4	SITE PLAN
5	WELL & SEPTIC PLAN
6	ROAD PLAN & PROFILE
7A	DRAINAGE & GRADING PLAN
7B	SOIL EROSION & SEDIMENTATION CONTROL PLAN
8	STORMWATER MANAGEMENT CALCS & DETAILS

PERMITS & APPROVALS

AGENCY	DATE SUBMITTED	DATE APPROVED
• GENOA TOWNSHIP	04/22/25	-
• BRIGHTON AREA FIRE AUTHORITY	05/27/25	-
• LIVINGSTON COUNTY HEALTH DEPARTMENT	-	-
• LIVINGSTON COUNTY ROAD COMMISSION	05/27/25	-
• LCDC SOIL EROSION & SEDIMENTATION CONTROL	-	-
• MDEGLE WETLAND	-	-

PREPARED FOR:

MR. KEVIN VAN KANNEL
 5300 OLD HICKORY
 BRIGHTON, MI 48116
 PHONE: 810-355-6300
 EMAIL: KVANKANNEL@UTECIT.COM

PREPARED BY:

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 HOWELL, MI 48843
 517.546.4836 FAX 517.548.1670
 CONTACT: BRENT LAVANWAY
 EMAIL: BRENTL@BOSSENG.COM



INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY,
 STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND
 LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO
 THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

NO	BY	CK	REVISION	DATE	JOB NO: 24-380
3	NL	BL	PER PLANNING COMMISSION COMMENTS	8/22/25	1
2	NL	BL	PER B.A.F.A., L.C.R.C., & TWP ENG REVIEW	7/22/25	
1	NL	BL	PER INITIAL TWP REVIEW	5/20/25	
ISSUE DATE: 4/21/25					

GENERAL NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
- A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
- IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
- ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
- PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
- ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS. WHERE EXISTING CONDITIONS AND/OR THE REQUIREMENTS OF THE PLANS WILL RESULT IN FINISHED CONDITIONS THAT DO NOT MEET ADA REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PRIOR TO WORK COMMENCING.
- ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON PRIOR TO BEGINNING CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
- THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
- THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
- THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
- ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
- THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
- NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
- DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
- IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
- NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
- TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
- ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
- ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ITEMS REQUIRED FOR CONSTRUCTION OF THE PROJECT ARE INCLUDED IN THE CONTRACT. ANY ITEMS NOT SPECIFICALLY DESIGNATED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
- THE CONTRACTOR IS RESPONSIBLE FOR HAVING A SET OF APPROVED CONSTRUCTION PLANS, WITH THE LATEST REVISION DATE, ON SITE PRIOR TO THE START OF CONSTRUCTION; IN THE EVENT OF ANY QUESTIONS PERTAINING TO THE INTENT OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER FOR A FINAL DETERMINATION FROM THE DESIGN ENGINEER.
- THE CONTRACTOR, NOT THE OWNER OR THE ENGINEER, ARE RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SAFE EXECUTION OF THE PROJECT SCOPE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS.
- THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING CONSTRUCTION STAKING AS NECESSARY. CONTRACTOR TO NOTIFY CONSTRUCTION SURVEYOR OF REPLACEMENT STAKES NEEDED WHICH SHALL BE AT THE CONTRACTORS EXPENSE.
- THE OWNER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FRANCHISE UTILITY SERVICES (CABLE, ELECTRIC, GAS, ETC.) OWNER AND/OR CONTRACTOR SHALL WORK WITH UTILITY COMPANIES ON FURNISHING SITE UTILITY LAYOUTS AND PROVIDING CONDUIT CROSSINGS AS REQUIRED.
- DAMAGE TO ANY EXISTING UTILITIES OR INFRASTRUCTURE (INCLUDING PAVEMENT, CURB, SIDEWALK, ETC.) SHALL PROMPTLY BE REPLACED IN KIND AND SHALL BE AT THE CONTRACTORS EXPENSE.
- COORDINATION OF TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PER ALL CITY/TOWNSHIP/COUNTY REQUIREMENTS. COPIES OF ALL TEST REPORTS SHALL BE FURNISHED TO THE DESIGN ENGINEER.
- PRIOR TO THE START OF CONSTRUCTION, PROTECTION FENCING SHALL BE ERECTED AROUND THE TREE DRIPLINE OF ANY TREES INDICATED TO BE SAVED WITHIN THE LIMITS OF DISTURBANCE.
- THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF THE PROJECT AREA AND ADJACENT AREAS. WHERE EXISTING DRAINAGE FACILITIES ARE IMPACTED/DISTURBED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TEMPORARY DRAINAGE PROVISIONS.
- SOIL BORING LOGS ARE REPRESENTATIVE OF SPECIFIC POINTS ON THE PROJECT SITE, AND IF PROVIDED TO THE CONTRACTOR ARE FOR INFORMATIONAL PURPOSES ONLY.
- WHERE CITY/TOWNSHIP STANDARD CONSTRUCTION DETAILS/SPECIFICATIONS ARE PROVIDED AND ARE IN CONFLICT WITH NOTES AND SPECIFICATIONS HEREIN, THE CITY/TOWNSHIP STANDARD SHALL GOVERN.

INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE, AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

CONTRACTOR TO FOLLOW MANUFACTURER SPECS/RECOMMENDATIONS THAT SUPERCEDE PLANS

GENERAL GRADING & SESC NOTES

- THE CONTRACTOR SHALL HAVE IN PLACE ALL REQUIRED EROSION CONTROL METHODS AS INDICATED ON THE CONSTRUCTION PLANS AND AS REQUIRED BY GENERAL PRACTICE. SPECIFIC MEANS, METHODS AND SEQUENCES OF CONSTRUCTION MAY DICTATE ADDITIONAL SOIL EROSION CONTROL MEASURES BE NEEDED. THE CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER ON THESE ANTICIPATED METHODS. ADDITIONAL SOIL EROSION CONTROL METHODS SHALL BE INCIDENTAL TO THE SCOPE OF WORK.
- ACTUAL FIELD CONDITIONS MAY DICTATE ADDITIONAL OR ALTERNATE SOIL EROSION CONTROL MEASURES BE UTILIZED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DEFICIENCIES OR FIELD CONDITIONS THAT WARRANT ADDITIONAL AND/OR ALTERNATIVE SESC MEASURES BE UTILIZED.
- AT THE CLOSE OF EACH DAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL CONSTRUCTION OPERATIONS, MATERIALS, DEBRIS, ETC ARE CONTAINED ON-SITE.
- AT THE CLOSE OF EACH WORKING DAY, ALL DRAINAGE STRUCTURES SHALL BE FREE OF DIRT AND DEBRIS AT THE FLOW LINE.
- ALL SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE PER MDEGLE REGULATIONS AND BEST PRACTICES. ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR.
- THE SOIL EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE UNTIL SUCH A TIME THAT THE SITE IS DETERMINED TO BE ESTABLISHED WITH ACCEPTABLE AMOUNT OF VEGETATIVE GROUND COVER.
- ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODDED OR SEEDED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
- AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
- ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
- ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS.
- ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDOT CLASS II).

GENERAL LANDSCAPE NOTES

- ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY. ALL STOCK SHALL BE NURSERY GROWN, CONFORMING TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK", AND IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. STOCK SHALL EXHIBIT NORMAL GROWTH HABIT AND BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, & DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
 - ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT, AND SECURELY WRAPPED AND BOUND.
 - ALL PLANT BED MATERIALS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEIOUS OBJECTS, AND POOR SOILS TO A MINIMUM DEPTH OF 12-INCHES AND BACKFILLED TO GRADE WITH SPECIFIED PLANTING MIX (SEE BELOW).
 - PLANTING MIXTURE SHALL CONSIST OF 5 PARTS TOPSOIL FROM ON-SITE (AS APPROVED), 4 PARTS COARSE SAND, 1 PART SPHAGNUM PEAT MOSS (OR APPROVED COMPOST), AND 5 LBS OF SUPERPHOSPHATE FERTILIZER PER CU. YD. OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED FOR UNIFORM CONSISTENCY.
 - ALL PLANT BEDS AND INDIVIDUAL PLANTS, NOT OTHERWISE NOTED SHALL BE MULCHED WITH A 4-INCH LAYER OF SHREDDED BARK MULCH. EDGE OF MULCH BEDS AS SHOWN. DECIDUOUS TREES IN LAWN AREAS SHALL RECEIVE A 5-FT DIAMETER CIRCLE OF MULCH AND CONIFER TREES 8-FT (PLANTED CROWN OF TREE) UNLESS OTHERWISE NOTED.
 - LANDSCAPE STONE SHALL BE INSTALLED WHERE NOTED OR INDICATED (HATCHED). STONE SHALL BE 3/4"-1-1/4" WASHED RIVER GRAVEL OR AS SELECTED AND SHALL BE INSTALLED TO A MINIMUM DEPTH OF 3-INCHES.
 - ALL LANDSCAPE BEDS, UNLESS OTHERWISE NOTED SHALL BE INSTALLED OVER WEED BARRIER FABRIC - WATER PERMEABLE FILTRATION FABRIC OF NON-WOVEN POLYPROPYLENE OR POLYESTER FABRIC. FABRIC SHALL BE OF SUITABLE THICKNESS FOR APPLICATION.
 - ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
 - THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD OF TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT, DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL SPECIFICATIONS.
 - EDGING SHALL BE PROVIDED FOR ALL LANDSCAPE BEDS NOT ADJACENT TO CONCRETE PAVEMENT. EDGING SHALL BE BLACK ALUMINUM EDGING, 3/16-INCH X 4-INCH. INSTALL PER MANUFACTURER'S INSTRUCTIONS, ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
 - SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUE GRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4-INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10-INCHES BY 18-INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36-HOURS AFTER CUTTING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN-OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.

SEED MIXTURE SHALL BE AS FOLLOWS:
 KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES - ADLPHI, RUGBY, GLADE, OR PARADE) 30%
 RUBY RED OR DAWSON RED FINE FESCUE 30%
 ATLANTA RED FESCUE 20%
 PENNINE PERENNIAL RYE 20%

THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:
 10% NITROGEN - MIN 25% FROM A UREA FORMALDEHYDE SOURCE
 0 % PHOSPHATE
 10% POTASH - SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE

THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 LBS PER 1000 SQ FT OF BULK FERTILIZER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RE-SEEDED AND SUCH RE-SEEDING SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDED AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.

- ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SODDING SHALL FIRST RECEIVE A 6-INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THE SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES AND TO INFORM THE LANDSCAPE ARCHITECT OF ANY CONFLICTS PRIOR TO COMMENCING LANDSCAPING.

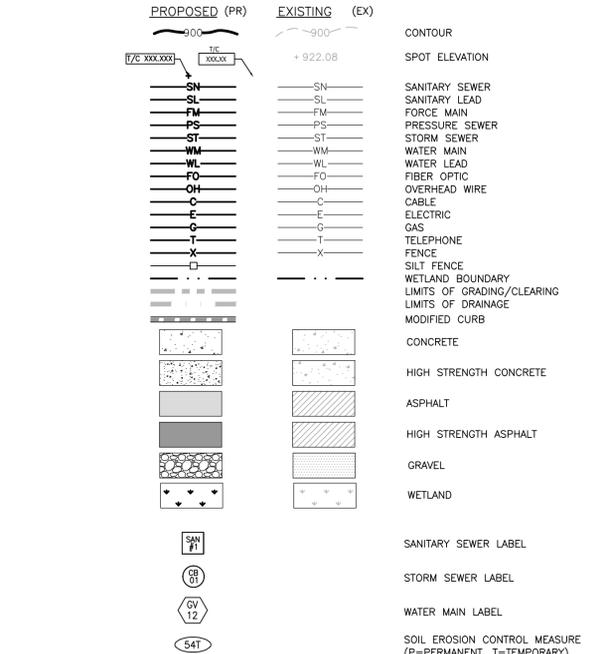
GENERAL UTILITY NOTES

- BEDDING SHALL EXTEND A MINIMUM OF 4" BELOW THE PIPE, UNLESS OTHERWISE NOTED ON THE PLANS. BEDDING SHALL BE OF UNIFORM GRADATION MDOT 6A4 STONE OR MDOT CLASS II GRANULAR MATERIAL FOR SANITARY AND STORM PIPE AND MDOT CLASS II GRANULAR MATERIAL ONLY FOR WATERMAIN.
- WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER.
- BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND ROCKS.
- BACKFILL ABOVE THE PIPE SHALL BE OF GRANULAR MATERIAL MDOT CLASS II TO A POINT 12" ABOVE THE TOP OF THE PIPE WHERE THE TRENCH IS NOT WITHIN THE INFLUENCE OF THE ROAD. SUITABLE SITE MATERIAL MAY BE COMPACTED AND UTILIZED FROM A POINT 12" ABOVE THE PIPE TO GRADE. WHERE THE TRENCH IS WITHIN A 1:1 INFLUENCE OF THE ROAD, GRANULAR MATERIAL, MDOT CLASS II OR III, IS TO BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 12" IN THICKNESS. COMPACTION SHALL BE 95% AS DETERMINED BY AASHTO T99.
- 18" MINIMUM VERTICAL SEPARATION AND 10" HORIZONTAL SEPARATION IS TO BE MAINTAINED BETWEEN WATERMAIN AND SANITARY/STORM SEWER TO THE MAXIMUM EXTENT POSSIBLE.

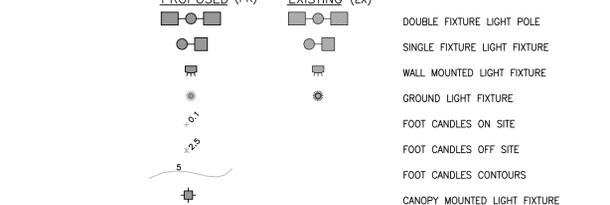
GENERAL STORM NOTES

- ALL STORM PIPE LENGTHS ARE SHOWN FROM C/L TO C/L OF STRUCTURE OR FROM C/L OF STRUCTURE TO DISCHARGE END OF FLARED END SECTION.
- STORM PIPE MATERIALS SHALL BE AS FOLLOWS:
 2.1. RCP(REINFORCED CONCRETE PIPE); SHALL MEET THE REQUIREMENTS OF ASTM C76 WITH MODIFIED GROOVED TONGUE AND RUBBER GASKETS MEETING THE REQUIREMENTS OF ASTM C443. RCP TO BE EITHER CLASS IV OR V AS CALLED OUT ON THE PLANS.
 2.2. HDPE(HIGH DENSITY POLYETHYLENE); SHALL MEET THE REQUIREMENTS OF ASTM F2648.
 2.3. PP(POLYPROPYLENE); SHALL MEET THE REQUIREMENTS OF ASTM F2881.
 2.4. PVC(POLYVINYL CHLORIDE); SHALL MEET THE REQUIREMENTS OF ASTM D3034.
- STORM PIPE JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212. HDPE AND PP PIPE GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477.
- ALL STORM PIPE TO HAVE WATERTIGHT PREMIUM JOINTS, UNLESS OTHERWISE NOTED ON THE PLANS.
- STORM DRAINAGE STRUCTURES SHALL BE FURNISHED WITH STEPS WHICH SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR EQUIVALENT. STEPS SHALL BE SET AT 16" CENTER TO CENTER.
- ALL FLARED END SECTIONS 15" AND LARGER SHALL BE FURNISHED WITH AN ANIMAL GRATE.
- FLARED END SECTIONS DISCHARGING STORM WATER SHALL RECEIVE A MINIMUM OF 10 SQ YDS OF PLAIN ANGULAR RIP RAP WITH A MINIMUM STONE SIZE OF 6" AND SHALL BE PLACED ON A GEOTEXTILE FABRIC WRAP.
- ALL CATCH BASINS WITHIN THE ROADWAY SHALL INCLUDE INSTALLATION OF 6" DIAMETER PERFORATED PIPE SUBDRAIN.
- STORM DRAINAGE STRUCTURE COVERS SHALL BE OF THE FOLLOWING (OR APPROVED EQUAL):
 COVER USE FRAME GRADE/BACK TYPE 'B' MANHOLE 1040 TYPE 'B' TYPE 'B2 CURB 7085 TYPE 'M1' VALLEY CURB 7065 7045 TYPE 'M1' GRATE/7060 TYPE 'T1' BACK 'D' PARKING LOTS 1040/5100 TYPE 'M1' GRATE OR 5105 TYPE 'M1' GRATE 'E' LAWN 1040 TYPE 'O2' GRATE 'K' TYPE C & F CURB 7045 TYPE 'M1' GRATE/7050 TYPE 'T1' BACK
- THE PROPOSED DRAINAGE SYSTEM IS TO BE OWNED AND PROPERLY MAINTAINED BY THE PROPERTY OWNER.

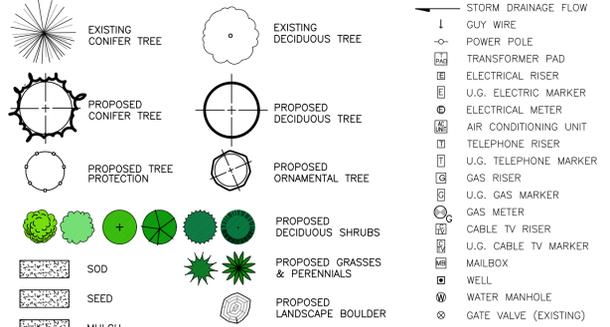
LINES & HATCHES LEGEND



LIGHTING LEGEND



LANDSCAPE LEGEND



ABBREVIATIONS

FFE	FINISHED FLOOR ELEVATION
BFE	BASEMENT FLOOR ELEVATION
GFE	GARAGE FLOOR ELEVATION
FG	FINISHED GRADE
T/A	TOP OF ASPHALT
T/C	TOP OF CURB
T/CO	TOP OF CONCRETE
T/W	TOP OF WALK
T/P	TOP OF PIPE
B/P	BOTTOM OF PIPE
F/L	FLOW LINE
RIM	RIM ELEVATION (AT FLOW LINE)
INV	INVERT ELEVATION
MH	MANHOLE
CB	CATCH BASIN
RY	REAR YARD
YD	YARD DRAIN
RD	ROOF DRAIN
FES	FLARED END SECTION
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED PLASTIC PIPE
RCP	REINFORCED CONCRETE PIPE
HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPE
GV	GATE VALVE
GW	GATE VALVE IN WELL
GVB	GATE VALVE IN BOX
HYD	HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
UP	UTILITY POLE
NFV	NOT FIELD VERIFIED
TBR	TO BE REMOVED
L	LIBER
PAGE	PAGE
L.C.R.	LIVINGSTON COUNTY RECORDS
(M&R)	MEASURED AND RECORD
L.O.B.	POINT OF BEGINNING

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE PLANS.

BEFORE ANY WORK BEGINS, THE CONTRACTOR SHALL CALL MISS DIG AT 1-800-487-7171 TO LOCATE ALL UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE PLANS.

BEBOSS Engineering
 Engineers Surveyors Planners Landscape Architects
 3121 E. GRAND RIVER AVE.
 HOWELL, MI. 48843
 517.546.4836 FAX 517.548.1670

THE FARM
 PREPARED FOR
 MR. KEVIN VAN KANDEL
 5300 OLD HICKORY
 BRIGHTON, MI 48116
 (810) 355-6300

GENERAL NOTES & LEGEND

NO.	DATE	REVISION PER	TITLE
3	NL	PLANNING COMMISSION COMMENTS	8/22/25
2	NL	B.A.F.A., L.C.R.C. & TMP ENG REVIEW	7/22/25
1	NL	INITIAL TMP REVIEW	5/20/25
			NO BY

DESIGNED BY: NL
 DRAWN BY: NL
 CHECKED BY: BL
 SCALE: NO SCALE
 JOB NO: 24-380
 DATE: 4/21/25
 SHEET NO. 2

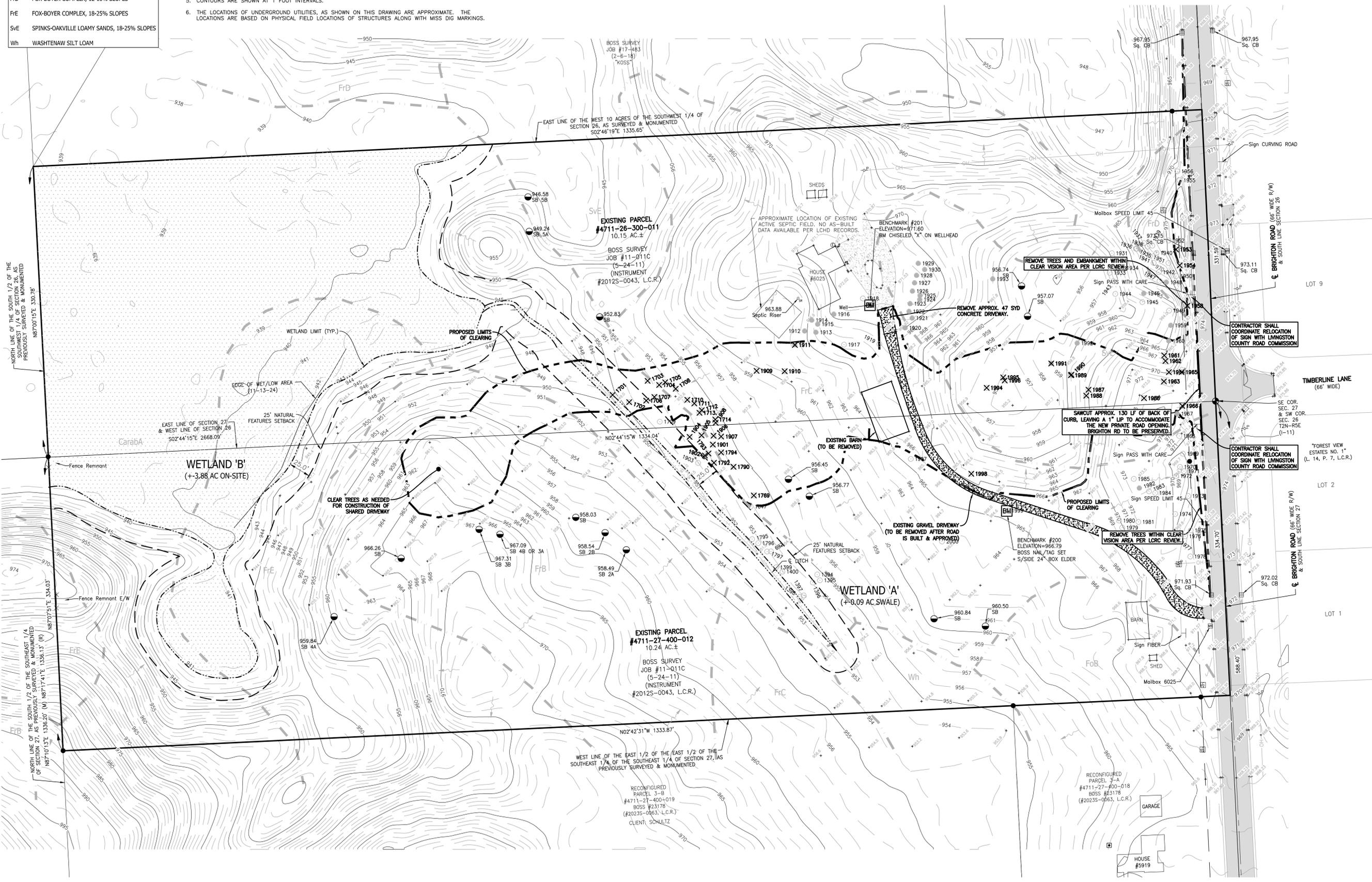
NRCS EXISTING SOILS DATA:

CarabA	CARLISLE MUCK, 0-2% SLOPES
FoB	FOX SANDY LOAM, 2-6% SLOPES
FrB	FOX-BOYER COMPLEX, 2-6% SLOPES
Frc	FOX-BOYER COMPLEX, 6-12% SLOPES
Frd	FOX-BOYER COMPLEX, 12-18% SLOPES
Ffe	FOX-BOYER COMPLEX, 18-25% SLOPES
Sve	SPINKS-OAKVILLE LOAMY SANDS, 18-25% SLOPES
Wh	WASHTENAW SILT LOAM

- GENERAL SURVEY NOTES:**
- BEARINGS ARE BASED ON MICHIGAN STATE PLANE COORDINATE SYSTEM, SOUTH ZONE. RECORD BEARINGS ARE FROM A PREVIOUS SURVEY BY BOSS ENGINEERING, JOB NO. 11-011C, DATED 5-24-11, AS RECORDED IN INSTRUMENT #2012S-0043 LIVINGSTON COUNTY RECORDS
 - SUBSURFACE UTILITIES NOT LOCATED FOR THIS SURVEY MAY EXIST. IT IS THE RESPONSIBILITY OF THE OWNER OF THE RESPECTIVE UTILITY TO ACCURATELY LOCATE SUCH UTILITIES.
 - EASEMENTS OR RESTRICTIONS OF RECORD NOT DEPICTED ON THIS DRAWING MAY EXIST.
 - ELEVATIONS WERE ESTABLISHED WITH GPS USING OPUS GPS POST-PROCESSING. (NAVD83 DATUM)
 - CONTOURS ARE SHOWN AT 1 FOOT INTERVALS.
 - THE LOCATIONS OF UNDERGROUND UTILITIES, AS SHOWN ON THIS DRAWING ARE APPROXIMATE. THE LOCATIONS ARE BASED ON PHYSICAL FIELD LOCATIONS OF STRUCTURES ALONG WITH MISS DIG MARKINGS.

NOTE:
SEE SHEET 3B FOR TREE INVENTORY
AND WETLAND DELINEATION INFORMATION.

SEE SHEET 2 FOR GENERAL
NOTES AND LEGEND



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ANY UTILITIES CROSSING IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ANY UTILITIES CROSSING IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ANY UTILITIES CROSSING IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF ANY UTILITIES CROSSING IN THE FIELD PRIOR TO CONSTRUCTION.

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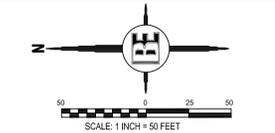
PROJECT	THE FARM		
PREPARED FOR	MR. KEVIN VAN KANNEL 5300 OLD HICKORY BRIGHTON, MI 48116 (810) 355-6300		
TITLE	EXISTING CONDITIONS & DEMOLITION PLAN		
DATE	4/21/25		
REVISION PER			
NO BY			
3	NL	PLANNING COMMENTS	8/22/25
2	NL	B.A.F.A., L.C.R.C. & TWP ENG REVIEW	7/22/25
1	NL	INITIAL TWP REVIEW	5/20/25
NO BY			
DESIGNED BY:	NL		
DRAWN BY:	NL		
CHECKED BY:	BL		
SCALE:	1" = 50'		
JOB NO:	24-380		
DATE:	4/21/25		
SHEET NO.	3A		



TREE INVENTORY LIST

Tree #	Botanical Name	Common Name	DBH	Type*	Other Data	Condition	Notes	Tree #	Botanical Name	Common Name	DBH	Type*	Other Data	Condition	Notes	Tree #	Botanical Name	Common Name	DBH	Type*	Other Data	Condition	Notes									
1901	Quercus velutina	Black Oak	22	Deciduous		Good		1935	Robinia pseudoacacia	Black Locust	8	Deciduous		Fair		1972	Prunus serotina	Black Cherry	9	Deciduous		Fair										
1902	Acer negundo	Boxelder	9	Deciduous		Fair		1937	Robinia pseudoacacia	Black Locust	13	Deciduous		Fair		1973	Acer negundo	Boxelder	16	Deciduous	14	Poor	Twin twisted	1994	Acer negundo	Boxelder	8	Deciduous	8	Fair	Twin	
1903	Acer negundo	Boxelder	10	Deciduous		Fair		1938	Robinia pseudoacacia	Black Locust	12.5	Deciduous		Fair		1974	Prunus serotina	Black Cherry	9	Deciduous		Fair		1995	Acer negundo	Boxelder	10	Deciduous	7	Fair	Multi stem	
1904	Quercus velutina	Black Oak	16	Deciduous		Poor	Severely leaning trunk	1939	Quercus velutina	Black Oak	8	Deciduous		Good		1975	Acer platanoides	Norway Maple	19	Deciduous	4	Fair	Good		1996	Acer negundo	Boxelder	13	Deciduous	8	Fair	Twin
1905	Prunus serotina	Black Cherry	17	Deciduous		Good		1940	Robinia pseudoacacia	Black Locust	13	Deciduous		Fair		1976	Acer platanoides	Norway Maple	9	Deciduous	7	Fair	Twin	1997	Prunus avium	Sweet Black Cherry	12	Deciduous		Fair	Twin	
1906	Quercus velutina	Black Oak	8	Deciduous		Good		1941	Quercus velutina	Black Oak	15	Deciduous		Fair		1977	Prunus avium	Sweet Black Cherry	12	Deciduous	7	Fair		1998	Acer negundo	Boxelder	9	Deciduous		Fair		
1907	Acer negundo	Boxelder	16	Deciduous	7	Poor	16-7.6 triple	1942	Acer platanoides	Norway Maple	7	Deciduous		Good		1978	Acer negundo	Boxelder	9	Deciduous		Fair		1999	Populus deltoides	Eastern Cottonwood	15	Deciduous		Fair		
1908	Quercus velutina	Black Oak	10	Deciduous		Good		1943	Robinia pseudoacacia	Black Locust	11	Deciduous		Fair		1979	Populus deltoides	Eastern Cottonwood	15	Deciduous		Fair		2000	Acer negundo	Boxelder	11	Deciduous		Fair		
1909	Acer rubrum	Red Maple	10	Deciduous		Good		1944	Robinia pseudoacacia	Black Locust	10.5	Deciduous		Fair		1980	Populus deltoides	Eastern Cottonwood	13	Deciduous		Fair	Possibly dead	1991	Prunus serotina	Black Cherry	20	Deciduous		Fair		
1910	Acer rubrum	Red Maple	10	Deciduous		Good		1945	Robinia pseudoacacia	Black Locust	8	Deciduous		Fair		1981	Populus deltoides	Eastern Cottonwood	13	Deciduous		Poor	Possibly dead	1992	Juniperus virginiana	Eastern Redcedar	10	Coniferous		Fair		
1911	Juniperus virginiana	Eastern Redcedar	18	Coniferous		Good		1946	Pinus strobus	Scotch Pine	15	Coniferous		Poor		1982	Juniperus virginiana	Eastern Redcedar	10	Coniferous		Fair		1993	Prunus serotina	Black Cherry	8	Deciduous		Fair		
1912	Picea glauca	White Spruce	10.5	Coniferous		Good		1947	Quercus velutina	Black Oak	8	Deciduous		Good		1983	Acer negundo	Boxelder	8	Deciduous		Fair		1994	Prunus serotina	Black Cherry	8	Deciduous		Fair		
1913	Picea glauca	White Spruce	19	Coniferous	10	Fair	Twin	1948	Pinus strobus	Eastern White Pine	13	Coniferous		Fair		1984	Acer negundo	Boxelder	8	Deciduous		Fair		1995	Populus deltoides	Eastern Cottonwood	9	Deciduous		Fair	Growing inside trailer	
1914	Picea glauca	White Spruce	11	Coniferous		Fair		1949	Pinus serotina	Black Cherry	12	Deciduous		Good		1985	Populus deltoides	Eastern Cottonwood	9	Deciduous		Fair		1996	Prunus serotina	Black Cherry	10	Deciduous	5	Poor	Twin dead branches	
1915	Picea glauca	White Spruce	11	Coniferous		Fair		1950	Acer platanoides	Norway Maple	8.5	Deciduous		Good		1986	Prunus serotina	Black Cherry	10	Deciduous		Good		1997	Prunus serotina	Black Cherry	10	Deciduous		Good		
1916	Juniperus virginiana	Eastern Redcedar	13	Coniferous		Good		1951	Prunus avium	Sweet Black Cherry	10	Deciduous		Good		1987	Prunus serotina	Black Cherry	10	Deciduous		Good		1998	Pinus strobus	Eastern White Pine	15	Coniferous		Fair		
1917	Prunus serotina	Black Cherry	28	Deciduous		Good		1952	Prunus avium	Sweet Black Cherry	10	Deciduous		Good		1988	Pinus strobus	Eastern White Pine	15	Coniferous		Fair		1999	Robinia pseudoacacia	Black Locust	8	Deciduous		Fair		
1918	Acer platanoides	Norway Maple	15	Deciduous		Good		1953	Quercus velutina	Black Oak	16	Deciduous		Good		1989	Robinia pseudoacacia	Black Locust	8	Deciduous		Fair		2000	Acer negundo	Boxelder	11	Deciduous		Fair		
1919	Acer saccharum	Sugar Maple	14	Deciduous		Good		1954	Quercus rubra	Red Oak	16	Deciduous		Good		1990	Robinia pseudoacacia	Black Locust	8	Deciduous		Fair										
1920	Picea glauca	White Spruce	11	Coniferous		Fair		1955	Quercus velutina	Black Oak	19	Deciduous		Good		1991	Pinus strobus	Eastern White Pine	16	Coniferous		Fair										
1921	Picea glauca	White Spruce	11	Coniferous		Fair		1956	Quercus velutina	Black Oak	21	Deciduous		Good		1992	Pinus strobus	Eastern White Pine	16	Coniferous		Fair										
1922	Picea glauca	White Spruce	12	Coniferous		Fair		1957	Quercus velutina	Black Oak	20	Deciduous		Good		1993	Pinus strobus	Eastern White Pine	16	Coniferous		Fair										
1923	Picea glauca	White Spruce	8	Coniferous		Fair		1958	Quercus velutina	Black Oak	20	Deciduous		Good		1994	Acer negundo	Boxelder	10	Deciduous	4	Fair										
1924	Pinus strobus	Eastern White Pine	18	Coniferous		Good		1959	Pinus strobus	Eastern White Pine	11	Coniferous		Fair		1995	Acer negundo	Boxelder	8	Deciduous	5	Poor										
1925	Pinus strobus	Eastern White Pine	18	Coniferous		Good		1960	Pinus strobus	Eastern White Pine	16	Coniferous		Fair		1996	Acer negundo	Boxelder	8	Deciduous	5	Poor										
1926	Picea glauca	White Spruce	11	Coniferous		Fair		1961	Quercus velutina	Black Oak	8	Deciduous		Good		1997	Acer negundo	Boxelder	34	Deciduous		Fair										
1927	Picea glauca	White Spruce	8	Coniferous		Fair		1962	Quercus velutina	Black Oak	16	Deciduous		Good		1998	Acer negundo	Boxelder	16	Deciduous		Fair										
1928	Picea glauca	White Spruce	14	Coniferous		Fair		1963	Quercus velutina	Black Oak	16	Deciduous		Good		1999	Acer negundo	Boxelder	23	Deciduous		Fair										
1929	Picea glauca	White Spruce	12	Coniferous		Fair		1964	Quercus velutina	Black Oak	16	Deciduous		Good		2000	Acer negundo	Boxelder	11	Deciduous		Fair										
1930	Juniperus virginiana	Eastern Redcedar	15	Coniferous		Fair		1965	Quercus velutina	Black Oak	16	Deciduous		Good																		
1931	Robinia pseudoacacia	Black Locust	8	Deciduous		Good		1966	Quercus velutina	Black Oak	16	Deciduous		Good																		
1932	Robinia pseudoacacia	Black Locust	10	Deciduous		Fair		1967	Quercus velutina	Black Oak	16	Deciduous		Good																		
1933	Robinia pseudoacacia	Black Locust	9	Deciduous		Fair		1968	Quercus velutina	Black Oak	16	Deciduous		Good																		
1934	Robinia pseudoacacia	Black Locust	9	Deciduous		Fair		1969	Quercus velutina	Black Oak	16	Deciduous		Good																		
1935	Robinia pseudoacacia	Black Locust	10	Deciduous	10	Fair	Twin	1970	Quercus velutina	Black Oak	16	Deciduous		Good																		
								1971	Quercus velutina	Black Oak	9.5	Deciduous		Fair																		

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



WETLAND DELINEATION
 A WETLAND DELINEATION WAS CONDUCTED ON 5-12-25 IN ACCORDANCE WITH THE 1987 USACE WETLAND DELINEATION MANUAL AND THE REGIONAL SUPPLEMENT FOR THE MIDWEST REGION AUGUST 2010 AND/OR THE REGIONAL SUPPLEMENT FOR THE NORTHCENTRAL AND NORTHEAST REGION JANUARY 2012.

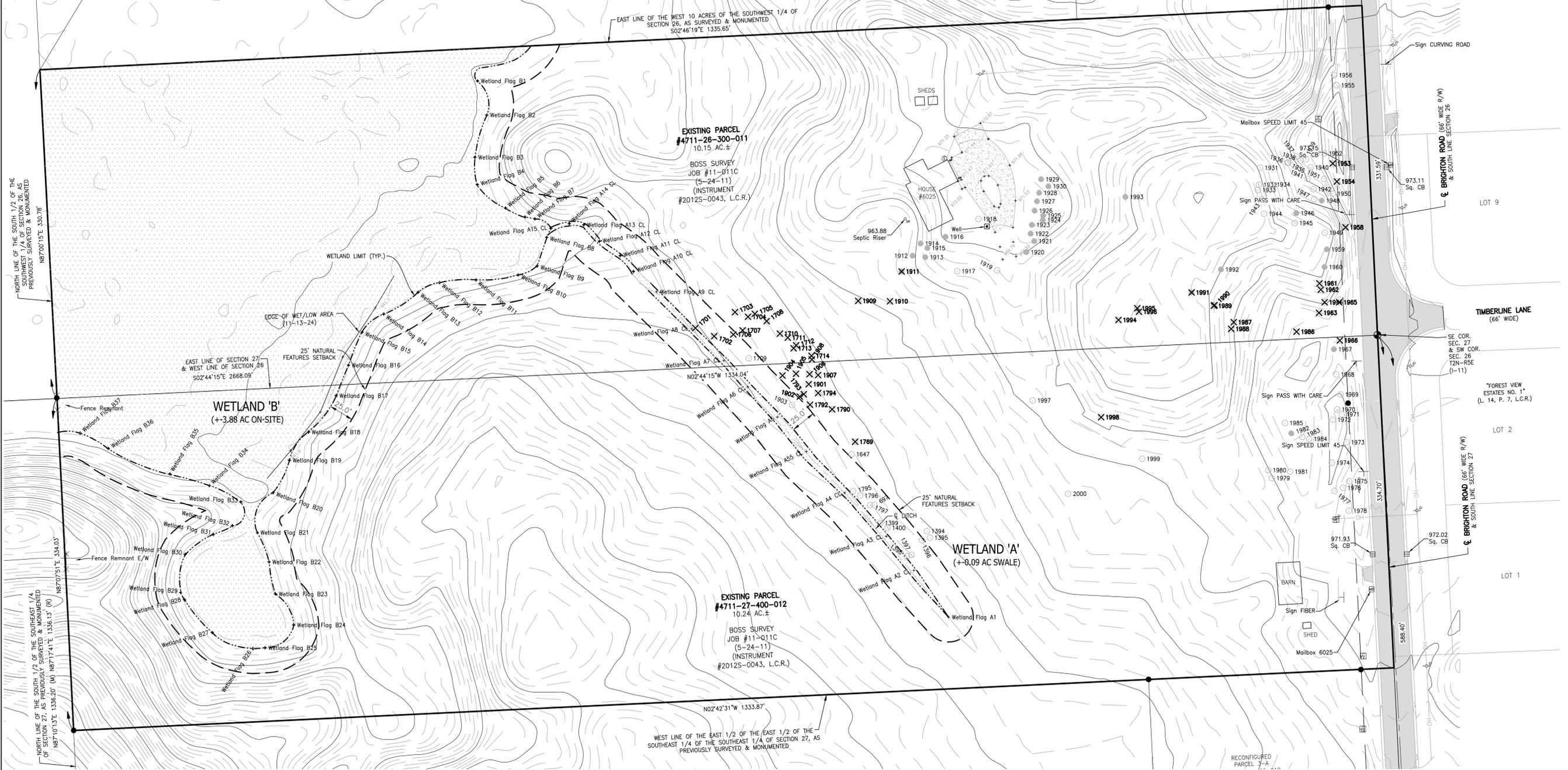
REFERENCES UTILIZED INCLUDED: NATIONAL WETLAND INVENTORY (NWI) MAP, USDA NRCS WEB SOIL SURVEY, COUNTY SOIL SURVEY, AND THE USACE NATIONAL WETLAND PLANT LIST 2022 - NORTHCENTRAL & NORTHEAST REGION AND/OR THE USACE NATIONAL WETLAND PLANT LIST 2022 - MIDWEST REGION.

A ROUTINE METHODOLOGY WAS USED. WETLAND TRANSECTS, USACE REGIONAL WETLAND DATA SHEETS (OMB 2024) WERE COMPLETED AND BOUNDARY SURVEYED AS PART OF THE OVERALL INVESTIGATION.

THIS DELINEATION WAS COMPLETED BASED ON OUR EXPERIENCE AND QUALIFICATIONS. IT REPRESENTS OUR BEST JUDGMENT AS EXPERIENCED AND QUALIFIED PROFESSIONALS. IT SHOULD BE RECOGNIZED THAT THE ULTIMATE DETERMINATION AUTHORITY IS THE MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY (EGLE) AND/OR THE U.S. ARMY CORPS OF ENGINEERS (USACE).

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACTED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE APPLICANT OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

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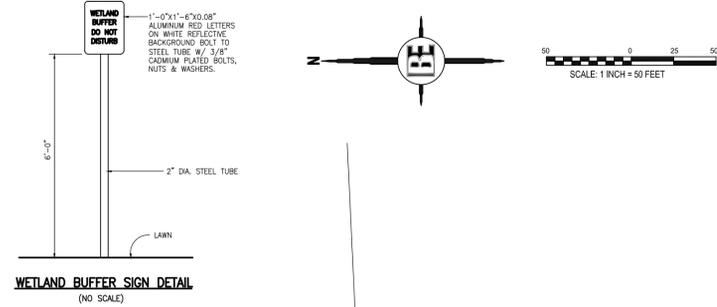
THE FARM
 PROJECT: TREE INVENTORY & WETLAND DELINEATION PLAN
 PREPARED FOR: MR. KEVIN VAN KANDEL
 5300 OLD HOCKORY, BRIGHTON, MI 48116 (810) 355-6300
 DATE: 5/20/25
 DESIGNED BY: PC
 DRAWN BY: PC
 CHECKED BY:
 SCALE: 1" = 50'
 JOB NO: 24-380
 DATE: 4/21/25
 SHEET NO. 3B

SITE DATA	
PARCEL #4711-26-300-011, 10.15 AC ± & PARCEL #4711-27-400-012, 10.24 AC ± GENOA TOWNSHIP, LIVINGSTON COUNTY USE: RESIDENTIAL ZONING: LDR (LOW DENSITY RESIDENTIAL)	
MIN. LOT AREA	REQUIRED 43,560 SF (1 AC)
MIN. LOT WIDTH	150 FT (AT STREET)
SETBACKS	
FRONT	50 FT
SIDE	30 FT
REAR	60 FT
NATURAL FEATURES	25 FT
MAX. LOT COVERAGE	
BUILDING	N/A
BUILDING HEIGHT	
	35' - 2 STORIES

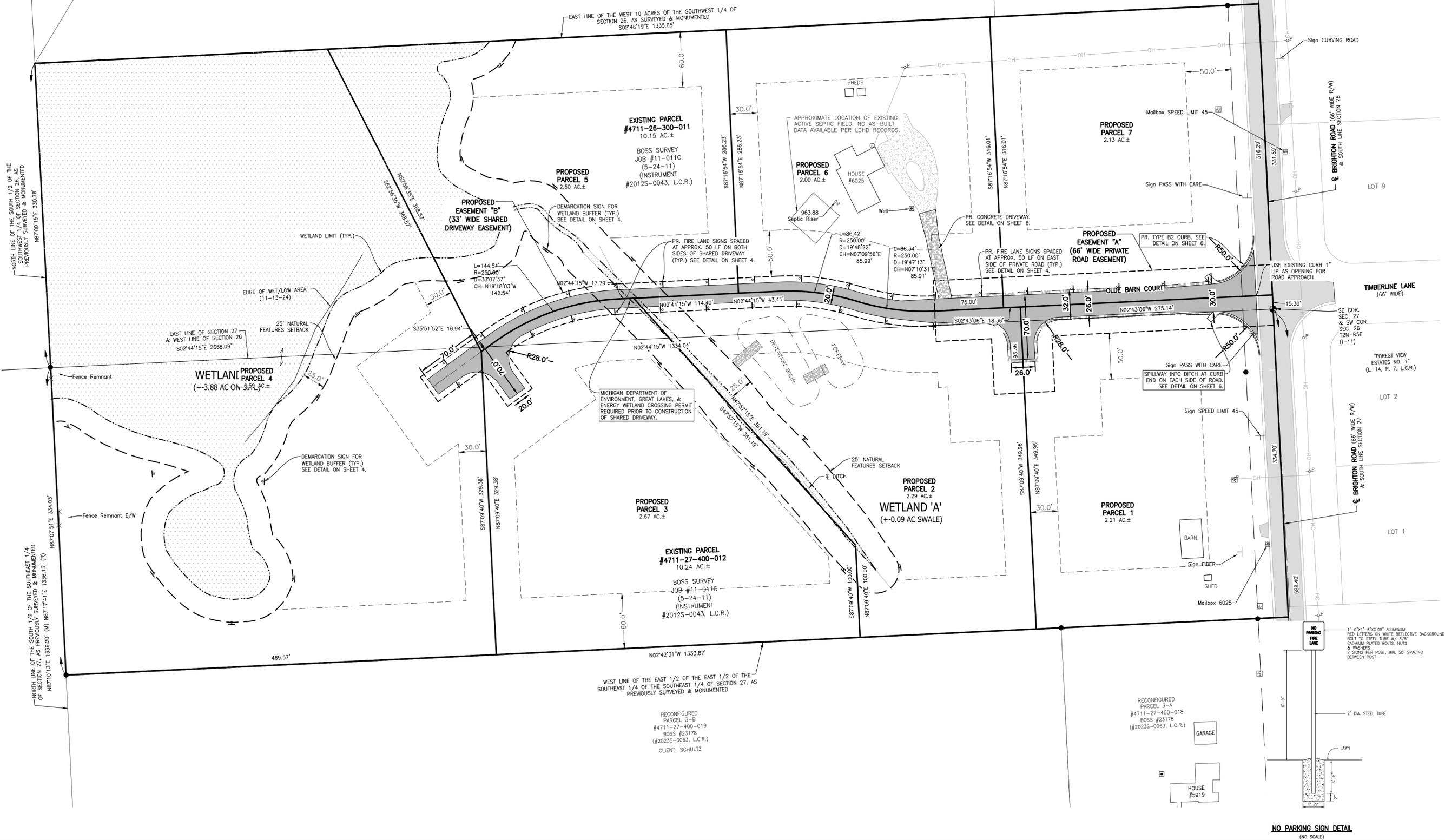
PROPOSED PARCEL DATA	
PARCEL 1	96,280 SF (2.21 AC)
PARCEL 2	99,576 SF (2.29 AC)
PARCEL 3	116,275 SF (2.67 AC)
PARCEL 4	287,142 SF (6.59 AC)
PARCEL 5	108,917 SF (2.50 AC)
PARCEL 6	87,126 SF (2.00 AC)
PARCEL 7	92,789 SF (2.13 AC)

- SITE PLAN NOTES:**
- NO PARKING SHALL BE PERMITTED ON THE ROAD.
 - BUILDING ADDRESSES SHALL BE MINIMUM 4" HIGH IN CONTRASTING COLORS TO THE BUILDING MATERIALS AND VISIBLE FROM THE STREET. THE LOCATION AND SIZE SHALL BE VERIFIED PRIOR TO INSTALLATION.
 - A SIGN WITH MINIMUM 4" HIGH NUMBERS SHALL BE LOCATED AT THE ENTRANCE OF THE SHARED DRIVEWAY INDICATING THE ADDRESSES LOCATED AT THE DEAD END. THE SIGN SHALL MEET THE TOWNSHIP AND/OR ROAD COMMISSION SIGN REQUIREMENTS.
 - STOP SIGN AND STREET SIGN TO BE IN ACCORDANCE WITH THE MICHIGAN UNIFORM TRAFFIC CONTROL DEVICES AND CONFORM TO THE ROAD COMMISSION REQUIREMENTS.
 - ACCESS ROADS TO THE SITE SHALL BE PROVIDED AND MAINTAINED DURING CONSTRUCTION. THE PRIVATE ROAD & ANY ACCESS ROADS SHALL BE CAPABLE OF SUPPORTING A FIRE APPARATUS LOAD OF AT LEAST 84,000 POUNDS.
 - A MINIMUM VERTICAL CLEARANCE OF 15.0 FEET SHALL BE MAINTAINED ALONG THE LENGTH OF ALL APPARATUS ACCESS ROADS.
 - THE PRIVATE ROAD, SHARED DRIVEWAY, AND INFRASTRUCTURE ARE PROPOSED TO BE BUILT IN A SINGLE PHASE.

PARCELS 1, 6, & 7 SHALL HAVE DRIVEWAY ACCESS FROM THE PRIVATE ROAD. PARCELS 2-5 SHALL HAVE DRIVEWAY ACCESS FROM THE SHARED DRIVEWAY. DRIVEWAYS FOR PARCELS 3 & 4 SHALL CONNECT AT THE ENDS OF THE HAMMERHEAD TURNAROUND.



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE APPROPRIATE PARTY OR PARTY OF RECORD SHALL BE CONTACTED TO OBTAIN THE LOCATION OR DEPTH DATA FROM THE PLANS.

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THE FARM
PREPARED FOR
MR. KEVIN VAN KANDEL
5300 OLD HICKORY
BRIGHTON, MI 48116
(810) 355-6300

TITLE
SITE PLAN

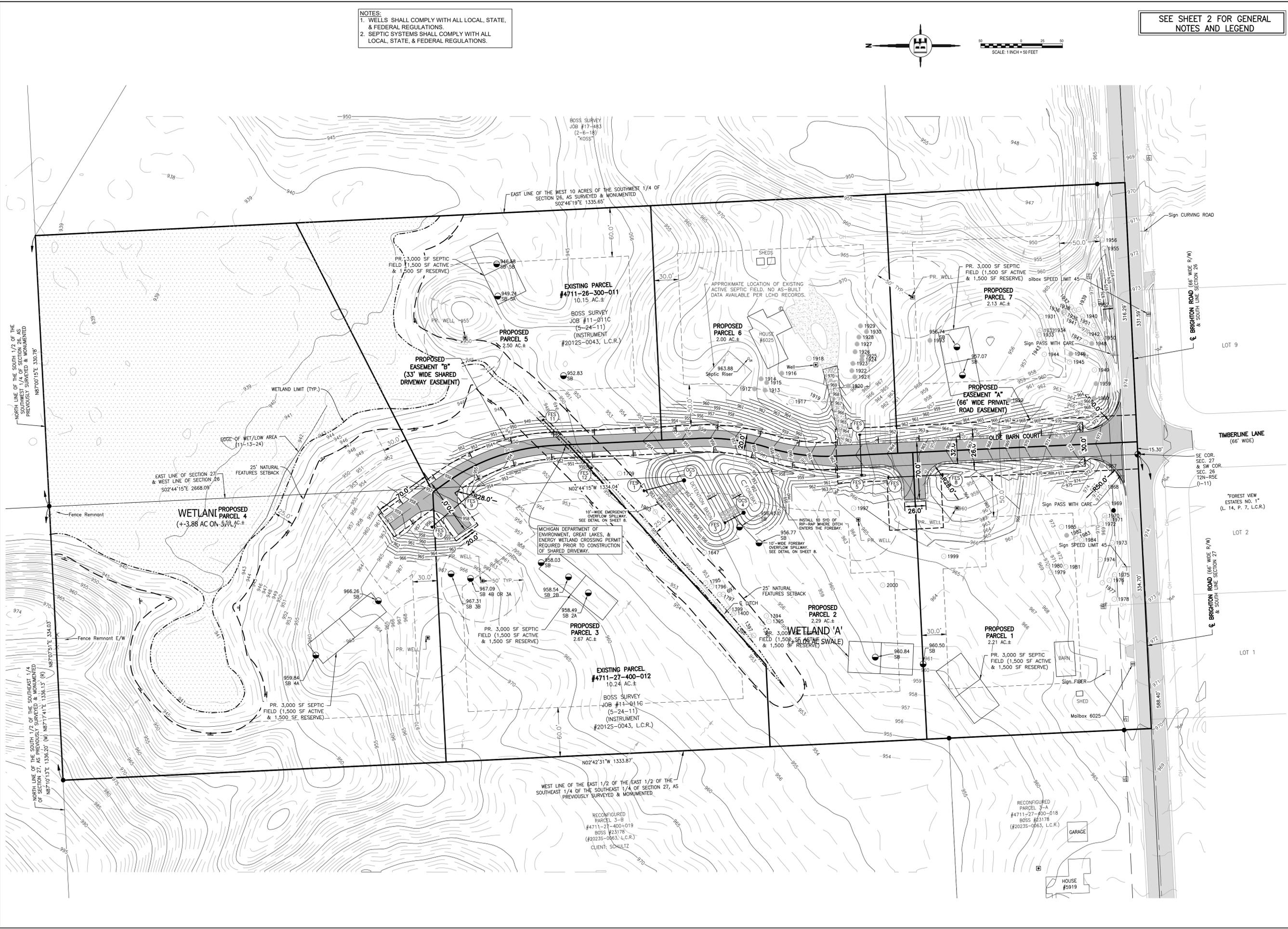
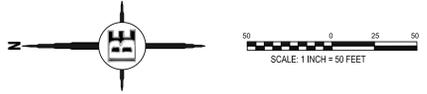
NO.	DATE	REVISION PER
1	5/20/25	INITIAL TWP REVIEW
2	7/22/25	B.A.F.A., L.C.R.C. & TWP ENG REVIEW
3	8/22/25	PLANNING COMMISSION COMMENTS

DESIGNED BY: NL
DRAWN BY: NL
CHECKED BY: BL
SCALE: 1" = 50'
JOB NO: 24-380
DATE: 4/21/25
SHEET NO. 4



NOTES:
 1. WELLS SHALL COMPLY WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS.
 2. SEPTIC SYSTEMS SHALL COMPLY WITH ALL LOCAL, STATE, & FEDERAL REGULATIONS.

SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, DEPTH, OR ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION.

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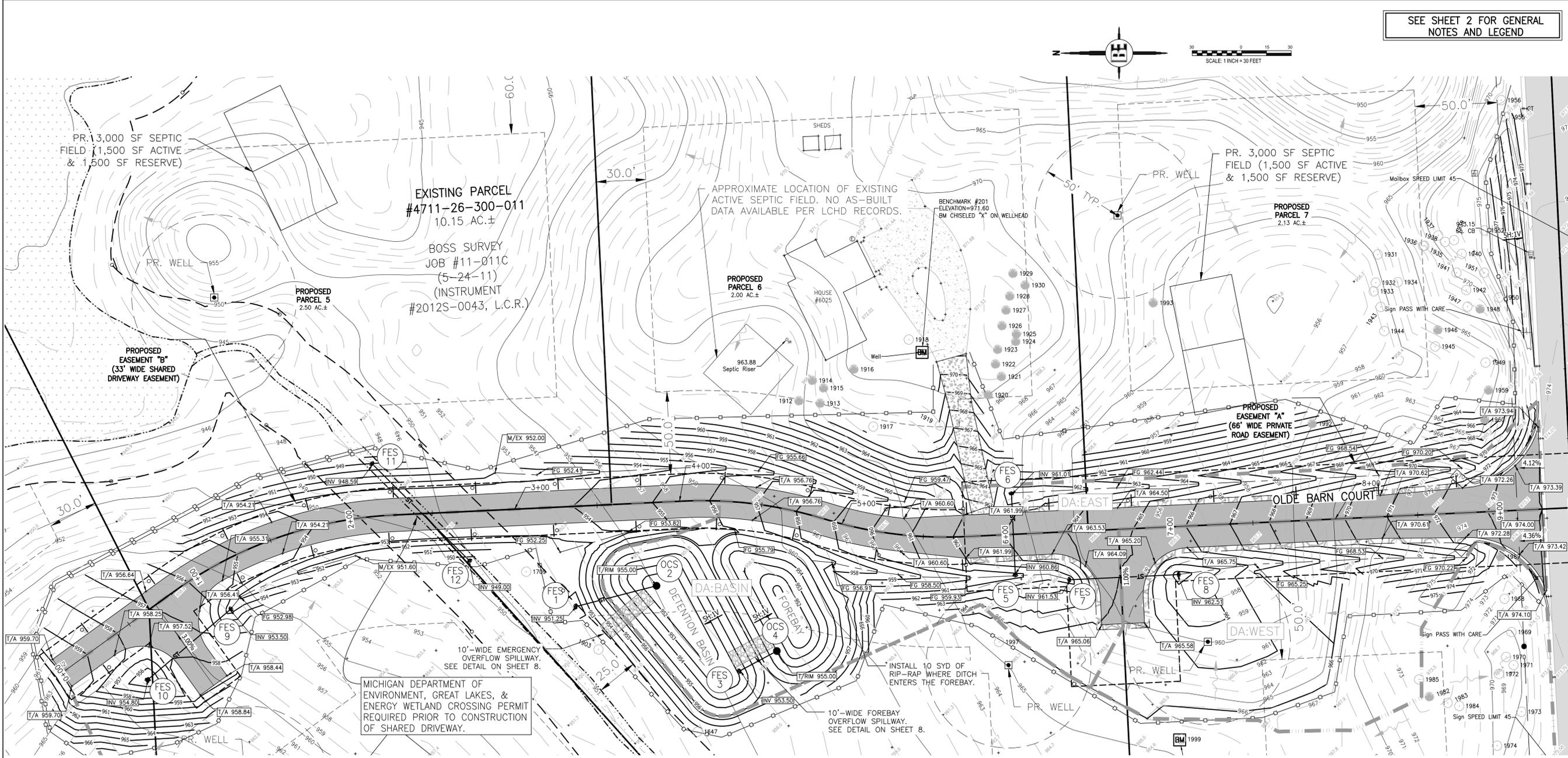
PROJECT: THE FARM
 PREPARED FOR: MR. KEVIN VAN KANNEL
 5300 OLD HICKORY
 BRIGHTON, MI 48116
 (810) 355-5300

NO.	DATE	REVISION PER	DATE
3	9/22/25	PLANNING COMMISSION COMMENTS	9/22/25
2	7/22/25	B.A.F.A., L.C.R.C. & TWP ENG REVIEW	7/22/25
1	5/20/25	INITIAL TWP REVIEW	5/20/25
NO BY			

DESIGNED BY: NL
 DRAWN BY: NL
 CHECKED BY: BL
 SCALE: 1" = 50'
 JOB NO: 24-380
 DATE: 4/21/25
 SHEET NO. **5**



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND



DRAINAGE NARRATIVE:

PRE-DEVELOPMENT: THE SUBJECT PROPERTY CURRENTLY CONTAINS ONE SINGLE FAMILY HOME AND SEVERAL ACCESSORY STRUCTURES. RUNOFF FROM THE SOUTH PART OF THE PROPERTY FLOWS TO A POTHOLE IN THE SOUTHEAST CORNER OF THE PROPERTY. RUNOFF FROM THE REMAINDER OF THE PROPERTY SHEET FLOWS TO A WETLAND DITCH THAT BISECTS THE SITE, AND DISCHARGES TO A LARGER WETLAND BODY AT BAETCKE LAKE NORTH OF THE SITE.

POST-DEVELOPMENT: A FOREBAY AND A DETENTION BASIN ARE PROPOSED TO BE GRADED TO HANDLE THE RUNOFF GENERATED BY THE PRIVATE ROAD. THE FOREBAY AND BASIN ARE SIZED TO HANDLE THE FLOW FROM THE INCREASED IMPERVIOUS SURFACE AREA FROM THE ROAD. RUNOFF FROM THE ROAD AND ASSOCIATED GRADING WILL BE COLLECTED BY THE ROADSIDE DITCHES AND CONVEYED TO THE FOREBAY. THE FOREBAY WILL OUTLET TO THE DETENTION BASIN THROUGH AN OUTLET CONTROL STANDPIPE. THE DETENTION BASIN WILL OUTLET TO A WETLAND DITCH ONSITE THROUGH AN OUTLET CONTROL STANDPIPE. BASIN CALCULATIONS AND DETAILS ARE SHOWN ON SHEET 8.

DRAINAGE AREA	TOTAL AREA (AC)	IMP. AREA (AC)	C VALUE	A°C
BASIN	0.57	0.07	0.30	0.17
WEST	0.57	0.10	0.34	0.20
EAST	0.26	0.11	0.55	0.14
TOTALS	1.40	0.28	0.37	0.51

SWALE FLOW CALCULATIONS:

SCOUR PREVENTION WILL NEED TO BE PROVIDED FOR ANY DITCH THAT EXCEEDS THE MAXIMUM ALLOWABLE VELOCITY OF 4 FT/SEC. MANNING'S EQUATION (BELOW) WAS REARRANGED TO SOLVE FOR THE WETTED AREA OF FLOW & HYDRAULIC RADIUS. THE CHANNEL DISCHARGE AND WETTED AREA OF FLOW WERE THEN USED IN THE CHANNEL FLOW VELOCITY EQUATION (BELOW) TO CALCULATE THE FLOW VELOCITY AT THE STEEPEST PORTION OF SWALE AND AT THE PORTION OF SWALE WITH THE HIGHEST FLOW RATE.

THE STEEPEST PORTION OF SWALE IS JUST UPSTREAM OF FES 8, WITH A RUNNING SLOPE OF 5.80%. AT THIS POINT, RUNOFF FROM THE ENTIRETY OF DRAINAGE AREA "WEST" IS CONTRIBUTING TO THE SWALE FLOW, RESULTING IN A FLOW RATE OF 0.86 CFS FOR A 10-YEAR STORM (SEE CONVEYANCE CALCS ON SHEET 8).

THE PORTION OF SWALE WITH THE HIGHEST FLOW RATE IS JUST UPSTREAM OF THE PROPOSED DETENTION BASIN, WITH A RUNNING SLOPE OF 4.25%. RUNOFF FROM THE ENTIRETY OF DRAINAGE AREAS "EAST" & "WEST" CONTRIBUTE TO THE SWALE FLOW, RESULTING IN A FLOW RATE OF 1.48 CFS FOR A 10-YEAR STORM.

MANNING'S EQUATION: $Q = 1.486 * A_w * R^{2/3} * S^{1/2}$
 (A VALUE OF 0.025 WAS SELECTED FOR MANNING'S COEFFICIENT OF ROUGHNESS FOR THE GRASSED SWALE)

CHANNEL FLOW VELOCITY: $V = Q / A_w$

UPSTREAM OF FES 8 RESULTS:
 $A_w = 0.289 \text{ FT}^2 \Rightarrow V = 0.86 \text{ CFS} / 0.289 \text{ FT}^2 = 2.98 \text{ FT/SEC}$
 SINCE FLOW VELOCITY IS BELOW 4 FT/SEC, SCOUR PREVENTION IS NOT NEEDED.

UPSTREAM OF BASIN RESULTS:
 $A_w = 0.466 \text{ FT}^2 \Rightarrow V = 1.48 \text{ CFS} / 0.289 \text{ FT}^2 = 3.18 \text{ FT/SEC}$
 SINCE FLOW VELOCITY IS BELOW 4 FT/SEC, SCOUR PREVENTION IS NOT NEEDED.

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NO.	DATE	REVISION PER	DATE
3	9/22/25	PLANNING COMMISSION COMMENTS	9/22/25
2	7/22/25	B.A.F.A., L.C.R.C. & TWP ENG REVIEW	7/22/25
1	5/20/25	INITIAL TWP REVIEW	5/20/25
0			

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 JOB NO: 24-380
 DATE: 4/21/25
 SHEET NO. 7A

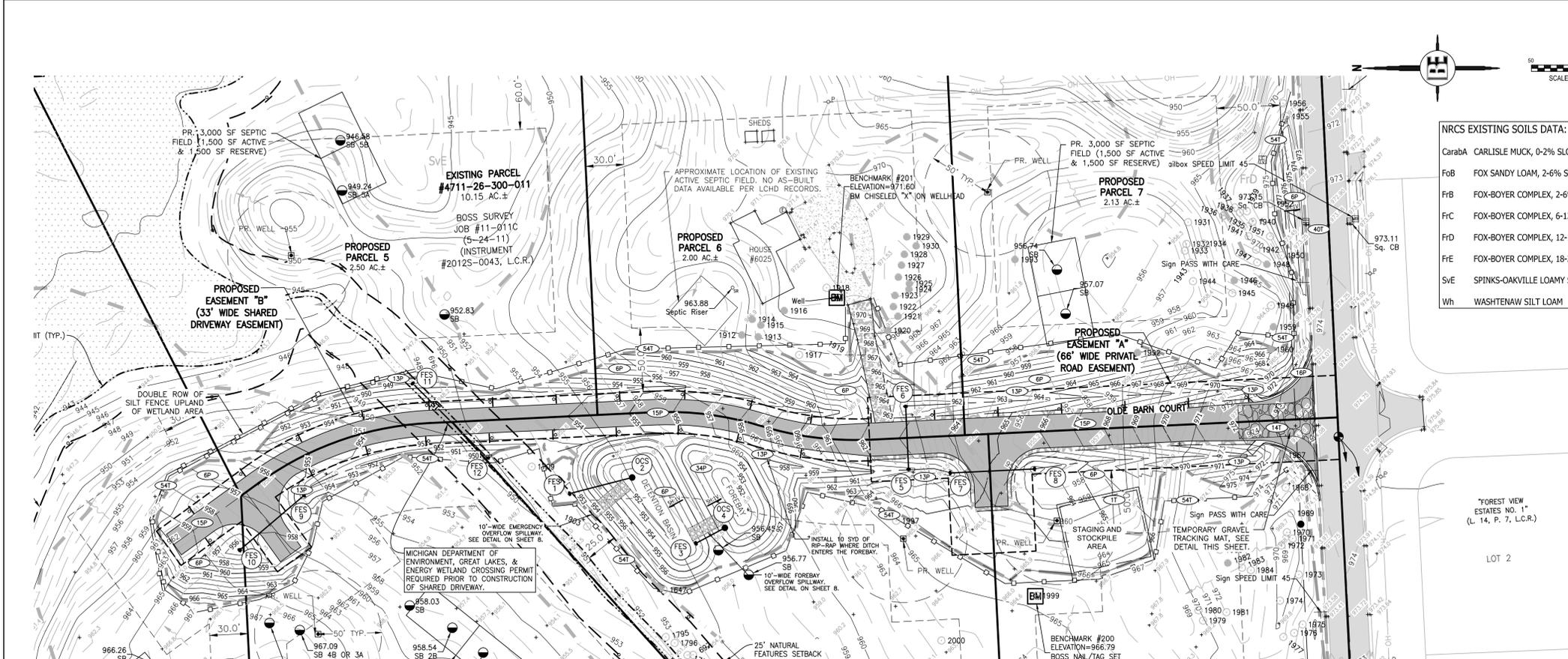
SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

SOIL EROSION CONTROL MEASURES

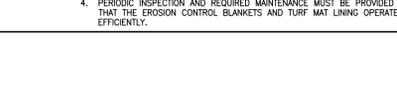
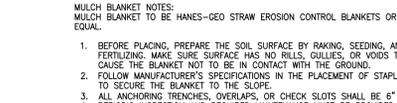
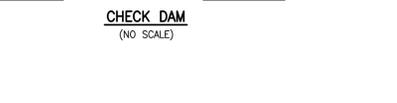
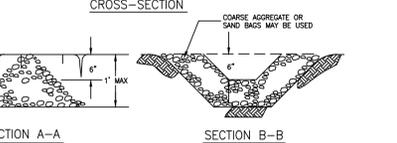
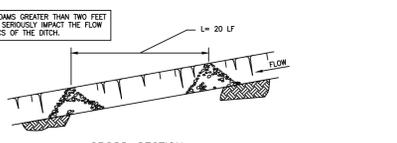
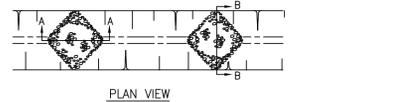
1	STRIPPING & STOCKPILE TOPSOIL	TOPSOIL MAY BE STOCKPILED ABOVE BORROW AREAS TO ACT AS AN EMERSON STOCKPILE SHOULD BE TEMPORARILY SEEDED
6	SEEDING WITH MULCH AND/OR MATING	EXPLAINS ESTABLISHMENT OF VEGETATION COVER EFFECTIVE FOR DRAINAGEWAYS WITH LOW VELOCITY MUST BE PLACED IN SMALL QUANTITIES BY REINFORCED PERSONNEL SHOULD INCLUDE PREPARED TOPSOIL BED
13	RP-RAP, RUBBER, CASCADIA	USED WHERE VEGETATION IS NOT EASILY ESTABLISHED EFFECTIVE FOR HIGH VELOCITIES OR HIGH CONCENTRATIONS PERMITS RUNOFF TO INFILTRATE SOIL PERMITS RUNOFF TO INFILTRATE SOIL
14	AGGREGATE COVER	STABILIZES SOIL SURFACE, THIS MINORING EROSION PERMITS CONSTRUCTION TRAFFIC IN ADVERSE WEATHER PERMITS RUNOFF TO INFILTRATE SOIL
15	PAVING	PROTECTS AREAS WHICH CANNOT OTHERWISE BE PROTECTED, BUT INCREASES RUNOFF VELOCITY REGULAR SURFACE WILL HELP SLOW VELOCITY
16	CURB & CUTTER	KEEPS HIGH VELOCITY RUNOFF ON PAVED AREAS FROM LEAVING PAVED SURFACE COLLECTS AND CONDUITS RUNOFF TO ENCLOSED DRAINAGE SYSTEM OR PREPARED DRAINWAY
34	SEMENT SIGN	RELEASING RUNOFF AT NON-EROSIVE RATES CONTROLS RUNOFF AT SYSTEM OUTLETS FOR ALL AREAS
40	INLET SEDIMENT FILTER	COLLECTS TO SAVE SLOTTED SEDIMENT MAY BE CLEANED AND EXPANDED AS NEEDED
54	SILT FENCE	SEES GEOTEXTILE FABRIC AND POST OR POLES. EASY TO CONSTRUCT AND LOCATE AS NECESSARY. (SEE DETAIL THIS SHEET)

T= TEMPORARY, P= PERMANENT
TOTAL DISTURBED AREA= 2.52 AC.

- NOTES:**
- LIVINGSTON COUNTY DRAIN COMMISSION SESC PERMIT SHALL BE OBTAINED PRIOR TO CONSTRUCTION.
 - THE SESC PERMIT IS VALID FOR THE MASS EARTH MOVEMENT AND INSTALLATION OF ROADS, DRAINS, AND UTILITIES ONLY. THE PERMIT IS NOT FOR INDIVIDUAL BUILDING UNITS. IT IS REQUIRED THAT TEMPORARY STABILIZATION OF THE ENTIRE SITE BE COMPLETED AND APPROVAL FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE MUST BE OBTAINED PRIOR TO THE ISSUANCE OF PERMITS FOR INDIVIDUAL BUILDING UNITS.
 - ANY DEWATERING REQUIRED SHALL HAVE A DEWATERING PLAN SUBMITTED PRIOR TO STARTING THE ACTIVITY AND MAY REQUIRE EGLE APPROVAL.
 - DITCHES/ SWALES WITH GRADES 3% AND GREATER WILL NEED CHECK DAMS (SEE BELOW DETAIL) TO PREVENT SCOURING OF THE DITCH BOTTOMS.
 - HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%. ON SLOPES OVER 1%, STABILIZATION SHALL BE DONE WITH SEED & STRAW MULCH WITH A TACKIFIER, OR STRAW BLANKETS PEGGED IN PLACE.



- LIVINGSTON COUNTY SOIL EROSION PERMIT TEMPLATE**
TEMPORARY CONTROLS AND SEQUENCE
- NOTIFY LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE 24 HOURS PRIOR TO START OF GRADE WORK.
 - IN ACCORDANCE WITH PUBLIC ACT NO. 53, OF 1974 THE PERMIT HOLDER SHALL CALL MISS DC FOR STAKING AND LOCATING OF UTILITIES, AT LEAST 72 HOURS IN ADVANCE OF THE START OF ANY WORK.
 - PERMITTING STANDARDS**
 - IMPORTANT NOTICES: DETENTION/RETENTION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. INGRESS/EGRESS MUST HAVE LARGE CRUSHER ROCK TO REDUCE THE TRACKING OF SOIL ONTO THE PUBLIC TRAFFIC AREAS. SEE DETAIL ITEMS BELOW.
 - 3/4" M.D.O.T SPECIFICATION TYPE SILT FABRIC SHALL BE SHOWN ON PLANS SHALL BE PLACED AND MAINTAINED ALONG PERIMETER ON ALL LOW LIVING AREAS OF THE CONSTRUCTION SITE TO FILTER RUNOFF BEFORE LEAVING PROJECT SITE.
 - ALL TEMPORARY EROSION CONTROL DEVICES AS NOTED ON PLANS SHALL BE INSTALLED PRIOR TO THE START OF MASSIVE EARTH DISTRIBUTION.
 - PLAN DOES DENOTE A DETAILED EROSION CONTROL DEVICE TO RESTRICT TRACKING OF MATERIAL ONTO THE HIGHWAY. STONE DAMPERS SHALL BE INSTALLED AT ALL INGRESS/EGRESS AREAS OF THE SITE PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. DAMPERS SHALL BE OF CRUSHED STONE AND SHALL HAVE A MINIMUM LENGTH OF 100' LINEAL FEET.
 - RETENTION PONDS**
 - RETENTION/RETENTION/SEDIMENTATION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
 - DETENTION POND OUTLETS SHALL BE OF THE STAIRCASE AND STONE FILTER SYSTEM, WITH TRASH SCREEN. OUTLET FLOW SHALL NOT EXCEED 0.20 CUBIC FEET OF WATER PER SECOND/PER ACRE. POND DIKES SHALL HAVE A MINIMUM OF ONE (1) FOOT OF FREEBOARD. AN EMERGENCY SPILLWAY SHALL BE CONSTRUCTED WITHIN THE FREEBOARD LEVEL.
 - THE EMERGENCY SPILLWAY FROM THE DETENTION POND SHALL BE SLOTTED AND PEGGED, OR RIP RAPPED, 15 FEET PAST THE TOE OF THE SLOPE OF THE BERM.
 - DIKES AND BERMS SHALL BE FREE OF ALL ORGANIC MATTER.
 - RETENTION/DETENTION PONDS SHALL BE FENCED WITH A 4" CHAIN LINK FENCE, INCLUDING A 12" ACCESS GATE FOR MAINTENANCE UNLESS MINIMUM 5 FT. HORIZONTAL TO 1 FT. VERTICAL SLOPE ARE PROVIDED. THE FENCE SHALL BE INSTALLED AT THE OUTER PORTION OF THE BERM, TO ALLOW FOR MAINTENANCE WORK TO BE DONE INSIDE THE FENCE.
 - ALL UNIMPROVED DISTURBED AREAS SHALL BE STRIPPED OF TOPSOIL WHICH WILL BE STORED ON-SITE DURING THE EXCAVATING STAGE. TOPSOIL SHALL BE SEEDING AND MULCHED, OR MATED WITH STRAW IN THE NON-GROWING SEASON, IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETED, TO PREVENT WIND AND WATER EROSION.
 - SOIL EROSION CONTROLS SHALL BE MONITORED DAILY BY THE ON-SITE ENGINEER, OR CONTRACTOR, WHICHEVER CASE APPLIES.
 - SLOPES AND DITCHES**
 - ON SITE DITCHES SHALL BE OF THE FLAT BOTTOM TYPE MINIMUM WIDTH OF 2' WITH A MINIMUM OF 3 HORIZONTAL TO 1 VERTICAL SIDE SLOPES, 3:1.
 - DITCHES WITH STEEP SLOPES WILL NEED FLOW CHECKS TO PREVENT SCOURING OF THE DITCH BOTTOM. THESE SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR INSPECTOR.
 - SLOPES IN EXCESS OF 3 HORIZONTAL TO 1 VERTICAL SHALL NOT BE USED EXCEPT WITH A MECHANICAL DEVICE SUCH AS A RETAINING WALL, TERRACING, OR OTHER APPROVED DEVICE.
 - STORM DRAINS**
 - ALL STORM WATER STRUCTURES, CATCH BASINS AND/OR MANHOLES, IF BLOCK, SHALL BE PLASTERED ON BOTH THE INSIDE AND OUTSIDE OF THE STRUCTURES. GROUTING AND POINTING WILL BE NECESSARY AT THE CASTING AND STRUCTURE JOINT TO PREVENT LEAKAGE AND THE RESULTING SOIL MOVEMENT, AROUND THE STRUCTURE.
 - COUNTY CODE REQUIRES A MINIMUM PIPE SIZE OF 12" IN DIAMETER. IF SMALLER PIPE IS NEEDED FOR OUTLET PURPOSES THE 12" CAN BE BAFFLED TO THE CORRECT SIZE. PIPE SHALL MEET THE 12" DIAMETER CODE SIZE.
 - ALL STORM DRAIN OUTLETS 15" IN DIAMETER OR LARGER SHALL HAVE ANIMAL GUARDS INSTALLED TO PREVENT ENTRANCE TO THE SYSTEM.
 - ALL STORM DRAINAGE PIPE 30" IN DIAMETER OR LARGER SHALL BE POINTED, AT THE JOINTS ON THE INSIDE WITH MORTAR, AFTER BACKFILLING.
 - ALL STORM DRAIN OUTLETS THAT DO NOT EMPTY INTO THE RETENTION/DETENTION POND SHALL HAVE A TEMPORARY 6"X10"X3" SUMP INSTALLED AT THE TERMINATION OF THE STORM SEWER. UPON COMPLETION OF THE STABILIZATION WORK THE SUMP AREA SHALL BE FILLED AND RIP RAPPED WITH STONE. SILT TRAPS SHALL BE INSPECTED AFTER EACH STORM.
 22. STORM WATER OUTLETS DO DENOTE RIP RAP. ALL OUTLETS SHALL BE RIP RAPPED OVER KEVED FILTER FABRIC WITH A MINIMUM OF 15 SQ. YARDS OF 6" OR LARGER STONE.
 3. RIP RAP AS NOTED ON THE PLAN SHALL BE OF A FUNNEL SHAPE CONSTRUCTION, WITH SHALL INCREASE AS DISTANCE FROM THE OUTLET POINT INCREASES AT A 3:1 RATIO.
 4. RIP RAP SHALL BE 6" IN DIAMETER OR LARGER, GROUTING MAY BE NECESSARY, AND SHALL BE A MINIMUM OF 6" IN DEPTH WITH THE STONE SET IN THE CEMENT SLURRY.
 25. STORM WATER OUTLET IS IN NEED OF A SPLASH BLOCK WHICH IS NOT NOTED ON THE PLAN. INSTALL SPLASH BLOCK IF SLOPE OF THE PIPE IS 4% OR GREATER.
 26. IT WILL BE NECESSARY FOR THE DEVELOPER TO HAVE THE STORM DRAINAGE LINES CLEANED PRIOR TO FINAL INSPECTION BY THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE. IF REQUIRED, THIS WORK SHALL BE DONE BY A PROFESSIONAL SEWER CLEANING FIRM AND CERTIFIED IN WRITING BY THE PROJECT ENGINEER. ALL Sumps and Temporary Silt Traps SHALL ALSO BE CLEANED AT THIS TIME.
 - STABILIZATION**
 27. ALL UNIMPROVED DISTURBED AREAS SHALL BE RE-TOP SOILED, WITH A MINIMUM OF 3" OF MATERIAL, SEEDED, MULCHED AND TACKED WITHIN 15 DAYS OF THE COMPLETION OF THE MASSIVE EARTH DISRUPTION. IN THE NON-GROWING SEASON STRAW MATING SHALL BE USED. HYDROSEEDING WILL BE AN ACCEPTABLE ALTERNATE FOR MULCHING. EXTREME CARE SHOULD BE EXERCISED IN SPRING AND FALL PERIODS AS A FIRST WILL BRING THE END OF THE HYDROSEEDING, WHICH WILL AFFECT THE EFFECTIVENESS OF THIS PROCEDURE.
 28. IN THE NON-GROWING SEASON, TEMPORARY STABILIZATION OF MASSIVELY EXPOSED AREAS FOR WINTER STABILIZATION SHALL BE DONE WITH STRAW MATING.
 29. PERIODIC INSPECTIONS WILL BE MADE THROUGHOUT THE COURSE OF THE PROJECT. IT WILL BE THE RESPONSIBILITY OF THE MANAGERS OF THE PROJECT TO CONTACT THIS OFFICE FOR THE FINAL INSPECTION AT THE END OF THE PROJECT.
 30. THIS COMMERCIAL PERMIT IS VALID FOR THE MASS EARTH MOVEMENT, THE INSTALLATION OF ROADS, DRAINS, AND UTILITIES AND IS NOT FOR ANY SINGLE FAMILY RESIDENCE. ALL RESIDENTIAL BUILDERS WILL NEED TO SECURE MAINTENANCE AND PERMITS AS NECESSARY FOR EACH LOT IN THIS DEVELOPMENT AT THE TIME APPLICATION FOR SINGLE FAMILY RESIDENCE IS MADE.
 31. THE ISSUING BUILDING DEPARTMENT SHALL NOT ISSUE THE CERTIFICATE OF OCCUPANCY UNTIL THE FINAL INSPECTION LETTER FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE HAS BEEN OBTAINED.
 32. PER THE LIVINGSTON COUNTY DRAIN COMMISSIONER THE SEEDING, FERTILIZER AND MULCH MINIMUM QUANTITIES SHALL BE AS FOLLOWS:
TOP-SOIL 218 LBS. PER ACRE
GRASS SEED 150 LBS. PER ACRE
FERTILIZER 3" IN DEPTH 1.5 TO 2 TONS PER ACRE (ALL MULCHING MUST HAVE A TIE DOWN, SUCH AS TACKIFIER, NET BANDING, ETC.)
HYDRO-SEEDING HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1%. IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.
 - SANITARY SEWERS**
 33. SANITARY SEWER TAP TO THE SANITARY COUNTY DRAIN, SHALL ONLY BE MADE AFTER SECURING IN WRITING CLEARANCE FROM THE TOWNSHIP AND A SEWER TAP PERMIT FROM THE LIVINGSTON COUNTY DEPARTMENT OF BUILDING & SAFETY.
 34. A TAP PERMIT WILL BE NEEDED BY THE OWNER/DEVELOPER OF THIS PROJECT TO TAP TO THE LEGALLY ESTABLISHED COUNTY STORM DRAIN. THE OWNER/DEVELOPER SHALL MAKE A WRITTEN REQUEST TO THE DRAIN COMMISSIONER TO REQUEST THE TAP TO THE STORM SEWER. THE FEES FOR SUCH TAP ARE AS FOLLOWS:
A. NON REFUNDABLE ADMINISTRATIVE FEE OF \$50.00, TO BE PAID AT THE TIME OF APPLICATION.
B. INSPECTION FEES ARE BASED ON TIME AND MATERIAL BASIS FROM PORT TO PORT FOR THE ON-SITE INSPECTOR. INSPECTORS RATE, VEHICLE MILEAGE, AND 0.5 HOURS OF REPORT PREPARATION TIME WILL BE CHARGED, AS WELL AS ANY NECESSARY MATERIALS. TIME AND MATERIAL FEES ARE PAID AT THE COMPLETION OF THE TAP INSTALLATION.
 35. SINGLE FAMILY RESIDENCE CONSTRUCTION
37. PRIOR TO THE START OF SINGLE FAMILY RESIDENCES, THE BUILDER OR HOMEOWNER SHALL INSTALL A STRAW BALE BARRIER AND/OR SILT FENCE BEHIND THE CURB, OR BEHIND THE CROWN OF THE ROAD DITCH BACK SLOPE. PRIOR TO THE START OF THE DRAINING, THE HOMEOWNER OR BUILDER SHALL INSTALL THE DRAINWAY CURB AND AGGREGATE MATERIAL TO ALLOW FOR ENTRANCE TO THE LOT.
38. IF THE LIVINGSTON COUNTY HEALTH DEPARTMENT REQUIRES A MOUNDED SEPTIC FIELD, THE



PROPOSED CONST. SCHEDULE FOR THE YEAR 2025

ACTIVITY	JUNE	JULY	AUG	SEP	OCT
DEMOL & CLEAR					
MASS GRADING					
ROAD CONST.					
FINAL GRADING					
SEED & MULCH					

SURFACE WATER & COUNTY DRAINS
WETLAND - ON SITE
LAKES - APPROXIMATELY 585 FT NE TO BAETCKE LAKE
STREAMS - N/A
BASINS - ON SITE
DRAINS - APPROXIMATELY 350 FT SW TO BOURLIER CREEK TWP DRAIN
PONDS - APPROXIMATELY 410 FT E AT 4920 BRIGHTON OAKS TRAIL

CONTROLS & MEASURES POST CONSTRUCTION SEQUENCE

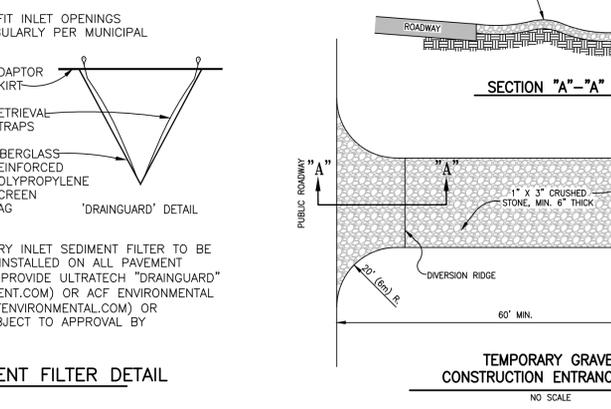
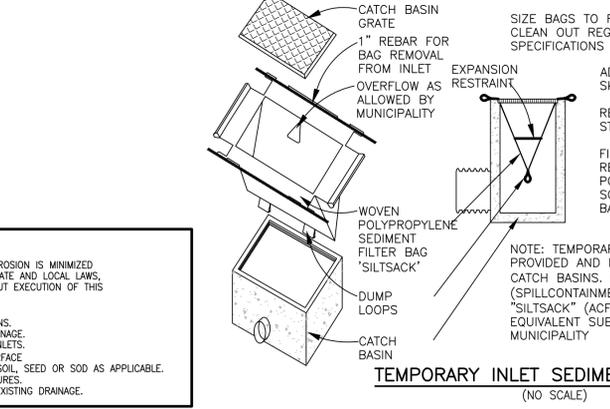
ACTIVITY	WEEKLY	MONTHLY	AS REQUIRED
MAINTAIN LANDSCAPING, REPLACE MULCH	X	X	X
CLEAN INLETS		X	X
COLLECT LITTER	X		X
SWEEP PARKING LOT		X	X

CONTROLS & MEASURES NARRATIVE

ACTIVITY	DESCRIPTION
MAINTAIN LANDSCAPING, REPLACE MULCH	COLLECT GRASS, TREE, AND SHRUB CLIPPINGS. DISPOSE IN APPROVED CONTAINER. REPLACE DEAD SOO, TREES AND SHRUBS.
CLEAN INLETS	REMOVE LITTER, SEDIMENT, AND DEBRIS. DISPOSE OF IN APPROVED LANDFILL.
COLLECT LITTER	DISPOSE OF WITH INLET DEBRIS.
SWEEP PARKING LOT	REMOVE MUD, DIRT, GREASE AND OIL WITH PERIODIC SWEEPING.
DUST CONTROL	SPRINKLE WATER AS NEEDED

CONSTRUCTION SEQUENCE

- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT EROSION IS MINIMIZED AND THAT COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL LAWS, REGULATIONS, AND ORDINANCES IS MAINTAINED THROUGHOUT EXECUTION OF THIS PROJECT.
- 1 DAY 1. INSTALL SILT FENCE AS SHOWN ON PLANS.
 - 20 DAYS 2. ROUGH GRADE AND INSTALL STORM DRAINAGE.
 - 1 DAY 3. INSTALL INLET PROTECTION ON STORM INLETS.
 - 4 DAYS 4. INSTALL PAVEMENT & GRAVEL ROAD SURFACE.
 - 1 DAY 5. FINE GRADE AROUND SITE, SPREAD TOPSOIL, SEED OR SOO AS APPLICABLE.
 - 1 DAY 6. REMOVE ALL EROSION CONTROL STRUCTURES.
 - 1 DAY 7. REMOVE ACCUMULATED SILT FROM ALL EXISTING DRAINAGE.



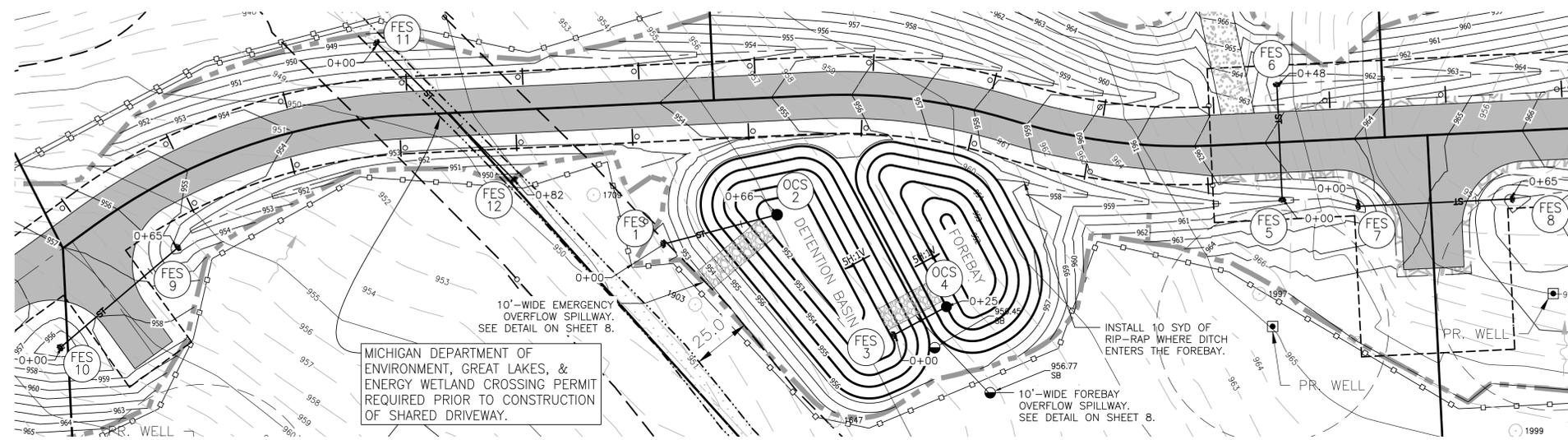
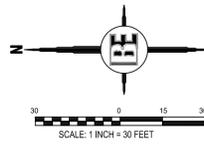
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF UTILITIES PRIOR TO CONSTRUCTION.

BEBOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: THE FARM
PREPARED FOR: MR. KEVIN VAN KANDEL
5300 OLD HICKORY, BRIGHTON, MI 48116 (810) 355-6300

NO.	DATE	REVISION PER	DATE
1	9/22/25	PLANNING COMMISSION COMMENTS	9/22/25
2	7/22/25	B.A.F.A., L.C.R.C. & TWP ENG REVIEW	7/22/25
1	5/20/25	INITIAL TWP REVIEW	5/20/25
NO BY			

DESIGNED BY: NL
DRAWN BY: NL
CHECKED BY: BL
SCALE: 1" = 50'
JOB NO: 24-380
DATE: 4/21/25
SHEET NO. 7B



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

LIVINGSTON COUNTY DETENTION BASIN CALCULATIONS

AREA (ACRES) IMPERVIOUS FACTOR IMPERVIOUS

0.28	0.9	0.25
0.08	0.7	0.05
1.05	0.2	0.21

COMPOUND C: 0.37
TOTAL DRAINAGE AREA: 1.40 ACRES

WATER QUALITY VOLUME
 $V_{WQ} = 3.630(C/A) = 1890 \text{ FT}^3$
 Are upstream infiltration BMPs provided? NO
 $V_{IPI} = 0.15(V_{WQ}) = 282 \text{ FT}^3$

WATER QUALITY RATE FOR MECHANICAL STRUCTURE
 $T_c = \text{MAX TIME OF CONCENTRATION} = 15.00 \text{ MIN}$
 $Q_{WQ} = (C/A)(30.2)(T_c + 9.17)^{1.1} = 1.19 \text{ CFS}$

CHANNEL PROTECTION VOLUME CONTROL - REQUIRED
 $V_{CP} = 4.719(C/A) = 2444 \text{ FT}^3$

CHANNEL PROTECTION VOLUME CONTROL - PROVIDED
 In-Situ infiltration rate = 1 INHR
 Are upstream infiltration BMPs provided? NO
 Basin Footprint Infiltration Area Required = 978 FT²
 $V_{CP,P} = 0 \text{ FT}^3$

CHANNEL PROTECTION RATE CONTROL (EXTENDED DETENTION VOLUME)
 $V_{EED} = 1.950(C/A) = 3973 \text{ FT}^3$

EXTENDED DETENTION OUTLET RATE
 $Q_{EED} = V_{EED}/(48\text{hr}) = 0.021 \text{ CFS}$
 $H_{EED} = V_{EED}/(4.800 \text{ (H)}^{1.48}) = 1.0 \text{ T HOLES}$
 $H = 953.66 \text{ FT}$
 $ELEV_{EED} = 953.66 \text{ FT}$

100-YEAR ALLOWABLE OUTLET RATE
 $Q_{100} = 1.1055 - 0.206(LN(A)) = 1.000 \text{ CFS/ACRE}$
 $Q_{100} = (\text{LESSER OF } Q_{100,MAX} \text{ \& } Q_{100,MIN}) = 0.140 \text{ CFS}$

100-YEAR DETENTION VOLUME
 $V_{100} = 1895(C/A) = 9834 \text{ FT}^3$
 $Q_{100} = (C/A)(83.3)(T_c + 9.17)^{1.1} = 3.27 \text{ CFS}$
 $V_{100} = V_{WQ} + V_{CP} + V_{EED} = 6674 \text{ FT}^3$
 Is $V_{100} \geq V_{100}?$ YES
 $V_{100} = 6674 \text{ FT}^3$

FOREBAY STORAGE VOLUME PROVIDED

ELEVATION	AREA (FT ²)	VOLUME (FT ³)	TOTAL VOLUME (FT ³)
956	4676	4,059	6,963
955	3442	2,904	2,904
954	2365	0	0
953	1421	0	0
952	678	0	0
951	159	0	0

BASIN STORAGE PROVIDED

ELEVATION	AREA (FT ²)	DEPTH (FT)	VOLUME (FT ³)	TOTAL VOLUME (FT ³)
956	6098	1	5,356	13,806
955	4614	1	3,951	8,450
954	3288	1	2,704	4,499
953	2119	1	1,548	1,796
952	977	0.5	248	248
951.5	13	0	0	0

PROVIDED FOOTPRINT OF BASIN BOTTOM AREA 990 FT²

OUTLET CONTROL STRUCTURE

$H_{EED} = 1 \text{ (1 HOLES)}$
 $A_{EED} = 0.0055 \text{ FT}^2$
 $Q_{EED,ACTUAL} = (A_{EED})(0.62 \times (2 \times 32.2 \times \text{H})^{0.5}) = 0.051 \text{ CFS}$

ORIFICE OUTLET

$A_{ORIFICE} = Q_{ORIFICE} / Q_{ORIFICE,ACTUAL} = 0.089 \text{ CFS}$
 $A_{ORIFICE} = Q_{ORIFICE,ACTUAL} / (0.62 \times (2 \times 32.2 \times (\text{ELEV}_{ORIFICE} - \text{ELEV}_{EED}))^{0.5}) = 0.015 \text{ FT}^2$
 AREA OF 1 INCH DIAMETER ORIFICE = 0.005 FT²
 # OF ORIFICES = 2.0

OVERFLOW SPILLWAY DESIGN

Design Flow Rate: $Q_{DESIGN} = 3.27 \text{ CFS}$
 Depth of Spillway: $D_{SPILL} = 6 \text{ INCHES}$
 Width of Spillway: $W_{SPILL} = Q_{DESIGN} / (3.33 D_{SPILL}^{1.48}) = 2.8 \text{ FT}$

OCS 2 - FES 1

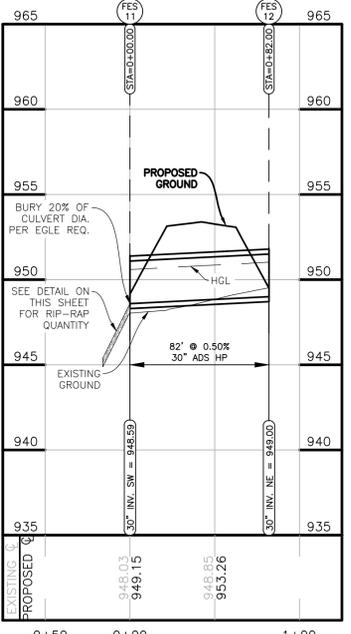
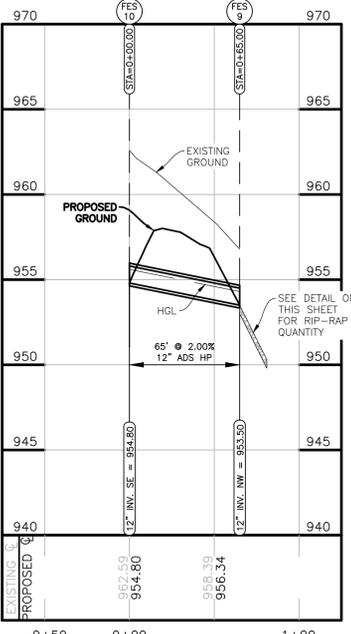
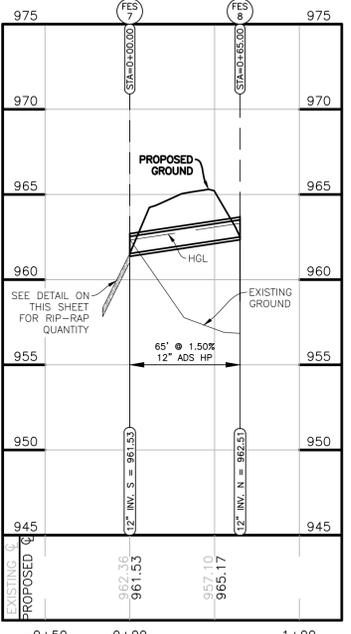
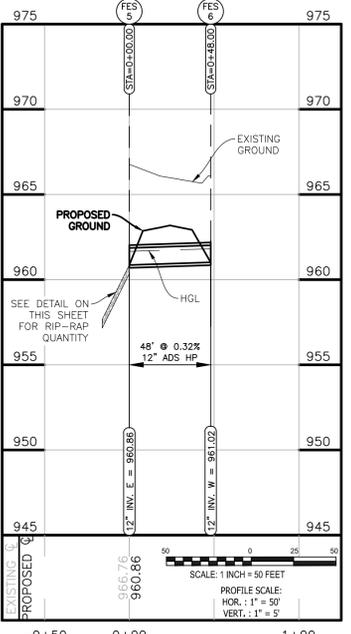
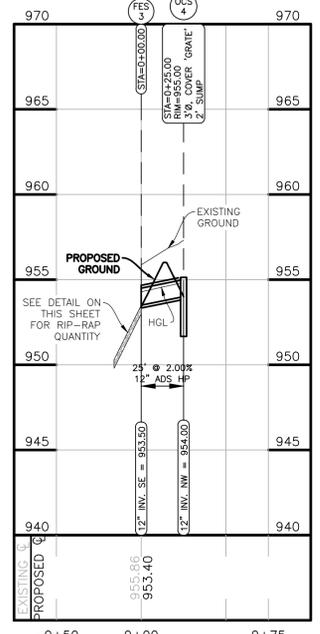
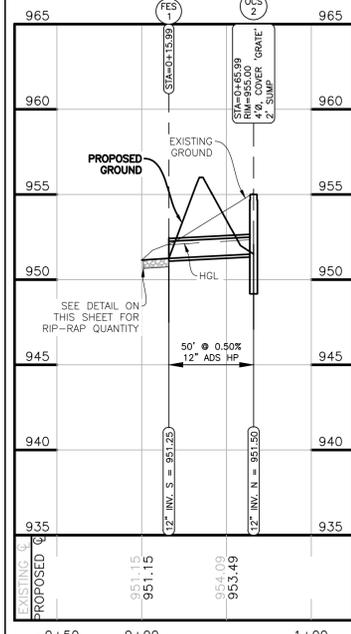
OCS 4 - FES 3

FES 6 - FES 5

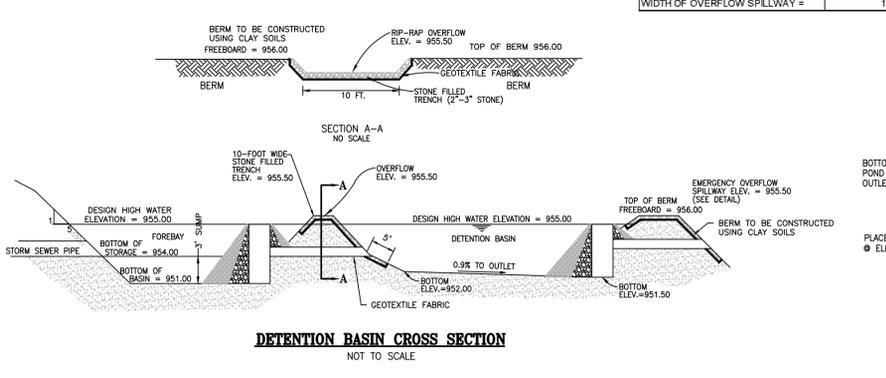
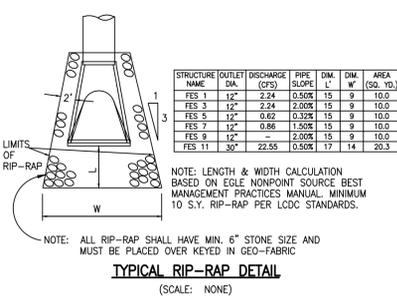
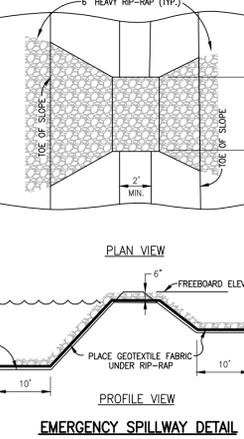
FES 8 - FES 7

FES 10 - FES 9

FES 12 - FES 11



FROM	TO	DRAIN AREA	ACRES	RUNOFF COEFF	EQUIV. AREA	INTENSITY	TIME OF CONC.	ADDL. RUNOFF	RUNOFF (CFS)	PIPE LENGTH (LF)	PIPE DIA. (IN)	VELOCITY FLOWING FULL (FPS)	HYDRAULIC GRADE	ACTUAL SLOPE USED	MANNING'S COEFFICIENT	MANNING'S FLOW CAPACITY	MANNING'S VELOCITY (FT/SEC)	TIME (MIN)	HG ELEV UPPER END	HG ELEV LOWER END	RIM ELEV UPPER END	RIM ELEV LOWER END	INVERT UPPER END	INVERT LOWER END
2	1	TOTALS	1.40	0.37	0.51	4.38	15.00	2.24	50	12	3.45	0.58%	0.50%	0.012	2.74	3.48	0.24	952.34	952.05	955.00	-	951.50	951.25	
4	3	TOTALS	1.40	0.37	0.51	4.38	15.00	2.24	25	12	5.57	1.50%	2.00%	0.012	5.47	6.97	0.06	954.80	954.30	955.00	-	954.00	953.50	
6	5	EAST	0.26	0.55	0.14	4.38	15.00	0.62	48	12	2.09	0.21%	0.32%	0.012	2.19	2.79	0.29	961.81	961.66	-	-	961.01	960.86	
8	7	WEST	0.57	0.34	0.20	4.38	15.00	0.86	65	12	4.03	0.78%	1.50%	0.012	4.74	6.03	0.18	963.31	962.33	-	-	962.51	961.53	
10	9	-	-	-	-	-	15.00	0.00	65	12	-	-	-	2.00%	0.012	5.47	6.97	0.16	955.60	954.30	-	-	954.80	953.50
12	11	WETLAND	20.62	0.25	5.15	4.38	15.00	22.55	82	30	6.10	0.53%	0.50%	0.012	31.51	6.42	0.21	951.02	950.59	-	-	949.00	948.59	



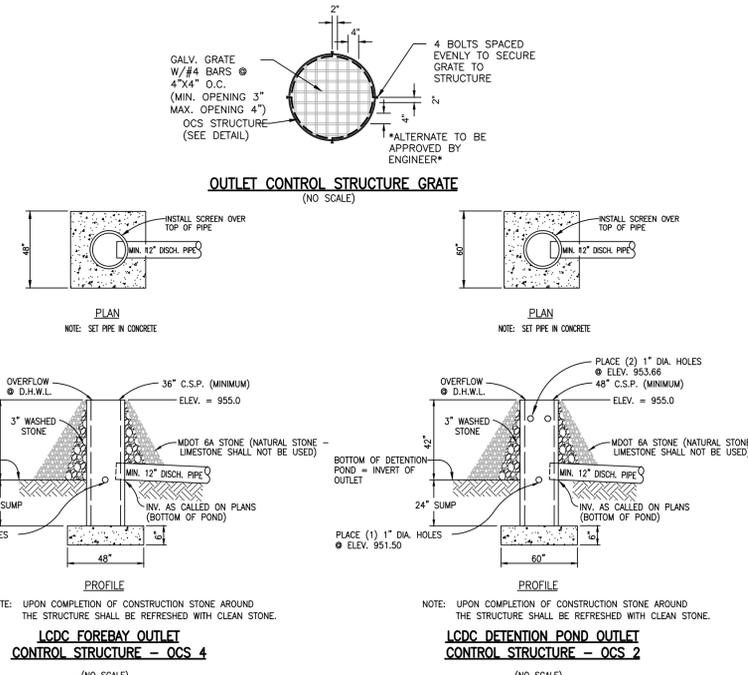
BASIN DESIGN SUMMARY

FOREBAY SIZE REQUIRED = 1890 FT³
 FOREBAY SIZE PROVIDED = 2904 FT³
 BASIN SIZE REQUIRED = 6674 FT³
 BASIN SIZE PROVIDED = 11,354 FT³

ORIFICE DESIGN SUMMARY

BASIN OUTLET CONTROL STRUCTURE:
 ELEVATION: 951.50, 953.66
 # OF HOLES: 1.0, 2.0
 DIAMETER OF HOLES: 1-INCH, 1-INCH

FOREBAY OUTLET CONTROL STRUCTURE:
 ELEVATION: 954.00
 # OF HOLES: 1.0
 DIAMETER OF HOLES: 1-INCH
 WIDTH OF OVERFLOW SPILLWAY = 10 FT



BEBOSS Engineering
 Engineers Surveyors Planners Landscape Architects
 3121 E. GRAND RIVER AVE.
 HOWELL, MI 48843
 517.546.4836 FAX 517.548.1670

THE FARM
 PREPARED FOR: MR. KEVIN VAN KANDEL
 5300 OLD HICKORY BRIGHTON, MI 48116 (810) 335-6300

NO.	DATE	REVISION
1	5/20/25	INITIAL TWP REVIEW
2	7/22/25	PLANNING COMMISSION COMMENTS
3	9/22/25	B.A.F.A., L.C.R.C. & TWP ENG REVIEW

DESIGNED BY: NL
 DRAWN BY: NL
 CHECKED BY: BL
 SCALE: AS NOTED
 JOB NO: 24-380
 DATE: 4/21/25
 SHEET NO: 8

MEMORANDUM

TO: Honorable Board of Trustees

FROM: Amy Ruthig, Planning Director

DATE: August 26, 2025

RE: S. Latson Commercial Drive-Through Restaurant
Vacant parcels #4711-09-100-043
Special Land Use, Site Plan and Environmental Impact Assessment

In consideration of the approval recommendation by the Township Planning Commission on August 11, 2025. Please find attached the project case for a special land use permit, site plan and environmental impact assessment for a proposed drive-through restaurant for a previously approved multi-tenant commercial center with a drive-through coffee shop. The Township Board approved the project on April 1, 2024. The applicant is requesting to amend the special land use to allow for a drive-through restaurant. The site consists of vacant parcel #4711-09-100-043 and is located on the east side of Latson Road, south of Grand River Avenue. The parcel is located adjacent to the under-construction Mister Car Wash. The property is zoned General Commercial District (GCD).



SUPERVISOR

Kevin Spicher

CLERK

Janene Deaton

TREASURER

Robin L. Hunt

TRUSTEES

Rick Soucy

Bill Reiber

Candie Hovarter

Todd Walker

MANAGER

Kelly VanMarter

Procedurally, the Planning Commission has approval authority over the site plan. The Township Board has approval authority over the special land use and impact assessment. The Township Board is to be considered if the special land use approval requirements have been met as stated in Article 19 of the Township Zoning Ordinance.

The project was heard before the Planning Commission on August 11, 2025 following a public hearing and was recommended for approval. If the Township Board finds that the special land use application meets the approvals requirements and based on the Planning Commission's recommendations, I offer the following for your consideration:

SPECIAL LAND USE

Moved by _____, Supported by _____ to APPROVE the Special Use Permit to allow for a proposed drive-through restaurant for a previously approved multi-tenant commercial building located on vacant parcel #4711-09-100-043. The site is located on the east side of Latson Road, south of Grand River Avenue. The approval is based on the finding that the request generally meets the special land use requirements as stated in Article 19 of the Genoa Charter Township Zoning Ordinance.

ENVIRONMENTAL IMPACT ASSESSMENT

Moved by _____, Supported by _____ to APPROVE the Environmental Impact Assessment dated May 27, 2025 to allow for a proposed drive-through restaurant for a previously approved multi-tenant commercial building located on vacant parcel #4711-09-100-043. The site is located on the east side of Latson Road, south of Grand River Avenue. The site is located on the east side of Latson Road, south of Grand River Avenue.

SITE PLAN

Moved by _____, Supported by _____ to APPROVE of the Site Plan dated May 27, 2025 to allow for a proposed drive-through restaurant for a previously approved multi-tenant commercial building located on vacant parcel #4711-09-100-043. The site is located on the east side of Latson Road, south of Grand River Avenue.

If you should have any questions, please feel free to contact me.

Best Regards,



Amy Ruthig



GENOA CHARTER TOWNSHIP
Application for Site Plan Review

TO THE GENOA TOWNSHIP PLANNING COMMISSION AND TOWNSHIP BOARD:

APPLICANT NAME & ADDRESS: 1015 S. Latson Road, LLC - address 1111 S. Latson Road, Howell, MI 48843
If applicant is not the owner, a letter of Authorization from Property Owner is needed.

OWNER'S NAME & ADDRESS: Kevin Bahnam - 6280 Rue Du Lac, West Bloomfield, MI

SITE ADDRESS: 1111 S. Latson Road, Howell, MI 48843 PARCEL #(s): 4711-09-100-043

APPLICANT PHONE: (248) 767-5337 OWNER PHONE: (248) 767-5337

OWNER EMAIL: kbahnam@usa2goquickstore.com

LOCATION AND BRIEF DESCRIPTION OF SITE: _____

See attached.

BRIEF STATEMENT OF PROPOSED USE: See attached.

THE FOLLOWING BUILDINGS ARE PROPOSED: No buildings are proposed. This substantially
is in connection with a Special Land Use Application, which will not materially alter
the previously approved site plan.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION IS TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: Kevin Bahnam 
Kevin Bahnam (May 22, 2025 13:35 EDT)

ADDRESS: 6280 Rue Du Lac, West Bloomfield, MI

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

1.) Catherine A. Riesterer of Cooper, Riesterer, & Gross at cathy@crlaw.biz
Name Business Affiliation E-mail Address

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE:  DATE: 5/27/25
PRINT NAME: Kevin Bahnam PHONE: 248-767-5337
ADDRESS: 6280 Rue Du Lac, West Bloomfield, MI

ATTACHMENT TO SITE PLAN REVIEW

MAY 27, 2025

1111 S Latson Road, Howell, MI 48843
4711-09-100-043

LOCATION AND BRIEF DESCRIPTION OF SITE

The project site is on parcel # 4711-09-100-043 in Section 9, Genoa Township, Livingston County, MI, and is in the general commercial zoning district.

The subject site is bordered:

- On the north by the 1.14 acre +/- parcel zoned General Commercial (GCD) with an existing O'Reilly Auto Parts store.
- On the east by the 9.13 acre +/- parcel zoned General Commercial (GCD) with the Country Corners Shopping center.
- On the east and south by the 12.09 acre +/- parcel zoned High Density Residential (HDR) with the Prentis Estates Apartments. An approximately 4' tall berm is directly along the property line here on the adjacent HDR parcel and is planted with large Red and Scotch Pines ranging in size from 11" d.b.h. to 24" d.b.h. There is an additional evergreen screen just south of the berm along the east property line planted with White Cedar.
- On the west by S. Latson Road is the Non-Residential PUD shopping center with Walmart, PetSmart, Lowe's and various fast-food restaurants.
- The north side of the proposed project will be immediately adjacent to another proposed development project within the GCD zoning.

The subject site is part of the South Latson Commercial Development, as previously approved in 2024, which will contain a multi-tenant commercial building housing retail and restaurants, and a car wash. A drive-thru coffee shop was previously approved for the commercial building. The site has a full access drive that aligns with the Lowe's drive on the opposite side of Latson Road, and has been designed with a separate drive through lane in addition to a full access lane around the site.

PROPOSED USE

This application for special land use is made with respect to the northern end of the multi-tenant commercial building that was previously approved for a drive-thru coffee shop. In connection with that approval, the applicant went through the township's zoning board of appeals to have the drive-thru approved with a variance for a required setback. Since the initial approval of the coffee shop, the applicant has been approached by Chipotle, who wishes to locate in the building where the drive-thru coffee shop would have been. When this was initially discussed with the township, it was discovered that while drive-thru coffee shops were allowed in general commercial zoning, drive-thru fast casual restaurants were allowed only in the regional commercial district. The applicant, therefore, initially sought to have this property rezoned to RCD so that it could proceed to allow the drive-thru fast casual restaurant. That action resulted in a discussion by the township as to the need to update the general commercial section of the Township's zoning ordinance regarding drive-thru restaurants. As a result of that discussion, changes were made to the zoning ordinance to allow a drive-thru restaurant in the general commercial zoning district as a special use. That change became effective on May 18, 2025. Therefore, the applicant now seeks a special land use approval for a drive-thru restaurant for this site pursuant to the newly enacted ordinance provisions.



GENOA CHARTER TOWNSHIP
Special Land Use Application

This application **must** be accompanied by a site plan review application and the associated submittal requirements. (The Zoning Official may allow a less detailed sketch plan for a change in use.)

APPLICANT NAME & ADDRESS: 1015 S. Latson Road, LLC - address 1111 S. Latson Road, Howell, MI 48843
Submit a letter of Authorization from Property Owner if application is signed by Acting Agent.

APPLICANT PHONE: (248 767-5337) EMAIL: kbahnam@usa2goquickstore.com

OWNER NAME & ADDRESS: Kevin Bahnam - 6280 Rue Du Lac, West Bloomfield, MI

SITE ADDRESS: 1111 S. Latson Road, Howell, MI 48843 PARCEL #(s): 4711-09-100-043

OWNER PHONE: (248 767-5337) EMAIL: kbahnam@usa2goquickstore.com

Location and brief description of site and surroundings:
See attached

Proposed Use:
See attached

Describe how your request meets the Zoning Ordinance General Review Standards (section 19.03):

a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.

See attached

b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.

See attached

c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?

See attached

d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?

See attached

e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.

See attached.

I HEREBY CERTIFY THAT ALL INFORMATION AND DATA ATTACHED TO AND MADE PART OF THIS APPLICATION ARE TRUE AND ACCURATE TO THE BEST OF MY KNOWLEDGE AND BELIEF. I AGREE TO DESIGN, CONSTRUCT AND OPERATE, AND MAINTAIN THESE PREMISES AND THE BUILDINGS, STRUCTURES, AND FACILITIES WHICH ARE GOVERNED BY THIS PERMIT IN ACCORDANCE WITH THE STATED REQUIREMENTS OF THE GENOA TOWNSHIP ZONING ORDINANCE, AND SUCH ADDITIONAL LIMITS AND SAFEGUARDS AS MAY BE MADE A PART OF THIS PERMIT.

THE UNDERSIGNED Kevin Bahnam STATES THAT THEY ARE THE FREE OWNER OF THE PROPERTY OF PROPERTIES DESCRIBED ABOVE AND MAKES APPLICATION FOR THIS SPECIAL LAND USE PERMIT.

BY: 
Kevin Bahnam (May 22, 2025 15:36 EDT)

ADDRESS: 6280 Rue Du Lac, West Bloomfield, MI

Contact Information - Review Letters and Correspondence shall be forwarded to the following:

Catherine A. Riesterer of Cooper, Riesterer, & Gross, PLC at cathy@crlaw.biz
Name Business Affiliation Email

FEE EXCEEDANCE AGREEMENT

As stated on the site plan review fee schedule, all site plans are allocated two (2) consultant reviews and one (1) Planning Commission meeting. If additional reviews or meetings are necessary, the applicant will be required to pay the actual incurred costs for the additional reviews. If applicable, additional review fee payment will be required concurrent with submittal to the Township Board. By signing below, applicant indicates agreement and full understanding of this policy.

SIGNATURE:  DATE: 05

PRINT NAME: Kevin Bahnam PHONE: 248 767-5337

ATTACHMENT TO SPECIAL LAND USE APPLICATION

MAY 23, 2025

1111 S Latson Road, Howell, MI 48843

4711-09-100-043

LOCATION AND BRIEF DESCRIPTION OF SITE AND SURROUNDINGS

The project site is on parcel # 4711-09-100-043 in Section 9, Genoa Township, Livingston County, MI, and is in the general commercial zoning district.

The subject site is bordered:

- On the north by the 1.14 acre +/- parcel zoned General Commercial (GCD) with an existing O'Reilly Auto Parts store.
- On the east by the 9.13 acre +/- parcel zoned General Commercial (GCD) with the Country Corners Shopping center.
- On the east and south by the 12.09 acre +/- parcel zoned High Density Residential (HDR) with the Prentis Estates Apartments. An approximately 4' tall berm is directly along the property line here on the adjacent HDR parcel and is planted with large Red and Scotch Pines ranging in size from 11" d.b.h. to 24" d.b.h. There is an additional evergreen screen just south of the berm along the east property line planted with White Cedar.
- On the west by S. Latson Road is the Non-Residential PUD shopping center with Walmart, PetSmart, Lowe's and various fast-food restaurants.
- The north side of the proposed project will be immediately adjacent to another proposed development project within the GCD zoning.

The subject site is part of the South Latson Commercial Development, as previously approved in 2024, which will contain a multi-tenant commercial building housing retail and restaurants, and a car wash. A drive-thru coffee shop was previously approved for the commercial building. The site has a full access drive that aligns with the Lowe's drive on the opposite side of Latson Road, and has been designed with a separate drive through lane in addition to a full access lane around the site.

PROPOSED USE

This application for special land use is made with respect to the northern end of the multi-tenant commercial building that was previously approved for a drive-thru coffee shop. In connection with that approval, the applicant went through the township's zoning board of appeals to have the drive-thru approved with a variance for a required setback. Since the initial approval of the coffee shop, the applicant has been approached by Chipotle, who wishes to locate in the building where the drive-thru coffee shop would have been. When this was initially discussed with the township, it was discovered that while drive-thru coffee shops were allowed in general commercial zoning, drive-thru fast casual restaurants were allowed only in the regional commercial district. The applicant, therefore, initially sought to have this property rezoned to RCD so that it could proceed to allow the drive-thru fast casual restaurant. That action resulted in a discussion by the township as to the need to update the general commercial section of the Township's zoning ordinance regarding drive-thru restaurants. As a result of that discussion, changes were made to the zoning ordinance to allow a drive-thru restaurant in the general commercial zoning district as a special use. That change became effective on May 18, 2025. Therefore, the applicant now seeks a special land use approval for a drive-thru restaurant for this site pursuant to the newly enacted ordinance provisions.

DESCRIBE HOW YOUR REQUEST MEETS THE ZONING ORDINANCE GENERAL REVIEW STANDARDS

- a. Describe how the use will be compatible and in accordance with the goals, objectives, and policies of the Genoa Township Comprehensive Plan and subarea plans, and will promote the Statement of Purpose of the zoning district in which the use is proposed.**

As noted above, the township just passed an amendment to its zoning ordinances for the general commercial zoning district to specifically allow drive-thru restaurants in general commercial zoning. This intended use is therefore consistent with the current and updated zoning ordinance. As it is located on Latson Road near the I-96 interchange which has been identified as an area appropriate for fast service restaurants, it is therefore compatible with the current and future zoning for the area.

- b. Describe how the use will be designed, constructed, operated, and maintained to be compatible with, and not significantly alter, the existing or intended character of the general vicinity.**

As noted above, the building in which this use will be located has been approved and has been deemed to be compatible with the character of the general vicinity. The specifics of the adjacent boundaries are noted above and include other general commercial uses, including fast food, and high density residential. This project is in the heart of a busy commercial area and the use will be generally compatible.

- c. How will the use be served adequately by essential public facilities and services such as highways, streets, police and fire protection, drainage structures, water and sewage facilities, refuse disposal and schools?**

Again as noted, this site has been approved. The MHOG sanitary runs along the west property line and south Latson Road. MHOG water runs along the east property line and the adjacent parcel. This project is near the Latson interchange on Latson Road and therefore provides for adequate access to streets and highways and necessary utilities.

- d. Will the use involve any uses, activities, processes, or materials potentially detrimental to the natural environment, public health, safety, or welfare by reason of excessive production of traffic, noise, vibration, smoke, fumes, odors, glare, or other such nuisance? If so, how will the impacts be mitigated?**

When the coffee shop was previously approved for this location, the applicant provided a traffic impact study for the site. That study is attached hereto. Boss Engineering has provided an updated letter, which indicates that use by a fast casual restaurant will produce significantly less traffic than would the previously approved drive-thru coffee restaurant. Of particular note, the hours when the use is likely to be busy will not include morning rush hour traffic. Operation of restaurants are authorized in this zoning district and there are numerous restaurants in the surrounding area. Therefore, there will be no other noises or environmental impacts that are inconsistent than those that are currently occurring in the adjoining areas. Additionally, the commercial building when approved contains appropriate screening from the adjacent high density residential.

- e. Does the use have specific criteria as listed in the Zoning Ordinance (sections 3.03.02, 7.02.02, & 8.02.02)? If so, describe how the criteria are met.**

Yes, the amendments to the general commercial zoning district refer to 7.02.02(j). All requirements are met, with the exception of 7.02.02(j)(2), which states that the establishment of a new drive-thru

restaurant shall require that the lot be separated a minimum of 500 ft from any other lot containing a drive-thru. The new ordinance language, however, allows the planning commission to waive this requirement for uses with vehicular access to an internal service drive and where other criteria are met. We believe this site meets all required criteria for modification. As noted, this requirement also exists for a drive-thru coffee shop. The applicant successfully obtained a variance from that requirement from the zoning board of appeals for this site. As demonstrated by the letter from Boss Engineering, a coffee shop would provide more traffic than a drive-thru restaurant, particularly at peak hours. Accordingly, the prior approval and reduced impact supports the planning commissions use of its discretion with respect to this requirement. The prior ZBA variance was conditional upon traffic and pavement impact modifications that were recommended by the Livingston County Road Commission and MDOT. The applicant is prepared to include those modifications with this project to address this issue.

Chairman Grajek asked if any of the septic systems would need to be engineered. Mr. Noles stated they do not anticipate needing any engineered septic fields.

Commissioner Rauch commended the petitioner and the public. This is a good example of the process working well. The result of the conversations over the last year is a sign that preserves almost 70 acres of wetlands and many trees in the community and installs a walking path for the public.

Moved by Commissioner Rauch, supported by Commission Rassel, to recommend to the Township Board approval of the Planned United Development Agreement to construct a 55-unit single-family site condominium development located at the northwest corner of Challis Road and Bauer Road, including parcels 4711-23-400-008, 4711-23-400-007, 4711-23-400-001 and 4711-23-300-003, with the following conditions:

- The private road maintenance agreement shall be added to the Agreement.
- Easements for the low areas as part of the storm water management system shall be added to the Agreement.
- The applicant shall update the plans to show 15 feet of overhead tree clearance
- The applicant shall comply with all pertinent comments from the Township engineer, planner, BAFA, Livingston County Drain Commission, and EGLE
- Township staff and attorney comments must be incorporated in the PUD Agreement.

The motion carried unanimously.

Moved by Commissioner Rauch, supported by Commission Rassel, to recommend to the Township Board approval of the Environmental Impact Assessment dated March 5, 2025 to construct a 55-unit single-family site condominium development located at the northwest corner of Challis Road and Bauer Road, including parcels 4711-23-400-008, 4711-23-400-007, 4711-23-400-001 and 4711-23-300-003. **The motion carried unanimously.**

Moved by Commissioner Rauch, supported by Commission Rassel, to recommend to the Township Board approval of the Final PUD Site Plan dated July 22, 2025 to construct a 55-unit single-family site condominium development located at the northwest corner of Challis Road and Bauer Road, including parcels 4711-23-400-008, 4711-23-400-007, 4711-23-400-001 and 4711-23-300-003, with the following conditions:

- The applicant shall comply with all pertinent comments from the Township engineer, planner, BAFA, Livingston County Drain Commission, and EGLE
- All stormwater easements shall be depicted on these plans.
- The parcels will need to be combined prior to the issuance of the Land Use Permit.

The motion carried unanimously.

OPEN PUBLIC HEARING #2... Consideration for a Special Land Use application, site plan and impact assessment for a drive through restaurant within a multi-tenant commercial building. The property is located at 1111 S. Latson Road (4711- 09-100-043), east side of Latson Road, south

of Grand River Avenue. The request is submitted by Kevin Bahnam A. Recommendation of Special Use Application.

B. Recommendation of Environmental Impact Assessment (5-27-25)

C. Recommendation of Site Plan (5-27-25)

Mr. Scott Tousignant and Ms. Catherine Riesterer, the applicant's attorney, was present. Mr. Tousignant provided a review of the project and the changes that have been made since the previous submittal, specifically the user being a fast food restaurant and not a coffee shop, and a reduction in square footage of the building. They have received approvals from all of the necessary outside agencies.

He addressed Mr. Borden's review letter comments. They have received ZBA approval for not meeting the 500-foot spacing requirement between drive-throughs. He provided the reasons for the deficiency in their landscape plantings, the length of the wall on the rear of the site, the signage, and the escape lane.

Mr. Borden reviewed his letter dated July 31, 2025

1. Special Land Uses (Section 19.03):
 - A. The Special Land Use standards of Section 19.03 are generally met.
 - B. In order to make favorable findings related to compatibility and impacts, the use conditions of Section 7.02.02(j) must be met to the Commission's satisfaction.
 - C. The applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority regarding public facilities and services.
2. Drive-Through Use Conditions (Section 7.02.02(j)):
 - A. The Planning Commission has the authority to waive or modify the 500-foot spacing requirement between drive-throughs. Mr. Tousignant stated they have received approval from the ZBA.
 - B. The rear yard buffer zone provides the required plantings but is deficient in width and a full length screen wall or fence, which is what was in the previously approved plan.
 - C. In his opinion, the plan may benefit from some additional directional signage or pavement markings to help patrons properly navigate the site.
 - D. The plan provides a partial escape lane. The Planning Commission has the authority to waive or modify the escape lane requirement. He noted that the new use of a fast food restaurant is less of an impact than the originally proposed coffee shop.
3. Site Plan Review:
 - A. Building materials and color scheme are subject to review and approval by the Planning Commission.
 - B. The rear yard Buffer Zone B is deficient in width and screen wall or fence length; however, the Planning Commission has the discretion to modify these requirements, similar to the previously approved plans.

Ms. Byrne stated there have been no significant changes to the original plans, so she has no concerns.

The Brighton Area Fire Authority Fire Marshal's letter dated June 4, 2025, stated the following: "All previous concerns cited for the project have been addressed. The fire authority has no further concerns regarding the amended Special Land Use Change based on the recently submitted documents."

Commissioner Rauch addressed the deficiency in the buffer to the rear of the site, noting that the noise study shows it is below the Township ordinance.

Commissioner McBain is concerned with the safety of the outdoor seating. Mr. Tousignant stated that they can add signage and pavement markings in this area. There is also fencing delineating the seating area.

Commissioner McCreary is concerned with the safety of the traffic flow in, out, and within this site and the site to the north. Mr. Tousignant stated this was discussed when the adjacent site was developed, noting that it is a one-way in and out. Commissioner Rauch stated that the change in user from what was previously approved has decreased the amount of traffic, possibly in half. There are pavement markings at the entrance and exit as well as within the site.

The call to the public was opened at 8:13 pm with no response.

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Special Land Use Application for a drive through restaurant within a multi-tenant commercial building. **The motion carried unanimously.**

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Environmental Impact Assessment dated 5/27/25 for a drive through restaurant within a multi-tenant commercial building. **The motion carried unanimously.**

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Site Plan dated 5/27/25 for a drive through restaurant within a multi-tenant commercial building. **The motion carried unanimously.**

OPEN PUBLIC HEARING #3... Consideration for a Special Land Use application, impact assessment, private road with a shared driveway for 7 new homes on 20.39 acres located at 6025 Brighton Road. Special Land Use is required for shared driveway crossing regulated wetland and 25-foot natural features buffer. The proposed development is for the following parcels: 4711-26-300-011 and 4711-27-400-012. The request is submitted by Boss engineering.

- A. Recommendation of Special Use Application
- B. Recommendation of Environmental Impact Assessment (5-20-25)
- C. Recommendation of Site Plan (7-22-25)

Moved by Lowe, supported by Hunt, to approve the Environmental Impact Assessment dated January 16, 2024 to allow for a proposed automatic car wash on the northern portion of vacant parcel #4711-04-300-017. The site is located on the east side of Latson Road, south side of Grand River Avenue with the following condition:

- Official approval from MDOT for the stormwater discharge shall be submitted prior to land use permit issuance.

The motion carried unanimously.

Moved by Hunt, supported by Lowe, to approve of the Site Plan dated March 14, 2024 to allow for a proposed automatic car wash on the northern portion of vacant parcel #4711-04-300-017. The site is located on the east side of Latson Road, south side of Grand River Avenue, with the following conditions:

- The required concrete pad at the Dumpster enclosure shall be installed.
- The property split shall be approved prior to land use permit issuance.
- The limited access driveway should remain at 15-foot width or preferably be eliminated. The applicant shall work with the Livingston County Road Commission, Brighton Area Fire Dept., and Township staff on the final design.
- The applicant shall use all available efforts to establish the connection to the north.
- An executed cross access easement with the property to the south shall be submitted and recorded prior to land use permit issuance.
- All site plan review overage fees must be paid prior to issuance of a land use permit.

The motion carried unanimously.

5. Consideration of a recommendation for approval of a special land use application, environmental impact assessment, and site plan to allow for a proposed multi-tenant commercial center including a drive-through coffee shop and outdoor seating restaurant. The site consists of vacant parcels #4711-04-300-017 and 4711-09-100-004 and is located on the east side of Latson Road, south of Grand River Avenue. The request is petitioned by Kevin Bahnam, 1015 Latson Road LLC.

A. Disposition of Special Use Application.

B. Disposition of Environmental Impact Assessment (1-16-24)

C. Disposition of Site Plan (3-14-24)

Mr. Brent LaVanway of Boss Engineering, Mr. Jeff Klatt, the architect, and Mr. Travis Sokana with Symmetry Management were present.

Mr. LaVanway provided a review of the project, which will have multiple tenants, one of which is a drive thru. They will need a variance from the ZBA for the drive thru as it is within 500 feet of another drive thru restaurant. They will be on their April agenda.

Ms. Hunt reiterated her concerns for the underground storage tanks for stormwater, but the engineer and Planning Commission approved them. She likes the building design. She confirmed that the existing entrance drive on Latson will be removed and Mr. LaVanway stated, "yes".

Supervisor Rogers likes the building design as well. He asked if the applicant knew what the other tenants would be and if they would be combined. Mr. Lavanway stated that the amount of parking available will determine what uses can be here.

Moved by Skolarus, supported by Lowe, to approve the Special Use Permit to allow for a proposed multi-tenant commercial center including a drive-through coffee shop and outdoor seating restaurant located on vacant parcels #4711-04-300-017 and 4711-09-100-004. The site is located on the east side of Latson Road, south side of Grand River Avenue with the following condition:

- A variance from the Zoning Board of Appeals shall be obtained for the 500-foot requirement from an existing drive-through.

The motion carried unanimously.

Moved by Lowe, supported by Hunt, to approve the Environmental Impact Assessment dated January 16, 2024 to allow for a proposed multi-tenant commercial center including a drive-through coffee shop and outdoor seating restaurant located on vacant parcels #4711-04-300-017 and 4711-09-100-004. The site is located on the east side of Latson Road, south side of Grand River with the following condition:

- Official approval from MDOT for the stormwater discharge shall be submitted prior to land use permit issuance.

The motion carried unanimously.

Moved by Ledford, supported by Lowe, to approve of the Site Plan dated March 14, 2024 to allow for a proposed multi-tenant commercial center including a drive through coffee shop and outdoor seating restaurant located at vacant parcels #4711-04-300-017 and 4711-09-100-004. The site is located on the east side of Latson Road, south side of Grand River Avenue, with the following conditions:

- The required concrete pad for the Dumpster enclosure shall be installed.
- The reconfiguring of the parcels shall be approved prior to land use permit issuance.
- An executed cross access easement with the property to the north shall be submitted and recorded prior to land use permit issuance.
- All site plan review overage fees must be paid prior to issuance of a land use permit.

The motion carried unanimously.

6. Consideration of a recommendation for approval of a special land use application, environmental impact assessment, and site plan to allow for outdoor RV/camper storage. The site is located at 2630 Grand River Avenue on the south side of Grand

LCRC's request for the signal changes. Mr. Tougnisant stated they will be working with MDOT to modify the signalization as requested.

Commissioner Dhaenens is satisfied with the landscaping provided and would not require the petitioner to add additional trees.

The call to the public was made at 7:36 pm with no response.

Moved by Commissioner Rassel, supported by Commissioner Chouinard, to recommend to the Township Board approval of the Special Use Application to allow for a proposed automatic car wash located on vacant parcels #4711-04-300-017 ~~and 4711-09-100-017~~ Latson Road, east side of Latson Road, south side of Grand River Avenue as this Commissioner finds that the special land use standards of Section 19.03 are generally met and the conditions of Section 7.02.02(l) have been met. **The motion carried unanimously.**

Moved by Commissioner Rassel, supported by Commissioner Chouinard, to recommend to the Township Board approval of the Environmental Impact Assessment dated January 16, 2024 to allow for a proposed automatic car wash located on vacant parcels #4711-04-300-017 ~~and 4711-09-100-017~~ Latson Road, east side of Latson Road, south side of Grand River Avenue. **The motion carried unanimously.**

Moved by Commissioner Rassel, supported by Commissioner Rauch, to recommend to the Township Board approval of the Site Plan dated January 16, 2024 to allow for a proposed automatic car wash located on vacant parcels #4711-04-300-017 ~~and 4711-09-100-017~~ Latson Road, east side of Latson Road, south side of Grand River Avenue, with the following conditions:

- The color of the fencing shall be changed from blue to a dark bronze or black color.
- The required concrete pad at the Dumpster enclosure shall be installed.
- The Planning Commission approves the landscape deficiency.
- The property split of this parcel shall be approved.

The motion carried unanimously.

OPEN PUBLIC HEARING #3... Consideration of a special land use application, environmental impact assessment and site plan to allow for a proposed multi-tenant commercial center including a drive through coffee shop and outdoor seating restaurant located on vacant parcels#:4711-04-300-017 and 4711-09-100-~~017~~004 Latson Road, east side of Latson Road, south side of Grand River Avenue. The request is petitioned by Kevin Bahnam, 1015 Latson Road LLC.

A. Recommendation of Special Use Application.

B. Recommendation of Environmental Impact Assessment (1-16-24)

C. Recommendation of Site Plan (1-16-24)

Mr. Scott Tousignant of Boss Engineering and Jeff Klatt, the architect, were present. Mr. Tousignant stated that MDOT's approval for the stormwater discharge applies to this site as well. He provided the changes made to the previous plans after discussions with the Planning Commission. They have relocated the access drive further to the north per the LCRC's request, moved the building closer to the access drive, relocated a bank of parking spaces, eliminated the site access from the right side of the property, and added the sidewalk.

Mr. Borden reviewed his letter dated February 6, 2024.

1. Special Land Uses (Section 19.03):

- a. The special land use standards of Section 19.03 are generally met.
- b. In order to make favorable findings related to compatibility and impacts, the conditions of Sections 7.02.02(i) and (j) and the buffer zone requirements of Section 12.02.03 must be met to the Commission's satisfaction.
- c. If a favorable recommendation is made, the Commission may wish to include a condition that a sound study be provided for the drive-through speaker system when the tenant is known.
- d. The applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority regarding public facilities and services.

2. Drive-Through Use Conditions (Section 7.02.02(j)):

- a. The 500-foot spacing between drive-throughs is not met (approximately 120 feet). The applicant notes that they will seek a variance from ZBA.

3. Site Plan Review:

- a. Building materials and color scheme are subject to review and approval by the Planning Commission.
- b. The landscape plan is deficient in width and a full screen wall for the easterly buffer zone; there is only a partial screen wall.

Mr. Barber reviewed Ms. Byrne's letter dated February 6, 2024 states:

1. The petitioner should obtain approval from the Livingston County Road Commission (LCRC) for the proposed site driveway prior to final site plan approval.
2. The petitioner is proposing a closed pipe type underground detention basin comprised of five 42-inch diameter pipes to provide 16,890 cubic feet of storage. The proposed building, site drive, and parking improvements do not allow enough space for any at-grade stormwater detention or retention.
3. Soil borings and infiltration testing should be provided within the proposed detention basin footprint and should show the documented high groundwater elevation. Soil borings shall be provided to a depth of at least 20 feet. The petitioner has noted that no geotechnical work has been completed for the site yet, but the geotechnical from the northern parcel was used for the current design. The infiltration rate and soil borings being used for the current design should be confirmed prior to construction of the storm system. Mr. Tousignant stated they will obtain those.

4. The proposed underground detention basin will tie into the existing storm sewer on Latson Road. The LCRC has indicated that the existing storm sewer is under MDOT jurisdiction and approval from MDOT will be required to connect to it. If approval from MDOT cannot be obtained the proposed site layout and storm management plan would change significantly, therefore we recommend that approval from MDOT be obtained prior to bringing the site plan before the Township Planning Commission.
5. The LCRC completed a review of the traffic impact study and plans, and the study was revised per their recommendation. The study recommended signal modifications at the Grand River Avenue and Latson Road intersection, which would need to be reviewed and discussed with MDOT. The study also recommended restricting the northernmost site driveway to right-in-right-out and aligning the southernmost site driveway to align directly with the existing Lowes driveway. Both site driveway recommendations have been addressed on the revised plans.

The Brighton Area Fire Authority Fire Marshal's letter dated February 2, 2024 states "The East drive clear width has been reduced to 23.5-feet and shall be increased to 26-feet as required. West drive fire lane signs are facing the incorrect direction." Mr. Tousignant stated they will amend the plans to meet the

Commissioner Rauch thanked the applicant for making the revisions. He is very happy with the building colors and materials. He noted that the color of the fencing should be changed as requested in the previous project.

Commissioner McCreary questioned the traffic impact study. Mr. Tousignant stated the changes to the signalization at Grand River and Latson Road will be made to improve the peak hour grades. This will be done at the time the project is developed.

Commissioner Dhaenens questioned Mr. Borden's suggestion regarding the noise ordinance and the drive thru speaker. Mr. Borden stated that since we do not know what is being built there, the Commission may wish to include a condition that a sound study be provided for the drive-through speaker system when the tenant is known.

The call to the public was made at 8:00 pm with no response.

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Special Use Application to allow for a proposed multi-tenant commercial center including a drive through coffee shop and outdoor seating restaurant located on vacant parcels#:4711-04-300-017 and 4711-09-100-~~017-004~~ Latson Road, east side of Latson Road, south side of Grand River Avenue. **The motion carried unanimously.**

Moved by Commissioner Chouinard, supported by Commissioner Rassel, to recommend to the Township Board approval of the Environmental Impact Assessment dated January 16, 2024 to allow for a proposed multi-tenant commercial center including a drive through coffee shop and

outdoor seating restaurant located on vacant parcels#:4711-04-300-017 and 4711-09-100-~~017~~
004 Latson Road, east side of Latson Road, south side of Grand River Avenue. **The motion carried unanimously.**

Moved by Commissioner Chouinard, supported by Commissioner Rauch to recommend to the Township Board approval of the Site Plan dated January 16, 2024 to allow for a proposed multi-tenant commercial center including a drive through coffee shop and outdoor seating restaurant located on vacant parcels#:4711-04-300-017 and 4711-09-100-~~017~~004 Latson Road, east side of Latson Road, south side of Grand River Avenue, with the following conditions:

- The color of the fencing shall be changed from blue to a dark bronze or black color.
- The ZBA's approval of the future drive thru uses.
- The required concrete pad at the Dumpster enclosure shall be installed.
- The property split of this parcel shall be approved.
- All conditions by other agencies shall be met.

The motion carried unanimously.

NEW BUSINESS:

OPEN PUBLIC HEARING #4...Consideration of a special land use application, environmental impact assessment and site plan to allow for temporary boat sales and service at an existing commercial site located at 5776 Grand River Avenue, south side of Grand River Avenue, west of Dorr Road. The request is petitioned by Wonderland Marine West.

A. Recommendation of Special Use Application

B. Recommendation of Environmental Impact Assessment (~~11-29-231-16-24~~)

C. Recommendation of Site Plan (~~2-16-242-19-24~~)

Mr. Gary Mitter, Sr. stated they are in the process of renovating their existing building, and during construction, they need a temporary building. They purchased the building next to their business. They will be remodeling it and it will match the same style as their renovated existing building.

Mr. Borden reviewed his letter dated March 5, 2024.

1. Special Land Uses (Section 19.03):

- a. The special land use standards of Section 19.03 are generally met.
- b. In order to make favorable findings related to compatibility and impacts, the use requirements of Section 7.02.02(c) must be met to the Commission's satisfaction.
- c. The applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority regarding public facilities and services.

2. Use Requirements (Section 7.02.02(c)):

- a. The majority of the use conditions are met; however, the buffer zone/screen fence requirement for outdoor storage is not fully met at the rear of the site. They are proposing

- The practical difficulty is that strict compliance with the setbacks would cause the applicant to be unable to construct the proposed single family home. Other homes in the vicinity have reduced side yard setbacks that will support substantial justice and is necessary for the preservation and enjoyment of a substantial property right possessed by other properties in the same vicinity
- The granting of the variances will not impair an adequate supply of light and air to adjacent property or unreasonably increase the congestion in public streets or increase the danger of fire or endanger the public safety, comfort, morals or welfare of the inhabitants of the Township of Genoa.
- The proposed variances would have little impact on the appropriate development, continued use, or value of adjacent properties and the surrounding neighborhood.

The approval is conditioned upon the following:

1. The structure to be guttered with downspouts.
2. If retaining walls are required, they must adhere to the township zoning ordinance and receive a land use permit.

The motion carried unanimously.

~~3. 24-10...A request by MITTS LLC, 5776 E. Grand River Avenue, for a front yard setback variance and any other variance deemed necessary by the Zoning Board of Appeals, to allow barrier-free parking near the building entrance. (REQUEST TO WITHDRAW)~~

4. 24-12...A request by 1015 Latson Road LLC, 1111 S. Latson Road, for a setback variance and any other variance deemed necessary by the Zoning Board of Appeals, to allow for a drive-thru.

Mr. Brent LaVanway from Boss Engineering and Mr. Travis O'Connor, representing the property owner, were present.

Chairperson McCreary advised the Board Members that this was recommended to be approved by the Planning Commission; however, it was conditioned upon this variance being approved.

Mr. LaVanway provided a review of the project and the property. A drive-thru is allowed as a special use; however, a variance is needed because of the distance between this property and Panda Express, which has an existing drive-thru. He stated the applicant had purchased the property and was in the process of planning its development but the Panda Express was approved and built first. This drive thru is over 700 feet from the Panera Drive through and over 800 feet from the Panda Express, but the ordinance states 500 feet from lot line to lot line. The parcel is only 88 feet from the Panda Express Parcel

This will not have a negative impact on the surrounding area. It was recommended for approval by the Planning Commission and approved by the Township Board. The practical difficulty is the configuration of the Panda Express Parcel and how it came in after this property was purchased and the planning began.

They have worked with the township, Brighton Area Fire Authority, and Livingston County Road Commission regarding the two entrances. The entrance that is directly across from the Wal Mart driveway will be the primary entrance and the entrance to the north, on the car wash parcel, will be the secondary and will be a right on and right out. They are required to have both of these entrances from the LCRC.

Ms. Ruthig stated that township staff are working with O'Reilly's for an easement from them for the second entrance and then the right in/right out will be removed.

Mr. O'Connor stated there is no committed tenant for this space. Mr. LaVanway stated in developments such as this, a coffee shop is an anchor, and they want to have a drive thru. Having a coffee shop helps the marketing for the other tenants. Ms. Ruthig advised that a coffee shop is the only use that is allowed in this space.

Mr. Rockwell stated that this is not zoned for a drive thru, but it's allowed through a special use, and now they are asking for a variance. Ms. Ruthig stated it is zoned for a coffee shop with a special use. In a different zoning district, a drive-thru would not be allowed. The applicant is not asking for a variance from the zoning district. She added that a fast-food restaurant would not be allowed here.

Board Member Fons noted that there are seven lanes of roadway between the two drive thru windows and the Panda Express lot has an irregular shape.

Mr. LaVanway stated that part of the traffic study included the intersection of Latson Road and Grand River, and traffic signal timing issues will need to be done to improve the traffic score at this location. These types of uses are local uses, and not destinations, so the drive-by traffic are people who would be traveling in this area already.

Board Member Rockwell is not in favor of the increase in traffic in this area.

The call to the public was opened at 7:37 pm with no response.

Moved by Board Member Kreutzberg, supported by Board Member Fons, to approve Case #24-12 submitted by 1015 Latson Road LLC for 1111 Latson Road a drive-through setback variance of 412 feet from the required 500 feet for a setback of 88 feet, to allow construction of a drive-thru coffee shop within 500 feet of another drive-thru restaurant, based on the following findings of fact:

- Strict complaint with the setbacks would unreasonably restrict use of the property. This variance will provide substantial justice, is the least necessary and would make the property consistent with other restaurants in the area.

Genoa Township Zoning Board of Appeals Meeting

April 16, 2024

Approved Minutes

- The need for variance is driven by a proposed use, extraordinary size and depth of parcel, which reduce the list of permissible uses. Site plan approval was recommended from the Planning Commission and granted by the Township Board.
- Granting of this variance would not impair adequate light or air to adjacent properties, would not increase congestion or increase danger of fire or threaten public safety or welfare.
- Proposed variance would have little impact on appropriate development, continued use or value of adjacent properties and surrounding neighborhood.

This approval is conditioned upon the following:

1. As noted by project engineering traffic and pavement impact modifications must be implemented as recommended by the Livingston County Road Commission and MDOT.

The motion carried (Fons - yes; Kreutzberg - yes; Rockwell - no; McCreary - yes; Ledford - yes).

5. 24-11...A request by Michael Brown, 4655 Sweet Road, for a side yard setback variance and any other variance deemed necessary by the Zoning Board of Appeals, to allow solar panels to remain.

Mr. Brown stated that if the solar panels were put in a location to meet the ordinance, it would have completely blocked their view of the lake. He thought that the solar panel company was going to obtain the correct permits prior to placing them on the side of the house. That company is now out of business. He has spent \$45,000 and it would cost another \$20,000 to have them moved, but then they would block his view of the lake. He has listed his home for sale and will build a new home on another parcel that he owns on Sweet Road.

Chairperson McCreary confirmed that the solar panel company is out of business.

Board Member Kreutzberg stated that the solar panels are on top of the septic tank and within view of the neighbor.

There was a discussion regarding the actual location of the solar panels on the property as there is a discrepancy of the survey and the information that was provided by the applicant. The variance needed is 22 feet, and the setback is 18 feet.

Board Member Rockwell noted that the property to the east of Mr. Brown's may be developed one day and the panels would be within view of that neighbor.

The call to the public was opened at 8:07 pm.

Mr. Wade Migliore, who owns property near Mr. Brown stated he was not aware that the solar panels were there. He does not have an issue with them. He agreed to sell Mr. Brown part of his property adjacent to him to ensure that he meets the ordinance.

The call to the public was closed at 8:09 pm.



July 31, 2025

Planning Commission
Genoa Township
2911 Dorr Road
Brighton, Michigan 48116

Attention:	Amy Ruthig, Planning Director
Subject:	South Latson Commercial Development – Special Land Use and Site Plan Review #2
Location:	1111 S. Latson Road – east side of Latson Road, south side of Grand River Avenue
Zoning:	GCD General Commercial District

Dear Commissioners:

At the Township’s request, we have reviewed the revised submittal materials requesting special land use review/approval for a drive-through restaurant within a multi-tenant commercial building (plans dated 5/27/25).

A. Summary

1. Special Land Uses (Section 19.03):

- a. The special land use standards of Section 19.03 are generally met.
- b. In order to make favorable findings related to compatibility and impacts, the use conditions of Section 7.02.02(j) must be met to the Commission’s satisfaction.
- c. The applicant must address any comments provided by the Township Engineer or Brighton Area Fire Authority regarding public facilities and services.

2. Drive-Through Use Conditions (Section 7.02.02(j)):

- a. Planning Commission has the authority to waive/modify the 500-foot spacing requirement between drive-throughs.
- b. The rear yard buffer zone provides the required plantings, but is deficient in width and a full length screen wall/fence (similar to the previously approved plan).
- c. In our opinion, the plan may benefit from some additional directional signage or pavement markings to help patrons properly navigate the site.
- d. The plan provides a partial escape lane. Planning Commission has the authority to waive/modify the escape lane requirement.

3. Site Plan Review:

- a. Building materials and color scheme are subject to review/approval by the Planning Commission.
- b. The rear yard buffer zone B is deficient in width and screen wall/fence length; however, the Planning Commission has the discretion to modify these requirements (similar to the previously approved plans).



Aerial view of site and surroundings (looking east)

B. Background/Proposal/Process

The applicant previously obtained special land use and site plan approval for development of a multi-tenant commercial building, including outdoor seating and a drive-through coffee shop. A variance was also granted by the ZBA to reduce the drive-through spacing requirement for the coffee shop.

The applicant now seeks consideration of a drive-through restaurant, as opposed to a coffee shop, which requires a new review.

Due to recent amendments to the Township Zoning Ordinance, Table 7.02 now allows drive-through restaurants with special land use approval in the GCD. The request is also subject to the use conditions of Section 7.02.02(j).

Procedurally, the Planning Commission is to review the special land use, site plan, and Environmental Impact Assessment, and put forth recommendations on each to the Township Board.

C. Special Land Use Review

Section 19.03 of the Zoning Ordinance identifies the review criteria for Special Land Use applications as follows:

- 1. Master Plan.** The Township Master Plan identifies the subject site as Mixed Use – West Grand River. This classification states that “regional commercial uses, such as auto-oriented uses (including fast-food) are only intended at interchange uses and where otherwise currently existing along Grand River Avenue.”

The subject site is located near a major roadway intersection and within close proximity to the S. Latson/I-96 interchange. Furthermore, there are other auto-oriented uses (gas stations and drive-throughs) in the immediate area.

As such, the Commission may find that the proposal is consistent with the Master Plan.

- 2. Compatibility.** Surrounding properties are primarily commercial/service in nature, though the site also abuts residential zoning and land use along the east side lot line.

The primary concerns under this criterion are related to potential impacts upon the adjacent residential property (light and noise).

The use conditions of Section 7.02.02(j) and landscaping and lighting requirements of Article 12 are intended to help mitigate potential off-site impacts. In order to make a favorable finding under this criterion, these standards must be met to the Commission’s satisfaction.

- 3. Public Facilities and Services.** Given that the site fronts Latson Road near Grand River Avenue, was previously developed, and recently obtained special land use and site plan approval, we believe that necessary public facilities and services are in place for the proposal.

However, the applicant must address any comments provided by the Township Engineer and/or Brighton Area Fire Authority related to this criterion.

- 4. Impacts.** Similar to comments above, use conditions and buffering requirements must be met to the Township's satisfaction to ensure that the adjacent residential use is not adversely impacted by the proposed development.

It is worth noting that the intended drive-through use is that of a pick-up lane and not a full-service drive-through, which will help to further mitigate any potential off-site impacts.

- 5. Mitigation.** If further concerns arise as part of the review process, the Township may require additional efforts to mitigate potential adverse impacts.

D. Use Conditions

Drive-through restaurants are subject to the use requirements of Section 7.02.02(j), as follows:

- 1. Principal and accessory buildings shall be setback a minimum of fifty (50) feet from any adjacent public right of way line or property line.**

The building provides setbacks in excess of 50 feet from each lot line. This standard is met.

- 2. The establishment of a new drive-through, excluding a drive-in, shall require the lot be separated a minimum of five hundred (500) feet from any other lot containing a drive-through. The Planning Commission may waive this requirement for uses with vehicular access to an internal service drive (and not directly to/from the main roadway), where access to the main roadway is via a shared driveway or signalized intersection, or where the use is expected to generate 50 directional or fewer trips during the a.m. or p.m. peak hour.**

The subject site is within 500 feet of another drive-through across S. Latson Road. In this instance, access to/from S. Latson Road is via a shared driveway with the property immediately north of the subject site. As such, the Planning Commission may waive the spacing requirement.

Though the proposal exceeds 50 directional trips in the peak hours, it is worth noting that the revised traffic study identifies a reduction in trip generation for the proposed use in comparison to the previously approved coffee shop.

- 3. Only one (1) access shall be provided onto any street.**

The site plan provides one full turning movement driveway with access to/from S. Latson. This standard is met.

- 4. Such uses constructed adjacent to other commercial developments shall have a direct vehicular access connection (cross-site access) where possible.**

The site plan provides a direct vehicular access connection with the commercial development immediately north of the subject site. This standard is met.

- 5. Where the property abuts a residential land use or zoning district, the site plan shall comply with the applicable landscaping and lighting regulations of Article 12 of the Township Zoning Ordinance. Additionally, the applicant shall provide a sound study demonstrating compliance with the Township Noise Ordinance (Ordinance #011203).**

Landscaping. A buffer zone B is required along the common property line with residential zoning/usage (rear and south side). The south side buffer zone fully complies with Ordinance standards; however, the rear yard buffer zone is deficient in width and a full screen wall/fence (similar to the previously approved plans).

Lighting. Photometric readings along the rear lot line, which abuts residential zoning, are 0.0. The pole mounted fixtures are at a height of 20 feet. Both the light intensity and pole heights comply with current standards for commercial sites abutting residential.

Noise. The applicant has provided a sound study, as required. The study concludes that noise levels generated by the proposed development will be within that allowed by the Township Noise Ordinance.

- 6. Clear identification and delineation between the drive-through lane and parking lot shall be provided.**

The drive-through lane is delineated from the parking lot via curbed landscape islands and sidewalks. The distinction between the drive-through lane and drive aisle along the rear of the building is simply a change in pavement surface.

In our opinion, the plan may benefit from some additional directional signage or pavement markings to help patrons properly navigate the site.

- 7. Each drive-through shall provide an escape lane to allow other vehicles to pass those waiting to be served. The Planning Commission may waive the requirement for an escape lane where it can be demonstrated that such a waiver will not result in an adverse effect on public safety or the convenience of patrons of the facility.**

The drive-through provides a partial escape lane, in that the first 7 stacking spaces are not physically blocked into the drive-through lane and can exit at any time. The remaining spaces are blocked by a curbed landscape island.

The Planning Commission has the discretion to waive/modify this requirement.

- 8. The drive-through lane and window shall be located on the side or rear elevation of the building to minimize visibility from the public or private roadway. The Planning Commission may allow a drive-through lane and window in a front yard of a corner lot, provided it is located in the front yard of the secondary street and the greenbelt requirements of Section 12.02.01 of the Township Zoning Ordinance are met. The Commission may also require additional landscaping/screening of the drive-through lane and window, if deemed necessary.**

The drive-through lane is located along the side and rear of the building, while the window is on the side. This standard is met.

E. Site Plan Review

- 1. Dimensional Requirements.** As noted in the table below, the site plan complies with the dimensional requirements of the GCD:

	Min. Lot Req.		Minimum Yard Setbacks (feet)				Max. Lot Coverage (%)	Max. Height
	Area (acres)	Width (feet)	Front Yard	Side Yard	Rear Yard	Parking Lot		
GCD	1	150	70	15	50	20 front 10 side/rear	35% building 75% impervious	35' 2 stories
Proposed	1.81	397	70	104 (N) 149 (S)	50	20 front 20 side 10 rear	11% building 74.3% impervious	21' 1 story

- 2. Building Design and Materials.** The primary building materials are brick and stone, with relatively small amounts of wood paneling and metal as accent materials.

The building elevation drawings include material calculations demonstrating compliance with the material standards of Section 12.01.

Building materials and colors are subject to review and approval by the Planning Commission.

- 3. Pedestrian Circulation.** The site plan provides an 8-foot wide concrete sidewalk along S. Latson.

The plan also provides internal pedestrian connections between the parking areas and building entrances, as well as a crosswalk connection to the public sidewalk along Latson Road.

- 4. Vehicular Circulation.** The site plan provides 1 curb cut for a full turning movement driveway to/from S. Latson. Cross-access is also provided with the proposed development to the north.

Drive aisles are of sufficient width for two-way traffic around the site.

The proposed driveway is nearly 400 feet from the existing driveway to the south (on the same side of Latson Road) and is properly aligned with the existing driveway across S. Latson Road.

The proposed un/loading areas occupy a portion of the drive aisle in the northeast and southeast corners of the site; however, a note is included stating that deliveries will be scheduled for off-peak hours to avoid potential conflicts.

The applicant must address any comments provided by the Township Engineer and/or the Brighton Area Fire Authority with respect to vehicular circulation.

- 5. Parking.** Based on the parking calculations included on Sheet 5, the project requires 73 parking spaces. The site plan provides 73 parking spaces, including the 3 required barrier-free spaces.

The design and dimensions of parking spaces and drive aisles comply with Ordinance standards. The number of stacking spaces and barrier-free spaces is also compliant.

- 6. Exterior Lighting.** The lighting plan identifies 9 light poles, 7 recessed canopy fixtures, and 15 wall mounted fixtures (9 of which are ornamental/architectural).

Based on the detail sheets, aside from the ornamental/architectural fixtures, the proposed fixtures are downward direct LEDs, as required.

Pole heights and photometric readings (both on-site and along property lines) comply with Ordinance standards.

7. **Landscaping.** The landscape plan has been reviewed for compliance with the standards of Section 12.02, as follows:

Standard	Required	Proposed	Comments
Front yard greenbelt	20' width 10 canopy trees	20' width 10 canopy trees	In compliance
Buffer Zone C (N)	10' width 9 canopy trees OR 9 evergreen trees OR 36 shrubs	24' width 5 canopy trees 16 shrubs	In compliance
Buffer Zone B (S)	20' width 6' wall OR 3' berm 7 canopy trees 7 evergreen trees 26 shrubs	20' width 3' berm 7 canopy trees 7 evergreen trees 27 shrubs	In compliance
Buffer Zone B (E)	20' width 6' wall OR 3' berm 14 canopy trees 14 evergreen trees 56 shrubs	10' width Partial 6' wall 14 canopy trees 14 evergreen trees 56 shrubs	Deficient width and full length wall
Parking lot	8 canopy trees 730 SF landscaped area	8 canopy trees 1,400 SF landscaped area	In compliance

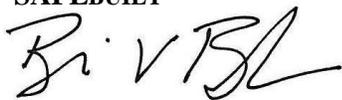
The Commission has the authority to modify landscaping requirements, per Section 12.02.13 (similar to the previously approved plans).

8. **Waste Receptacle.** The proposed waste receptacle has been reviewed for compliance with the standards of Section 12.04, as follows:

	Requirement	Proposed	Comments
Location	Rear yard or non-required side yard AND not less than 20' from residential	Rear yard 20' from residential	Requirements met
Access	Clear access w/ out damaging buildings/vehicles	Turning template demonstrates sufficient maneuvering area	Requirements met
Base design	9' x 15' concrete pad	Approximately 20' x 20' concrete pad	Requirement met
Enclosure	3-sided enclosure w/ gate Masonry walls 6' height/taller than receptacle	3 sides w/ gate across 4 th Masonry walls 6' height	Requirements met

Should you have any questions concerning this matter, please do not hesitate to contact our office.

Respectfully,
SAFE BUILT



Brian V. Borden, AICP
 Michigan Planning Manager



June 13, 2025

Ms. Amy Ruthig
Genoa Township
2911 Dorr Road
Brighton, MI 48116

**Re: South Latson Commercial Development
Site Plan Review No. 1**

Dear Ms. Ruthig:

Tetra Tech conducted a review of the proposed South Latson commercial development submittal last dated May 27, 2025. The site plan was prepared by Boss Engineering on behalf of 1015 South Latson Road, LLC. The site is located on the east side of Latson Road, approximately 650 feet south of Grand River Avenue. A site plan was previously approved for the site, which included a drive-thru coffee shop use on the north side of the site. The applicant has submitted a new site plan application, along with a special land use application to change the previously approved coffee shop to a drive-thru fast casual restaurant.

The proposed site plan does not have any major changes to the site plan that was approved for the property last year. Some changes include a more detailed building footprint with a slightly reduced square footage, outdoor seating, and adjustments to underground utilities per agency review requirements. Since no significant changes have been made to the engineering design of the site and the proposed change in use generally results in a similar impact to traffic and utilities, we have no engineering concern with the proposed site plan and special land use.

Please call or email if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads 'Shelby Byrne'.

Shelby Byrne, P.E.
Project Engineer



BRIGHTON AREA FIRE AUTHORITY

615 W. Grand River Ave.
Brighton, MI 48116
o: 810-229-6640 f: 810-229-1619

June 4, 2025

Sharon Stone-Francis
Genoa Township
2911 Dorr Road
Brighton, MI 48116

RE: South Latson Commercial Development
1111 S. Latson Rd.
Genoa Twp., MI

Dear Sharon,

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on May 28, 2025 and the drawings are dated May 27, 2025. The project is based on the proposed redevelopment of an existing vacant parcel for a new 8,925 square foot multi-tenant commercial retail development. The plan review is based on the requirements of the International Fire Code (IFC) 2021 edition.

All previous concerns cited for the project have been addressed. The fire authority has no further concerns regarding the amended Special Land Use Change based on the recently submitted documents.

Additional comments will be given during the building plan review process (specific to the building plans and occupancy). The applicant is reminded that the fire authority must review the fire protection systems submittals (sprinkler & alarm) prior to permit issuance by the Building Department and that the authority will also review the building plans for life safety requirements in conjunction with the Building Department.

If you have any questions about the comments on this plan review please contact me at 810-229-6640.

Cordially,

A handwritten signature in black ink, appearing to read "R. Boisvert".

Rick Boisvert, CFPS
Fire Marshal

cc: Amy Ruthig amy@genoa.org

**GENOA TOWNSHIP IMPACT ASSESSMENT
South Latson Commercial Development**

Prepared for:

**Owner / Applicant
1015 Latson Road LLC
Kevin Bahnam**

Prepared by:

Scott Tousignant, P.E.



3121 E. Grand River Howell, MI 48843
517.546.4836 fax 517.548.1670
www.bosseng.com

**October 4, 2023
Revised: October 26, 2023
Revised: December 11, 2023
Revised: January 16, 2024
Revised: May 27, 2025**

DISCUSSION ITEMS

- A. Name(s) and address(es) of person(s) responsible for preparation of the Impact Assessment and a brief statement of their qualifications.

Prepared by:

Scott Tousignant, P.E.
Professional Engineer/Project Manager
Boss Engineering
3121 E Grand River
Howell, MI 48843

Prepared for:

Owner/Applicant:
1015 Latson Road LLC / Kevin Bahnam
29592 Beck Road
Wixom, MI 48393

- B. Description of the site, including existing structures, man-made facilities, and natural features, all-inclusive to within 10' of the property boundary.***

The project site is on parcels # 4711-04-300-017 and # 4711-09-100-004 in Sections 4 & 9, Genoa Township, Livingston County, MI.

The subject site is bordered:

- On the north by the 1.14 acre +/- parcel zoned General Commercial (GCD) with an existing O'Reilly Auto Parts store.
- On the east by the 9.13 acre +/- parcel zoned General Commercial (GCD) with the Country Corners Shopping center.
- On the east and south by the 12.09 acre +/- parcel zoned High Density Residential (HDR) with the Prentis Estates Apartments. An approximately 4' tall berm is directly along the property line here on the adjacent HDR parcel and is planted with large Red and Scotch Pines ranging in size from 11" d.b.h. to 24" d.b.h. There is an additional evergreen screen just south of the berm along the east property line planted with White Cedar.
- On the west by S. Latson Road and the Non-Residential PUD shopping center with Walmart, PetSmart, Lowe's and various fast-food restaurants.
- The north side of the proposed project will be immediately adjacent to the Mister Car Wash development project within the GCD zoning.

MHOG sanitary runs along the west property line and South Latson Road. MHOG water runs along the east property line in the adjacent parcel. See the Existing Conditions for locations.

The subject site is a vacant parcel of land consisting of tall, unmaintained grasses and minimal trees. There are currently two existing commercial drive approaches accessing the 2 subject properties. Both will be removed and replaced with a full access drive that aligns with the existing Lowe's drive on the opposite side of Latson Road.

C. Impact on natural features: A written description of the environmental characteristics of the site prior to development, i.e., topography, soils, vegetative cover, drainage, streams, creeks or ponds.

These currently vacant parcels are flat (2-6% slopes) and covered by grass and weeds. The 0.50 acre parcel at the south does feature a woodland with small trees and shrubs below 6" d.b.h. unless otherwise noted on the tree survey. Species within the woodland include *Pyrus* spp. (Pear), *Acer saccharinum* (Silver Maple), *Populus deltoides* (Eastern Cottonwood), *Prunus serotina* (Black Cherry), and *Pinus sylvestris* (Scotch Pine.)

The soils are largely Miami Loam with 2 to 6% slopes. Other soils on site are Conover Loam and Washtenaw Silt Loam. The site drains via surface flow from east to west to the South Latson Road storm sewer system. No wetlands/streams/creeks or other water bodies are located on site.

D. Impact on storm water management: description of soil erosion control measures during construction.

Storm water will be managed on site and installed before any building construction. Underground storm water detention is planned with a discharge to the South Latson Road storm system and ultimately to the regional detention basin to the south by I-96. Detailed construction plans will be reviewed by the Township Engineer and the Soil Erosion Control plans will be reviewed and permit issued by the Livingston County Drain Commissioners office prior to construction commencing. Ongoing/periodic soil erosion inspections will occur per County requirements to ensure soil erosion is managed proactively.

E. Impact on surrounding land use: Description of proposed usage and other man-made facilities; how it conforms to existing and potential development patterns. Effects of added lighting, noise or air pollution which could negatively impact adjacent properties.

Proposed uses on this General Commercial site include a Fast Food with Drive-Through and a variety of retail & restaurant spaces. The proposed uses conform to existing and potential development patterns and will not negatively impact adjacent properties with added lighting, noise or air pollution. The site development will comply with Township Ordinances for lighting levels as well as noise levels. The uses proposed do not impact adjacent properties with noise, light or air pollution.

An existing berm and evergreen screening in the adjacent parcel to the north along the High-Density Residential (HDR) property line screens that use from these proposed commercial uses. In addition, a 6-foot-tall screening fence is proposed for the northern portion and 8' high screen fence proposed for the southern portion of the east property line to screen the HDR use. An existing tree screen is on the property line and installing a screen fence would jeopardize and/or require removal of some of the mature trees currently screening the parcel. On the northern half of the east property line, there are no living units, so providing additional plantings to be a continuation of the landscaped screen to the adjacent HDR zoning is being proposed. A screen fence is proposed there as well given the reduction in landscape buffer width that is being sought. Proposed uses on this site are compatible with existing zoning and adjacent zoning on S. Latson Road.

F. Impact on public facilities and services: Description of number of residents, employees, patrons, and impact on general services, i.e., schools, police, fire.

The proposed commercial development does not add additional burden on the fire and police services as the site is surrounded by similar development that already receives coverage. The uses do not add population that impacts schools. The commercial retail will add to Township tax revenue as the site currently sits vacant. The commercial retail will add approximately 60 jobs which has a positive impact on the community.

G. Impact on public utilities: description of public utilities serving the project, i.e., water, sanitary sewer, and storm drainage system. Expected flows projected in residential units.

Storm water will be detained on-site via the use of an underground detention system. The storm water will be discharge at pre-development rates to the South Latson Road storm sewer system as the site currently sheet flows into this road storm system. Detailed construction plans would be reviewed by the Township Engineer and the Soil Erosion Control permit would be reviewed and issued by the Livingston County Drain Commissioner. MHOG sanitary sewer runs along the west property line and South Latson Road. It is expected that the site will be connected to MHOG sanitary sewer along South Latson Road and MHOG water along the east property line in the adjacent parcel. The commercial development, being supported by these public utilities is not anticipated to have a negative impact. The development is projected to be approximately 11 REU's (projecting possible end users of the commercial leasable space) which equates to approximately a peak flow usage of 13,000 gpd.

H. Storage or handling of any hazardous materials: Description of any hazardous materials used, stored, or disposed of on-site.

No storing or handling of any hazardous materials is expected for this development.

I. Impact on traffic and pedestrians: Description of traffic volumes to be generated and their effect on the area.

A traffic study has been performed. It is prepared under separate cover and submitted to the Township and Livingston County Road Commission. In summary of the Traffic Impact Study performed by Colliers Engineering & Design, "Based on the results of this study, the following should be considered to provide acceptable traffic operations with the proposed development project. 1) Optimize signal timings at the intersection of Grand River Avenue and Latson Road. 2) Construct two driveways to Latson Road with the S. site driveway aligned with the existing Lowes driveway and the N. site driveway restricted to right-in-right-out only." A supplemental Traffic Memo has been provided as well to discuss the change in use from coffee shop with drive thru to a fast food with drive thru.

The Livingston County Road Commission will be required to review and approve the commercial driveway approaches on South Latson Road. Communications with LCRC indicate that the proposed drive locations are acceptable. A right-in/right-out access will be provided on the site to the north and a full access drive provided on the subject site directly across from the existing Lowe's access drive. A cross access easement will be provided for the adjacent site to the north.

J. Special provisions: Deed restrictions, protective covenants, etc.

Ingress/Egress easement with Mister Car Wash for MCW use of the full access drive

K. Description of all sources:

- Genoa Township Zoning Ordinance
- “Soil Survey of Livingston County Michigan” Soil Conservation Services, USDA
- Traffic Impact Study by Colliers Engineering & Design dated September 15, 2023



3121 E. Grand River Howell, MI 48843
 517.546.4836 fax 517.548.1670
 www.bosseng.com

May 27th, 2025

Amy Ruthig, Planning Director
 Genoa Township
 2911 Dorr Road
 Brighton, MI 48116

Re: South Latson Commercial Development – Resubmittal for change in use
 Statement of Traffic Changes

Dear Ms. Ruthig,

The proposed project is seeking a new Special Land Use application for a change in use from the previously approved Coffee Shop with drive thru to the now allowed fast food with drive thru within the GCD zoning. To support this site modification, an evaluation on the traffic was done. Per the approved TIS prepared by Colliers dated December 9th, 2023, the Table 6 Site Trip Generations is shown below.

Table 6: Site Trip Generation

Land Use	ITE Code	Amount	Units	ADT	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Strip Retail Plaza	822	4,025	SF	400	9	6	15	21	20	41
		<i>Pass-By (34% PM)</i>		136	0	0	0	7	7	14
		New Trips		264	9	6	15	14	13	27
High-Turnover (Sit-Down) Restaurant	932	2,700	SF	289	14	12	26	15	9	24
		<i>Pass-By (43%)</i>		124	5	5	10	5	5	10
		New Trips		165	9	7	16	10	4	14
Coffee Shop with Drive-Through	937	2,950	SF	1,574	129	124	253	58	57	115
		<i>Pass-By (50%)</i>		787	63	63	126	29	29	58
		New Trips		787	66	61	127	29	28	57
Automated Car Wash	948	1	Tunnel	0	10	10	20	39	39	78
		<i>Pass-By (35%)</i>		0	3	3	6	13	13	26
		New Trips		0	7	7	14	26	26	52
Total		Total Trips		2,263	162	152	314	133	125	258
		Pass-By Trips		1,047	71	71	142	54	54	108
		New Trips		1,216	91	81	172	79	71	150

Since the previous approval on this site, the building areas in the above table have been refined and reduced. Table 1 below shows the previous use and area allocations compared to that of the currently proposed use and area allocations. Since the allocated areas are reduced, the resultant traffic generated will also be slightly reduced. We find it unnecessary to update the traffic study

with less intensive use/reduced areas as the proposed improvements will remain the same and are proposed to be constructed as previously approved.

Table 1: Use & Area Comparison Table

Land Use	Use Code	Previously Proposed Area	New Area
High-Turnover (Sit-Down) Restaurant	932	2,700	2,397
Strip Retail Plaza	822	4,025	3,452
Coffee Shop with Drive-Through Window	937	2,950	-
Fast Food Restaurant with Drive-Through Window	934	-	2,702

Utilizing the ITE Trip Generation Manual, below is a comparison of the previously approved “Coffee Shop with Drive-Through” use (ITE Land Use Code 937) compared to that of the “Fast Food Restaurant with Drive-Through” use (ITE Land Use Code 934). The below data in Table 2 shows there is a significant decrease in AM Peak Hour trips generated and a slight increase in PM Peak Hour trips comparing a Coffee Shop use to that of the Fast Food use. Ultimately, a modification in use to allow a “Fast Food with Drive-Through” use results in a reduction of total Peak Hour trips generated to the site and provides a more balanced trip breakdown throughout the day.

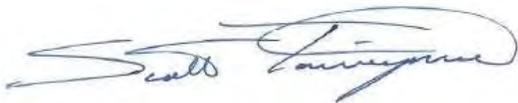
Table 2: Peak Hour Traffic changes with Use Change

Land Use	Use Code	Amount	Units	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Coffee Shop with Drive-Through Window	937	2,950	sft	129	124	253	58	57	115
Fast Food Restaurant with Drive-Through Window	934	2,702	sft	72	66	138	71	68	139

Should you have any questions concerning the modifications indicated above, please don't hesitate to ask.

Sincerely,

BOSS ENGINEERING COMPANY



Scott Tousignant, PE
Senior Project Manager
Scottt@bosseng.com

NOISE IMPACT ANALYSIS

**SOUTH LATSON COMMERCIAL DEVELOPMENT PROJECT
GENOA TOWNSHIP, HOWELL, MICHIGAN**



July 2025

NOISE IMPACT ANALYSIS

SOUTH LATSON COMMERCIAL DEVELOPMENT PROJECT GENOA TOWNSHIP, HOWELL, MICHIGAN

Submitted to:

Scott Tousignant
BOSS Engineering
3121 East Grand River
Howell, Michigan 48843

Prepared by:

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157 Park Place
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(949) 553-0666

Project No. 20252450



July 2025

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LIST OF ABBREVIATIONS AND ACRONYMS

APN	Assessor's Parcel Number
dB	decibel(s)
dBA	A-weighted decibel(s)
ft	foot/feet
HVAC	heating, ventilation, and air conditioning
I-96	Interstate 96
L _{dn}	day-night average noise level
L _{eq}	equivalent continuous sound level
L _{max}	maximum instantaneous noise level
L _w	sound power level
project	South Latson Commercial Development Project
sf	square foot/feet
Township	Genoa Township

INTRODUCTION

This noise impact analysis evaluates the potential noise impacts and noise reduction measures associated with the proposed South Latson Commercial Development Project (project) in Genoa Township, Howell, Michigan. This report is intended to satisfy the Genoa Township's requirement for a project-specific noise impact analysis by examining the impacts of the proposed uses on the project site and identifies whether any noise reduction measures to reduce project noise impacts would be necessary.

PROJECT LOCATION

The proposed project is located at 1111 South Latson Road (Assessor's Parcel Number [APN] 11-09-004) in Genoa Township, Howell, Michigan. Regional access to the project site is provided by Grand River Avenue, located north of the project site, and Interstate 96 (I-96), located south of the project site. Figure 1 shows the project location.

PROJECT DESCRIPTION

The proposed project would construct an 8,706-square-foot (sf) commercial building on a 0.5-acre site. The project would consist of a 2,560 sf fast-food restaurant with drive-thru, a 3,568 sf general retail use, a 2,398 sf sit-down restaurant, and a 180 sf landlord mechanical room. Also, the project would provide a total of 73 parking spaces. The hours of operation for the proposed commercial uses would be from 6:00 a.m. to 11:00 p.m., while the drive-thru would operate from 10:00 a.m. to 11:00 p.m. Figure 2 shows site plan.

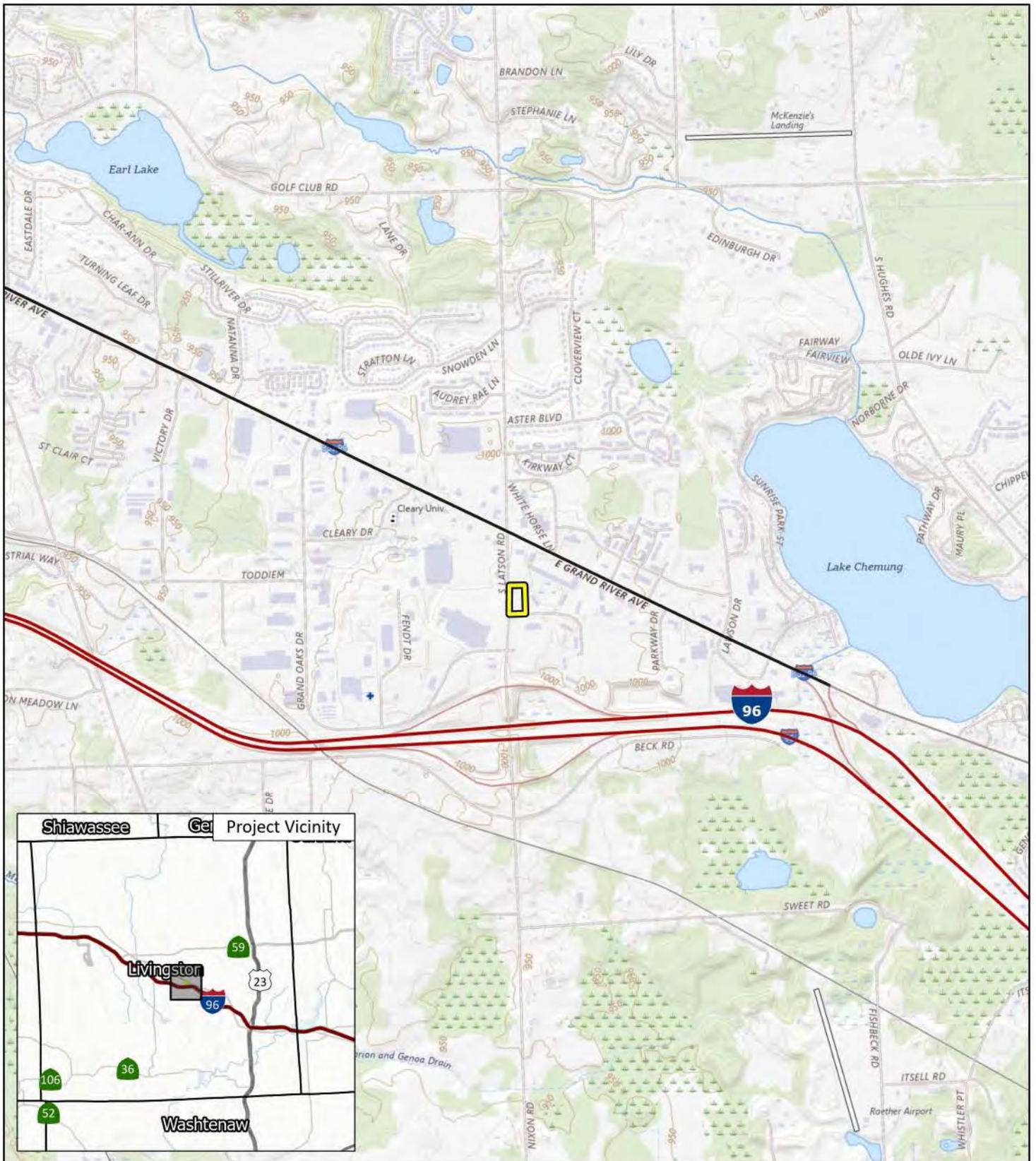


FIGURE 1

LSA

 Project Site



0 1000 2000
FEET

SOURCE: USGS The National Map (2018)

I:\2025\20252450\GIS\Pro\1015 Latson Rd South Latson Comm Dev\1015 Latson Rd South Latson Comm Dev.aprx (6/30/2025)

South Latson Commercial Development
Project Location

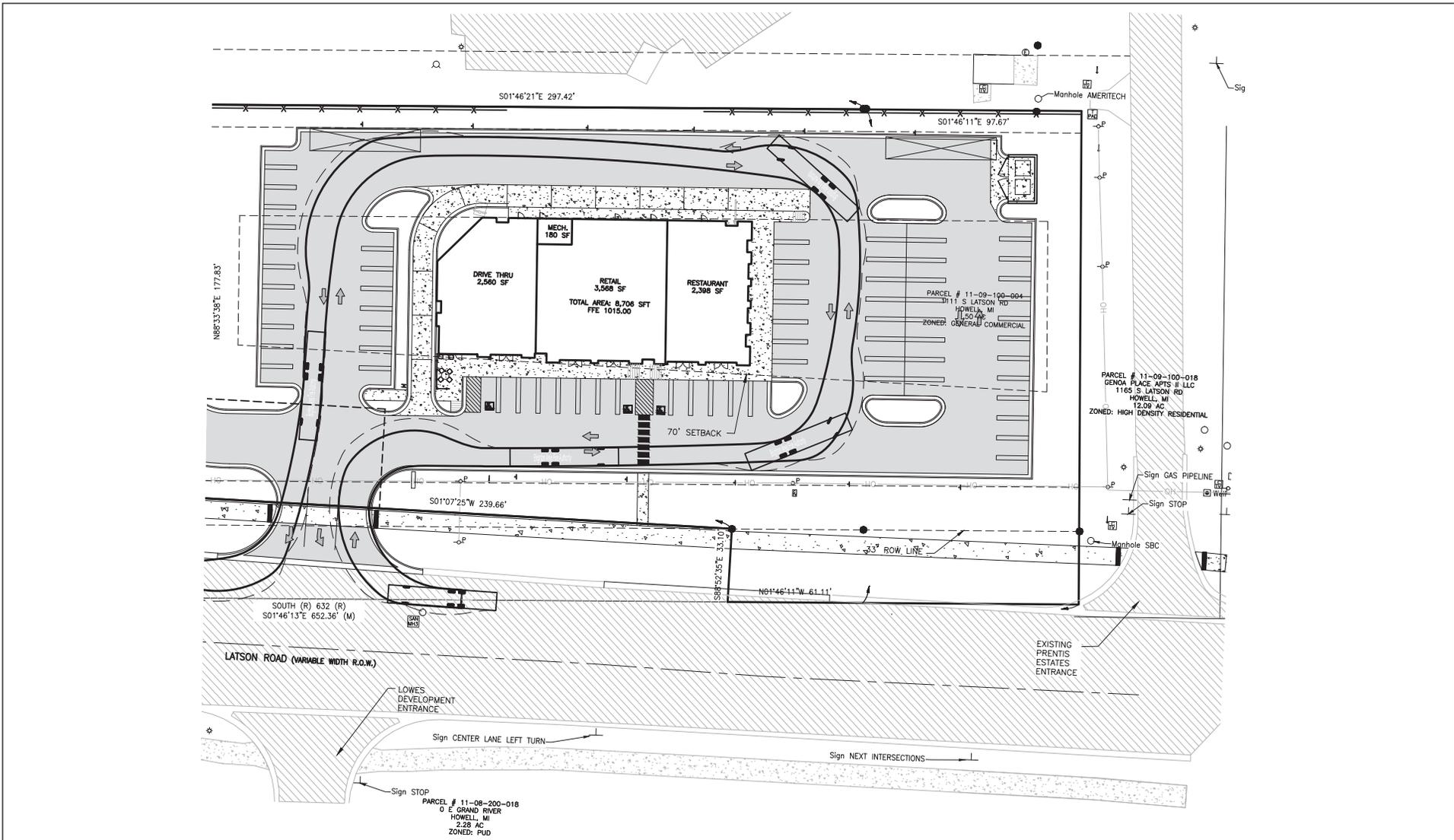


FIGURE 2

LSA



SOURCE: Boss Engineering
 I:\2025\20252450\G\Site_Plan.ai (7/1/2025)

South Latson Commercial Development Project
 Site Plan

NOISE FUNDAMENTALS

CHARACTERISTICS OF SOUND

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a sound wave, which results in the tone's range from high to low. Loudness is the strength of a sound, and it describes a noisy or quiet environment; it is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound wave combined with the reception characteristics of the human ear. Sound intensity refers to the power carried by sound waves per unit area in a direction perpendicular to that area. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound pressure level and its effect on adjacent sensitive land uses.

Measurement of Sound

Sound intensity is measured with the A-weighted decibel (dBA) scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound, similar to the human ear's de-emphasis of these frequencies. Decibels (dB), unlike linear units (e.g., inches or pounds), are measured on a logarithmic scale, which is a scale based on powers of 10.

For example, 10 dB is 10 times more intense than 0 dB, 20 dB is 100 times more intense than 0 dB, and 30 dB is 1,000 times more intense than 0 dB. Thirty decibels (30 dB) represents 1,000 times as much acoustic energy as 0 dB. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the sound's loudness. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound levels dissipate exponentially with distance from their noise sources. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source (e.g., highway traffic or railroad operations) the sound decreases 3 dB for each doubling of distance in a hard site environment. Line-source sound levels decrease 4.5 dB for each doubling of distance in a relatively flat environment with absorptive vegetation.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. The equivalent continuous sound level (L_{eq}) is the total sound energy of time-varying noise over a sample period.

Other noise rating scales of importance when assessing the annoyance factor include the maximum instantaneous noise level (L_{max}), which is the highest exponential time-averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max} , which reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first category includes audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3 dB or greater because this level has been found to be barely perceptible in exterior environments. Additionally, an increase of more than 5 dBA is typically considered readily perceptible in an exterior environment. The second category, potentially audible, refers to a change in the noise level between 1 dB and 3 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category includes changes in noise levels of less than 1 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to sound levels higher than 85 dBA. Exposure to high sound levels affects the entire system, with prolonged sound exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of sound exposure above 90 dBA would result in permanent cell damage. When the sound level reaches 120 dBA, a tickling sensation occurs in the human ear, even with short-term exposure. This level of sound is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by a feeling of pain in the ear (i.e., the threshold of pain). A sound level of 160–165 dBA will result in dizziness or a loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying, less-developed areas.

Table A lists definitions of acoustical terms, and Table B shows common sound levels and their sources.

Table A: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of sound level that denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in 1 second (i.e., the number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter de-emphasizes the very low and very high-frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. (All sound levels in this report are A-weighted unless reported otherwise.)
L ₀₁ , L ₁₀ , L ₅₀ , L ₉₀	The fast A-weighted noise levels that are equaled or exceeded by a fluctuating sound level 1%, 10%, 50%, and 90% of a stated time period, respectively.
Equivalent Continuous Noise Level, L _{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Day/Night Noise Level, L _{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dBA to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L _{max} , L _{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging.
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time. It is usually a composite of sound from many sources from many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends on its amplitude, duration, frequency, time of occurrence, and tonal or informational content, as well as the prevailing ambient noise level.

Source: *Technical Noise Supplement* (Caltrans 2013) and *Transit Noise and Vibration Impact Assessment Manual* (FTA 2018).

Caltrans = California Department of Transportation

FTA = Federal Transit Administration

Table B: Common Sound Levels and Their Noise Sources

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 ft		
	— 100 —	
Gas lawn mower at 3 ft		
	— 90 —	
Diesel truck at 50 ft at 50 mph		Food blender at 3 ft
	— 80 —	Garbage disposal at 3 ft
Noisy urban area, daytime		
Gas lawn mower, 100 ft	— 70 —	Vacuum cleaner at 10 ft
Commercial area		Normal speech at 3 ft
Heavy traffic at 300 ft	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast/recording studio
	— 10 —	

Source: *Technical Noise Supplement* (Caltrans 2013).
Caltrans = California Department of Transportation
dBA = A-weighted decibels

ft = feet
mph = miles per hour

REGULATORY SETTING

APPLICABLE NOISE STANDARDS

Genoa Township Noise Ordinance

Genoa Township addresses operational noise standards in Ordinance No. #011203: Noise Ordinance.

Section 3 states:

“No person, firm or corporation or other legal entity shall cause or create any unreasonable or unnecessarily loud noise or disturbance, injurious to health, peace, or quiet of the residents and property owners of the Township.

Specific violations the following noises and disturbances are hereby declared to be a violation of this ordinance; provided however, that the specification of the same is not thereby to be construed to exclude other violations of this ordinance not specifically enumerated:

9. The operation of any machinery, equipment or mechanical device so as to emit unreasonably loud noise which is disturbing to the quiet, comfort or repose of any person.”

Section 4 states:

“No person shall conduct or permit any activity, including those specific prohibitions listing in section 3 that produces an OBA at or beyond the property line of the property on which it is conducted which exceeds the levels specified in Table I. Such noise levels shall be measured on the property line or on the adjacent property, which is receiving the noise. Where property is used for both residential and commercial purposes, the limitations set forth below for commercial property shall apply.”

Table I of the Ordinance provides the specific noise levels standards that are applicable when a commercial property is producing sound onto a residential property. The established noise level standards are 80 dBA from 7:00 a.m. to 10:00 p.m. and 50 dBA from 10:00 p.m. to 7:00 a.m.

EXISTING SETTING

This section describes the existing noise environment in the project vicinity. Noise level measurements were used to describe the existing noise environment in the project vicinity.

OVERVIEW OF THE EXISTING NOISE ENVIRONMENT

Transportation facilities are the primary existing noise sources in the project area. Traffic noise in the project area includes South Latson Road and other local roadways in the project area. Commercial activities north, south, and west of the project site contribute to the noise environment in the project area.

LAND USES IN THE PROJECT VICINITY

The project site is surrounded by commercial and residential uses. Land uses adjacent to the project site include:

- **North:** Existing commercial uses (car wash)
- **East:** Existing residential uses (Prentis Estates Apartments)
- **South:** Existing commercial uses (HealthPlus Pharmacy of Howell)
- **West:** Existing commercial uses (Panda Express and Lowe’s)

EXISTING NOISE LEVEL MEASUREMENTS

Two long-term (24-hour) noise level measurements were conducted from October 9 and October 10, 2023, using Larson Davis Spark 706RC dosimeters to document the existing noise environment within the project area. Table C summarizes the results of the long-term noise level measurements along with a description of the measurement locations and noise sources that occurred during the measurements. As shown in Table C, daytime noise levels ranged from 60.0 to 70.4 dBA L_{eq} and nighttime noise levels ranged from 52.5 to 64.1 dBA L_{eq} . The long-term noise level measurement survey sheets, along with the hourly L_{eq} and L_{max} results, are provided in Appendix A. Figure 3 shows the long-term monitoring locations.

Table C: Long-Term Noise Level Measurements

Monitoring No.	Location	Noise Levels (dBA L_{eq})		Noise Source
		Daytime ¹	Nighttime ²	
LT-1	North of the project site. Approximately 160 feet from the Latson Road centerline.	62.5–70.4	52.5–64.1	Traffic on South Latson Road and noise from adjacent commercial activity.
LT-2	Northwest of the Prentis Estates Apartments. Approximately 250 feet from the South Latson Road centerline.	60.0–64.5	53.2–62.1	Traffic on South Latson Road.

Source: Compiled by LSA (2023).

¹ Daytime hours are from 7:00 a.m. to 10:00 p.m.

² Nighttime hours are from 10:00 p.m. to 7:00 a.m.

dBA = A-weighted decibels

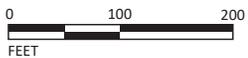
L_{eq} = equivalent continuous sound level



LSA

LEGEND

- Project Site Boundary
- LT-X Long-term Noise Monitoring Location



SOURCE: Google Earth 2025
 I:\2025\20252450\G\Noise_Locs.ai (6/30/2025)

FIGURE 3

South Latson Commercial Development Project
 Noise Monitoring Locations

PROJECT IMPACTS

LONG-TERM OPERATIONAL NOISE IMPACTS

The operational noise analysis includes the individual sources associated with operations, including heating, ventilation, and air conditioning (HVAC) equipment, drive-thru vehicle activities, speakerphone noise, and parking lot activities. The following subsections present the reference noise assumptions and operation noise impact conclusions.

The software SoundPLAN was used to calculate the expected impacts due to long-term operational stationary-source activities. Within the model, the noise library allows for the input of many noise sources and calculates the composite noise levels experienced at any receptor. The results from the calculations are presented in graphic format in Appendix B.

Heating, Ventilation, and Air Conditioning Equipment

The proposed project would include three York Sun Pro KJ Series rooftop HVAC units based on the site plan and information provided by BOSS Engineering. The HVAC equipment would operate during business hours. Rooftop HVAC equipment would generate sound power levels (L_w) of 83 dBA and 89 dBA for the 6.5-ton and 10-ton units (Johnson Controls Ducted Systems 2024), respectively. The specifications of the HVAC equipment, including the reference noise level, are provided in Appendix B.

Drive-Thru Vehicle Activities

The proposed project would include a vehicle drive-thru. Noise levels from idling vehicles would be approximately 50.1 dBA L_{eq} at a distance of 50 feet (ft) (Caltrans 2013).

Speakerphone Noise

The proposed project would include a drive-through speakerphone that is part of the menu board. Noise generated from the speakerphone would be 60 dBA L_{eq} at a distance of 16 ft (HM Electronics 1998). The specifications of the speakerphone, including the reference noise level, are provided in Appendix C. Drive-thru speakers are expected to operate for 30 minutes within an hour during daytime and nighttime hours.

Parking lot activities

Parking lot operations are expected to result in maximum noise levels of 83.4 dBA L_{max} at a distance of 5 ft based on reference information within SoundPLAN. Parking lot activities are expected to occur for a period of 5 minutes during daytime hours and 1 minute during nighttime hours.

Long-Term Operational Noise Impacts Summary

Noise levels generated from the operations of the proposed commercial uses during the day and at night are shown in the SoundPLAN printouts in Appendix D. As shown in the SoundPLAN printouts, noise levels at the closest residence to the east would not exceed the Township's daytime and

nighttime noise limit of 80 dBA L_{eq} and 50 dBA L_{eq} , respectively. Therefore, the operations of the proposed commercial use would comply with the Township's daytime and nighttime noise limits.

CONCLUSION

Noise levels generated from the operations of the proposed project during the day and a night would not exceed the Township's daytime and nighttime noise limits of 80 dBA L_{eq} and 50 dBA L_{eq} , respectively. Therefore, the operations of the proposed commercial use would comply with the Township's daytime and nighttime noise limits.

REFERENCES

- California Department of Transportation (Caltrans). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September. Website: <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf> (accessed July 2025).
- Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual. FTA Report 0123*. Office of Planning and Environment. September. Website: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf (accessed July 2025).
- Genoa Township. 2023. *Code of Ordinances*. Website: <https://www.genoa.org/government/ordinances/ordinance-noise> (accessed July 2025).
- HM Electronics. 1998. *Drive-Thru Sound Pressure Levels From the Menu Board or Speaker Post*. December.
- Johnson Controls Ducted Systems. 2024. *Technical Guide: Sun™ Pro KJ Series, 3 ton to 12.5 ton, AC*. March 4. Website: <https://files.hvacnavigator.com/p/6481606-ytg-a-0324.pdf> (accessed July 2025).

PROPERTY DESCRIPTION:

PROPERTY DESCRIPTION PER KEM-TEC PROJECT
 #21-03542 DATE 11-24-21 PARCEL
 #4711-09-100-004

LAND SITUATED IN THE TOWNSHIP OF GENOA, COUNTY OF LIVINGSTON IN THE STATE OF MICHIGAN AND IS DESCRIBED AS FOLLOWS:

A PART OF THE NORTHWEST 1/4 OF THE NORTHWEST 1/4 OF SECTION 9, TOWN 2 NORTH, RANGE 5 EAST, MICHIGAN, DESCRIBED AS: BEGINNING 63.2 FEET SOUTH OF THE NORTHWEST CORNER OF THE NORTHWEST 1/4, THENCE EAST 223.00 FEET, THENCE NORTH 97.67 FEET, THENCE WEST 223.00 FEET, THENCE SOUTH 97.67 FEET TO THE POINT OF BEGINNING.

PROPERTY DESCRIPTION PER METRO CONSULTING ASSOCIATES PROJECT #1037-17-8480 DATED 01-19-18 PARCEL #4711-04-300-017

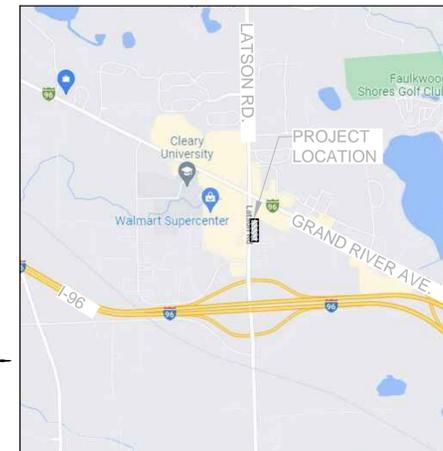
Commencing at the Southwest Corner of Section 9, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan, said corner being NO 1°46'11" W 19.43 feet from a point referenced in Quit Claim Deed dated January 29, 1957, recorded April 4, 1961 in Liber 391, Page 382, Livingston County Records; thence N87°10'40"E 56.81 feet along the North line of said Section 9 and the South line of said Section 4, as established and approved by the Livingston County Remanentation Peer Group, dated June 6, 2002 and recorded in LSC# 1710n, Livingston County Records to the POINT OF BEGINNING; thence S 59°36'15" E 159.36 feet along the arc of a 10,060.00 foot radius non-tangent circular curve to the left, having a central angle of 100°54'27" having a chord which bears N00°15'46"W 159.36 feet along the East line of MDOT Right-of-Way as recorded in Instrument #P 2011R-023812, Livingston County Records; thence N89°33'52"E 150.45 feet along the South line of Parcel 3 as described in a Warranty Deed recorded June 6, 2016, in Instrument # 2016R-019204 and the North line of the Consumers Power Company land per Warranty Deed recorded in 539, Page 13, Livingston County Records; thence S 01°19'25"E 125.00 feet along said Consumers Power Company land and parallel with the West line of said Section 4; thence the following four (4) courses along the North, East and South line of a Quit-Claim Deed to Consumers Power Company, recorded in Liber 391, Page 382, Livingston County Records: (1) N89°33'52"E 12.94 feet recorded as 13.00 feet; (2) S 01°14'18"E 30.69 feet to the South line of said Section 4; (3) S 01°46'21"E 297.42 feet and (4) S88°33'38"E 177.83 feet along the North line of the South 97.67 feet as stated in Warranty Deed recorded in Liber 232, Page 195, Livingston County Records; thence NO 1°46'11" W 158.78 feet along the West line of said Section 9 and within the Right-of-Way of Latson Road (variable width); thence S 00°52'25"E 33.10 feet along the South line of MDOT Right-of-Way as recorded in Instrument # 2011R-023812; thence the following two (2) courses along said Right-of-Way: (1) NO 1°07'25"E 333.02 feet and (2) 163.72 feet along the arc of a 10,060.00 foot radius circular curve to the left, with a central angle of 00°55'57" having a chord which bears N00°39'25"E 163.71 feet to the POINT OF BEGINNING. Containing 2.09 acres of land, more or less. Being part of the SW 1/4 of the SW 1/4 of Section 4 and part of the NW 1/4 of Section 9, Town 2 North, Range 5 East, Genoa Township, Livingston County, Michigan. Subject to the right of the Public over the West 33.00 feet thereof, as occupied by Latson Road (Variable Width), being subject to any other Easement and restrictions of record, if any.

RESULTANT PARCEL

PROPOSED PARCEL 2 (SOUTH):
 Part of the Northwest 1/4 of Section 9, T2N-R5E, Genoa Township, Livingston County, Michigan, more particularly described as follows: Commencing at the Northwest Corner of Section 9, also being the Southwest 1/4 of Section 4, said corner being North 01 degree 46 minutes 11 seconds West, 19.43 feet from a point referenced in Quit Claim Deed, dated January 29, 1957, recorded April 4, 1961 in Liber 391, Page 382, Livingston County Records; thence along the North line of Section 9 and the South line of Section 4, N 87°18'40" E, 56.81 feet; thence along the East line of MDOT Right-of-Way for Latson Road, as recorded in Instrument #2011R-023812, Livingston County Records, the following two (2) courses: 1) Southerly along an arc left, having a length of 163.71 feet, a radius of 10,091.50 feet, a central angle of 00°55'46", and a long chord which bears S 00°39'25" W, 163.71 feet; thence S 01°07'25" W, 68.33 feet, to the POINT OF BEGINNING of the Parcel to be described; thence N 88°33'38" E, 177.83 feet; thence S 01°46'21" E, 297.42 feet; thence S 01°46'11" E, 97.67 feet; thence S 88°08'19" W, 223.00 feet; thence along the West line of said Section 9 and within the Right-of-Way of Latson Road (Variable Width Right of Way), N 01°46'11" W, 158.78 feet; thence along the South line of MDOT Right-of-Way for Latson Road, as recorded in Instrument #2011R-023812, Livingston County Records, S 88°52'35" E, 33.10 feet; thence along the East line of MDOT Right-of-Way for Latson Road, as recorded in Instrument #2011R-023812, Livingston County Records, the following two (2) courses: 1) N 01°07'25" E, 239.66 feet, to the POINT OF BEGINNING, containing 1.81 acres, more or less, and subject to the rights of the public over the existing Latson Road. Also subject to any other easements or restrictions of record.

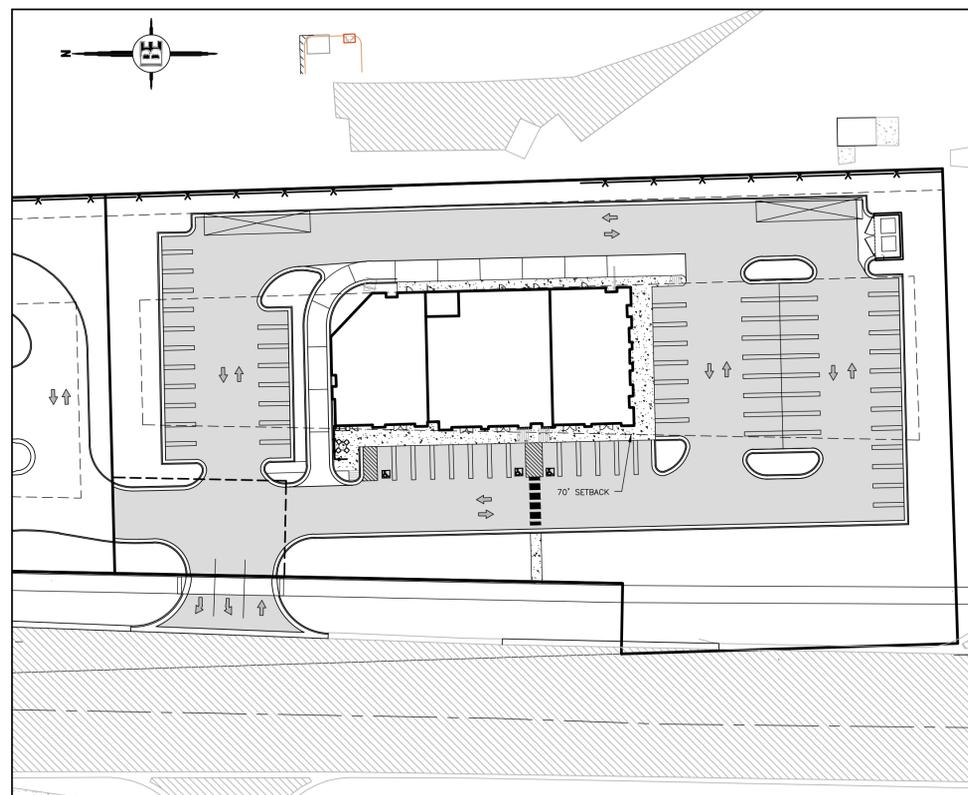
Bearings are based on Michigan State Plane Coordinate System, South Zone and legal description per Chicago Title Insurance Company, File No.: 21040145-C, Policy No.: 7430600-224063018, dated 6-4-21.

SITE PLAN / CONSTRUCTION PLAN FOR SOUTH LATSON COMMERCIAL DEVELOPMENT PART OF NW QUARTER, SECTION 4 & 9 GENOA CHARTER TOWNSHIP, LIVINGSTON COUNTY, MI



LOCATION MAP

NO SCALE



OVERALL SITE MAP

NO SCALE

SHEET INDEX	
SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & LEGEND
3	EXISTING CONDITIONS, DEMO & NATURAL FEATURES PLAN
4	OVERALL SITE PLAN
5	SITE PLAN
6	GRADING & DRAINAGE PLAN
7	SOIL EROSION & SEDIMENTATION CONTROL PLAN
8	UTILITY PLAN
9	PLAN & PROFILE
10	LANDSCAPE PLAN
11	CONSTRUCTION DETAILS
12	BASIN DETAILS
13	UNDERGROUND DETENTION DETAILS
14-17	MHOG DETAILS
PLANS BY OTHERS	
1-2	PHOTOMETRIC PLAN
A.100	FLOOR PLAN
A.200	BUILDING ELEVATION
A.300	BUILDING RENDERING

PERMITS & APPROVALS		
AGENCY	DATE SUBMITTED	DATE APPROVED
• TOWNSHIP ENGINEERING APPROVAL	04/15/2024	06/28/2024
• LORC	03/06/2024	04/29/2024
• MDOT DRAINAGE	01/19/2024	03/11/2024
• LDDC SESC	04/15/2024	
• EGLE - ACT 399	10/24/2024	11/06/2024

LIGHTING PREPARED BY:
 GASSER BUSH ASSOCIATES
 30984 INDUSTRIAL RD
 LIVONIA, MI 48150
 QUOTES@GASSERBUSH.COM
 PHONE: 734-266-6705

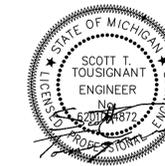
OWNER:
 1015 LATSON ROAD LLC
 29592 BECK RD
 WIXOM, MI 48393
CONTACT: KEVIN BAHNAM
 PHONE: 248.767.5337
 EMAIL: KBAHNAM@USA2GOQUICKSTORES.COM

PREPARED BY:

BEBOSS
Engineering
 Engineers Surveyors Planners Landscape Architects

3121 E. GRAND RIVER AVE.
 HOWELL, MI. 48843
 517.546.4836 FAX 517.548.1670

CONTACT: SCOTT TOUSIGNANT, P.E.
 EMAIL: SCOTT@BOSSENG.COM



INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

4	ST	ST	CHANGE IN USE - NEW SLU SUBMITTAL	5-27-25	1
3	ST	ST	PER ACT 399 REVIEW	10-24-24	
2	ST	ST	PER MHOG REVIEW	6-17-24	
1	ST	ST	PER MHOG REVIEW	5-20-24	
NO	BY	CK	REVISION	DATE	

ISSUE DATE: 04/15/24
JOB NO: 21-519

GENERAL NOTES

1. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL REQUIRED TOWNSHIP, COUNTY, AND STATE OF MICHIGAN PERMITS.
2. A GRADING PERMIT FOR SOIL EROSION-SEDIMENTATION CONTROL SHALL BE OBTAINED FROM THE GOVERNING AGENCY PRIOR TO THE START OF CONSTRUCTION.
3. IF DUST PROBLEM OCCURS DURING CONSTRUCTION, CONTROL WILL BE PROVIDED BY AN APPLICATION OF WATER, EITHER BY SPRINKLER OR TANK TRUCK.
4. ALL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH LOCAL MUNICIPAL STANDARDS AND SPECIFICATIONS.
5. PAVED SURFACES, WALKWAYS, SIGNS, LIGHTING AND OTHER STRUCTURES SHALL BE MAINTAINED IN A SAFE, ATTRACTIVE CONDITION AS ORIGINALLY DESIGNED AND CONSTRUCTED.
6. ALL BARRIER-FREE FEATURES SHALL BE CONSTRUCTED TO MEET ALL LOCAL, STATE AND A.D.A. REQUIREMENTS. WHERE EXISTING CONDITIONS AND/OR THE REQUIREMENTS OF THE PLANS WILL RESULT IN FINISHED CONDITIONS THAT DO NOT MEET ADA REQUIREMENTS, THE CONTRACTOR SHALL NOTIFY THE DESIGN ENGINEER PRIOR TO WORK COMMENCING.
7. ANY DISCREPANCY IN THIS PLAN AND ACTUAL FIELD CONDITIONS SHALL BE REPORTED TO THE DESIGN ENGINEER PRIOR TO THE START OF CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL SETBACKS, EASEMENTS AND DIMENSIONS SHOWN HEREON PRIOR TO BEGINNING CONSTRUCTION.
8. THE CONTRACTOR SHALL CONTACT ALL OWNERS OF EASEMENTS, UTILITIES AND RIGHT-OF-WAY, PUBLIC OR PRIVATE, PRIOR TO THE START OF CONSTRUCTION.
9. THE CONTRACTOR SHALL COORDINATE WITH ALL OWNERS TO DETERMINE THE LOCATION OF EXISTING LANDSCAPING, IRRIGATION LINES & PRIVATE UTILITY LINES. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING LANDSCAPING, IRRIGATION LINES, AND PRIVATE UTILITY LINES.
10. THE CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE UPON COMPLETION OF THE PROJECT.
11. THE CONTRACTOR SHALL MAINTAIN THE SITE IN A MANNER SO THAT WORKMEN AND PUBLIC SHALL BE PROTECTED FROM INJURY, AND ADJOINING PROPERTY PROTECTED FROM DAMAGE.
12. THE CONTRACTOR SHALL KEEP THE AREA OUTSIDE THE "CONSTRUCTION LIMITS" BROOM CLEAN AT ALL TIMES.
13. THE CONTRACTOR SHALL CALL MISS DIG A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION.
14. ALL PAVEMENT REPLACEMENT AND OTHER WORKS COVERED BY THESE PLANS SHALL BE DONE IN ACCORDANCE WITH THE REQUIREMENTS OF THE TOWNSHIP, INCLUDING THE LATEST MICHIGAN DEPARTMENT OF TRANSPORTATION (MDOT) SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
15. THE CONTRACTOR IS RESPONSIBLE FOR ALL DAMAGE TO EXISTING UTILITIES.
16. NO ADDITIONAL COMPENSATION WILL BE PAID TO THE CONTRACTOR FOR ANY DELAY OR INCONVENIENCE DUE TO THE MATERIAL SHORTAGES OR RESPONSIBLE DELAYS DUE TO THE OPERATIONS OF SUCH OTHER PARTIES DOING WORK INDICATED OR SHOWN ON THE PLANS OR IN THE SPECIFICATION OR FOR ANY REASONABLE DELAYS IN CONSTRUCTION DUE TO THE ENCOUNTERING OR EXISTING UTILITIES THAT MAY OR MAY NOT BE SHOWN ON THE PLANS.
17. DURING THE CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL NOT PERFORM WORK BY PRIVATE AGREEMENT WITH PROPERTY OWNERS ADJACENT TO THE PROJECT.
18. IF WORK EXTENDS BEYOND NOVEMBER 15, NO COMPENSATION WILL BE DUE TO THE CONTRACTOR FOR ANY WINTER PROTECTION MEASURES THAT MAY BE REQUIRED BY THE ENGINEER.
19. NO TREES ARE TO BE REMOVED UNTIL MARKED IN THE FIELD BY THE ENGINEER.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE PROPERTY BEYOND THE CONSTRUCTION LIMITS INCLUDING BUT NOT LIMITED TO EXISTING FENCE, LAWN, TREES AND SHRUBBERY.
21. TRAFFIC SHALL BE MAINTAINED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SIGNS AND TRAFFIC CONTROL DEVICES. FLAG PERSONS SHALL BE PROVIDED BY THE CONTRACTOR IF DETERMINED NECESSARY BY THE ENGINEER. ALL SIGNS SHALL CONFORM TO THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AT NO COST TO THE TOWNSHIP. NO WORK SHALL BE DONE UNLESS THE APPROPRIATE TRAFFIC CONTROL DEVICES ARE IN PLACE.
22. ALL DEMOLISHED MATERIALS AND SOIL SPOILS SHALL BE REMOVED FROM THE SITE AT NO ADDITIONAL COST, AND DISPOSED OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.
23. ANY EXISTING APPURTENANCES SUCH AS MANHOLES, GATE VALVES, ETC. SHALL BE ADJUSTED TO THE PROPOSED GRADE AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
24. ALL PERMANENT SIGNS AND PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH THE LATEST REVISION OF THE MICHIGAN MUTCD MANUAL AND SHALL BE INCIDENTAL TO THE CONTRACT.
25. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT ALL ITEMS REQUIRED FOR CONSTRUCTION OF THE PROJECT ARE INCLUDED IN THE CONTRACT. ANY ITEMS NOT SPECIFICALLY DESIGNATED IN THE PLANS SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.
26. THE CONTRACTOR IS RESPONSIBLE FOR HAVING A SET OF APPROVED CONSTRUCTION PLANS, WITH THE LATEST REVISION DATE, ON SITE PRIOR TO THE START OF CONSTRUCTION; IN THE EVENT OF ANY QUESTIONS PERTAINING TO THE INTENT OF THE CONSTRUCTION PLANS OR SPECIFICATIONS, THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER FOR A FINAL DETERMINATION FROM THE DESIGN ENGINEER.
27. THE CONTRACTOR, NOT THE OWNER OR THE ENGINEER, ARE RESPONSIBLE FOR THE MEANS, METHODS, AND SEQUENCE OF CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR SAFE EXECUTION OF THE PROJECT SCOPE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS.
28. THE CONTRACTOR IS RESPONSIBLE FOR PRESERVING CONSTRUCTION STAKING AS NECESSARY. CONTRACTOR TO NOTIFY CONSTRUCTION SURVEYOR OF REPLACEMENT STAKES NEEDED WHICH SHALL BE AT THE CONTRACTORS EXPENSE.
29. THE OWNER AND/OR CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING FRANCHISE UTILITY SERVICES (CABLE, ELECTRIC, GAS, ETC.) OWNER AND/OR CONTRACTOR SHALL WORK WITH UTILITY COMPANIES ON FURNISHING SITE UTILITY LAYOUTS AND PROVIDING CONDUIT CROSSINGS AS REQUIRED.
30. DAMAGE TO ANY EXISTING UTILITIES OR INFRASTRUCTURE (INCLUDING PAVEMENT, CURB, SIDEWALK, ETC.) SHALL PROMPTLY BE REPLACED IN KIND AND SHALL BE AT THE CONTRACTORS EXPENSE.
31. COORDINATION OF TESTING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND PER ALL CITY/TOWNSHIP/COUNTY REQUIREMENTS. COPIES OF ALL TEST REPORTS SHALL BE FURNISHED TO THE DESIGN ENGINEER.
32. PRIOR TO THE START OF CONSTRUCTION, PROTECTION FENCING SHALL BE ERECTED AROUND THE TREE DRIPLINE OF ANY TREES INDICATED TO BE SAVED WITHIN THE LIMITS OF DISTURBANCE.
33. THE CONTRACTOR SHALL MAINTAIN DRAINAGE OF THE PROJECT AREA AND ADJACENT AREAS. WHERE EXISTING DRAINAGE FACILITIES ARE IMPACTED/DISTURBED DUE TO CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ANY NECESSARY TEMPORARY DRAINAGE PROVISIONS.
34. SOIL BORING LOGS ARE REPRESENTATIVE OF SPECIFIC POINTS ON THE PROJECT SITE, AND IF PROVIDED TO THE CONTRACTOR ARE FOR INFORMATIONAL PURPOSES ONLY.
35. WHERE CITY/TOWNSHIP STANDARD CONSTRUCTION DETAILS/SPECIFICATIONS ARE PROVIDED AND ARE IN CONFLICT WITH NOTES AND SPECIFICATIONS HEREIN, THE CITY/TOWNSHIP STANDARD SHALL GOVERN.

INDEMNIFICATION STATEMENT

THE CONTRACTOR SHALL HOLD HARMLESS THE DESIGN PROFESSIONAL, MUNICIPALITY, COUNTY, STATE, AND ALL OF ITS SUB CONSULTANTS, PUBLIC AND PRIVATE UTILITY COMPANIES, AND LANDOWNERS FOR DAMAGES TO INDIVIDUALS AND PROPERTY, REAL OR OTHERWISE, DUE TO THE OPERATIONS OF THE CONTRACTOR AND/OR THEIR SUBCONTRACTORS.

CONTRACTOR TO FOLLOW MANUFACTURER SPECS/RECOMMENDATIONS THAT SUPERCEDE PLANS

GENERAL GRADING & SESC NOTES

1. THE CONTRACTOR SHALL HAVE IN PLACE ALL REQUIRED EROSION CONTROL METHODS AS INDICATED ON THE CONSTRUCTION PLANS AND AS REQUIRED BY GENERAL PRACTICE. SPECIFIC MEANS, METHODS AND SEQUENCES OF CONSTRUCTION MAY DICTATE ADDITIONAL SOIL EROSION CONTROL MEASURES BE NEEDED. THE CONTRACTOR SHALL COORDINATE WITH THE DESIGN ENGINEER ON THESE ANTICIPATED METHODS. ADDITIONAL SOIL EROSION CONTROL METHODS SHALL BE INCIDENTAL TO THE SCOPE OF WORK.
2. ACTUAL FIELD CONDITIONS MAY DICTATE ADDITIONAL OR ALTERNATE SOIL EROSION CONTROL MEASURES BE UTILIZED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DEFICIENCIES OR FIELD CONDITIONS THAT WARRANT ADDITIONAL AND/OR ALTERNATIVE SESC MEASURES BE UTILIZED.
3. AT THE CLOSE OF EACH DAY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ALL CONSTRUCTION OPERATIONS, MATERIALS, DEBRIS, ETC ARE CONTAINED ON-SITE.
4. AT THE CLOSE OF EACH WORKING DAY, ALL DRAINAGE STRUCTURES SHALL BE FREE OF DIRT AND DEBRIS AT THE FLOW LINE.
5. ALL SOIL EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE PER MDEGL REGULATIONS AND BEST PRACTICES. ALL SOIL EROSION CONTROL MEASURES SHALL BE MAINTAINED BY THE CONTRACTOR.
6. THE SOIL EROSION CONTROL MEASURES SHALL BE KEPT IN PLACE UNTIL SUCH A TIME THAT THE SITE IS DETERMINED TO BE ESTABLISHED WITH ACCEPTABLE AMOUNT OF VEGETATIVE GROUND COVER.
7. ALL AREAS DISTURBED BY THE CONTRACTOR BEYOND THE NORMAL CONSTRUCTION LIMITS OF THE PROJECT SHALL BE SODDED OR SEEDED AS SPECIFIED OR DIRECTED BY THE ENGINEER.
8. AFTER REMOVAL OF TOPSOIL, THE SUBGRADE SHALL BE COMPACTED TO 95% OF ITS UNIT WEIGHT.
9. ALL GRADING IN THE PLANS SHALL BE DONE AS PART OF THIS CONTRACT. ALL DELETERIOUS MATERIAL SHALL BE REMOVED FROM THE SUBGRADE PRIOR TO COMPACTING.
10. ALL ROOTS, STUMPS AND OTHER OBJECTIONABLE MATERIALS SHALL BE REMOVED AND THE HOLE BACKFILLED WITH SUITABLE MATERIAL. WHERE GRADE CORRECTION IS REQUIRED, THE SUBGRADE SHALL BE CUT TO CONFORM TO THE CROSS-SECTION AS SHOWN IN THE PLANS.
11. ALL EXCAVATION UNDER OR WITHIN 3 FEET OF PUBLIC PAVEMENT, EXISTING OR PROPOSED SHALL BE BACKFILLED AND COMPACTED WITH SAND (MDOOT CLASS II).

GENERAL LANDSCAPE NOTES

1. ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY. ALL STOCK SHALL BE NURSERY GROWN, CONFORMING TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK", AND IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. STOCK SHALL EXHIBIT NORMAL GROWTH HABIT AND BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, & DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
2. ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT, AND SECURELY WRAPPED AND BOUND.
3. ALL PLANT BED MATERIALS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEIOUS OBJECTS, AND POOR SOILS TO A MINIMUM DEPTH OF 12-INCHES AND BACKFILLED TO GRADE WITH SPECIFIED PLANTING MIX (SEE BELOW).
4. PLANTING MIXTURE SHALL CONSIST OF 5 PARTS TOPSOIL FROM ON-SITE (AS APPROVED), 4 PARTS COARSE SAND, 1 PART SPHAGNUM PEAT MOSS (OR APPROVED COMPOST), AND 5 LBS OF SUPERPHOSPHATE FERTILIZER PER CU. YD. OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED FOR UNIFORM CONSISTENCY.
5. ALL PLANT BEDS AND INDIVIDUAL PLANTS, NOT OTHERWISE NOTED SHALL BE MULCHED WITH A 4-INCH LAYER OF SHREDDED BARK MULCH. EDGE OF MULCH BEDS AS SHOWN. DECIDUOUS TREES IN LAWN AREAS SHALL RECEIVE A 5-FT DIAMETER CIRCLE OF MULCH AND CONIFER TREES 8-FT (PLANTED CROWN OF TREE) UNLESS OTHERWISE NOTED.
6. LANDSCAPE STONE SHALL BE INSTALLED WHERE NOTED OR INDICATED (HATCHED). STONE SHALL BE 3/4"-1-1/4" WASHED RIVER GRAVEL OR AS SELECTED AND SHALL BE INSTALLED TO A MINIMUM DEPTH OF 3-INCHES.
7. ALL LANDSCAPE BEDS, UNLESS OTHERWISE NOTED SHALL BE INSTALLED OVER WEED BARRIER FABRIC - WATER PERMEABLE FILTRATION FABRIC OF NON-WOVEN POLYPROPYLENE OR POLYESTER FABRIC. FABRIC SHALL BE OF SUITABLE THICKNESS FOR APPLICATION.
8. ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
9. THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED, IN WRITING, BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD OF TIME, ALL DEAD PLANTS, AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT, DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL SPECIFICATIONS.
10. EDGING SHALL BE PROVIDED FOR ALL LANDSCAPE BEDS NOT ADJACENT TO CONCRETE PAVEMENT. EDGING SHALL BE BLACK ALUMINUM EDGING, 3/16-INCH X 4-INCH. INSTALL PER MANUFACTURER'S INSTRUCTIONS, ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRREGULARITIES.
11. SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUE GRASSES AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4-INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10-INCHES BY 18-INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36-HOURS AFTER CUTTING.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN-OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.

ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED, OR SODDED SHALL BE SEEDED AND MULCHED.

SEED MIXTURE SHALL BE AS FOLLOWS:
 KENTUCKY BLUEGRASS (CHOOSE 3 VARIETIES - ADLPHI, RUGBY, GLADE, OR PARADE) 30%
 RUBY RED OR DAWSON RED FINE FESCUE 30%
 ATLANTA RED FESCUE 20%
 PENNFINE PERENNIAL RYE 20%

THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:
 10% NITROGEN - MIN 25% FROM A UREA FORMALDEHYDE SOURCE
 0 % PHOSPHATE
 10% POTASH - SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE

THE FIRST FERTILIZER APPLICATION SHALL BE AT A RATE OF 10 LBS PER 1000 SQ FT OF BULK FERTILIZER.

IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ANY PART OF THE AREA THAT FAILS TO SHOW A UNIFORM GERMINATION SHALL BE RE-SEEDED AND SUCH RE-SEEDED SHALL CONTINUE UNTIL A DENSE LAWN IS ESTABLISHED. DAMAGE TO SEEDED AREAS RESULTING FROM EROSION SHALL BE REPAIRED BY THE CONTRACTOR.

13. ALL AREAS OF THE SITE SCHEDULED FOR SEEDING OR SODDING SHALL FIRST RECEIVE A 6-INCH LAYER OF CLEAN, FRIABLE TOPSOIL. THE SOIL SHALL BE DISCED AND SHALL BE GRADED IN CONFORMANCE WITH THE GRADING PLAN.
14. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATION OF ALL UTILITIES AND TO INFORM THE LANDSCAPE ARCHITECT OF ANY CONFLICTS PRIOR TO COMMENCING LANDSCAPING.

GENERAL UTILITY NOTES

1. BEDDING SHALL EXTEND A MINIMUM OF 4" BELOW THE PIPE, UNLESS OTHERWISE NOTED ON THE PLANS. BEDDING SHALL BE OF UNIFORM GRADATION MDOOT 6AA STONE OR MDOOT CLASS II GRANULAR MATERIAL FOR SANITARY AND STORM PIPE AND MDOOT CLASS II GRANULAR MATERIAL ONLY FOR WATERMAIN.
2. WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER.
3. BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND ROCKS.
4. BACKFILL ABOVE THE PIPE SHALL BE OF GRANULAR MATERIAL MDOOT CLASS II TO A POINT 12" ABOVE THE TOP OF THE PIPE. WHERE THE TRENCH IS NOT WITHIN THE INFLUENCE OF THE ROAD, SUITABLE SITE MATERIAL MAY BE COMPACTED AND UTILIZED FROM A POINT 12" ABOVE THE PIPE TO GRADE. WHERE THE TRENCH IS WITHIN A 1:1 INFLUENCE OF THE ROAD, GRANULAR MATERIAL, MDOOT CLASS II OR III, IS TO BE PLACED AND COMPACTED IN LAYERS NOT EXCEEDING 12" IN THICKNESS. COMPACTION SHALL BE 95% AS DETERMINED BY AASHTO 199.
5. 18" MINIMUM VERTICAL SEPARATION AND 10" HORIZONTAL SEPARATION IS TO BE MAINTAINED BETWEEN WATERMAIN AND SANITARY/STORM SEWER TO THE MAXIMUM EXTENT POSSIBLE.

GENERAL STORM NOTES

1. ALL STORM PIPE LENGTHS ARE SHOWN FROM C/L TO C/L OF STRUCTURE OR FROM C/L OF STRUCTURE TO DISCHARGE END OF FLARED END SECTION.
2. STORM PIPE MATERIALS SHALL BE AS FOLLOWS:
 2.1. RCP(REINFORCED CONCRETE PIPE); SHALL MEET THE REQUIREMENTS OF ASTM C76 WITH MODIFIED GROOVED TONGUE AND RUBBER GASKETS MEETING THE REQUIREMENTS OF ASTM C443. RCP TO BE EITHER CLASS IV OR V AS CALLED OUT ON THE PLANS.
 2.2. HDPE(HIGH DENSITY POLYETHYLENE); SHALL MEET THE REQUIREMENTS OF ASTM F2648.
 2.3. PP(POLYPROPYLENE); SHALL MEET THE REQUIREMENTS OF ASTM F2881.
 2.4. PVC(POLYVINYL CHLORIDE); SHALL MEET THE REQUIREMENTS OF ASTM D3034.
3. STORM PIPE JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212. HDPE AND PP PIPE GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477.
4. ALL STORM PIPE TO HAVE WATERTIGHT PREMIUM JOINTS, UNLESS OTHERWISE NOTED ON THE PLANS.
5. STORM DRAINAGE STRUCTURES SHALL BE FURNISHED WITH STEPS WHICH SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR EQUIVALENT. STEPS SHALL BE SET AT 16" CENTER TO CENTER.
6. ALL FLARED END SECTIONS 15" AND LARGER SHALL BE FURNISHED WITH AN ANIMAL GRATE.
7. FLARED END SECTIONS DISCHARGING STORM WATER SHALL RECEIVE A MINIMUM OF 10 SQ YDS OF PLAIN CBBLESTONE RIP RAP WITH A MINIMUM STONE SIZE OF 6" AND SHALL BE PLACED ON A GEOTEXTILE FABRIC WRAP.
8. ALL CATCH BASINS WITHIN THE ROADWAY SHALL INCLUDE INSTALLATION OF 6" DIAMETER PERFORATED PIPE SUBDRAIN.
9. STORM DRAINAGE STRUCTURE COVERS SHALL BE OF THE FOLLOWING (OR APPROVED EQUAL):

TYPE	LOCATION	FRAME	COVER/INLET
'MH'	ALL	1040	SANITARY-SOLID SELF-SEALING STORM-VENTED
'CB'	TYPE A CURB	7000-T1-M	FLAT GRATE WITH VERT. OPEN BACK
'CB'	TYPE B CURB	7065-T1-M	FLAT GRATE WITH ROLL BACK
'CB'	PAVEMENT/SHOULDER	1020-M1	FLAT GRATE
'CB'	OPEN AREA	1020-01	BEEHIVE GRATE 4" HIGH
'CB'	GUTTER	S100	CONCAVE INLET

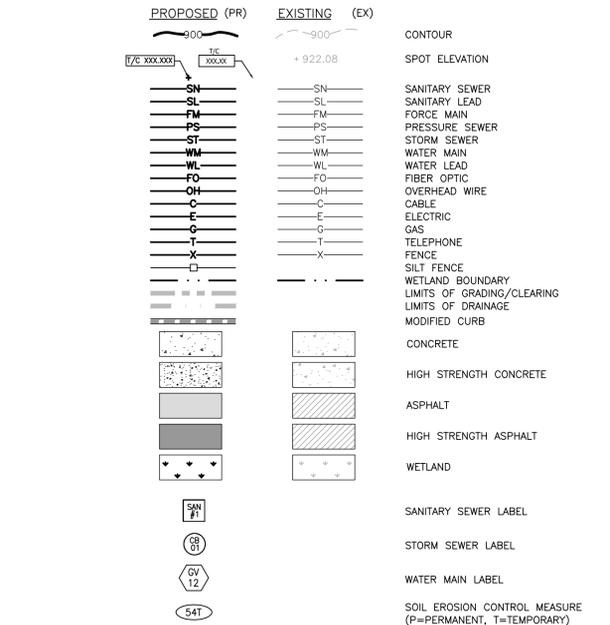
GENERAL SANITARY NOTES

1. ALL SANITARY PIPE LENGTHS ARE SHOWN FROM C/L OF STRUCTURE TO C/L OF STRUCTURE.
2. SANITARY PIPE MATERIALS SHALL BE AS FOLLOWS:
 2.1. PVC SDR-26 (SANITARY MAIN)
 2.2. PVC SDR-23.5 (SANITARY LEADS)
 2.3. HDPE DR-11 (SANITARY FORCEMAIN)
3. ALL PVC SDR SANITARY SEWER PIPE SHALL MEET THE REQUIREMENTS OF ASTM D3034 AND D2241. PVC SCHD 40 PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785. GASKET JOINTS FOR SANITARY PIPE SHALL MEET THE REQUIREMENTS OF ASTM D3139 AND D3212.
4. SANITARY STRUCTURES SHALL BE FURNISHED WITH STEPS WHICH SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR EQUIVALENT. STEPS SHALL BE SET AT 16" CENTER TO CENTER.
5. ALL NEW MANHOLES SHALL BE MINIMUM 4' DIAMETER, PRECAST MANHOLE SECTIONS AND AN ECCENTRIC CONE. PRECAST MANHOLE JOINTS SHALL BE INSTALLED WITH BUTYL ROPE MEETING THE REQUIREMENTS OF ASTM C990.
6. MANHOLES SHALL BE CONSTRUCTED WITH FLOW CHANNEL WALLS THAT ARE FORMER, AT A MINIMUM, TO THE SPRINGLINE OF THE PIPE.
7. ALL NEW MANHOLES SHALL HAVE AN APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH MANHOLE WALLS.
8. WHEREVER AN EXISTING MANHOLE IS TO BE TAPPED, THE STRUCTURE SHALL BE CORED AND A KOR-N-SOAL BOOT UTILIZED FOR THE PIPE CONNECTION.
9. ALL MANHOLES SHALL BE PROVIDED WITH WATERTIGHT COVERS. COVERS TO BE EJCO 1040 TYPE 'A' SOLID COVER.
10. A MAXIMUM OF 12" OF GRADE ADJUSTMENT RINGS SHALL BE USED TO ADJUST THE FRAME ELEVATION. BUTYL ROPE SHALL BE USED BETWEEN EACH ADJUSTMENT RING.
11. SANITARY SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 1.0%.
12. CLEANOUTS SHALL BE INSTALLED EVERY 100', AT ALL BENDS AND STUBS.
13. PUBLIC SANITARY SEWER SHALL BE CENTERED WITHIN A 20 FOOT WIDE SANITARY SEWER EASEMENT.

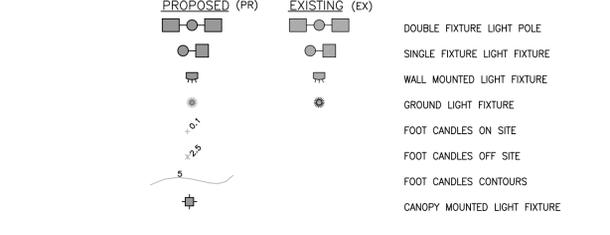
GENERAL WATERMAIN NOTES

1. WATERMAIN PIPE MATERIALS SHALL BE AS FOLLOWS:
 1.1. D.I.P. CL52 (WATERMAIN)
 1.2. TYPE 'K' COPPER (WATER LATERAL - MAIN TO CURB STOP)
 1.3. HDPE DR-9 (WATER LATERAL - CURB STOP TO STUB)
2. WATERMAIN FITTINGS SHALL BE OF DUCTILE IRON WITH CEMENT MORTAR LINING AND MECHANICAL JOINTS CONFORMING TO AWWA C110.
3. WATERMANS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. BAC-T SAMPLES SHALL BE TAKEN IN ACCORDANCE WITH R235.11110 OF THE ADMINISTRATIVE RULES PROMULGATED UNDER MICHIGAN SAFE DRINKING WATER ACT, 1976 PA 399, AS AMENDED.
4. ALLOWABLE LEAKAGE OR HYDROSTATIC PRESSURE TESTING SHALL BE IN ACCORDANCE WITH AWWA C600 AND C605.
5. MAXIMUM DEFLECTION AT PIPE JOINTS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURERS CURRENT RECOMMENDATIONS AND AWWA SPECIFICATIONS.
6. A FULL STOCK OF PIPE SHALL BE LAID CENTERED AT A PIPE CROSSING IN ORDER TO MAINTAIN THE MAXIMUM SEPARATION OF WATERMAIN JOINT TO THE CROSSING PIPE.
7. WATERMAIN SHALL BE INSTALLED WITH A MINIMUM OF 5.5' OF COVER FROM FINISHED GRADE TO TOP OF PIPE AND NO MORE THAN 8' OF COVER, UNLESS SPECIAL CONDITIONS WARRANT.
8. WATERMAIN VALVES SHALL BE IRON BODY RESILIENT WEDGE GATE VALVES, NON-RISING STEMS, COUNTERCLOCKWISE OPEN, AWWA C509.
9. FIRE HYDRANTS SHALL BE INSTALLED WITH AN AUXILIARY VALVE WITH CAST IRON VALVE BOX. THE HYDRANT PUMPER HOSE CONNECTION SHALL FACE THE ROADWAY.
10. THE BREAKAWAY FLANGE AND ALL BELOW GRADE FITTINGS SHALL HAVE STAINLESS STEEL NUTS AND BOLTS.
11. PUBLIC WATERMAIN SHALL BE CENTERED WITHIN A 25 FOOT WIDE WATERMAIN EASEMENT.

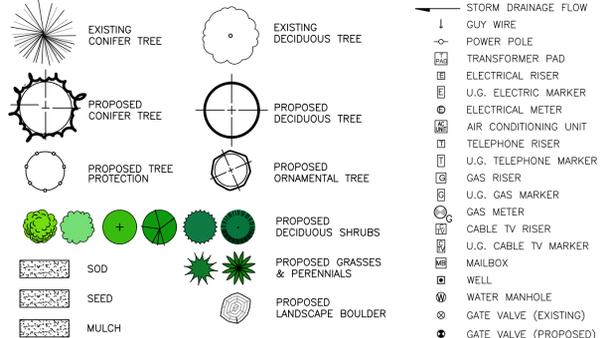
LINES & HATCHES LEGEND



LIGHTING LEGEND



LANDSCAPE LEGEND



ABBREVIATIONS

FFE	FINISHED FLOOR ELEVATION
BFE	BASEMENT FLOOR ELEVATION
GFE	GARAGE FLOOR ELEVATION
FG	FINISHED GRADE
T/A	TOP OF ASPHALT
T/C	TOP OF CONCRETE/CURB
T/W	TOP OF WALK
T/P	TOP OF PIPE
B/P	BOTTOM OF PIPE
F/L	FLOW LINE
RIM	RIM ELEVATION (AT FLOW LINE)
INV	INVERT ELEVATION
MH	MANHOLE
CB	CATCH BASIN
RY	REAR YARD
YD	YARD DRAIN
RD	ROAD
FES	FLARED END SECTION
CMP	CORRUGATED METAL PIPE
GPP	CORRUGATED PLASTIC PIPE
RCP	REINFORCED CONCRETE PIPE
HDPE	HIGH DENSITY POLYETHYLENE
PVC	POLYVINYL CHLORIDE
DIP	DUCTILE IRON PIPE
GV	GATE VALVE
GVW	GATE VALVE IN WELL
QVB	GATE VALVE IN BOX
HYD	HYDRANT
FDC	FIRE DEPARTMENT CONNECTION
UP	UTILITY POLE
NFV	NOT FIELD VERIFIED
TR	TO BE REMOVED
L	LIBER
P	PAGE
L.C.R.	LIVINGTON COUNTY RECORDS
(M&R)	MEASURED AND RECORD
L.O.B.	POINT OF BEGINNING

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO GUARANTEE IS MADE FOR THE ACCURACY OF THESE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE PLANS.

BEFORE ANY WORK BEGINS, THE CONTRACTOR SHALL CALL MISS DIG AT 1-800-487-7171 TO LOCATE ALL UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS FROM THE PLANS.

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SOUTH LATSON COMMERCIAL DEVELOPMENT

PROJECT: SOUTH LATSON COMMERCIAL DEVELOPMENT
 PREPARED FOR: 1015 LATSON ROAD LLC
 26932 BECK ROAD
 WOODLAND, MI 48393
 248.773.9992

DESIGNED BY: ST
 DRAWN BY: ST
 CHECKED BY: ST

SCALE: 21=SCALE
 JOB NO: NO 5419
 DATE: 04/15/2024

SHEET NO. 2

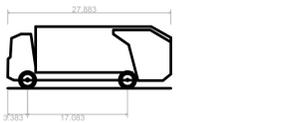
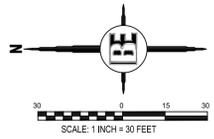
GENERAL NOTES & LEGEND

NO	BY	DATE
1	ST	5-27-2025
2	ST	10-24-2024
3	ST	6-17-2024
4	ST	5-20-2024

DESIGNED BY: ST
 DRAWN BY: ST
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SCALE: 21=SCALE
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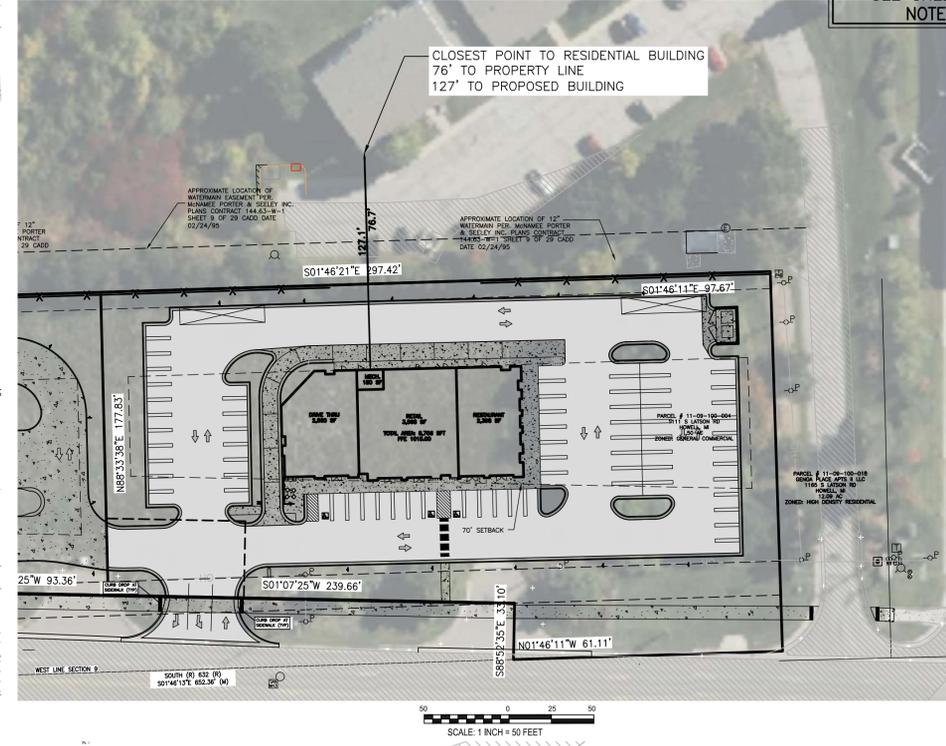
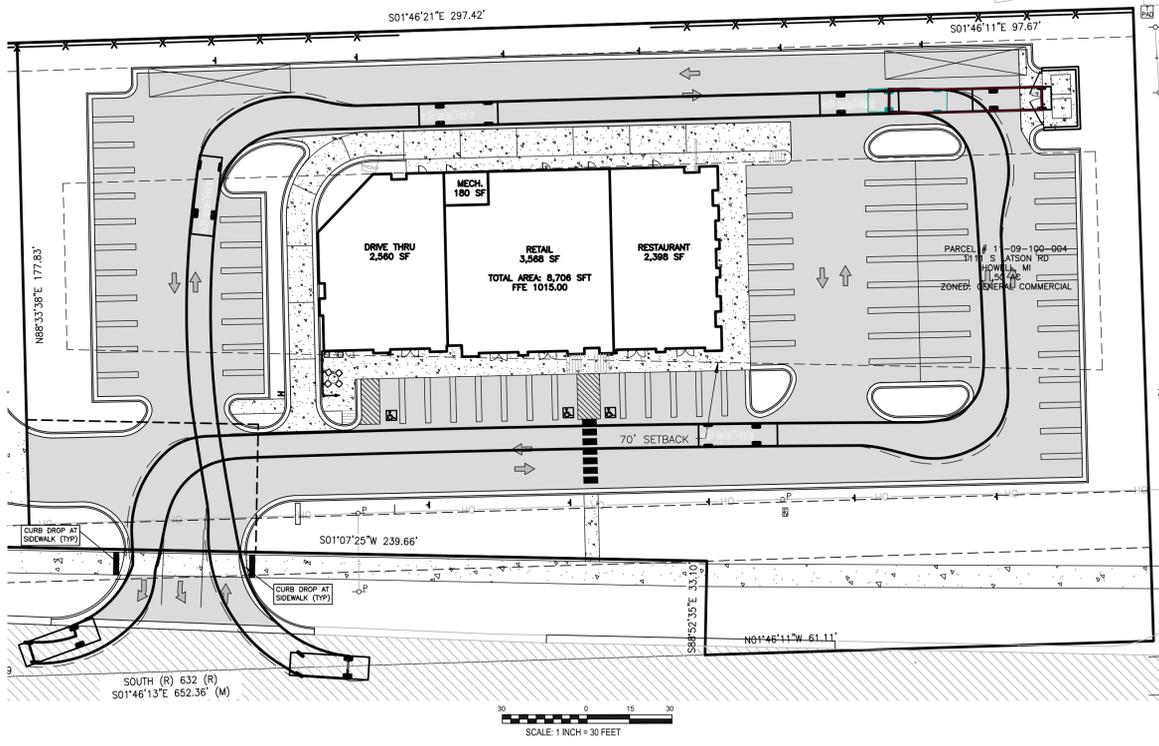
SHEET NO. 2



Hino 338 M + Wayne Royal GT14 Refuse Truck
 Overall Length 27.883ft
 Overall Width 8.042ft
 Overall Body Height 10.488ft
 Min Body Ground Clearance 1.318ft
 Track Width 8.042ft
 Lock-to-lock time 6.00s
 Curb to Curb Turning Radius 27.400ft



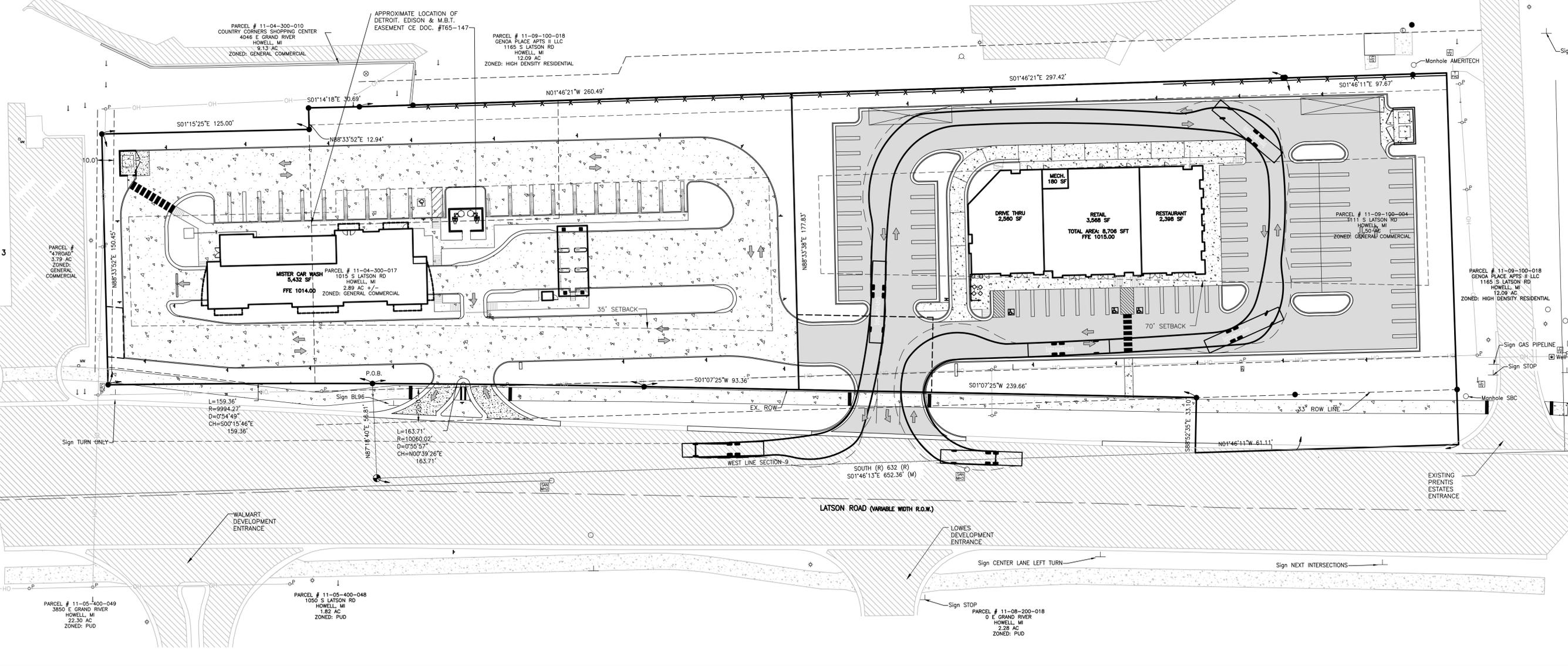
Brighton Area Fire Authority
 Overall Length 49.083ft
 Overall Width 7.500ft
 Overall Body Height 0.750ft
 Min Body Ground Clearance 8.167ft
 Track Width 5.00s
 Lock-to-lock time 5.00s
 Max Steering Angle (Virtual) 45.00°



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

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 BE BOSS Engineering
 3121 E. GRAND RIVER AVE.
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PROJECT: SOUTH LATSON COMMERCIAL DEVELOPMENT
 PREPARED FOR: 1015 LATSON ROAD LLC
 29932 BECK ROAD
 WOODON, MI 48393
 248.773.7992

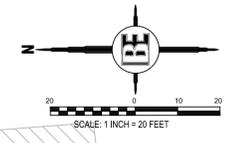
NO	BY	DATE	REVISION PER
4	ST	5-27-2025	NEW S.U. SUBMITTAL
3	ST	10-24-2024	PER ACT 399 REVIEW
2	ST	6-17-2024	PER MHOG REVIEW
1	ST	5-20-2024	PER MHOG REVIEW

DESIGNED BY: ST
 DRAWN BY: ST
 CHECKED BY:
 SCALE: VARIES
 JOB NO: 21-519
 DATE: 04/15/2024
 SHEET NO. 4





SCREEN FENCE SAMPLE (IMAGE)
MANUFACTURER: FENCETAC
PRODUCT: SANDSTONE VINYL



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

SITE DATA
 PARCEL # 4711-04-300-017 & 4711-09-100-004
 10115 S. LATSON RD & 1111 S LATSON RD
 HOWELL, MI
 GENOA TOWNSHIP
 3.40 AC
 ZONING: GENERAL COMMERCIAL DISTRICT (GCD)
 CURRENT USE: VACANT

GENERAL COMMERCIAL DISTRICT
 - MIN. LOT AREA: 1 ACRE
 - MIN. LOT WIDTH: 150 FT

BUILDING SETBACK:
 FRONT: 70 FT
 SIDE: 15 FT
 REAR: 50 FT

PARKING SETBACK:
 FRONT: 20 FT
 SIDE: 10 FT
 REAR: 10 FT

MAX LOT COVERAGE:
 PARCEL AREA: 78,946 SFT (1.81 AC)
 BUILDING AREA: 8,706 SFT (11.0%)
 IMPERVIOUS: 75% 58,686 SFT (74.3%)

MAX BUILDING HEIGHT: 35 FT (2 STORIES) 20 FT

TOTAL PROPOSED GROSS SQUARE FOOTAGE:

-LANDLORD MECHANICAL ROOM	180 GSF
-FAST FOOD W/ DRIVE-THROUGH	2,560 GSF
-GENERAL RETAIL	3,568 GSF
-SIT DOWN RESTAURANT (NO LIQUOR LICENSE)	2,398 GSF
TOTAL	8,706 GSF

PARKING CALCULATIONS:

-FAST FOOD DRIVE THRU: 1 SPACE PER 70 SQFT GROSS LEASABLE FLOOR AREA (85% OF GROSS FLOOR AREA)
 2,560' x 85% = 2176 / 70 = 31.1 SPACES & 10 STACKING SPACES

-SIT DOWN RESTAURANT WITHOUT LIQUOR LICENSE = 1 SPACE/100 SFT GFA
 2,398 SFT / 100 SFT = 23.98 SPACES

-RETAIL = 1 SPACE / 250 SFT GFA
 3,568 SFT / 250 SFT = 14.3 SPACES

-OUTDOOR SEATING = 1 SPACE / 1 TABLE
 2 TABLES / 1 = 2 SPACES

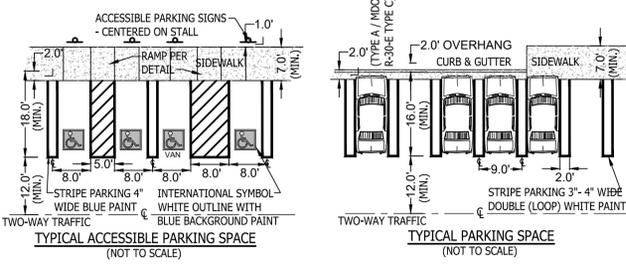
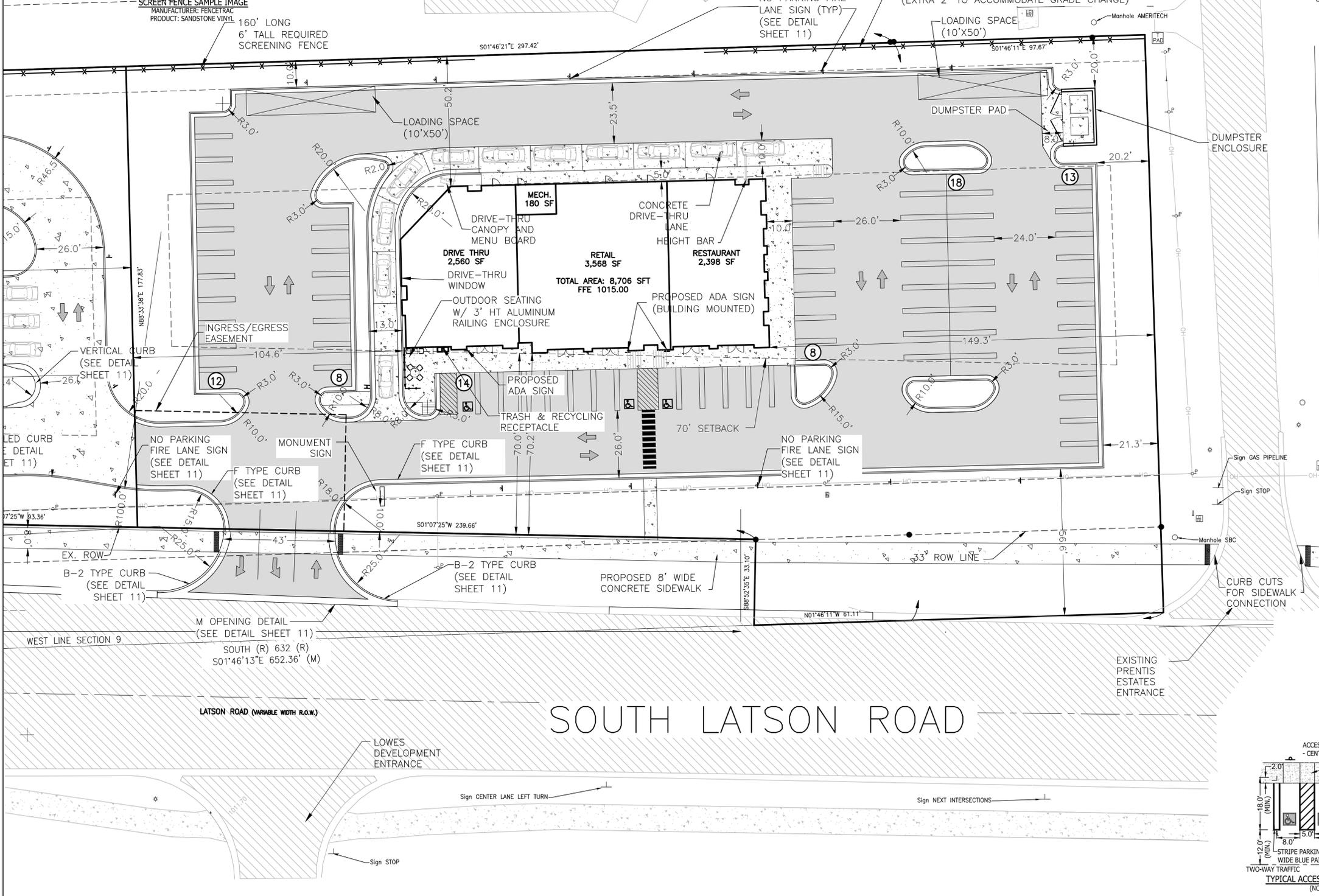
REQUIRED: 32 + 24 + 15 + 2 = 73 SPACES
 PROVIDED: 73 SPACES

LOADING/UNLOADING SPACES: 10' x 50'
 REQUIRED: 5,001 GFA TO 20,000 GFA REQUIRES 2 SPACES
 PROVIDED: 2 LOADING/UNLOADING SPACES

PLANNING COMMISSION WAIVERS REQUESTED:
 A REDUCTION IN LANDSCAPE BUFFER ON THE WEST AND EAST SIDE OF PROPERTY DUE TO SHALLOW DEPTH OF EXISTING PARCEL. A SCREEN FENCE AND ADEQUATE LANDSCAPING ARE STILL PROPOSED TO MEET THE ORDINANCE TO THE MAXIMUM EXTENT POSSIBLE.

VARIANCES OBTAINED:
 1) DRIVE-THRU SEPARATION TO ANOTHER DRIVE-THRU

- GENERAL NOTES**
- ALL OUTDOOR LIGHTS SHALL BE SHIELDED TO REDUCE GLARE AND SHALL BE ARRANGED TO NOT INTERFERE WITH THE VISION OF PERSONS ON ADJACENT ROADWAYS OR ADJACENT PROPERTY.
 - ALL SIGNS SHALL MEET LOCAL MUNICIPALITY ORDINANCE REQUIREMENTS.
 - THE BUILDING ADDRESS SHALL BE A MINIMUM 6" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET. THE LOCATION AND SIZE SHALL BE VERIFIED PRIOR TO INSTALLATION.
 - A KEY BOX/KNOX BOX SHALL BE LOCATED NEAR THE FRONT ENTRY AT EACH TENANT SPACE (FINAL LOCATION TO BE DETERMINED BETWEEN THE OWNER & FIRE MARSHALL).
 - ONE SIDE OF THE STREET SHALL BE MARKED AS A FIRE LANE AND SHALL HAVE APPROPRIATE SIGNAGE.
 - ACCESS ROADS TO THE SITE SHALL BE PROVIDED AND MAINTAINED DURING CONSTRUCTION.
 - ACCESS ROADS SHALL BE CONSTRUCTED TO BE CAPABLE OF SUPPORTING THE IMPOSED LOAD OF FIRE APPARATUS WEIGHING AT LEAST 84,000 LBS.
 - A MINIMUM VERTICAL CLEARANCE OF 13.5 FEET SHALL BE MAINTAINED THROUGHOUT THE SITE. THIS INCLUDES ENCROACHMENTS FROM LARGE TREE CANOPIES, LIGHTING, ETC.
 - DURING THE CONSTRUCTION PROCESS, THE BUILDING WILL BE EVALUATED FOR EMERGENCY RESPONDER RADIO SIGNAL STRENGTH. IF COVERAGE IS FOUND TO BE QUESTIONABLE OR INADEQUATE, AN APPROVED CONTRACTOR SHALL BE HIRED TO PERFORM A GRID TEST OF THE FACILITY. IF THE SIGNAL STRENGTH COVERAGE IS FOUND TO BE NON-COMPLIANT, AN APPROVED EMERGENCY RESPONDER RADIO COVERAGE SYSTEM SHALL BE PROVIDED IN THE BUILDING.
 - SITE LIGHTING SHALL BE PLACED ON TIMERS TO BE OFF DURING NON-USE HOURS TO THE EXTENT POSSIBLE WHILE MAINTAINING SITE SAFETY. SITE LIGHTING SHALL BE PROGRAMMED TO TURN OFF AT NIGHT WHEN ACTIVITIES ARE NO LONGER OCCURRING ON THE PROPERTY.
 - DELIVERIES SHALL BE ARRANGED FOR OFF PEAK HOURS TO AVOID POTENTIAL VEHICULAR CONFLICTS.
 - NO OUTDOOR SPEAKERS ARE PROPOSED OTHER THAN THAT REQUIRED FOR THE DRIVE-THRU WINDOW ORDERING EQUIPMENT.



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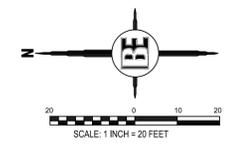
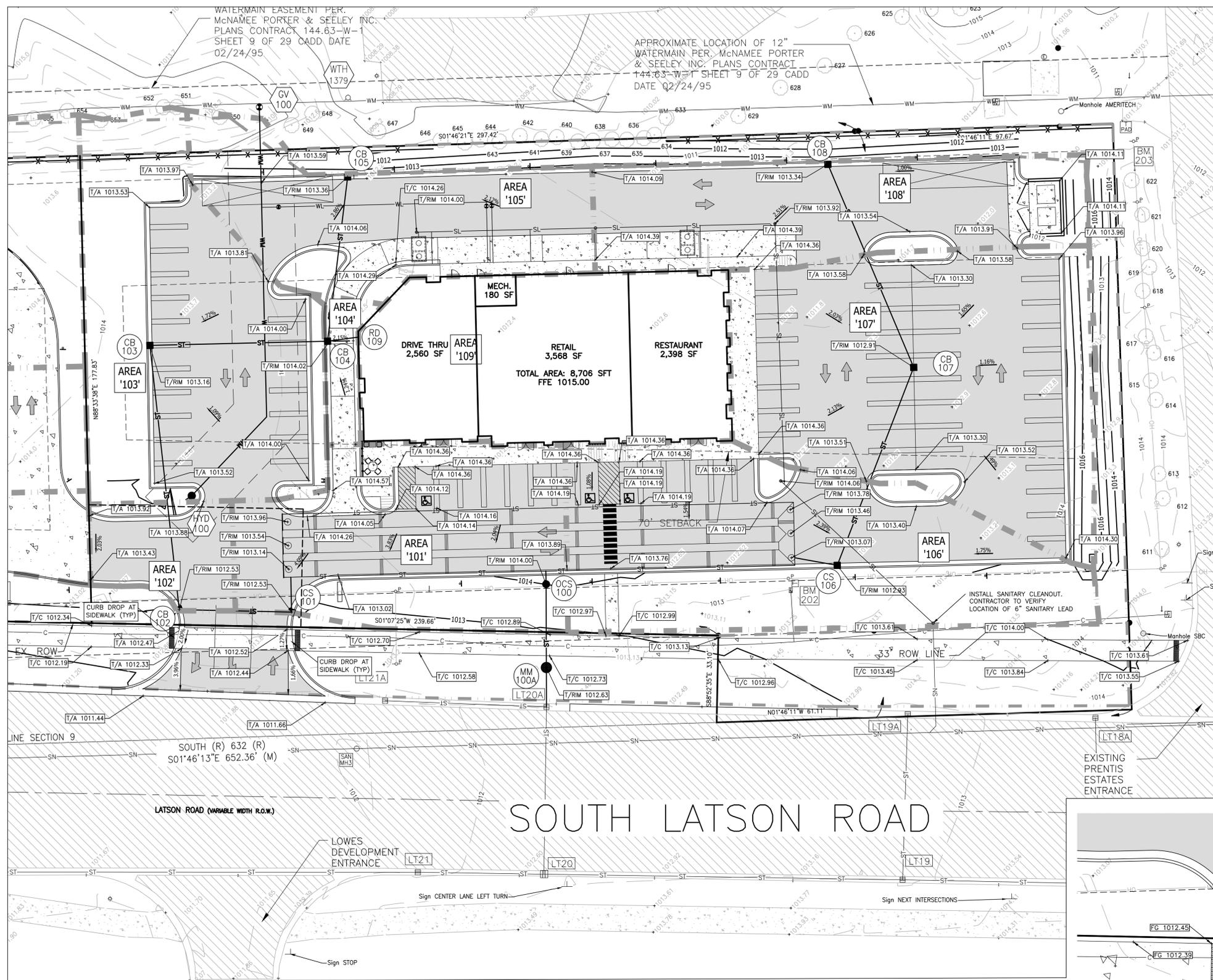
SOUTH LATSON COMMERCIAL DEVELOPMENT

PROJECT: 1015 LATSON ROAD LLC
 29302 BECK ROAD
 WOODHURST, MI 48393
 248.773.9992

PREPARED FOR: BEBOSS ENGINEERING

DATE: 04/15/2024

DESIGNED BY: ST
 DRAWN BY: ST
 CHECKED BY:
 SCALE: 1" = 20'
 JOB NO: 21-519
 DATE: 04/15/2024
 SHEET NO. 5



SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

SITE BENCHMARKS (NAVD88):
 -BM #200 = NAIL/TAG S/S POWER POLE ELEV.=1013.34
 -BM #201 = NAIL/TAG NE/S POWER POLE ELEV.=1014.28
 -BM #202 = NAIL/TAG NE/S POWER POLE ELEV.=1013.57
 -BM #203 = NORTH EAST CORNER TRANS-PAD ELEV.=1011.58

DRAINAGE AREA TABLE				
DRAINAGE AREA	TOTAL AREA (AC)	IMP. AREA (AC)	C VALUE	A'C
100	-	-	-	-
101	0.18	0.14	0.72	0.13
102	0.05	0.04	0.84	0.04
103	0.25	0.14	0.60	0.15
104	0.02	0.02	0.84	0.02
105	0.15	0.12	0.76	0.12
106	0.26	0.15	0.61	0.16
107	0.30	0.26	0.82	0.24
108	0.16	0.15	0.85	0.14
109	0.21	0.21	0.90	0.18
TOTALS	1.58	1.23	0.75	1.18

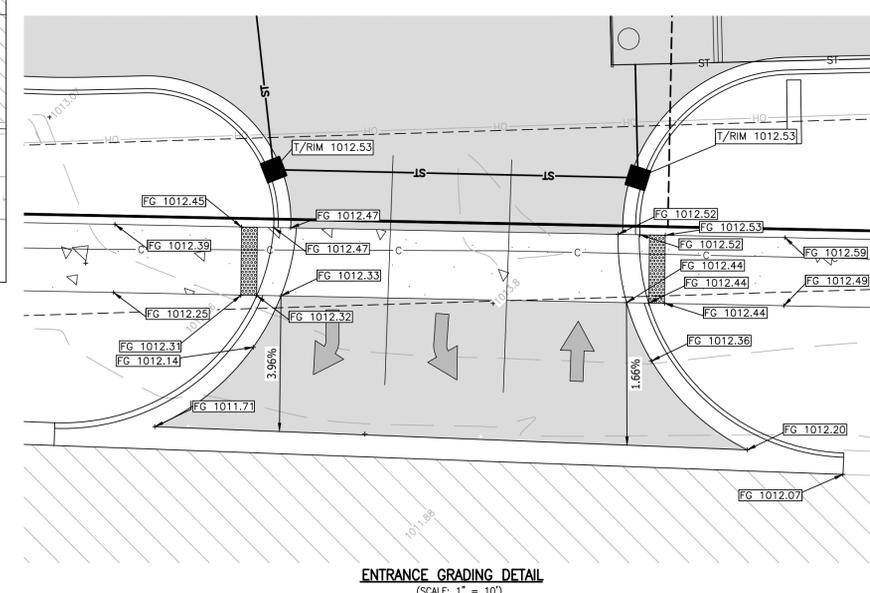
THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.

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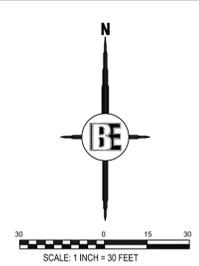
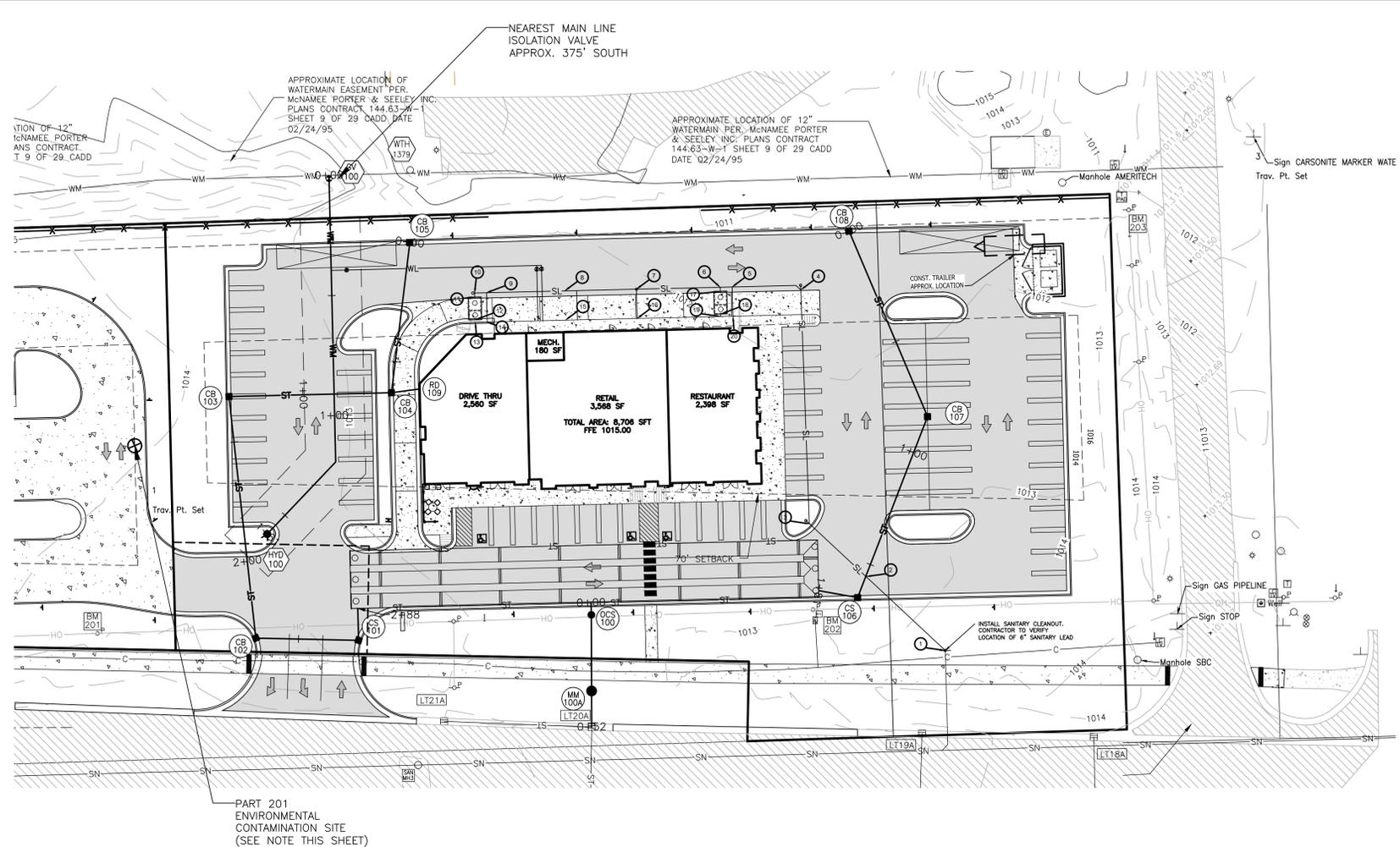
PROJECT: SOUTH LATSON COMMERCIAL DEVELOPMENT
 PREPARED FOR: 1015 LATSON ROAD LLC
 29932 BECK ROAD
 WOODON, MI 48393
 248.773.7992

NO	BY	REVISION	DATE
4	ST	CHANGE IN USE - NEW S.U. SUBMITTAL	5-27-2025
3	ST	PER ACT 399 REVIEW	10-24-2024
2	ST	PER MHOG REVIEW	6-17-2024
1	ST	PER MHOG REVIEW	5-20-2024
NO	BY	REVISION	DATE

DESIGNED BY: ST
 DRAWN BY: DH
 CHECKED BY:
 SCALE: 1" = 20'
 JOB NO: 21-519
 DATE: 04/15/2024
 SHEET NO. 6



ENTRANCE GRADING DETAIL
 (SCALE: 1" = 10')



SANITARY LEAD ELEVATIONS TABLE		
LOCATION/DESCRIPTION		INVERT ELEVATION
20	BUILDING STUB	1009.74
19	BUILDING STUB	1009.77
18	GREASE TRAP INLET	1009.75
17	GREASE TRAP OUTLET	1009.57
16	BUILDING STUB	1010.14
15	BUILDING STUB	1010.44
14	BUILDING STUB	1010.77
13	BUILDING STUB	1010.80
12	GREASE TRAP INLET	1010.78
11	GREASE TRAP OUTLET	1010.60
10	CLEANOUT #5	1010.58
9	SANITARY WYE	1010.53
8	SANITARY WYE	1010.20
7	SANITARY WYE & CLEANOUT #4	1009.90
6	SANITARY WYE	1009.55
5	SANITARY WYE	1009.50
4	CLEANOUT #3	1009.20
3	CLEANOUT #2	1008.22
2	SANITARY LEAD X STORM	1007.87
1	EXISTING SANITARY STUB & CLEANOUT #1 (CONTRACTOR TO VERIFY PRIOR TO CONSTRUCTION)	1007.42*

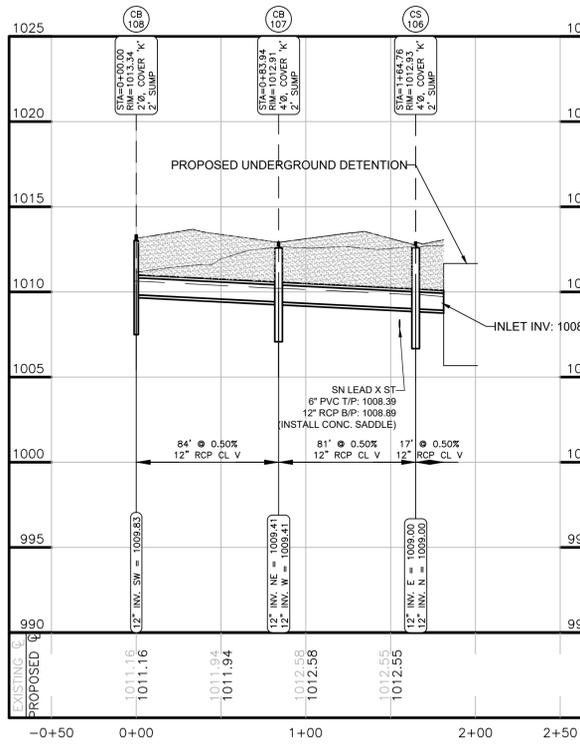
SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

EXISTING SANITARY STUB ELEVATION CALCULATED FROM MCNAMEE PORTER & SEELY PLANS DATED NOVEMBER 1990 AND WAS CALCULATED TO 1007.17. AS A FACTOR OF SAFETY, THE STARTING DESIGN ELEVATION WAS SET TO BE 3" ABOVE THIS CALCULATED STUB ELEVATION AT 1007.42. WHEN CONTRACTOR VERIFIES EXISTING STUB INVERT ELEVATION, CONTACT DESIGN ENGINEER. IF STUB ELEVATION IS LOWER THAN THE STARTING 1007.42 INVERT ELEVATION, THE CONTRACTOR SHALL INSTALL THE PROPOSED SANITARY LEAD AT THE EXISTING DEPTH TO OBTAIN ADDITIONAL VERTICAL CLEARANCE BETWEEN THE SANITARY LEAD AND THE STORM SEWER CROSSING.

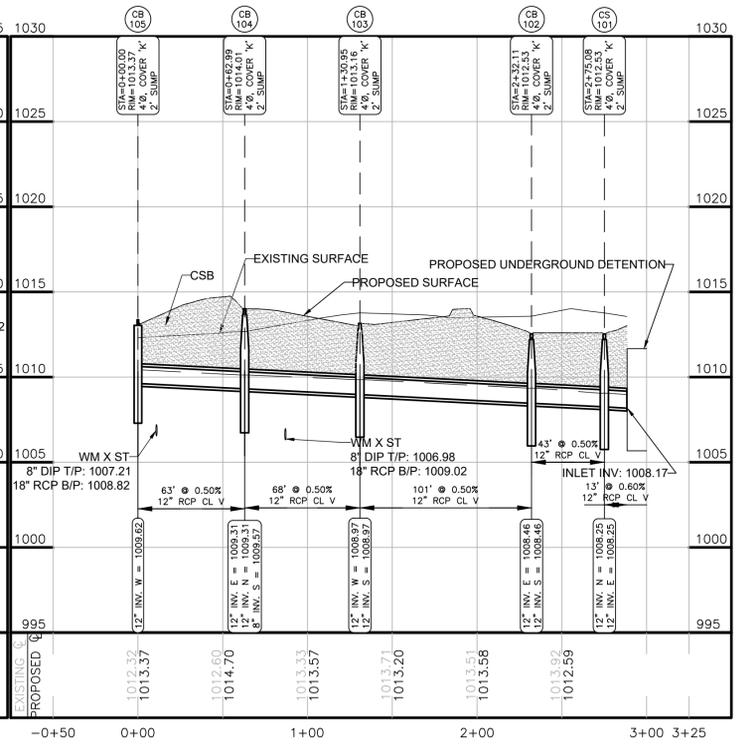
ENVIRONMENTAL CONTAMINATION SITE NOTE:
THE SUBJECT PARCEL HAS A KNOWN PART 201 ENVIRONMENTAL CONTAMINATION SITE. THE CONTAMINATION IS LOCATED CENTRALLY ON THE SUBJECT PARCEL AS SHOWN ON THE MDEGLE RIDE MAPPER. THE CONTAMINANT IS INDICATED TO BE MERCURY IN THE 'ELEMENTS/METALS/OTHER INORGANICS' CONTAMINANT CLASSIFICATION.

THE CONSTRUCTION OF WATERMAIN SHOULD REQUIRE THE USE OF ANY OF THE BELOW WATERMAIN GASKETS THAT ARE ACCEPTABLE FOR USE WITH THIS SPECIFIC CONTAMINANT.
—NATURAL RUBBER, SBR, BUTYL, EPR, EPT, EPDM, BUNA-N, NITRILE, NBR, HYDRIN, NEOPRENE, URETHANE, POLYURETHANE, POLYSULFIDE, FLOURO ELASTOMERS.

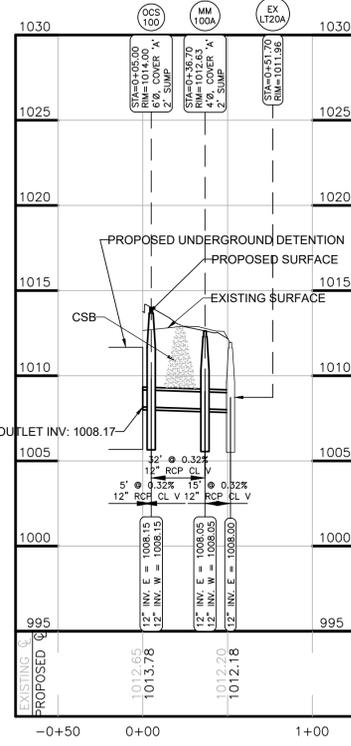
CB 108 TO UNDERGROUND DETENTION



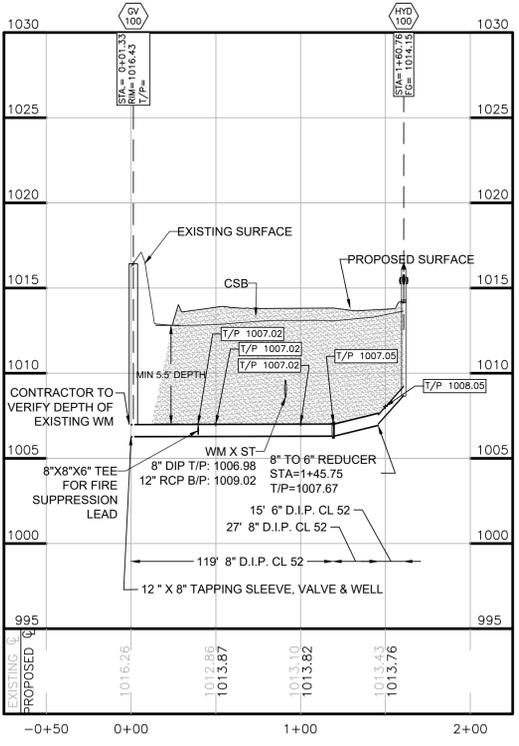
CB 105 TO UNDERGROUND DETENTION



UNDERGROUND DETENTION TO EX LT20A



HYDRANT



SCALE: 1" = 5' (VERT)
1" = 50' (HORIZ)

BEBOSSE
Engineering
Engineers Surveyors Planners Landscape Architects

3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

PROJECT: SOUTH LATSON COMMERCIAL DEVELOPMENT

PREPARED FOR: 1015 LATSON ROAD LLC
29592 BECK ROAD
WILSON, MI 48393
248.773.7992

TITLE: PLAN & PROFILE

NO	BY	REVISION	DATE
1	ST	PER MHOQ REVIEW	5-20-2024
2	ST	PER MHOQ REVIEW	6-17-2024
3	ST	PER ACT 399 REVIEW	10-24-2024
4	ST	CHANGE IN USE - NEW SULL SUBMITTAL	5-27-2025

DESIGNED BY: ST

CHECKED BY: DH/MD

SCALE: 1" = 30'

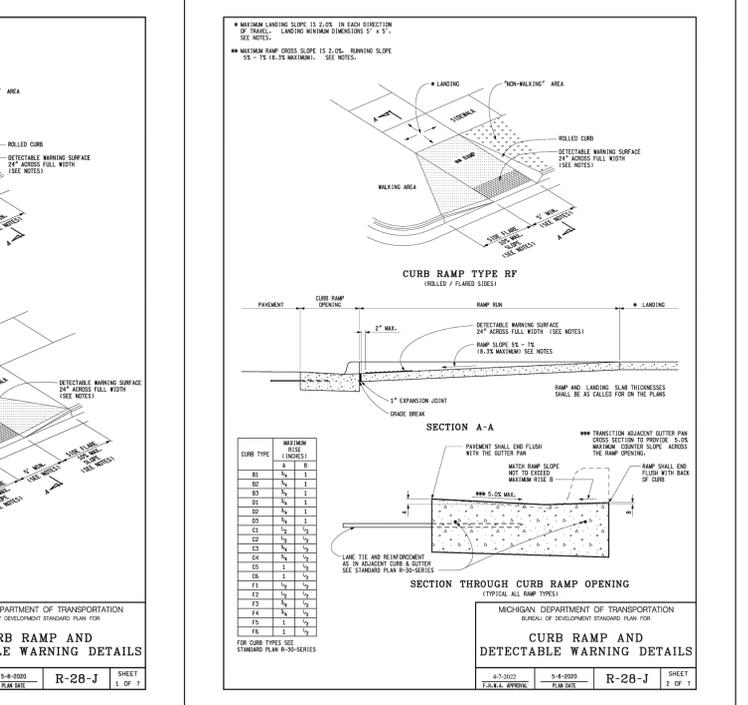
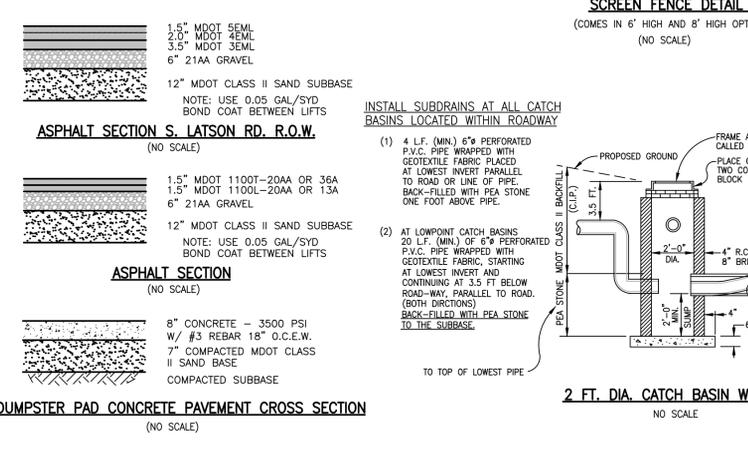
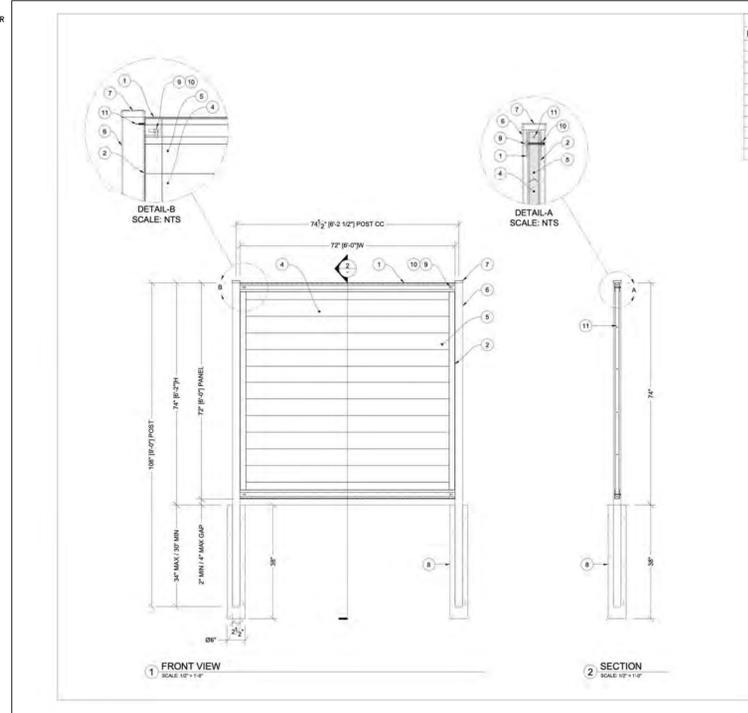
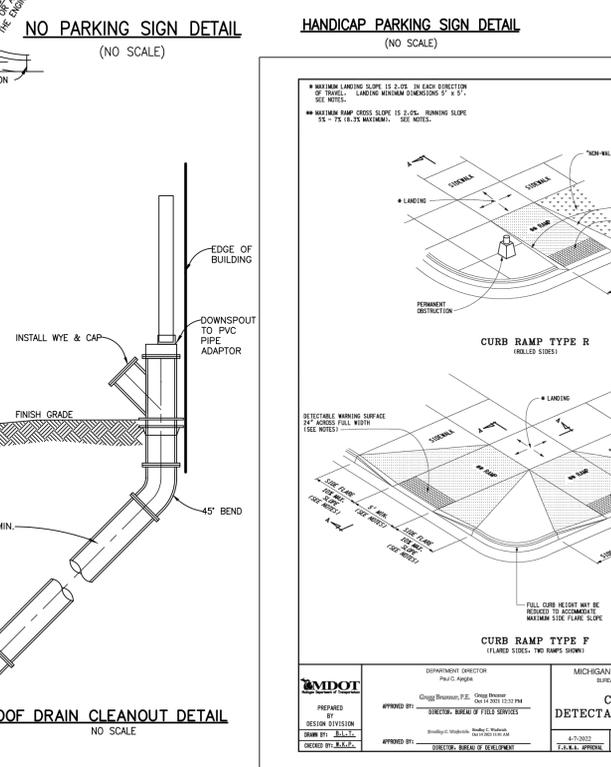
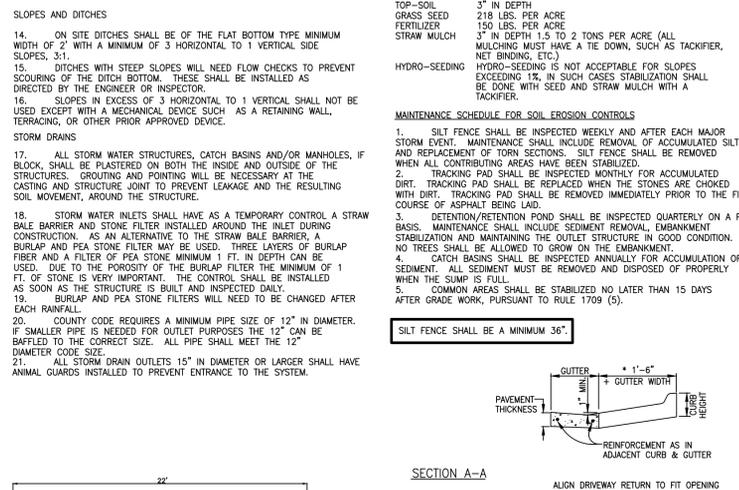
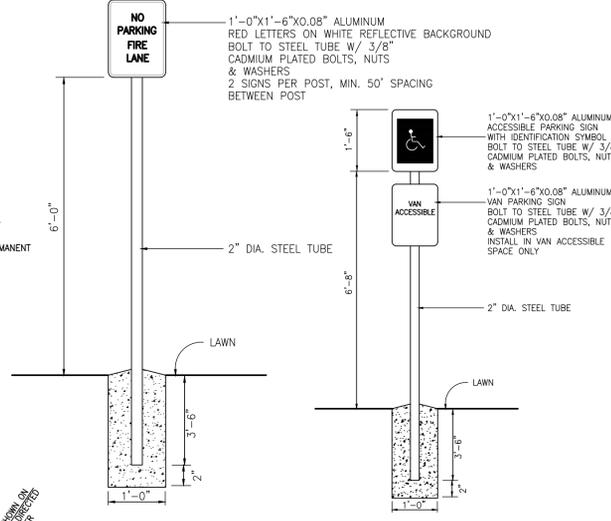
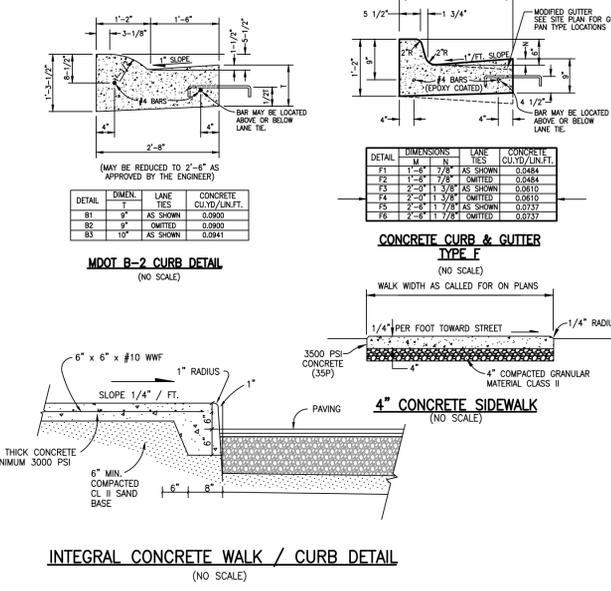
JOB NO: 21-519

DATE: 04/15/23

SHEET NO. **9**

LIVINGSTON COUNTY SOIL EROSION PERMIT TEMPLATE
TEMPORARY CONTROLS AND SEQUENCE

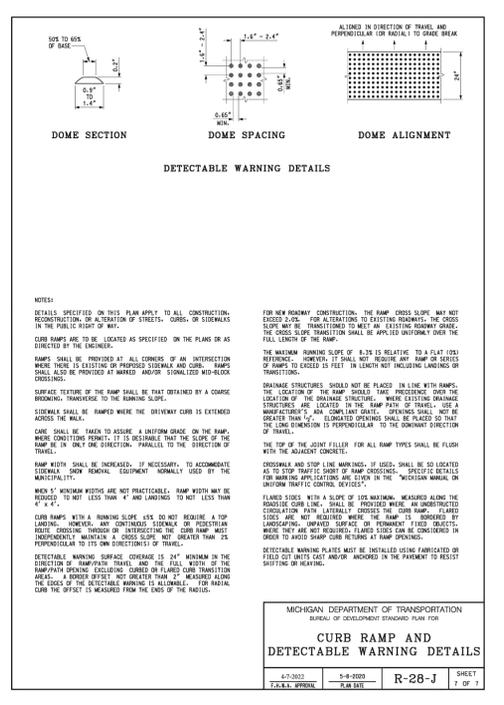
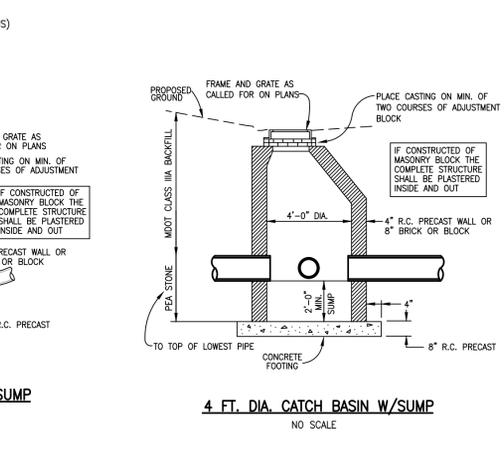
- NOTIFY LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE 24 HOURS PRIOR TO START OF GRADE WORK.
- IN ACCORDANCE WITH PUBLIC ACT NO. 53, OF 1974 THE PERMIT HOLDER SHALL CALL MISS DIG FOR STAKING AND LOCATING OF UTILITIES, AT LEAST 72 HOURS IN ADVANCE OF THE START OF ANY WORK.
- PERMITTING STANDARDS**
 - (IMPORTANT NOTICE) RETENTION/DETENTION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. INGRESS/EGRESS MUST HAVE LARGE CRUSHED ROCK TO REDUCE THE TRACKING OF SOIL ONTO THE PUBLIC TRAFFIC AREAS. SEE DETAIL ITEMS BELOW.
 - 30" M.D.O.T. TYPE SALT FABRIC FENCE AS SHOWN ON PLANS SHALL BE PLACED AND MAINTAINED ALONG PERMETER ON ALL LOW LYING AREAS OF THE CONSTRUCTION SITE TO FILTER RUNOFF BEFORE LEAVING PROJECT SITE.
 - ALL TEMPORARY EROSION CONTROL DEVICES AS NOTED ON PLANS SHALL BE INSTALLED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
 - PLAN DOES DENOTE A DETAILED EROSION CONTROL DEVICE TO RESTRICT TRACKING OF MATERIAL ONTO THE HIGHWAY. STONE DIAPHRAGMS SHALL BE INSTALLED AT ALL INGRESS/EGRESS AREAS OF THE SITE PRIOR TO THE START OF MASSIVE EARTH DISRUPTION. DIAPHRAGMS SHALL BE OF CRUSHED STONE AND SHALL HAVE A MINIMUM LENGTH OF 100' LINEAL FEET.
 - RETENTION PONDS**
 - RETENTION/DETENTION/SEDIMENTATION PONDS SHALL BE EXCAVATED, TOPSOILED, SEEDED, MULCHED AND TACKED PRIOR TO THE START OF MASSIVE EARTH DISRUPTION.
 - DETENTION POND OUTLETS SHALL BE OF THE STANDPIPE AND STONE FILTER SYSTEM. OUTLET FLOW SHALL NOT EXCEED 0.20 CUBIC FEET OF WATER PER SECOND PER ACRE. POND DIMENSIONS SHALL HAVE A MINIMUM OF ONE (1) FOOT OF FREEBOARD. AN EMERGENCY SPILLWAY SHALL BE CONSTRUCTED WITHIN THE FREEBOARD LEVEL.
 - THE EMERGENCY SPILLWAY FROM THE DETENTION POND SHALL BE SLOPED AND FENCED, OR RIP RAPPED, 15 FEET PAST THE TOE OF THE SLOPE OF THE BERM.
 - DIKES AND BERMS SHALL BE FREE OF ALL ORGANIC MATTER.
 - RETENTION/DETENTION PONDS SHALL BE FENCED WITH A 4" CHAIN LINK FENCE INCLUDING A 12' ACCESS GATE FOR MAINTENANCE UNLESS MINIMUM 5 FT. HORIZONTAL TO 1 FT. VERTICAL SIDE SLOPES ARE PROVIDED. THE FENCE SHALL BE INSTALLED AT THE OUTER PORTION OF THE BERM, TO ALLOW FOR MAINTENANCE WORK TO BE DONE INSIDE THE FENCE.
 - ALL UNIMPROVED DISTURBED AREAS SHALL BE STRIPPED OF TOPSOIL WHICH WILL BE STORED ONSITE DURING THE EXCAVATING STAGE. TOPSOIL PILES SHALL BE SEEDED AND MULCHED, OR MATTED WITH STRAW IN THE NON-GROWING SEASON, IMMEDIATELY AFTER THE STRIPPING PROCESS IS COMPLETED, TO PREVENT WIND AND WATER EROSION.
 - SOIL EROSION CONTROLS SHALL BE MONITORED DAILY BY THE ON-SITE ENGINEER, OR CONTRACTOR, WHICHEVER CASE APPLIES.
- SLOPES AND DITCHES**
 - ON SITE DITCHES SHALL BE OF THE FLAT BOTTOM TYPE MINIMUM WIDTH OF 2' WITH A MINIMUM OF 3 HORIZONTAL TO 1 VERTICAL SIDE SLOPES, 3:1.
 - DITCHES WITH STEEP SLOPES WILL NEED FLOW CHECKS TO PREVENT SCOURING OF THE DITCH BOTTOM. THESE SHALL BE INSTALLED AS DIRECTED BY THE ENGINEER OR INSPECTOR.
 - SLOPES IN EXCESS OF 3 HORIZONTAL TO 1 VERTICAL SHALL NOT BE USED EXCEPT WITH A MECHANICAL DEVICE SUCH AS A RETAINING WALL, TERRACING, OR OTHER PERMITTED DEVICE.
- STORM DRAINS**
 - ALL STORM WATER STRUCTURES, CATCH BASINS AND/OR MANHOLES, IF BLOCK, SHALL BE PLASTERED ON BOTH THE INSIDE AND OUTSIDE OF THE STRUCTURES. GROUTING AND POINTING WILL BE NECESSARY AT THE CASTING AND STRUCTURE JOINT TO PREVENT LEAKAGE AND THE RESULTING SOIL MOVEMENT, AROUND THE STRUCTURE.
 - STORM WATER INLETS SHALL HAVE AS A TEMPORARY CONTROL A STRAW BALE BARRIER AND STONE FILTER INSTALLED AROUND THE INLET DURING CONSTRUCTION. AS AN ALTERNATIVE THE STRAW BALE BARRIER, A BURLAP AND PEA STONE FILTER MAY BE USED. THREE LAYERS OF BURLAP FIBER AND A FILTER OF PEA STONE MINIMUM 1 FT. IN DEPTH CAN BE USED. DUE TO THE POROSITY OF THE BURLAP FILTER THE MINIMUM OF 1 FT. OF STONE IS VERY IMPORTANT. THE CONTROL SHALL BE INSTALLED AS SOON AS THE STRUCTURE IS BUILT AND INSPECTED DAILY.
 - BURLAP AND PEA STONE FILTERS WILL NEED TO BE CHANGED AFTER EACH RAINFALL.
 - COUNTY CODE REQUIRES A MINIMUM PIPE SIZE OF 12" IN DIAMETER. IF SMALLER PIPE IS NEEDED FOR OUTLET PURPOSES THE 12" CAN BE BAFFLED TO THE CORRECT SIZE. ALL PIPE SHALL MEET THE 12" DIAMETER CODE SIZE.
 - ALL STORM DRAIN OUTLETS 15" IN DIAMETER OR LARGER SHALL HAVE ANIMAL GUARDS INSTALLED TO PREVENT ENTRANCE TO THE SYSTEM.
- ALL STORM DRAINAGE PIPE 30" IN DIAMETER OR LARGER SHALL BE FRONTED, AT THE JOINTS ON THE INSIDE WITH MORTAR, AFTER BACKFILLING.
- ALL STORM DRAIN OUTLETS THAT DO NOT EMPTY INTO THE RETENTION/DETENTION POND SHALL HAVE A TEMPORARY 5'X10'X3' SUMP INSTALLED AT THE TERMINATION OF THE STORM SEWER. UPON COMPLETION OF THE STABILIZATION WORK THE SUMP AREA SHALL BE FILLED AND RIP RAPPED WITH COBBLE STONE. SILT TRAPS SHALL BE INSPECTED AFTER EACH STORM.
- STORM WATER OUTLETS DO DENOTE RIP RAP. ALL OUTLETS SHALL BE RIP RAPPED OVER KEYED FILTER FABRIC WITH A MINIMUM OF 15 SQ. YARDS OF 6" OR LARGER COBBLE STONE.
- RIP RAP AS NOTED ON THE PLAN SHALL BE OF A FUNNEL SHAPE CONSTRUCTION. WIDTH SHALL INCREASE AS DISTANCE FROM THE OUTLET POINT INCREASES AT A 3:1 RATIO.
- RIP RAP SHALL BE OF COBBLE STONE, 6" IN DIAMETER OR LARGER. GROUTING MAY BE NECESSARY, AND SHALL BE A MINIMUM OF 6" IN DEPTH WITH THE COBBLE SET IN THE CEMENT SLURRY.
- STORM WATER OUTLET IS IN NEED OF A SPLASH BLOCK WHICH IS NOT NOTED ON THE PLAN. INSTALL SPLASH BLOCK IF SLOPE OF THE PIPE IS 4% OR GREATER.
- IT WILL BE NECESSARY FOR THE DEVELOPER TO HAVE THE STORM DRAINAGE LINES CLEANED PRIOR TO FINAL INSPECTION BY THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE. IF REQUIRED, THIS WORK SHALL BE DONE BY A PROFESSIONAL SEWER CLEANING FIRM AND CERTIFIED IN WRITING BY THE PROJECT ENGINEER. ALL SUMPS AND TEMPORARY SILT TRAPS SHALL ALSO BE CLEANED AT THIS TIME.
- STABILIZATION
 - ALL UNIMPROVED DISTURBED AREAS SHALL BE RE-TOP SOILED, WITH A MINIMUM OF 3" OF MATERIAL, SEEDED, MULCHED AND TACKED WITHIN 15 DAYS OF THE COMPLETION OF THE MASSIVE EARTH DISRUPTION. IN THE NON-GROWING SEASON STRAW MATTING WILL SURFACE. HYDROSEEDING WILL BE AN ACCEPTABLE ALTERNATE FOR MULCHING. EXTREME CARE SHOULD BE EXERCISED IN SPRING AND FALL PERIODS AS A FROST WILL BREAK THE BIND OF THE HYDROSEEDING, WHICH WILL AFFECT THE EFFECTIVENESS OF THIS PROCEDURE.
 - IN THE NON-GROWING SEASON, TEMPORARY STABILIZATION OF MASSIVELY EXPOSED AREAS FOR WINTER STABILIZATION SHALL BE DONE WITH STRAW MATTING.
 - PERIODIC INSPECTIONS WILL BE MADE THROUGHOUT THE COURSE OF THE PROJECT. IT WILL BE THE RESPONSIBILITY OF THE MANAGERS OF THE PROJECT TO CONTACT THIS OFFICE FOR THE FINAL INSPECTION AT THE END OF THE PROJECT.
 - THIS COMMERCIAL PERMIT IS VALID FOR THE MASS EARTH MOVEMENT, THE INSTALLATION OF ROADS, DRAINS, AND UTILITIES AND IS NOT FOR ANY SINGLE FAMILY RESIDENCE. ALL RESIDENTIAL BUILDERS WILL NEED TO SECURE WAIVERS AND OR PERMITS AS NECESSARY FOR EACH LOT IN THIS DEVELOPMENT AT THE TIME APPLICATION FOR SINGLE FAMILY RESIDENCE IS MADE.
 - THE ISSUING BUILDING DEPARTMENT SHALL NOT ISSUE THE CERTIFICATE OF OCCUPANCY UNTIL THE FINAL INSPECTION LETTER FROM THE LIVINGSTON COUNTY DRAIN COMMISSIONER'S OFFICE HAS BEEN OBTAINED.
 - PER THE LIVINGSTON COUNTY DRAIN COMMISSIONER THE SEEDING, FERTILIZER AND MULCH MINIMUM QUANTITIES SHALL BE AS FOLLOWS:
 TOP-SOIL 3" IN DEPTH
 GRASS SEED 218 LBS. PER ACRE
 FERTILIZER 150 LBS. PER ACRE
 STRAW MULCH 3" IN DEPTH 1.5 TO 2 TONS PER ACRE (ALL MULCHING MUST HAVE A TIE DOWN, 50' SPACING, NET BINDING, ETC.)
 - HYDRO-SEEDING
 HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1% IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.
- PERIODIC INSPECTIONS WILL BE MADE THROUGHOUT THE COURSE OF THE PROJECT. IT WILL BE THE RESPONSIBILITY OF THE MANAGERS OF THE PROJECT TO CONTACT THIS OFFICE FOR THE FINAL INSPECTION AT THE END OF THE PROJECT.
- THIS COMMERCIAL PERMIT IS VALID FOR THE MASS EARTH MOVEMENT, THE INSTALLATION OF ROADS, DRAINS, AND UTILITIES AND IS NOT FOR ANY SINGLE FAMILY RESIDENCE. ALL RESIDENTIAL BUILDERS WILL NEED TO SECURE WAIVERS AND OR PERMITS AS NECESSARY FOR EACH LOT IN THIS DEVELOPMENT AT THE TIME APPLICATION FOR SINGLE FAMILY RESIDENCE IS MADE.
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- HYDRO-SEEDING
 HYDRO-SEEDING IS NOT ACCEPTABLE FOR SLOPES EXCEEDING 1% IN SUCH CASES STABILIZATION SHALL BE DONE WITH SEED AND STRAW MULCH WITH A TACKIFIER.



ITEM QTY	PART NUMBER	DESCRIPTION
1	2	2" X 8" CHANNEL
2	2	2" X 8" CHANNEL
3	NA	CHANNELS ALLOW FOR UP TO 1" THK INFILL MATERIAL
4	11	1" X 6" X 6" BOARDS
5	2	1" X 6" X 6" NOTCHED W/LLBOARDS
6	2	2-1/2" X 1/2" X 1/2" X 1/2" POST
7	2	2-1/2" X 3/4" POST
8	2	2" DIAMETER CONCRETE PIER
9	4	AN6-B18-8 - 1/2 X 2 X 1/2" DRG CARTRIDGE BOLT
10	4	IF1 100T10 1/4-20 HEX-HEAD FLANGE NUT
11	12	AN6-B18-8-4 - NO 10 X 8" SELF-TAPPING SCREW

MANUFACTURED BY: PERIMTEC
DISTRIBUTED BY: PERIMTEC

TITLE: HORIZONTAL 6'X6' PANEL
SCALE: SEE DRAWING SHEET 1 OF 1



THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE ONLY APPROXIMATE. NO ASSURANCE IS MADE THAT THE UTILITIES SHOWN ARE COMPLETELY ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

BE BOSS Engineering
1-800-482-7171
1-800-482-7171

BE BOSS Engineering
Planners Landscape Architects
1015 LATSON ROAD LLC
29592 BECK ROAD
WILKINSON, MI 48393
248-773-7992

CONSTRUCTION DETAILS

1015 LATSON ROAD LLC
29592 BECK ROAD
WILKINSON, MI 48393
248-773-7992

NO.	REVISION	DATE	BY	CHKD.
1	1	5-27-2025	ST	
2	2	10-24-2024	DH/JS	
3	3	6-17-2024		
4	4	5-20-2024		

DESIGNED BY: ST
DRAWN BY: DH/JS
CHECKED BY:
SCALE: NO SCALE
JOB NO: 21-519
DATE: 04/15/2024
SHEET NO. 11

PROJECT SUMMARY

CALCULATION DETAILS
LOADING = HS20/HS20
APPROX. LINEAR FOOTAGE = 593 LF

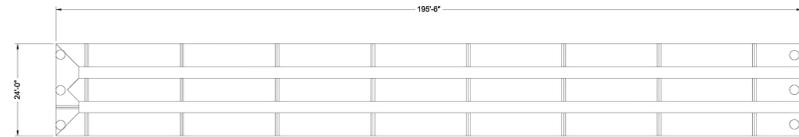
STORAGE SUMMARY
STORAGE VOLUME REQUIRED = 18,170 CF
PIPE STORAGE VOLUME = 12,767 CF
BACKFILL STORAGE VOLUME = 0 CF

PIPE DETAILS

- DIAMETER = 72"
CORROSION ON = S-1
GAGE = 18
COATING = A-12
WALL TYPE = PERFORATED
BARRREL SPACING = 36"

BACKFILL DETAILS

- WIDTH AT ENDS = 12"
ABOVE PIPE = 0"
WIDTH AT SIDES = 12"
BELOW PIPE = 0"



NOTES

- ALL RISER AND STUB DIMENSIONS ARE TO CENTERLINE. ALL ELEVATIONS, DIMENSIONS, AND LOCATIONS OF RISERS AND INLETS, SHALL BE VERIFIED BY THE ENGINEER OF RECORD PRIOR TO BEGINNING OF FABRICATION.
ALL FITTINGS AND REINFORCEMENT COMPLY WITH ASTM A888.
ALL RISERS AND STUBS ARE 2 1/2" x 1/2" CORRUGATION AND 18 GAGE UNLESS OTHERWISE NOTED.

CONTECH ENGINEERED SOLUTIONS LLC
CONTECH CMP DETENTION SYSTEMS
DYO39920 East Latson - South Parcel
South Parcel - COPY
Howell, MI
DETENTION SYSTEM

Table with columns: PROJECT NO., REV. NO., DATE, DESIGNED, DRAWN, CHECKED, APPROVED, SHEET NO.

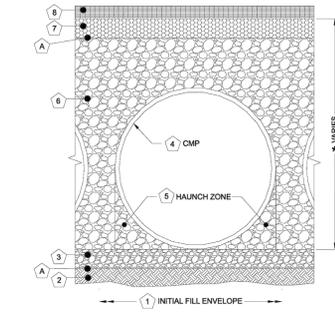
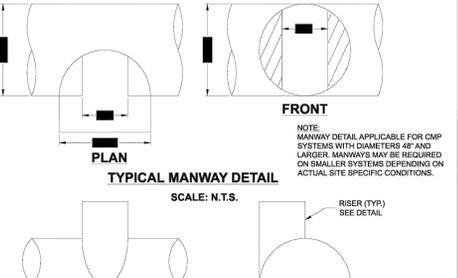


Table with columns: Material Location, Description, Material Designation, Designation. Lists materials like Geotextile Layer, Bedding Stone, and Geotextile Layer.



- MINIMUM WIDTH DEPENDS ON SITE CONDITIONS AND ENGINEERING JUDGEMENT.
FOUNDATION/BEDDING PREPARATION
PRIOR TO PLACING THE BEDDING, THE FOUNDATION MUST BE CONSTRUCTED TO A UNIFORM AND STABLE GRADE.
BACKFILL SHALL BE PLACED IN 6" MAXIMUM LIFTS.

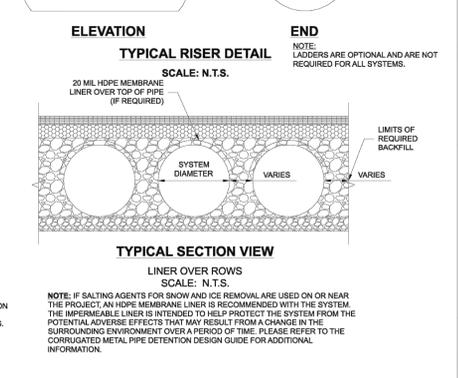
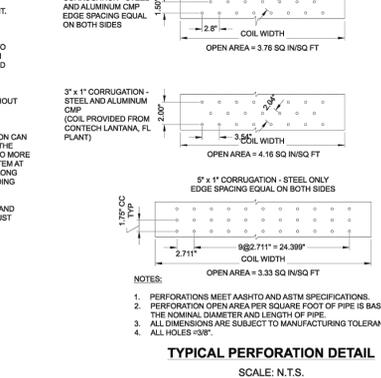
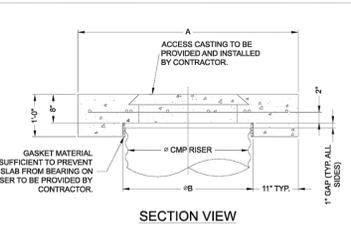
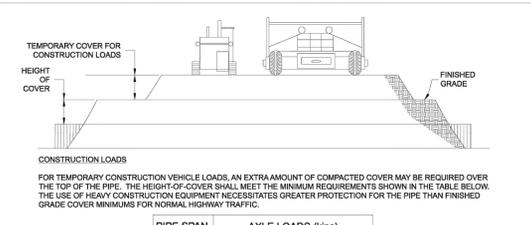


Table with columns: DATE, REVISION DESCRIPTION, BY.

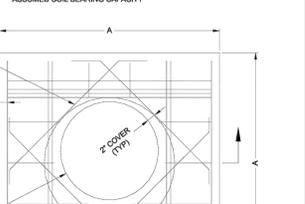
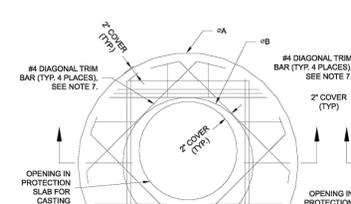
CONTECH ENGINEERED SOLUTIONS LLC
CONTECH CMP DETENTION SYSTEMS
DYO39920 East Latson - South Parcel
South Parcel - COPY
Howell, MI
DETENTION SYSTEM

Table with columns: PROJECT NO., REV. NO., DATE, DESIGNED, DRAWN, CHECKED, APPROVED, SHEET NO.

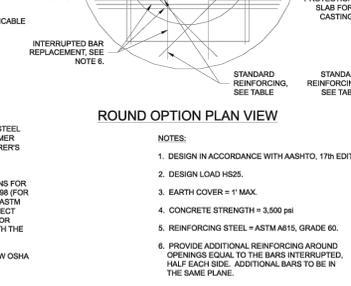


REINFORCING TABLE with columns: CMP RISER, A, B, REINFORCING, BEARING PRESSURE (PSF).

CONSTRUCTION LOADING DIAGRAM SCALE: N.T.S. Table with columns: PIPE SPAN, AXLE LOADS, MINIMUM COVER.



SPECIFICATION FOR DESIGNED DETENTION SYSTEM:
SCOPE: THIS SPECIFICATION COVERS THE MANUFACTURE AND INSTALLATION OF THE DESIGNED DETENTION SYSTEM DETAILED IN THE PROJECT PLANS.
MATERIAL: THE MATERIAL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS LISTED BELOW.

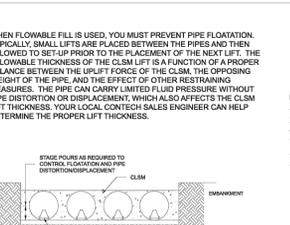
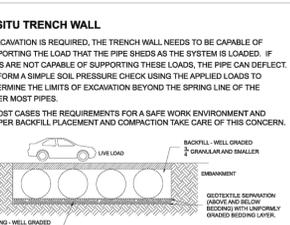


MANHOLE CAP DETAIL SCALE: N.T.S.
1. DESIGN IN ACCORDANCE WITH AASHTO, 17th EDITION.
2. DESIGN LOAD HS20.
3. EARTH COVER = 1' MAX.

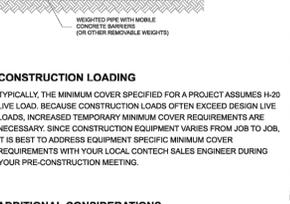
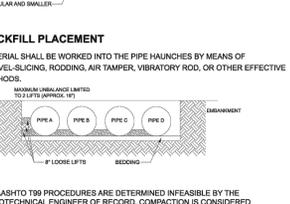
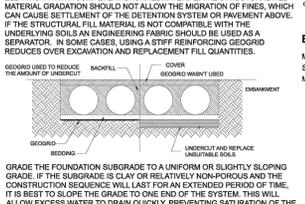
CONTECH ENGINEERED SOLUTIONS LLC
CONTECH CMP DETENTION SYSTEMS
DYO39920 East Latson - South Parcel
South Parcel - COPY
Howell, MI
DETENTION SYSTEM

Table with columns: PROJECT NO., REV. NO., DATE, DESIGNED, DRAWN, CHECKED, APPROVED, SHEET NO.

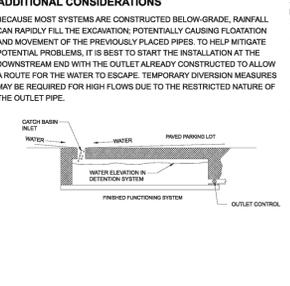
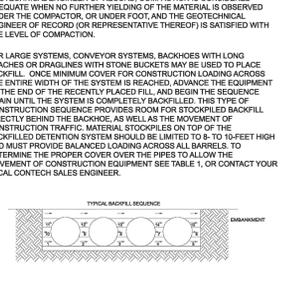
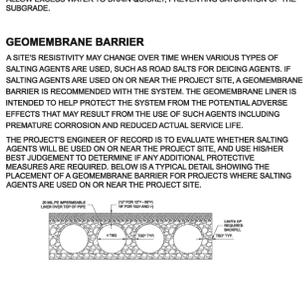
CMP DETENTION INSTALLATION GUIDE
PROPER INSTALLATION OF A FLEXIBLE UNDERGROUND DETENTION SYSTEM WILL ENSURE LONG-TERM PERFORMANCE.



CMP DETENTION SYSTEM INSPECTION AND MAINTENANCE
UNDERGROUND STORMWATER DETENTION AND INFILTRATION SYSTEMS MUST BE INSPECTED AND MAINTAINED AT REGULAR INTERVALS.



ADDITIONAL CONSIDERATIONS
BECAUSE MOST SYSTEMS ARE CONSTRUCTED BELOW-GRADE, RAINFALL CAN RAPIDLY FILL THE EXCAVATION.



CONSTRUCTION LOADING
TYPICALLY, THE MINIMUM COVER SPECIFIED FOR A PROJECT ASSUMES H20 LIVE LOAD.

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DETENTION SYSTEM

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

Table with columns: PROJECT, PREPARED FOR, TITLE, DATE, REVISION PER.

BOSS Engineering logo and sheet number 13.

PIPE RESTRAINT SCHEDULE

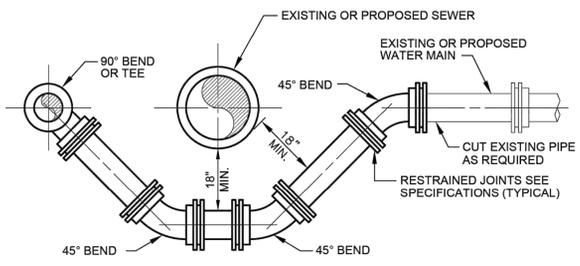
GROUND BURIED PRESSURE PIPE - POLYETHYLENE ENCASED DUCTILE IRON PIPE

PIPE DIAMETER	TEES, 90° BENDS	45° BENDS	22-1/2° BENDS	11-1/4° BENDS	DEAD ENDS	REDUCERS (ONE SIZE REDUCTION)*	REDUCERS (TWO SIZE REDUCTION)*
4	13	5	3	1	40	--	--
6	19	8	4	2	58	31	--
8	24	10	5	2	75	30	70
12	34	14	7	3	107	57	116
16	43	18	9	4	139	59	137
20	52	22	10	5	169	59	134
24	61	25	12	6	199	60	132
30	73	30	15	7	242	85	168
36	84	35	17	8	281	84	168

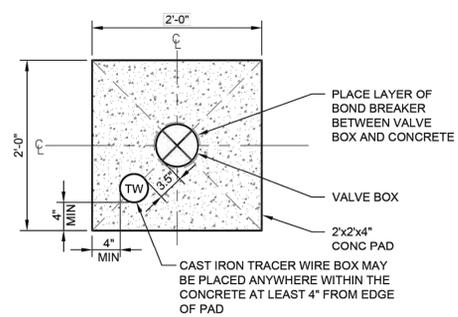
- LENGTHS OF PIPE RESTRAINT ARE GIVEN IN FEET.
 - IF REQUIRED PIPE DIAMETER IS NOT LISTED IN THIS TABLE, THE NEXT LARGEST PIPE DIAMETER SHALL BE USED.
 - THIS TABLE IS BASED ON A TEST PRESSURE OF 180 PSI (OPERATING PRESSURE PLUS WATER HAMMER. FOR OTHER TEST PRESSURES, ALL VALUES TO BE INCREASED OR DECREASED PROPORTIONALLY.
 - THE VALUES PROVIDED OF RESTRAINT LENGTH ARE IN EACH DIRECTION FROM THE POINT OF DEFLECTION OR TERMINATION EXCEPT FOR TEES, AT WHICH ONLY THE BRANCH IN THE DIRECTION OF THE STEM.
 - IF TIE RODS ARE USED, USE FOUR RODS MINIMUM AND ADD 1/8-INCH TO BAR DIAMETER AS CORROSION ALLOWANCE.
- * SIZE REDUCTION IS BASED UPON THE PIPE DIAMETER SHOWN IN THIS TABLE.

BASED UPON:

INTERNAL PRESSURE:	180
PIPE DEPTH:	5
BEDDING CLASS:	TYPE 4
SOIL TYPE:	GOOD SAND
SAFETY FACTOR:	2

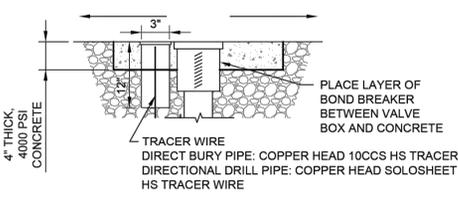


WATER MAIN UTILITY OFFSET



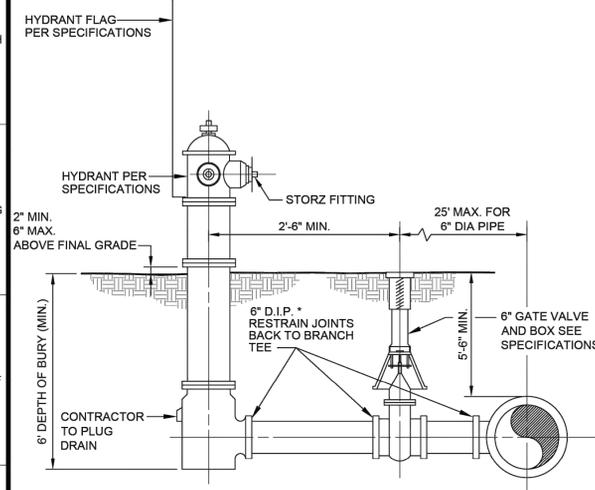
NOTE: ALL BOXES & ADJOINING TW BOXES SHALL BE ENCASED IN A CONC. PAD UNLESS OTHERWISE DETERMINED BY MHOG.

PLAN
VALVE/TRACER WIRE BOX IN CONCRETE DETAIL
NO SCALE

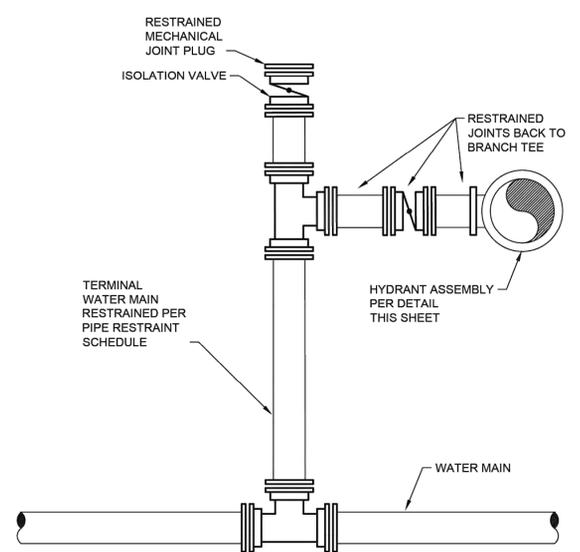


- NOTE:
- TRACER WIRE BOXES LOCATED WITHOUT A VALVE BOX ONLY REQUIRE AN 18" X 18" CONCRETE PAD.
 - TRACER WIRE BOX SHALL HAVE A LOCKING LID W/STANDARD AWWA PENTAGON KEY.
 - TRACER WIRE BOX SHALL BE COPPERHEAD RB14" TP IN ASPHALT INSTALLATIONS AND CD14" TP FOR ALL OTHER INSTALLATIONS.

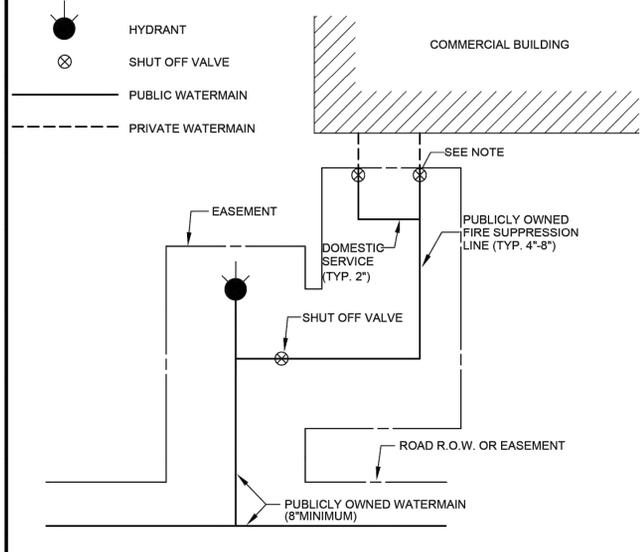
SECTION



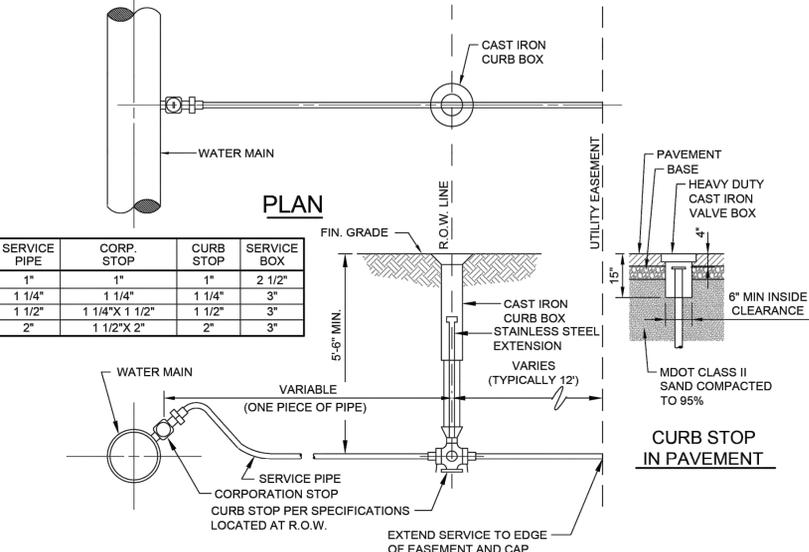
FIRE HYDRANT ASSEMBLY



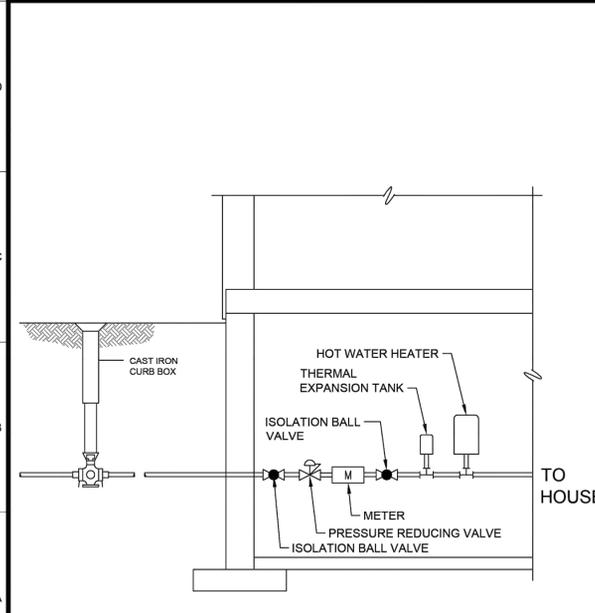
TERMINAL HYDRANT DETAIL



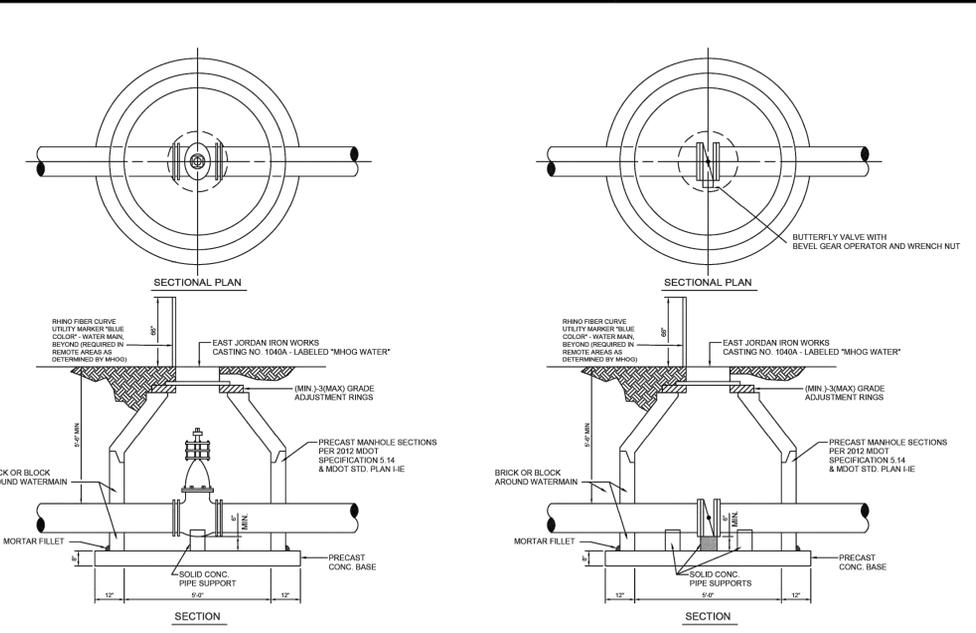
COMMERCIAL BUILDING WATER SERVICE LAYOUT



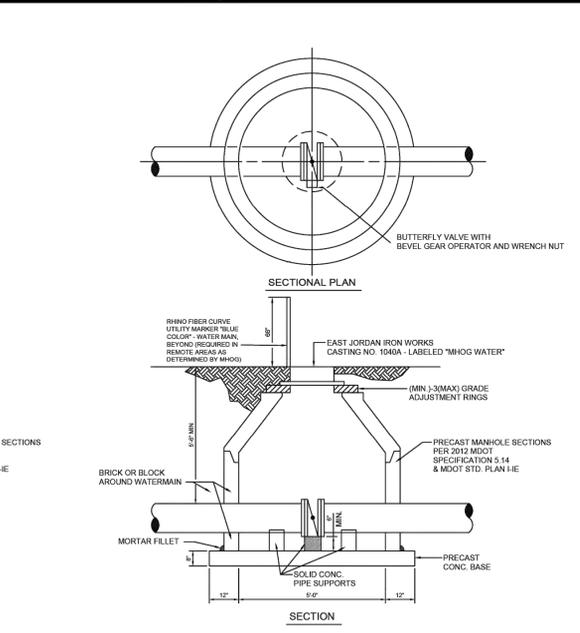
SECTION
WATER SERVICE LATERAL



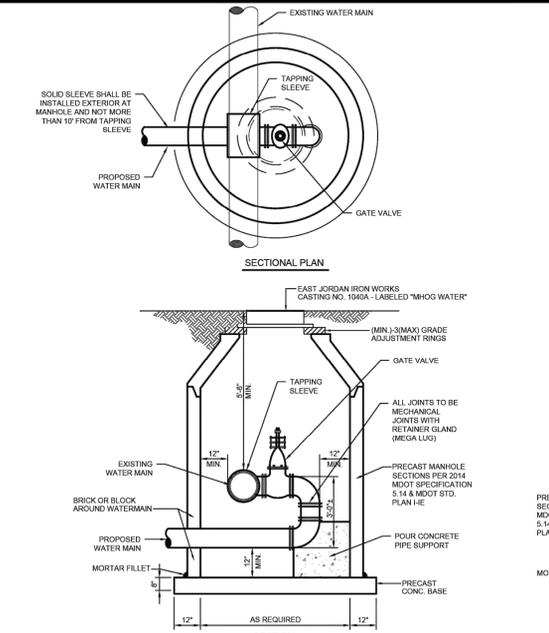
PRIVATE RESIDENCE
PRESSURE REDUCING VALVE (PRV)



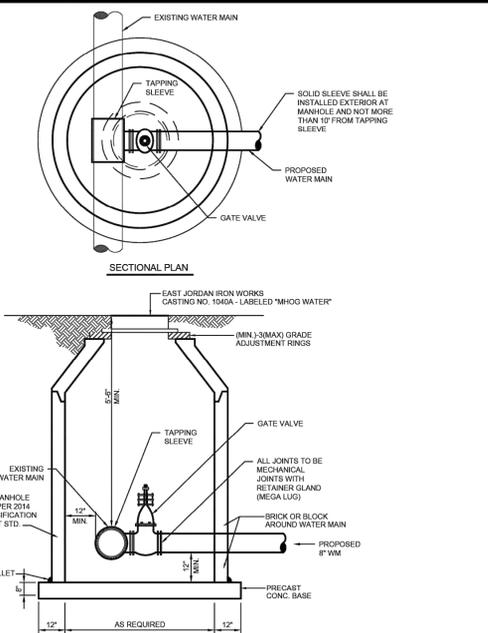
VALVE AND GATE WELL



BUTTERFLY VALVE AND WELL



REVERSE TAP GATE WELL



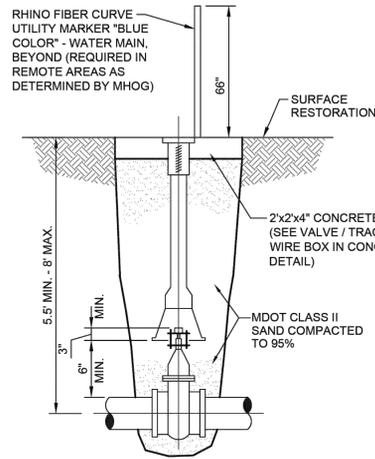
REGULAR TAP GATE WELL



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Sewer and Water Authority

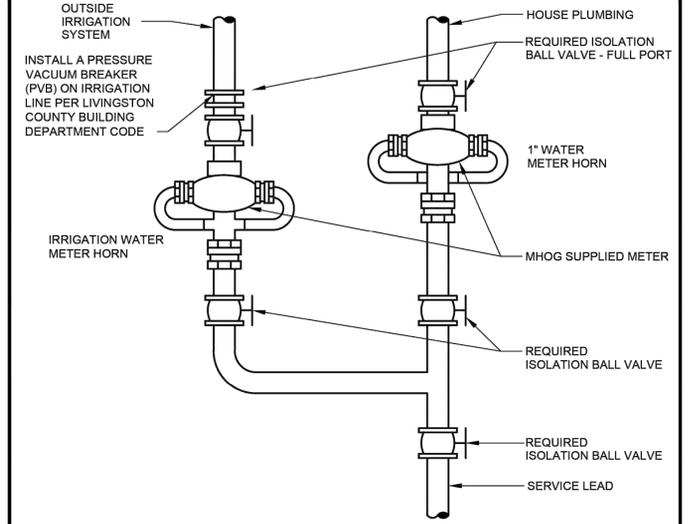
Scale: NONE
Issued Date: JANUARY - 2014
UPDATED: MAY 2015
UPDATED: FEBRUARY 2016
UPDATED: APRIL 2016
UPDATED: OCTOBER 2017
UPDATED: FEBRUARY 2019
UPDATED: NOVEMBER 2022

STANDARD DETAILS



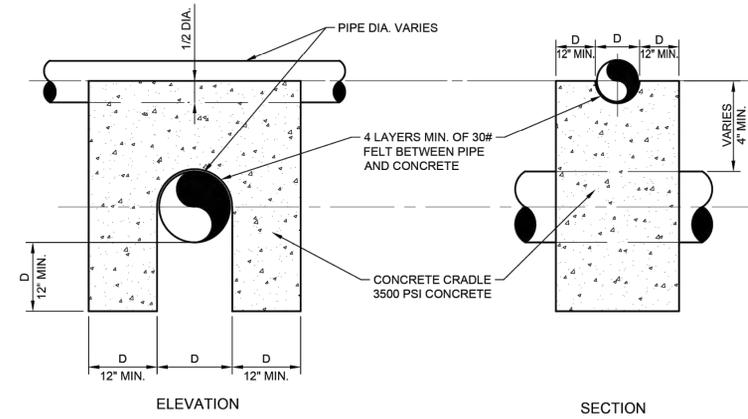
- NOTES:
1. VALVE BOX SHALL NOT REST ON VALVE OR MAIN LINE PIPE.
 2. A VALVE STEM EXTENSION WITH CENTERING RING IS REQUIRED FOR VALVES BURIED DEEPER THAN 6'.

GATE VALVE AND BOX



- NOTES:
1. ALL METERS ARE TO BE INSTALLED HORIZONTALLY IN A DRY, CLEAN, SANITARY LOCATION THAT IS READILY ACCESSIBLE. THIS DRAWING IS NOT TO SCALE & IS ONLY A REPRESENTATION OF HOW THE VALVES AND METERS SHOULD BE INSTALLED. THE SECOND METER IS OPTIONAL FOR IRRIGATION USAGE. METERS SHOULD NOT BE INSTALLED IN LINE (ONE RIGHT AFTER THE OTHER).
 2. PROPERTIES DESIGNATED "HIGH HAZARD" PER THE MHOG CROSS CONNECTION RULES MANUAL WILL REQUIRE THE INSTALLATION OF A REDUCED PRESSURE ZONE (RPZ) BACK FLOW PREVENTION DEVICE.

TYPICAL METER HORN INSTALLATION



CONCRETE CRADLE DETAIL

SCALE: NONE



MHOG CASTING DETAIL

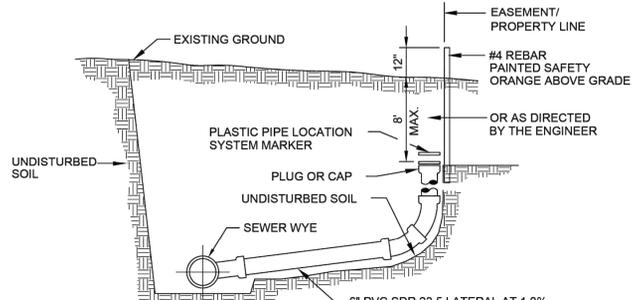
NO SCALE



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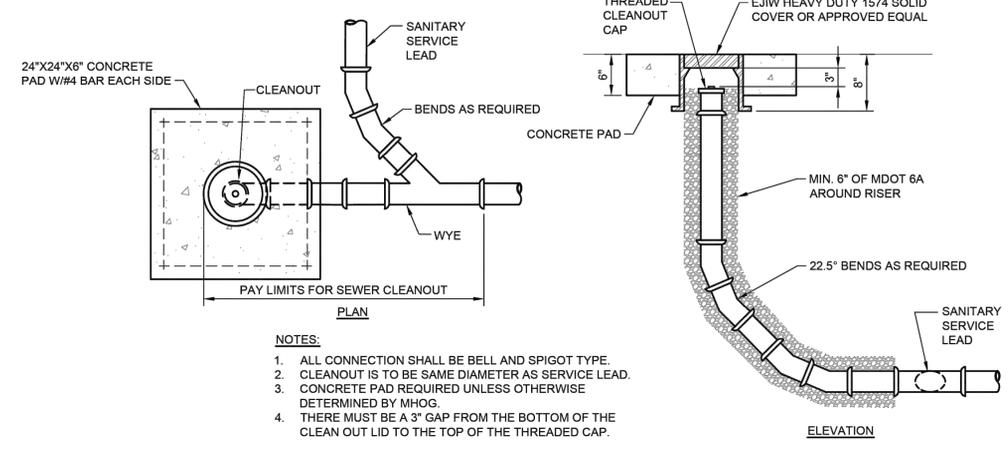
STANDARD DETAILS

Scale:	NONE
Issued Date	JANUARY - 2014
UPDATED:	MAY 2015
UPDATED:	FEBRUARY 2016
UPDATED:	APRIL 2016
UPDATED:	OCTOBER 2017
UPDATED:	FEBRUARY 2019
UPDATED:	NOVEMBER 2022



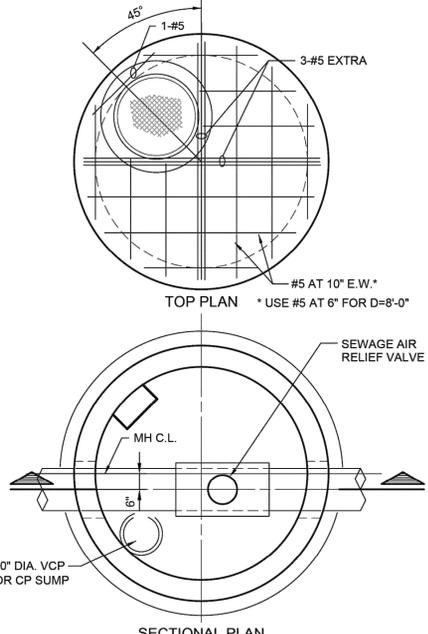
SANITARY SEWER LATERAL

NOTE:
 1. RISER PIPE MAY NOT BE REQUIRED FOR SHALLOW SEWERS AS SHOWN.
 2. WHEN CONNECTING TO AN EXISTING SEWER THE AUTHORITY MAY REQUIRE CORING OF THE EXISTING PIPE AND INSTALLATION OF A SEWER SADDLE. SADDLE SHALL BE ROMAC "CB" SEWER SADDLE OR APPROVED EQUAL.

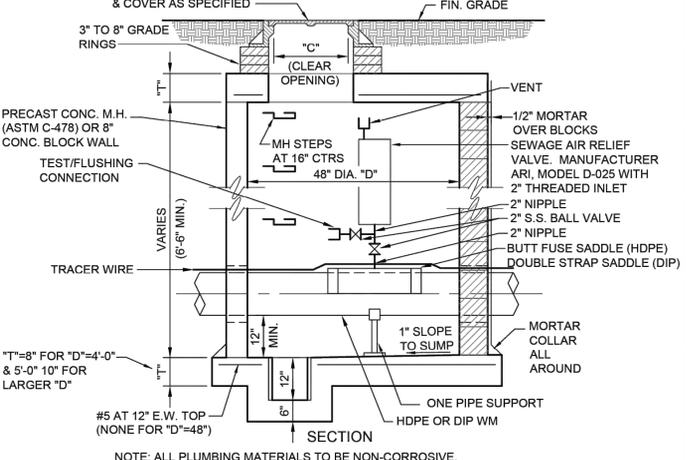


SEWER CLEANOUT DETAIL

NOTES:
 1. ALL CONNECTION SHALL BE BELL AND SPIGOT TYPE.
 2. CLEANOUT IS TO BE SAME DIAMETER AS SERVICE LEAD.
 3. CONCRETE PAD REQUIRED UNLESS OTHERWISE DETERMINED BY MHO.
 4. THERE MUST BE A 3\"/>

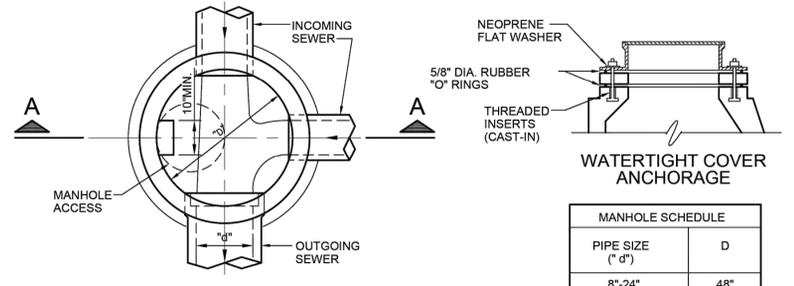


AIR RELIEF STRUCTURE

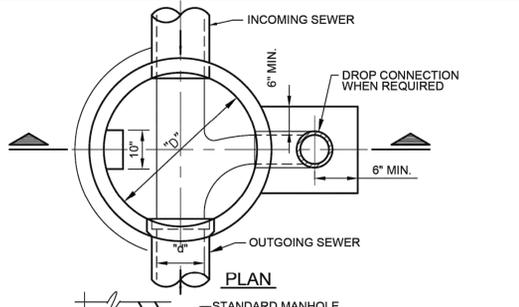


AIR RELIEF STRUCTURE

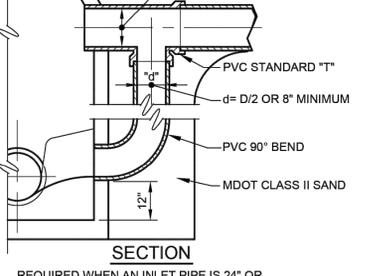
NOTE: ALL PLUMBING MATERIALS TO BE NON-CORROSIVE, ALL FITTINGS SHALL BE STAINLESS STEEL.



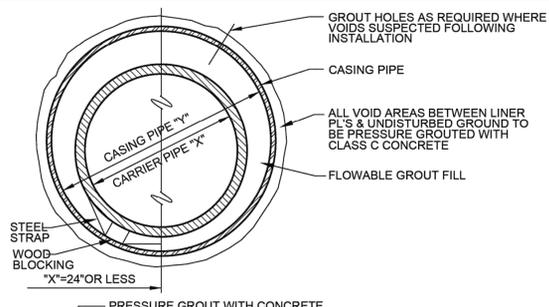
MANHOLE SCHEDULE	
PIPE SIZE ("d")	D
8"-24"	48"
27"-36"	60"
42"-48"	72"
54"	84"



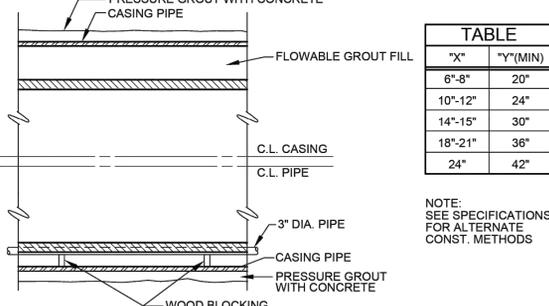
DROP CONNECTION



DROP CONNECTION



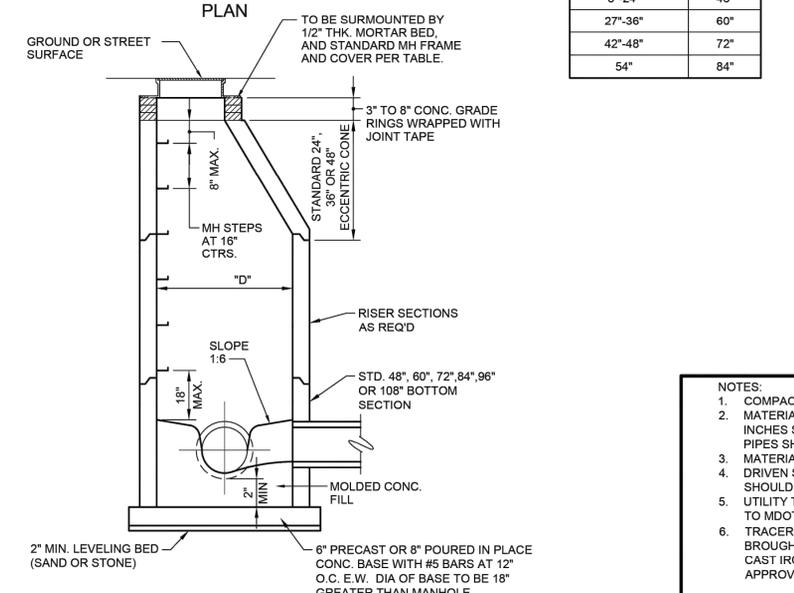
CASING PIPE



CASING PIPE

"X"	"Y"(MIN)
6"-8"	20"
10"-12"	24"
14"-15"	30"
18"-21"	36"
24"	42"

NOTE: SEE SPECIFICATIONS FOR ALTERNATE CONST. METHODS



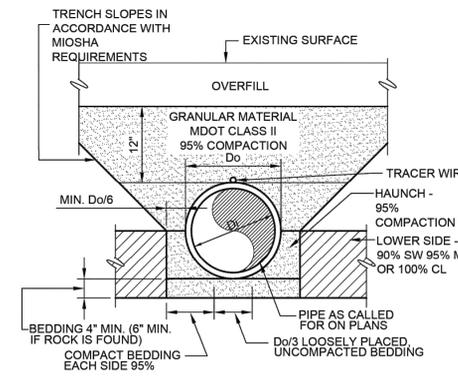
SECTION A-A

NOTES:
 1. ALL SANITARY MANHOLES TO BE PRECAST REINFORCED CONCRETE WITH PREMIUM JOINTS. SEE SPECIFICATIONS FOR BASE SLAB AND PIPE OPENINGS AND CONNECTIONS.
 2. MANHOLE CONES SHALL BE THE ECCENTRIC TYPE.
 3. PROVIDE 6\"/>

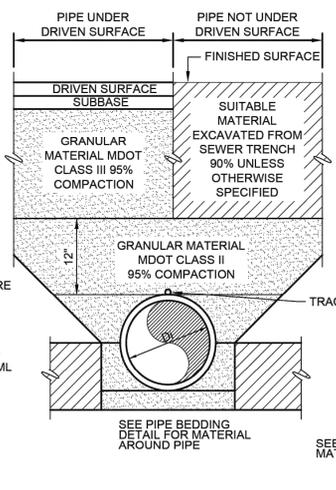
TYPE	FRAME & COVER FOR SANITARY SEWER MANHOLES	MANUFACTURER OR EQUAL	
		EAST JORDAN	NEENAH
MH	SANITARY - SOLID SELF-SEALING	1040.0000	R-1642
MH	SANITARY - SOLID WATERTIGHT	1040-APT	R-1916-F
CO	SOLID	1574A	R-1973-A

STANDARD MANHOLE

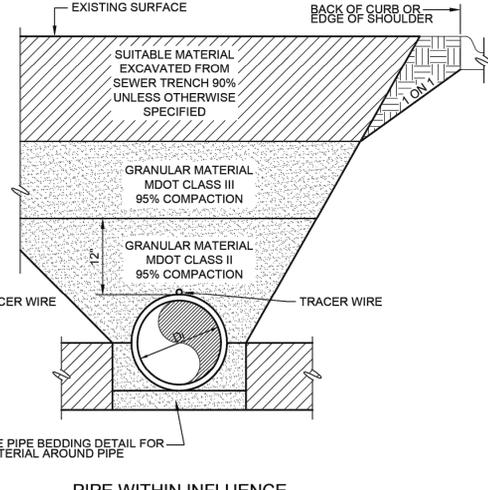
NOTES:
 1. COMPACTION PRESENTED AS MINIMUM STANDARD PROCTOR VALUES.
 2. MATERIALS AROUND THERMOPLASTIC PIPE WITH DIAMETER < 6 INCHES SHALL PASS 0.5 INCH SIEVE, MATERIALS AROUND OTHER PIPES SHALL PASS 1.5 INCH SIEVE.
 3. MATERIALS AROUND HDPE PIPE TO BE MDOT 6A OR 21AA.
 4. DRIVEN SURFACE IS DRIVEWAY, PARKING AREA, ROAD BED OR SHOULDER.
 5. UTILITY TRENCHES LOCATED WITHIN A MDOT ROW SHALL CONFORM TO MDOT STANDARD DETAIL R-83.
 6. TRACER WIRE IS REQUIRED ON FORCE MAIN ONLY AND SHALL BE BROUGHT TO GRADE AT A MINIMUM EVERY 1000 FEET IN A APPROVED CAST IRON TRACER WIRE BOX ENCASED IN CONCRETE OR WITH AN APPROVED GREEN MARKER POST.



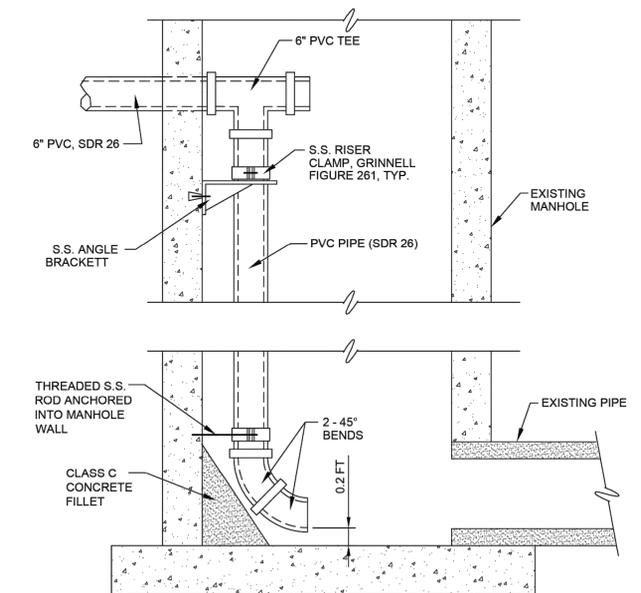
PIPE BEDDING



PIPE UNDER/NOT UNDER DRIVEN SURFACE



PIPE WITHIN INFLUENCE OF DRIVEN SURFACE



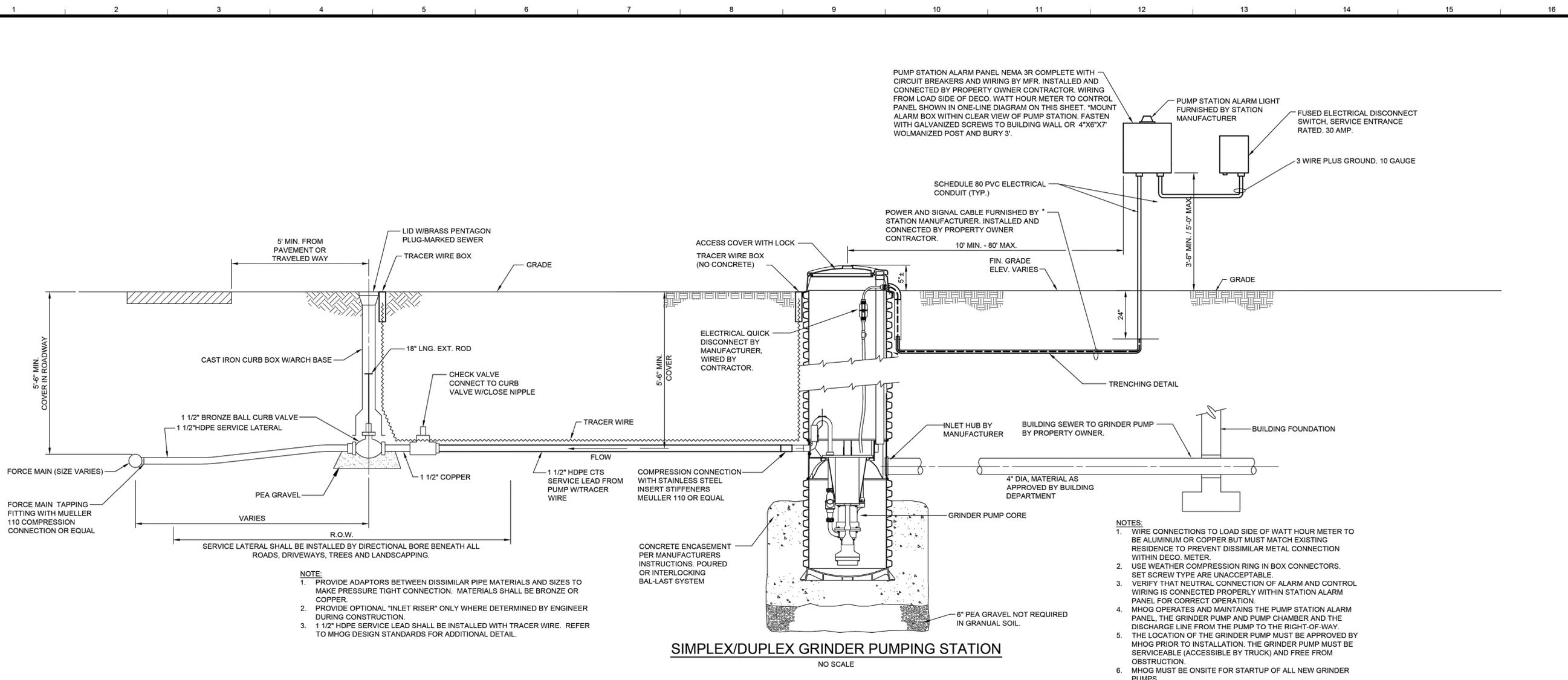
INTERIOR SEWER LATERAL DROP CONNECTION



MARION HOWELL OCEOLA GENOA Sewer and Water Authority

STANDARD DETAILS

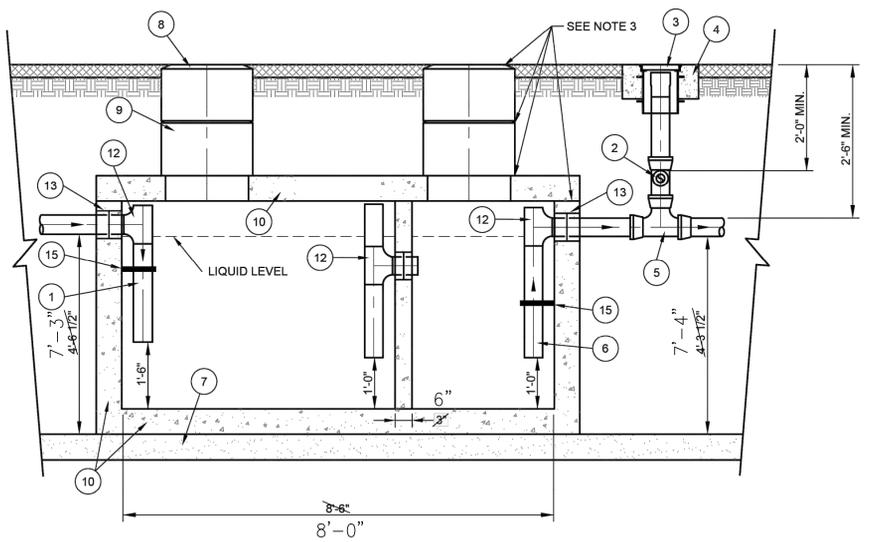
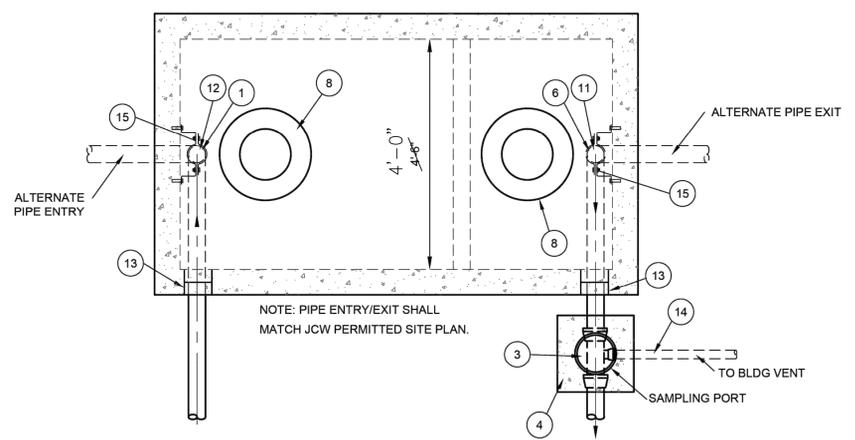
Scale: NONE
 Issued Date: JANUARY - 2014
 UPDATED: MAY 2015
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 UPDATED: APRIL 2016
 UPDATED: OCTOBER 2017
 UPDATED: FEBRUARY 2019



SIMPLEX/DUPLEX GRINDER PUMPING STATION
NO SCALE

- NOTE:
1. PROVIDE ADAPTORS BETWEEN DISSIMILAR PIPE MATERIALS AND SIZES TO MAKE PRESSURE TIGHT CONNECTION. MATERIALS SHALL BE BRONZE OR COPPER.
 2. PROVIDE OPTIONAL "INLET RISER" ONLY WHERE DETERMINED BY ENGINEER DURING CONSTRUCTION.
 3. 1 1/2" HDPE SERVICE LEAD SHALL BE INSTALLED WITH TRACER WIRE. REFER TO MHOG DESIGN STANDARDS FOR ADDITIONAL DETAIL.

- NOTES:
1. WIRE CONNECTIONS TO LOAD SIDE OF WATT HOUR METER TO BE ALUMINUM OR COPPER BUT MUST MATCH EXISTING RESIDENCE TO PREVENT DISSIMILAR METAL CONNECTION WITHIN DECO. METER.
 2. USE WEATHER COMPRESSION RING IN BOX CONNECTORS. SET SCREW TYPE ARE UNACCEPTABLE.
 3. VERIFY THAT NEUTRAL CONNECTION OF ALARM AND CONTROL WIRING IS CONNECTED PROPERLY WITHIN STATION ALARM PANEL FOR CORRECT OPERATION.
 4. MHOG OPERATES AND MAINTAINS THE PUMP STATION ALARM PANEL, THE GRINDER PUMP AND PUMP CHAMBER AND THE DISCHARGE LINE FROM THE PUMP TO THE RIGHT-OF-WAY.
 5. THE LOCATION OF THE GRINDER PUMP MUST BE APPROVED BY MHOG PRIOR TO INSTALLATION. THE GRINDER PUMP MUST BE SERVICEABLE (ACCESSIBLE BY TRUCK) AND FREE FROM OBSTRUCTION.
 6. MHOG MUST BE ONSITE FOR STARTUP OF ALL NEW GRINDER PUMPS.



1500
GREASE INTERCEPTOR 1000 GALLON
NO SCALE

ITEM	DESCRIPTION
1	4" PVC INLET PIPE*
2	4"x4"x2" TEE WITH 2" PIPE TO BUILDING VENT*
3	THREADED C/O CAP JOSAM 58880 OR APP EQUAL**
4	CONCRETE PAD
5	4"x4"x4" TWO-WAY CLEANOUT TEE*
6	4" PVC OUTLET*
7	4" - 6" GRAVEL BEDDING
8	HEAVY-DUTY CAST IRON FRAME AND COVER ***
9	CONCRETE ADJUSTMENT RINGS
10	REINFORCE AS REQUIRED FOR SERVICE CONDITIONS
11	4" PVC 90° ELBOW*
12	4" PVC TEE*
13	A-LOK OR PRESS SEAL PSX PIPE/WALL CONNECTOR
14	2" VENT PIPE (IDENTIFY PIPE TYPE, CLASS & JOINT AS REQUIRED FOR PROJECT)
15	STAINLESS STEEL PIPE SUPPORT CLAMP ****

- * 6" PIPE MAY BE SUBSTITUTED TO MATCH UPSTREAM PIPE DIAMETER.
** REFER TO CLEAN OUT DETAILS ON STANDARD DETAIL SHEET
*** CLAY & BAILEY 2008 BV OR EQUAL (FROST PROOF COVERS OPTIONAL)
**** FM STAINLESS FASTENERS #63 OR EQUAL. 1/2"x2-1/2" SS BRACKET W/ 1/2"x1-1/2" FULLY THREADED SS HEX BOLT WITH 1/2" SS WASHER AND 1/2"x1-3/4" SS ANCHORS. CLAMP TO BE FACTORY INSTALLED.

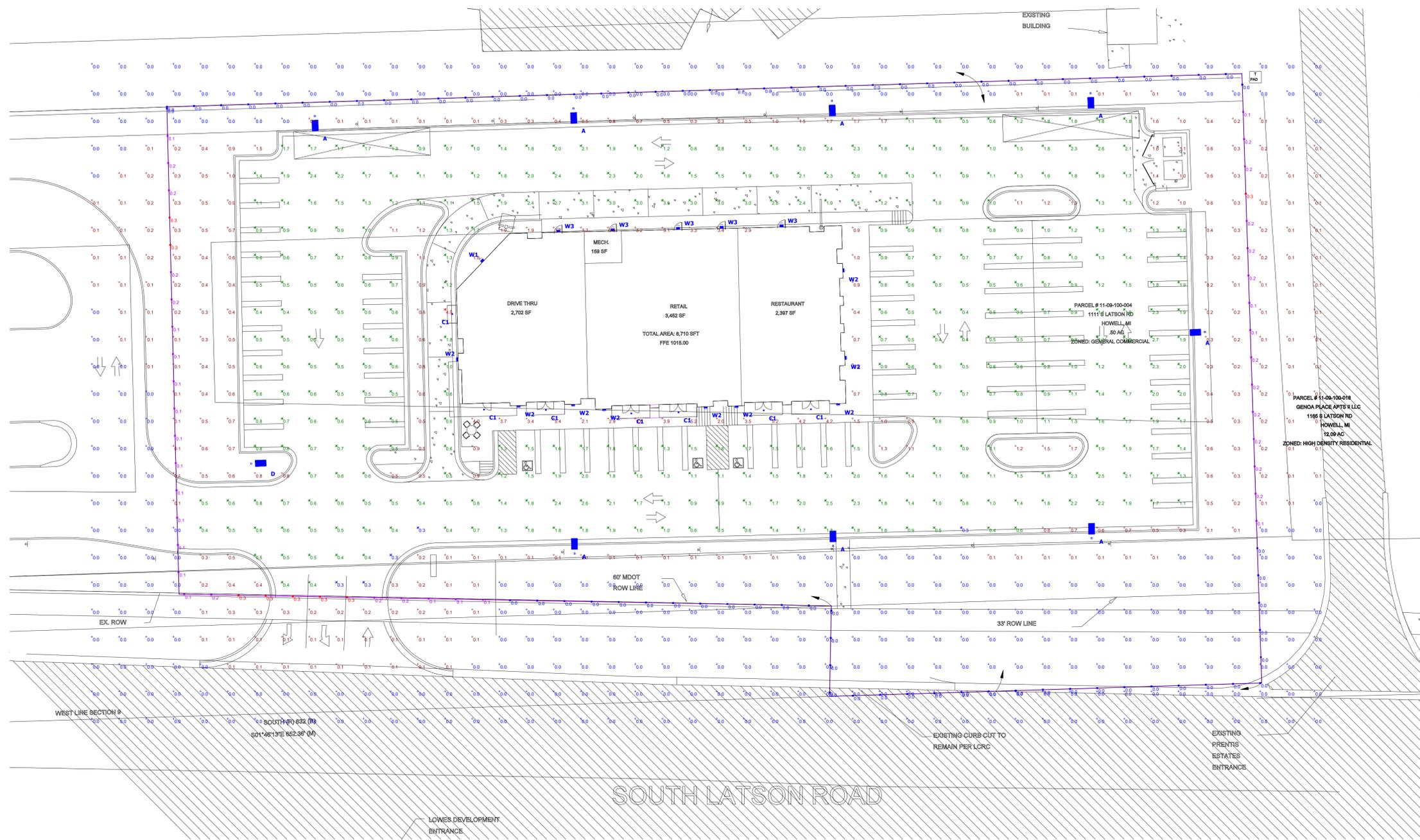
- NOTES:
1. THREE COVERS AND RISERS SHOWN. TWO COVERS AND RISERS CENTERED OVER UPPER TWO BAFFLES ARE OPTIONAL.
 2. INTERCEPTOR SIZE - 1000 GAL MINIMUM (REVISE THE SIZE DIMENSIONS, AS NEEDED, FOR LARGER CAPACITY INTERCEPTORS)
 3. ALL JOINTS AT THE FRAME & COVER, CONCRETE ADJUSTMENT RINGS AND THE LID OF THE INTERCEPTOR SHALL BE SEALED WITH A MINIMUM OF TWO (2) ROWS OF 3/4 TO 1 INCH PREFORMED BUTYL JOINT SEALER AND A 6" BUTYL JOINT WRAP AROUND SLEEVE (EZ WRAP). THE ENDS OF THE 6" EZ WRAP SHALL OVERLAP BY 12".
 4. PIPING ON THE INTERIOR OF THE INTERCEPTOR SHALL BE PVC WITH SOLVENT-CEMENTED JOINTS.
 5. GREASE INTERCEPTOR INCLUDING ADJUSTMENT RINGS AND CASTINGS SHALL BE WATER TESTED FOR WATER TIGHTNESS AFTER THE BACKFILL OPERATIONS HAVE BEEN COMPLETED. WATER TESTING SHALL CONSIST OF THE FOLLOWING: 1. SEAL THE TANK, 2. FILL WITH WATER, 3. LET STAND FOR 24 HOURS, 4. REFILL TANK, 5. TANK IS APPROVED IS WATER LEVEL IS HELD FOR 1 HOUR.
 6. ONLY KITCHEN WASTE SHALL BE DIVERTED TO THE GREASE TRAP.



MARION HOWELL OCEOLA GENOA
Sewer and Water Authority

STANDARD DETAILS

Scale: NONE
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UPDATED: APRIL 2016
UPDATED: OCTOBER 2017
UPDATED: FEBRUARY 2019
UPDATED: NOVEMBER 2022



Plan View
Scale - 1" = 20ft

Schedule											
Symbol	Label	QTY	Manufacturer	Catalog Number	Description	Lamp	Number Lamps	Lumens per Lamp	LLF	Wattage	Mounting Height
	A	8	Lithonia Lighting	DSX1 LED P2 40K 70CRI BL C4	D-Series Size 1 Area Luminaire P2 Performance Package 4000K CCT 70 CRI Type 4 Extreme Backlight Control	LED	1	7334	0.9	67.79	20'-0"
	C1	7	GENERATION BRANDS	EN3R-LO-9-40-A65-A-XX	LED RECESSED WITH 65° BEAM SPREAD	LED	1	988	0.9	11.9	11'-0"
	D	1	Lithonia Lighting	DSX1 LED P1 40K 70CRI T5W HS	D-Series Size 1 Area Luminaire P1 Performance Package 4000K CCT 70 CRI Type 5 Wide Houseside Shield	LED	1	5473	0.9	50.9015	20'-0"
	W1	1	Lithonia Lighting	WDGE2 LED P1 40K 70CRI T4M	WDGE2 LED WITH P1 - PERFORMANCE PACKAGE, 4000K, 70CRI, TYPE 4 MEDIUM OPTIC	LED	1	1397	0.9	11.1658	12'-0"
	W2	9	Brownlee Lighting	7329-H21-40	Gray steel housing / heatsink, frosted plastic lens	LED	1	1114	0.9	20.83	8'-0"
	W3	5	Lithonia Lighting	WDGE2 LED P1 40K 80CRI T3M	WDGE2 LED WITH P1 - PERFORMANCE PACKAGE, 4000K, 80CRI, TYPE 3 MEDIUM OPTIC	LED	1	1265	0.9	11.1658	9'-0"

Statistics							
Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min	Avg/Max
PROPERTY LINE	■	0.1 fc	0.3 fc	0.0 fc	N/A	N/A	0.3:1
RETAIL PARKING	✕	1.2 fc	4.9 fc	0.3 fc	16.3:1	4.0:1	0.2:1
OVERALL	+	0.6 fc	5.6 fc	0.0 fc	N/A	N/A	0.1:1

General Note

- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
- SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
- CALCULATIONS ARE SHOWN IN FOOTCANDLES AT: 0' - 0".

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

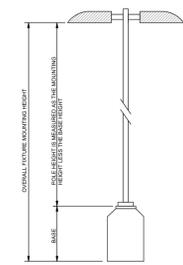
UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705

Drawing Note

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Ordering Note

FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.



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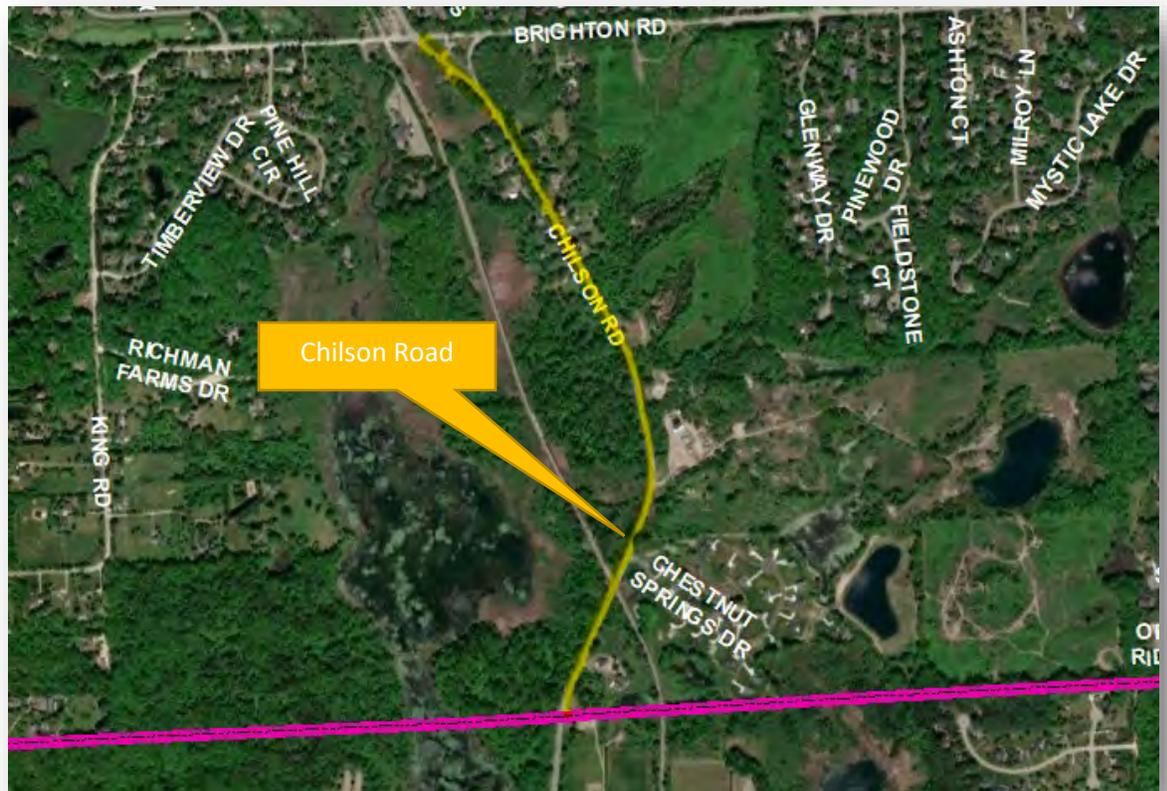


2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Honorable Board of Trustees
FROM: Kelly VanMarter, Township Manager
DATE: August 25, 2025
RE: Chilson Road Speed Study

We have received a request from a resident regarding speed limits on Chilson Road south of Brighton Road in the vicinity of the Chestnut Springs subdivision. The email request from the resident is attached and an area map is shown below.



SUPERVISOR

Kevin Spicher

CLERK

Janene Deaton

TREASURER

Robin L. Hunt

TRUSTEES

Rick Soucy

Bill Reiber

Candie Hovarter

Todd Walker

MANAGER

Kelly VanMarter

I have spoken to the Livingston County Road Commission and they have indicated that to consider establishing a speed limit change they first must complete a speed study. One of the qualifying criteria for completing a speed study is a written request from the local unit of government or appropriate law enforcement agency. To provide you more information on this process and the standards used to set speeds, I have attached a copy of the County policy and also the "Establishing Realistic Speed Limits" booklet produced by the Office of

Highway Safety Planning. If the Board wishes to move forward with the speed study, I suggest the following motion:

Moved by _____ and **supported** by _____ to request that the Livingston County Road Commission perform a speed study on Chilson Road south of Brighton Road in the vicinity of Chestnut Spring Drive.

Sincerely,



Kelly VanMarter

From: [Gregory agoston](#)
To: [Kelly VanMarter](#)
Subject: Request for traffic speed analysis Chilson Road at Chestnut Springs Drive
Date: Tuesday, August 12, 2025 10:24:49 AM

Hi Kelly,

My wife Sandra and I met you last week at the township office. We discussed the process for having the traffic speed reviewed at the entrance of our neighborhood.

Per your request, I am formally requesting that the traffic speeds be analyzed as the current speed limit is 55 MPH in front of our neighborhood and through the Brighton Rec area on Chilson road.

Given the curves in both directions on Chilson prior and after our entrance on Chestnut Springs Drive, cars traveling at 55 MPH and faster as many of them drive, poses a real risk to cars exiting from Chestnut Springs Drive onto Chilson.

The Speed limit at the Brighton Road/ Chilson Road intersection is 40 MPH. Heading toward Brighton Rec, on Chilson, the speed increases to 55 MPH after about 1/2 mile from Brighton Road. Due to curves in the road on Chilson, we have a limited sight distance when exiting our neighborhood. Likewise, cars traveling at 55 MPH or faster approaching our neighborhood on Chilson, have a limited amount of time to slow down particularly when a car is stopped waiting to make a left turn in to our neighborhood.

Our subdivision is surveying our residents and I am confident that all will agree that the speed limit should be decreased to 40 and no more than 45 MPH on Chilson. I would think that the DNR would also recommend these speed limits on Chilson as you travel through the park.

I will also reach out to our state representative and request that the process of 80/20 be reviewed and revised to take into account road conditions, sight restrictions, residences, pedestrian crossings etc.

Please let me know if you need any additional information. Thank you for your help with this matter.

Sincerely,

Gregory and Sandra Agoston
4734 Chestnut Springs Drive
Howell, MI 48843
248-513-7693 cell

Speed Limits – Myths and Realities

Myth #1: Speed limits significantly affect traffic speeds.

Reality: Traffic speeds do not significantly change following the posting of new or revised speed limits. Most drivers travel at speeds that they consider safe, regardless of the speed limit.

Myth #2: Most drivers travel too fast for road conditions.

Reality: The majority of drivers travel at prudent speeds and are capable of recognizing driving conditions that require greater driving caution.

Myth #3: Lower speed limits result in safer roads.

Reality: The more uniform the speeds of vehicles in a traffic stream, the less chance there is for conflict and crashes. Speed limits that reflect the normal actions of the reasonable majority, therefore, usually provide the most uniform speeds. In fact, unrealistically low speed limits may actually lead to crashes by producing two distinct groups of drivers – those attempting to observe the speed limit and those driving at what they feel is reasonable and prudent. These differences in speeds may result in increased crashes due to tailgating, improper passing, reckless driving and weaving from lane to lane.

Myth #4: Lower speed limits allow for effective enforcement.

Reality: Unrealistically low speed limits cannot be enforced with reasonable enforcement. In addition, they make the behavior of the majority unlawful and create public antagonism toward the police. However, realistic speed limits (i.e., those that reflect the normal actions of the reasonable majority) allow police to target their enforcement efforts to those drivers clearly out of line with the normal flow of traffic.



Offices: 3535 Grand Oaks Drive
Howell, Michigan 48843
Phone: (517) 546-4250
Fax: (517) 546-9628
E-mail: mail@livingstonroads.org
Web site: www.livingstonroads.org

LCRC Facts

The Livingston County Road Commission (LCRC) maintains and provides the following as part of the county road system:

- ◆ Maintains 1,300 total miles of roadway
- ◆ Maintains nearly 700 miles of gravel roads
- ◆ Accepts approximately 10 miles of new roads into the county road system each year
- ◆ Maintains more than 13,500 traffic signs
- ◆ Issues approximately 1,000 residential driveway approach permits each year

Also, the Livingston County Road Commission:

- ◆ Is funded directly by state gas tax and vehicle registration fees – not by property taxes
- ◆ Is located in a state with a gas tax below the national average and ranks in the bottom nine states in per capita road funding
- ◆ Receives no direct revenue from growth and development
- ◆ Is not part of the Livingston County general government

SPEED LIMITS



Policies and procedures for setting and posting speed limits on county roadways in Livingston County, Michigan

What types of speed limits are on county roads?

There are four types of speed limits on roadways under the jurisdiction of the Livingston County Road Commission (LCRC).

- ◆ Statutory (55 mph) Maximum Speed Limits
- ◆ Absolute (30 mph to 50 mph) Speed Limits
- ◆ Prima Facie (25 mph) Speed Limits
- ◆ School Zone Speed Limits

Statutory Maximum Speed Limits

The statutory maximum limit on a county road is 55 mph. Statutory maximum limits will only be posted on paved county roads where a zone changes from a prima facie limit or absolute limit to a statutory maximum limit.

Absolute Speed Limits

Absolute speed limits are often referred to as modified speed limits and are utilized on roadways requiring speed limits between the 25-mph prima facie and the statutory 55-mph maximum limits.

Absolute speed limits on a county road are established only by a joint administrative action between the Livingston County Road Commission and the Michigan State Police, based on a traffic engineering study. If you would like more information about the factors considered in this study, please ask us for the booklet **Establishing Realistic Speed Limits**.

The Livingston County Road Commission will only consider requests to determine the need for an absolute speed limit on a roadway if all of the following criteria are met.

Qualifying Criteria:

- ✓ A written request is received from the local unit of government or appropriate law enforcement agency, and
- ✓ The roadway must be classified as a local road, collector road, or arterial highway, intended to serve through traffic, and
- ✓ The roadway is paved, and
- ✓ The roadway is at least one-half mile in length.

Prima Facie Speed Limits

Prima facie is Latin for “on the face of it” and is the speed limit under most conditions. Prima facie 25-mph limits are intended for residential and business districts and are established by the legislature. These limits apply throughout the state and are not required to be posted.

The Livingston County Road Commission will only consider posting prima facie speed limits on the following streets and roads.

- ❖ Local Subdivision Street - A county street, not intended to serve through traffic, located entirely within the limits of a subdivision plat or site condominium. This type of street automatically qualifies for consideration of a posted 25-mph limit. However, speed limit signs will generally be posted only at each entrance to the subdivision or site condominium.
- ❖ Local Dead End Street – A county street that does not serve through traffic and is less than one-half mile in length.
- ❖ Local Access Road - A county local road intended to serve limited through traffic. Portions of local access roads may be within subdivision plats or site condominiums. Consideration of posting 25-mph prima facie limits will only be given toward sections of paved roads that are at least one-half mile in length and gravel roads at least one-quarter mile in length if the following criteria are met:

Qualifying Criteria:

- ✓ A written request is received from the local unit of government or appropriate law enforcement agency, and
- ✓ The roadway is located entirely within the limits of a subdivision plat or site condominium, or the density of residential dwellings adjacent to the roadway equals or exceeds 16 in one-quarter mile, or the physical features of the roadway (curvature, width, surface, etc.) do not, under ideal conditions, allow for speeds much higher than 25 mph.

School Zone Speed Limits

School zone speed limits are intended for the protection of students (eighth grade or below) walking to and from school. The need for such zones are determined from a study involving the LCRC, the Michigan State Police and the appropriate school district. If you would like additional information on the factors considered in this study, please ask us for a copy of **School Zone Speed Limits**

The Livingston County Road Commission will receive requests for school speed zone studies only from the school district’s Superintendent.

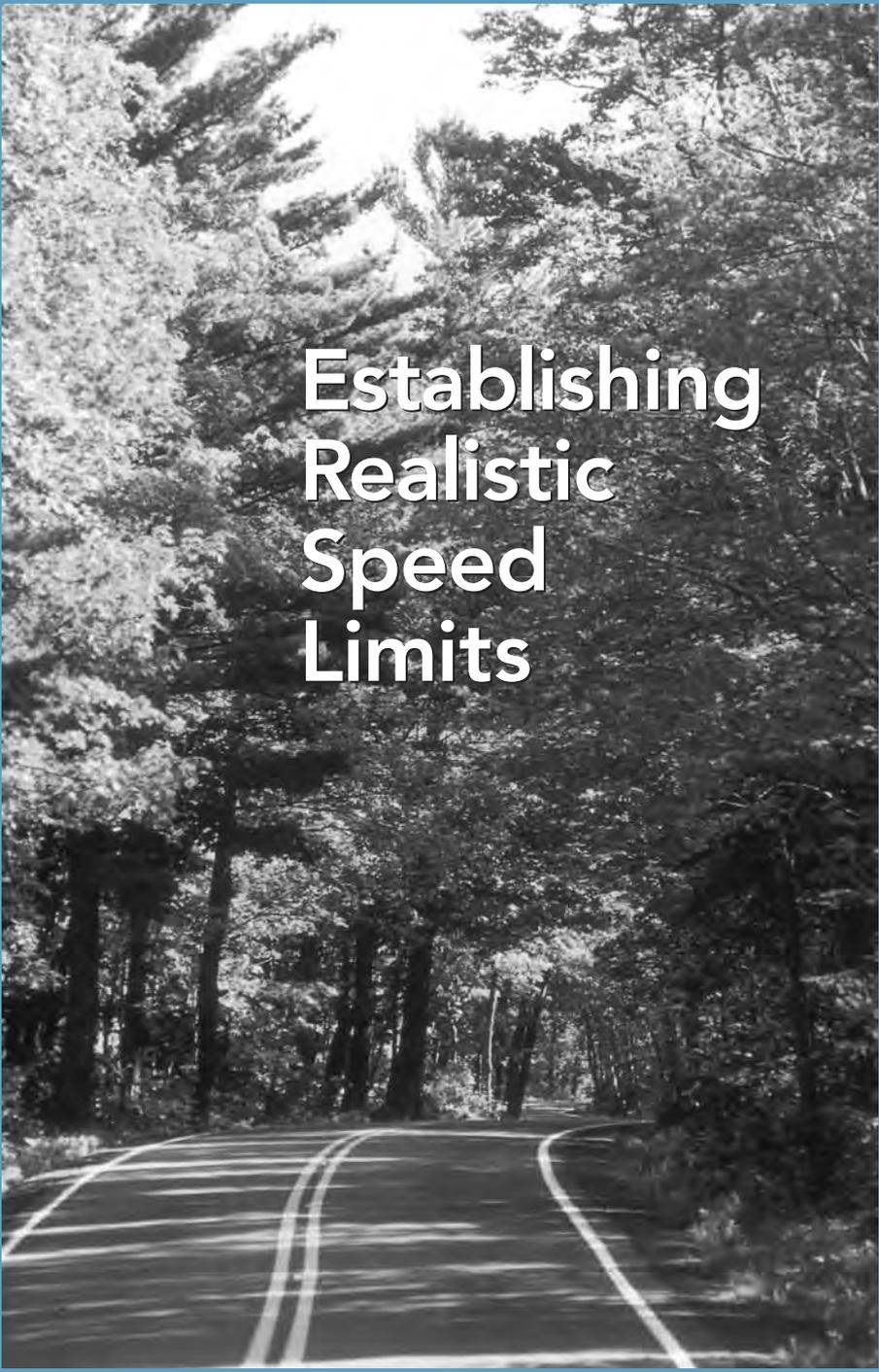
If established, school zone speed limits are only in effect for 30-minute periods when children are walking to and from school. The limit that may be posted varies depending on roadway factors, but is never less than 25 mph.

What is the policy on gravel roads?

The Livingston County Road Commission will only consider posting a speed limit on a gravel road if it meets the criteria specified for Prima Facie Speed Limits. Gravel roads are not considered for absolute speed limits due to the continuously changing conditions of these roadways, which results in continuously changing speed patterns. However, any gravel road that is upgraded to a paved road is subject to consideration of an absolute speed limit, including those previously posted with a prima facie limit.

Motorists on Michigan roads, including unposted gravel roads, are required to drive in a manner consistent with statutory laws including the Basic Speed Law. The Basic Speed Law, as set forth in the Michigan Vehicle Code, reads:

“A person driving a vehicle on a highway shall drive at a careful and prudent speed not greater than nor less than is reasonable and proper, having due regard to the traffic, surface, and width of the highway and any other condition then existing. A person shall not drive a vehicle upon a highway at a speed greater than that which will permit a stop within the assured, clear distance ahead.” [MCL 257.627]



Establishing Realistic Speed Limits

Establishing Realistic Speed Limits

This publication updates the Setting Realistic Speed Limits booklet which was originally produced in the 1970s.

Technical references used to produce this booklet include:

- Transportation and Traffic Engineering Handbook
- Michigan Manual of Uniform Traffic Control Devices
- Michigan State Police Standards for Traffic
Engineering Investigations
- Uniform Vehicle Code, National Committee on
Uniform Laws and Ordinances
- “Speed Zoning on Texas Highways,” Texas
Department of Highway and Public Transportation

Introduction

The purpose of a speed limit is to provide for the safety of all highway users. To meet this purpose a speed limit must be acceptable to the public and be enforceable by police. This booklet provides background information regarding how this purpose is met through establishing realistic speed limits.

From a historical perspective, the imposition of speed limits became necessary because of changing times and conditions. In the early days of the automobile, the difference between rural and urban areas was well defined. Thus, it was simple to set speed limits—one for the open countryside and one for population centers.

With the spread of urbanization and the development of suburban communities, the situation changed. The differences between rural and urban areas became less clearly defined. During this same period, the number of motor vehicles and their speeds increased as did the number of miles traveled. A need developed for modified speed limits in these transitions between rural and urban areas.



Types of Speed Limits

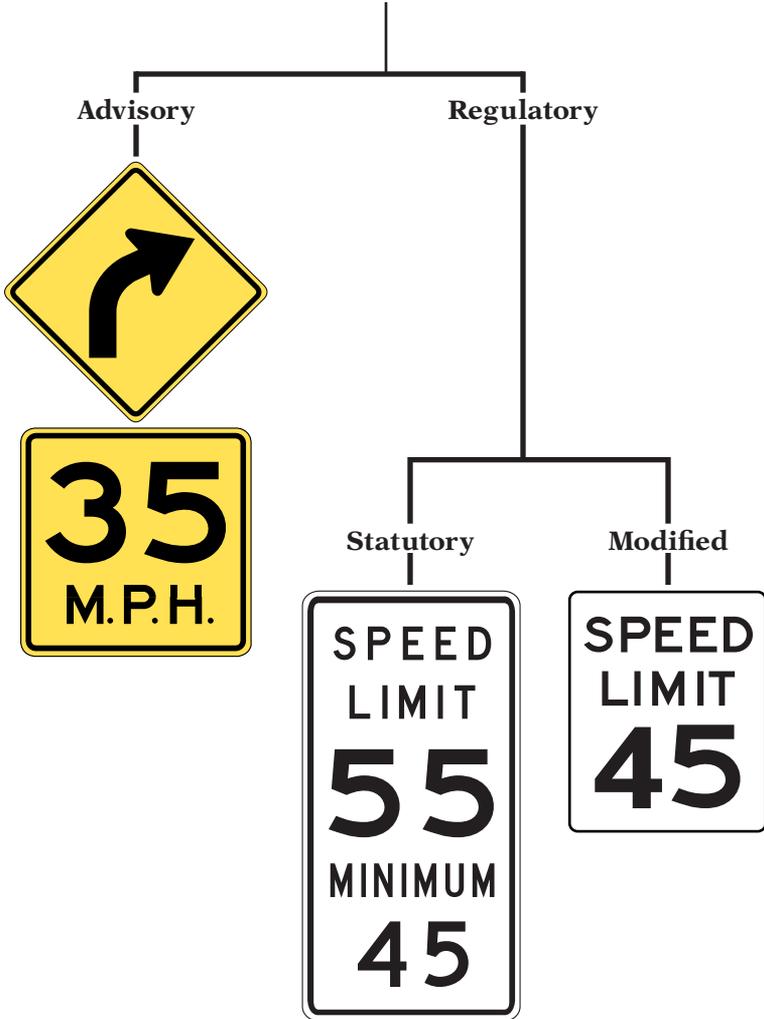
The basis of all speed limits predicated upon the nationally accepted principle that the majority of drivers are cautious, prudent and drive at speeds that are reasonable and proper, regardless of the posted speed limit. This “reasonable and proper” theme is part of the Basic Speed Law as set forth in the Michigan Vehicle Code. In part it reads:

“A person driving a vehicle on a highway shall drive at a careful and prudent speed not greater than nor less than is reasonable and proper, having due regard to the traffic, surface, and width of the highway and of any other condition then existing. A person shall not drive a vehicle upon a highway at a speed greater than that which will permit a stop within the assured, clear distance ahead.” [Sec. 257.627]

In other words, motorists must always drive at a speed which allows them to stop safely. The Basic Speed Law governs the speed of all drivers regardless of any posted speed limits. This is an important point because there are several types of speed limits.

The following chart shows the types of speed limits in use in Michigan:

Basic Speed Law



Advisory speed limits are recommended safe driving speeds to alert drivers of the maximum recommended speed through a curve or for other special roadway conditions. They are posted only in combination with an appropriate warning sign. *Advisory* speeds are not enforceable in Michigan courts except under the *Basic Speed Law* provisions.

Regulatory speed limits are enforceable and are categorized as either statutory or modified.

Statutory speed limits are set either as maximum/minimum speed limits or a *prima facie* restrictions. *Prima facie* is Latin for “on the face of it” and is the speed limit under most conditions. These limits are established by the legislature and apply throughout the State. An example of maximum/minimum speed limits is freeway limits. There are also maximum speed limits set for school buses, heavy trucks and other special vehicles. *Prima facie* restrictions are primarily for residential and business districts and city and village streets and highways.

Modified speed limits are utilized in areas requiring speed limits between the statutory maximum speed limits on state and country roadways and the 25 mph *prima facie* speed limits in business and residential areas. These *modified* speed limits are established by administrative action based upon a traffic engineering study. They can only be set by agencies having legal authority and jurisdiction over the respective roadway. These *modified* speed limits are often referred to as absolute speed limits and are not to be exceeded regardless of conditions.

The remainder of this booklet describes how modified speed limits are established and the responsibilities we all share in their implementation.

Authority to Establish Speed Limits

The Michigan Department of Transportation and county road commissions working with the Michigan Department of State Police, are authorized to establish modified speed limits. Representatives from these agencies comprise a traffic survey team which consists of an engineer and a state police officer. They conduct studies and recommend speed limits on state and county roadways including those within cities and villages.



The speed limits on streets under the jurisdiction of cities and villages are determined solely by the local authorities.

The establishment or review of speed zones originates for a variety of reasons. These may be road construction, changes in land use, violations, crashes, or poor compliance with an established speed limit. A study may also be conducted following a spectacular traffic crash or through periodic reviews. Usually, speed zones are reviewed as a result of concerns expressed by interested citizens who live nearby or drive along the roads in question. Their concerns are referred to the traffic survey team for review.

Occasionally citizens or public officials under citizen pressure, request that a particular speed limit be imposed or that some other type of corrective action be taken. For example, the idea persists that simply posting lower speed limits in the community will reduce speeds and improve safety. Any decisions regarding speed limits must be based on facts and an objective analysis of the characteristics of the roadway.

Once a study begins, the person requesting the survey may be contacted for further input or clarification of the problem. If a group of persons is involved, the traffic survey team may conduct a public meeting to explain why a study is necessary, what types of data will be collected and how the speed limit evaluation will be conducted. The meeting also provides an opportunity for public comment on proposed speed study locations, crash experience and other factors which may have a significant impact on the evaluation. The traffic survey team also requests input and participation of local representatives in the process.

The traffic survey team then gathers all the information needed to analyze the roadway conditions. This includes: speed studies, traffic crash data, the driving environment, and other pertinent information.

Speed Limit Survey

Before discussing the gathering and analysis of the speed study data, there are some facts about driver behavior which are the basis of all traffic laws, including modified speed limits.

Driver behavior is an extension of societal attitudes. Most drivers respond to traffic regulations in a safe and reasonable manner as demonstrated by their consistently favorable driving records. Traffic laws which reflect the behavior of the majority of motorists are usually respected and obeyed. In order for any traffic law to be enforceable, voluntary compliance must be practiced by the vast majority of drivers so violators can be easily identified. Realistic speed limits reflect this fact and recognize that unreasonable restrictions encourage widespread violations and disrespect for the entire traffic control system. Arbitrary laws unnecessarily restrict drivers, encourage violations and lack public support.

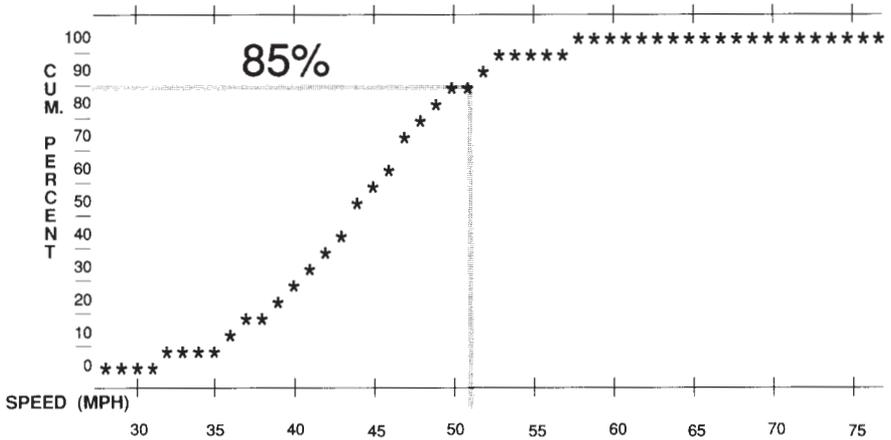
Posting unrealistically low speed limits may create a false sense of security. Actually, studies show that the driving environment, not the posted speed limit, is the main influence on motorists' speeds.

Speed Studies

Speed studies are taken during light to medium traffic conditions on a weekday. Rush hours and adverse weather conditions are avoided because they do not represent normal, free-flow traffic. Areas such as intersections, railroad tracks, or other

Speed Distribution Graph

Figure 1



DIRECTION(S) E-W
 DATE 01/10/91
 TIME 1:30 PM
 POSTED SPEED LIMIT 45

50TH PERCENTILE SPEED 45
 85TH PERCENTILE SPEED 51
 10 MPH PACE SPEED 40 through 49
 PERCENT IN PACE SPEED 63.3
 PERCENT OVER PACE SPEED 18.8
 PERCENT UNDER PACE SPEED 17.9
 RANGE OF SPEEDS 28 to 61
 VEHICLES OBSERVED 218
 AVERAGE SPEED 44.6

SPEED	NO.	PCT.	CUM. PCT.
30	2	0.9	1.4
31	1	0.5	1.8
32	2	0.9	2.8
33	4	1.8	4.6
34	3	1.4	6.0
35	2	0.9	6.9
36	6	2.8	9.6
37	7	3.2	12.8
38	4	1.8	14.7
39	7	3.2	17.9
40	12	5.5	23.4
41	12	5.5	28.9
42	10	4.6	33.5
43	17	7.8	41.3
44	15	6.9	48.2
45	15	6.9	55.0
46	14	6.4	61.5
47	18	8.3	69.7
48	16	7.3	77.1
49	9	4.1	81.2
50	8	3.7	84.9
51	5	2.3	87.2
52	9	4.1	91.3
53	4	1.8	93.1
54	3	1.4	94.5
55	3	1.4	95.9
56	2	0.9	96.5
57	1	0.5	97.2
58	2	0.9	98.2
59	0	0.0	98.2
60	2	0.9	99.1
61	2	0.9	100.0

factors that will influence speed are avoided. Since modified speed limits are the maximum allowable speeds, the conditions under which speed studies are taken must be close to ideal.

The primary basis for establishing a proper, realistic speed limit is the nationally recognized method of using the 85th percentile speed. This is the speed at or below which 85% of the traffic moves. For example, if 85 of each 100 motor vehicles were recorded at 45 mph or under, then 45 mph is the 85th percentile speed.

Historically, before and after traffic engineering studies have shown that changing the posted speed limit does not significantly affect the 85th percentile speed. The driving environment, which includes other traffic on the road and roadway conditions, is the primary factor which influences the prevailing speed.

The driving environment is reflected by the 85th percentile speed. The majority of drivers, consciously or unconsciously, consider the factors in the driving environment and travel at a speed that is safe and comfortable regardless of the posted speed limit.

The speed data are collected by recording the speeds of free flowing motor vehicles using a radar or other speed measuring device. A representative sample of vehicular speeds is recorded and these speeds would include local residents who drive through the zone.

Use of the 85th percentile speed acknowledges that 15% of the drivers are traveling above a speed that is reasonable and proper. This is the 15% of motorists at which enforcement action is directed. Studies have shown that this is the group of motorists that cause many of the crashes and have the worst driving records.

There are other parameters used to evaluate speed data, such as the average, median and pace speeds. However, the 85th percentile speed is the most critical criterion in establishing realistic speed limits.

Traffic Crash Data

Contrary to popular belief, lower speed limits do not necessarily improve safety. The more uniform the speeds of vehicles in a traffic stream, the less chance there is for conflict and crashes. Posting speed limits lower or higher than what the majority of drivers are traveling produces two distinct groups of drivers: those attempting to observe the speed limit and those driving at a speed they feel is reasonable and prudent. These differences in speeds can result in increased crashes due to tailgating, improper passing, reckless driving, and weaving from lane to lane. However, the number of traffic crashes along any highway is related to numerous factors.

Regardless of the roadway involved, there is a statistical number of crashes that can be expected to occur no matter how safe a roadway is made. The traffic survey team determines if the number of crashes is unusually high by analyzing the crash rate for the section of roadway under study. A crash

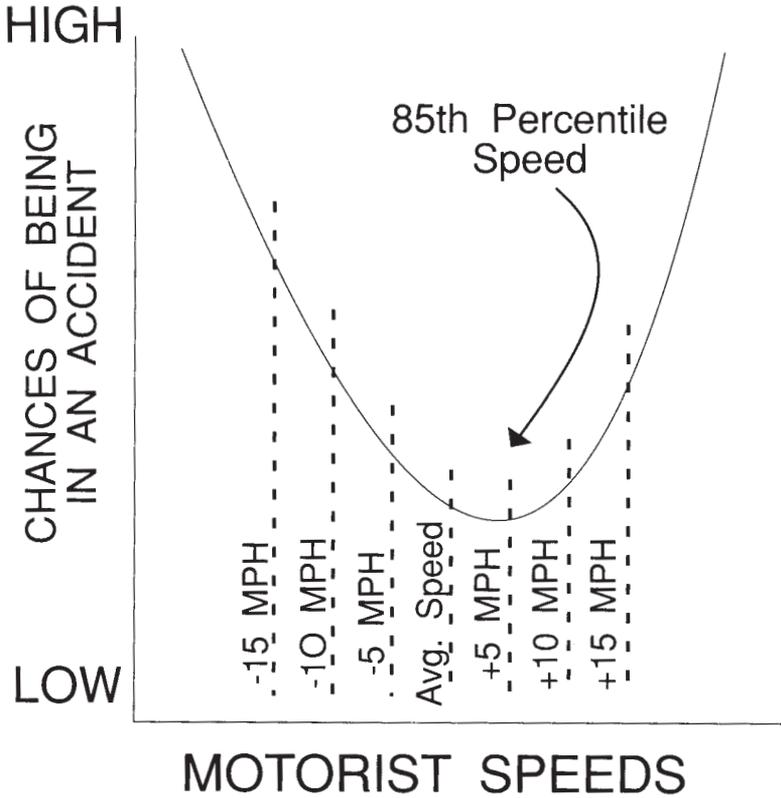


rate is based on the number of crashes and amount of traffic for a given segment of roadway. The traffic crash pattern is then taken into consideration when determining the speed limit.

Investigations of crashes reveal that in the majority of cases there was a clear violation of a traffic law or rule of good driving. A review of crash experience is an important component of any analysis of speed limits. Proper analysis and evaluation of these factors require the experience and expertise of the traffic survey team.

Studies have been conducted over the years to relate crashes to speed. Based on these studies and as illustrated in the graph, the lowest risk of being involved in a crash occurs at approximately the 85th percentile speed.

Accident Involvement vs. Motorist Speeds



Source: "Speed Zoning on Texas Highways" State Department of Highways and Public Transportation, Austin, Texas, October 1990

Figure 2

Driving Environment

The design, physical condition, and use of a roadway has a profound effect on vehicle speeds because motorists vary their speeds depending on the driving environment. The traffic survey team considers significant items in the driving environment which are all reflected in the 85th percentile speed. For example these may include: traffic volumes, road-side development, roadway and shoulder widths, condition of the roadway, and the number of lanes, intersections, driveways, hills, curves, sidewalks, schools, parks, and any other factors recorded by the team.

The traffic survey team makes a personal inspection of the roadway to verify the accuracy of their data. They drive the roadway to determine if there are any hazards not readily apparent to the motoring public. Sometimes consideration is given to reduce a speed limit due to a certain condition. If a hazardous condition is found, an attempt should be made to



correct it. If it cannot be corrected, consideration should be given to posting an advisory speed control sign or, if several conditions are present, then the speed limit may be reduced. Of particular concern are hills and curves where vision is restricted. On long stretches of roadway, one or two hills or curves should not dictate the speed for the entire roadway. Motorists are warned of the reduced sight distance through the use of warning signs with advisory speed controls.

The number of changes in the speed limit along a given route should be minimized. With this in mind, the length of the speed zone should be a least one-half mile. Survey team members base their recommendation on the conditions that exist at the time of their evaluation and should not attempt to consider such things as future growth, anticipated enforcement, or concerns for something that hasn't happened.

Realistic speed limits provide for a uniform and orderly movement of traffic. There is a need for uniformity on all roadways especially where they carry large volumes of traffic through various roadside conditions or numerous adjoining communities.

Recommendation

Once all the data have been collected and reviewed by the traffic survey team, the facts are analyzed and a recommendation is made. When the survey members agree that a modified speed zone should be established, their proposal is communicated to the requestor as well as any local units of government. If requested, a public presentation of their findings may be conducted. While local concurrence is desirable, it is not required by law. If the traffic survey team agrees that a modified speed limit is not justified, or if they cannot agree on a recommendation, the survey is concluded with no change in the existing speed limit.

The traffic survey team then submits a written report of their findings and recommendations to their respective agencies. When a modified speed limit is recommended, a Traffic Control Order is submitted to the respective road agency and the Director of the Michigan Department of State Police for their approval and signatures.

Posting Speed Limit Signs

The modified speed limit becomes effective when the Traffic Control Order has been signed by both agencies, a copy of the order has been filed with the County Clerk and the signs have been installed. The *Michigan Manual of Uniform Traffic Control Devices* sets forth standards for installing speed limit signs and specifies the size, shape, color and location of the signs.

Signs should be installed at the start of a zone, beyond major intersections and at approximately one-half mile intervals. The speed limit is established in increments of 5 mph, as close as possible to the 85th percentile speed. "REDUCED SPEED AHEAD" signs may be posted to advise motorists of speed limit reductions. These signs are not normally required in urban areas where speeds are relatively low.

Generally the entire speed survey process from request to signs being posted takes anywhere from 3 to 9 months, depending on the complexity of the situation.



Summary

Realistic speed limits are important for safe highways. A few points to remember about realistic speed limits are that they:

- Represent maximum speeds under ideal conditions and when conditions change, drivers must accordingly reduce their speed;
- Reinforce the credibility and acceptance of all traffic control devices;
- Provide smooth, orderly flow of traffic, a major factor in preventing highway crashes;
- Offer an effective traffic enforcement tool for police by clearly separating the flagrant violator from the majority of drivers; and
- Are based on the 85th percentile speed which is the *most critical* criterion in establishing realistic speed limits.

Realistic speed limits provide for a uniform and orderly movement of traffic. Some of our roadways carry large volumes of traffic through various roadside conditions and through numerous adjoining communities. It is important to encourage smooth traffic flow, not only for safety, but for the convenience and economy of every motorist.

Speed limits are based upon driving speeds—yours, your neighbors, and a percentage of everyone traveling on a roadway. You have shown that you are concerned about speed limits just by taking the time to read this booklet. Please obey the speed limit, not only on your street but on all street and highways of our state.



The Office of Highway Safety Planning wishes to express thanks to the Traffic Engineering Enforcement Committee.



Office of Highway Safety Planning
4000 Collins Rd
PO Box 30633
Lansing, MI 48909-8133
(517) 336-6477



2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Board of Trustees

FROM: Kevin Spicher, Supervisor

DATE: 8/28/2025

RE: **Consideration of a Voucher System to Support Genoa Seniors in obtaining a basic membership at the Brighton Senior Center.**

This action item is a follow up to our discussion at the June 2, 2025 meeting regarding subsidizing our Township Seniors in joining a Senior Center since we do not operate one of our own.

I have continued to work with Jodie Valenti, the director of the Brighton Senior Center, on a program similar to that run by the City of Brighton. This program involves a Voucher, to be issued by the clerk's office upon verification of residency, that covers the \$25 cost of a basic membership. Seniors would then present this voucher at the Brighton Senior Center at their new location ([125 S. Church Street](#)) and be granted a basic membership. They can choose to self-fund an upgraded membership level if they would like.

Current Genoa Township registration at the center is 120. 72 of those reside within the Brighton Area School district, and have no additional senior center access. 48 reside in the Howell School District, and via millage, have a passport to the Howell Senior Center as well. This program will not cover retroactive refunds for existing memberships, only new registrations and renewals.

Funding for this program will require a budget amendment creating a new line item within the Parks and Recreation Budget.

SUPERVISOR

Kevin Spicher

CLERK

Janene Deaton

TREASURER

Robin L. Hunt

TRUSTEES

Rick Soucy

Bill Reiber

Candie Hovarter

Todd Walker

MANAGER

Kelly VanMarter

Membership Packages

BASIC MEMBERSHIP

- Daily access to the Center
- Member pricing on activities
- FREE Lunch & Flowers in your birthday month
- Educational seminars
- Health & wellness clinics
- Access to fitness equipment and reduced-rate classes
- Panera Bread and Busch's donations (as available)
- Fun social events and community gatherings
- Exclusive discounts at local businesses and community partners

\$25 per year

SILVER MEMBERSHIP

- All Basic benefits, plus:
- \$15 Activity Credit (can be used for classes, events, or casino travel)
- 50% off Holiday Parties (up to \$35 savings)
- Early Registration Access for classes, events and casino trips

\$50 per year

*Membership benefits are non-transferable

GOLD MEMBERSHIP

- All Basic benefits, plus:
- \$30 Activity Credit (can be used for classes, events, or casino travel)
- FREE Holiday Parties (up to \$70 savings)
- Early Registration Access for classes, events and casino trips
- Reserved Seating at events, luncheons and casino trips
- Coffee Card (\$12 savings)

\$100 per year

Complimentary Basic Membership for any member who is 90 years of age or older.

City of Brighton residents are eligible for a FREE Basic Membership through a voucher available at Brighton City Hall. Please contact or visit City Hall to obtain your voucher before joining.

Membership has its privileges

Explore your local Senior Centers

Where friendship and fun never retire!

Stay Active

With a variety of exercise and fitness classes—like yoga, aerobics, strength training, and more—you can find a fun and safe way to stay in motion. Regular physical activity improves balance, flexibility, and overall well-being, helping you maintain independence and enjoy life to the fullest.

Stay Social

Through group activities, game nights, coffee chats, or special events, there are countless opportunities to engage with others and create meaningful relationships. Socializing helps boost mood, reduce stress, and keep the mind sharp.

Stay Informed

From healthcare services and financial planning to housing options and transportation assistance, the senior center connects you with vital information and expert guidance. Workshops, guest speakers, and community partnerships provide valuable insights on aging well, ensuring you make informed decisions about your future.

Have Fun

Whether it's playing games, dancing, crafting, or trying a new hobby, there's always something exciting to do. Fun keeps you young at heart, lifts your spirits, and makes every moment more enjoyable.



**Check us out today.
We're waiting to welcome you!**

Local Senior Centers

Open to ages 50+ - Membership requirements vary

BRIGHTON SENIOR CENTER

850 Spencer Rd, Brighton
****NEW Location Coming SUMMER 2025!!**
(810) 299-3817
www.brightonseniorcenter.com

HARTLAND SENIOR ACTIVITY CENTER

9525 E. Highland Rd, Howell
(810) 626-2135
www.hartlandseniorcenter.org

FOWLerville SENIOR CENTER

203 N. Collins St, Fowlerville
(517) 223-3929
Follow us on Facebook

HOWELL SENIOR CENTER

1661 N. Latson Rd, Howell
(517) 545-0219
www.howellrecreation.org/senior-center

HAMBURG SENIOR CENTER

10407 Merrill Rd, Hamburg
(810) 222-1140
www.hamburg.mi.us

PUTNAM TOWNSHIP SENIOR CENTER

3280 W. M-36, Pinckney
(734) 878-1810
www.putnamtwp.us

Stay Active. Stay Social. Stay Informed. Have FUN!





2911 Dorr Road
Brighton, MI 48116
810.227.5225
810.227.3420 fax
genoa.org

MEMORANDUM

TO: Board of Trustees

FROM: Kevin Spicher, Supervisor

DATE: 8/26/2025

RE: **Proposal To Seek Grant Funding For Restoration of former DNR Property @ Brighton / Chilson**

After walking a portion of the former DNR property the township purchased at the corner of Brighton & Chilson Roads, it is clear that invasive species have taken over the land since the DNR clear-cut project was completed. As a result, the land has been rendered mostly un-useable as natural park area.

Township Manager VanMarter and I met with our State Representative, Jennifer Conlin, to discuss potential grant options to help offset the costs of returning this land to something approximating its' previous state, which was semi-walkable, very natural, and heavily wooded. She offered her support, and her staff provided guidance as to how to proceed.

To obtain a grant, we must have a clearly defined goal for the property, a well devised plan of action, with measurables, and clear cost estimates. An Environmental Consultant is a necessity to help with project planning and the writing of the grant. In order to get funding in 2026, this grant needs to be submitted by early February.

We were referred to Spencer Kellum by Mike Wilcynski, who has extensive experience working with the State with regards to Sand & Gravel Mining. Mr. Kellum is highly regarded in this field.

Manager VanMarter & I met with Mr. Kellum to go over a basic outline of our goal, which is to restore the land to a natural habitat, allowing for light public use.

SUPERVISOR

Kevin Spicher

CLERK

Janene Deaton

TREASURER

Robin L. Hunt

TRUSTEES

Rick Soucy

Bill Reiber

Candie Hovarter

Todd Walker

MANAGER

Kelly VanMarter

Tonight's packet includes discussion of a proposal from K2 Environmental Consulting to assess the property; create a conceptual plan for what we want to do with this land, to include receiving and processing public input; create a road map and time line for how to achieve the goals established for the land; come up with project cost estimates and finally (as a separate line item) help with the writing of the grant application.

The all-in cost for these services is \$10,000, with a few added contingencies to allow for hourly work billed at \$95/hr. Mr. Kellum felt a 10% contingency allowance would most likely be safe.

Our current budget has allotted \$20,000 for Park Planning & Engineering, from fund 208-751-934-006.

If the board is interested in this project, the approval of this proposal will be an action item on the September 15, 2025 Board of Trustees Agenda.

**Park Development Plan
for the Brighton Road Property
A Proposal to Genoa Charter Township**



Submitted August 15, 2025:

K2 Environmental Consulting



Spencer Kellum
www.spencerkellum.net
spencer.kellum@gmail.com
734-794-3876

Background

Genoa Charter Township expressed interest in redeveloping the Brighton Road Property (PARCEL11-34-100-008 AND PART OF 11-33-200-003) as a community park. The property was previously mined for sand and gravel (circa 1905?) and was logged for timber in 2021 by the previous owners, the Michigan Department of Natural Resources. Genoa Charter Township acquired the property in 2024 and would like to redevelop the site as a natural asset for the community.

This proposal is to produce a Park Development Plan and to provide grant/fundraising support for Plan implementation.

Park Development Plan

K2 Environmental Consulting will partner with Genoa Charter Township to produce a Park Development Plan for the Brighton Road Property. The plan would give an overview of existing conditions, articulate goals and objectives for the park, and outline implementation activities. K2 Environmental Consulting will lead a community workshop hosted by Genoa Charter Township to solicit feedback generate support. The Plan will include the following elements:

Plan Components

Existing Conditions Description & Map

- Site design and layout, including:
 - Trail network (walk/wike/bike)
 - Existing habitat areas
 - Mine considerations

Habitat Restoration Planning

- Define Management Units
- Habitat Objectives
- Identify Threats
- Articulate Next Steps / Actions

Recreation Assets Planning

- Possible assets:
 - Playground
 - Bike Park
 - Disc Golf

- Walking/Hiking/Biking Trail

Connectivity and Access Planning

- Parking Lot(s)
- Access to surrounding roads/neighborhoods
- Non-motorized / pedestrian / bike infrastructure

Park Management Planning

- Park Name
- Ongoing Habitat Stewardship
- Trails & Infrastructure
- Financial
- Staff & Volunteers

Next Steps / Actions

- Recommendations
- Advice

Deliverables

1. Site Design & Layout Maps
2. Community Workshop
3. Park Development Plan

Park Development Planning Phase Cost: \$7,500 (not to exceed 80 hours)

Grant & Fundraising Support

K2 Environmental Consulting would work with Genoa Charter Township and other to-be-identified partners to research, develop, and apply for funding to enact the Park Development Plan. This would include writing and/or supporting the completion of one grant application to an appropriate funder.

Deliverables

1. Grant Application

Grant & Fundraising Support Cost: \$2,500 (not to exceed 30 hours)



Project Timeline

September

- Monthly meeting
- Project kick-off & information gathering
- Review existing information
- Develop GIS database

October

- Monthly meeting
- Background research
- Data gathering, field mapping, design work
- Habitat and landscape assessment
- Begin Plan writing and GIS mapping

November

- Monthly meeting
- Draft Plan & Maps
- Community Workshop
- Finalize Plan

December 2025

- Monthly meeting
- Review Plan, Edits, Feedback

January 2026 to March

- Monthly meetings
- Grant & Fundraising Support
- Grant writing and development
- Submit Grant Application

April 2026 & On

- Implementation support (To-be-arranged)

Payment Schedule

Park Development Plan

- *\$2,500* – Due upon project initiation
- *\$2,500* – Due upon completion of Community Workshop
- *\$2,500* – Due upon delivery of final Park Development Plan

Total for Park Development Plan: \$7,500

Grant & Fundraising Support

- *\$2,500* – Due upon final Grant Application
- Additional grant applications are an additional cost, paid hourly

Total Project Cost: \$10,000

Board Correspondence



**NIELSEN
STATION**

1315

Insert absentee ballot in silver, sealed envelope
Absentee applications accepted here

CLOSED

Michigan.gov/VOTE

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BALLOT
DROP BOX**

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