PROPOSED AGENDA

CHARTER TOWNSHIP OF BRIGHTON **JANUARY 26, 2026**
BOARD OF TRUSTEES **REGULAR MEETING**
4363 BUNO ROAD **6:30 P.M.**
BRIGHTON, MI 48114 **(810) 229.0560**

A. CALL TO ORDER
B. PLEDGE OF ALLEGIANCE
C. ROLL CALL
D. CALL TO THE PUBLIC
E. CONSENT AGENDA
   1. Approval of Agenda
   2. Approval of Minutes
      a. December 15, 2025 Regular Meeting
      b. January 5, 2026 Regular Budget Work Session Meeting
      c. January 14, 2026 Special Meeting
   3. Bills
      a. January 26, 2026
   4. Lease Extension for Maxfield Road Property

F. BUSINESS
   1. FIRST READING - Rezoning from R-2 (Residential Single Family) to Residential PUD (Planned Unit Development) – The Cove of Woodland Lake
   2. PUBLIC HEARING AND ADOPTION OF RESOLUTION CONFIRMING THE ASSESSMENT ROLL – Ridgecrest Lane Road Improvement Special Assessment District No. S-I-10-2025
   3. PUBLIC HEARING AND ADOPTION OF RESOLUTION CONFIRMING THE ASSESSMENT ROLL – Walking Horse Estates Road Improvement Special Assessment District No. S-I-11-2025
   4. AUTHORIZATION OF AGREEMENT – Road Project Funding Agreement, Walking Horse Estates
   5. ACCEPTANCE OF INFRASTRUCTURE – Lift Station and Force Main, Hilton Cove
   6. ACCEPTANCE OF INFRASTRUCTURE – Water Infrastructure, Allor Landing
   7. APPROVAL OF FILL PERMIT – 5480 Kensington Road
   8. COMMITTEE APPOINTMENTS

G. REPORTS AND CORRESPONDENCE
   REPORTS
   1. COMMITTEE LIAISONS AND BOARD MEMBERS
      a. F&V Operations and Resource Management, Monthly Operations and Maintenance Report – October 2025
      b. F&V Operations and Resource Management, Monthly Operations and Maintenance Report – November 2025
      c. Livingston Community Water Authority Regular Meeting Minutes – November 19, 2025
   2. DEPARTMENTS
      a. Treasurer's Report – October, November, December 2025
   3. MANAGER
      a. Memo – Veterans Park Restoration

Board Packets are available on our website: www.brightontwp.com. The Charter Township of Brighton will provide necessary reasonable auxiliary aids and services such as signers for the hearing impaired and audiotapes of printed materials being considered at the meeting to individuals with disabilities at the meeting. Individuals should contact the Charter Township of Brighton by writing or contacting: Township Manager, 4363 Buno Road, Brighton, Michigan 48114. Telephone: (810) 229.0550.

CHARTER TOWNSHIP OF BRIGHTON **JANUARY 26, 2026**
BOARD OF TRUSTEES **REGULAR MEETING**
4363 BUNO ROAD **6:30 P.M.**
BRIGHTON, MI 48114 **(810) 229.0560**

CORRESPONDENCE

1. CERTIFICATE OF ACHIEVEMENT – The State Tax Commission, 2025 PA 660 Assessment Audit Review

H. CALL TO THE PUBLIC

I. ADJOURNMENT

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MEMORANDUM

TO: BRIGHTON TOWNSHIP RESIDENTS
FROM: JOSEPH R. RIKER, CLERK
SUBJECT: BOARD OF TRUSTEES ELECTRONIC BOARD PACKETS
DATE: JANUARY 31, 2019

Board packets for the Brighton Township Board of Trustees meetings posted to the website contain scanned original documents. These electronic packets are subject to change based on meeting material presented to the Board throughout the course of the meeting. For a complete original packet following the Board meeting contact the Clerk's Office at 810-229-0560 or via email: clerk@brightontwp.com

PROPOSED MINUTES

CHARTER TOWNSHIP OF BRIGHTON **DECEMBER 15, 2025**
BOARD OF TRUSTEES **REGULAR MEETING**
4363 BUNO ROAD **6:30 P.M.**
BRIGHTON, MI 48114 **(810) 229.0560**

A. CALL TO ORDER

Supervisor Michel called the meeting to order at 6:32 P.M.

B. PLEDGE OF ALLEGIANCE

All stood for the Pledge of Allegiance.

C. ROLL CALL

Roll call by the Supervisor indicated the presence of a quorum.
Present: P. Michel, Supervisor; J. Riker, Clerk; R. Drouillard, Treasurer; C. Doughty, Trustee; S. Theis, Trustee; B. VanSingel, Trustee
Absent: D. Schifko, Trustee
Also Present: B. Vick, Township Manager; Z. Dyba, Assistant to the Township Manager; K. Matthews, Township Planner; J. Harris, Township Attorney

D. CALL TO THE PUBLIC

None

E. CONSENT AGENDA

C. Doughty moved and R. Drouillard seconded **to approve the consent agenda.**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
Nays: None
Absent: D. Schifko
Motion carried.

F. BUSINESS

1. SECOND READING/PUBLIC HEARING – Article 3, Sec. 3-02, Uses Permitted, Residential Districts and Chapter 5, Animals, of the General Ordinance

   Clerk Read a Letter – Kathleen Murphy, 9871 Alger Drive – Not in Support

   Public hearing opened at 6:40 P.M.
   No comment.
   Public hearing closed at 6:40 P.M.

   R. Drouillard moved and B. VanSingel seconded **adopt the proposed Zoning Ordinance language to be inserted into *Article 3, Sec. 3-02, Uses Permitted, Residential Districts and Chapter 5, Animals, of the General Ordinance*.**
   Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
   Nays: None
   Absent: D. Schifko
   Motion carried.

2. PUBLIC HEARING AND ADOPTION OF RESOLUTION ESTABLISHING THE DISTRICT/PREPARATION OF ASSESSMENT ROLL – Joda Lake Estates Road Improvement Special Assessment District No. S-I-07-2025

Clerk Read a Letter – Thomas & Ida Schreuder 8335 Joda Drive – Not in Support
Clerk Read a Letter – Dario & Paula Robinson 8320 Joda Drive – Not in Support
Clerk Read a Letter – Denise Bretsik 8151 Joda Drive – Not in Support
Clerk Read a Letter – Sara & Derek Macheske 8121 Joda Drive – Not in Support
Clerk Read a Letter – Beth & Tom Gardner 8071 Joda Drive – Not in Support

Public hearing opened at 6:51 P.M.
Dario Robinson, 8320 Joda Drive – Spoke Not in Support
Denise Bretsik, 8151 Joda Drive – Spoke Not in Support
Public hearing closed at 6:54 P.M.

J. Riker moved and R. Drouillard seconded **to table Resolution 25-TBD parts (a) and (b) approving the Joda Lake Estates S.A.D. Number S-I-07-2025, and directing the preparation of the special assessment roll and scheduling a public hearing on the assessment roll.**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
Nays: None
Absent: D. Schifko
Motion carried.

3. PUBLIC HEARING AND ADOPTION OF RESOLUTION ESTABLISHING THE DISTRICT/PREPARATION OF ASSESSMENT ROLL – Walking Horse Estates Road Improvement Special Assessment District No. S-I-11-2025

Public hearing opened at 7:19 P.M.
No comment.
Public hearing closed at 7:19 P.M.

S. Theis moved and C. Doughty seconded **to adopt Resolution 25-036 parts (a) and (b) approving the Walking Horse Estates S.A.D. Number S-I-11-2025, and directing the preparation of the special assessment roll and scheduling the public hearing on the assessment roll.**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
Nays: None
Absent: D. Schifko
Motion carried.

4. PUBLIC HEARING AND ADOPTION OF RESOLUTION ESTABLISHING THE DISTRICT/PREPARATION OF ASSESSMENT ROLL – Ridgecrest Lane Road Improvement Special Assessment District No. S-I-10-2025

Clerk Read a Letter – Jenna Jones & Damian Fernandez 12619 Ridgecrest Lane – Not in Support

Public hearing opened at 7:25 P.M.
Charles Russano, 12516 Ridgecrest Lane – Spoke in Support
Damian Fernandez, 12619 Ridgecrest Lane – Spoke Not in Support
Michelle Durocher, 12602 Ridgecrest Lane – Spoke Not in Support
Donald Durocher, 12602 Ridgecrest Lane – Spoke Not in Support
Gary Murawa, 12533 Ridgecrest Lane – Spoke in Support
Jenna Jones, 12619 Ridgecrest Lane – Spoke Not in Support
Theresa Refalo, 12440 Ridgecrest Lane – Spoke in Support
Mark Gjolaj, 12479 Ridgecrest Lane – Spoke in Support
Jeff Huff, 12417 Ridgecrest Lane – Spoke in Support
Ellen Russano, 12516 Ridgecrest Lane – Spoke in Support
Public hearing closed at 7:48 P.M.

C. Doughty moved and J. Riker seconded **to adopt Resolution 25-037 parts (a) and (b) approving the Ridgecrest Lane S.A.D. Number S-I-10-2025, and directing the preparation of the special assessment roll and scheduling the public hearing on the assessment roll.**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, B. VanSingel
Nays: S. Theis
Absent: D. Schifko
Motion carried.

5. RESTORATION UPDATE – 2025 Headstone Restoration, Pleasant Valley Cemetery
   Report given by the Brighton Area Historical Society.

   Presentation Given.

6. APPROVAL OF PROPOSAL & SERVICE AGREEMENT – Treasury Copier, Applied Innovation
   C. Doughty moved and R. Drouillard seconded **to approve the proposal from Applied Innovation in the do not exceed amount of $7,088.19 and to approve Applied Innovation's service agreement.**
   Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
   Nays: None
   Absent: D. Schifko
   Motion carried.

7. APPROVAL OF NEW TAVERN LICENSE – Michael Wainwright for Dominick's Ristorante, LLC – 10547 E. Grand River
   C. Doughty moved and B. VanSingel seconded **to approve a new tavern license for Dominick's Ristorante, LLC located at 10547 E. Grand River.**
   Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
   Nays: None
   Absent: D. Schifko
   Motion carried.

8. 2026 Master Plan
   Discussion only.

9. AUTHORIZATION OF PROPOSAL – Clark Lake Conservation Area Parking, F&V
   C. Doughty moved and R. Drouillard seconded **to authorize the Township Manager to sign the proposal from F&V for design, bidding and construction administration toward the construction of the parking lot at the Clark Lake Conservation Area, as depicted on the F&V concept plan.**
   Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty,
   Nays: B. VanSingel, S. Theis
   Absent: D. Schifko
   Motion carried.

G. REPORTS AND CORRESPONDENCE

REPORTS

1. COMMITTEE LIAISONS AND BOARD MEMBERS
   a. R. Drouillard – ZBA update
   b. C. Doughty – SELCRA update
   c. P. Michel – BAFA update; LCWA update
   d. Zoning Board of Appeals Regular Meeting Minutes – September 24, 2025
   e. Brighton Area Fire Authority Regular Meeting Minutes – November 13, 2025
   f. Livingston Community Water Authority Regular Meeting Minutes – October 15, 2025

2. DEPARTMENTS
   a. Livingston County Sheriff's Report – November 2025

3. MANAGER
   a. COVID Money closed out
   b. EGLE
   c. Accountant Position
   d. Noise Assessment – Iowe Drive/Brine Pump

H. CALL TO THE PUBLIC

Carl Slindee
Gary Butzke

I. CLOSED EXECUTIVE SESSION

1. Brighton Township v. Clearwater Development

J. Riker moved and C. Doughty seconded **that the Township Board meet in closed session as allowed by the Open Meetings Act for the purpose of reviewing trial or settlement strategy in connection with specific pending litigation as permitted in section 15.268 Sec. 8 (e).**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
Nays: None
Absent: D. Schifko
Motion carried.

The Board went into closed session at 8:55 P.M.
The Board came out of closed session at 9:29 P.M.

J. ADJOURNMENT

R. Drouillard moved and B. VanSingel seconded **to adjourn.**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
Nays: None
Absent: D. Schifko
Motion carried.

The meeting adjourned at 9:29 P.M.

Respectfully submitted,

_____ _____

Joseph R. Riker, Clerk Patrick V. Michel, Supervisor

PROPOSED MINUTES

CHARTER TOWNSHIP OF BRIGHTON
BOARD OF TRUSTEES
4363 BUNO ROAD
BRIGHTON, MI 48114

JANUARY 5, 2026
REGULAR BUDGET WORK SESSION MEETING
6:30 P.M.
(810) 229.0560

A. CALL TO ORDER

Clerk Riker called the meeting to order at 6:32 P.M.

B. PLEDGE OF ALLEGIANCE

All rose for the Pledge of Allegiance.

C. ROLL CALL

Roll call by Clerk Riker indicated the presence of a quorum.
Present: J. Riker, Clerk; R. Drouillard, Treasurer; C. Doughty, Trustee; D. Schifko, Trustee; B. VanSingel, Trustee
Absent: P. Michel, Supervisor; S. Theis, Trustee
Also Present: B. Vick, Township Manager; Z. Dyba, Assistant to the Township Manager

C. Doughty moved and D. Schifko seconded **to appoint Clerk Riker as the Chairperson for the remainder of the meeting.**
Ayes: J. Riker, R. Douillard, C. Doughty, D. Schifko, B. VanSingel
Nays: None
Absent: P. Michel, S. Theis
Motion carried.

D. CALL TO THE PUBLIC

Cheryl Wasilewski

E. CONSENT AGENDA

C. Doughty moved and R. Drouillard seconded **to approve the consent agenda.**
Ayes: J. Riker, R. Douillard, C. Doughty, D. Schifko, B. VanSingel
Nays: None
Absent: P. Michel, S. Theis
Motion carried.

F. BUSINESS

1. FY' 2026-27 BUDGET PLANNING
   Discussion only.

G. CALL TO THE PUBLIC

None.

H. ADJOURNMENT

D. Schifko moved and C. Doughty seconded **to adjourn**.
Ayes: J. Riker, R. Douillard, C. Doughty, D. Schifko, B. VanSingel
Nays: None
Absent: P. Michel, S. Theis
Motion carried.

The meeting adjourned at 8:06 P.M.

Respectfully submitted,

_____	_____
Joseph R. Riker, Clerk	Patrick V. Michel, Supervisor

PROPOSED MINUTES

CHARTER TOWNSHIP OF BRIGHTON
BOARD OF TRUSTEES
4363 BUNO ROAD
BRIGHTON, MI 48114

JANUARY 14, 2026
SPECIAL MEETING
6:30 P.M.
(810) 229.0560

A. CALL TO ORDER

Supervisor Michel called the meeting to order at 6:30 P.M.

B. PLEDGE OF ALLEGIANCE

All rose for the Pledge of Allegiance.

C. ROLL CALL

Roll call by the Supervisor indicated the presence of a quorum.
Present: P. Michel, Supervisor; J. Riker, Clerk; R. Drouillard, Treasurer; C. Doughty, Trustee; B. VanSingel, Trustee
Absent: D. Schifko, Trustee; S. Theis, Trustee (arrived at 6:36 P.M.)
Also Present: Z. Dyba, Assistant to the Manager; B. Vick, Township Manager

D. CALL TO THE PUBLIC

None.

E. CONSENT AGENDA

C. Doughty moved and R. Drouillard seconded **to approve the consent agenda.**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, B, VanSingel
Nays: None
Absent: D. Schifko, S. Theis
Motion carried.

F. BUSINESS

1. DISCUSSION WITH WOODLAND LAKES WATER QUALITY COMMITTEE
   John Boland and Tim Agnello from Organization of Woodland Lake presented.

   Trustee S. Theis arrived at 6:36 P.M.

   Discussion.

G. CALL TO THE PUBLIC

None

H. ADJOURNMENT

S. Theis moved and R. Drouillard seconded **to adjourn.**
Ayes: P. Michel, J. Riker, R. Drouillard, C. Doughty, S. Theis, B. VanSingel
Nays: None
Absent: D. Schifko
Motion carried.

The meeting adjourned at 7:59 P.M.

Respectfully submitted,

Joseph R. Riker, Clerk	Patrick V. Michel, Supervisor

Check Date	Bank	Check	Vendor	Vendor Name	Amount		Status
Bank GFCHK GENERAL FUND CHECKING							
01/12/2026	GFCHK	1255	BCBS	BLUE CROSS BLUE SHIELD OF MI	2,476.48		Open
01/12/2026	GFCHK	1256	CLEAR RATE	CLEAR RATE COMMUNICATIONS, INC	119.72		Open
01/12/2026	GFCHK	1257	COMCAST	COMCAST	572.23		Open
01/12/2026	GFCHK	1258	CONSUMERS	CONSUMERS ENERGY	1,302.65		Open
01/12/2026	GFCHK	1259	DIETZ/BRUC	DIETZ BRUCE & JULIE	11,457.00		Open
01/12/2026	GFCHK	1260	DTE	DTE	793.08		Open
01/12/2026	GFCHK	1261	DTE - STLI	DTE ENERGY	3,331.01		Open
01/12/2026	GFCHK	1262	DTE - STLI	VOID	0.00	V	Open
01/12/2026	GFCHK	1263	ACE	GREAT LAKES ACE	44.99		Open
01/12/2026	GFCHK	1264	STAPLES	STAPLES	58.77		Open
01/12/2026	GFCHK	1265	VERIZON	VERIZON WIRELESS	170.73		Open
01/12/2026	GFCHK	1266	EXXON	WEX BANK	313.93		Open
01/20/2026	GFCHK	1267	BCN	BLUE CARE NETWORK	13,987.58		Open
01/20/2026	GFCHK	1268	CITIZ	CITIZENS	594.41		Open
01/20/2026	GFCHK	1269	CLEAR RATE	CLEAR RATE COMMUNICATIONS, INC	121.70		Open
01/20/2026	GFCHK	1270	DTE	DTE	12.30		Open
01/20/2026	GFCHK	1271	FNBO	FNBO	280.27		Open
01/20/2026	GFCHK	1272	PRESS & AR	GANNETT MICHIGAN LOCALIQ	1,463.89		Open
01/20/2026	GFCHK	1273	PRESS & AR	GANNETT MICHIGAN LOCALIQ	461.35		Open
01/20/2026	GFCHK	1274	STAPLES	STAPLES	140.13		Open
01/26/2026	GFCHK	1275	A.D.R.	A.D.R. CONSTRUCTION SERVICES	500.00		Open
01/26/2026	GFCHK	1276	APPLIED	APPLIED INNOVATION	7,183.58		Open
01/26/2026	GFCHK	1277	FIRE AUTH	BRIGHTON AREA FIRE AUTHORITY	3,898.42		Open
01/26/2026	GFCHK	1278	BRIGHTON T	BRIGHTON TOWNSHIP	347.07		Open
01/26/2026	GFCHK	1279	BRIGHTON T	BRIGHTON TOWNSHIP	188.00		Open
01/26/2026	GFCHK	1280	BRIGHTON T	BRIGHTON TOWNSHIP	9.00		Open
01/26/2026	GFCHK	1281	BS & A	BS&A SOFTWARE, INC	5,805.00		Open
01/26/2026	GFCHK	1282	CSM	CSM MECHANICAL, LLC	37,643.62		Open
01/26/2026	GFCHK	1283	CYR	CYR ELECTRIC LLC	25,850.00		Open
01/26/2026	GFCHK	1284	DILLARD	DILLARD GARY	32.70		Open
01/26/2026	GFCHK	1285	DOUGIE	DOUGIE'S DISPOSAL & RECYCLING	14,670.00		Open
01/26/2026	GFCHK	1286	F & V	F&V OPERATIONS & RESOURCE MGMT IN	31,451.40		Open
01/26/2026	GFCHK	1287	FAHEY	FAHEY SCHULTZ BURZYCH RHODES PLC	256.50		Open
01/26/2026	GFCHK	1288	FLEIS	FLEIS & VANDENBRINK	19,315.78		Open
01/26/2026	GFCHK	1289	FUTURE ROA	FUTURE ROAD IMPROVEMENT FUND	1,293.56		Open
01/26/2026	GFCHK	1290	GFL	GFL ENVIRONMENTAL	207.25		Open
01/26/2026	GFCHK	1291	GRAPENTIEN	GRAPENTIEN ANITA	120.00		Open
01/26/2026	GFCHK	1292	HARRIS &	HARRIS & LITERSKI	1,834.50		Open
01/26/2026	GFCHK	1293	HESTER	HESTER KAREN	66.94		Open
01/26/2026	GFCHK	1294	HUDSON	HUDSON, STEVE	1,200.00		Open
01/26/2026	GFCHK	1295	HURON RIV	HURON RIVER WATERSHED COUNCIL	75.00		Open
01/26/2026	GFCHK	1296	JOHN HANCO	JOHN HANCOCK	45.00		Open
01/26/2026	GFCHK	1297	K B	K B ROAD GRADING	250.00		Open
01/26/2026	GFCHK	1298	KALISZEWSK	KALISZEWSKI STACY	61.24		Open
01/26/2026	GFCHK	1299	KCI	KCI	516.34		Open
01/26/2026	GFCHK	1300	KEY BANK	KEY BANK	10.30		Open
01/26/2026	GFCHK	1301	LIQUOR LAW	LIQUOR LAW FUND- BRIGHTON TWSP	91.98		Open
01/26/2026	GFCHK	1302	LIV COM JT	LIVINGSTON COMMUNITY WATER	92.51		Open
01/26/2026	GFCHK	1303	LIV CO TR	LIVINGSTON COUNTY TREAS ASSOC	10.00		Open
01/26/2026	GFCHK	1304	LIV CTY TR	LIVINGSTON COUNTY TREASURER	116.00		Open
01/26/2026	GFCHK	1305	LOISELLE	LOISELLE DANIEL	500.00		Open
01/26/2026	GFCHK	1306	MATHEWS	MATHEWS KELLY	38.99		Open
01/26/2026	GFCHK	1307	MICHIGAN W	MICHIGAN WATERFRONT ALLIANCE	150.00		Open
01/26/2026	GFCHK	1308	MIRAS	MIRAS KAREN	49.34		Open
01/26/2026	GFCHK	1309	MISS DIG	MISS DIG 811	3,201.07		Open
01/26/2026	GFCHK	1310	OHM	OHM ADVISORS	256.25		Open
01/26/2026	GFCHK	1311	OWL	ORGANIZATION OF WOODLAND LK	698.00		Open
01/26/2026	GFCHK	1312	QUILL	QUILL CORPORATION	50.78		Open
01/26/2026	GFCHK	1313	RIKER	RIKER JOSEPH	31.51		Open
01/26/2026	GFCHK	1314	SERVICEPRO	SERVICEPRO	2,250.00		Open
01/26/2026	GFCHK	1315	SERVICEPRO	SERVICEPRO	2,250.00		Open
01/26/2026	GFCHK	1316	SHREDHUB	SHREDHUB LLC	100.00		Open
01/26/2026	GFCHK	1317	SIGLER S	SIGLER SHELLY	3.74		Open
01/26/2026	GFCHK	1318	SPARTAN T	SPARTAN TIRE BRIGHTON	24.88		Open
01/26/2026	GFCHK	1319	STAPLES	STAPLES	7.09		Open
01/26/2026	GFCHK	1320	STATE SOFT	STATE SOFT WATER CO	39.00		Open
01/26/2026	GFCHK	1321	STEPHENS	STEPHENS KATELYN	63.35		Open
01/26/2026	GFCHK	1322	SYS	SYS SELF STORAGE LLC	525.00		Open
01/26/2026	GFCHK	1323	GARBAGE	THE GARBAGE MAN	15.00		Open
01/26/2026	GFCHK	1324	DUNCAN	THE ORIGINAL DUNCAN DISPOSAL	14,634.00		Open
01/26/2026	GFCHK	1325	TRITECH	TRITECH SOFTWARE SYSTEMS,	5,091.36		Open
01/26/2026	GFCHK	1326	USA BLUE	USA BLUEBOOK	248.88		Open
01/26/2026	GFCHK	1327	VC3 INC	VC3 INC	237.40		Open
01/26/2026	GFCHK	1328	WEST SHO	WEST SHORE SERVICES, INC	4,845.14		Open
01/26/2026	GFCHK	1329	ZAHLER	ZAHLER, JENNIFER	123.03		Open
GFCHK TOTALS:							

Check Date	Bank	Check	Vendor	Vendor Name	Amount	Status

(1 Check Voided)
Total of 74 Disbursements: 226,277.72

GL Number	GL Desc	Vendor	Invoice Desc.	Invoice	Chk Date	Amount	heck #
			Fund Totals:				
			Fund 101 GENERAL FUND			68,956.51	
			Fund 212 LIQUOR LAW ENFORCEMENT FUND			142.21	
			Fund 590 SEWER O & M FUND			42,817.22	
			Fund 598 SEWER CAPITAL RESERVE			78,330.90	
			Fund 701 GENERAL AGENCY CUSTODIAL FU			125.00	
			Fund 812 SAD ROAD MAINTENANCE			3,322.07	
			Fund 817 MUNICIPAL REFUSE			29,304.00	
			Fund 840 SAD AQUATICS			968.00	
			Fund 845 STREET LIGHTING FUND			2,311.81	
			Total For All Funds:			226,277.72	

INVOICE GL DISTRIBUTION REPORT FOR TOWNSHIP OF BRIGHTON
EXP CHECK RUN DATES 01/06/2026 - 01/26/2026
JOURNALIZED PAID
BANK CODE: GFCHK

GL Number	GL Desc	Vendor	Invoice Desc.	Invoice	Chk Date	Amount	heck #
Fund 101 GENERAL FUND							
Dept 000							
101-000-084.336	DUE FROM FIRE AUTHORITY	BRIGHTON TOWNSHIP	QUARTERLY SEWER BILL- STATION 32	22473	01/26/26	150.40	1279
101-000-084.442	DUE FROM FUTURE ROAD IMP	FUTURE ROAD IMPROVEMEN	REPLACE FUNDS FOR VOIDED CHECK	22492	01/26/26	1,293.56	1289
101-000-084.814	DUE FROM ROAD PROJECTS	GANNETT MICHIGAN LOCAL	LEGAL NOTICES -DECEMBER	0007491849	01/20/26	92.19	1272
101-000-084.814	DUE FROM ROAD PROJECTS	GANNETT MICHIGAN LOCAL	LEGAL NOTICES -DECEMBER	0007491849	01/20/26	92.19	1272
101-000-214.212	DUE TO LIQUOR LAW	LIQUOR LAW FUND- BRIGH	INTERFUND TRANSFER	22491	01/26/26	91.98	1301
101-000-231.003	DUE TO TWP-HEALTH INS	BLUE CROSS BLUE SHIELD	BCBSM HEALTH INS- FEBRUARY 2026	22432	01/12/26	189.20	1255
101-000-676.700	REIMBURSEMENT INS PREMIUM	BLUE CROSS BLUE SHIELD	BCBSM HEALTH INS- FEBRUARY 2026	22432	01/12/26	1,275.70	1255
			Total For Dept 000			3,185.22	
Dept 101 LEGISLATIVE-TWSP BOARD							
101-101-716.100	PENSION FEES	JOHN HANCOCK	QUARTERLY PENSION FEES	20260101A15582-JI	01/26/26	36.00	1296
101-101-752.000	SUPPLIES	HURON RIVER WATERSHED	2026 COMMUNITY CALENDARS	2026.01.10	01/26/26	75.00	1295
101-101-900.000	PRINTING & PUBLISHING	GANNETT MICHIGAN LOCAL	LEGAL NOTICES -DECEMBER	0007491849	01/20/26	687.02	1272
101-101-900.000	PRINTING & PUBLISHING	GANNETT MICHIGAN LOCAL	LEGAL NOTICES -DECEMBER	0007491849	01/20/26	92.20	1272
101-101-900.000	PRINTING & PUBLISHING	GANNETT MICHIGAN LOCAL	LEGAL NOTICES- NOVEMBER	0007441673	01/20/26	108.86	1272
101-101-900.000	PRINTING & PUBLISHING	GANNETT MICHIGAN LOCAL	LEGAL NOTICES- OCTOBER	0007390478	01/20/26	328.53	1273
			Total For Dept 101 LEGISLATIVE-TWSP BOARD			1,327.61	
Dept 171 SUPERVISOR							
101-171-716.100	PENSION FEES	JOHN HANCOCK	QUARTERLY PENSION FEES	20260101A15582-JI	01/26/26	9.00	1296
			Total For Dept 171 SUPERVISOR			9.00	
Dept 172 ADMINISTRATION-MANAGER							
101-172-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	467.32	1267
101-172-728.000	HSA	KEY BANK	QUARTERLY HSA CONTRIBUTION	22501	01/26/26	10.30	1300
101-172-752.000	SUPPLIES	CITIZENS	SUPPLIES/PERMIT FEES	22449	01/20/26	49.50	1268
			Total For Dept 172 ADMINISTRATION-MANAGER			527.12	
Dept 215 TOWNSHIP CLERK							
101-215-709.000	FICA	MIRAS KAREN	REFUND SS & MC TAX - INS DEDUCTION	22521	01/26/26	39.99	1308
101-215-709.000	FICA	RIKER JOSEPH	REFUND SS & MC TAX - INS DEDUCTION	22520	01/26/26	25.54	1313
101-215-709.000	FICA	STEPHENS KATELYN	REFUND SS & MC TAX - INS DEDUCTION	22518	01/26/26	51.34	1321
101-215-709.000	FICA	ZAHLER, JENNIFER	REFUND SS & MC TAX - INS DEDUCTION	22517	01/26/26	99.71	1329
101-215-711.000	MEDICARE	MIRAS KAREN	REFUND SS & MC TAX - INS DEDUCTION	22521	01/26/26	9.35	1308
101-215-711.000	MEDICARE	RIKER JOSEPH	REFUND SS & MC TAX - INS DEDUCTION	22520	01/26/26	5.97	1313
101-215-711.000	MEDICARE	STEPHENS KATELYN	REFUND SS & MC TAX - INS DEDUCTION	22518	01/26/26	12.01	1321
101-215-711.000	MEDICARE	ZAHLER, JENNIFER	REFUND SS & MC TAX - INS DEDUCTION	22517	01/26/26	23.32	1329
101-215-718.000	HOSPITALIZATION INSURANCE	BLUE CROSS BLUE SHIELD	BCBSM HEALTH INS- FEBRUARY 2026	22432	01/12/26	809.26	1255
101-215-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	4,418.72	1267
101-215-752.000	SUPPLIES	FNBO	FUEL/SUPPLIES/DUES/EDUCATION	22503	01/20/26	30.40	1271
101-215-752.000	SUPPLIES	QUILL CORPORATION	TAX FORMS	47160166	01/26/26	50.78	1312
101-215-856.000	RECORD RETENTION SERVICES	SHREDHUB LLC	OFF-SITE RECORDS PURGE	30759	01/26/26	100.00	1316
101-215-910.000	EDUCATION	FNBO	FUEL/SUPPLIES/DUES/EDUCATION	22503	01/20/26	(13.20)	1271
101-215-915.000	DUES	FNBO	FUEL/SUPPLIES/DUES/EDUCATION	22503	01/20/26	117.50	1271
			Total For Dept 215 TOWNSHIP CLERK			5,780.69	
Dept 253 TREASURER							
101-253-709.000	FICA	SIGLER SHELLY	REFUND SS & MC TAX - INS DEDUCTION	22519	01/26/26	3.03	1317
101-253-711.000	MEDICARE	SIGLER SHELLY	REFUND SS & MC TAX - INS DEDUCTION	22519	01/26/26	0.71	1317
101-253-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	1,896.14	1267
101-253-915.000	DUES	LIVINGSTON COUNTY TREA	MEMBERSHIP FEES 2026	22470	01/26/26	10.00	1303
			Total For Dept 253 TREASURER			1,909.88	

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Fund 101 GENERAL FUND							
Dept 257 ASSESSOR							
101-257-709.000	FICA	HESTER KAREN	REFUND SS & MC TAX - INS DEDUCTION	22524	01/26/26	54.25	1293
101-257-709.000	FICA	KALISZEWSKI STACY	REFUND SS & MC TAX - INS DEDUCTION	22523	01/26/26	49.63	1298
101-257-711.000	MEDICARE	HESTER KAREN	REFUND SS & MC TAX - INS DEDUCTION	22524	01/26/26	12.69	1293
101-257-711.000	MEDICARE	KALISZEWSKI STACY	REFUND SS & MC TAX - INS DEDUCTION	22523	01/26/26	11.61	1298
101-257-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	3,792.31	1267
101-257-850.000	TELEPHONE	VERIZON WIRELESS	TELEPHONE/TABLET	6132031432	01/12/26	80.02	1265
101-257-900.000	PRINTING & PUBLISHING	KCI	PERSONAL PROPERTY STATEMENTS	354045	01/26/26	516.34	1299
			Total For Dept 257 ASSESSOR			4,516.85	
Dept 262 ELECTIONS							
101-262-718.000	HOSPITALIZATION INSURANCE	BLUE CROSS BLUE SHIELD	BCBSM HEALTH INS- FEBRUARY 2026	22432	01/12/26	202.32	1255
101-262-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	1,516.93	1267
101-262-915.000	DUES	FNBO	FUEL/SUPPLIES/DUES/EDUCATION	22503	01/20/26	117.50	1271
			Total For Dept 262 ELECTIONS			1,836.75	
Dept 265 TOWNSHIP HALL/GROUNDS							
101-265-709.000	FICA	DILLARD GARY	REIMBURSE PAYROLL ADJ FOR SS & MC T.	22516	01/26/26	26.50	1284
101-265-711.000	MEDICARE	DILLARD GARY	REIMBURSE PAYROLL ADJ FOR SS & MC T.	22516	01/26/26	6.20	1284
101-265-752.000	SUPPLIES	GREAT LAKES ACE	SUPPLIES	8289	01/12/26	44.99	1263
101-265-752.000	SUPPLIES	STAPLES	SUPPLIES	3052171083	01/12/26	58.77	1264
101-265-752.000	SUPPLIES	STAPLES	SUPPLIES	6053217237	01/20/26	43.34	1274
101-265-752.000	SUPPLIES	STAPLES	SUPPLIES	6053030563	01/20/26	73.80	1274
101-265-752.000	SUPPLIES	STAPLES	SUPPLIES	6053217236	01/26/26	7.09	1319
101-265-752.999	SUPPLIES	STAPLES	SUPPLIES	6053030563	01/20/26	22.99	1274
101-265-759.000	GAS AND OIL	FNBO	FUEL/SUPPLIES/DUES/EDUCATION	22503	01/20/26	28.07	1271
101-265-759.999	GAS & OIL	WEX BANK	FUEL	109947157	01/12/26	280.13	1266
101-265-925.999	WATER/SEWER FEE- GARAGE	LIVINGSTON COMMUNITY W	QUARTERLY WATER WEBER GARAGE	22448	01/26/26	92.51	1302
101-265-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	953.56	1261
101-265-927.999	UTILITIES- GARAGE	COMCAST	INTERNET- WEBER GARAGE	22435	01/12/26	132.90	1257
101-265-927.999	UTILITIES- GARAGE	CONSUMERS ENERGY	UTILITIES	203234181637	01/12/26	368.21	1258
101-265-929.000	GROUNDS MAINTENANCE & REPA	GFL ENVIRONMENTAL	RUBBISH REMOVAL- TSWP HALL	0071376643	01/26/26	207.25	1290
101-265-930.000	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICES- DECEMBER	DECEMBER 2025	01/26/26	575.00	1314
101-265-930.000	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICES- NOVEMBER	NOVEMBER 2025	01/26/26	575.00	1314
101-265-930.000	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- OCTOBER	OCTOBER 2025	01/26/26	575.00	1314
101-265-930.000	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- SEPTEMBER	SEPTEMBER 2025	01/26/26	575.00	1315
101-265-930.000	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- AUGUST	AUGUST 2025	01/26/26	575.00	1315
101-265-930.000	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- JULY	JULY 2025	01/26/26	575.00	1315
101-265-930.999	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICES- DECEMBER	DECEMBER 2025	01/26/26	175.00	1314
101-265-930.999	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICES- NOVEMBER	NOVEMBER 2025	01/26/26	175.00	1314
101-265-930.999	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- OCTOBER	OCTOBER 2025	01/26/26	175.00	1314
101-265-930.999	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- SEPTEMBER	SEPTEMBER 2025	01/26/26	175.00	1315
101-265-930.999	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- AUGUST	AUGUST 2025	01/26/26	175.00	1315
101-265-930.999	BUILDING MAINTENANCE & REI	SERVICEPRO	CLEANING SERVICE- JULY	JULY 2025	01/26/26	175.00	1315
101-265-931.000	EQUIPMENT MAINTENANCE & RE	STATE SOFT WATER CO	WATER SOFTENER RENTAL- JANUARY	82770	01/26/26	39.00	1320
101-265-962.000	PERMIT FEES	CITIZENS	SUPPLIES/PERMIT FEES	22449	01/20/26	293.55	1268
			Total For Dept 265 TOWNSHIP HALL/GROUNDS			7,178.86	
Dept 271 OTHER CHARGES & SERVICES							
101-271-759.000	GAS AND OIL	WEX BANK	FUEL	109947157	01/12/26	33.80	1266
101-271-804.000	CONTRACTED SERVICES	COMCAST	INTERNET/CABLE	22434	01/12/26	286.87	1257
101-271-804.000	CONTRACTED SERVICES	VC3 INC	CLOUD DATA RECOVERY- JANUARY	234097	01/26/26	145.00	1327
101-271-804.000	CONTRACTED SERVICES	VC3 INC	HOSTED EXCHANGE ONLINE- JANUARY	234096	01/26/26	92.40	1327
101-271-827.000	LEGAL	FAHEY SCHULTZ BURZYCH	LEGAL SERVICES-MTT TOPVALCO	35079	01/26/26	256.50	1287

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Fund 101 GENERAL FUND							
Dept 271 OTHER CHARGES & SERVICES							
101-271-827.000	LEGAL	HARRIS & LITERSKI	LEGAL SERVICES- MEETING	236624	01/26/26	300.00	1292
101-271-827.000	LEGAL	HARRIS & LITERSKI	LEGAL SERVICES- DECEMBER	236572	01/26/26	1,534.50	1292
101-271-827.000	LEGAL	OHM ADVISORS	CLEARWATER- THROUGH 1-3-26	97786	01/26/26	256.25	1310
101-271-850.000	TELEPHONE	CLEAR RATE COMMUNICATI	TELEPHONE	4114324	01/12/26	106.55	1256
101-271-850.000	TELEPHONE	VERIZON WIRELESS	TELEPHONE/TABLET	6132031432	01/12/26	50.70	1265
101-271-850.000	TELEPHONE	CLEAR RATE COMMUNICATI	TELEPHONE	4127817	01/20/26	108.31	1269
101-271-931.000	EQUIPMENT MAINTENANCE & RE	APPLIED INNOVATION	COPIER METER-MAINTENANCE	3033450	01/26/26	95.39	1276
101-271-932.000	VEHICLE MAINTENANCE & REPA	CITIZENS	SUPPLIES/PERMIT FEES	22449	01/20/26	251.36	1268
101-271-932.000	VEHICLE MAINTENANCE & REPA	SPARTAN TIRE BRIGHTON	REPAIR LEAKING TIRE- FORD MAVERICK	224751	01/26/26	24.88	1318
101-271-933.000	COMPUTER SUPPORT SERVICES	BS&A SOFTWARE, INC	ANNUAL SUPPORT- GL,AP,PA,UB,DEL PPT.	165114	01/26/26	4,915.00	1281
101-271-951.000	LEASE-BACK MSP/DIETZ	DIETZ BRUCE & JULIE	MSP RENT JANUARY	22440	01/12/26	11,457.00	1259
101-271-970.000	CAPITAL OUTLAY	APPLIED INNOVATION	RICOH IMC3510 COLOR COPIER	AI77841-001	01/26/26	7,088.19	1276
			Total For Dept 271 OTHER CHARGES & SERVICES			27,002.70	
Dept 336 FIRE DEPARTMENT							
101-336-804.700	CONTRACTED SERVICES- BAFA	BRIGHTON AREA FIRE AUT	2ND 1/2 SHARED EXPENSES STATION 32	691	01/26/26	3,898.42	1277
101-336-925.000	WATER /SEWER FEE	BRIGHTON TOWNSHIP	QUARTERLY SEWER BILL- STATION 32	22473	01/26/26	37.60	1279
101-336-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	65.64	1261
			Total For Dept 336 FIRE DEPARTMENT			4,001.66	
Dept 412 CODE ENFORCEMENT							
101-412-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	189.62	1267
			Total For Dept 412 CODE ENFORCEMENT			189.62	
Dept 425 EMERGENCY PREPAREDNESS							
101-425-927.000	UTILITIES	DTE	UTILITIES	22441	01/12/26	12.04	1260
101-425-927.000	UTILITIES	DTE	UTILITIES	22515	01/20/26	12.30	1270
101-425-934.100	TORNADO SIREN REPAIR	WEST SHORE SERVICES, I	ANNUAL SIREN MAINTENANCE	34271	01/26/26	4,845.14	1328
			Total For Dept 425 EMERGENCY PREPAREDNESS			4,869.48	
Dept 528 MUNICIPAL REFUSE COLLECTION							
101-528-853.000	CONTRACTS	THE GARBAGE MAN	11089 NEWMAN LARGE ITEM	1402777	01/26/26	15.00	1323
			Total For Dept 528 MUNICIPAL REFUSE COLLECTION			15.00	
Dept 701 PLANNING							
101-701-709.000	FICA	MATHEWS KELLY	REFUND SS & MC TAX - INS DEDUCTION	22522	01/26/26	31.60	1306
101-701-711.000	MEDICARE	MATHEWS KELLY	REFUND SS & MC TAX - INS DEDUCTION	22522	01/26/26	7.39	1306
101-701-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	1,564.33	1267
101-701-900.000	PRINTING & PUBLISHING	GANNETT MICHIGAN LOCAL	LEGAL NOTICES -DECEMBER	0007491849	01/20/26	391.43	1272
101-701-900.000	PRINTING & PUBLISHING	GANNETT MICHIGAN LOCAL	LEGAL NOTICES- OCTOBER	0007390478	01/20/26	132.82	1273
101-701-946.000	ENGINEERING SERVICES	FLEIS & VANDENBRINK	PLEASANT VALLEY SITE PLAN REV	76219	01/26/26	2,730.00	1288
101-701-946.000	ENGINEERING SERVICES	FLEIS & VANDENBRINK	COVE AT WOODLAND PUD PLAN REV	871250	01/26/26	1,748.50	1288
			Total For Dept 701 PLANNING			6,606.07	
			Total For Fund 101 GENERAL FUND			68,956.51	
Fund 212 LIQUOR LAW ENFORCEMENT FUND							
Dept 000							
212-000-718.000	HOSPITALIZATION INSURANCE	BLUE CARE NETWORK	BCN HEALTH INSURANCE FEBRUARY	260100006600	01/20/26	142.21	1267
			Total For Dept 000			142.21	
			Total For Fund 212 LIQUOR LAW ENFORCEMENT FUND			142.21	
Fund 590 SEWER O & M FUND							

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Fund 590 SEWER O & M FUND							
Dept 000							
590-000-256.000	NEW CONNECTIONS	F&V OPERATIONS & RESO	EXTRA SERVICES- DECEMBER	8978	01/26/26	125.56	1286
			Total For Dept 000			125.56	
Dept 537 ADMINISTRATION							
590-537-933.000	COMPUTER SUPPORT SERVICES	COMCAST	INTERNET- WWTP	22436	01/12/26	152.46	1257
590-537-933.000	COMPUTER SUPPORT SERVICES	BS&A SOFTWARE, INC	ANNUAL SUPPORT- GL,AP,PA,UB,DEL PPT.	165114	01/26/26	890.00	1281
590-537-933.000	COMPUTER SUPPORT SERVICES	TRITECH SOFTWARE SYSTE	USER ANNUAL SUBSCRIPTION FEE 2-1-26	452762	01/26/26	5,091.36	1325
			Total For Dept 537 ADMINISTRATION			6,133.82	
Dept 540 OPERATION AND MAINTENANCE							
590-540-752.000	SUPPLIES	USA BLUEBOOK	BULK SILICONE TUBING ROLL	00923839	01/26/26	248.88	1326
590-540-804.300	CONTRACTED SERVICES- FIXEI	F&V OPERATIONS & RESO	O & M WWTP- JANUARY	9029	01/26/26	30,081.24	1286
590-540-804.400	CONTRACT SERVICES-NON ROUT	F&V OPERATIONS & RESO	EXTRA SERVICES- DECEMBER	8978	01/26/26	1,244.60	1286
590-540-804.400	CONTRACT SERVICES-NON ROUT	MISS DIG 811	TRANSMISSION BASED MEMBERSHIP FEE,	20261081	01/26/26	3,201.07	1309
590-540-850.000	TELEPHONE	CLEAR RATE COMMUNICATI	TELEPHONE	4114324	01/12/26	13.17	1256
590-540-850.000	TELEPHONE	VERIZON WIRELESS	TELEPHONE/TABLET	6132031432	01/12/26	40.01	1265
590-540-850.000	TELEPHONE	CLEAR RATE COMMUNICATI	TELEPHONE	4127817	01/20/26	13.39	1269
590-540-927.000	UTILITIES	CONSUMERS ENERGY	UTILITIES	204391027400	01/12/26	22.76	1258
590-540-927.000	UTILITIES	CONSUMERS ENERGY	UTILITIES	202611235693	01/12/26	911.68	1258
590-540-927.000	UTILITIES	DTE	UTILITIES	22441	01/12/26	781.04	1260
			Total For Dept 540 OPERATION AND MAINTENANCE			36,557.84	
			Total For Fund 590 SEWER O & M FUND			42,817.22	
Fund 598 SEWER CAPITAL RESERVE							
Dept 000							
598-000-985.000	CAPITAL REPLACEMENT	CSM MECHANICAL, LLC	PUMP STATION #3 IMPROVEMENTS	5958	01/26/26	37,643.62	1282
598-000-985.000	CAPITAL REPLACEMENT	CYR ELECTRIC LLC	WWTP GENERATOR REPLACEMENT- REVISED	12092025-B	01/26/26	25,850.00	1283
598-000-985.000	CAPITAL REPLACEMENT	FLEIS & VANDENBRINK	PS3 CONSTRUCTION ADMIN	76464	01/26/26	870.00	1288
598-000-985.000	CAPITAL REPLACEMENT	FLEIS & VANDENBRINK	WWTP GENERATOR REPLACEMENT	76461	01/26/26	2,658.48	1288
598-000-985.000	CAPITAL REPLACEMENT	FLEIS & VANDENBRINK	WWTP UV DISINFECTION SYSTEM THROUGH	46459	01/26/26	11,308.80	1288
			Total For Dept 000			78,330.90	
			Total For Fund 598 SEWER CAPITAL RESERVE			78,330.90	
Fund 701 GENERAL AGENCY CUSTODIAL FUND							
Dept 000							
701-000-246.000	DOG LICENSE FEES	BRIGHTON TOWNSHIP	DOG LICENSE DECEMBER	22478	01/26/26	9.00	1280
701-000-246.000	DOG LICENSE FEES	LIVINGSTON COUNTY TREA	DOG LICENSE FEES DECEMBER	22479	01/26/26	116.00	1304
			Total For Dept 000			125.00	
			Total For Fund 701 GENERAL AGENCY CUSTODIAL FUND			125.00	
Fund 812 SAD ROAD MAINTENANCE							
Dept 000							
812-000-214.101	DUE TO GENERAL FUND	BRIGHTON TOWNSHIP	SAD- BEN HUR ADMIN COSTS	22462	01/26/26	347.07	1278
			Total For Dept 000			347.07	
Dept 018 PARK DR							
812-018-967.000	PROJECT COSTS	SYS SELF STORAGE LLC	SAD- PARK DR SNOW PLOWING	1274	01/26/26	525.00	1322
			Total For Dept 018 PARK DR			525.00	
Dept 020 CAUSEWAY							
812-020-967.000	PROJECT COSTS	A.D.R. CONSTRUCTION SE	SAD- CAUSEWAY DR- SNOW PLOWING	22486	01/26/26	500.00	1275

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Fund 812 SAD ROAD MAINTENANCE							
Dept 020 CAUSEWAY							
812-020-967.000	PROJECT COSTS	LOISELLE DANIEL	SAD- CAUSEWAY SNOW PLOWING-REIMBURS	22477	01/26/26	500.00	1305
			Total For Dept 020 CAUSEWAY			1,000.00	
Dept 027 WEST LASHBROOK							
812-027-967.000	PROJECT COSTS	HUDSON, STEVE	SAD- LASHBROOK SNOW REMOVAL	857389	01/26/26	1,200.00	1294
			Total For Dept 027 WEST LASHBROOK			1,200.00	
Dept 055 KENDOR							
812-055-967.000	PROJECT COSTS	K B ROAD GRADING	SAD- KENDOR DR SNOW PLOWING	10670	01/26/26	250.00	1297
			Total For Dept 055 KENDOR			250.00	
			Total For Fund 812 SAD ROAD MAINTENANCE			3,322.07	
Fund 817 MUNICIPAL REFUSE							
Dept 036 RAVINES OF WOODLAND LAKE							
817-036-967.000	PROJECT COSTS	DOUGIE'S DISPOSAL & RE	SAD- RAVINES RUBBISH	208843	01/26/26	5,445.00	1285
			Total For Dept 036 RAVINES OF WOODLAND LAKE			5,445.00	
Dept 056 RAVENSWOOD							
817-056-967.000	PROJECT COSTS	DOUGIE'S DISPOSAL & RE	SAD- RAVENSWOOD RUBBISH REMOVAL	208971	01/26/26	9,225.00	1285
			Total For Dept 056 RAVENSWOOD			9,225.00	
Dept 529 WOODLAND/AIRWAY ASSESSMENT							
817-529-967.000	PROJECT COSTS	THE ORIGINAL DUNCAN DI	SAD- WOODLAND HILLS RUBBISH REMOVAL	0147887	01/26/26	14,634.00	1324
			Total For Dept 529 WOODLAND/AIRWAY ASSESSMENT			14,634.00	
			Total For Fund 817 MUNICIPAL REFUSE			29,304.00	
Fund 840 SAD AQUATICS							
Dept 550 WOODLAND LAKE AQUATIC							
840-550-967.009	PROJ COST WOOD LK AQUATIC	GRAPENTIEN ANITA	SAD- OWL- REIMBURSE ROOM USE FEE	22465	01/26/26	120.00	1291
840-550-967.009	PROJ COST WOOD LK AQUATIC	MICHIGAN WATERFRONT AL	SAD- OWL- LAKE ASSOC. ANNUAL MEMBER	22480	01/26/26	150.00	1307
840-550-967.009	PROJ COST WOOD LK AQUATIC	ORGANIZATION OF WOODLA	SAD- OWL-REIMBURSE LIABILITY INS	22481	01/26/26	698.00	1311
			Total For Dept 550 WOODLAND LAKE AQUATIC			968.00	
			Total For Fund 840 SAD AQUATICS			968.00	
Fund 845 STREET LIGHTING FUND							
Dept 070 COUNTRY CLUB ANNEX LT							
845-070-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	1,287.11	1261
			Total For Dept 070 COUNTRY CLUB ANNEX LT			1,287.11	
Dept 071 DONALD DRIVE LIGHT							
845-071-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	28.48	1261
			Total For Dept 071 DONALD DRIVE LIGHT			28.48	
Dept 072 BRANDYWINE FARMS LIGHT							
845-072-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	67.08	1261
			Total For Dept 072 BRANDYWINE FARMS LIGHT			67.08	
Dept 073 HARVEST HILLS LIGHTS							
845-073-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	67.08	1261
			Total For Dept 073 HARVEST HILLS LIGHTS			67.08	
Dept 074 GREENFIELD POINTE LIGHTS							

GL Number	GL Desc	Vendor	Invoice Desc.	Invoice	Chk Date	Amount	heck #
Fund 845 STREET LIGHTING FUND							
Dept 074 GREENFIELD POINTE LIGHTS							
845-074-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	67.08	1261
			Total For Dept 074 GREENFIELD POINTE LIGHTS			67.08	
Dept 075 BRIGHTON GARDENS							
845-075-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	109.20	1261
			Total For Dept 075 BRIGHTON GARDENS			109.20	
Dept 076 EAGLE HEIGHTS							
845-076-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	35.65	1261
			Total For Dept 076 EAGLE HEIGHTS			35.65	
Dept 077 GREENFIELD SHORES 1-2-3-4 LOP							
845-077-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	113.94	1261
			Total For Dept 077 GREENFIELD SHORES 1-2-3-4 LOP			113.94	
Dept 078 DE MARIA							
845-078-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	35.65	1261
			Total For Dept 078 DE MARIA			35.65	
Dept 079 RAVENSWOOD LIGHTS							
845-079-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	71.30	1261
			Total For Dept 079 RAVENSWOOD LIGHTS			71.30	
Dept 080 MAPLE RIDGE SUB							
845-080-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	31.05	1261
			Total For Dept 080 MAPLE RIDGE SUB			31.05	
Dept 081 ALGER PINES							
845-081-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	62.44	1261
			Total For Dept 081 ALGER PINES			62.44	
Dept 082 SHENANDOAH							
845-082-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	102.73	1261
			Total For Dept 082 SHENANDOAH			102.73	
Dept 084 SHENANDOAH POND HOMEOWNERS							
845-084-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	31.78	1261
			Total For Dept 084 SHENANDOAH POND HOMEOWNERS			31.78	
Dept 085 OAKS AT BEACH LAKE							
845-085-926.000	STREET LIGHTING	DTE ENERGY	STREETLIGHTS- JANUARY	200296161850	01/12/26	201.24	1261
			Total For Dept 085 OAKS AT BEACH LAKE			201.24	
			Total For Fund 845 STREET LIGHTING FUND			2,311.81	

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Assistant to the Township Manager

AGENDA TOPIC: Lease Extension for Maxfield Road Property (Consent Agenda)

EXPLANATION OF TOPIC:

For the past few years, the Township has had a lease agreement with Mr. Raymond Moses (the Tenant) that allowed the Tenant to harvest hay from a Township owned property off of Maxfield near the northern border of the Township (Parcel ID 4712-03-100-004). In return, the Tenant pays the Township a lump sum of $1,000 to use the property. Township staff is recommending extending the lease another year. Approving this item with the consent agenda authorizes Township staff to execute the extension.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- Proposed Lease Agreement Extension

RECOMMENDATION: Approve with the consent agenda.

Agreement to Extend Farm Lease

This Agreement to Extend Farm Lease is made between the Charter Township of Brighton ("Landlord"), 4363 Buno Rd., Brighton, MI 48114 and Mr. Raymond Moses ("Tenant"), 13837 Hibner, Hartland, MI 48353 (collectively the "Parties").

Recitals

a. The Parties entered into a Farm Lease commencing March 17, 2020 and terminating March 16, 2021 ("Lease").

b. The Parties have subsequently extended the Farm Lease and wish to extend the Farm Lease again under the terms and conditions set forth below.

Agreement

For a good and valuable consideration, the receipt of which is acknowledged, the Parties agree as follows:

1. The Parties agree to extend the term of the Lease, for one year, from March 17, 2026 through March 16, 2027, under the same terms, conditions and rates as set forth in the Contract.

2. In addition, as additional consideration, Tenant agrees to pay Landlord a lump sum of $1,000, payable no later than April 30, 2026.

3. All other terms and conditions of the Lease not in conflict with the provisions of this Agreement shall remain in full force and effect.

TENANT	LANDLORD
_____	_____
By: Raymond Moses Date	By: Zach Dyba, Assistant Manager Date

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Township Planner

AGENDA TOPIC: First **(**1st) reading for Rezoning from R-2 (Residential Single Family) to Residential PUD (Planned Unit Development) for The Cove of Woodland Lake

EXPLANATION OF TOPIC: The applicant would like to develop forty (40) units on two (2) parcels totaling 42.8 acres if he receives the rezoning from R-2 to Residential PUD.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- GIS map
- 11/10/25 PC draft minutes
- 12/17/25 LCPC minutes and materials
- Conceptual Site Plan
- PC Application
- PUD Agreement
- Utility Easement
- TIS
- City of Brighton Water District Master Plan
- 10/16/25 Township Planner letter
- 11/3/25 Township Engineer letter
- 10/27/25 BAFA letter
- Resident correspondence

POSSIBLE COURSES OF ACTION: Accept/not accept the recommendations of the Brighton Township Planning Commission and the Livingston County Planning Commission and move the proposed rezoning to a second (2nd) reading/public hearing.

RECOMMENDATION: Accept the recommendations of the Brighton Township Planning Commission and the Livingston County Planning Commission and move the proposed rezoning to a second (2nd) reading/public hearing.

SUGGESTED MOTION: Motion by _____, supported by _____ to accept the recommendations of the Brighton Township Planning Commission and the Livingston County Planning Commission and move the proposed rezoning to a second (2nd) reading/public hearing.

ROLL CALL VOTE REQUIRED? Yes

THE COVE AT WOODLAND LAKE



N

Charter Township of Brighton

0 112.5 225 450 675 900
Feet

PROPOSED MINUTES

CHARTER TOWNSHIP OF BRIGHTON **NOVEMBER 10, 2025**
PLANNING COMMISSION **REGULAR MEETING**
4363 BUNO ROAD **6:30 P.M.**
BRIGHTON, MI 48114 **(810) 229.0562**

Chairperson S. Holden called the meeting to order at 6:30 P.M. The Pledge of Allegiance was said.
Present: W. Hofsess, B. Anderson, J. Rose, A. Lutes, L. Herzinger, S. Holden
Absent: C. Doughty

CALL TO THE PUBLIC
Cheryl Wasilewski, 2621 Hacker - Overviewed answers from the October OWL water quality presentation. She handed out a document with the material she was referencing.

AGENDA
L. Herzinger moved and A. Lutes seconded **to approve the agenda.**
Motion carried.

MINUTES
J. Rose moved and L. Herzinger seconded **to approve the October 13, 2025 regular meeting minutes as presented.**
Motion carried.

RE-REVIEW OF PUD REZONING RZ #25/01 FOR THE COVE AT WOODLAND LAKE; ADDRESS: VACANT DANN/N. CHRISTINE; OWNER AND APPLICANT: MITCH HARRIS BUILDING COMPANY; TAX ID#: 12-18-300-011 AND 12-18-400-027; EXISTING ZONING: R-2 (RESIDENTIAL SINGLE FAMILY); PROPOSED ZONING: RESIDENTIAL PLANNED UNIT DEVELOPMENT (PUD)
Applicant Representative Brent LaVanway overviewed the changes to the plan from the last meeting which includes 4 less lots in the parallel plan and 5 less lots in the PUD plan. Additionally, added pre-treatment control structures and changed the drainage on the property and reiterated they have the utility easements, road SAD commitment, no fertilizer, and architecture from previous submittals.

G. Rose, Township Engineer, F&V, overviewed his letter dated November 3, 2025. K. Mathews, Township Planner, overviewed her letter dated October 16, 2025.

PUBLIC COMMENT
Gary Mitter, 8400 Woodland Shore - lawsuits on property, silt fence down on another property on lake, lake is dying, retention pond.
Eric Horton, 2642 Jennifer - go with R-2 plan, feasibility, retaining walls, elevation changes.
Kevin Storch, 8360 Woodland Shore - concerns with managing water.
Cheryl Wasilewski, 2621 Hacker - land division, R-2 zoning, no PUD, Township Manager said we don't make decision based on mills.
Nanci McGraw, 3275 Causeway - no fertilizer for both types of housing.
Tim Agnello, 2675 Hacker - reiterated Cheryl Wasilewski's comments.
Cheryl Guard, 8334 Point - original sewer REU's had 16 and 1 assigned for the 2 parcels.
Jane Wasilewski, 2635 Hacker - listen to the Woodland Lake residents who pay taxes.

An e-mail dated 11/10/25 from Howard Dembs was read into the record opposing the development - water quality, density.

The City of Brighton water master plan letter dated 5/14/25 was read into the record. The Planning Commission discussed water quality, pre-treatment structures, drainage, master deed and bylaws for the next phase, construction

traffic, put wetlands maintenance and enforcement along lake into Master Deed, EGLE permits will be needed for the docks/boardwalks on lake, park will not have a dock/boardwalk, retaining walls to preserve natural features. B. LaVanway stated much of the information to be placed into the Master Deed is listed on page 4 of the site plan.

B. Anderson moved and L. Herzinger seconded **to recommend to the Township Board approval of PUD rezoning RZ #25/01 for The Cove at Woodland Lake; Address: Vacant Dann/N. Christine; Owner and Applicant: Mitch Harris Building Company; Tax ID#: 12-18-300-011 and 12-18-400-027; Existing Zoning: R-2 (Residential Single Family); Proposed Zoning: Residential Planned Unit Development (PUD) based upon the Planning Commission's findings and the public hearing comments.**
Ayes: A. Lutes, B. Anderson, L. Herzinger, S. Holden
Nayes: W. Hofsess, J. Rose
Motion carried.

REPORTS AND CORRESPONDENCE
S. Holden - ZBA Update: No Oct. Meeting; Nov. Meeting upcoming.

CALL TO THE PUBLIC
None.

ADJOURNMENT
J. Rose moved and B. Anderson seconded **to adjourn.**
Motion carried.

The meeting adjourned at 7:54 P.M.
Respectfully submitted,

_____ _____
Steve Holden, Chairperson William Hofsess, Secretary

_____
Kelly Mathews, Recording Secretary

D. Z-41-25: HOWELL TOWNSHIP REZONING AR AGRICULTURAL RESIDENTIAL TO (IFZ) INDUSTRIAL FLEX ZONE SECTION 22.

Current Zoning: Agricultural Residential (AR)
Proposed Zoning: Industrial Flex Zone (IFZ)
Section: 22

Township Recommendation: Action on the proposed rezoning failed at the November 18, 2025, public hearing after a 2-2 tie, with 2 township commissioners abstaining from the vote. Comments for and against the proposed rezoning were heard at the public hearing.

Staff Recommendation: The proposed rezoning from AR (Agricultural Residential) to IFZ (Industrial Flex Zone) is consistent with the overall goals and objectives of the 2022 Howell Township Master Plan and the Livingston County Comprehensive Plan. Howell Township should consider mitigating any potential land use conflicts of the proposed rezoning with the nearby residential land uses when development of the parcel is implemented.

Commissioner Discussion: Commissioner Funk asked about uses in the Agricultural district and Industrial Flex Zone.

Public Comments:

Mark Mastisto, Howell Township: An adjacent landowner, concerned about water management, concerned about the intended use of the property. He would prefer houses on the lot and is opposed to the rezoning.

Charles Smith, Howell Township: Had a question about the rezoning process.

Debbie Mannisto, Howell Township: An adjacent landowner, concerned about property values and transparency of the project, homeowners should be involved in rezoning process. She is opposed to the rezoning.

Ellen Swartz, Howell Township: An adjacent landowner, concerned about neighbor investment and their property values, light pollution and size of development.

Matt Hall, Howell Township: An adjacent landowner, concerned about destruction of rural neighborhood character, Does not believe this area is suited for industrial or residential buildings.

Kristen Dennison, Conway Township: Surrounding uses should be evaluated in the rezonings, concerned about neighborhood character and spot zoning, questioned the intended use.

Commissioner Action: IT WAS MOVED BY COMMISSIONER BURKHOLDER TO RECOMMEND APPROVAL, SECONDED BY COMMISSIONER CALL.

Motion passed: 4-2

COMMISSIONERS FUNK AND GALBRAITH OPPOSED

E. Z-42-25: BRIGHTON CHARTER TOWNSHIP REZONING R-2 RESIDENTIAL SINGLE FAMILY TO (RPUD) RESIDENTIAL PLANNED UNIT DEVELOPMENT SECTION 12.

Current Zoning: Residential Single Family (R-2)
Proposed Zoning: Residential Planned Unit Development (RPUD)
Section: 12

Township Recommendation: Approval. The Brighton Charter Township Planning Commission recommended Approval of this rezoning at its November 10, 2025, Regular Planning Commission Meeting. From the draft PC minutes provided for the November 10th PC meeting, there were a number of public comments noted regarding this proposed rezoning.

Staff Recommendation: Disapproval/ Denial As proposed, this rezoning to PUD does not enhance the quality of development to a satisfactory level of difference as compared to the current zoning designation, which should always be the result when utilizing this planning tool, as intended by the township PUD Ordinance.

Several deficiencies have been identified as to the areas of concern with the proposed rezoning, mainly focusing on the long-term viability and protection of the key existing natural feature associated with this development, that being the quality of the waters of Woodland Lake.

It is suggested and encouraged that the township reconsider the approval of this rezoning as proposed, and in turn, continue to with the applicant to revise the proposed development plan in a manner that both satisfies both the intended nature of the underlying zoning district (R-2) which is intended to provide predominantly for low-density, single family detached dwellings along with better alignment with the Charter Township's Future Land Use designation of Low-Density Residential development, while incorporating an improved site plan design which allows for more shoreline protection along Woodland Lake (greater buffering) and which significantly reduces impervious surface areas within the development to a level that does not contribute further to the degradation of Woodland Lake. As proposed, the level of planned impervious surface associated with the development counterbalances and nearly completely nullifies the expected beneficial result of any planned open space/natural feature set asides.

Commissioner Discussion: Commissioner Funk questioned the turnaround for emergency access that must service the neighborhood and requests fewer houses due to it being too intense.

Public Comments: Brent Lavanway and Mitch Harris (applicants) presented on the project.

Residents of Woodland Lake spoke in opposition to the project.

Katie Tierney: Concerned about wetlands and density of the project. Also, talked about declining water quality and lack of transparency from applicant.

Dean Guard: Has been HOA president for 31 years. Spoke about declining water quality and that he is not opposed to development but wants it limited to 16 houses like the 1990s plot

Kevin Holloway: Similar projects have been denied in the past. Concerned with traffic and lot sizes.

Kenneth Waite: Spoke about the woodland lake petition against the project-86% of residents opposed. Concerned about traffic and road conditions.

Jane Waite: Concerned about the changing character of the area.

Cheryl Wasilesnki: Concerned about the compliance with the land division act and density of the project. Questioned the water quality reports and she would like to see more drainage studies performed.

Tim Fuller: Concerned about buildability of the project and compatibility with neighborhood.

Russ Hartman: Concerned about storm water discharge.

Cheryl Guard: Concerned about density; there should only be 16 REUs on the site (Residential Equivalent Units)

Lori Hayden: Concerned with water quality, emphasized regional environmental significance, also concerned with impervious surface drainage.

Doug Taylor: Project needs to be compliant with Land Division Act. He is concerned about water quality and storm water management. Environmental concerns with density of project.

Gary Miller: Concerned about water quality especially during the construction process. How will they mitigate wetland disturbance and runoff?

Commissioner Action: IT WAS MOVED BY COMMISSIONER FUNK TO RECOMMEND DISAPPROVAL, SECONDED BY COMMISSIONER BURKHOLDER.

Motion passed: 5-1,

COMMISSER IKLE OPPOSED

F. Z-43-25: TYRONE TOWNSHIP TEXT AMENDMENTS
SECTION 21.55 MEDICAL MARIJUANA CAREGIVER OPERATIONS

The Tyrone Township Planning Commission proposes to revise Section 21.55 Medical Marijuana Caregiver Operations of the township zoning ordinance.

Township Recommendation: Approval. The Tyrone Township Planning Commission heard public comment and recommended Approval of these zoning amendments at its November 11, 2025, Planning Commission Public Hearing.

Staff Recommendation: Disapproval. As noted, the proposed amendments have been thoroughly vetted by township special legal counsel. However, as highlighted in Staff's review, there are several provisions that warrant serious reexamination by the township before any formal approval by the Township Board. There are many questionable provisions that have been found to be largely inconsistent with the guidelines for regulating Medical Marijuana Caregiver Operations as set forth in the State of Michigan Cannabis Regulatory Agency (CRA) Municipal Guide and the Michigan Medical Marihuana Act, Initiated Law 1 of 2008, MCL 333.26421 et seq., as amended, as well as foundational State of Michigan case law as cited in the review, including DeRuiter v. Byron Twp (2020) and Ter Beek v. Wyoming (2014).

Commissioner Discussion: Commissioner Burkholder praised staff work on the ordinance review.

Public Comments: None.

Commissioner Action: IT WAS MOVED BY COMMISSIONER CALL TO RECOMMEND DISAPPROVAL, SECONDED BY COMMISSIONER WRIGHT.

Motion passed: 6-0

G. Z-44-25: HAMBURG TOWNSHIP REZONING
(RA) MEDIUM DENSITY RESIDENTIAL TO (PPRF) PUBLIC & PRIVATE RECREATIONAL FACILITIES DISTRICT
SECTION 22.

Current Zoning: Medium Density Residential (RA)
Proposed Zoning: Public & Private Recreational Facilities District (PPRF)
Section: 26

Township Recommendation: Approval. The Hamburg Township Planning Commission recommended approval at their November 19, 2025, meeting. There were no public comments.

Staff Recommendation: Approval. The rezoning has been thoroughly reviewed. The proposed rezoning from Single Family Medium-Density Residential to Public & Private Recreational Facilities District is consistent with Hamburg Township Master Plan.

Commissioner Discussion: Commissioner Funk asked if we were part of the Township's grant process for these parcels.

Livingston County Department of Planning

December 18, 2025

Brighton Charter Township Board of Trustees
c/o Joseph Riler, Clerk
Brighton Charter Township Hall
4363 Buno Road
Brighton, MI 48114

Re: County Planning Commission Review
Z-42-25: Brighton Charter Township Rezoning
Cove at Woodland Lake - R-2 to RPUD

Dear Board Members:

The Livingston County Planning Commission met on Wednesday, December 17, 2025, and reviewed the Brighton Charter Township rezoning referenced above. The County Planning Commissioners made the following recommendation:

Z-42-25 – Disapproval/Denial.

As proposed, this rezoning to PUD does not enhance the quality of development to a satisfactory level of difference as compared to the current zoning designation, which should always be the result when utilizing this planning tool, as intended by the township PUD Ordinance. A number of deficiencies have been identified as to the areas of concern with the proposed rezoning, mainly focusing on the long-term viability and protection of the key existing natural feature associated with this development, that being the quality of the waters of Woodland Lake.

It is suggested and encouraged that the township reconsider the approval of this rezoning as proposed, and in turn, continue to work with the applicant to revise the proposed development plan in a manner that both satisfies both the intended nature of the underlying zoning district (R-2) which is intended to provide predominantly for low-density, single family detached dwellings along with better alignment with the Charter Township's Future Land Use designation of Low-Density Residential development, while incorporating an improved site plan design which allows for more shoreline protection along Woodland Lake (greater buffering) and which significantly reduces impervious surface areas within the development to a level that does not contribute further to the degradation of Woodland Lake. As proposed, the level of planned impervious surface associated with the development counterbalances and nearly completely nullifies the expected beneficial result of any planned open space/natural feature set asides.

Copies of the staff reviews as well as draft Livingston County Planning Commission meeting minutes are enclosed.

Sincerely,

Robert Stanford

Robert Stanford, Principal Planner, AICP

Enclosures

c: Steve Holden, Chair, Brighton Charter Township Planning Commission
Kelly Mathews, Planner

Additional minutes and agendas are available at: https://milivcounty.gov/planning/commission/

Scott Barb
AICP, PEM
Director

Robert A. Stanford
AICP
Principal Planner

Martha Haglund
Principal Planner

Abby Carrigan
Planning Intern

Department Information

Administration Building
304 E. Grand River Avenue
Suite 206
Howell, MI 48843-2323

(517) 546-7555
Fax (517) 552-2347

Web Site
https://milivcounty.gov/planning/

Livingston County Department of Planning

December 18, 2025

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c/o Joseph Riler, Clerk
Brighton Charter Township Hall
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Enclosures

c: Steve Holden, Chair, Brighton Charter Township Planning Commission
Kelly Mathews, Planner

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LIVINGSTON COUNTY PLANNING DEPARTMENT
REZONING REQUEST - | -
STAFF REPORT

CASE NUMBER: Z-42-25

COUNTY CASE NUMBER:	**Z-42-25**	**TOWNSHIP:**	**Brighton Charter Township**
REPORT DATE:	**December 1, 2025**	**SECTION NUMBER:**	**12**
STAFF ANALYSIS BY:	**Robert Stanford**	**TOTAL ACREAGE:**	**42.8 Acres**

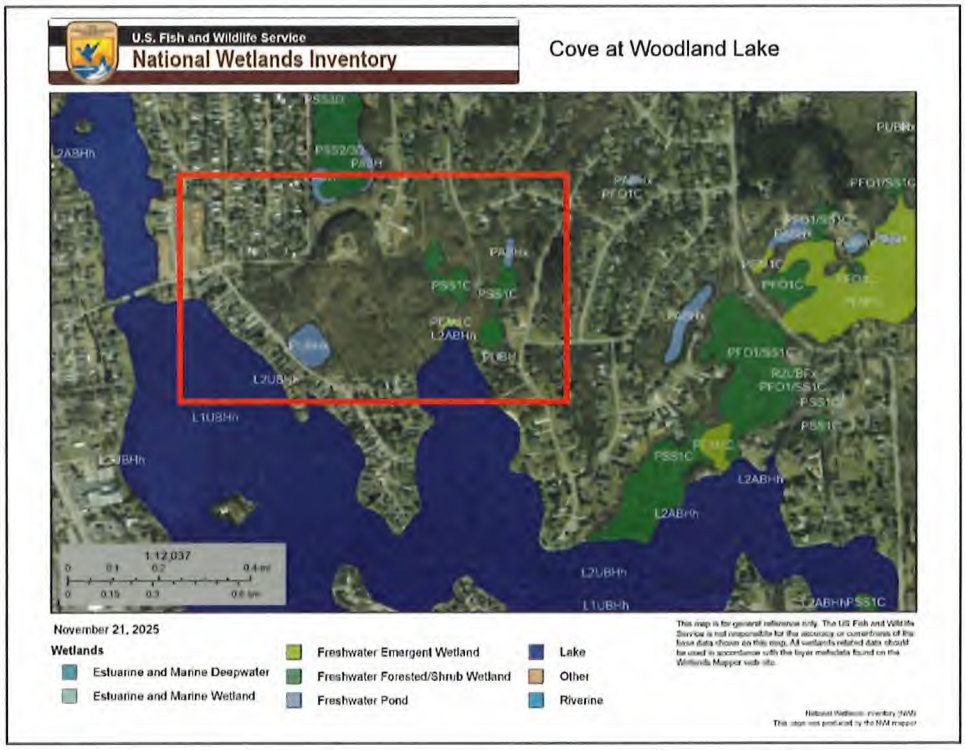
APPLICANT / OWNER:	**Mitch Harris Building Company**
LOCATION / PARCEL ID:	**12-18-300-011 and 12-18-400-027**
LAND USE:	**Vacant**

CURRENT ZONING:	**REQUESTED ZONING:**
R2 Residential Single Family	**RPUD – Residential Open Space Planned Unit Development**
PERMITTED/SPECIAL USES (Not all inclusive):	**PERMITTED**
Permitted: Single family dwellings, Home Occupations, Farms, Adult Foster Care Family Home (1-6 adults), Foster Family Home (1-4 children 24 hrs), Foster Family Group Home (5-6 Children 24 hrs.), Family Day Care Home (1-6 Children < 24 hrs.), Parks & Public Recreation Facilities, Essential Public Services, Governmental Administrative Offices, Libraries, Police and Fire Stations, Schools, Primary including Charter, Montessori.	**Permitted:** Taken from Table 12-03 (page 12-4) of the Township Zoning Ordinance: *Permitted Uses – The Planning Commission shall establish a list of permitted uses as part of the PUD agreement, based upon the following:* *Open space residential projects may be permitted with recreational uses. Residential types permitted in the pre-PUD zoning district shall be permitted with additional uses as provided for herein.* Requirements: Section 12-04 Residential Open Space PUD
Special: Adult Foster Care Small Group Home (7-12 Adults), Group Day Care Home (7-12 Children < 24 hrs.), Golf Courses, Swimming Pool Clubs & Recreation Clubs, Churches, Temples, & other Places of Worship or Public Assembly, Event Barns.	
Minimum Lot Area: 40,000 square feet (0.91 acres)	**Minimum Lot Area:** Parallel plan must be submitted under the underlying residential zoning district. Ordinance requires fifty percent (50%) open space for residential PUD. As proposed, lots sizes to be 16,000 square feet (0.37 acres)

TOWNSHIP PLANNING COMMISSION RECOMMENDATION AND PUBLIC COMMENTS:	**ESSENTIAL FACILITIES AND ACCESS:**
The Brighton Charter Township Planning Commission recommended **APPROVAL** of this rezoning at its November 10, 2025, Regular Planning Commission Meeting. From the draft PC minutes provided for the November 10th PC meeting, there were a number of public comments noted regarding this proposed rezoning.	**Water:** The site is serviced by public water **Sewer:** The site is serviced by public sewer **Ingress/Egress Access:** The latest PUD proposal (as of November 2025) is that all 40 units are proposed to use a single primary exit on Christine/Dann Drives. There is also a proposed emergency access point on Vista View Drive, for which the establishment of a legitimate traffic easement right is under legal contention at the present time (See also Page 5 under "Proposed Use Details"). This overall access arrangement is subject to approval by the township Planning Commission and Township Board and will become part of the PUD agreement.

ANALYSIS BY: Stanford	DATE: December 1, 2025	CASE NUMBER: Z-42-25	PAGE: 2

EXISTING LAND USE, ZONING AND MASTER PLAN DESIGNATION:				
		Land Use:	**Zoning (Minimum Lot Area):**	**Future Land Use / Master Plan:**
	Subject Site:	Vacant	R-2 (40,000 sq. ft.)	Low Density Residential
	**To the North:**	Single Family Residences	R-2 and R-5 (40,000 sq. ft. & 11,000 sq. ft.)	Medium Density and Low Density Residential
	To the East:	Single Family Residences	R-2 (40,000 sq. ft.)	Low Density Residential
	To the South:	Single Family Residences	R-5 (11,000 sq. ft.)	Medium Density Residential
	To the West:	Single Family Residences	R-5 (11,000 sq. ft.)	Medium Density Residential

ENVIRONMENTAL CONDITIONS:	
Soils / Topography:	The entire central-most parcel (18-300-011) consists of Hillsdale sandy loam soils, 18-25 percent slopes, with Fox-Boyer and Boyer-Oshtemo complex soils occupying the northern and western boundaries of this parcel. The eastern-most parcel (18-400-027) consists mainly of Carlisle Muck soils on the western portion of this site and Fox-Boyer complex, 18-25 percent slopes, on the eastern portions of this subject site.
Wetlands:	The National Wetland Inventory (NWI) indicates three (3) wetland areas near the cul-de-sac in the eastern and northeastern portions of the subject sites and the surrounding area of the on-site pond (~ 4.5 acres), adjacent to Woodland Shore Drive. Disturbances in this area would require MDEQ permit. Refer to map below: 
County Priority Natural Areas:	According to the Livingston County Planning Department produced map and document entitled: "Livingston County's High-Quality Natural Areas" (2021), The entire subject site of the central-most parcel (18-300-011) is a Priority Level 3 Natural Area. The boundaries of this area extend further east about mid-way into the adjoining subject parcel (18-400-027). Total acreage of this Natural Area is 32 acres. This area scores very high on the vegetative quality scale (4 points out of 4 points). Refer to map on the following page:



TOWNSHIP MASTER PLAN DESIGNATION:

The Future Land Use plan and map of Brighton Charter Township (2020) designates the site as *Low Density Residential.* The Township Master Plan further describes these areas in the following manner (p.17).

These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewers. Because public water and sewer service is not planned to be expanded to these areas in the near future, the lot sizes proposed must be adequate to accommodate onsite well and septic facilities. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land uses. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory. Public sewer services have been extended to some of the low-density residential areas that surround School and Lyons Lakes, while the remaining lakes within this designation are currently served by on-site facilities. The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size.

The two proposed sites also lie within the Township's designated Natural Features Protected Area (Map page 55) in the Township Master Plan. Within these areas, the Master Plan calls for the following recommendations to ensure the preservation of existing vegetation and other valuable natural features. Any newly planned development located within a township Natural Features Protected Area should be required to address compliance with these recommendations to ensure environmental viability is continually maintained in these vital areas. The elements listed below that are highlighted are of critical importance with regard to this specific rezoning request, but all are important.

Clustered Open Space Development
Utilizing clustered development is one of the most effective means of preserving existing vegetation and other valuable natural features. Specific standards were adopted to encourage preservation of open space, vegetative cover and natural topography during site plan review. The Township should strongly encourage developers to use this mechanism for both residential and commercial developments.

Low Impact Development
Low Impact Development (LID) is an approach to development aimed at conserving natural resources and protecting the environment by strategically managing rainfall close to its source, minimizing impervious coverage, using native plant species, and conserving and restoring natural areas during site development or redevelopment. Design techniques are focused on the use of applications that are modeled after nature, rather than building costly infrastructure and water quality restoration systems.

Storm Water Management
Increased development activity places additional burden on existing natural drainage systems. The overtaxing of drainage systems leads to localized flooding, environmental damage and costly storm drainage improvements to be borne by taxpayers. Storm water drainage can be managed by installation and improvements to storm water drainage systems and by requiring on-site detention of storm water, which Brighton Township currently does. Another way to manage storm water is through preservation of natural

drainage ways and providing onsite storm water detention with controlled discharge. Through these approaches, the impact of development on drainage systems can be minimized. Acknowledging that some impacts must be anticipated, a comprehensive approach to storm water management using Low Impact Design recommendations is encouraged. These types of measures will be much more effective in pre-treatment of storm water before it enters the ground or surface waters. Storm water protection can be achieved through many of the other recommendations in this chapter. Some additional policies not discussed include:

• Private road standards should allow shorter streets to reduce the amount of pervious coverage. Narrower roads may be considered if allowed by the Brighton Area Fire Authority.

• Minimize use of long cul-de-sacs in favor of connected street patterns.
• Encourage clustering of homes to minimize total impervious area, reduce total construction costs, conserve natural areas, provide community recreational space, and promote watershed protection.
• Promote more flexible design standards for residential subdivision sidewalks. Where practical, consider locating sidewalks on one side of the street and providing common walkways linking pedestrian areas.
• Minimize clearing and grading of forests and native vegetation, except where necessary to accommodate development.
• Conserve vegetation by clustering tree areas, promoting the use of native plants, and planting additional vegetation.

Watershed Planning
Watersheds and the sub-basins within them can be identified using GIS mapping technology that considers topography to locate changes in drainage direction and establish the watershed boundary. Studies have shown that over-development, typically defined as over 10% impervious coverage, within a given sub-basin or watershed can contribute to overall water quality degradation. By requiring minimum vegetated buffers, maintaining riparian corridors, and limiting impervious surface coverage can all help mitigate the impacts of development.

Protection of Lakes
Protecting the integrity of the local lakes is vital to maintaining the current quality of life in Brighton Township. Most lakes are surrounded by residential development, which means that impacts to those lakes will also affect the residents that live there. These impacts can be both ecological and recreational, as overpopulation of the lakes can contribute to water quality degradation. Various lake associations are active in preservation efforts, including participation in an on-going water quality monitoring program. The testing program involves volunteers from various homeowner associations to collect water samples and submit them to a biologist who prepares detailed analysis and reports.

STAFF COMMENT: Ensuring the development is done in a responsible way to assure that the environmental integrity is maintained and water quality is not impacted seems the better choice rather than relying on "enforcement and monitoring".

Woodland Protection
The preservation of woodlands as part of any development is vital to maintaining the natural community character. Brighton Township uses the environmental impact assessment and natural features overlay district regulations to identify woodlands as part of the site plan review process, which essentially protects land within the non-residential zoning districts. Consideration of bonuses or other incentives should be made to encourage woodland preservation. Site inspections and other methods of enforcement from the Township are also necessary to ensure compliance with regulations and appropriate implementation. Significant woodlands need to continue to be protected including:

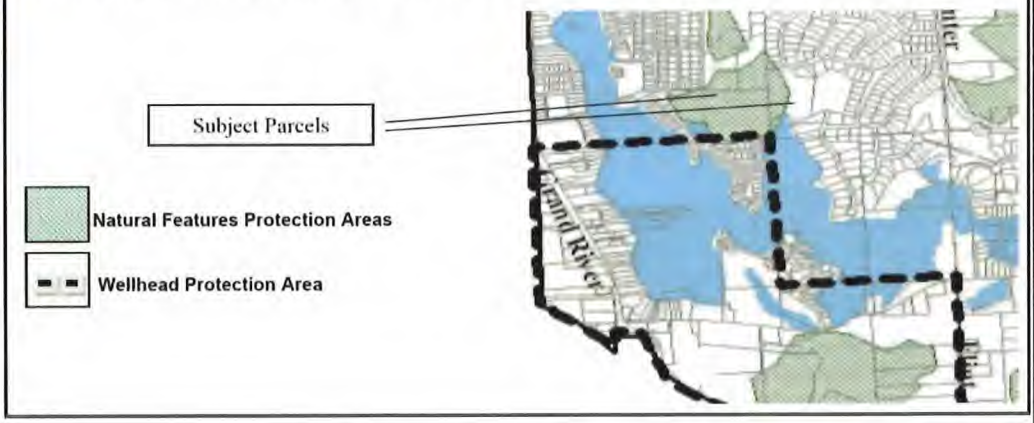
• Forested areas that create significant woodlands.

• Linkage strips where rows of trees create linear corridors and buffers between uses.

• Trees along roads, which help preserve the community character.

• Significant individual landmark trees.

BRIGHTON CHARTER TOWNSHIP NATURAL FEATURES PROTECTION AREAS MAP



COUNTY COMPREHENSIVE PLAN:

The 2026 Livingston County Master Plan is currently being drafted. While the document will not direct parcel specific land use decisions, it will define policies that Townships should consider when amending their own future land use maps and plans. An overwhelming theme as the 2026 plan is being drafted was the concern over preservation of open space, natural areas and rural character, and how to maintain that character for generations to come. We encourage local governments to make wise land use decisions that will mitigate potential land use conflicts while promoting good governance and land management.

COUNTY PLANNING STAFF COMMENTS:

COUNTY PLANNING REVIEW

Rezoning Background Information

This application is for a request to rezone two contiguous parcels totaling 42.8 acres in the R-2 zoning designation, east of Woodland Shore, north of Carols Drive, south of Christine and Dann, and west of Hunter on Woodland Lake The application for rezoning from R-2 (Residential Single Family) to Residential PUD (Planned Unit Development) submitted by Mitch Harris Building Company. The subject site is located east of Woodland Shore, north of Carols Drive, south of Christine and Dann, and west of Hunter on Woodland Lake.

According to the township rezoning application materials, the applicant is proposing a residential planned unit development (PUD). The applicant has provided a parallel plan under the underlying R-2 zoning district and has provided the proposed PUD development plan. Essentially, the PUD allows both the Township and developer flexibility in zoning to allow for innovative design that would not be permitted under conventional zoning requirements which is what this developer is proposing through this PUD proposal.

The applicant plans on developing thirty-two (32) single family lots and eight (8) detached condominiums. Eight (8) waterfront lots are proposed on the single-family side and two (2) detached condominium units on the lake. After the PUD rezoning, the applicant will follow the procedures for condominium developments in accordance with *Article 20 Condominiums* chapter of the township zoning ordinance.

According to township maps, the property is located in an area designated as a **natural features protection area** therefore, the project needs to be reviewed under *Article 10 Natural Features Overlay* chapter of the township zoning ordinance. According to a township planning review of this rezoning, the developer has prepared a general environmental assessment of the property which is required in *Section 10-04 Environmental Impact Assessment* of the zoning ordinance. The township planner in their review has stated that the conceptual site plan is approved as part of the rezoning process and that the developer would be bound to that conceptual plan.

Proposed Use Details (Excerpts taken from Township Planner Review letter – November 10, 2025)

The applicant has indicated that the proposed use for the approximately 42.8 acres to be rezoned from R-2 to PUD would be for thirty-two (32) lots of a minimum size of 16,000 sq. ft. Additionally, eight (8) detached condominiums are proposed. A total of forty (40) homes are proposed. One private road is proposed for access to the site which connects into N. Christine and Dann Drives, which are public roads. Per *Section 16-08 Bikepaths and Sidewalks* of the township zoning ordinance, a five (5) ft. concrete sidewalk is required along one side of the internal private road which is being proposed.

The applicant has proposed a twenty-eight (28) ft. wide road within a fifty (50) ft. private road R.O.W. Additionally, there is approximately twenty (20) ft. wide ingress/egress easement shown off of Bayfront Drive extending into Vista View Drive for emergency access.

STAFF COMMENT: It is Staff's understanding that as of yet, the applicant has not shown proof of ROW permission for this access point, and the legality of this access point is still being litigated.

The Planning Commission and Township Board will have to discuss this proposal for a private road with a smaller R.O.W. and road width. If this is acceptable, that will become part of the planned unit development agreement. The proposal is for eight (8) lakefront lots and two (2) detached condominium lakefront units.

The applicant has depicted a parallel plan for the R-2 zoning district depicting thirty-one (31) lots; it depicts natural buffer areas of less than the one hundred (100) ft. requirement per *Article 10: Natural Features Overlay District* of the township zoning ordinance; however, the Planning Commission can approve a smaller natural buffer area.

STAFF COMMENT: Staff questions why the Planning Commission would allow this reduction. It seems extreme and not aligned with assuring environmental integrity and maintaining water quality (per earlier reference to the township Natural Features Protected Area criteria – See Pages 3-4).

The lot sizes required in the R-2 zoning district are approximately 40,000 sq. ft. (.91 acre) lots. The lot widths required in the R-2 district are 160 ft. The lot coverage in the R-2 district is fifteen (15%) percent. The setbacks required in the R-2 zoning district are thirty-five (35) ft. front yard, twelve (12) ft. side yard, thirty-five (35) ft. rear yard, and twenty-five (25) ft. minimum with the average of 300 ft. along the lake required for the natural feature setback (Woodland Lake). The proposal is for thirty-two (32) lots of a minimum size of 16,000 sq. ft. and eight (8) detached condominiums. The developer has depicted the open space calculations regarding the open space. As depicted on the conceptual plan, most of the site will remain undisturbed and will be protected through a conservation easement.

Most of the property is designated as natural features on the township *Natural Features Protection Area* map. As part of the site plan review, the applicant has to comply with the requirements outlined in Article 10 of the Zoning Ordinance which includes an environmental impact assessment which has been conducted. Additionally, many wetlands are located on the property which is assumed to be under EGLE's jurisdiction. The applicant has provided a general environmental assessment.

STAFF COMMENT: The Township's Natural Features Overlay District provides requirements for mitigation of disturbance of natural features protection areas. To County Planning Staff's knowledge, no mitigation efforts have been indicated by the applicant. The project would greatly disturb state regulated wetlands onsite. Any project that impacts State regulated wetlands is required to apply for a wetlands permit from EGLE (Michigan Department of Environment, Great Lakes and Energy).

The Township Board should require the applicant to secure this permit prior to any recommendation for approval. In addition, the extreme slopes found on the subject site pose significant concerns regarding the likelihood of runoff erosion issues to Woodland Lake. The applicant should provide assurances to the Township that such erosion will be prevented, with something well beyond standard erosion control methods. The project will also impact a unique geological area that is currently woodland. The area may have endangered or threatened species that will need to be protected.

In addition to being located in the Townships Natural Features Overlay District, and being a Priority Level 3 Natural Area as designated by the Livingston County Natural Features Assessment (2021), the property is also located in one of the Huron River Watershed Council's "Bioreserve Areas" (specifically #1396). The Council's Bioreserve project has identified several hundred unique natural areas in and around Livingston and Washtenaw Counties that aid in the natural filtration of rainwater as well as provided natural habitat for a wide variety of plant and animal species and unique places for people to relax and enjoy nature.

A ten percent (10%) density bonus may be allowed for developing under a PUD; an additional ten percent (10%) may be allowed for connecting into the sewer system; and another ten percent (10%) may be allowed for connecting into the water system. Assuming a thirty percent (30%) increase over the thirty-one (31) units allowable under the R-2 zoning would be forty (40) units.

TOWNSHIP ZONING ORDINANCE REVIEW CONSIDERATIONS

Rezoning Request (Township Planner comments taken from "The Cove at Woodland Lake PUD Rezoning "review letter – November 10, 2025)

The rezoning request was reviewed based on the following six (6) review considerations listed in *Article 23: Administration and Enforcement, Section 23-10: Amendments of the Zoning Ordinance* and the Charter Township of Brighton Master Plan.

1. Consistency with the goals, policies, and future land use map of the Brighton Township Master Plan including any sub area or corridor studies. If conditions have changed since the last Master Plan was adopted, the consistency with recent development trends in the area.

Township Planner Comment: This project is located in the low-density residential area of the future land use map which is typically the R-1 and R-2 zoning districts. These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewer. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land use. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory. The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size.

COUNTY PLANNING STAFF COMMENTS:
As proposed, the PUD option incorporates a higher level of impervious surface area with the development boundaries in comparison with the current R-2 zoning arrangement, as is proposed by the required PUD parallel plan. R-2 zoning equates better with the Master Plan designation of low-density residential development than the PUD as proposed.

2. Compatibility of the site's physical, geological, hydrological and other environmental features with the potential uses permitted in the proposed zoning district.

Township Planner Comment: Evidence has not been provided that the site could not develop under the current R-2 zoning designation. However, the developer has a proposal for denser development but keeping many of the natural features of the site preserved.

Since the applicant is proposing the project as a PUD, the Township will have much more control of the entire site and the preservation of natural features on the site. The conceptual plan depicts forty (40) units. Since this is proposed to be a PUD rezoning, the proposed conceptual site plan and the preservation of the natural features would be what the Township would attain as part of the rezoning since the site plan will become the contract for the site, along with the planned unit development agreement. At this time, we only have a conceptual plan but the entire site plan and all details of the site would be reviewed as part of the subsequent steps in the site plan process.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees with the Township Planner response that from the information supplied for this case, no evidence was provided to indicate that the site could not develop under the current R-2 zoning designation.

While the proposed PUD plan clusters the site development pattern and individual lot sizes (from 40,000 sq. ft. to 16,000 sq. ft.), it consequentially increases the percent allowable building area per site (from 15%-R-2 to 40%-PUD). This increases the overall percentage of impervious surface area which ultimately reaches Woodland Lake and leads to further degradation of the lake's water quality). The major environmental concern with any future development of this site must be the long-term viability and water quality of Woodland Lake.

3. Compatibility of all the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential impact on property values.

Township Planner Comment: The types of uses permitted within the single-family residential districts are mainly the same; the difference is in density. The applicant has depicted how many units could be developed in the R-2 designation. The soils in the area are part of the Fox-Boyer-Oshtemo Association which includes steep or hilly, well drained, moderately coarse to coarse textured soils on moraines.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees with the Township Planner response that the types of uses permitted within the single-family residential districts are mainly the same. Environmental compatibility, especially associated with the water quality of Woodland Lake is of utmost importance. County Planning Staff has prepared a summarized traffic impact analysis which indicates an increase of ~350 new vehicle trips per day associated with the purposed development.

4. The capacity of Township infrastructure, utilities, and services is sufficient to accommodate the uses permitted in the requested district without compromising the health, safety and welfare of the Township.

Township Planner Comment: Township sewer and public water are proposed. The capacity of the Township's sewer can accommodate the uses in both the current R-2 (Residential Single Family) district and the proposed PUD. The water capacity has been confirmed by the City of Brighton, and the water service agreement area will be revised.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees with the Township Planner's response.

5. The apparent demand for the types of uses permitted in the requested zoning district in the Township in relation to the amount of land in the Township currently zoned to accommodate the demand.

Township Planner Comment: All of the properties to the north, south, east, and west of the site are developed for single family residential uses of varying sizes. This property is located in a Natural Features Protection Area as designated on the Charter Township of Brighton's Map. As part of the site plan review, the applicant will have to comply with the requirements outlined in *Article 10* of the Zoning Ordinance including an environmental impact assessment. The applicant has provided a general environmental impact assessment. The applicant has proposed lot sizes that he feels are consistent with the neighboring properties. Fairly large buffer areas will be provided along the perimeter of the site which will help shield the views from neighboring properties. The applicant has submitted a traffic impact study (TIS) depicting the traffic from the proposed development. The Township Engineer has reviewed and commented on the TIS.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff understands that there is a desperate need in the county for affordable residential housing. Nothing provided by the township for this case indicates that the types of residential housing planned for this proposed development will address this need. It appears that the housing type planned for this development would be characteristic with higher-cost housing examples.

6. If a rezoning is reasonable given the above criteria, a determination shall be made that the requested rezoning is more appropriate than another zoning district.

Township Planner Comment: The proposed PUD rezoning offers a benefit to the Township in terms of open space and protection of natural resources for the Township because the site plan becomes the contract for the site.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees that clustering the development on site does allow for there to be the opportunity to set aside a certain percentage of the wooded natural areas (~ 20 acre) of the site to the benefit of both the township and its residents However, the amount of impervious surface area created within the PUD development counterbalances this open space benefit, as it contributes to the further degradation of Woodland Lake, which is by far the most significant and important natural feature associated with this development and the immediately residential neighborhood on the whole. There is very little natural area protection for the lands along the lakeshore, those that act as a natural filtration system, as is occurring presently without any development.

PUD ELIGIBILITY

The Zoning Ordinance requires that the applicant must demonstrate that the site qualifies for a PUD. Based on *Section 12-02 Eligibility Criteria* section of the township zoning ordinance.

To be eligible for PUD approval, the applicant must demonstrate that each of the following five (5) criteria will be met:

(a) Demonstrated Benefit. The PUD shall provide one (1) or more of the following benefits not possible under the requirements of another zoning district, as determined by the Planning Commission:

(1) Preservation of significant natural or historic features.
(2) A complementary mixture of uses or a variety of housing types.
(3) Common open space for passive or active recreational use.
(4) Mitigation to offset community impacts.
(5) Redevelopment of a nonconforming site where creative design can address unique site constraints.

Township Planner Comments: The PUD ordinance requires fifty (50%) percent open space for residential PUD's; a calculation has been provided which is 58.9%. The proposed open space is mainly consisting of preserving the large wooded areas. A five (5) ft. concrete sidewalk is being proposed on one side of the private roadway, Bay Front Drive, as required by the zoning ordinance. The roadway is proposed as fifty (50) ft. R.O.W. instead of the required sixty-six (66) ft. R.O.W. with twenty-eight (28) ft. roadways.

The site is currently very wooded, is designated as a natural features area, and has steep and varying slopes. The developer plans to preserve many of the trees in the development; especially on the northerly side of the property. A buffer area (wooded area) will also be preserved on the southerly side. Additionally, there are quite a few wetland areas on the site which are regulated by EGLE. The proposal is to utilize one of the natural wet areas (pond) as a retention basin and create two (2) retention basins/forebays for the single-family lot side and an expanded wetlands and forebay area for the detached condominium side. *Article 10, Natural Features Overlay*, requires natural feature buffer areas of one hundred (100) ft. which can be reduced to twenty-five (25) ft. if allowed by the Planning Commission. A minimum fifty (50) ft. setback from the wetlands is proposed and 100 ft. from the lake on the single-family side and fifty (50) ft. on the detached condominium side.

COUNTY PLANNING STAFF COMMENTS:
While there has been planned a large open space set aside for those areas that lie in the higher elevation areas, north of the planned PUD residential portion of the development, very little preservation has been planned for the natural lands that lie directly adjacent to Woodland Lake, save for a small portion of an onsite wetland that has been set aside for storm water retention/detention. Of most concern are the lots that front directly on and have access to Woodland Lake (8 lots). There have been no open space dedications planned in these critical areas, which allow for the natural filtration of the entire subject property which empties directly into the lake. There must be more thought and planning directed to those areas that have the most critical and important function for the long-term viability and quality of the waters of Woodland Lake.

As it relates to the listing of the five (5) demonstrated benefits above, County Planning Staff responds with the following:

1) Preservation of significant natural or historic features.
The development proposes to preserve at least fifty (50) percent of the overall combined lot area of the two subject sites as open space. As **a related question, Staff would again inquire as to what the demonstrated benefit would be by allowing a smaller percentage natural features buffer and why the Planning Commission would allow this reduction. It seems extreme and not aligned with assuring environmental integrity and maintaining water quality** not only for this potential development site, but for the entire Woodland Lake residential community.

(2) A complementary mixture of uses or a variety of housing types.
This project proposes two distinct housing types within the development package, one being a thirty-two (32) unit single family residential neighborhood and the other an eight (8) unit detached condominium neighborhood. Eight (8) waterfront lots are proposed on the single-family side and two (2) detached condominium units on the lake. This demonstrated benefit appears to have been at least planned for by the applicant.

(3) Common open space for passive or active recreational use.
The development proposes to preserve at least fifty (50) percent of the overall combined lot area of the two subject sites as open space. However, other than preservation of existing woodlands, it is not readily apparent from the information provided to County Planning Staff for this review the type of activities proposed for these preserved open space areas. The ordinance requires both passive and active recreational areas to be planned as part of a PUD project. As such, it does not appear that this provision has been adequately met.

(4) Mitigation to offset community impacts.
It is not clear from the information provided for this review that any onsite mitigation activities are planned. As such, it appears that is provision has not been adequately met.

(5) Redevelopment of a nonconforming site where creative design can address unique site constraints.
From the information provided for this review it appears this provision may not be directly applicable for this particular PUD project.

STAFF CONCLUSION: From the information provided for this review, it does not appear that there is a clear and concise demonstrated benefit as required by the provisions above. Staff would encourage the applicant to make the necessary changes to the proposed project so that a more robust-level of compliance with this provision can be confirmed.

(b) Availability and Capacity of Public Services. The proposed type and density of use shall not result in an unreasonable increase in the use of public services, public facilities, and utility capacities.

Township Planner Comments: The homes will be served by public sewer and a planned extension of public water.

COUNTY PLANNING STAFF COMMENTS:

The Township Planner review states that Township sewer and water are proposed. The review goes on to state that the Township's sewer capacity can accommodate the uses in both the current R-2 zoned district and the proposed PUD.

(c) Compatibility with the Master Plan. The proposed development shall not have an adverse impact on future development as proposed in the Master Plan of the Township.

Township Planner Comments: This project is located in the low-density residential area of the master plan which is typically the R-1 and R-2 zoning districts. These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewer. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land uses. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory.

The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size. The proposal is for thirty-two (32) lots of a minimum size of 16,000 sq. ft. The proposed setbacks are twenty-five (25) ft. front yard, thirty (30) ft. rear yard, and ten (10) ft. side yards. Setbacks from all wetlands must be a minimum of twenty-five (25) ft.

The other part of the development is eight (8) detached condominiums. The lot sizes required in the R-2 zoning district are approximately 40,000 sq. ft. (.91 acre). The lot widths required in the R-2 district are 160 ft. The lot coverage in the R-2 district is fifteen (15%) percent. The setbacks required in the R-2 zoning district are thirty-five (35) ft. front yard, twelve (12) ft. side yard, thirty-five (35) ft. rear yard, and twenty-five (25) ft. minimum with the average of 300 ft. along the lake required for the natural feature setback (Woodland Lake). The parallel plan for the R-2 zoning district meets all Zoning Ordinance requirements.

COUNTY PLANNING STAFF COMMENTS:
As has been pointed out throughout this review, County Planning Staff agrees that clustering the development on site does allow for there to be the opportunity to set aside a certain percentage of the wooded natural areas (~ 20 acre) of the site to the benefit of both the township and its residents However, the amount of impervious surface area created within the PUD development counterbalances this open space benefit, as it contributes to the further degradation of Woodland Lake, which is by far the most significant and important natural feature associated with this development and the immediately residential neighborhood on the whole.

Therefore, R-2 is more compatible with the Master Plan, due to the larger lot sizes attributable to the Low-Density residential development patterned desired at this location. However, considering this further, even developing under the R-2 zoning for any type of development at this location should also include incorporating serious natural features protection measure, not only for the woodland present, but also for the main natural feature element present, which is Woodland Lake. Generous setbacks from the lake should be of utmost importance for the reasons already stated in this review.

(d) Compatibility with the Planned Unit Development Intent. The proposed development shall be consistent with the intent and spirit of this Ordinance.

Township Planner Comments: The proposed plan allows for innovation in land use planning, coordinated development, protects significant natural features, and includes a sidewalk along one side of the roadways as required by the zoning ordinance. Other amenities could be considered to provide additional benefits for the project.

COUNTY PLANNING STAFF COMMENTS:

According to the Township Zoning Ordinance, **Article 12 Planned Unit Development Districts (PUDs), Section 12-01** provides the intent of the Planned Unit Development (PUD):

(a) The intent of this Article is to permit the coordinated development on larger sites, protect significant natural features present which the property owner and 10 Township wish to preserve, to provide the opportunity to mix compatible uses or residential types, or allow clustering of residential units to preserve common open space and natural features.

Subitem (b) states that the PUD standards are provided to:

(1) Permit flexibility in the regulation of land development allowing for higher quality of design through innovation in land use, variety in design, layout, and type of structures constructed.
(2) Ensure compatibility of design and function between neighboring properties.
(3) Protect and preserve natural resources, natural features, open space, and historical or significant architectural features.
(4) Promote efficient provision of public services, utilities and transportation facilities.
(5) Provide convenient vehicular access throughout the development and minimizing adverse traffic impacts.
(6) Provide complete non-motorized circulation to, from, and within developments.
(7) Provide adequate housing and employment.
(8) Encourage development of convenient recreational facilities as an integral part of residential developments.
(9) Ensure various land uses and building bulk will relate to each other and to adjoining existing and planned uses in such a way that they will be compatible, with no material adverse impact of one use on another.
(10) Encourage development that is consistent with the goals stated within the Township's Master Plan.
(11) Eliminate or reduce the degree of nonconforming uses or structures.

Subitem (c) within this Section concludes the PUD "Intent" section with the following:

(c) These PUD regulations are not intended to be used for circumventing the more specific standards in the Zoning Ordinance, or the planning upon which the standards are based. Rather, these provisions are intended to result in development which is substantially consistent with the zoning standards as generally applied to the proposed uses, but with specific modifications to the general standards that, in the judgment of the Township, assure a superior quality of development. If this improved quality is not clearly apparent upon Township review, a site shall not qualify for the modifications allowable under this Article.

Given the information provided for this case, it appears that this proposed development does not satisfactorily meet the overall intent of the PUD provisions of the Township Zoning Ordinance nor most of the eleven (11) standards established for the PUD designation above. Many of the provisions are not addressed in the proposal.

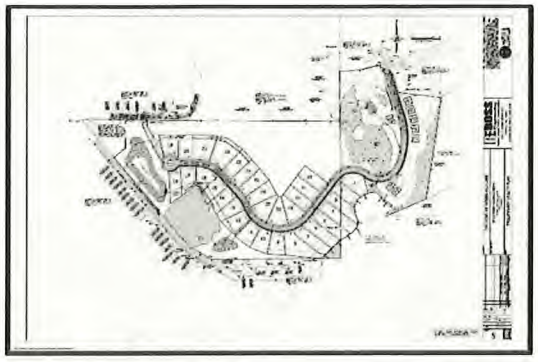
For example, as to subitem (b)(5) in the PUD listing above, Staff conducted a quick review of trip generation standards for a similar development utilizing standards found in the manual *Trip Generation - Institute of Transportation Engineers (ITE).* The *ITE* manual is one of five transportation standards development organizations designated by the U.S. Department of Transportation (U.S. DOT). According to the ITE manual:

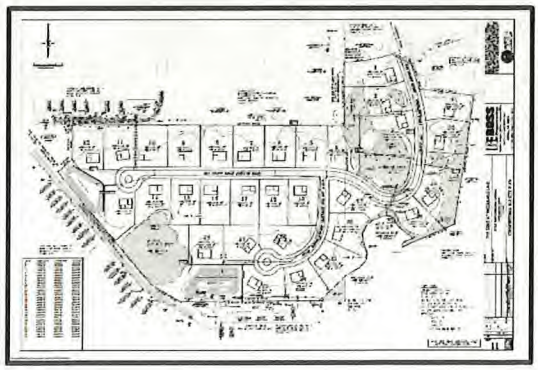
- Average vehicle trips generated by dwelling unit (single-family detached residential – weekday trips) is 9.57 trips.
- Average vehicle trips generated by dwelling unit (single-family detached condominium – weekday trips) is 5.86 trips.

Using these figures as basis and calculating the total number of potential additional trips associated with this proposed development are as follows:

- 32 detached single-family lots * 9.44 trips per dwelling unit = 302 additional new trips within the neighborhood
- 8 detached condominium/townhouse lots * 5.86 trips per dwelling unit = 46 additional new trips within the neighborhood

TOTAL NEW TRIPS = 348 new trips associated with proposed project
Source: ITE Trip Generation, 10th Edition (2020)





(e) Development Impact. The proposed development shall not impede the continued use or development of surrounding properties for uses that are permitted in this Ordinance.

Township Planner Comments: The site is surrounded by single-family homes.

COUNTY PLANNING STAFF COMMENTS:

The PUD open-space style development typically minimizes the normal detrimental developmental impacts to surrounding properties that often result from traditional "cookie-cutter" style development. However, there is a looming question of the impact and/or impediment the development will have resulting from increased percent of lot coverage in the proposed PUD (going from Existing R2 of 15% maximum lot coverage to a proposed PUD maximum lot coverage of 40% - even though lot sizes have been reduced) regarding adequate stormwater management, vastly increased runoff potential and adequate preservation.

Calculation of Maximum Impervious Building Footprint

Proposed PUD — 16,000 sq ft lots @ 40% max building area

$$16{,}000 \times 0.40 = 6{,}400 \text{ sq ft}$$

Existing R-2 — 40,000 sq ft lots @ 15% max building area

$$40{,}000 \times 0.15 = 6{,}000 \text{ sq ft}$$

400 square feet

Even though the larger lot for R-2 is 2.5× bigger, its lower maximum building area percentage allows 400 sq ft less impervious footprint.

Michigan has experienced intense residential and commercial development pressure in the last 20 years and Brighton Township is no different. The loss of vegetative cover, increased impervious surface ratio area and commensurate increased recreatuional use remain a threat to many of Michigan's lakes and streams. EGLE, EPA, MSU, USGS, Michigan Lakes and Streams all agree that overdevelopment of inland lakes are our biggest threat to water quality/clarity. Impervious surfaces, such as roads, roofing,
sidewalks, patios create rapid runoff of nutrients and contaminants, instead of being absorbed into the ground and filtered into the plants.

	Percent Impervious Surface	Percent Going to Runoff
Current	10%	10%
	15%	15%
R-2 Zoning	20%	20%
	35%	30%
Proposed PUD	50%	45%
	75%	55%

The PUD as proposed, versus R-2 current zoning, creates 50% impervious surfaces over 40 acres, instead of the 15% impervious required by R-2 designation. Runoff must be contained in Basins designed for 100-year rain event capacity

The 40 acres being discussed, has as much as 80 feet elevation above Woodland Lake.

Each inch of rain adds 27,154 gallons of water to an acre.

Runoff from this 40 ~acre site will be increased. Instead of 15% runoff with 15% impervious surface, new runoff will be at 45% for 50% impervious surface. The Engineered basins would have to accommodate

27,154 * 45% * 3.5 inches/hour = 42,768 gallons/hr. versus 27,154 * 15% * 3.5 inches/hour = 14,256 gallons/hr. = **3 times the runoff**

Sources: Center for Watershed Protection, supported by over 200 studies, Woodland Lake Shore Homeowners Association (WLSAH)

Woodland Lake has been overbuilt, much the same as many lakes in Michigan and across the U.S.A that are having similar struggles Michigan Lake and stream, USGS, DNR, EPA, MSU and other sources define high levels of impervious surfaces, instead of vegetation and wetlands, are the key issue in the reduced inland lake water quality.



At the time of development, the Brighton Township Planning Commission did a nice job of ensuring the Bluffs and Trappers Cove Wetlands were protected 25 years ago. Built between 959 to 970 feet above sea level. Bluffs built up high with plenty of wetland and vegetation (buffer zone) to take care of runoff from the neighborhood. Staff would encourage the township and the applicant work to create a better development site plan layout which significantly reduces the amount of impervious surface runoff into Woodland Lake.

Wetlands and current woodlands, foliage and vegetation absorb nutrients and contamination from rainwater. As proposed, the steep slows (20-30 feet across the entire build line will require extensive work to protect Woodland Lake during construction and through full occupancy. The current proposed R-2 parallel plan (required as part of the PUD application), is also largely unacceptable due to the lake's current environmental situation. It does not offer an acceptable amount of environmental protection for Woodland Lake. There is a need for increased buffering. Any proposed site plan at this location will need to define mitigation for the loss of vegetation being replaced by home, roads, and parking lots. Vegetative buffer zones greatly aid the proper function of man-made retention and detention ponds.

The bottom line is, the only remaining large area of wetlands and vegetation left around Woodland Lake to take up nutrients is where the new PUD development is planned.

(f) Unified Control of Property
Township Planner Comments: The site must be developed as one project/owner.

COUNTY PLANNING STAFF COMMENTS:

At the time of this review, Staff did not possess enough information to confirm compliance with this provision.

NATURAL FEATURES OVERLAY DISTRICT COMPLIANCE

As both of the subject properties are nearly entirely located within a township Natural Features Overlay District, the applicant must comply with the Township Natural Features Overlay District Ordinance, Article 10.

ARTICLE 10 NATURAL FEATURES OVERLAY DISTRICT (NFOD)

Sec. 10-01 Description and Purpose

The purpose of this Article is to ensure that property is developed in a manner consistent with its zoning designation, and the proposed physical elements are designed and arranged to protect the priority resource protection areas both on the site and in the vicinity of the site as identified by Brighton Township and Livingston County. The Overlay District establishes procedures to enable the applicant and Planning Commission to achieve the mutually compatible objectives of reasonable use of land and protection of vital natural resources. It is the intent of this Article to allow for development in a creative fashion that protects vital natural features of a site while preserving the property owner's right for reasonable use of their land. The use of a PUD option to achieve this purpose is encouraged.

In summary, to be compliant with the provisions of the NFOD, an applicant must, at a minimum, undertake field investigations and subsequently map the provide the following:

- Delineate wetlands (wetland delineation) and streams (if any).
- Tree inventory (specimen/mature trees).
- Topography, soils, floodplain and drainage boundaries.
- Identify habitat features (rare species, contiguous woodlands, significant wildlife corridors) as required or discovered.

The Township may require certified wetland delineations and/or a qualified arborist report.

Compliance with the NFOD also requires the preparation and submission of an Environmental Impact Assessment (EIA). The Article describes what is required:

1. **Preparation of an Environmental Impact Assessment (EIA).** The EIA should include:
    - Project description and alternatives (including a no-build/less-impact alternative).
    - Existing natural features inventory & maps (wetlands, streams, woodlands, steep slopes, habitat).
    - Quantified impacts (acres of wetland/woodland to be disturbed, trees removed by caliper, changes to hydrology).
    - Measures to avoid and minimize impacts (layout choices, reduced footprints, clustering, low-impact drive alignment).
    - Mitigation strategy for unavoidable impacts (on-site preservation, restoration, off-site mitigation, plantings, sequencing).
    - Stormwater and erosion-control measures and how they protect remaining features.

Long-term management plan (maintenance, monitoring, easements, legal protections).

STAFF COMMENT: The notes supplied by the township for this case indicate that the applicant has provided a "GENERAL" EIA:" Staff questions whether this fulfills the requirement or is another more formal assessment planned and if so, when?

FINAL COUNTY PLANNING STAFF COMMENTS:

As part of the review process for this case, County Planning Staff met with leadership members of the Woodland Lake Shores Homeowners Association at their request. A number of questions and concerns were raised. The main focus of the majority of questions centered around the effect that this development will potentially have on the long-term viability of Woodland Lake and the quality of its waters.

Staff has supplied a few of the questions that were raised to give the County Planning Commissioners a sense of the concerns posed by the residents who presently live in proximity to the planned PUD, and who have spent countless hours and large sums of money conducting water quality tests on Woodland Lake for several decades.

- There is an overall elevation drop of 70 feet from highest elevation within the parcel to the lake! Coupled with reported slopes as high as 38 % and these combine to make this parcel extremely challenging from a grading and water management standpoint. *(See page 7 of the November 10 Brighton Township PC packet (BTPC), Pond on WSD at 934; wetlands at 955 and 938, woodland lake at 933 ft; Dann/Christine at 966, highest point of elevation 1002. See page 29 of Brighton Township PC packet for 38% slope reference).*

- The PUD has the potential for the addition of another 40 watercraft to Woodland Lake that is already at 420% of recommended boat density. *(See page 9 of the November 10 BTPC packet, assumes 10 lakefront parcels and that each elect to own 2 boats and 2 PWC's.)*

- While the report indicates on page 29 *of the November 10 BTPC packet* that "...there is no evidence of unusually high counts of animals or unusual or rare species", there are routinely bald eagle sightings in the PUD area and surrounding natural habitat.

- Page 140 of the *November 10 BTPC packet* references Article 10, Natural Features Overlay, which "requires natural feature buffer areas of one hundred (100) ft. which can be reduced to twenty-five (25) ft. if allowed by the Planning Commission" While they may be technically allowed to reduce that to as little as 25 feet (and they are requesting changes down to 50 feet) we believe that deviating from the 100 foot buffer is not an environmentally-conscience decision given the valuable role natural features play in minimizing environmental and water quality impacts.

- Page 147-149 of the *November 10 BTPC* packet offers an engineering review by Geric Rose representing FLEIS & VANDENBRINK. Within those pages:

  1. Under item 2 ,while they describe the "proposed storm water management", they simply reiterate what it is – they do not comment on its "acceptability or suitability." One might have assumed that they would apply their engineering expertise to formulate an opinion on it – even though it is preliminary? What neutral 3rd party ensures the safety factors for long term retention, forebay, pretreatment, detention and sedimentation systems? (Rain levels are increasing) Who manages sedimentation cleanout for forebays and maintenance of the wet retention ponds, etc.? Are there fines for overflow occurrences back to the developer?

  2. Item 6 seems to foreshadow the likely flooding of Woodland Shore Drive and surrounding properties yet there is no proposed "remedy" for that. Bottom of retention basin is at lake level, limiting the ground infiltration. How is it ensured that 1.3 million gallons per day of runoff to retention pond is protected from overflow? (Boss Calculations, 100-year rain, 24 hours).

COUNTY PLANNING STAFF RECOMMENDATION:

Disapproval/ Denial

As proposed, this rezoning to PUD does not enhance the quality of development to a satisfactory level of difference as compared to the current zoning designation, which should always be the result when utilizing this planning tool, as intended by the township PUD Ordinance. A number of deficiencies have been identified as to the areas of concern with the proposed rezoning, mainly focusing on the long-term viability and protection of the key existing natural feature associated with this development, that being the quality of the waters of Woodland Lake.

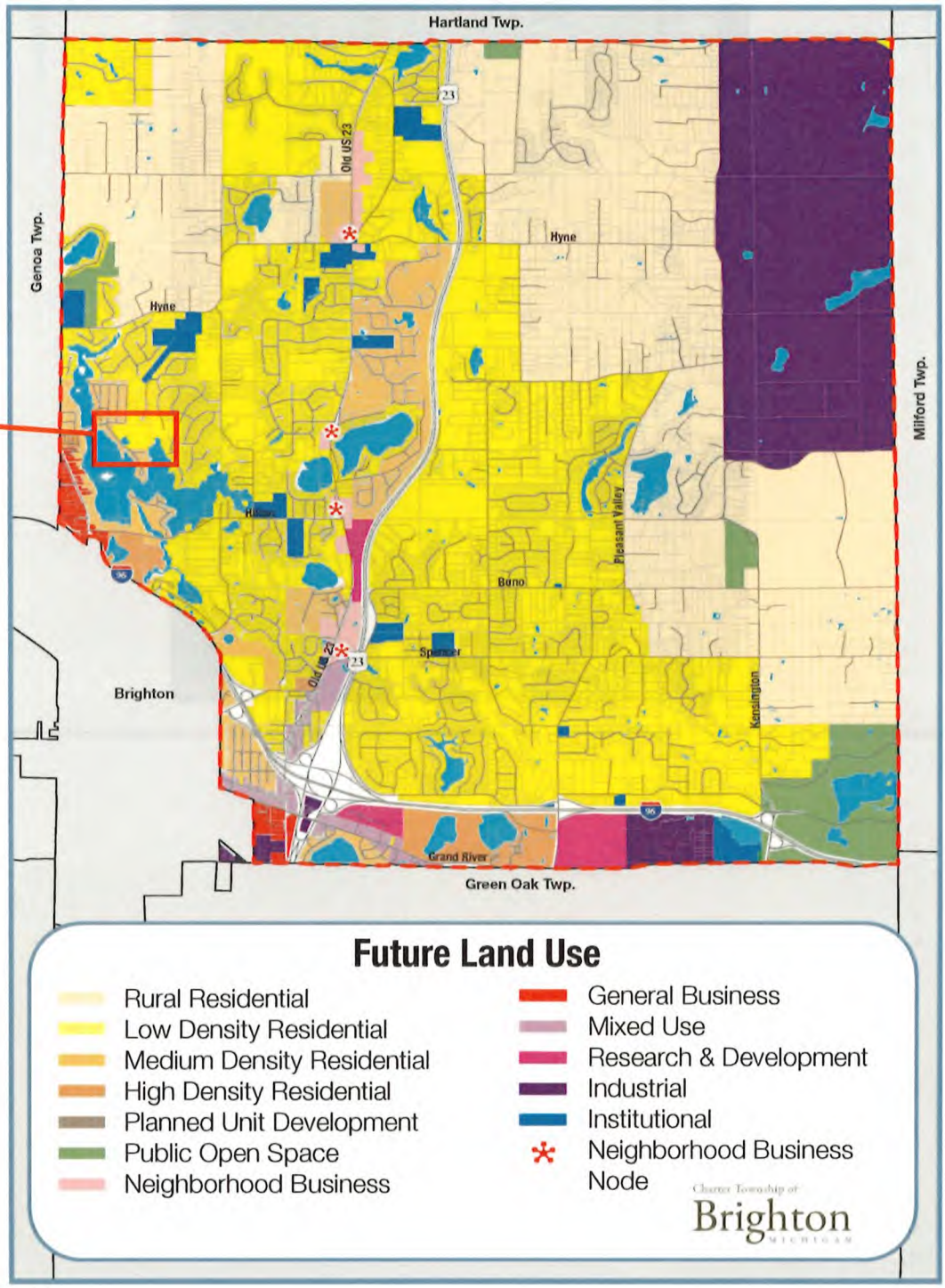
It is suggested and encouraged that the township reconsider the approval of this rezoning as proposed, and in turn, continue to work with the applicant to revise the proposed development plan in a manner that both satisfies both the intended nature of the underlying zoning district (R-2) which is intended to provide predominantly for low-density, single family detached dwellings along with better alignment with the Charter Township's Future Land Use designation of Low-Density Residential development, while incorporating an improved site plan design which allows for more shoreline protection along Woodland Lake (greater buffering) and which significantly reduces impervious surface areas within the development to a level that does not contribute further to the degradation of Woodland Lake. As proposed, the level of planned impervious surface associated with the development counterbalances and nearly completely nullifies the expected beneficial result of any planned open space/natural feature set asides.

EXISTING LAND USE:



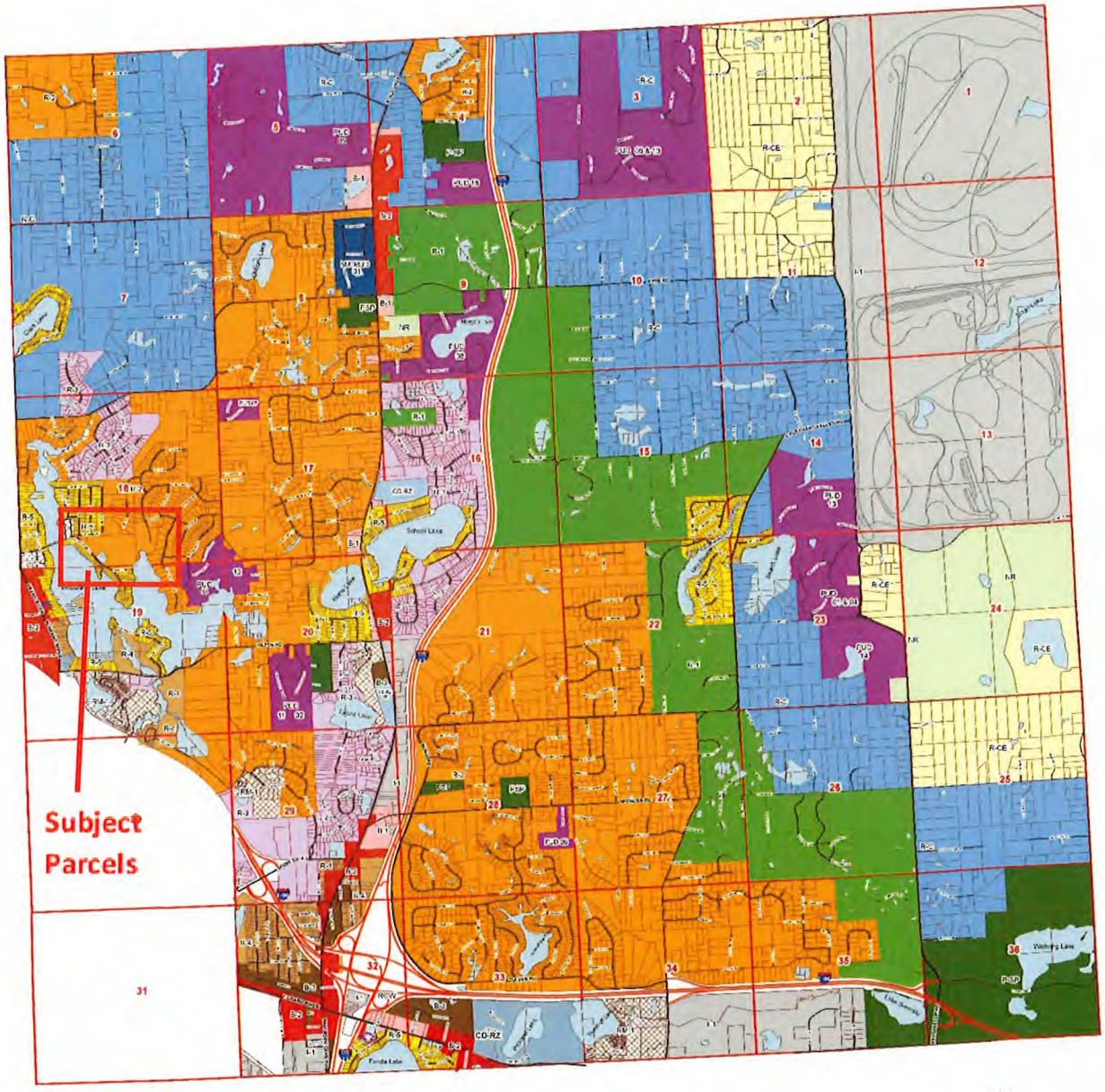
FUTURE LAND USE:

Subject Parcels



ZONING:

CHARTER TOWNSHIP OF BRIGHTON
ZONING DISTRICT MAP



P.U.D. PLAN
FOR
THE COVE AT WOODLAND LAKE
PART OF SW FRACTIONAL 1/4 AND SE 1/4, SECTION 18
BRIGHTON TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN

PROPERTY DESCRIPTION:

PART OF THE SOUTHWEST FRACTIONAL 1/4 AND THE SOUTHEAST 1/4 OF SECTION 18, T2N–R6E, BRIGHTON TOWNSHIP, LIVINGSTON COUNTY, MICHIGAN, MORE PARTICULARLY DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTH 1/4 CORNER OF SECTION 18, BEING A CALCULATED POSITION IN WOODLAND LAKE, SAID CORNER ALSO BEING THE NORTH 1/4 CORNER OF SECTION 19, T2N–R6E, AS ESTABLISHED BY CLAY W. GORDON FOR THE 1949 PLAT OF "WOODLAND LAKE ESTATES NO. 2", AS RECORDED IN LIBER 5 OF PLATS ON PAGE 29 OF THE LIVINGSTON COUNTY RECORDS; THENCE IN WOODLAND LAKE, S89°43'51"W, 143.00 FEET TO TRAVERSE POINT "A"; A POINT ON THE NORTH LINE OF "WOODLAND LAKE ESTATES NO. 2"; WHICH BEARS S46°25'50"W, 195.98 FEET FROM TRAVERSE POINT "C"; THENCE CONTINUING ALONG THE NORTH LINE OF "WOODLAND LAKE ESTATES NO. 2", S89°43'51"W, 765.52 FEET TO A FOUND MONUMENT, (THE PREVIOUS TWO COURSES HAVING BEEN RECORDED AS S89°25'W, 904.2 FEET); THENCE ALONG THE EASTERLY LINE OF "WOODLAND LAKE ESTATES NO. 1", A SUBDIVISION, AS RECORDED IN LIBER 4 OF PLATS, PAGE 44, LIVINGSTON COUNTY RECORDS, AND ALSO BEING THE EASTERLY LINE OF LAKE SHORE DRIVE (50 FOOT WIDE RIGHT–OF–WAY), ON THE FOLLOWING TWO COURSES:

1.) N58°53'48"W, 184.49 FEET (RECORDED AS N58°55'W 184.2 FEET);
2.) N39°54'06"W (RECORDED AS N39°54'W), 799.85 FEET;

THENCE N50°03'42"E, 103.59 FEET (RECORDED AS N50°09'E, 103.2 FEET); THENCE N00°30'43"E, 193.59 FEET (RECORDED AS N00°31'E, 186.00 FEET); THENCE ALONG THE SOUTH LINE OF "WOODLAND LAKE ESTATES NO. 4", A SUBDIVISION, AS RECORDED IN LIBER 9 OF PLATS, PAGE 38, LIVINGSTON COUNTY RECORDS, AND THE SOUTH LINE OF VISTA VIEW DRIVE (50 FOOT WIDE RIGHT–OF–WAY), S89°29'00"E, 503.43 FEET, TO A FOUND CONCRETE MONUMENT AT THE SOUTHEAST CORNER OF "WOODLAND LAKE ESTATES NO. 4"; THENCE ALONG THE SOUTH LINE OF "ROLLING WOODS", LIVINGSTON COUNTY CONDOMINIUM SUBDIVISION PLAN NO. 268, AS RECORDED IN LIBER 3702, PAGE 585, LIVINGSTON COUNTY RECORDS, S89°37'22"E (RECORDED AS S89°29"W), 984.35 FEET, TO A CONCRETE MONUMENT AT THE SOUTHEAST CORNER OF "ROLLING WOODS"; THENCE ALONG THE EAST LINE OF "ROLLING WOODS" AND THE NORTH–SOUTH ¼ LINE OF SECTION 18 AS PREVIOUSLY SURVEYED AND MONUMENTED, N00°18'28"W, 348.66 FEET; THENCE ALONG THE SOUTH BOUNDARY OF "WOODLAND HILLS NO. 2", A SUBDIVISION, AS RECORDED IN LIBER 15 OF PLATS, PAGE 19, LIVINGSTON COUNTY RECORDS ON THE FOLLOWING FOUR (4) COURSES:

1.) NORTHEASTERLY ALONG THE ARC OF A NON–TANGENTIAL CURVE TO THE LEFT HAVING A LENGTH OF 267.27 FEET (PLATTED AS 266.39 FEET), A RADIUS OF 872.17 FEET, A CENTRAL ANGLE OF 17°33'28" (PLATTED AS 17°30'), AND A LONG CHORD WHICH BEARS N80°52'47"E, 266.23 FEET (PLATTED AS N81°24'W, 265.35 FEET);
2.) S62°24'42"E, 121.83 FEET (PLATTED AS S62°21'E, 121.61 FEET);
3.) S17°54'45"E (PLATTED AS S17°21'E), 140.00 FEET;
4.) S82°54'23"E, 299.10 FEET (PLATTED AS S82°10'E, 300.00 FEET)

THENCE S08°20'23"W, 710.90 FEET; THENCE ALONG THE NORTHERLY LINE OF "TRAPPER'S COVE", A SUBDIVISION, AS RECORDED IN LIBER 26 OF PLATS, PAGE 14, LIVINGSTON COUNTY RECORDS, S66°27'50"W (PLATTED AS S66°58'50"W), 265.19 FEET TO TRAVERSE POINT "B"; THENCE CONTINUING ALONG THE NORTHERLY LINE OF "TRAPPER'S COVE", S66°27'50"W, 40 FEET, MORE OR LESS TO THE EASTERLY WATER'S EDGE OF WOODLAND LAKE; THENCE NORTHERLY, WESTERLY, AND SOUTHERLY ALONG THE WATER'S EDGE OF WOODLAND LAKE, 710 FEET MORE OR, LESS TO A POINT ON THE TRUE NORTH–SOUTH 1/4 LINE OF SECTION 18, BEARING S00°25'35"W, 9 FEET, MORE OR LESS, FROM TRAVERSE POINT "C", BEING THE END OF AN INTERMEDIATE TRAVERSE LINE BEGINNING AT THE AFOREMENTIONED TRAVERSE POINT "B" AND HAVING THE FOLLOWING FIVE (5) COURSES:

1.) N03°39'08"W, 81.20 FEET,
2.) N47°04'26"W, 144.66 FEET,
3.) S63°31'39"W, 181.29 FEET,
4.) S03°11'22"E, 187.44 FEET,
5.) S46°19'55"W, 124.40 FEET;

THENCE ALONG THE TRUE NORTH–SOUTH ¼ LINE OF SECTION 18 AND IN WOODLAND LAKE, S00°25'35"W, 125.5 FEET, MORE OR LESS, TO THE CALCULATED POSITION OF THE SOUTH 1/4 CORNER OF SECTION 18, AND THE POINT OF BEGINNING, SAID POINT BEARING S00°25'35"W, 134.41 FEET FROM TRAVERSE POINT "F", CONTAINING 42.8 ACRES MORE OR LESS AND INCLUDING THE USE OF LAKE SHORE DRIVE (50–FOOT WIDE RIGHT OF WAY). ALSO SUBJECT TO ANY OTHER EASEMENTS OR RESTRICTIONS OF RECORD.

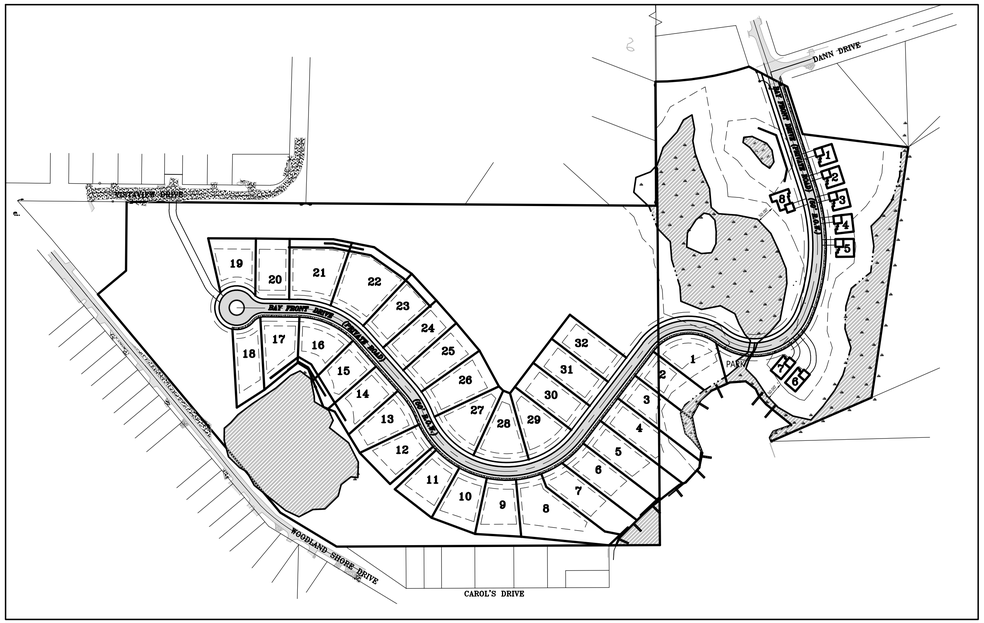
SURVEYOR'S NOTE:

THIS DESCRIPTION INCLUDES BOTTOM LANDS OF WOODLAND LAKE IN THE SOUTHWEST ¼ OF SECTION 18, EAST OF LAKE SHORE DRIVE. THE OWNER MAY HAVE A TITLED INTEREST IN THE BOTTOM LANDS OF WOODLAND LAKE IN THE SOUTHEAST ¼ OF SECTION 18 THAT ARE NOT INCLUDED IN THIS DESCRIPTION.

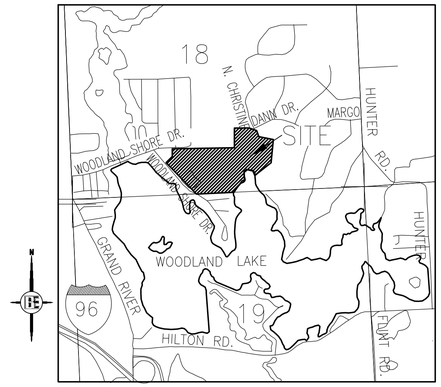
BASIS OF BEARINGS: BEARINGS WERE ESTABLISHED FROM THE RECORDED PLAT OF "WOODLAND LAKE ESTATES NO. 4", AS RECORDED IN LIBER 9 OF PLATS, PAGE 38; LIVINGSTON COUNTY RECORDS:

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.



OVERALL SITE MAP
NO SCALE



LOCATION MAP
NO SCALE

TABLE OF DEVIATIONS – R–2 TO PUD

CURRENT ZONING: R–2
PROPOSED ZONING: PUD

MINIMUM LOT SIZE R–2 ZONING:	**40,000 S.F.**
MINIMUM LOT SIZE PROPOSED PUD:	**16,000 S.F.**
DEVIATION:	**24,000 S.F.**
MINIMUM SETBACKS R–2 ZONING:	**FRONT 35 FT**
	SIDE 12 FT
	REAR 35 FT
MINIMUM SETBACKS PROPOSED PUD:	**FRONT 25 FT**
	SIDE 10 FT
	REAR 30 FT
DEVIATION:	**FRONT 10 FT**
	SIDE 2 FT
	REAR 5 FT
RIGHT–OF–WAY REQUIRED:	**66 FT**
RIGHT–OF–WAY PROPOSED:	**50 FT**
DEVIATION:	**16 FT**
MAXIMUM ROAD LENGTH ALLOWED:	**750 FT**
MAXIMUM ROAD LENGTH PROPOSED:	**2,888 FT (WITH EMERGENCY ACCESS)**
DEVIATION:	**2,138 FT**
MINIMUM ROAD WIDTH ALLOWED:	**30' B/C–B/C**
MINIMUM ROAD WIDTH PROPOSED:	**28' B/C–B/C**
DEVIATION:	**2 FT**

MAXIMUM LOTS ON A PRIVATE ROAD WITH A SINGLE POINT OF ACCESS: 24
NUMBER OF LOTS PROPOSED ON A PRIVATE ROAD WITH A SINGLE POINT OF ACCESS: 40
DEVIATION: 16

MAXIMUM LOT COVERAGE (%) R–2 ZONING: 15%
MAXIMUM LOT COVERAGE (%) PROPOSED: 40%
DEVIATION: 25%

SINCE THE SITE IS ENTIRELY WOODED, NO TREE SURVEY OR NATURAL FEATURES PLAN WILL BE PROVIDED. GRADING AND TREE REMOVAL WILL BE LIMITED TO THOSE AREAS NECESSARY TO BUILD THE ROAD AND INSTALL UTILITIES. NO TREE REPLACEMENT IS PROPOSED.

MINIMUM LAKE SETBACK PER PUD ORDINANCE:	**100 FT**
MINIMUM LAKE SETBACK PROPOSED (SINGLE FAMILY HOME):	**100 FT**
MINIMUM LAKE SETBACK PROPOSED (DETACHED CONDO):	**50 FT**

PERMITS & APPROVALS

AGENCY	DATE SUBMITTED	DATE APPROVED
• TOWNSHIP PUD APPROVAL	03/03/2025	–
• TOWNSHIP ENGINEERING APPROVAL	–	–
• LCDC SESC	–	–
• NPDES SESC NOC	–	–
• EGLE – ACT 399	–	–
• EGLE – PART 41	–	–
• EGLE – WETLAND	–	–

SHEET INDEX

SHEET NO.	DESCRIPTION
1	COVER SHEET
2	GENERAL NOTES & LEGEND
3	BOUNDARY & TOPOGRAPHIC SURVEY
4	PLANNED UNIT DEVELOPMENT PLAN
5	PRELIMINARY UTILITY PLAN
6	PRELIMINARY GRADING & DRAINAGE PLAN
7	PRELIMINARY LANDSCAPE PLAN
8	EMERGENCY VEHICLE CIRCULATION PLAN
9	OPEN SPACE PLAN
10	PUD–STORMWATER DETAILS
11	CONVENTIONAL R–2 SITE PLAN
12	CONVENTIONAL R–2 GRADING PLAN
13	CONVENTIONAL R–2 STORMWATER DETAILS

PREPARED FOR:
MITCH HARRIS BUILDING COMPANY
211 NORTH FIRST STREET, SUITE 100
BRIGHTON, MI 48116
CONTACT: MR. MITCH HARRIS
PHONE: 810.229.7838
EMAIL: MHARRIS@MITCHHARRIS.NET

PREPARED BY:
STATE OF MICHIGAN – LICENSED PROFESSIONAL ENGINEER
MARK DEFRIEZ
ENGINEER
No. 6201309616
CONTACT: MARK DEFRIEZ
EMAIL: MARKD@BOSSENG.COM

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

NO	BY	CK	REVISION	DATE	JOB NO: 24–419
3	MD	BL	PER TOWNSHIP REVIEW	10/14/25	1
2	MD	BL	PER TOWNSHIP REVIEW	08/28/25	
1	MD	BL	PER PLANNING COMMISSION MEETING	07/31/25	ISSUE DATE: 3/3/25

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 OF 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 MDEGLE 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 (MDOT 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 EXTRANEOUS 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.
12. 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 – ADELPHI, 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–SEEDING 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 MDOT 6AA STONE OR MDOT CLASS II GRANULAR MATERIAL FOR SANITARY AND STORM PIPE AND MDOT 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 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.
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 COBBLESTONE 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):

COVER	USE	FRAME	GRATE/BACK
'A'	MANHOLE	1040	TYPE 'B'
'B'	TYPE B2 CURB	7085	TYPE 'M1'
'C'	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

10. THE PROPOSED DRAINAGE SYSTEM IS TO BE OWNED AND PROPERLY MAINTAINED BY THE PROPERTY OWNER (LIVINGSTON COUNTY ONLY)

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–SEAL 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 FORCEMAIN SHALL BE CENTERED WITHIN A 12 FOOT WIDE SANITARY FORCEMAIN EASEMENT.

GENERAL WATERMAIN NOTES

1. WATERMAIN PIPE MATERIALS SHALL BE AS FOLLOWS:
   - 1.1. D.I.P. CL.52 (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. WATERMAINS 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 STICK 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 20 FOOT WIDE WATERMAIN EASEMENT.

LINE HATCHE LEGEND

PROPOSED / EXISTING

- N — N — ANITARY SEWER
- L — L — ANITARY LEA
- FM — FM — FORCE MAIN
- T — T — STORM SEWER
- WM — WM — WATER MAIN
- WL — WL — WATER LEA
- F — F — FIRE LINE
- H — H — VEGHEA WALE
- E — E — ELECTRIC
- T — T — TELEPHONE
- X — X — FENCE
- GAS — GAS — GILT FENCE
- WETLAND — WETLAND
- LIMIT OF DISTURBANCE / LEASING
- LIMIT OF DISTURBANCE
- MODIFIED
- NEW CURB
- HIGH BACK CURB
- HALF BATH
- HIGH BACK CURB
- PAVEMENT
- WETLAND
- ANITARY SEWER LATERAL
- STORM SEWER LATERAL
- WATER MAIN LATERAL
- ILLEGIBLE
= PERMANENT TEMPORARY

LIGHTING LEGEND

PROPOSED / EXISTING

- LED FIXTURE LIGHT
- SINGLE FIXTURE LIGHT
- WALL MOUNTED LIGHT FIXTURE
- POLE LIGHT FIXTURE
- FLAGPOLE LIGHT
- FLOODLIGHT
- FLOODLIGHT
- FLOODLIGHT

LANDSCAPE LEGEND

- EXISTING CONIFER TREE
- PROPOSED CONIFER TREE
- PROPOSED TREE PROTECTION
- SOD
- SEED
- MULCH
- EXISTING DECIDUOUS TREE
- DECIDUOUS TREE
- ORNAMENTAL TREE
- EVERGREEN
- LANDSCAPE BOULDER

ABBREVIATIONS

FFE	FINISHED FLOOR ELEVATION
BFE	BASEMENT FLOOR ELEVATION
GFE	GARAGE FLOOR ELEVATION
FG	FINISHED GRADE
T/A	TOP OF ARCH
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
GVW	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
P.	PAGE
L.C.R.	LIVINGSTON COUNTY RECORDS
(M&R)	MEASURED AND RECORDED
L.O.B.	POINT OF BEGINNING

FOR SITE PLAN APPROVAL ONLY! NOT FOR CONSTRUCTION

SYMBOLOGY

- TRAFFIC SIGNAL
- ANTENNA
- ATTELLITE DISH
- NEW ACCESS
- ASPHALT MILLING
- HANDICAP RAMP
- BENCHMARK
- LIGHT POLE

PEA Engineering
Engineers Surveyors Planners Landscape Architects
3121 E GRAND RIVER SUITE 100
HOWELL MI 48843
51 546 4836 FAX 51 548 16 0

PROJECT TITLE
THE COVE AT WOODLAND LAKE
MI CHRISTIAN HARRIS BUILDING COMPANY
211 NORTH MAIN STREET SUITE 100
BRIGHTON MI 48116
810 229 8388

SHEET TITLE
GENERAL NOTES & LEGEND

DESIGNED:	TEAM
DRAWN:	NL
CHECKED:	TEAM
SCALE:	N/A
PROJECT #:	4–41
DATE:	7/14/2025
SHEET NO.	2

NO.	REVISION	BY	DATE
1	PER LIVINGSTON COUNTY REVIEW	TEAM	7/14/2025

THE LAND AND ELEVATIONS SHOWN ON THIS PLAN WERE SURVEYED BY PEA, INC. AND ARE BASED ON NAVD 88 DATUM. THE CONTRACTOR SHALL VERIFY THE LOCATION AND ELEVATION OF ALL EXISTING U

N

SCALE: 1 INCH = 100 FEET

WOODLAND LAKE ESTATES NO. 4
LIBER 9 OF PLATS, PAGE 38,
LIVINGSTON COUNTY RECORDS
ZONED: R-5

ROLLING WOODS
LIVINGSTON COUNTY CONDOMINIUM
SUBDIVISION NO. 268
LIBER 3702, PAGE 585, LIVINGSTON
COUNTY RECORDS.
ZONED: R-2

WOODLAND HILLS NO. 2
LIBER 15 OF PLATS, PAGE 19,
LIVINGSTON COUNTY RECORDS.
ZONED: R-2

CHRISTINE DRIVE (PUBLIC)
(66 FT. WIDE RIGHT OF WAY)

DANN DRIVE (PUBLIC)
(66 FT. WIDE RIGHT OF WAY)

WOODLAND HILL N
LIBER 15 OF LAT A E 1
LIVINGSTON C NTY \ .
ZONED: R-2

VISTAVIEW DRIVE (PRIVATE)
(50 FT. WIDE RIGHT OF WAY)

WOODLAND SHORE DRIVE (PRIVATE)
(50 FT. WIDE RIGHT OF WAY)

CAROL'S DRIVE
(50 FT. WIDE RIGHT OF WAY)

WOODLAND LAKE ESTATES NO. 1
LIBER 4 OF PLATS, PAGE 44,
LIVINGSTON COUNTY RECORDS
ZONED: R-5

WOODLAND LAKE ESTATES NO. 2
LIBER 5 OF PLATS, PAGE 29,
LIVINGSTON COUNTY RECORDS
ZONED: R-5

PARCEL
4712-18-300-011
ZONED: R-2

PARCEL
4712-18-400-027
ZONED: R-2

POND
WATER ELEV.=933.9
(11-15-06)

WOODLAND LAKE
WATER ELEV.=933.2
(11-15-06)

WOODLAND LAKE
WATER ELEV.=933.2
(11-15-06)

TRAPPERS COVE
LIBER 15 OF PLATS A E 1
LIVINGSTON COUNTY \E \ .
ZONED: R-2

EXISTING
WETLANDS

EXISTING
SERVICE LEAD

REMOVE EXISTING CULVERT
& END SECTIONS

REMOVE EXISTING ASPHALT
ROADWAY AND CUL-DE-SAC
(APPROX. 2,225 SYD)

CENTER OF
SECTION 18
T2N-R6E
(B-6)

SOUTH 1/4 COR.
SECTION 18
T2N-R6E
(B-7)

EAST LINE OF ROLLING WOODS
& (NORTH-SOUTH 1/4
LINE AS MONUMENTED)

NORTH-SOUTH 1/4 LINE

BM 200 | BM 201 | BM 202 | BM 203 | BM 204 | BM 205 | BM 206 | BM 207 | BM 208 | BM 250 | BM 254 | BM 257 | BM 258

S 89°37'22" E 984.35'

S 89°43'51" W 765.22'

S 89°43'51" W 808.52' (M) S 89°25' W 804.2' (R)

S 82°54'23" E 299.10'

S 17°54'45" E 93.83'

S 06°27'50" W 308.19'

S 00°18'26" W 348.66'

N 00°52'47" E 266.23'

ARC=267.27'
RADIUS=872.17'
DELTA=17°33'28"
CHORD=N8°52'47"E
266.23'

306.36'
(R)
300'
(R)
88.41' (M&R)

S41°35'18"E 140.80' (M)
S41°44'W 140.10' (R)

S39°04'08"E 208.80' (M)
S39°01'E 195.43' (R)

N00°23'54"E 193.58'

N00°03'09"E 195.68' (M)

S 89°43'51" W 503.41'

EXCEPTION

SHED & FENCE ENCROACHMENT

SHED ENCROACHMENT

LANDSCAPE ENCROACHMENT

F \ ITE LAN A \ VAL NLY!
N T F \ N T \ TI N

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211 RON \ FORD S REE SUI E 100
BRIGHTON MI 48116
810.229 838

BOUNDARY & OPOGRAPHIC SUR EY

BE Engineering
Engineers Surveyors P anners andscape Architects
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HOWE MI 48843
51 546 4836 FAX 51 548 16 0

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COMPATIBLE LAND USE MATRIX

Accident Safety Zone	Land Use Characteristics	Land Use Guidelines	Land Use Planning Strategies *All aviation uses are acceptable
Zone 3	**Population Density**	Avoid land uses which concentrate people indoors or outdoors.	1. <25 people/acre. 2. Zone land uses, which by their nature, will be relatively unoccupied by people (i.e. mini-storage, small parking lots).
	Residential vs. Non-Residential Land Use	Limit residential development to Low Density housing standards. All non-residential land uses permitted outright subject to the Special Function Land Use guidelines.	1. Create a height hazard overlay ordinance around the airport. 2. Obtain avigation and obstruction easements. 3. During site development process, shift all structures away from the runway centerlines if possible. 4. Prohibit mobile home parks. 5. Landscaping requirements shall establish only low growing vegetation. 6. Prohibit high overhead outdoor lighting. 7. Require downward shading of lighting to reduce glare. 8. Evaluate all possible permitted conditional uses to assure compatible land use.
	Special Function Land Use	Prohibit all Special Function Land Uses.	1. Prohibit overhead utilities and all noise sensitive land uses. 2. Zone land for uses other than for schools, play fields, hospitals, nursing homes, daycare facilities and churches. 3. Limit storage of large quantities of hazardous or flammable material. 4. Ensure permitted uses will not create large areas of standing water, or generate smoke/steam, etc.

THE COVE AT WOODLAND LAKE PUD – NARRATIVE

THE COVE AT WOODLAND LAKE IS A PROPOSED RESIDENTIAL DEVELOPMENT WITH A 37 UNIT SITE CONDOMINIUM AND AN 8 UNIT DETACHED CONDOMINIUM DEVELOPMENT, FOR A TOTAL OF 45 UNITS, FRONTING ON CHRISTINE DRIVE. THE PROPERTY IS A 43 ACRE WOODED SITE WITH APPROXIMATELY 6.3 ACRES OF WETLAND, AND 880 LINEAR FEET OF FRONTAGE ON WOODLAND LAKE. THE ROLLING TOPOGRAPHY IS DOMINATED BY 18%–24% SLOPES WITHIN THE UPLAND AREAS OF THE SITE.

PRIVATE ROADS WITH A 50' RIGHT–OF–WAY ARE PROPOSED WITHIN THE DEVELOPMENT. THE DETACHED CONDOMINIUMS WILL BE ADDITIONALLY ACCESSED BY INDIVIDUAL DRIVEWAYS. THE UNITS WILL BE SERVICED BY ON SITE SEWER AND WATER THROUGH EXTENSION OF SANITARY FORCE MAIN AND WATERMAIN TO AND THROUGH THE SITE.

THERE ARE FOUR EXISTING DRAINAGE AREAS ON THE WEST SIDE OF THE PROPERTY. THE EAST SIDE OF THE PROPERTY CURRENTLY HAS AN EXISTING ASPHALT ROAD DRAINING TOWARD ONE OF THE WETLANDS LYING TO ITS WEST. THE GOAL OF THE PROPOSED STORMWATER MANAGEMENT PLAN IS TO INTEGRATE THE PROPOSED STORM SYSTEM WITH THE EXISTING WATERBODIES WITH MINIMAL DISTURBANCE TO THE SITE'S NATURAL FEATURES. THIS WILL BE DONE THROUGH THE USE OF FOREBAYS AND MECHANICAL PRETREATMENT STRUCTURES BEFORE DISCHARGING TO THE EXISTING WETLANDS & POND.

MINIMAL IMPACT TO THE NATURAL FEATURES ON THE SITE WILL BE PROMOTED THROUGH THE FOLLOWING DESIGN IMPLEMENTATIONS; NARROWER RIGHTS–OF–WAY, UTILIZING PUBLIC WATER AS OPPOSED TO DRILLING ON SITE WELLS, MINIMIZING GRADING BY LIMITING IT TO ROWS, BUILDING AREA AND RETENTION BASINS, AND REDUCING LIMITS OF CONSTRUCTION TO ELIMINATE TREE REMOVAL WHERE POSSIBLE.

THE PROPOSED DEVELOPMENT OFFERS THE BENEFIT OF OPEN SPACE PRESERVATION. 50% OF THE SITE WILL BE PRESERVED AS A NATURAL FEATURES PROTECTION AREA. TREE PRESERVATION IS ALSO A BENEFIT AS TREE REMOVAL SHALL BE SEVERELY RESTRICTED THROUGH STRINGENT CONSTRUCTION LIMITATIONS. IN ADDITION, THE APPLICANT IS BRINGING PUBLIC SEWER AND WATER TO THE PROPERTY AND IS PROVIDING ON SITE SIDEWALKS.

ADJACENT PROPERTY ANALYSIS

WOODLAND LAKE ESTATES NO. 1
MINIMUM LOT AREA: 5,156 S.F.
TOTAL AREA OF DEVELOPMENT: 23.43 AC
NUMBER OF UNITS: 88
DENSITY: 3.75 UNITS PER ACRE

WOODLAND LAKE ESTATES NO. 4
MINIMUM LOT AREA: 9,000 S.F.
TOTAL AREA OF DEVELOPMENT: 49.25 AC
NUMBER OF UNITS: 140
DENSITY: 2.84 UNITS PER ACRE

WOODLAND HILLS
MINIMUM LOT AREA: 15,000 S.F.
TOTAL AREA OF DEVELOPMENT: 113.27 AC
NUMBER OF UNITS: 164
DENSITY: 1.45 UNITS PER ACRE

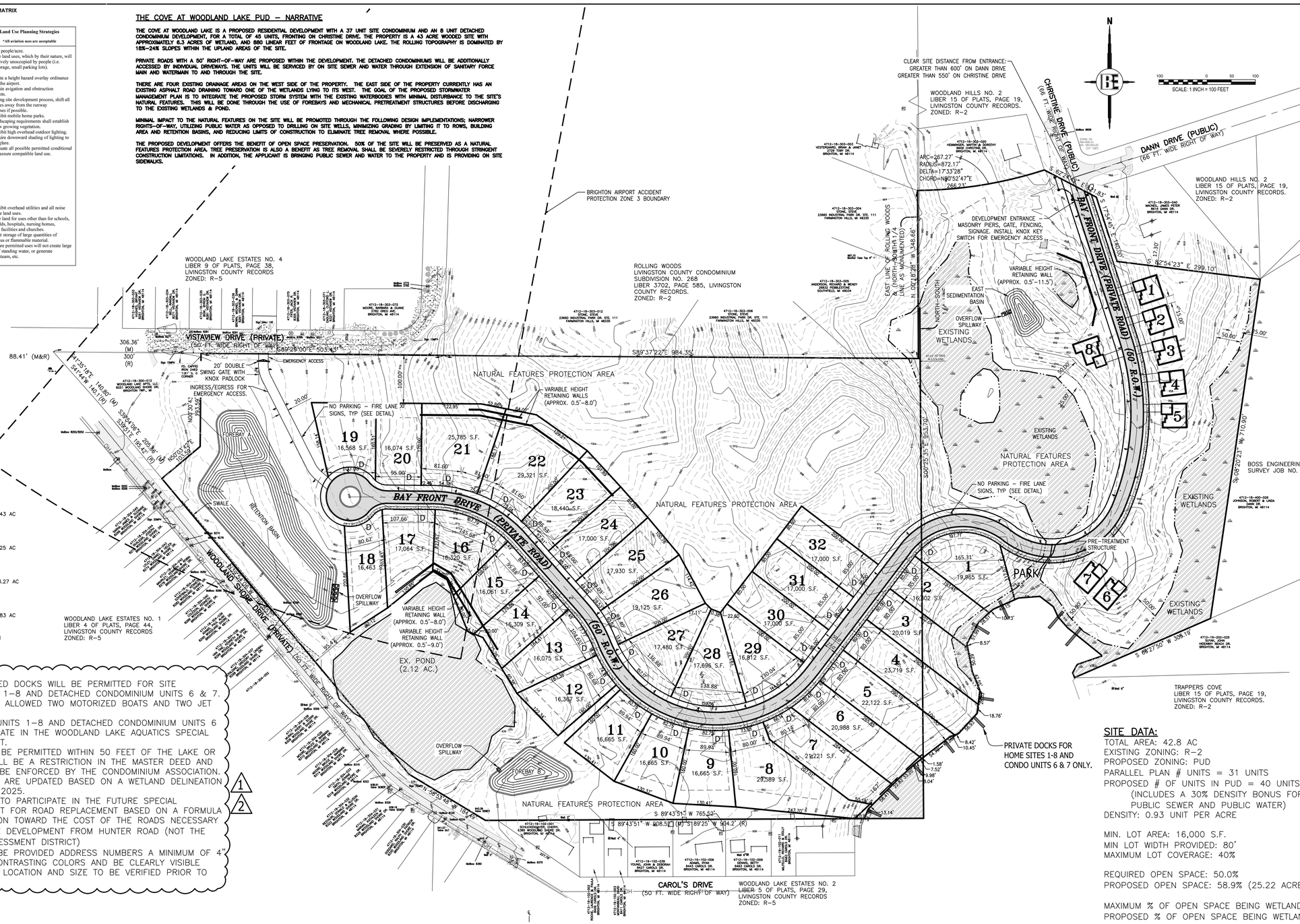
ROLLING WOODS
MINIMUM LOT AREA: 36,098 S.F.
TOTAL AREA OF DEVELOPMENT: 21.83 AC
NUMBER OF UNITS: 12
DENSITY: 0.55 UNITS PER ACRE

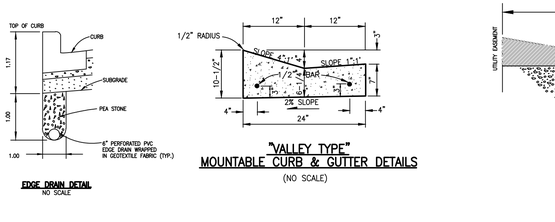
* AREA CALCULATED USING INFORMATION FROM LIVINGSTON COUNTY GIS. ALL AREAS ARE APPROXIMATE.

NOTES

1. DOCK NOTE: INCLUDED DOCKS WILL BE PERMITTED FOR SITE CONDOMINIUM UNITS 1–8 AND DETACHED CONDOMINIUM UNITS 6 & 7. EACH DOCK WILL BE ALLOWED TWO MOTORIZED BOATS AND TWO JET SKIS.
2. SITE CONDOMINIUM UNITS 1–8 AND DETACHED CONDOMINIUM UNITS 6 & 7 SHALL PARTICIPATE IN THE WOODLAND LAKE AQUATICS SPECIAL ASSESSMENT DISTRICT.
3. NO FERTILIZER WILL BE PERMITTED WITHIN 50 FEET OF THE LAKE OR WETLANDS. THIS WILL BE A RESTRICTION IN THE MASTER DEED AND BY–LAWS AND WILL BE ENFORCED BY THE CONDOMINIUM ASSOCIATION.
4. THE WETLAND LIMITS ARE UPDATED BASED ON A WETLAND DELINEATION CONDUCTED IN MAY 2025.
5. DEVELOPER AGREES TO PARTICIPATE IN THE FUTURE SPECIAL ASSESSMENT DISTRICT FOR ROAD REPLACEMENT BASED ON A FORMULA OF 50% CONTRIBUTION TOWARD THE COST OF THE ROADS NECESSARY FOR ACCESS TO THE DEVELOPMENT FROM HUNTER ROAD (NOT THE ENTIRE SPECIAL ASSESSMENT DISTRICT)
6. RESIDENCES SHALL BE PROVIDED ADDRESS NUMBERS A MINIMUM OF 4" HIGH LETTERS OF CONTRASTING COLORS AND BE CLEARLY VISIBLE FROM THE STREET. LOCATION AND SIZE TO BE VERIFIED PRIOR TO INSTALLATION.

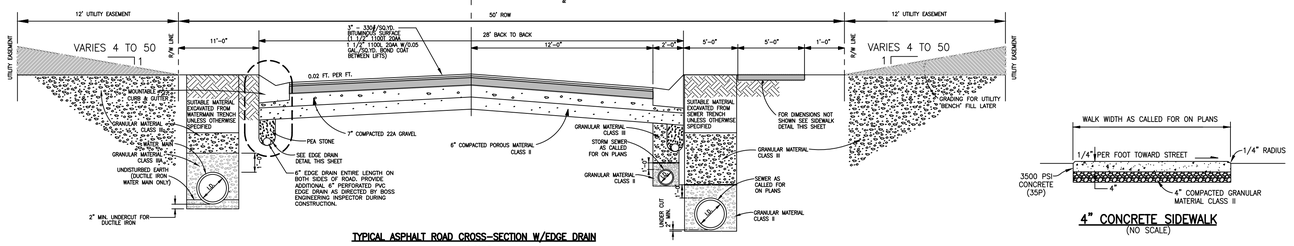
1
2





EDGE DRAIN DETAIL
NO SCALE

"VALLEY TYPE" MOUNTABLE CURB & GUTTER DETAILS
(NO SCALE)



TYPICAL ASPHALT ROAD CROSS–SECTION W/EDGE DRAIN
NO SCALE

4" CONCRETE SIDEWALK
(NO SCALE)

SITE DATA:

TOTAL AREA: 42.8 AC
EXISTING ZONING: R–2
PROPOSED ZONING: PUD
PARALLEL PLAN # UNITS = 31 UNITS
PROPOSED # OF UNITS IN PUD = 40 UNITS
(INCLUDES A 30% DENSITY BONUS FOR PUBLIC SEWER AND PUBLIC WATER)
DENSITY: 0.93 UNIT PER ACRE

MIN. LOT AREA: 16,000 S.F.
MIN LOT WIDTH PROVIDED: 80'
MAXIMUM LOT COVERAGE: 40%

REQUIRED OPEN SPACE: 50.0%
PROPOSED OPEN SPACE: 58.9% (25.22 ACRES)

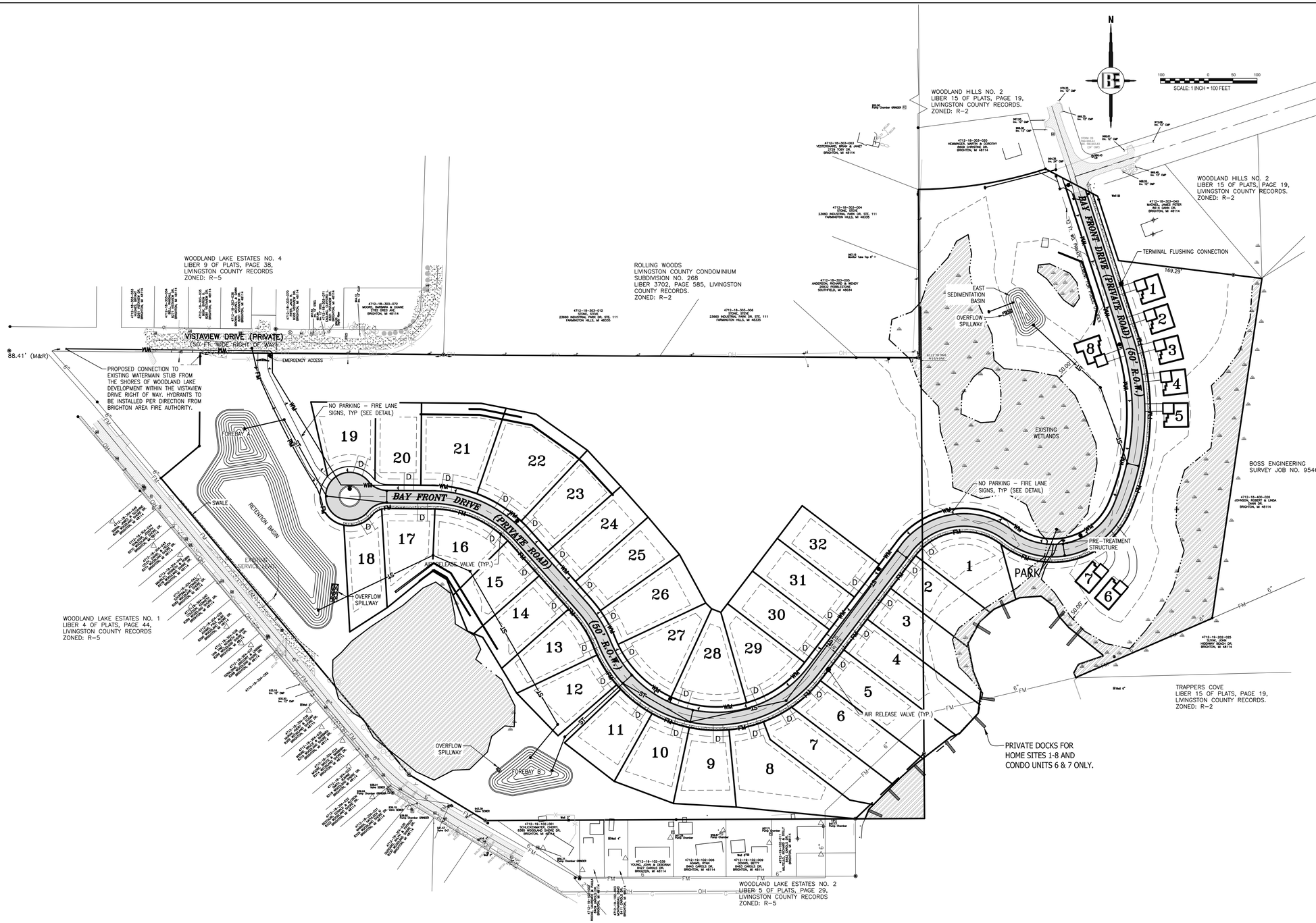
MAXIMUM % OF OPEN SPACE BEING WETLANDS/BASINS: 50.0%
PROPOSED % OF OPEN SPACE BEING WETLAND/BASINS: 25.5%

PROPOSED RIGHT OF WAY WIDTH: 50'
PROPOSED ROAD WIDTH: 28' BACK OF CURB TO BACK OF CURB
SETBACKS:
FRONT: 25'
SIDE: 10'
REAR: 30'
LAKE (SINGLE FAMILY HOME): 100'
LAKE (DETACHED CONDO): 50'
WETLAND: 50'

FOR SITE PLAN APPROVAL ONLY! NOT FOR CONSTRUCTION

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE PLANS IS NOT TO BE CONSTRUED AS BEING EXACT OR COMPLETE NOR IS IT GUARANTEED IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITIES WHICH ARE TO BE CONNECTED TO EXISTING UTILITIES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND TO EXIST BETWEEN THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

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

PROJECT
THE COVE AT WOODLAND LAKE

PREPARED FOR
MITCH HARRIS BUILDING COMPANY
211 NORTHFIRST STREET, SUITE 100
BRIGHTON, MI. 48116
810.229.7838

TITLE
PRELIMINARY UTILITY PLAN

NO	BY	REVISION PER	DATE
3	MD	PER TOWNSHIP REVIEW	10/14/25
2	MD	PER TOWNSHIP REVIEW	08/28/25
1	MD	PER PLANNING COMMISSION MEETING	08/04/25

DESIGNED BY: ST
DRAWN BY: NL
CHECKED BY:
SCALE: 1" = 100'
JOB NO: 24-419
DATE: 7/14/25
SHEET NO. 5

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STORMWATER NARRATIVE

PRE–DEVELOPMENT DRAINAGE:

THE SITE CURRENTLY SHEET FLOWS TO A SMALL POND ON THE SOUTWEST EDGE OF THE SITE, TO THE WETLANDS LOCATED IN THE EASTERN SIDE OF THE SITE, OR DIRECTLY INTO WOODLAND LAKE ON THE SOUTHEAST SIDE OF THE SITE.

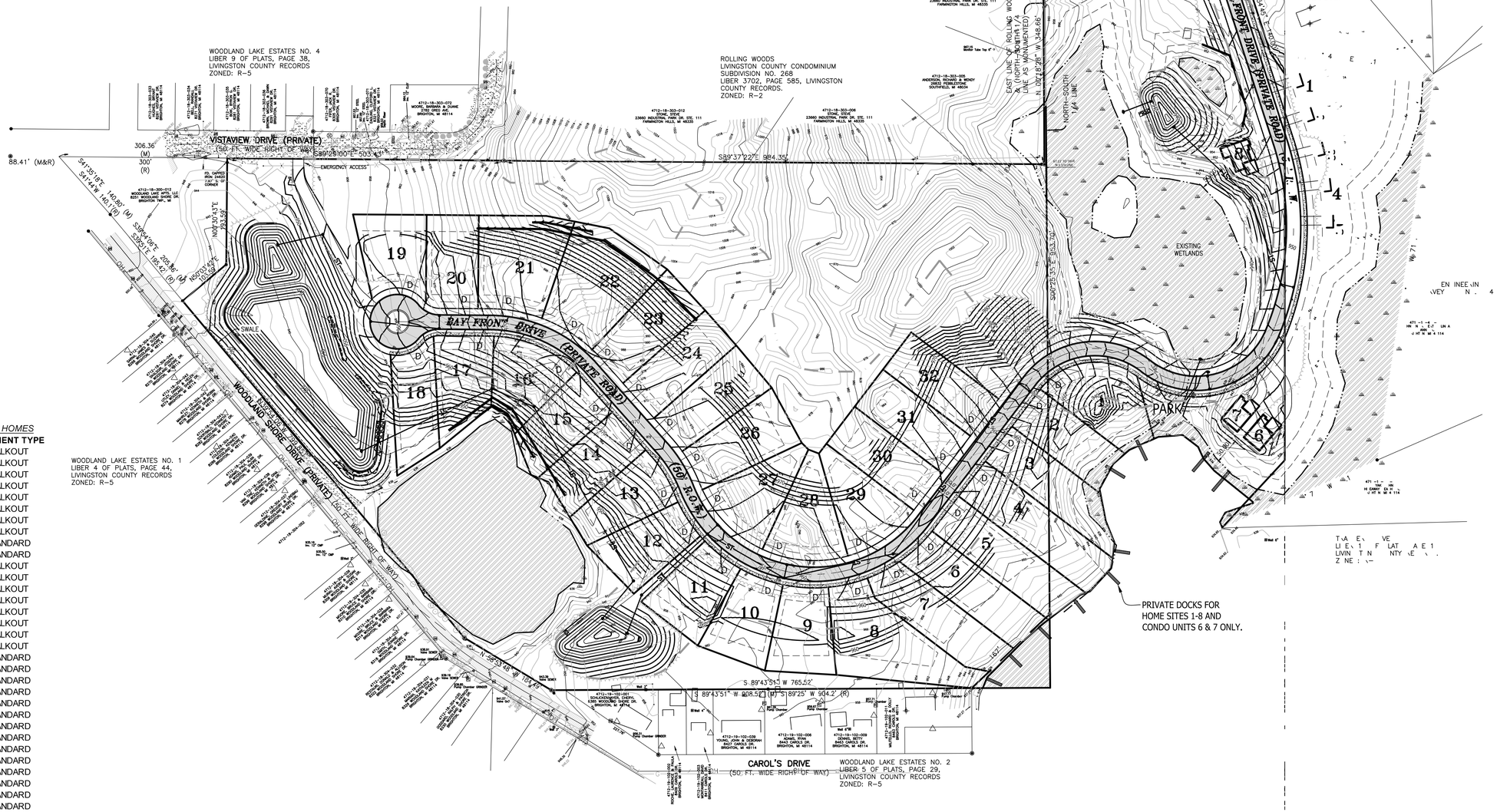
POST–DEVELOPMENT DRAINAGE:

IN THE POST–DEVELOPED CONDITION, THE SITE WILL CONTAIN HOUSING (SINGLE–FAMILY HOMES AND DETACHED CONDOMINUIMS) WITH ASSOCIATED STREETS AND DRIVES. STORM WATER FROM THESE ADDITIONAL IMPERVIOUS SURFACES ARE REQUIRED TO BE DETAINED AND PRE–TREATED ON SITE PRIOR TO DISCHARGE TO NATURAL DRAINAGE COURSES OR TO THE PROPOSED RETENTION BASIN. THE PROPOSED DEVELOPMENT WILL CONTAIN A STORM SEWER SYSTEM THAT WILL DIRECT STORM WATER PRIMARILY THROUGH SEDIMENTATION FOREBAYS TO IMPROVE WATER QUALITY BEFORE DISCHARGE INTO THE RETENTION BASIN OR EXISTING WETLANDS. THE DESIGN OF THE PROPOSED STORMWATER SYSTEM HAS THE PRIMARY GOAL OF MINIMIZING DISCHARGES TO WETLANDS THAT ARE CONNECTED TO WOODLAND LAKE IN AN EFFORT TO MAINTAIN THE WATER QUALITY OF WOODLAND LAKE

A MAJORITY OF THE DRAINAGE AREA ON SITE WILL BE DIRECTED INTO THE RETENTION BASIN LOCATED ON THE SOUTHWEST SIDE OF THE SITE. ON–SITE STORMWATER CATCH BASINS WILL DIRECT FLOW FROM STREETS, HOMES, AND SURROUDING AREAS INTO TWO SEDIMENTATION FOREBAYS (FOREBAYS A AND B) FOR PRE–TREATMENT OF THE STORMWATER. THOSE FOREBAYS WILL DISCHARGE INTO THE RETENTION BASIN. THE RETENTION BASIN HAS NO OUTLET. WATER IN THE RETNTION BASIN WILL INFILTRATE INTO THE SOIL. ALL ELEMENTS OF THE STORMWATER RETENTION SYSTEM HAVE BEEN DESIGNED PER THE LIVINGSTRON COUNTY AND BRIGHTON TOWNSHIP STORMWATER DESIGN STANDARDS.

STORMWATER IN THE NORTHEAST PORTION OF THE SITE WILL BE CAPTURED IN CATCH BASINS AND DIRECTED TO THE EAST SEDIMENTATION BASIN. AFTER ADEQUATE PRE–TREATMENT, THE EAST SEDIMENTATION BASIN WILL DISCHARGE INTO THE EXISTING ONSITE WETLANDS. THESE WETLANDS WILL PROVIDE A LARGE AREA FOR DETENTION OF STORMWATER FROM THE EAST SEDIMENTATION BASIN. THESE WETLANDS ARE CONNECTED TO THE SOUTH TO WOODLAND LAKE. THE EAST SEDIMENTATION BASIN HAS BEEN DESIGNED PER TOWNSHIP AND COUNTY DESIGN STANDARDS AND MEETS ALL EGLE REQUIRMENTS FOR DISCHARGE INTO A WETLAND.

THE THIRD DRAINAGE AREA CONTAINS THE HOMES ON LOT 1 AND DETACHED CONDOMINIUMS 5 AND 6, AS WELL AS A SMALL PORTION OF THE ROAD. DUE TO THE LOW ELEVATIONS OF THE ROADS AND EFFORTS TO MINIMIZE IMPACT ON THE SURROUNDING WETLANDS, FLOW FROM THIS AREA WILL BE CAPTURED AND ROUTED INTO A PRE–TREATMENT STORM STRUCTURE THAT WILL ADEQUATELY TREAT THE STORMWATER FLOW PER EGLE REQUIREMENTS. THE DISCHARGE FROM THE PRE–TREAMENT UNIT WILL FLOW INTO THE WETLAND TO THE NORTH, WHICH IS CONNECTED TO WOODLAND LAKE.



SINGLE FAMILY HOMES

NUMBER	BASEMENT TYPE
1	WALKOUT
2	WALKOUT
3	WALKOUT
4	WALKOUT
5	WALKOUT
6	WALKOUT
7	WALKOUT
8	WALKOUT
9	STANDARD
10	STANDARD
11	WALKOUT
12	WALKOUT
13	WALKOUT
14	WALKOUT
15	WALKOUT
16	WALKOUT
17	WALKOUT
18	WALKOUT
19	STANDARD
20	STANDARD
21	STANDARD
22	STANDARD
23	STANDARD
24	STANDARD
25	STANDARD
26	STANDARD
27	STANDARD
28	STANDARD
29	STANDARD
30	STANDARD
31	STANDARD
32	STANDARD

DETACHED CONDOS

NUMBER	BASEMENT TYPE
1	STANDARD
2	STANDARD
3	DAYLIGHT
4	WALKOUT
5	WALKOUT
6	WALKOUT
7	WALKOUT
8	WALKOUT

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BRIGHTON MI 48116
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PRE IMINARY GRADING & DRAINAGE P AN

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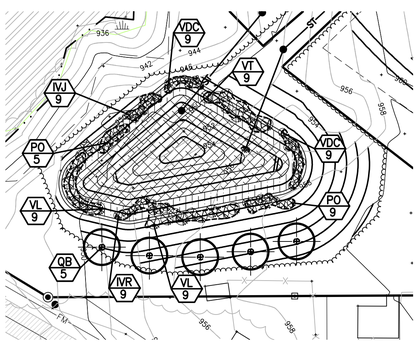
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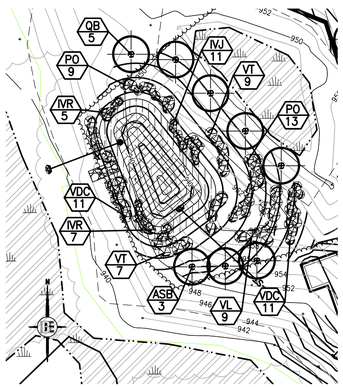


OVERALL LANDSCAPE PLAN / STREET TREE PLAN

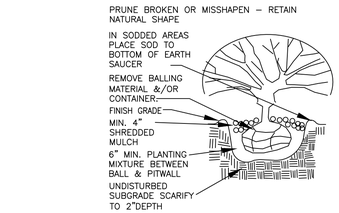
FOREBAY A AND RETENTION BASIN PLAN DETAIL



FOREBAY B PLAN DETAIL

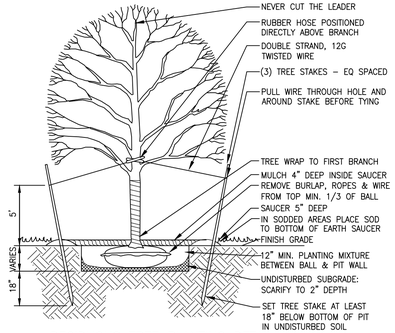


EAST SEDIMENTATION BASIN PLAN DETAIL



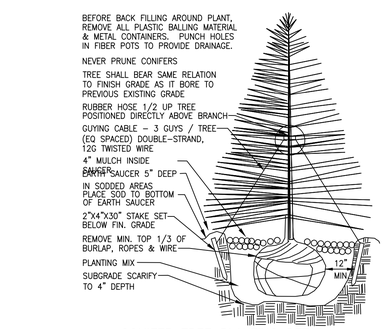
SHRUB PLANTING DETAIL

(NO SCALE)



DECIDUOUS TREE PLANTING DETAIL

(NOT TO SCALE)



CONIFER TREE PLANTING DETAIL

(NOT TO SCALE)

LANDSCAPE NARRATIVE

THE EXISTING SITE INCLUDES A VARIETY OF TREE SPECIES THAT CORRESPOND TO THE VARIED TOPOGRAPHY. DOMINANT SPECIES INCLUDE RED & SUGAR MAPLE, RED OAK, WHITE OAK, BLACK OAK, SHAGBARK HICKORY AND BLACK CHERRY. CLOSER TO THE WETLAND AREAS SPECIES INCLUDE SWAMP WHITE OAK, AMERICAN ELM AND SILVER MAPLE.

PROPOSED TREES ARE INTENDED TO COMPLEMENT / MATCH THESE SPECIES INCLUDING RED AND SUGAR MAPLE, RED OAK, SWAMP WHITE OAK AND ELM.

SPECIAL SEED MIX LEGEND

SPECIAL STORMWATER BASIN SEED MIXES

INSTALL THE FOLLOWING SEED MIXES FROM JFNEW/CARDNO, INC., WWW.CARDNONATIVEPLANTNURSERY.COM, 574-586-2412, WALKERTON, INDIANA OR EQUIVALENT:

1. SEED, BEGINNING 2.0-FT BELOW DESIGN HIGHWATER ELEV. (DHW) (+-6-FT HORIZ. DOWN FROM TOP OF BANK) TO BOTTOM OF BASIN WITH 'STORMWATER' SEED MIX INCL. ANNUAL RYE COVER CROP & AT RATE OF 33 PLS POUNDS(#) /ACRE.
2. SEED 'ECONOMY PRAIRE' SEED MIX BETWEEN 'STORM MIX' & TOP OF BANK (+-6-FT TOTAL WIDTH HORIZ.) INCL. ANNUAL RYE COVER CROP & AT RATE OF 38 PLS #/ACRE.

STREET TREE PLANT LIST

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
DECIDUOUS TREES					
ARA	13	Acer rubrum 'jfsKw78'	Armstrong Gold Columnar Red Maple	3" cal.	B–B
ARF	22	Acer rubrum 'Frank Jr.'	Redpointe Red Maple	3" cal.	B–B
ASB	19	Acer saccharum 'Bailsta'	Fall Fiesta Sugar Maple	3" cal.	B–B
OV	13	Ostrya virginiana	American Hophornbeam	3" cal.	B–B
QB	5	Quercus bicolor	Swamp White Oak	3" cal.	B–B
QP	30	Quercus palustris	Pin Oak	3" cal.	B–B
QR	14	Quercus rubra	Red Oak	3" cal.	B–B
TC	24	Tilia cordata 'Greenspire'	Greenspire Little Leaf Linden	3" cal.	B–B
UF	21	Ulmus 'Frontier'	Frontier Hybrid Elm	3" cal.	B–B

STORMWATER BASINS PLANT LIST

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
DECIDUOUS TREES					
ASB	3	Acer saccharum 'Bailsta'	Fall Fiesta Sugar Maple	3" cal.	B–B
QB	17	Quercus bicolor	Swamp White Oak	3" cal.	B–B
UF	9	Ulmus 'Frontier'	Frontier Hybrid Elm	3" cal.	B–B
DECIDUOUS SHRUBS					
IVJ	50	Ilex verticillata 'Jim Dandy'	Jim Dandy Holly (male)	24" ht./#3	Cont.
IVR	52	Ilex verticillata 'Red Sprite'	Red Sprite Holly (female)	24" ht./#3	Cont.
PO	24	Physocarpus opulifolius 'Jefam'	Amber Jubilee Ninebark	24" ht./#3	Cont.
VDC	77	Viburnum dentatum 'Christom'	Blue Muffin Arrowwood Viburnum	30" ht./#5	Cont.
VL	90	Viburnum lentago	Nannyberry Viburnum	30" ht./#5	Cont.
VT	46	Viburnum trilobum 'J.N. Select'	Redwing Cranberry Viburnum	30" ht./#5	Cont.

AMENITY AREAS PLANT LIST

KEY	QUAN.	BOTANICAL NAME	COMMON NAME	SIZE	REMARK
ORNAMENTAL DECIDUOUS TREES					
AG	3	Amelanchier x grandiflora 'Autumn Brilliance'	Autumn Brilliance Serviceberry	2" cal.	B–B
CONIFER TREES					
PGD	3	Picea glauca 'Densata'	Black Hills Spruce	6' Height	B–B
DECIDUOUS SHRUBS					
HQ	5	Hydrangea quercifolia	Oak Leaf Hydrangea	30" ht./#5	Cont.
VF	16	Viburnum farreri Nanum	Dwarf Frangrant Sumac	24" ht./#3	Cont.
CONIFER SHRUBS					
TM	12	Taxus x media 'Densiformis'	Densiform Spreading Yew	30" ht./#5	Cont.

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

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3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
MEMBER OF MISSISSIPPI VALLEY

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

PROJECT
THE COVE AT WOODLAND LAKE

PREPARED FOR
MITCH HARRIS BUILDING COMPANY
211 NORTH FIRST STREET, SUITE 100
BRIGHTON, MI 48116
810.229.7838

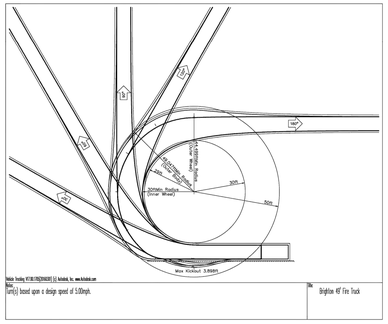
TITLE
PRELIMINARY LANDSCAPE PLAN

NO	BY	REVISION PER	DATE
3	MD	PER TOWNSHIP REVIEW	10/14/25
2	MD	PER TOWNSHIP REVIEW	08/28/25
1	MD	PER PLANNING COMMISSION MEETING	08/04/25

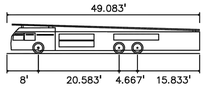
DESIGNED BY: PC
DRAWN BY: PC
CHECKED BY:
SCALE: AS NOTED
JOB NO: 24-419
DATE: 7/14/25
SHEET NO. 7

BOSS BE Engineering

G:\24-419\DWG\SP\24-419 Sheets SP.dwg, 10/14/2025 5:21:59 PM, DWG To PDF.pc3

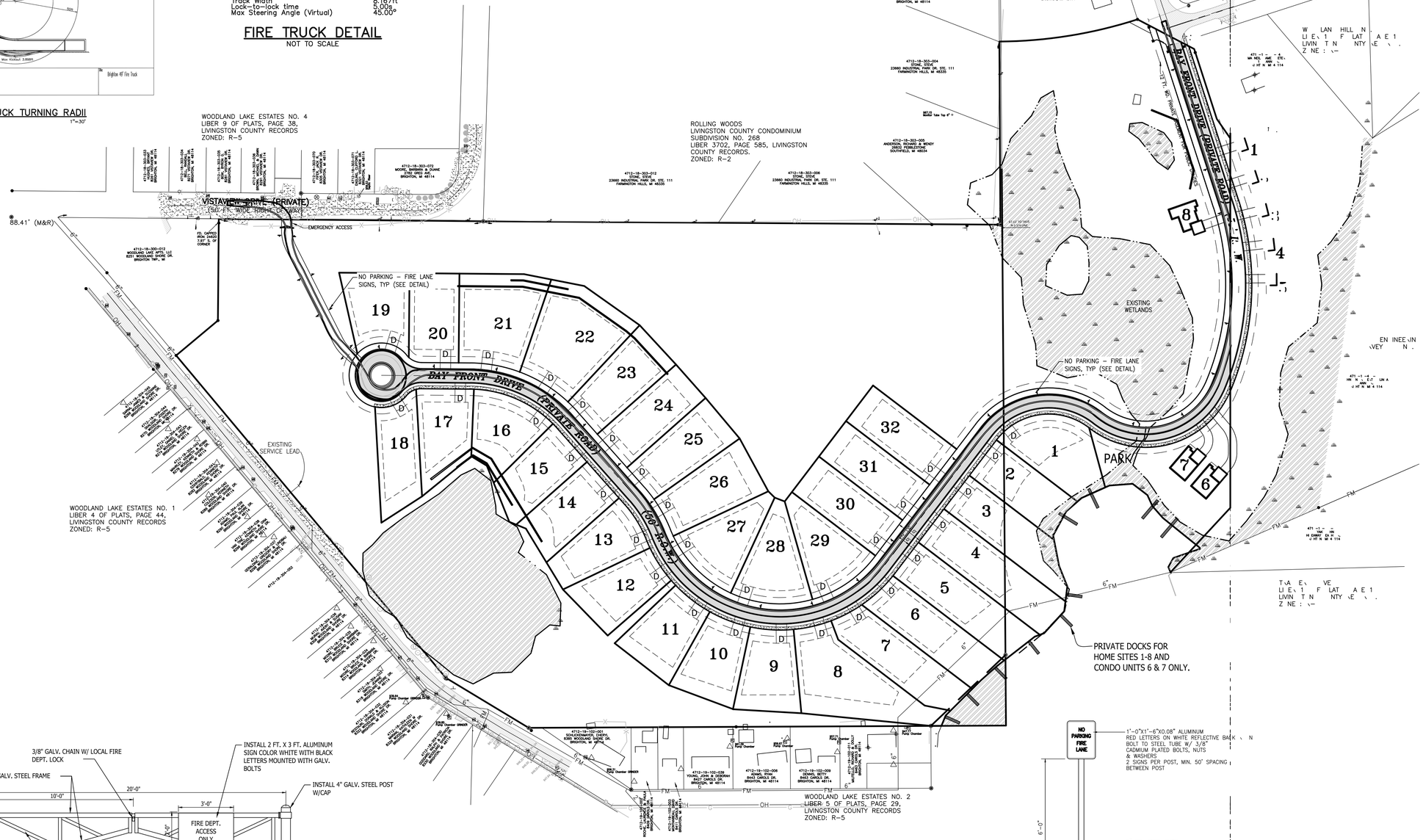


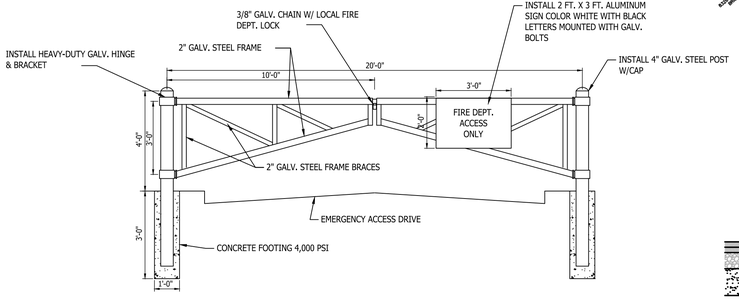
FIRE TRUCK TURNING RADII
1"=30'



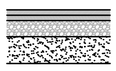
Brighton 49' Fire Truck	
Overall Length	49.083ft
Overall Width	8.167ft
Overall Body Height	7.500ft
Min Body Ground Clearance	0.750ft
Track Width	8.167ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	45.00°

FIRE TRUCK DETAIL
NOT TO SCALE

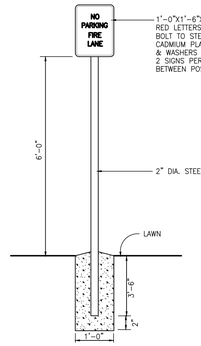




EMERGENCY ACCESS GATE DETAIL
NO SCALE



EMERGENCY ACCESS ROAD ASPHALT SECTION
(NO SCALE)



NO PARKING SIGN DETAIL
(NO SCALE)

FOR SITE PLAN REVIEW ONLY!
NOT FOR CONSTRUCTION

BE Engineering
Engineers Surveyors Planners Landscape Architects
3121 E GRAND RIVER
HOWELL MI 48843
517 546 4836 FAX 517 548 1650

SHEET TITLE
EMERGENCY VEHICULAR CIRCULATION PLAN

PROJECT TITLE
THE WOODLANDS AT LAKE EDGEWOOD

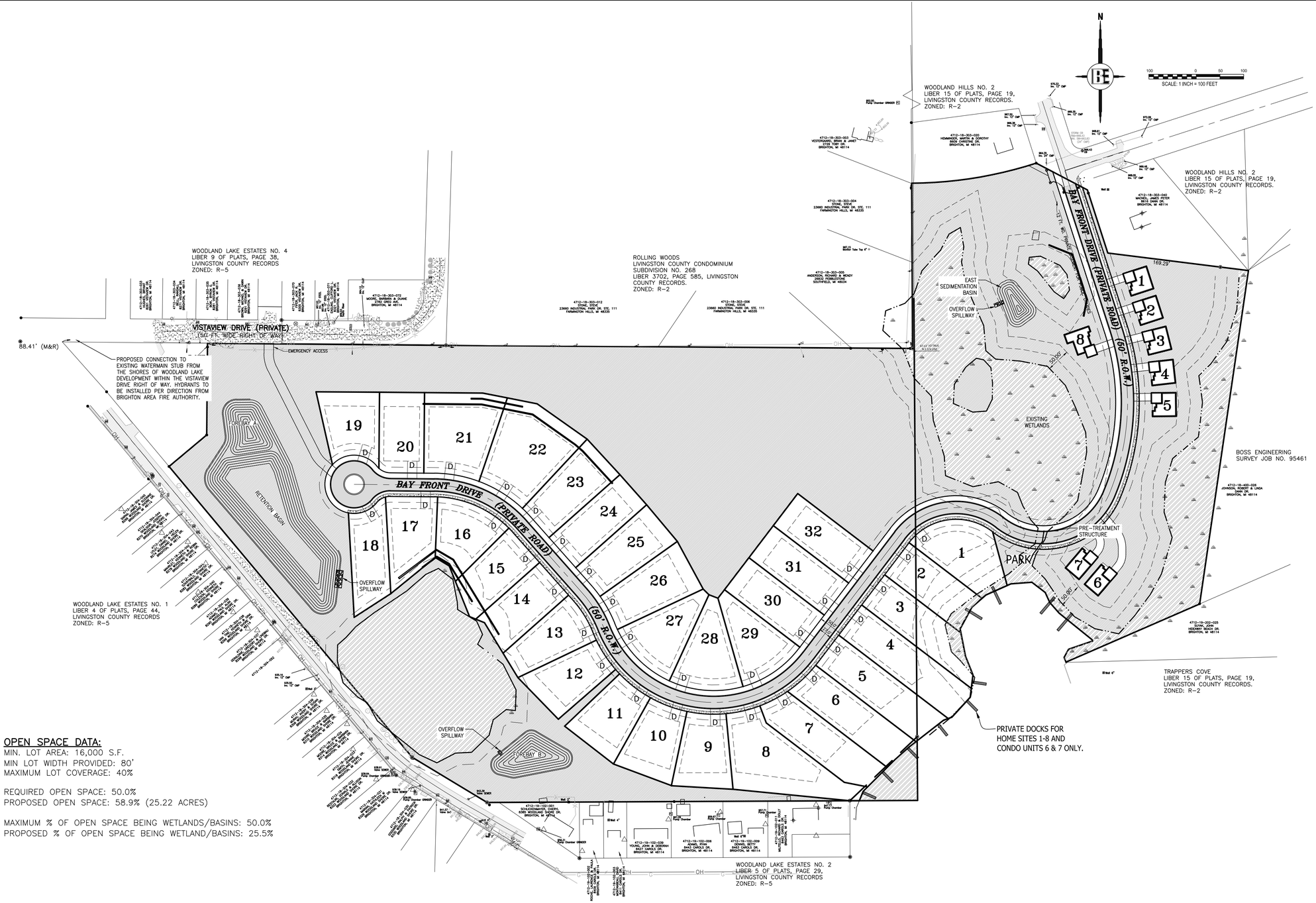
MICHIGAN HARRIS BUILDING COMPANY
211 NORTH FIRST ST, SUITE 300
BRIGHTON, MI 48116
810.229.9393

NO.	BY	DESCRIPTION	DATE
1	MJC	PER TOWNSHIP REVIEW	7/14/25
		PER TOWNSHIP REVIEW	6/4/25
		PER TOWNSHIP MEETING	4/4/25

ENGINEER: TJ
DRAWN BY: NL
CHECKED BY:
SCALE: 1" = 100'
JOB NO.: 4-41
DATE: 7/14/25

SHEET NO.
8

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OPEN SPACE DATA:

MIN. LOT AREA: 16,000 S.F.
MIN LOT WIDTH PROVIDED: 80'
MAXIMUM LOT COVERAGE: 40%

REQUIRED OPEN SPACE: 50.0%
PROPOSED OPEN SPACE: 58.9% (25.22 ACRES)

MAXIMUM % OF OPEN SPACE BEING WETLANDS/BASINS: 50.0%
PROPOSED % OF OPEN SPACE BEING WETLAND/BASINS: 25.5%

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THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN HEREON IS FURNISHED BY OTHERS AND NO GUARANTEE IS EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND PROPOSED UTILITY CONNECTIONS PRIOR TO CONSTRUCTION. IN ADDITION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND TO EXIST BETWEEN THE PLANS AND THE LOCATION OR DEPTH OF UTILITIES AS SHOWN ON THE PLANS.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171
IT'S THE LAW!!
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BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.548.1670

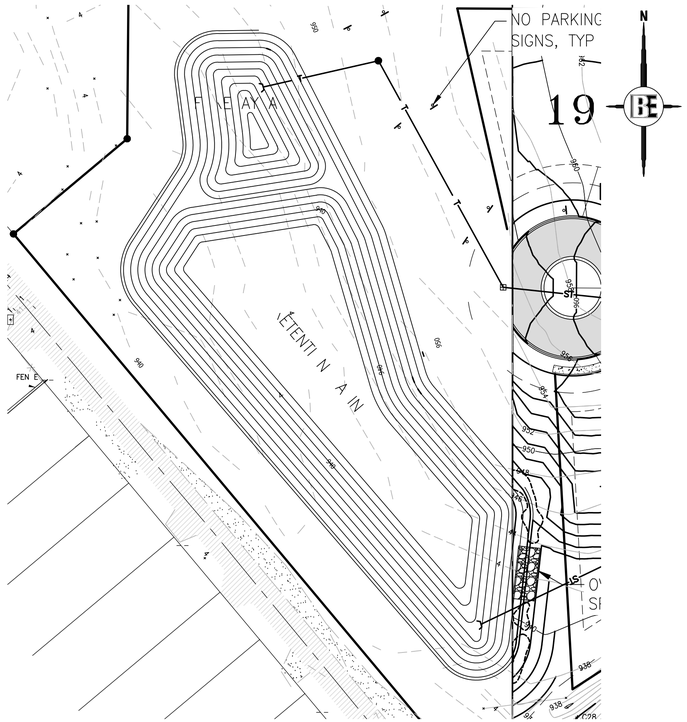
PROJECT
THE COVE AT WOODLAND LAKE

PREPARED FOR
MITCH HARRIS BUILDING COMPANY
211 NORTH FIRST STREET, SUITE 100
BRIGHTON, MI. 48116
810.229.7838

TITLE
OPEN SPACE PLAN

NO	BY	REVISION PER	DATE
3	MD	PER TOWNSHIP REVIEW	10/14/25
2	MD	PER TOWNSHIP REVIEW	08/28/25
1	MD	PER PLANNING COMMISSION MEETING	08/04/25

DESIGNED BY: ST
DRAWN BY: NL
CHECKED BY:
SCALE: 1" = 100'
JOB NO: 24-419
DATE: 7/14/25
SHEET NO. 9



RETENTION BASIN PLAN VIEW

SCALE: 1 INCH = 50 FEET

RETENTION BASIN CALCULATIONS

LIVINGSTON COUNTY RETENTION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
5.60	0.9	5.04
10.75	0.2	2.15

COMPOUND C: 0.44
TOTAL DRAINAGE AREA: 16.35 ACRES

WATER QUALITY VOLUME V_{WQ}

V_{WQ}= 3,630(C)(A) = 26102 FT^3
Are upstream infiltration BMP's provided? NO
V_F= 0.15(V_{WQ}) = 3915 FT^3

FOREBAY VOLUME REQUIREMENT (as a % of V_{WQ})

Vol Forebay A = 11161 FT^3
Vol Forebay B = 14941 FT^3

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAX TIME OF CONCENTRATION = 16.94 MIN
Q_{WQ}= (C)(A)30.2/(T_C+9.17)$^{.81}$ = 15.46 CFS

CHANNEL PROTECTION VOLUME CONTROL - REQUIRED

V_{CP-R} = 4,719(C)(A) = 33933 FT^3

CHANNEL PROTECTION VOLUME CONTROL - PROVIDED

In-Situ Infiltration rate = 1 IN/HR
Are upstream infiltration BMP's provided? NO
Basin Footprint Infiltration Area Required = 13573 FT^2
V_{CP-P} = 0 FT^3

100-YEAR RETENTION VOLUME

V_{RB} =	18985 (C)(A)(2)-V_{CP-P} =	273031 FT^3	(requires 1' of freeboard)
$V_{2\text{-INCH}}$ =	(2/12)*A =	118703 FT^3	(requires 3' of freeboard)
Q_{100IN} =	(C)(A)83.3/(T_C+9.17)$^{.81}$ =	42.63 CFS	

FOREBAY A STORAGE VOLUME PROVIDED:

ELEVATION	*AREA*	*VOLUME*	*TOTALVOLUME*	
943	5809	5,202	**12,214**	**DHWL**
942	4595	4,038	7,012	
941	3481	2,974	2,974	
940	2467	0	0	**BOTTOM OF STORAGE**
939	492			SUMP
938	190			SUMP
937	190			SUMP

FOREBAY B STORAGE VOLUME PROVIDED:

ELEVATION	*AREA*	*VOLUME*	*TOTALVOLUME*	
943	7164	6,520	**15,945**	**DHWL**
942	5875	5,282	**9,425**	
941	4688	4,144	**4,144**	
940	3600	0	**0**	**BOTTOM OF STORAGE**
939	2119			SUMP
938	299			SUMP
937	67			SUMP

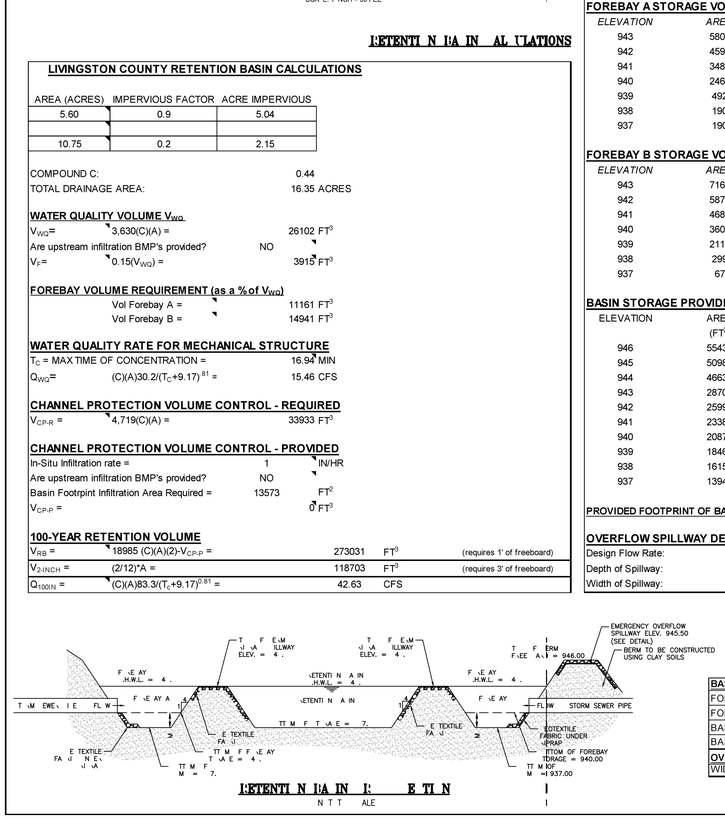
BASIN STORAGE PROVIDED

ELEVATION	AREA (FT^2)	DEPTH (FT)	VOLUME (FT^3)	TOTAL VOLUME (FT^3)	
946	55431	1	53,205	265,871	**FREEBOARD**
945	50980	1	48,807	212,666	**FREEBOARD**
944	46633	1	37,671	163,859	**FREEBOARD**
943	28708	1	27,352	126,188	**DHWL**
942	25995	1	24,689	98,837	
941	23384	1	22,128	74,147	
940	20872	1	19,667	52,020	
939	18461	1	17,306	32,353	
938	16151	1	15,046	15,046	
937	13942	0	0	0	**BOTTOM OF STORAGE**

PROVIDED FOOTPRINT OF BASIN BOTTOM AREA 13942 FT^2

OVERFLOW SPILLWAY DESIGN

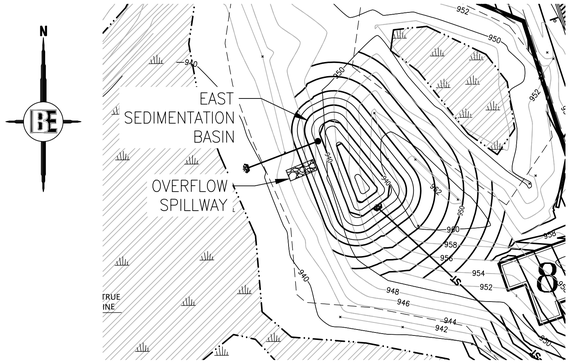
Design Flow Rate: Q_{100IN} = 42.63 CFS
Depth of Spillway: D_{SPILL} = 6 INCHES
Width of Spillway: $W_{SPILL} = Q_{100IN}/3.33D_{SPILL}^{3/2}$ = 36.2 FT



RETENTION BASIN CROSS SECTION

NOT TO SCALE

BASIN DESIGN SUMMARY	
FOREBAY SIZE REQUIRED =	26,102 FT^3
FOREBAY SIZE PROVIDED =	28,159 FT^3
BASIN SIZE REQUIRED =	118,703 FT^3
BASIN SIZE PROVIDED =	126,188 FT^3
OVERFLOW SPILLWAY SUMMARY	
WIDTH OF OVERFLOW SPILLWAY =	37 FT



SEDIMENTATION BASIN PLAN VIEW

SCALE: 1 INCH = 50 FEET

EAST SEDIMENTATION BASIN CALCULATIONS

LIVINGSTON COUNTY SEDIMENTATION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
1.12	0.9	1.00
1.09	0.2	0.22

COMPOUND C: 0.55
TOTAL DRAINAGE AREA: 2.20 ACRES

WATER QUALITY VOLUME V_{WQ}

V_{WQ}= 3,630(C)(A) = 4435 FT^3
Are upstream infiltration BMP's provided? NO
V_F= 0.15(V_{WQ}) = 665 FT^3
V_F Forebay A = 0 FT^3
V_F Forebay B = 0 FT^3

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAX TIME OF CONCENTRATION = 16.94 MIN
Q_{WQ}= (C)(A)30.2/(T_C+9.17)$^{.81}$ = 2.63 CFS

CHANNEL PROTECTION VOLUME CONTROL - REQUIRED

V_{CP-R} = 4,719(C)(A) = 5765 FT^3

CHANNEL PROTECTION VOLUME CONTROL - PROVIDED

In-Situ Infiltration rate = 1 IN/HR
Are upstream infiltration BMP's provided? NO
Basin Footprint Infiltration Area Required = 2306 FT^2
V_{CP-P} = 0 FT^3

EAST SEDIMENTATION BASIN STORAGE VOLUME PROVIDED:

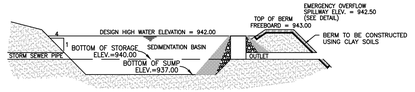
ELEVATION	*AREA*	*VOLUME*	*TOTALVOLUME*	
943	5099	4,453	**9,873**	**FREEBOARD**
942	3808	3,241	**5,420**	**DHWL**
941	2674	2,180	**2,180**	
940	1686	0	**0**	**BOTTOM OF STORAGE**
939	1014			SUMP
938	447			SUMP
937	74			SUMP

PROVIDED FOOTPRINT OF BASIN BOTTOM AREA 1686 FT^2

OVERFLOW SPILLWAY DESIGN

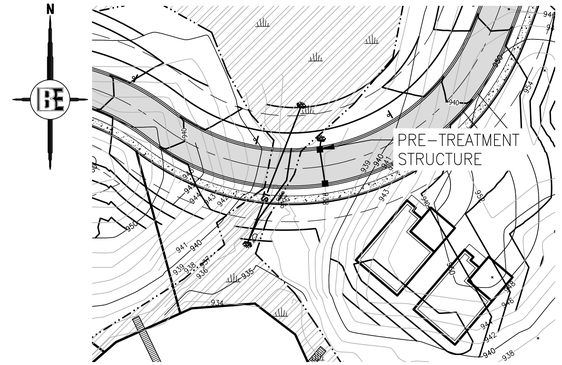
Design Flow Rate: Q_{100IN} = 7.24 CFS
Depth of Spillway: D_{SPILL} = 6 INCHES
Width of Spillway: $W_{SPILL} = Q_{100IN}/3.33D_{SPILL}^{3/2}$ = 6.2 FT

BASIN DESIGN SUMMARY	
FOREBAY SIZE REQUIRED =	4,435 FT^3
FOREBAY SIZE PROVIDED =	6,267 FT^3
OVERFLOW SPILLWAY SUMMARY	
WIDTH OF OVERFLOW SPILLWAY =	7 FT



SEDIMENTATION BASIN CROSS SECTION

NOT TO SCALE



WETLAND DISCHARGE PRE-TREATMENT PLAN VIEW

SCALE: 1 INCH = 50 FEET

WETLAND DISCHARGE PRE-TREATMENT CALCULATIONS

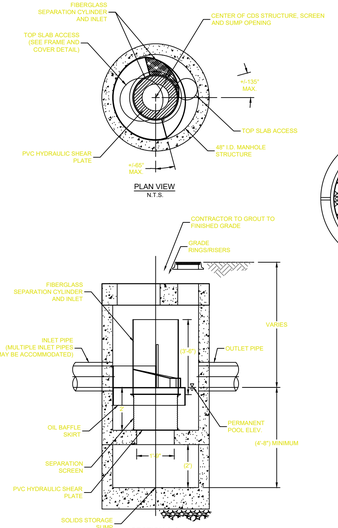
LIVINGSTON COUNTY PRE-TREATMENT CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
0.76	0.9	0.68
0.95	0.2	0.19

COMPOUND C: 0.51
TOTAL DRAINAGE AREA: 1.71 ACRES

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAX TIME OF CONCENTRATION = 16.94 MIN
Q_{WQ}= (C)(A)30.2/(T_C+9.17)$^{.81}$ = 1.87 CFS





FRAME AND COVER
(DIAMETER VARIES)
N.T.S.

TYPICAL PRE-TREATMENT STRUCTURE

NOT TO SCALE

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

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3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
IT'S THE LAW!! (P.A. 53 OF 1974, as amended)
IT'S FREE!! THE MEMBERS OF MISS DIG WILL MARK THE LOCATION OF THEIR UNDERGROUND FACILITIES IN THE PROPOSED EXCAVATION AREA.

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

PROJECT: THE COVE AT WOODLAND LAKE
PREPARED FOR: MITCH HARRIS BUILDING COMPANY
211 NORTHFIRST STREET, SUITE 100
BRIGHTON, MI. 48116
810.229.7838
TITLE: PUD-STORMWATER DETAILS

NO	BY	REVISION PER	DATE
1	MD	PER PLANNING COMMISSION MEETING	08/04/25
2	MD	PER TOWNSHIP REVIEW	08/28/25
3	MD	PER TOWNSHIP REVIEW	10/14/25

DESIGNED BY: ST
DRAWN BY: NL
CHECKED BY:
SCALE: NO SCALE
JOB NO: 24-419
DATE: 7/14/25
SHEET NO. 10

N

SCALE: 1 INCH = 80 FEET

WOODLAND HILLS NO. 2
LIBER 15 OF PLATS, PAGE 19,
LIVINGSTON COUNTY RECORDS.
ZONED: R-2

CHRISTINE DRIVE
(66 FT. WIDE RIGHT OF WAY)

DANN DRIVE
(66 FT. WIDE RIGHT OF WAY)

WOODLAND HILLS NO. 2
LIBER 15 OF PLATS, PAGE
LIVINGSTON COUNTY RECOR
ZONED: R-2

4712-18-303-020
HEMMINGER, MARTIN & DOROTHY
8606 CHRISTINE DR.
BRIGHTON, MI 48114

4712-18-303-003
VESTERGAARD, BRIAN & JANET
2729 TOBY DR.
BRIGHTON, MI 48114

4712-18-303-004
STONE, STEVE
23660 INDUSTRIAL PARK DR. STE. 111
FARMINGTON HILLS, MI 48335

4712-18-303-005
ANDERSON, RICHARD & WENDY
26832 PEBBLESTONE
SOUTHFIELD, MI 48034

4712-18-303-040
MICHAEL JAMES PETER
8616 DANN DR.
BRIGHTON, MI 48114

ARC=267.27'
RADIUS=872.17'
DELTA=17°33'28"
CHORD=N80°52'47"E
266.23'

S 62°24'42" E 44.83'

S 17°35'45" E 140.00'

S 82°54'23" E 299.10'
169.29'

EAST LINE OF ROLLING WOODS
& (NORTH-SOUTH 1/4
LINE AS MONUMENTED)
N 00°18'28" W 348.66'

NORTH-SOUTH
1/4 LINE

W LAN LAKE E TATE N . 4
LI E\ F LAT A E
LIVIN T N NTY \E \
Z NE : \–

VI TAVIEW IVE
FT WI E \ HT WAY E 4

ROLLING WOODS
LIVINGSTON COUNTY CONDOMINIUM
SUBDIVISION NO. 268
LIBER 3702, PAGE 585, LIVINGSTON
COUNTY RECORDS.
ZONED: R-2

4712-18-303-012
STONE, STEVE
23660 INDUSTRIAL PARK DR. STE. 111
FARMINGTON HILLS, MI 48335

4712-18-303-006
STONE, STEVE
23660 INDUSTRIAL PARK DR. STE. 111
FARMINGTON HILLS, MI 48335

4712-18-303-072
MOORE, BARBARA A. & DUANE
2762 CREST DR.
BRIGHTON, MI 48114

FLOWER BOX
6" WOOD WALL
4" WIRE FENCE

LIMITS OF GRADING

LIMITS OF GRADING
INCLUDES RETAINING
WALL (TYP.)

S89°37'22"E 984.35'

RETAINING WALL

1 ' A\EA: 41 4 FT FFE = .
11 A\EA: 41 FT FFE = 7 .
10 AREA: 40077 SFT FFE = 980.00
9 AREA: 40048 SFT FFE = 992.50
8 AREA: 40048 SFT FFE = 998.50
7 AREA: 40048 SFT FFE = 997.50
6 AREA: 40048 SFT FFE = 988.50
5 AREA: 40018 SFT FFE = 978.00
4 AREA: 47409 SFT UPLAND: 30015 SFT FFE = 969.50
1 AREA: 46202 SFT UPLAND: 44966 SFT FFE = 968.50
2 AREA: 57068 SFT UPLAND: 40338 SFT FFE = 962.50
3 AREA: 67992 SFT UPLAND: 37241 SFT FFE = 961.00
31 AREA: 40085 SFT UPLAND: 37669 SFT FFE = 967.00
30 AREA: 40218 SFT UPLAND: 30937 SFT FFE = 959.00
29 AREA: 59878 SFT UPLAND: 30152 SFT FFE = 954.00
27 AREA: 41125 SFT UPLAND: 38882 SFT FFE = 970.50
28 AREA: 41732 SFT UPLAND: 30103 SFT FFE = 953.00
26 AREA: 41299 SFT UPLAND: 37068 SFT FFE = 967.50
25 AREA: 45730 SFT UPLAND: 45679 SFT FFE = 968.50
24 AREA: 41094 SFT FFE = 970.00
23 AREA: 40021 SFT FFE = 968.50
22 AREA: 40244 SFT UPLAND: 39583 SFT FFE = 956.50
21 AREA: 40361 SFT FFE = 967.50
20 AREA: 40881 SFT FFE = 968.50
14 AREA: 46318 SFT UPLAND: 40005 SFT FFE = 985.50
15 AREA: 40000 SFT FFE = 994.00
16 AREA: 40000 SFT FFE = 998.00
17 AREA: 40000 SFT FFE = 994.50
18 AREA: 40000 SFT FFE = 988.00
19 AREA: 40224 SFT FFE = 978.50
1 ; A\EA: 4 17 FT FFE = 7 .

EXISTING WETLANDS
NATURAL FEATURES PROTECTION AREA
NORTHRIDGE PARCEL
4712-18-400-027
ZONED: R-2

BAY FRONT RIDGE (PRIVATE ROAD)
(66' R.O.W.)

WOOD RIDGE COURT (PRIVATE RD) 66' R.O.W.

DETENTION BASIN
PRE-TREATMENT UNIT
RETAINING WALL
LANDSCAPE AREA
WOOD DECK
WATER ELEV.=935.65 (11-15-06)
WATER ELEV.=935.25 (11-15-06)
WATER ELEV.=934.84 (11-15-06)
WATER ELEV.=933.56 (11-15-06)
WATER ELEV.=930 (11-15-06)

4712-18-400-026
JOHNSON, ROBERT & LINDA
DANN DR.
BRIGHTON, MI 48114

4712-19-202-025
SUYAK, JOHN
HIDEAWAY BEACH DR.
BRIGHTON, MI 48114

S 08°20'23" W 710.90'

S 66°27'50" W 305.19'

WOODLAND LAKE
WATER ELEV.=933.2
(11-15-06)

WATER'S EDGE NOV. 2006

10' RETAINING WALL

TRAPPERS COVE
LIBER 15 OF PLATS, PAGE 19,
LIVINGSTON COUNTY RECORDS.
ZONED: R-2

W LAN LAKE E TATE N . 1
LI E\ 4 F LAT A E 44
LIVIN T N NTY \E \
Z NE : \–

EX. POND
(2.04 AC.)
POND
WATER ELEV.=933.9
(11-15-06)

FOREBAY
RETENTION BASIN

SHED & FENCE ENCROACHMENT
LANDSCAPE ENCROACHMENT
SHED ENCROACHMENT

N 59°53'48" W 184.49'

S 89°43'51" W 908.52' (M) S 89°25' W 904.2' (R)

S 89°43'51" W 769.52'

SOUTH 1/4 COR.
SECTION 18
T2N-R6E
(B-7)

4712-19-102-001
SCHUCKMANTER, CHERYL
8385 WOODLAND SHORE DR.
BRIGHTON, MI 48114

4712-19-102-039
YOUNG, JOHN & DEBORAH
8427 CAROLS DR.
BRIGHTON, MI 48114

4712-19-102-006
ADAMS, RYAN
8443 CAROLS DR.
BRIGHTON, MI 48114

4712-19-102-009
DENNIS, BETTY
8463 CAROLS DR.
BRIGHTON, MI 48114

4712-19-102-011
MULTERER, JAMES & MOLLY
8483 CAROLS DR.
BRIGHTON, MI 48114

4712-19-102-012
ROSE, CAROL LIFE ESTATE
8505 CAROLS DR.
BRIGHTON, MI 48114

4712-19-102-013
SCHTUKMOLL, DAVID
8525 CAROLS DR.
BRIGHTON, MI 48114

CAROL'S DRIVE
(50 FT. WIDE RIGHT OF WAY)

WOODLAND LAKE ESTATES NO. 2
LIBER 5 OF PLATS, PAGE 29,
LIVINGSTON COUNTY RECORDS
ZONED: R-5

LOT #	GROSS AREA	UPLAND AREA	FRONTAGE
1	46202 SF	44966 SF	160.14 FT
2	57068 SF	40338 SF	160.09 FT
3	67992 SF	37241 SF	405.58 FT
4	47409 SF	30015 SF	180.80 FT
5	40018 SF	40018 SF	174.50 FT
6	40048 SF	40048 SF	174.50 FT
7	40048 SF	40048 SF	174.50 FT
8	40048 SF	40048 SF	174.50 FT
9	40048 SF	40048 SF	174.50 FT
10	40077 SF	40077 SF	174.50 FT
11	41256 SF	41256 SF	175.05 FT
12	41694 SF	41694 SF	160.26 FT
13	40017 SF	40017 SF	168.31 FT
14	46318 SF	40005 SF	206.85 FT
15	40000 SF	40000 SF	160.00 FT
16	40000 SF	40000 SF	160.00 FT
17	40000 SF	40000 SF	160.00 FT
18	40000 SF	40000 SF	160.00 FT
19	40224 SF	40224 SF	161.00 FT
20	40881 SF	40881 SF	335.11 FT
21	40361 SF	40361 SF	209.26 FT
22	40244 SF	39583 SF	185.71 FT
23	40021 SF	40021 SF	235.14 FT
24	41094 SF	41094 SF	160.42 FT
25	45730 SF	45679 SF	160.06 FT
26	41299 SF	37068 SF	160.07 FT
27	41125 SF	38882 SF	347.80 FT
28	41732 SF	30103 SF	177.94 FT
29	59878 SF	30152 SF	204.44 FT
30	40218 SF	30937 SF	178.22 FT
31	40085 SF	37669 SF	166.26 FT

SITE DATA:

EXISTING ZONING: R-2
TOTAL AREA: 42.8 AC.
TOTAL LOTS: 31
DENSITY: 0.72 UNITS PER ACRE
MIN. LOT AREA: 40,000 S.F.
MIN. UPLAND AREA: 75% = 30,000 S.F.
MIN LOT WIDTH PROVIDED: 160'
SETBACKS:
FRONT: 35'
SIDE: 12'
REAR: 35'
NATURAL FEATURES: 25'

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE AND NOT GUARANTEED TO BE ACCURATE EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF ALL EXISTING AND PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCY OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

3 WORKING DAYS BEFORE YOU DIG CALL MISS DIG 1-800-482-7171 IT'S THE LAW!!! MISS DIG IS NOT RESPONSIBLE FOR NONMEMBER FACILITIES

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

PROJECT
THE COVE AT WOODLAND LAKE

PREPARED FOR
MITCH HARRIS BUILDING COMPANY
211 NORTH FIRST STREET, SUITE 100
BRIGHTON, MICHIGAN 48116
810.523.6037

TITLE
CONVENTIONAL R-2 SITE PLAN

NO	BY	REVISION PER	DATE
3	MD	PER TOWNSHIP REVIEW	10/14/25
1	MD	PER PLANNING COMMISSION MEETING	07/31/25

DESIGNED BY: ST
DRAWN BY: ST
CHECKED BY:
SCALE: 1" = 80'
JOB NO: 24-419
DATE: 3/3/25
SHEET NO. 11

BOSS Engineering

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SCALE: 1 INCH = 80 FEET

WOODLAND HILLS NO. 2
LIBER 15 OF PLATS, PAGE 19,
LIVINGSTON COUNTY RECORDS.
ZONED: R-2

CHRISTINE DRIVE
(66 FT. WIDE RIGHT OF WAY)

DANN DRIVE
(66 FT. WIDE RIGHT OF WAY)

ROLLING WOODS
LIVINGSTON COUNTY CONDOMINIUM
SUBDIVISION NO. 268
LIBER 3702, PAGE 585, LIVINGSTON
COUNTY RECORDS.
ZONED: R-2

EAST LINE OF ROLLING WOODS
& (NORTH-SOUTH 1/4
LINE AS MONUMENTED)
N 00°18'28" W 348.66'

NORTH-SOUTH
1/4 LINE

ARC=267.27'
RADIUS=872.17'
DELTA=17°33'28"
CHORD=N80°52'47"E
266.23'

S89°37'22"E 984.35'

S 82°54'23" E 299.10'
169.29'

S 08°20'23" W 710.90'

N 35°53'48" W 184.48'

S 89°43'51" W 908.52' (M) S 89°25' W 904.2' (R)

S 89°43'51" W 769.52'

S 66°27'50" W 305.19'

LIMITS OF GRADING INCLUDES RETAINING WALL (TYP.)

LIMITS OF GRADING

LIMITS OF DRAINAGE

RETAINING WALL

EXISTING WETLANDS

NATURAL FEATURES PROTECTION AREA

WETLAND DISCHARGE
AREA = 1.83 AC
C = 0.50

PRE-TREATMENT UNIT

DETENTION BASIN

EAST DETENTION
AREA = 2.55 AC
C = 0.48

WEST RETENTION
AREA = 83 AC
C = 0.36

SOUTH RETENTION
AREA = 12.83 AC
C = 0.38

EX. POND
(2.04 AC.)
POND
WATER ELEV.=933.9
(11-15-06)

FOREBAY

RETENTION BASIN

WOODLAND LAKE
WATER ELEV.=933.2
(11-15-06)

WATER'S EDGE NOV. 2006

TRAPPERS COVE
LIBER 15 OF PLATS, PAGE 19,
LIVINGSTON COUNTY RECORDS.
ZONED: R-2

WOODLAND LAKE ESTATES NO. 2
LIBER 5 OF PLATS, PAGE 29,
LIVINGSTON COUNTY RECORDS
ZONED: R-5

CAROL'S DRIVE
(50 FT. WIDE RIGHT OF WAY)

SOUTH 1/4 COR.
SECTION 18
T2N-R6E
(B-7)

BAY FRONT RIDGE (PRIVATE ROAD)

WOODY RIDGE COURT (PRIVATE ROAD)

WOODY RIDGE (PRIVATE ROAD)

NORTHRIDGE PARCEL
4712-18-400-027
ZONED: R-2

SINGLE FAMILY HOMES		SINGLE FAMILY HOMES	
NUMBER	BASEMENT TYPE	NUMBER	BASEMENT TYPE
1	WALKOUT	17	WALKOUT
2	WALKOUT	18	WALKOUT
3	WALKOUT	19	STANDARD
4	STANDARD	20	STANDARD
5	DAYLIGHT	21	STANDARD
6	DAYLIGHT	22	WALKOUT
7	STANDARD	23	WALKOUT
8	STANDARD	24	WALKOUT
9	STANDARD	25	WALKOUT
10	DAYLIGHT	26	WALKOUT
11	DAYLIGHT	27	WALKOUT
12	WALKOUT	28	WALKOUT
13	WALKOUT	29	WALKOUT
14	WALKOUT	30	WALKOUT
15	WALKOUT	31	WALKOUT
16	WALKOUT		

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

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3 WORKING DAYS
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CALL MISS DIG
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IT'S THE LAW!!! (P.A. 53 OF 1974, as amended)
IT'S ALSO GOOD PRACTICE

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3121 E. GRAND RIVER AVE.
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PROJECT
THE COVE AT WOODLAND LAKE

PREPARED FOR
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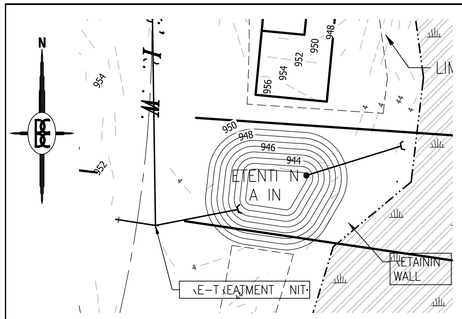
TITLE
CONVENTIONAL R-2 GRADING PLAN

NO	BY	REVISION PER	DATE
3	MD	PER TOWNSHIP REVIEW	10/14/25
1	MD	PER PLANNING COMMISSION MEETING	07/31/25

DESIGNED BY: ST
DRAWN BY: ST
CHECKED BY:
SCALE: 1" = 80'
JOB NO: 24-419
DATE: 3/3/25
SHEET NO. 12

BOSS Engineering

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EA T I ETENTI N I:A IN I'LAN VIEW

SCA E: 1 NCH = 50 FEET

EA T I ETENTI N I:A IN AL ULATI N

LIVINGSTON COUNTY DETENTION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
1.03	0.9	0.93
1.52	0.2	0.30

COMPOUND C: 0.48
TOTAL DRAINAGE AREA: 2.55 ACRES

WATER QUALITY VOLUME V_{WQ}

V_{WQ}= 3,630(C)(A) = 4472 FT^3
Are upstream infiltration BMP's provided? NO
V_F= 0.15(V_{WQ}) = 671 FT^3

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAX TIME OF CONCENTRATION = 16.94 MIN
Q_{WQ}= (C)(A)30.2/(T_C+9.17)$^{.81}$ = 2.65 CFS

CHANNEL PROTECTION VOLUME CONTROL - REQUIRED

V_{CP-R} = 4,719(C)(A) = 5813 FT^3

CHANNEL PROTECTION VOLUME CONTROL - PROVIDED

In-Situ Infiltration rate = 0 IN/HR
Are upstream infiltration BMP's provided? NO
Basin Footprint Infiltration Area Required = NO INFILTRATION FT^2
V_{CP-P} = 0 FT^3

CHANNEL PROTECTION RATE CONTROL (EXTENDED DETENTION VOLUME)

V_{ED} = 6,897(C)(A) = 8496 FT^3

EXTENDED DETENTION OUTLET RATE

Q_{ED} = V_{ED}/(48hr) = 0.049 CFS
H_{ED} = V_{ED}/4,800 $(H)^{1/2}$ = 1.0 1" HOLES
H = 6.00 FT
$ELEV_{ED}$ = 945.91 FT

100-YEAR ALLOWABLE OUTLET RATE

Q_{DRAIN} =	Restricted Drain Rate =	0.1	CFS/ACRE
Q_{VRR} =	1.1055 - 0.206LN(A) =	0.912	CFS/ACRE
Q_{100P} =	(LESSER OF Q_{DRAIN} & Q_{VRR})*A =	0.255	CFS

CONTACT LIVINGSTON COUNTY DRAIN COMMISSION FOR ALLOWABLE RELEASE RATE

100-YEAR DETENTION VOLUME

V_{100R} = 18985 (C)(A) = 23388 FT^3
Q_{100IN} = (C)(A)83.3/(T_c+9.17)$^{0.81}$ = 7.30 CFS
R = 0.206- 15(ln(Q_{100P}/Q_{100IN}) = 0.7091
V_{100D} = V_{100R}*R-V_{CP-P} = 16584 FT^3
Is V_{100D} ≥ V_{ED} ? YES
V_{100D} = 16584 FT^3

BASIN STORAGE PROVIDED

ELEVATION	AREA (FT^2)	DEPTH (FT)	VOLUME (FT^3)	TOTAL VOLUME (FT^3)	
949	6800	1	6,232	24,322	**FREEBOARD**
948	5663	1	5,145	**18,091**	**DHWL**
947	4627	1	4,159	12,946	
946	3691	1	3,274	8,787	
945	2856	1	2,489	5,513	
944	2121	1	1,804	3,025	
943	1487	1	1,221	1,221	
942	954	0	0	0	**BOTTOM OF STORAGE**

PROVIDED FOOTPRINT OF BASIN BOTTOM AREA 2121 FT^2

OUTLET CONTROL STRUCTURE

Q_{ED} ACTUAL

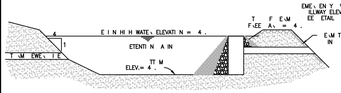
H_{ED} = 1 (1" HOLES)
A_{ED} = 0.0055 FT^2
$Q_{ED-ACTUAL}$ = (A_{ED})(0.62 x (2 x 32.2 x h)$^{0.5}$) = 0.066 CFS

Q_{100ALL} OUTLET

$Q_{100-ACTUAL}$ = Q_{100P} - $Q_{ED-ACTUAL}$ = 0.189 CFS
A_{100} = $Q_{100-ACTUAL}$ / (0.62 * (2 *32.2 * ($ELEV_{DHWL}$ - $ELEV_{ED}$)$^{0.5}$) = 0.026 FT^2
AREA OF 1 INCH DIAMETER ORIFICE = 0.005 FT^2
ORIFICES = A_{100} / 0.005 = 4.0 ORIFICES

OVERFLOW SPILLWAY DESIGN

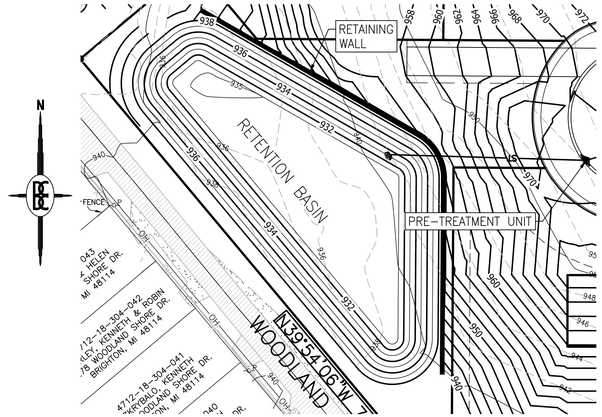
Design Flow Rate: Q_{100IN} = 7.30 CFS
Depth of Spillway: D_{SPILL} = 6 INCHES
Width of Spillway: W_{SPILL} = Q_{100IN}/3.33$D_{SPILL}^{3/2}$= 6.2 FT



EA T I ETENTI N I:A IN I: E TI N

N T T ALE

BASIN DESIGN SUMMARY	
BASIN SIZE REQUIRED =	16584 FT^3
BASIN SIZE PROVIDED =	18,091 FT^3
ORIFICE DESIGN SUMMARY	
ELEVATION	# OF HOLES	DIAMETER OF HOLES
942.00	1.0	1 -INCH
945.91	4.0	1 -INCH
OVERFLOW SPILLWAY SUMMARY	
WIDTH OF OVERFLOW SPILLWAY =	7 FT



WEST RETENTION BASIN PLAN VIEW

SCALE: 1 INCH = 50 FEET

WEST RETENTION BASIN CALCULATIONS

LIVINGSTON COUNTY RETENTION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
1.74	0.9	1.57
6.09	0.2	1.22

COMPOUND C: 0.36
TOTAL DRAINAGE AREA: 7.83 ACRES

WATER QUALITY VOLUME V_{WQ}

V_{WQ}= 3,630(C)(A) = 10107 FT^3
Are upstream infiltration BMP's provided? NO
V_F= 0.15(V_{WQ}) = 1516 FT^3

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAX TIME OF CONCENTRATION = 16.94 MIN
Q_{WQ}= (C)(A)30.2/(T_C+9.17)$^{.81}$ = 5.98 CFS

CHANNEL PROTECTION VOLUME CONTROL - REQUIRED

V_{CP-R} = 4,719(C)(A) = 13139 FT^3

CHANNEL PROTECTION VOLUME CONTROL - PROVIDED

In-Situ Infiltration rate = 1 IN/HR
Are upstream infiltration BMP's provided? NO
Basin Footprint Infiltration Area Required = 5256 FT^2
V_{CP-P} = 0 FT^3

100-YEAR RETENTION VOLUME

V_{RR} =	18985 (C)(A)(2)-V_{CP-P} =	105718	FT^3	(requires 1' of freeboard)
V_{3-INCH} =	(2/12)*A =	56846	FT^3	(requires 3' of freeboard)
Q_{100IN} =	(C)(A)83.3/(T_c+9.17)$^{0.81}$ =	16.51	CFS	

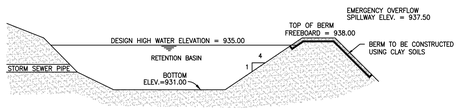
BASIN STORAGE PROVIDED

ELEVATION	AREA (FT^2)	DEPTH (FT)	VOLUME (FT^3)	TOTAL VOLUME (FT^3)	
938	29610	1	28,193	142,415	**FREEBOARD**
937	26776	1	25,410	114,222	**FREEBOARD**
936	24043	1	22,727	88,813	**FREEBOARD**
935	21410	1	20,144	**66,086**	**DHWL**
934	18878	1	17,662	45,942	
933	16446	1	15,281	28,280	
932	14115	1	13,000	13,000	
931	11884				**BOTTOM OF STORAGE**

PROVIDED FOOTPRINT OF BASIN BOTTOM AREA 11884 FT^2

OVERFLOW SPILLWAY DESIGN

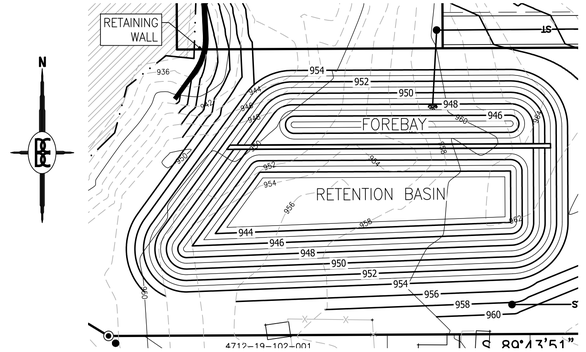
Design Flow Rate: Q_{100IN} = 16.51 CFS
Depth of Spillway: D_{SPILL} = 6 INCHES
Width of Spillway: W_{SPILL} = Q_{100IN}/3.33$D_{SPILL}^{3/2}$= 14.0 FT



WEST RETENTION BASIN CROSS SECTION

NOT TO SCALE

BASIN DESIGN SUMMARY	
BASIN SIZE REQUIRED =	56,846 FT^3
BASIN SIZE PROVIDED =	66,086 FT^3
OVERFLOW SPILLWAY SUMMARY	
WIDTH OF OVERFLOW SPILLWAY =	15 FT



SOUTH RETENTION BASIN PLAN VIEW

SCALE: 1 INCH = 50 FEET

SOUTH RETENTION BASIN CALCULATIONS

LIVINGSTON COUNTY RETENTION BASIN CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
3.31	0.9	2.98
9.52	0.2	1.90

COMPOUND C: 0.38
TOTAL DRAINAGE AREA: 12.83 ACRES

WATER QUALITY VOLUME V_{WQ}

V_{WQ}= 3,630(C)(A) = 17719 FT^3
Are upstream infiltration BMP's provided? NO
V_F= 0.15(V_{WQ}) = 2658 FT^3

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAX TIME OF CONCENTRATION = 16.94 MIN
Q_{WQ}= (C)(A)30.2/(T_C+9.17)$^{.81}$ = 10.49 CFS

CHANNEL PROTECTION VOLUME CONTROL - REQUIRED

V_{CP-R} = 4,719(C)(A) = 23035 FT^3

CHANNEL PROTECTION VOLUME CONTROL - PROVIDED

In-Situ Infiltration rate = 1 IN/HR
Are upstream infiltration BMP's provided? NO
Basin Footprint Infiltration Area Required = 9214 FT^2
V_{CP-P} = 0 FT^3

100-YEAR RETENTION VOLUME

V_{RR} =	18985 (C)(A)(2)-V_{CP-P} =	185344	FT^3	(requires 1' of freeboard)
V_{3-INCH} =	(2/12)*A =	93144	FT^3	(requires 3' of freeboard)
Q_{100IN} =	(C)(A)83.3/(T_c+9.17)$^{0.81}$ =	28.94	CFS	

FOREBAY STORAGE VOLUME PROVIDED:

ELEVATION	*AREA*	*VOLUME*	*TOTAL VOLUME*	
951	8178	7,651	**19,917**	**DHWL**
950	7123	6,622	12,266	
949	6120	5,645	5,645	
948	5169	0	0	**BOTTOM OF STORAGE**
947	3336			SUMP
946	1926			SUMP
945	617			SUMP

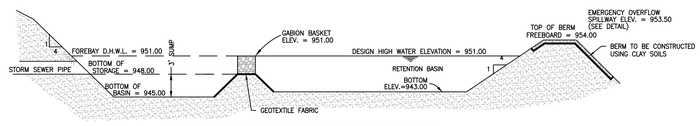
BASIN STORAGE PROVIDED

ELEVATION	AREA (FT^2)	DEPTH (FT)	VOLUME (FT^3)	TOTAL VOLUME (FT^3)	
954	38918	1	37,368	207,101	**FREEBOARD**
953	35818	1	34,318	169,733	**FREEBOARD**
952	32818	1	26,942	135,415	**FREEBOARD**
951	21066	1	20,208	**108,473**	**DHWL**
950	19349	1	18,515	88,266	
949	17681	1	16,872	69,751	
948	16062	1	14,875	52,879	
947	13687	1	12,585	38,005	
946	11482	1	10,443	25,420	
945	9403	1	8,429	14,978	
944	7454	1	6,549	6,549	
943	5644	0	0	0	**BOTTOM OF STORAGE**

PROVIDED FOOTPRINT OF BASIN BOTTOM AREA 17681 FT^2

OVERFLOW SPILLWAY DESIGN

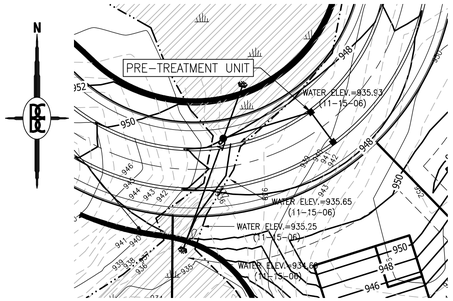
Design Flow Rate: Q_{100IN} = 28.94 CFS
Depth of Spillway: D_{SPILL} = 6 INCHES
Width of Spillway: W_{SPILL} = Q_{100IN}/3.33$D_{SPILL}^{3/2}$= 24.6 FT



SOUTH RETENTION BASIN CROSS SECTION

NOT TO SCALE

BASIN DESIGN SUMMARY	
FOREBAY SIZE REQUIRED =	17,719 FT^3
FOREBAY SIZE PROVIDED =	19,917 FT^3
BASIN SIZE REQUIRED =	93,144 FT^3
BASIN SIZE PROVIDED =	108,473 FT^3
OVERFLOW SPILLWAY SUMMARY	
WIDTH OF OVERFLOW SPILLWAY =	25 FT



WETLAND DISCHARGE PRE-TREATMENT PLAN VIEW

SCALE: 1 INCH = 50 FEET

WETLAND DISCHARGE PRE-TREATMENT CALCULATIONS

LIVINGSTON COUNTY PRE-TREATMENT CALCULATIONS

AREA (ACRES)	IMPERVIOUS FACTOR	ACRE IMPERVIOUS
0.78	0.9	0.70
1.05	0.2	0.21

COMPOUND C: 0.50
TOTAL DRAINAGE AREA: 1.83 ACRES

WATER QUALITY RATE FOR MECHANICAL STRUCTURE

T_C = MAX TIME OF CONCENTRATION = 16.94 MIN
Q_{WQ}= (C)(A)30.2/(T_C+9.17)$^{.81}$ = 1.96 CFS

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE AND NOT GUARANTEED TO BE COMPLETE OR ACCURATE EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES AND FOR PROPOSED UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION OR IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

3 WORKING DAYS
BEFORE YOU DIG
CALL MISS DIG
1-800-482-7171
IT'S THE LAW!!! (P.A. 53 OF 1974, AS AMENDED)

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

PROJECT: THE COVE AT WOODLAND LAKE

PREPARED FOR: MITCH HARRIS BUILDING COMPANY
211 NORTHFIRST STREET, SUITE 100
BRIGHTON, MI. 48116
810.523.6037

TITLE: CONVENTIONAL R-2 STORMWATER DETAILS

NO	BY	REVISION PER	DATE
3	MD	PER TOWNSHIP REVIEW	10/14/25
1	MD	PER PLANNING COMMISSION MEETING	07/31/25

DESIGNED BY: ST
DRAWN BY: ST
CHECKED BY:
SCALE: 1" = 80'
JOB NO: 24-419
DATE: 3/3/25
SHEET NO. 13

BOSS Engineering

G:\24-419\DWG\SP\24-419 Parallel Plan.dwg, 10/14/2025 4:08:05 PM, AutoCAD PDF (General Documentation).pc3

CHARTER TOWNSHIP OF BRIGHTON

4363 Buno Rd. • Brighton, Michigan 48114-9298 • Telephone: (810) 229-0550 Fax: (810) 229-1778
www.brightontwp.com

PUD Rezn 25/01

PLANNING COMMISSION APPLICATION

1. **Date Filed** 3/4/25
3. **PC Number** ~~SP# 25/02~~
2. **Meeting Date** ~~4/14/25~~ 6/9/25
4. **Fee Paid** ✓

5. **Applicant Information**

Name: Mr. Mitch Harris - Mitch Harris Building Company
Address: 211 North First Street, Suite 100
City/State/Zip: Brighton, MI 48116
Phone: (810)229-7838 Email: mharris@mitchharris.net
Interest in the Property (e.g. fee simple, land option, etc.)
■ Property Owner ☐ Other (Specify) _____

RECEIVED
MAR 04 2025
BRIGHTON TOWNSHIP

6. **Current Property Owner Information**

Name Address: Same as Applicant
City/State/Zip: _____
Phone: _____ Email: _____
Length of Ownership: _____

7. **Location of Property for which the Application is Requested**

Address: 0 Dann Dr Brighton, MI 48116
Cross Streets: Dann Dr & N Christine Dr
Tax I.D. #: 4712-18-300-011 & 4712-18-400-027

8. **Property Information**

Zoning District: R-2 Residential Single Family/.91 Acres
Area (Acreage): 42.8 AC Width: 4,630' Depth: 1,134'
Current Use: Vacant

9. Type and Description of Development

45 unit Planned Unit Development, made up of 37 single family lots & 8 detached condominiums.

PUD [✔] Subdivision [ ] Site Condo [ ]
New Site Plan [ ] Revised Site Plan [ ] Additional Phase [ ]

10. Site Plan Request

Describe your Request Request to go before the Brighton Township Planning Commission and Township Board to obtain their approval to develop a vacant site, bordering Woodland Lake, as a residential planned unit development made up of single family lots and detached condominium units.

I, Mitch Harris (applicant), do hereby swear that the above statements are true.

I, Mitch Harris (property owner), hereby give permission for the Charter Township of Brighton staff and consultants to go on the property for which the above referenced petition is proposed for purposes of verifying information provided on the submitted application.

Signature of Applicant _____ Date: 3.3.25

Signature of Property Owner _____ Date: 3.3.25

Brighton Township Planning Commission Action

Approved/Denied _____
Date _____
Conditions of Approval _____

PLANNING COMMISSION
SITE PLAN REVIEW
PROCEDURES AND SPECIFICATIONS

1. All plans or blueprints shall be prepared, signed and sealed by a licensed Architect or Engineer.

2. All petitions and plans must be filed with the Planning Department no later than thirty (30) days prior to the regular meeting of the Township Planning Commission. RESUBMITTALS MUST BE IN THE PLANNING OFFICE FOURTEEN (14) DAYS PRIOR TO THE NEXT SCHEDULED REGULAR MEETING DATE.

3. The applicant(s), architect, or engineer of record or his/her authorized agent (by way of written letter) must appeal at the meeting. A brief presentation of the proposed project may be done at that time.

4. Applicant must initially submit five (5) paper copies and one (1) digital copy; when ready for planning commission approval (5) paper copies and one (1) digital copy of the site plan with the application. Email address is planner@brightontwp.com.

5. **The following fees are non-refundable and include two (2) reviews by the staff:**

Residential site plan review for a plat/site condo	$4,000***
Residential site plan review for a plat/site condo and PUD/Conditional Zoning:	$5,300***
Commercial site plan review	$2,100***
Revised Commercial site Plan Review-	$1,800***
Revised Residential site plan review-	$2,900***

The above fees include the cost of one meeting per phase (optional, preliminary, etc.) If additional meetings are necessary, applicant will be responsible for additional costs. If reviews go beyond two (2) reviews, applicant is responsible for additional costs.

* * *Note: If the property is located within the Natural Features Overlay district, per Section 10-04 of the Zoning Ordinance, an Environmental Impact Assessment will be required. In addition, a Traffic Impact Study and a wetland survey may be required for all projects with impacts, as stated per Section 18-09. Additional costs incurred for these studies/surveys, will be the sole responsibility of the developer.

6. Following the site plan phase of the project, there is a final site plan/construction plan review phase of the project. This phase is handled administratively and the fee for this phase of the project is based on the construction cost of the job and includes two (2) plan reviews; the fee is paid at the time of submittal of plans. Construction plan reviews beyond two (2) submittals will be charged on an hourly basis but an escrow amount will be established up-front which will need to be paid prior to any additional reviews. After the construction plans are approved and the engineer issues his final letter, an inspection escrow amount based on the construction cost, performance bond amount, and any other fees associated with the project will be identified in the engineer's letter which will need to be paid prior to the issuance of a building permit. In addition, the building department has permit fees. The adopted Brighton Township Engineering Standards are on the Township's web site which applicants can review for more detail on the entire construction process.

7. NOTE: An evaluation of water and sewer REUs will be part of the review.

REQUIRED SPECIFICATIONS:

GENERAL INFORMATION:

☑ Include a north arrow, drawing scaled, drawing numbers, drawing date and revision dates, area location map, the proposed use, the property zoning, and adjacent zoning.

☑ Include the name of the developer, developer's name, address and phone number.

☑ All site plans should be prepared, signed and sealed by a registered architect or engineer.

GENERAL SITE INFORMATION:

☑ The legal description of the property, a boundary survey, and the tax numbers of the parcel need to be provided. The location and dimensions of lot lines and easements need to be shown.

☑ All existing and proposed topography shall be represented on a contour map which will accompany all proposed new structures. Existing topography information at a contour interval of two (2) feet or less plus proposed grading plan (including design of any on site storm water retention/detention area).

☑ The site plan needs to identify natural features such as wooded areas, soils, flood plains, wetlands and watercourses. The Planning Commission may require scenic

easements, woodlands, or portions of woodlands, rock formations or any natural feature of land or resource which would perpetuate the natural attractiveness of any site. All such scenic easements shall be maintained in perpetuity as described and approved on the site plan and supporting documents of record.

PROPOSED DEVELOPMENT INFORMATION:

☑ Structures need to meet the area, height and bulk requirements for the zoning district. All required yards and setbacks need to be shown.

☑ Screening walls, greenbelts and landscaped areas need to be detailed and labeled. The location of any trees (5" caliper of greater) to be removed must be indicated.

☐ A lighting plan showing lighting location, height, area of illumination, and fixture details should be provided.

☐ Solid waste disposal methods need to be identified including the location of dumpsters and screening details.

☐ Details on signage need to be provided such as the type, size, height, illumination and location.

☐ Off-street parking calculations as required by the Ordinance should be met. Parking spaces (double striped), driveways, maneuvering lanes and acceleration and deceleration lanes shall be drawn to scale on all site plans. Barrier-free parking per ADA standards shall be designed in the same method and manner.

☐ Loading/unloading areas shall be accurately drawn and labeled. Access to loading areas need to provide adequate turning radii for trucks.

☑ Storm water drainage plan should be provided indicating drainage routes, slopes, materials, manholes, inverts and catch basin locations, and storm water detention / retention with supporting calculations.

☑ Sanitary sewage disposal and water systems should be identified.

☑ Include details on any pavement surface showing a cross section with pavement materials. An access permit from the Livingston County Road Commission may be required.

☐ Type and proposed location of any outdoor storage.

☑ Proposed use of each existing and each proposed structure in this development, number of stories, gross building floor space, and distances between structures.

☑ Elevation plans, including height of exterior (front, side, and rear) facades of all buildings or structures on site, indicating proposed construction materials, including color and architecture.

Revised 6/14/23

BOSS
BE
Engineering
3121 E. Grand River Howell, MI 48843
517.546.4836 fax 517.548.1670
www.bosseng.com

January 19, 2026

Brighton Township Board of Trustees
Charter Township of Brighton
4363 Buno Road
Brighton, MI 48114

RE: The Cove at Woodland Lake – Why the Planned Unit Development (PUD) is the Best Option

Dear Board Members:

The Mitch Harris Building Company has proposed a single-family residential development located southwest of the intersection of Christine Drive and Dann Drive. The Site Plan was submitted to the Brighton Township Planning & Zoning Department with two proposed site layouts: a layout complying with current R-2 zoning district ordinances, and a second layout for an R-2 PUD re-zoning option. The Brighton Township Planning Commission recommended approval of the rezoning on November 10, 2025. The Livingston County Planning Commission recommended denial, citing primarily concerns with Woodland Lake water quality.

Both the PUD layout and the conventional R-2 site plan are viable for construction on site; however, the PUD option offers significant benefits over developing the site under current R-2 zoning. The following are the reasons that the PUD rezoning should be approved:

- The conventional R-2 plan requires development and grading of most of the property, which would result in the removal of nearly all existing trees and vegetation. Smaller lot sizes and more efficient use of the property and natural contouring result in the PUD plan preserving significantly more natural, undisturbed area on-site.

- The PUD Layout is designed to route a vast majority of stormwater runoff from the homes and roads to a proposed retention basin, where it will be treated and percolate into the groundwater, not entering the lake. Significantly more stormwater runoff from homes and roads will be kept out of Woodland Lake and the surrounding wetlands with the PUD option over the conventional R-2 plan.

- With the PUD option, the lake front lots will participate in the Woodland Lake Aquatics Special Assessment District. Additionally, the developer will agree to participate in the future special assessment district for road replacement for a portion of the roads in the adjacent neighborhood.

- The PUD plan proposes narrower roads with less road length and sidewalks overall. Though the PUD allows for and proposes more homes than the conventional R-2 Plan, the overall increase in impervious area is lower with the PUD plan. The approximate coverage of proposed impervious surface for each plan is as follows:

  PUD Plan (homes, driveways, roadway, and sidewalks) = 5.75 ac
  R-2 Conventional Plan (homes, driveways, roadway, and sidewalks) = 6.25 ac

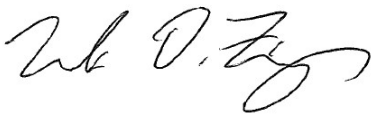
  Most of the storm runoff from the impervious area in the PUD plan will not be discharged into the lake. The PUD plan reflects careful design effort to ensure as little stormwater runoff as possible enters Woodland Lake.

We welcome the opportunity to answer questions or comments and appreciate your time in consideration of the items in this letter.

Respectfully submitted,



Brent LaVanway, P.E.
President
Director of Engineering



Mark DeFriez, P.E.
Project Manager

The Cove at Woodland Lake
Site Condominium & Detached Condominium

A PLANNED UNIT DEVELOPMENT

Brighton Township

PUD REPORT
Prepared for:

Mitch Harris Building Company

Prepared by:
Boss Engineering
3/3/25

INDEX

I. Site Description
II. Environmental Impact Analysis
III. PUD Analysis
IV. Traffic Impact Analysis
V. PUD Benefits
VI. List of Deviations
VII. Architectural and Development Components
  i. The Cove at Woodland Lake Site Condominium
  ii. The Cove at Woodland Lake Detached Condominium
VIII. Drainage Narrative

SITE DESCRIPTION

The site is located south of both Dann and Vista View Drives and east of Woodland Shore Drive. The property has frontage on approximately 750' of Woodland Lake. There are two parcels under the same ownership that combine to form The Cove at Woodland Lake, a single family Site Condominium and a single family Detached Condominium development. The total site is 42.8 acres and is owned by Mitch Harris Building Company, who is also the applicant. The property is surrounded by residentially developed land, while the property itself is undeveloped. It is completely wooded except for the areas covered by wetland and open water.

The applicant is planning to construct a 45 unit planned unit development, with 37 single family home sites located on the west side of the property and 8 detached condominiums located on the east side of the property. The property will have access off Christine and Dann Drives by way of an approximately 2,900 linear foot private cul-de-sac. The development will be serviced by public utilities by way of sanitary force main and watermain that will have to cross wetland to access all proposed units.

The site is located on the north end of Woodland Lake in Brighton Township. The 42.8-acre site is primarily wooded with a large wetland running up through the east side of the property from Woodland Lake. There is also a large pond along the southwest side of the property.

ENVIRONMENTAL IMPACT ANALYSIS

Woodland and Upland Areas

The Upland areas on this site consist of forested woodlands. Dominant species include white oak, red oak, cottonwood, black cherry, silver maple, sugar maple, hickory, box elder, iron wood and ash. Very little understory except iron wood is present and typically include small saplings of the species mentioned above. The forest floor is carpeted with poison ivy. There was no evidence of standing water or saturated soils in any of the upland areas.

According to the Soil Survey of Livingston County, the soils across the majority of the upland area of property are either Hillsdale Sandy Loam or Fox-Boyer complex. The soils are listed as being in areas of 18 to 40 percent slopes, which are consistent with what is on site. The soils are primarily sand loam or loamy sand with areas of brown or yellowish-brown sandy clay loam.

The entire upland area of the site currently drains to the pond located to the east of Woodland Shore Drive, to the wetlands distributed throughout the central and eastern portion of the site and ultimately to Woodland Lake. Very small portions of the north central upland area drain to low pocketed areas and stay on site to percolate back into the ground.

The site is consistently undulating with the steepest slopes located in the central portion of the site. An elevation at the top of the hill located here at 1002' drops down to the northeast quickly to an elevation of 940' within 150 feet, creating a slope of 38%. This area is heavily wooded and should be considered undevelopable along with areas to the west of this hill.

Wildlife

Wildlife observed on the subject parcel was squirrel, chipmunk, several species of birds and evidence of deer, raccoon and rabbit. No other wildlife was observed at the time of the study, although the type of vegetation identified typically attracts various types of water fowl, red-winged black birds, woodpeckers, nuthatches and chickadee.

Wildlife movement appeared to correlate with where accessible water was located. Traffic patterns were identified through trails leading to and from the waters edge both on the south eastern edge of the site as well as the pond located at the western side of the property.

Since the property has been heavily used by off road vehicles, bikes and pedestrian traffic, wildlife habitat has been disrupted. Although there is minor evidence of deer bedding area and animal traffic patterns from small woodland species, there is no evidence of unusually high counts of animals or unusual or rare species. What animals remain on the property are those that tend to coexist with a human population such as birds, raccoons, chipmunk and squirrels. The animals tend to remain in the wooded

areas of the site, therefore maintaining contiguous areas of vegetation should be considered during design stages of development.

The pond located adjacent to Woodland Shore Drive has evidence of aquatic activity. The pond bottom appears silty with layers of decomposing vegetation over approximately 60% of the pond bottom as identified through site analysis both in the field and via aerial photographers. A variety of fish such as Bluegill, Sunfish and Bass were identified. The pond itself is exhibiting early signs of eutrophication. Vegetation surrounding the pond has reached its edge and drop leaves, twigs and branches regularly. This debris combined with the lack of water movement contributes to the slow aging process of the body of water. Over time, the build up of nutrients and vegetation will likely contribute to a decrease in the amount of aquatic activity. The pond area should be considered undevelopable.

Wetland Determination

An updated wetland determination is scheduled to be completed in the Spring of 2025. Previously, a wetland determination had been conducted for the above site. The intent of this determination is to provide a report of the character of the wetland areas and the upland areas within the subject parcel; and an opinion as to the possible jurisdiction of the Michigan Department of Environment, Great Lakes, and Energy (MDEGLE) over wetland areas identified on-site.

The methods used to conduct this wetland determination are consistent with the procedures and general practices used by the MDEGLE within the growing season. This determination included review of in-office information including the Livingston County Soil Survey and National Wetland Inventory mapping. Based on the Livingston County Drain Commission, the established high water elevation for Woodland Lake is 935.80 feet above sea level. An onsite evaluation was conducted on September 23 and 24, 2013. The wetlands on site have been flagged.

Wetland A

Wetland A is a forested wetland located adjacent to the existing asphalt cul-de-sac located on the north east quadrant of the site. Vegetation identified in this area included some lake sedge, scattered ferns, poison ivy, white oak, iron wood and cottonwood. The soils are described in the Livingston County Soils Survey as Carlisle Muck and are consistent with the soils identified onsite in this area. The wetland appears to hold water intermittently. A culvert on the east side of the wetland was observed just below road grade which goes under Christine Road and daylights on the other side. Wetlands were observed on the south west end of the culvert. The wetland appears to have been created as a result of the road being built, restricting natural drainage patterns. Due to its small size and isolated condition, the wetland is of low quality. In addition it has been used as a dumping ground by adjacent property owners for quite some time.

It is our professional opinion and that of the MDEGLE during an onsite pre-application conference that it is not critical this area be avoided during development.

Wetland B

Wetland B is a scrub-shrub wetland located on the east portion of the project site that continues south and wraps around inward to occupy the central portion of the property.

Vegetation identified in this area included species such as cottonwood, iron wood, lake sedges, cattails, poison ivy, grey dogwood, ferns, spicebush, and varieties of honeysuckle, and red-osier dogwood. The uplands adjacent to the wetland that are actually a peninsula extending south, are covered with white oak and silver maple and carpeted with poison ivy. The soils are described by the Livingston County Soil Survey as Houghton Muck and Carlisle Muck, both poorly drained soils. The soils evaluated on-site were consistent with this description. This wetland flows directly into Woodland Lake and is a relatively high-quality wetland consisting of high quality vegetation and hydrology. The northwestern portion of this wetland is not as indicative of the same quality as this area has expanded due to a higher than normal water table and greater amounts of seasonal rainfall. Where the southern and eastern portions of this wetland are important to maintain and to be avoided with regard to development due to is close proximity and environmental relationship to Woodland Lake, the northwestern portion is not as critical and therefore does not need to be avoided.

Wetland C

Wetland C is all the emergent wetlands located adjacent to open water of the existing pond on the west side of the property adjacent to Woodland Shore Drive. The open water could have been part of Woodland Lake at one time. Vegetation identified in this area included red-osier dogwood, weeping willow, and lake sedge as well as scattered ferns and poison ivy. The soils evaluated on site appear to be Carlisle Muck, which is not consistent with the Livingston County Soils Survey that indicates Hillsdale Sandy Loam in this area. The wetland appears to have been created due to lower than normal water levels.

Because these wetland areas are directly connected to the open water, it is advised to avoid this wetland to the extent possible in any development plan.

MDEGLE Jurisdiction/Regulatory Discussion

In order for the MDEGLE to have regulatory authority over a wetland area, the wetland area must be over 5 acres in size (for counties with a population over 100,000 such as Livingston County), be located within 500 feet of an inland lake, pond or stream, or be contiguous to a lake, pond, and/or stream. A “lake” is defined as a water body over 5 acres in size. A “pond” is defined as a water body having over an acre of permanent open water. A “stream” is defined as a watercourse having a bed, banks and evidence of continued flow or occurrence of water.

All wetlands located on site appear to be regulated by the MDEGLE due to their proximity, 500 feet or less, to Woodland Lake or their proximity to a pond over one acre in size.

A permit must be obtained from the MDEGLE prior to conducting most filling, dredging, and/or draining activities or maintaining a use of a regulated wetland.

Please be advised: The information provided in this report is a professional opinion. The ultimate decision on wetland boundary locations and jurisdiction thereof rests with the MDEGLE and, in some cases, the Federal government. Therefore, there may be adjustments to boundaries based upon review of the regulatory agency. An agency determination can vary, depending on various factors including, but not limited to, experience of agency representative making the determination and the season of the

year. In addition, the physical characteristics of the site can change with time, depending on the weather, vegetation patterns, drainage activities on adjacent parcels, or other events. Any of these factors can change the nature/ extent of wetlands on the site.

A pre-application conference with the MDEGLE was performed on November 13, 2013. All wetlands identified on site and how they will be impacted within the development were discussed. Since the entire site predevelopment is draining to and through the wetlands, the same scenario will be utilized post development to not disrupt the hydrologic patterns. A Michigan Department of Environmental Quality Joint Application will be submitted for all work to be performed within or discharging to a wetland.

Wetland Area

For the MDEGLE all contiguous wetland is located relevant to the subject property regardless if it continues offsite. Therefore, wetland area quantified for MDEGLE purposes is typically larger than what would be quantified for Township purposes because it contains area that may be offsite or not pertinent to site planning requirements.

Wetland A = 0.12 Ac
Wetland B = 4.5 Ac
Wetland C = 0.05 Ac

PUD ANALYSIS

Design alternatives were considered during the planning of the project to effectively preserve natural features on the site while at the same time preserving the applicant's development opportunities. In the case where straight zoning techniques were applied, removal of significant amounts of vegetative cover as well as the earthwork necessary to engineer the site would cause extreme disruption to the existing woodlands, topography, hydrology and other ecosystems. The creation of more run-off through the larger home sites that were proposed in the R2 parallel plan (included in the Preliminary PUD plan set dated 3/3/25) and the increased road system necessary to service this concept would require more disruption to the topography and greater tree loss due to a large footprint impact. A development utilizing the R2 zoning designation would likely result in significant tree removal and the removal of large areas of significant slope in order to achieve the allowable density.

By utilizing a reduced lot size through the Township's PUD ordinance and clustering the home sites around a cul-de-sac, it is possible to significantly reduce the development area and preserve natural features. As seen in the two layouts attached, the difference between the amount of undeveloped area in the R2 development (sheet 8) and the PUD development (sheet 4) is significant. The cluster option in the PUD also reduces the amount of run-off, reduces the amount of tree and vegetation removal and therefore the amount of hydrology that would be impacted is significantly reduced as well. With the topography staying as close to its existing condition through very strict and reduced limits of grading, natural drainage patterns would remain the same and the steep slopes discussed previously would be preserved. The proposed layout attempts to minimize wetland disturbance from the proposed lots, proposed grading, and proposed utilities. Access to Woodland Lake would be limited to only 8 of the proposed 37 single family lots, and 2 of the proposed 8 detached condominiums. The eastern portion of the site was converted to a detached condominium development which historically has a less significant environmental impact in terms of development then a traditional single family site condominium development. In addition, through the course of design discussions, it was decided to reduce the width of the proposed private roads to 27' back of curb to back of curb to further reduce impervious surfaces. The new utilization of the cluster design allows for contiguous and more equitable distribution of open space resulting in a more effective massing of vegetation, buffering of development along Woodland Shore Drive and more significant preservation of wildlife corridors in and through the development.

Open Space

The proposed PUD offers 54.5% open space. Wetlands and stormwater basins may be counted for up to 50% of the minimum required open space. The open space was calculated utilizing the following areas;

Wetland area onsite and not on proposed lots
= 290,975 sf
Retention ponds and forebays that are not on proposed lots
= 12,221 sf
Undeveloped upland areas
= 712,086 sf

Open space is not comprised of the following areas;

Ponds, lakes, streams or other inundated areas
Area within right-of-way
Area designated as single family site condominium lots
Area occupied by structures or driveways

The existing densities surrounding the property are such that the Master Plan for the Township may not call out the best fit for future development at an R2 zoning. As densities get higher closer to Woodland Lake with smaller lot sizes clustered tightly around the water, the subject parcel is a transition piece. Woodland Lake Estates No. 1-4, a development that surrounds the subject site to the south and west, has lot sizes as small as 5,900 SF. The PUD designation is appropriate, as a buffer to the lower density development to the north and east, with proposed lot sizes at 16,000 SF. The planned unit development with the utilization of cluster development to preserve vegetation and steep slopes provides a superior development in our professional opinion because it allows a significant portion of the property to remain as natural as possible while still permitting the property owner their right to development.

Traffic Impact Analysis

The Cove at Woodland Lake Planned Unit Development will consist of 45 single family residential units. There are two distinct components to the development, with 37 single family home sites located on the west side of the property and 8 detached condominiums located on the east side of the property. The development has access from Dann and Christine Drives in the Woodland Hills subdivision that extend east to Hunter Road. A traffic analysis for the proposed development is in progress and will be provided for Planning Commission review upon completion.

List of Benefits

- Preserves large areas of wooded open space.
- Provides a buffer along Woodland Lake Estates from adjacent residences.
- Minimizes tree removal through reduction in right-of-way width on and careful placement of lots and structures.
- Minimizes lot grading through the use of public sewer and water.
- Preserves wetlands through careful placement of lots, infrastructure and stormwater treatment.
- Provides maximum stormwater management techniques and avoids direct discharge into Woodland Lake.
- Private Road allows utilities to be closer to pavement, reducing grading requirements.
- Reduced right-of-way allows preservation of natural features and proposed reduction in road width reduces overall impact due to reduction in impervious surface.
- Road layout avoids neighboring “cut through” traffic by way of cul-de-sacs as opposed to connecting across the site.
- Lake access is limited to eight single family lots and three detached condominium docks.
- Avoids steepest terrain for development, centerline of road placed where topography was most suitable for drainage.
- Public sewer and water is proposed for the developments.
- Preservation of 54.5% open space.
- Stormwater system taking into consideration low impact methods Such as bioretention and filtration landscaping to be addressed During Final Site Plan design.
- Use of contiguous open space promotes wildlife corridors and Massing of existing vegetation.

The Cove and The Ridge at Woodland Lake
List of Deviations – R-2 to PUD

1. Zoning: R-2
   Proposed zoning: PUD

2. Minimum lot size R-2: 40,000 S.F.
   Minimum lot size PUD/R-2: 16,000 S.F.
   Deviation: 24,000 S.F.

3. Minimum setbacks R-2: Front - 35 Ft.
   Side - 12 Ft.
   Rear - 35 Ft.

   Minimum setbacks proposed: Front - 25 Ft.
   Side - 10 Ft.
   Rear - 30 Ft.

   Deviation: Front - 10 Ft.
   Side – 2 Ft.
   Rear - 5 Ft.

4. Right-of-way required: 66 Ft.
   Right-of-way proposed: 50 Ft.
   Deviation: 16 Ft.

5. Maximum Road Length allowed: 750 Ft.
   Maximum Road Length proposed: 2,888 Ft.
   Deviation: 2,138 Ft.

6. Maximum Lots on a private road with a single point of access: 24
   Number of lots proposed on a private road with a single point of access: 45
   Deviation: 21

7. Maximum lot coverage (%) R-2 zoning: 15
   Maximum lot coverage (%) proposed: 40
   Deviation: 25

8. Since the site is entirely wooded, no tree survey or natural features plan will be provided. Grading and tree removal will be limited to those areas necessary to build the road and install utilities. No tree replacement is proposed.

9. Minimum lake setback per PUD ordinance: 100 Ft.
   Minimum lake setback proposed (Single Family Home): 100 Ft.
   Minimum lake setback proposed (Detached Condo): 50 Ft.

10. Minimum wetland setback per PUD ordinance: 50 Ft.
    Minimum wetland setback proposed: 50 Ft.

Architectural and Development Elements: Site Condominium

- The single family homes in this development shall at a minimum comply with ordinance 14-01(f)
- Side entry garages
- Conglomerate mailboxes located at development entrance
- Minimum roof pitch shall exceed ordinance requirement
- Mix of building materials to allow for custom home style yet consistency of quality and detail retained through single building company
- Boat access to Woodland Lake limited to lots 1-8
- Gated entrance

The Cove at Woodland Lake

Single Family Site Condominium

Architectural Components



Option 1: Single Family Residential



Option 2: Single Family Residential



Option 3: Single Family Residential



Option 4: Single Family Residential



Option 5: Single Family Residential



Option 6: Single Family Residential



Option 7: Single Family Residential



Option 8: Single Family Residential



Option 9: Single Family Residential



Option 10: Single Family Residential



Option 11: Single Family Residential



Option 12: Single Family Residential



Option 13: Single Family Residential



Option 14: Single Family Residential



Option 15: Single Family Residential



Option 16: Single Family Residential

Architectural and Development Elements: Detached Condominium

- The single family homes in this development shall at a minimum comply with ordinance 14-01(f)
- Attached garages
- Minimum roof pitch shall exceed ordinance requirement
- Mix of building materials to allow for custom home style yet consistency of quality and detail retained through single building company
- Private driveways to each unit
- Boat access to Woodland Lake limited to units 6 & 7
- Gated entrance

The Cove and The Ridge at Woodland Lake

Drainage Narrative

The Cove at Woodland Lake is a proposed 45-unit single family site condominium & single family detached condominium, combining to a total of 42.8 acres. The property is bisected by a wetland creating two upland parcels. Both parcels are proposed to be accessed by the existing private road extension of Christine Drive. The property has significant elevation change and is heavily wooded. All efforts have been made to minimize grading and the removal of trees.

The west parcel contains a 2.05-acre pond with no apparent outlet. The predevelopment condition for the west parcel consists of four drainage areas. Drainage area 1 is 7.89 acres and drains overland to an existing low area at the west side of the property. Drainage area 2 is 15.11 acres and drains to the existing pond along Woodland Shore Drive. Drainage area 3, 17.04 acres, also covers a part of the east parcel. This drainage area drains directly to Woodland Lake and to an existing wetland that ultimately drains to Woodland Lake. Drainage area 4, 2.83 acres, flows north overland offsite to a pothole on the Rolling Woods Subdivision.

The existing asphalt private road at the east parcel drains through a cross culvert near the mid length of the road and by sheet flow at the cul-de-sac. The culvert discharges to a pothole then flows overland to the existing wetland. The sheet flow at the cul-de-sac discharges to the existing wetland. The east side of the property, pre-development Drainage Area 5, contains 3.51 acres and drains to the wetland at the east boundary and Woodland Lake.

The goal of this stormwater management plan is to integrate the proposed storm system with the existing waterbodies with minimal disturbance of the site's natural features. To accomplish this, we are proposing to provide pre-treatment of the site run-off prior to discharging to the existing wetlands and pond.

For the west parcel, two forebays are proposed to the northwest and southeast of the existing 2.04-acre pond. Proposed catch basins & storm sewer will convey surface flow from parts of existing drainage areas 1, 2, & 3 to the forebays, where sedimentation will occur before ultimately discharging to the existing pond. The forebay to the northwest of the pond is proposed in an area currently used as an off-road vehicle track to minimize required tree removal. The western portion of existing drainage area 1 and all of existing drainage area 4 will remain undisturbed and continue flowing overland to their respective low points. On the east end of the west parcel, run-off from a portion of existing drainage area 3 will be captured by proposed catch basins & storm sewer and conveyed easterly to

the existing wetlands. Since there is not enough room to provide a forebay without major disturbance to the surrounding natural features, a pre-treatment structure is proposed at the downstream end of this prior to wetland discharge. For the east parcel, surface run-off from parts of existing drainage areas 3 & 5 will be collected by proposed catch basins and storm sewer and conveyed to the existing wetlands, as it has since the existing private road was constructed. Like the east end of the west parcel, a pre-treatment structure is proposed prior to wetland discharge. The east end of existing drainage area 5 will remain undisturbed and will continue draining to the wetland at the east boundary of Woodland Lake.

AGREEMENT FOR THE WOODLAND COVE PLANNED UNIT DEVELOPMENT

This Agreement for the Woodland Cove Planned Unit Development ("Agreement") is by and between Mitch Harris Building Company, Inc., a Michigan corporation, whose address is 211 N. 1st Street, Suite 100, Brighton, MI 48116 ("Developer") and Charter Township of Brighton ("Township"), whose address is 4363 Buno Road, Brighton, Michigan 48114.

RECITALS

Developer is the land contract vendee of the property described in the attached Exhibit A Property Description Exhibit ("Property"), located in the Township of Brighton, Livingston County, Michigan, with a property tax identification number _4712-18-300-011 and 4712-18-400-027_.

Developer has voluntarily proposed rezoning and development of the Property as a planned unit development ("PUD"). Accordingly, Developer has applied for approval of an amendment to the Charter Township of Brighton Zoning Ordinance ("Zoning Ordinance") granting a rezoning of the Property to PUD, with the zoning on the Property to be known as the Residential, Open Space Planned Unit Development pursuant to section Ordinance section) 12-04. Developer is the developer and proprietor of Woodland Cove Planned Unit Development (the "Development" or "Woodland Cove").

As part of the application and approval process, Developer has offered and agreed to make the improvements and to proceed with undertakings as described in the PUD Documents (as defined in Section 1 below), which Developer and Township agree are necessary and roughly proportional to the burden imposed in order to (1) ensure that public services and facilities affected by the Development will be capable of accommodating increased service and facility loads caused by the Development, (2) protect the natural environment and conserve natural resources, (3) ensure compatibility with adjacent uses of land, (4) promote use of the Property in a socially and economically desirable manner, and (5) achieve other legitimate objectives authorized under the Michigan Zoning Enabling Act, MCL 125.3101, *et seq.*

For the purpose of confirming the rights and obligations in connection with the improvements, development, and other obligations to be undertaken on the Property once it has been rezoned to Woodland Cove PUD, the parties have entered into this Agreement to be effective on the effective date of the Township's Zoning Ordinance amendment granting rezoning of the Property to PUD. Now, therefore, as an integral part of the grant of the rezoning of the Property and approval of the Development on the Property, and for

other good and valuable consideration, the receipt and sufficiency of which are acknowledged, it is agreed as follows:

GENERAL TERMS OF AGREEMENT

1. **Acknowledgement of Truth and Accuracy.** The Township and Developer acknowledge and represent that the foregoing recitals are true and accurate and binding on the respective parties.

2. **PUD Zoning Designation.** The Township acknowledges and represents that the Property has been rezoned to a PUD Zoning District, and that the PUD Plan and this Agreement may be relied upon for future land use and development of the Property by Developer, its successors, assigns and transferees. This Agreement is for the benefit of the Property, and shall run with the Property, and shall bind and inure to the benefit of the successors, assigns, and transferees of the parties to this Agreement

3. Development as Residential PUD. The Property shall be developed and improved only in accordance with the following (referred to collectively as the "PUD Documents"):

a. Article 12, Section 12-04 of the Township Zoning Ordinance, as amended.

b. The PUD Plan, attached as Exhibit B, has been approved by the Township in accordance with its authority granted by the Brighton Township Zoning Ordinance, the Michigan Zoning Enabling Act, being MCL 125.3101 et seq, and the Michigan Planning Enabling Act, MCL 125.3801 et seq, subject to the terms of this Agreement.

c. Deviations from the Township Zoning Ordinance shall be permitted as set forth in this Agreement or the PUD Plan, or as otherwise agreed upon between the Township and the Developer. Changes to the PUD Plan and/or PUD Agreement shall be processed as set forth in the Brighton Township Zoning ordinance and this Agreement.

d. All improvements constructed in accordance with this Agreement and the PUD Plan shall be deemed to be conforming under the Township Zoning Ordinance and in compliance with all other ordinances of the Township.

e. This Agreement.

f. Documents relating to the establishment of Woodland Cove condominium, including the Master Deed, and homeowners' association, including the articles and bylaws ("Condominium Documents").

g. Deed restrictions covering all property within the PUD, to be approved and recorded in the manner set forth in this Agreement

h. The Conservation Easement for the Development, to be approved and recorded in the manner set forth in this Agreement.

i. Any and all conditions of the approval of the Township Board and Planning Commission pertaining to the Development as reflected in the official minutes of such meetings.

4. **Open Space**. Woodland Cove shall utilize over 50% Open Space as set forth on the PUD Plans. The Open Space shall be owned by unit owners as a common element and shall be available to those unit owners of the Development. The Open Space shall be dedicated to preservation by way of an irrevocable Conservation Easement in accordance with Zoning Ordinance Section 12-08(b)(4) and this restriction shall run with the land. The homeowners' association for Woodland Cove shall have all maintenance and oversight responsibilities.

5. **Deviations**. The following approximate deviations from the requirements of the Zoning Ordinance have been approved by the Township and are as set forth on the approved PUD Plans:

Setbacks: Front - 25
Side - 10
Rear - 30'

Other Deviations:

Minimum Lot Area — 16,000 sf
Minimum Lot Width — 80'
Right-of-Way Width — 50'

6. **Tree Removal and Grading**. Tree removal and grading shall be kept at an absolute minimum. Developer shall remove trees for the sole purposes of constructing the roads and providing for utilities, soil erosion, other infrastructure, and building envelopes. Builders shall be required to use extreme care in preservation of trees during construction.

7. **Public Water and Sewer**. The Township hereby agrees to assign all easement rights to Developer relating to the construction and extension of all utilities, including but not limited to public water and sanitary sewer service, that are necessary for the Development. The Development will connect to the available public sewer and water as set forth on the PUD Plans.

8. **Sewer and Utilities**. A special assessment district shall be established for the additional REUs necessary for every lot to be provided with public sewer. The utilities shall be installed underground within easements running parallel to the road, further decreasing the need for grading.

9. **Riparian rights.** The area designated as a Park on the PUD Plans shall be for the use and enjoyment of all co-owners in the Development for access to the lake for activities such as the launching of canoes and kayaks, swimming and fishing. All lakefront condominium units shall possess full riparian rights, including the right to install private docks and boat mooring devices in the bottomlands of Woodland Lake.

10. **Ownership and Control**. Developer is the land contract vendee of the Property which comprises Woodland Cove and possesses full authority to execute this Agreement and secure all approvals for the Development.

11. **Conflict**. If any provision of this Agreement conflicts or is inconsistent with any provisions of the Zoning Ordinance, as amended, or any current or future Township resolution, rule, or regulation, the terms and conditions of this Agreement shall control.

12. **Time Period**. Developer shall have a period of two years ("Period") from approval of the PUD Plans to complete the subsequent planning phases of the Development and obtain Final PUD Site Plan approval. The Period may be extended by the Township up to an additional two years if requested in writing by Developer prior to the expiration date. Upon expiration of the Period, the zoning shall be automatically reverted back to the Property's original zoning classification.

13. **Injunctive Relief**. In the event Developer or a successive lot owner violates the terms of the Zoning Agreement, Township, at its election, may seek immediate injunctive relief in the Livingston County Circuit Court.

14. **Amendment**. This Agreement may not be amended, modified, or terminated without the written consent of the parties.

15. **Binding**. This Agreement shall be binding on all future owners of the Property and any of the Developer's successors, assigns, transferees, or creditors and shall run with the land.

16. **No Inconsistent Use**. The Property subject to a PUD Agreement shall not be developed or used in a manner that is inconsistent with the PUD Plans and this Agreement.

17. **Approval**. Township has approved this Agreement through appropriate action by the Township Board.

18. **Recording**. Developer shall record this Agreement with the Livingston County Register of Deeds and provide a copy to the Township.

19. **Acknowledgement of Reasonable Conditions**. The parties acknowledge that the conditions imposed upon the development of the Property are reasonable conditions necessary to ensure that public services and facilities affected by the proposed land use or activity will be capable of accommodating increased service and facility loads caused by

the land use or activity, to protect the natural environment and conserve natural resources and energy, to ensure compatibility with adjacent uses of land, and to promote the use of land in a socially and economically desirable manner. Further, it is acknowledged that the conditions meet all of the requirements of Section 503 of Public Acts 110 of 2006, MCL 125.3503.

MITCH HARRIS BUILDING COMPANY, INC.

Dated: _____, 2025

/s/ _____
By: _____
Its: _____

STATE OF MICHIGAN)

_____COUNTY)

Acknowledged before me in _____ County, Michigan, on [date] by [name of officer or agent, title of officer or agent], of [name of corporation acknowledging], a [state or place of incorporation] corporation, on behalf of the corporation.

/s/ _____
[Notary public's name, as it appears on application for commission]
Notary public, State of Michigan, County of [county].
My commission expires [date].
[If acting in county other than county of commission: Acting in the County of [county]

CHARTER TOWNSHIP OF BRIGHTON

Dated: _____, 2025

/s/ _____
By: _____
Its: _____

STATE OF MICHIGAN)

_____COUNTY)

Acknowledged before me in [county] County, Michigan, on [date] by [name of officer or agent, title of officer or agent], of [name of corporation acknowledging], a [state or place of incorporation] corporation, on behalf of the corporation.

/s/ _____
[Notary public's name, as it appears on application for commission]
Notary public, State of Michigan, County of [county].
My commission expires [date].
[If acting in county other than county of commission: Acting in the County of [county].

Drafted by & when recorded return to:
Myers & Myers, PLLC
Roger L. Myers, Esq.
915 N. Michigan Avenue, Suite 200
Howell, MI 48843

EXHIBIT A

PROPERTY DESCRIPTION

EXHIBIT B

Approved PUD Plans for Woodland Cove

30HXL

2015R-016632
RECORDED ON
05/29/2015 11:28:12 AM
SALLY REYNOLDS
REGISTER OF DEEDS
LIVINGSTON COUNTY, MI 48843
RECORDING: 16.00
REMON: 4.00
PAGES: 3



GRANT OF PUBLIC UTILITY EASEMENT OVER AND UNDER PRIVATE ROADS

This Grant of Easement is made this 19 day of May, 2015, by Woodland Lake Development Company, Inc. a dissolved Michigan Corporation whose last registered office was at 12302 Read Road, Fenton, Michigan 48430, referred to in this instrument as "Grantor," to the Charter Township of Brighton, of 4363 Buno Road, Brighton, Michigan 48114, referred to in this instrument as "Grantee."

Grantor is the owner of the private roads located in Woodland Lake Estates No. 3 and Woodland Lake Estates No. 4. See **Exhibits 1 and 2,** which contain the legal description of Woodland Lake Estates No. 3 and Woodland Lake Estates No. 4, respectively.

For a good and valuable consideration, the receipt of which is acknowledged, Grantor grants and conveys to Grantee, and its successors or assigns, the right to construct, alter, repair and maintain public utilities and all necessary laterals to those public utilities across and under the private roads located in Woodland Lake Estates No. 3 and Woodland Lake Estates No. 4 described in the attached Exhibits 1 and 2, together with the right to enter and depart over and across the property, insofar as this right to enter and depart is necessary to the proper use or maintenance of any other right granted in this instrument.

Dated: 5/19/2015

Iris Woods
Vice President, Woodland Lake Development Company, Incorporated, a dissolved Michigan

Witnesses:

Edward Woods

D. J. SYLWESTAR

State of Florida
County of PASCO

MAUREEN MILLNER
Notary Public, State of Florida
Commission # EE 878820
My comm. expires Feb. 27, 2017

The foregoing instrument was acknowledged before me this 19 day of May 2015, by Iris Woods, President, Woodland Lake Development Company, Inc.

Notary Public
PASCO County,
My commission expires: 2/27/17

DRAFTED BY: CHARLES W. WIDMAIER (P38376) 123 BRIGHTON LAKE ROAD, STE 205 BRIGHTON, MI 48116
AFTER RECORDING RETURN TO SAME.

EXHIBIT #1

Woodland Lake Estates No. 3.

A subdivision of a part of the southwest ¼ of the of the southwest fractional ¼ of section 18, Township 2 north, range 6 east, Livingston County, Michigan

With said Plat of Woodland Lake Estates No. 3. Recorded in Liber 7 of Plats, page 19, Livingston County Records

EXHIBIT #1

EXHIBIT #2

Woodland Lake Estates No. 4.

A subdivision of a part of the southwest frl. ¼ of section 18, Township 2 north, range 6 east, Livingston County, Michigan

With said Plat of Woodland Lake Estates No. 3. Recorded in Liber 9 of Plats, pages 37 and 38, Livingston County Records

EXHIBIT #2

20700 Civic Center Drive, Suite 170 Southfield, MI 48076
Main: 877 627 3772

Colliers Engineering & Design

Memorandum

To: Mr. Mitch Harris

From: Steve Russo, PE

Date: March 10, 2025

Subject: Brighton Cove at Woodland Lake Traffic Study

Introduction

This memorandum presents the results of the Traffic Impact Study (TIS) for the proposed Cove at Woodland Lake residential development project in Brighton Township, Livingston County, Michigan. The subject site is located approximately ½ mile west of Hunter Road and approximately ¾ miles north of Hilton Road and is currently occupied by one single family residential unit. The proposed development plans would raze the existing single-family home and construct 35 to 45 single-family residential units. Site access for the development is proposed via connection to the intersection of Christine Drive and Dann Drive which provides unsignalized access to Hunter Road. Additionally, emergency only access will be provided to Vistaview Drive. The subject site is shown on **Figure 1**.

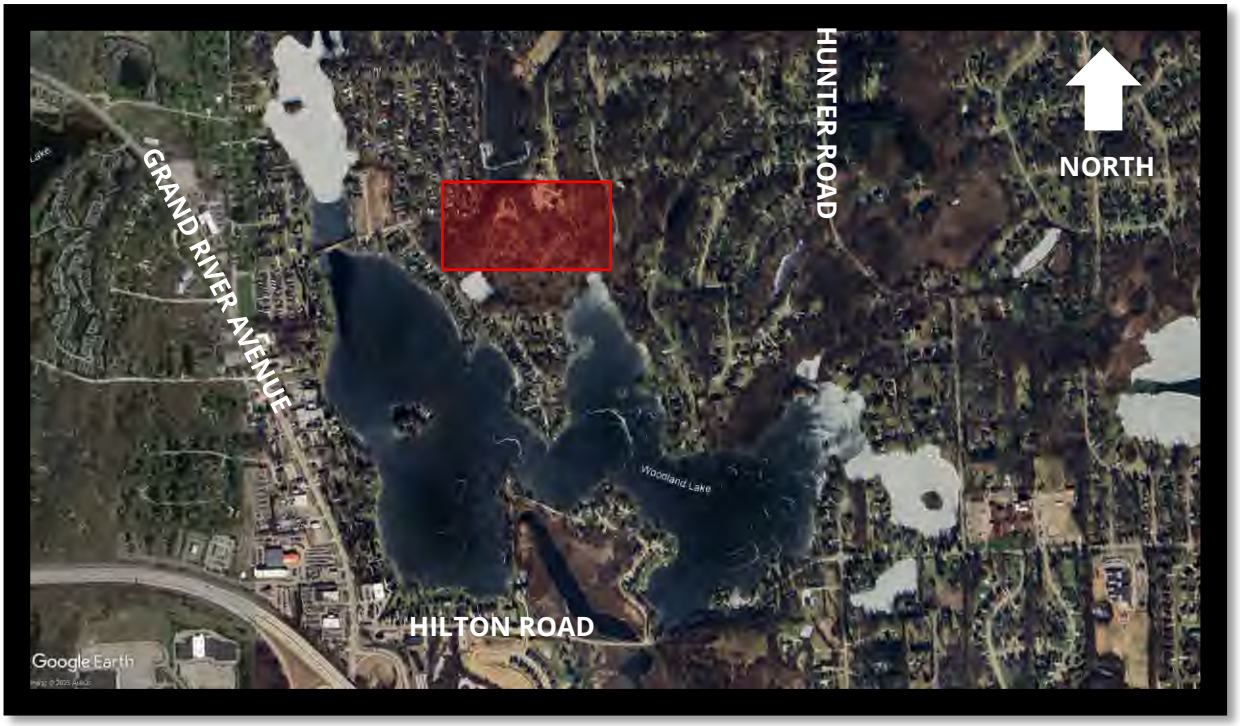


Figure 1: Site Location

Christine Drive and Dann Drive are under the jurisdiction of the Livingston County Road Commission (LCRC); whereby site access permitting will be subject to LCRC review and standards. Additionally, in accordance with Township Ordinance, a TIS has been required by the Township for site plan approval. The purpose of this TIS is to evaluate traffic operations at the existing intersections of Christine Drive & Dann Drive as well as the intersections of Hunter Road with Christine Drive and Margo Drive to determine if any improvements or modifications are necessary to facilitate site generated traffic.

This TIS has been prepared in accordance with the methodologies and practices published by the Institute of Transportation Engineers (ITE). The zoning ordinances, guidelines, and standards of Brighton Township as well as LCRC were referenced as applicable. Additionally, Colliers Engineering & Design (CED) solicited input regarding the scope of work for this study from LCRC and the Townships traffic consultant, Fleis & VandenBrink (F&V).

Roadway Data

Hunter Road is a minor collector under jurisdiction of LCRC that runs along the east side of the site in the north and south directions. Along the site frontage, Hunter Road has a posted speed limit of 40 miles per hour (mph), an Annual Average Daily Traffic (AADT) volume of 2,000 vehicles per day, and a typical two-lane cross section with one travel lane in each direction. Christine Drive, Dann Drive, and Margo Drive are all local roadways located within the Woodland Hills subdivision under jurisdiction of LCRC and have posted speed limits of 25 mph.

Traffic Volume Data

Existing weekday AM (7:00 to 9:00) and PM (4:00 to 6:00) peak hour turning movement counts were collected at the study intersections on Wednesday, February 19th, 2025. Data were collected by CED subconsultant Quality Counts during typical traffic conditions. Data were collected in 15-minute intervals to establish the current peak hour traffic volumes. Major weather events, holidays, and other local special events were avoided.

During collection of the manual intersection turning movement counts, pedestrian data and commercial truck percentages were also recorded and used in the traffic analysis. Peak hour factors (PHFs) and commercial truck percentages were calculated by approach based on the requirements of MDOT's *Electronic Traffic Control Device Guidelines*. Peak hour volumes for each individual intersection were utilized and traffic volumes along Hunter Road were balanced upward between intersections. All relevant traffic volume data are attached and the resulting 2025 baseline peak hour volumes utilized for this study are summarized on the attached **Figure 2**.

Existing Conditions

Analysis Methodologies

The performance of the study intersections was evaluated through a qualitative measure of operating conditions called Levels of Service (LOS). Six LOS are defined with letter designations from A to F with LOS A representing minimal delay, and LOS F indicating failing conditions. Typically, LOS

Colliers Engineering & Design

D is considered acceptable in suburban/urban areas. The LOS measurement for unsignalized intersections is average control delay, which is quantified in terms of seconds of delay per vehicle. Control delay includes deceleration delay, stopped delay, queue move-up delay, and acceleration delay. The LOS criteria for unsignalized intersections taken from the HCM are attached.

The LOS and delay calculations are based on the procedures and methodologies outlined in the Transportation Research Board's *Highway Capacity Manual, 7th Edition* (HCM7) which sets forth nationally accepted standards regarding traffic operations and capacity analysis. Simulations of the study network were also observed using SimTraffic in order to identify potential issues related to vehicle queuing, traffic flow between intersections, and the overall study network. The existing conditions SimTraffic models were calibrated in accordance with the procedures outlined in the MDOT *Electronic Traffic Control Device Guidelines.*

Existing Traffic Conditions

Existing peak hour vehicle delays and LOS were calculated at the study intersections based on the existing lane configurations and traffic control, the existing traffic volumes shown on the attached **Figure 2**, and the methodologies presented in the HCM7. The results of the existing conditions analysis are attached and summarized in **Table 1**. The results of the existing conditions analysis indicate that all approaches and movements at the study intersections currently operate acceptably at a LOS A during both peak hours. Review of network simulations also indicates acceptable traffic operations with minimal delays and vehicle queues.

Table 1: Existing Traffic Conditions

Intersection	Control	Approach	Movement	AM Peak Hour		PM Peak Hour	
				Delay	LOS	Delay	LOS
Hunter Road & Margo Drive	STOP (Minor)	EB	Left/Right	9.4	A	9.4	A
		NB	Left	7.5	A	7.4	A
			Thru/Right	Free		Free	
		SB	Thru/Right	Free		Free	
Hunter Road & Christine Drive	STOP (Minor)	EB	Left/Right	9.3	A	9.1	A
		NB	Left	7.6	A	7.4	A
			Thru/Right	Free		Free	
		SB	Thru/Right	Free		Free	

Existing Crash Data

A crash analysis was performed along Hunter Road in the vicinity of Christine Drive and Margo Drive to determine whether any discernable crash patterns could be identified related to intersection operations. Five years of crash data (January 1, 2019, through December 31, 2023) were used in the analysis. Data and UD-10 crash reports were obtained from the *Michigan Traffic Crash Facts* (MTCF) database.

The results of the crash analysis indicate that five crashes occurred during the study period. One was an angle crash at the intersection of Hunter Road & Margo Drive in which a vehicle exiting Margo Drive was unable to stop in icy conditions and slid into the intersection, colliding with a vehicle along Hunter Road. The remaining four crashes occurred within the Woodland Hills subdivision consisting of two single vehicle crashes, a sideswipe same direction crash, and an angle

crash. One single vehicle crash occurred when a vehicle traveling along Christine Drive slid off the roadway in icy conditions and the other single vehicle crash was the result of a vehicle backing into a mailbox. The sideswipe same direction crash occurred when a vehicle attempted to pass a FedEx delivery truck who was looking for a delivery address and struck the front end of the vehicle. The angle crash occurred at the intersection of Christine Drive & Kathleen Drive in which the driver along Kathleen Drive failed to yield at the stop sign. All crashes resulted in property damage only (PDO). Based on the frequency, type and severity of crashes, a correctable crash pattern does not exist.

No-Build Conditions

No-Build Traffic Volumes

Traffic impact studies typically include an evaluation of traffic operations in the future as they would be without the proposed development. This no-build condition serves to identify any mitigation that may be required, regardless of the project, and as a baseline for comparison of future buildout conditions. This scenario is comprised of existing traffic conditions, plus ambient traffic growth, plus traffic from approved developments in the study area that have yet to be constructed. At the time of this study no background developments were identified in the study area.

In addition to background developments, an ambient growth factor is applied to existing traffic volumes to account for future projects in the study area and population increases, as well as growth in regular traffic volumes due to development projects outside the study area. Population and employment forecasts for Brighton Township from the Southeast Michigan Council of Governments (SEMCOG) indicate growths ranging from 0.42% to 0.63% to the year 2050. Therefore, a growth rate of 1.0% per year was conservatively utilized for this study. This rate was applied to the 2025 traffic volumes for a period of four years (2029 Buildout). The resulting 2029 no-build traffic volumes are summarized on the attached **Figure 2**.

No-Build Traffic Conditions

No-build peak hour vehicle delays and LOS were calculated at the study intersections based on the existing lane configurations and traffic control, the no-build traffic volumes shown on the attached **Figure 2**, and the methodologies presented in the HCM. The results of the analysis of no-build conditions are attached and summarized in **Table 2**.

Table 2: No-Build Traffic Conditions

Intersection	Control	Approach	Movement	AM Peak Hour				PM Peak Hour			
				Existing		No-Build		Existing		No-Build	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Hunter Road & Margo Drive	STOP (Minor)	EB	Left/Right	9.4	A	9.5	A	9.4	A	9.4	A
		NB	Left	7.5	A	7.6	A	7.4	A	7.4	A
			Thru/Right	Free		Free		Free		Free	
		SB	Thru/Right	Free		Free		Free		Free	
Hunter Road & Christine Drive	STOP (Minor)	EB	Left/Right	9.3	A	9.3	A	9.1	A	9.1	A
		NB	Left	7.6	A	7.6	A	7.4	A	7.4	A
			Thru/Right	Free		Free		Free		Free	
		SB	Thru/Right	Free		Free		Free		Free	

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The results of the no-build conditions analysis indicate that all approaches and movements at the study intersections will continue to operate acceptably at a LOS A during both peak hours. Review of network simulations also continues to indicate acceptable traffic operations with minimal delays and vehicle queues.

Site Trip Generation

The proposed development plans would construct 35 to 45 single-family residential units. Site access for the development is proposed via connection to the intersection of Christine Drive and Dann Drive which provides unsignalized access to Hunter Road. Additionally, emergency only access will be provided to Vistaview Drive. For this study, the following two different development alternatives were analyzed:

1. Alternative 1 – Construction of 35 single-family residential units.
2. Alternative 2 – Construction of 45 single-family residential units.

The number of AM and PM peak hour vehicle trips that will be generated for each development alternative was forecast based on the rates and equations published by ITE in *Trip Generation, 11th Edition*. The proposed use was matched to the ITE land use category that most closely matches the proposed development. For this study, ITE Land Use *#210, Single-Family Detached Housing* was utilized and is a site that includes single-family detached homes on individual lots. For Land Use #210, both rates and equations are available, and the equations were utilized based on the guidelines outlined in the ITE *Trip Generation Handbook.* The resulting trip generation forecast for each alternative is summarized in **Table 3**.

Table 3: Site Trip Generation

Alternative	Land Use	ITE Code	Amount	Units	ADT	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
Alternative 1	**Single-Family Detached Housing**	210	35	D.U.	384	7	22	29	23	14	37
Alternative 2	**Single-Family Detached Housing**	210	45	D.U.	484	9	27	36	30	17	47

Site Trip Distribution

The vehicle-trips that would be generated by the proposed development for each alternative were assigned to the site driveways based on existing traffic patterns along the adjacent road network, local population densities, and ITE methodologies which indicates new trips will return to their direction of origin. Specifically, traffic patterns entering and exiting Christine Drive and Margo Drive were utilized to establish the trip distribution for the site. The resulting directional distribution for site-generated traffic is summarized in **Table 4.**

Table 4: Site Trip Distribution

To/From	Via	AM/PM
North	Hunter Road	21%
South	Hunter Road	79%
Total		**100%**

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Traffic volumes approaching from the north on Hunter Road were assumed to equally utilize Christine Drive and Margo Drive to enter the site. Traffic volumes approaching from the south were assumed to primarily (95%) utilize Margo Drive. Traffic was assumed to exit via the same roadway that was entered. The site-generated vehicle trips were assigned to the study network as shown on the attached **Figure 2** and **Figure 3** for Alternative 1 and Alternative 2, respectively. These trips were added to the 2029 no-build traffic volumes to calculate the future build traffic volumes.

Turn Lane Warrants

In order to determine the configuration of the existing intersections of Christine Drive and Margo Drive with Hunter Road, recommendations for right-turn lanes were evaluated in accordance with LCRC *Specifications and Administrative Rules Regulating Driveways, Road Approaches, Banners and Parades on and Over Highways*. LCRC does not publish warranting criteria for right-turn lanes, so the MDOT right-turn lane warrant outlined in Section 1.1.4 of the *Geometric Design Guidance* was utilized. Evaluation of the forecast site traffic volume assignments versus warranting criteria indicate that neither left-turn lane nor right-turn lane treatments are warranted at the intersections under either development alternative. The applicable warrant evaluations are attached.

Christine Drive & Dann Drive / Site Drive Traffic Control

Section 2B.04 of the *Michigan Manual on Uniform Traffic Control Devices (MMUTCD)* outlines criteria to evaluate to determine when intersection control should be considered at the intersection of two local streets. The use of YIELD or STOP signs should be considered if any of the following conditions are met:

1. *The combined vehicular, bicycle, and pedestrian volume entering the intersection from all approaches averages more than 2,000 units per day.*
2. *The ability to see conflicting traffic on an approach is not sufficient to allow a road user to stop or yield in compliance with the normal right-of-way rule if such stopping or yielding is necessary; and/or*
3. *Crash records indicate that five or more crashes that involve the failure to yield the right-of-way at the intersection under the normal right-of-way rule have been reported within a 3-year period, or that three or more such crashes have been reported within a 2-year period.*

The results of the evaluation indicate that none of the conditions are met. The combined vehicular, bicycle, and pedestrian volume is forecast to be less than 700 vehicles per day. In accordance with the AASHTO *Greenbook*, the intersection will meet the required corner clearance of 115 feet along each leg of the intersection. Since this is a new intersection, crash history is not available; however, the crash analysis results for the entirety of the Woodland Hills subdivision, show only one crash occurring within a five-year period involving failure to yield right-of-way at an intersection within the subdivision. This includes several uncontrolled T-intersections similar to the proposed intersection of Christine Drive & Dann Drive / Site Drive. Therefore, the intersection is recommended to operate as an uncontrolled intersection.

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Build Traffic Operations

Future build peak hour vehicle delays and LOS with the proposed development were calculated based on existing lane configurations and traffic control, build traffic volumes shown on the attached **Figure 2** and **Figure 3**, and HCM methodologies. SimTraffic simulations were also utilized to evaluate traffic flow and vehicle queues throughout the study network. The build conditions results are attached and summarized in **Table 5.**

Table 5: Future Build Traffic Operations

Intersection	Control	Approach	Movement	AM Peak Hour						PM Peak Hour					
				No-Build		Build - Alt 1		Build - Alt 2		No-Build		Build - Alt 1		Build - Alt 2	
				Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Hunter Road & Margo Drive	STOP (Minor)	EB	Left/Right	9.5	A	9.7	A	9.7	A	9.4	A	9.6	A	9.7	A
		NB	Left	7.6	A	7.6	A	7.6	A	7.4	A	7.5	A	7.5	A
			Thru/Right	Free		Free		Free		Free		Free		Free	
		SB	Thru/Right	Free		Free		Free		Free		Free		Free	
Hunter Road & Christine Drive	STOP (Minor)	EB	Left/Right	9.3	A	9.4	A	9.4	A	9.1	A	9.2	A	9.2	A
		NB	Left	7.6	A	7.6	A	7.6	A	7.4	A	7.4	A	7.4	A
			Thru/Right	Free		Free		Free		Free		Free		Free	
		SB	Thru/Right	Free		Free		Free		Free		Free		Free	
Christine Drive & Dann Drive / Site Drive	YIELD (Minor)	WB	Left/Right			8.7	A	8.7	A			8.7	A	8.7	A
		NB	Thru/Right	Free		Free		Free		Free		Free		Free	
		SB	Left			7.3	A	7.3	A			7.2	A	7.2	A
			Thru	Free		Free		Free		Free		Free		Free	

The results of the future build conditions analysis indicate that the proposed development will not have a significant impact on the adjacent road network or intersections. All approaches and movements at the intersections of Hunter Road with Christine Drive and Margo Drive will continue to operate acceptably at a LOS A during the peak hours with minor increases in delay (0.2 seconds per vehicle or less) for both development alternatives. Review of network simulations also continues to indicate acceptable traffic operations with minimal delays and vehicle queues for both development alternatives. Therefore, no improvements are recommended to accommodate the proposed development.

Additionally, traffic volumes at the study intersections were evaluated to determine the proportional increase in traffic as a result of the proposed development. The results of this evaluation are summarized in **Table 6.**

Table 6: Traffic Volume Increase Summary

Intersection	AM				PM			
	No-Build	Build	Change	% Change	No-Build	Build	Change	% Change
Hunter Road & Christine Drive	165	174	9	5.5%	194	206	12	6.2%
Hunter Road & Margo Drive	205	237	32	15.6%	255	297	42	16.5%

Conclusions

Based on the information outlined herein regarding the proposed development and resulting traffic operations, there would be no discernable impact to traffic operations on the adjacent road network

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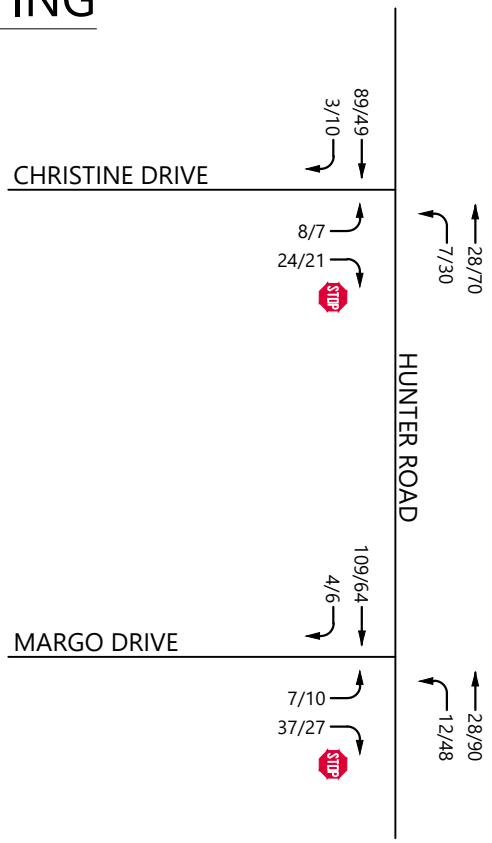
and the proposed study intersections will operate acceptably. The following conclusions of this assessment are based on the information outlined herein regarding the proposed use, forecast trip generation, and traffic operations analysis:

- The results of the existing conditions analysis indicate that all approaches and movements at the study intersections currently operate acceptably at a LOS A during the peak hours.
- An ambient traffic growth of 0.5% was applied to establish 2029 no-build traffic volumes without the proposed development.
- No-Build conditions analyses indicated that all approaches and movements at the study intersections will continue to operate at a LOS A during the peak hours.
- Neither left-turn nor right-turn treatments are warranted at the intersections of Hunter Road with Christine Drive and Margo Drive with the proposed development.
- Traffic control at the intersection of Christine Drive & Dann Drive / Site Drive is not recommended in accordance with MMUTCD standards.
- All approaches and movements at the study intersections of Hunter Road with Christine Drive and Margo Drive will continue to operate acceptably at a LOS A during the peak hours with minor increases in delay (0.2 seconds per vehicle or less).

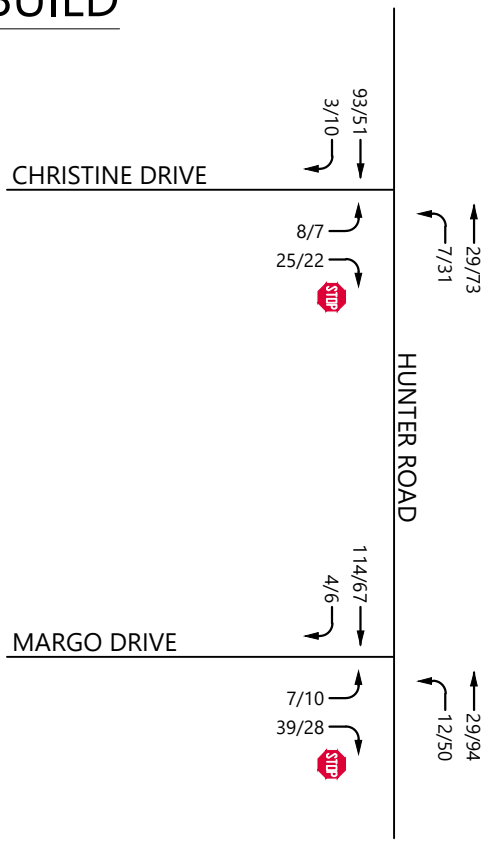
The traffic data are attached for reference to this memorandum. Any questions related to this memorandum, analyses, and results should be addressed to CED.

Attached: Figure 2 – 3
Traffic Volume Data
Synchro HCM Calculations
Turn Lane Warrants

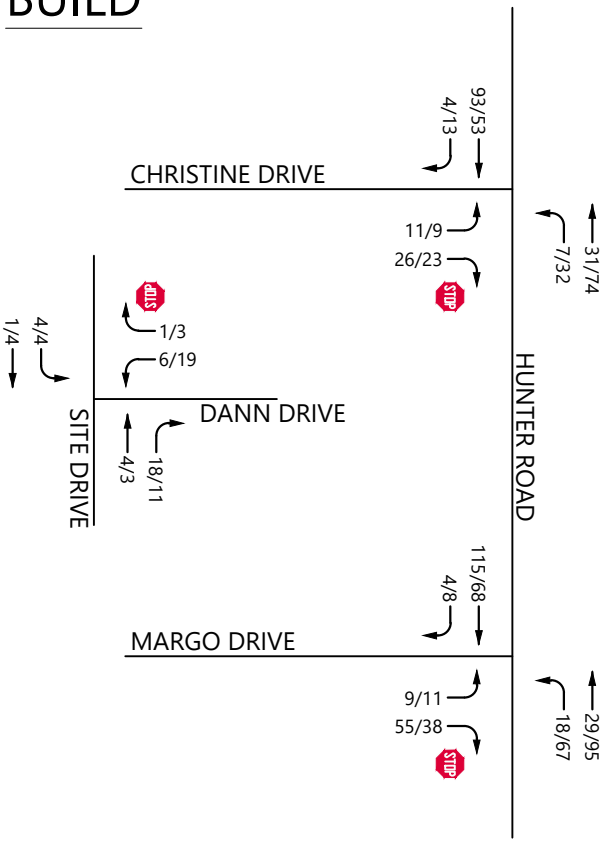
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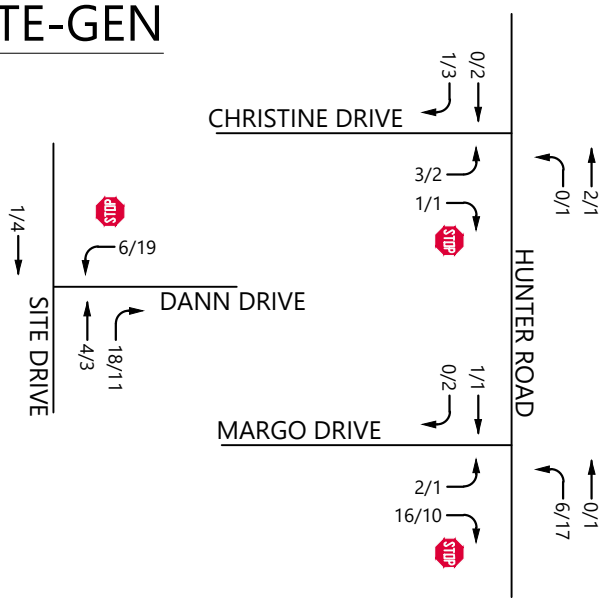
NO-BUILD



BUILD



SITE-GEN

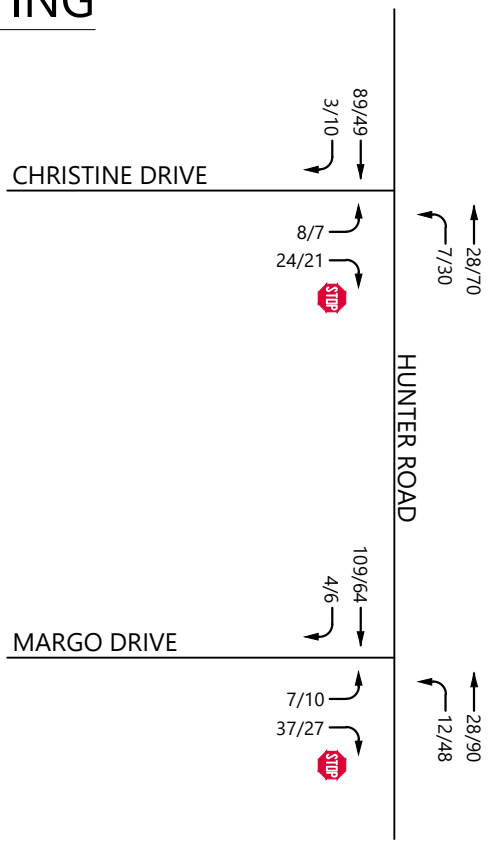


Cove at Woodland Lake Residential
Brighton Township, MI

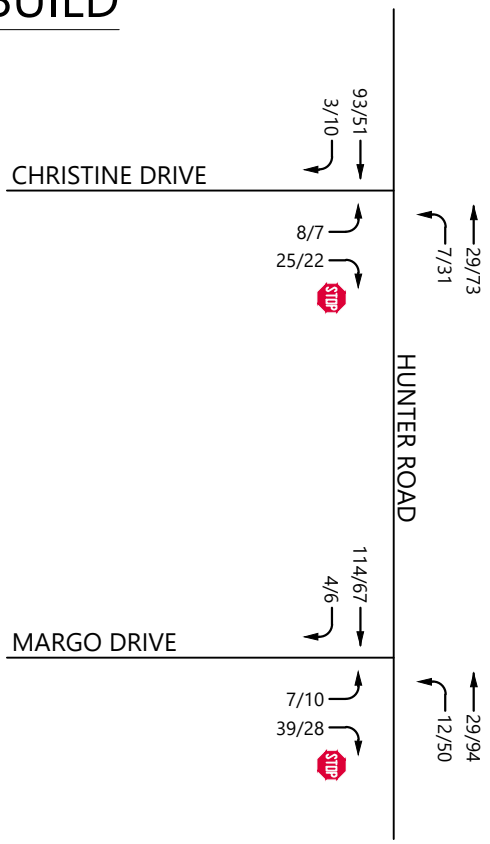
Figure 2
Traffic Volume Summary - ALT 1

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-	No Scale	Mar '25	Engineering & Design

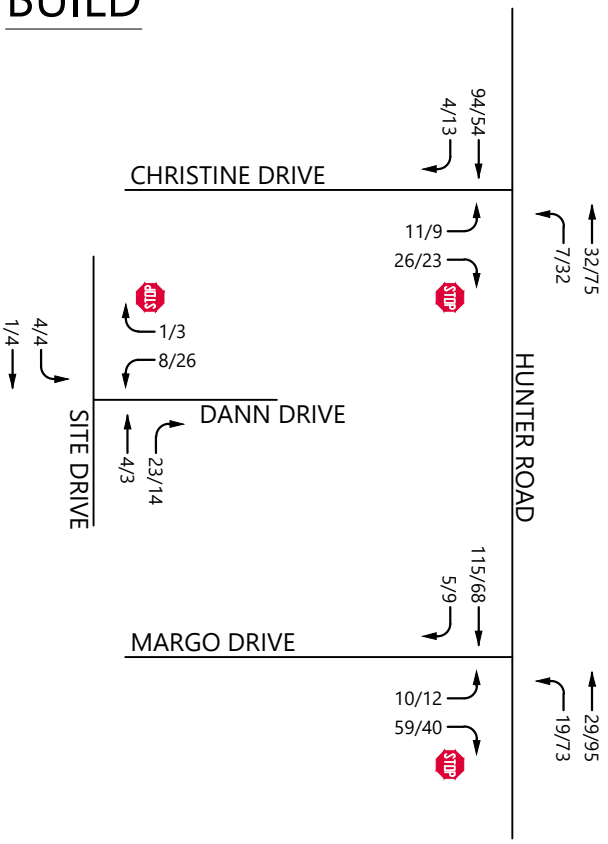
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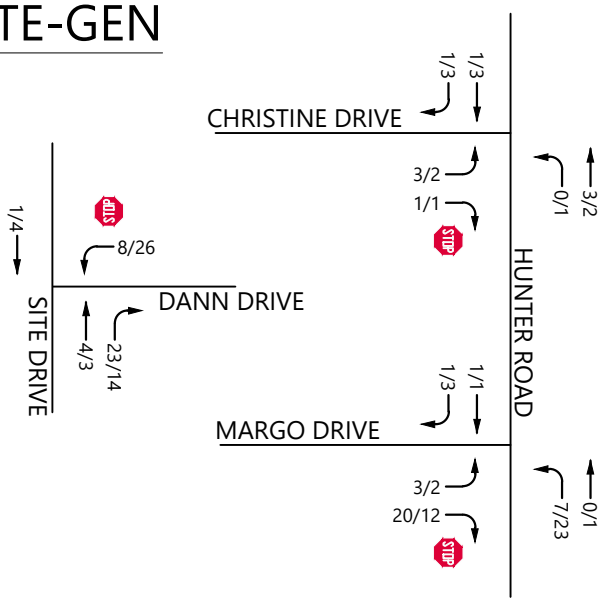
NO-BUILD



BUILD



SITE-GEN



Cove at Woodland Lake Residential
Brighton Township, MI

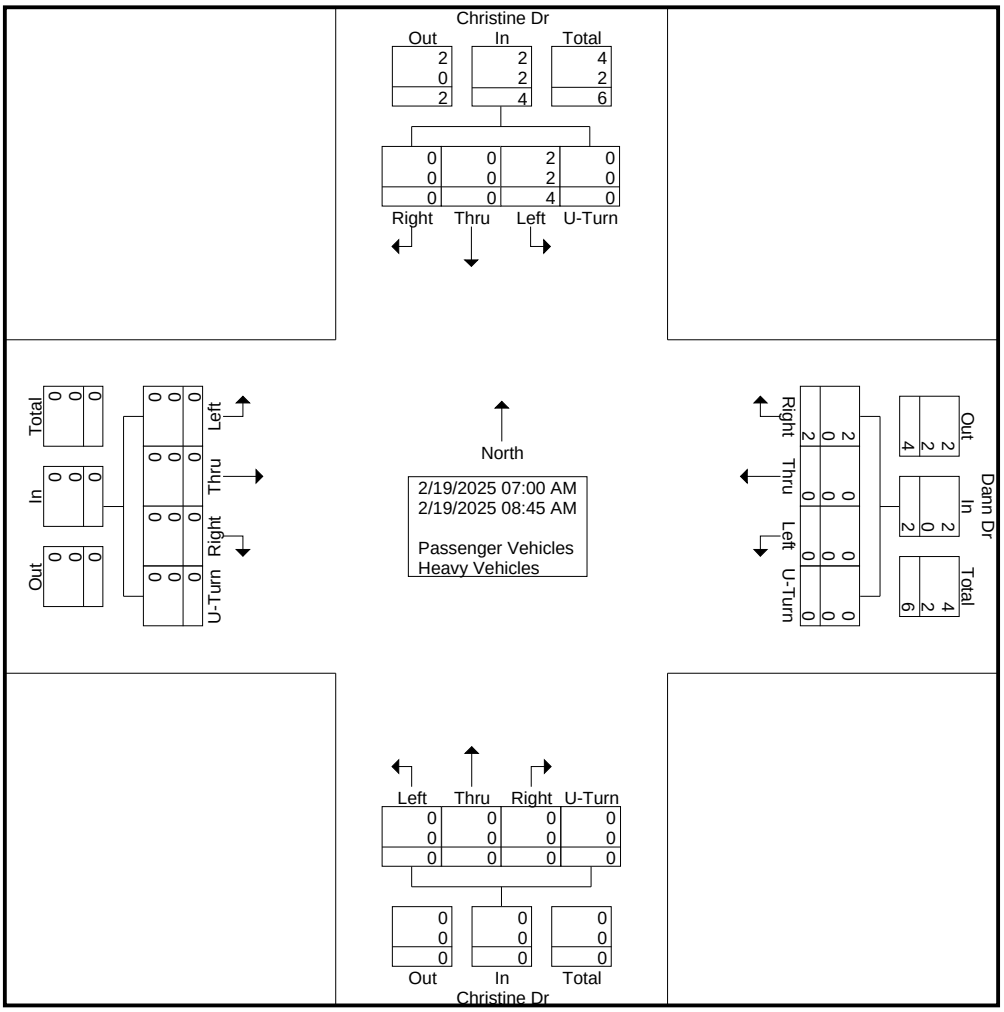
Figure 3
Traffic Volume Summary - ALT 2

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Start Date : 2/19/2025
Page No : 1

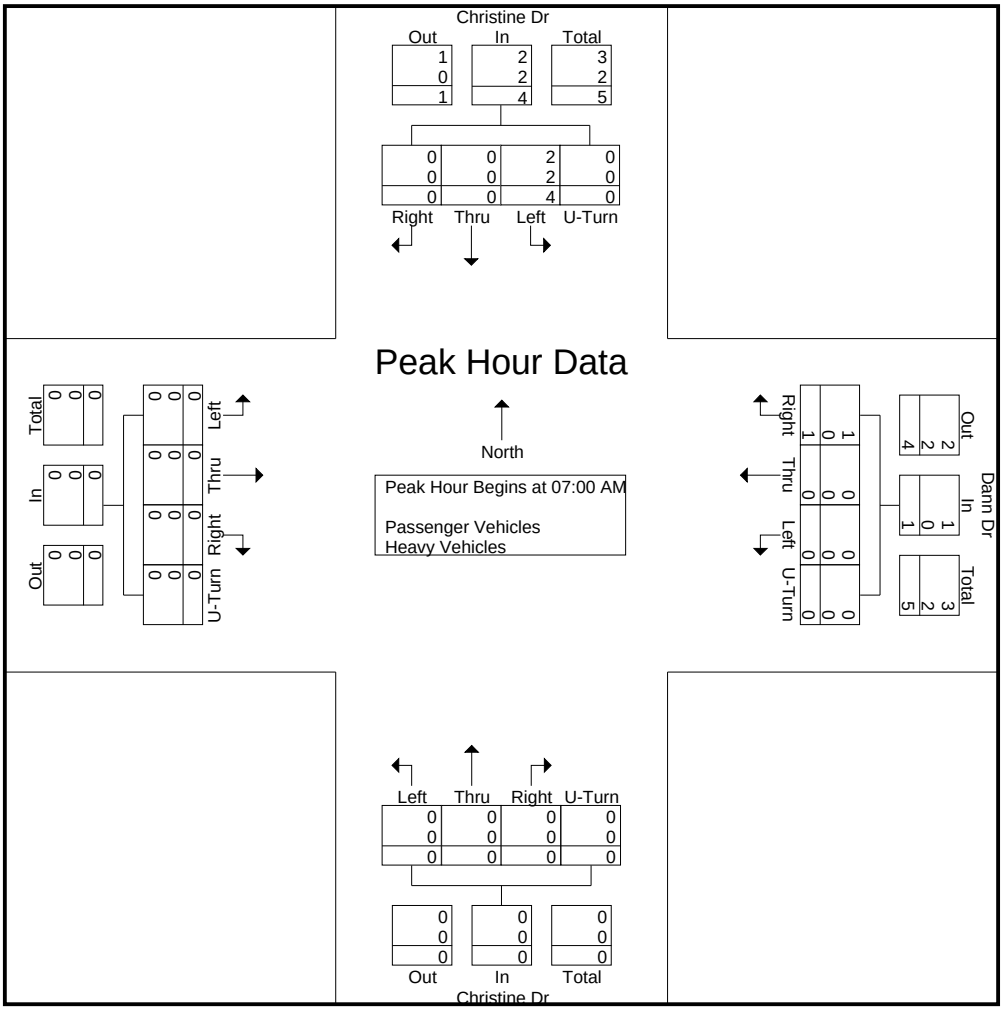
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Total %	0	0	66.7	0	66.7	33.3	0	0	0	33.3	0	0	0	0	0	0	0	0	0	0	
Passenger Vehicles	0	0	2	0	2	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	4
% Passenger Vehicles	0	0	50	0	50	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	66.7
Heavy Vehicles	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
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Page No : 2

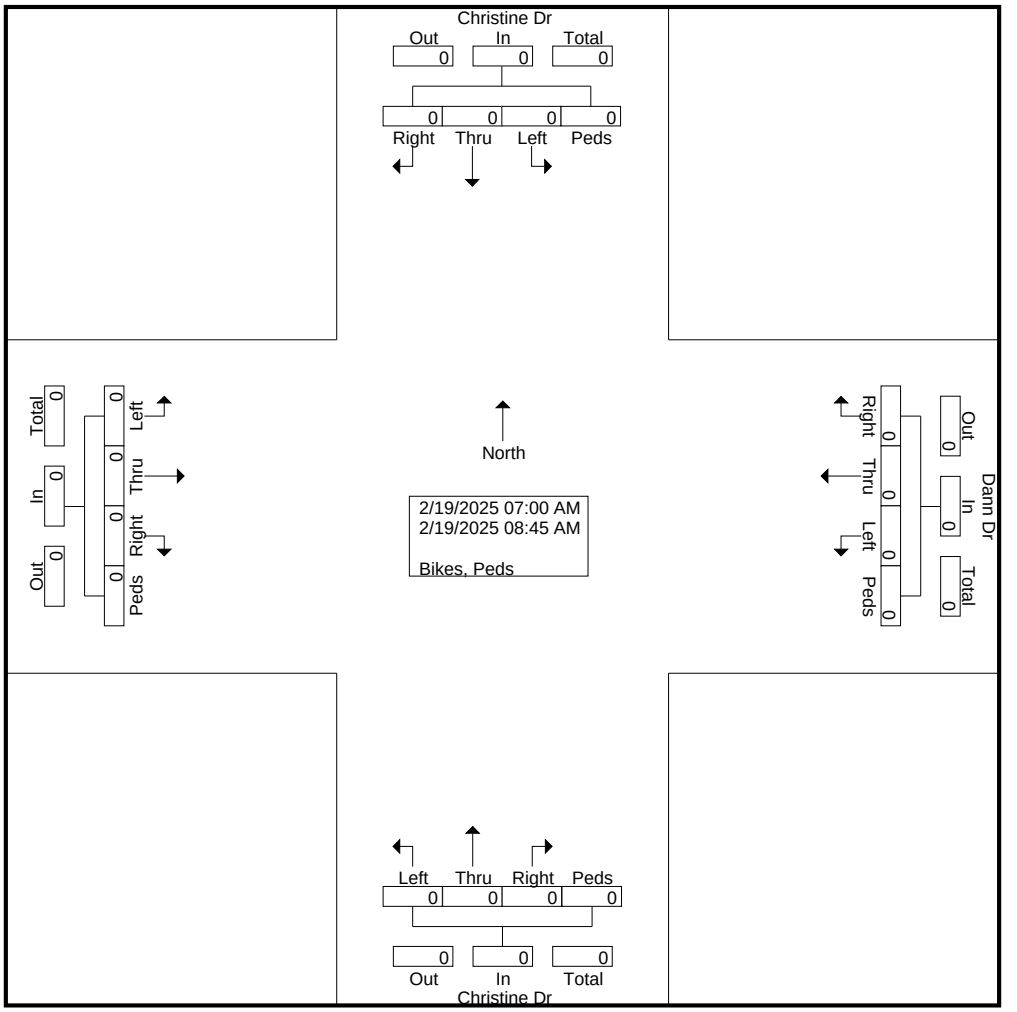
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Peak Hour for Entire Intersection Begins at 07:00 AM																					
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07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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Total Volume	0	0	4	0	4	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	5
% App. Total	0	0	100	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.500	.000	.500	.250	.000	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625
Passenger Vehicles	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
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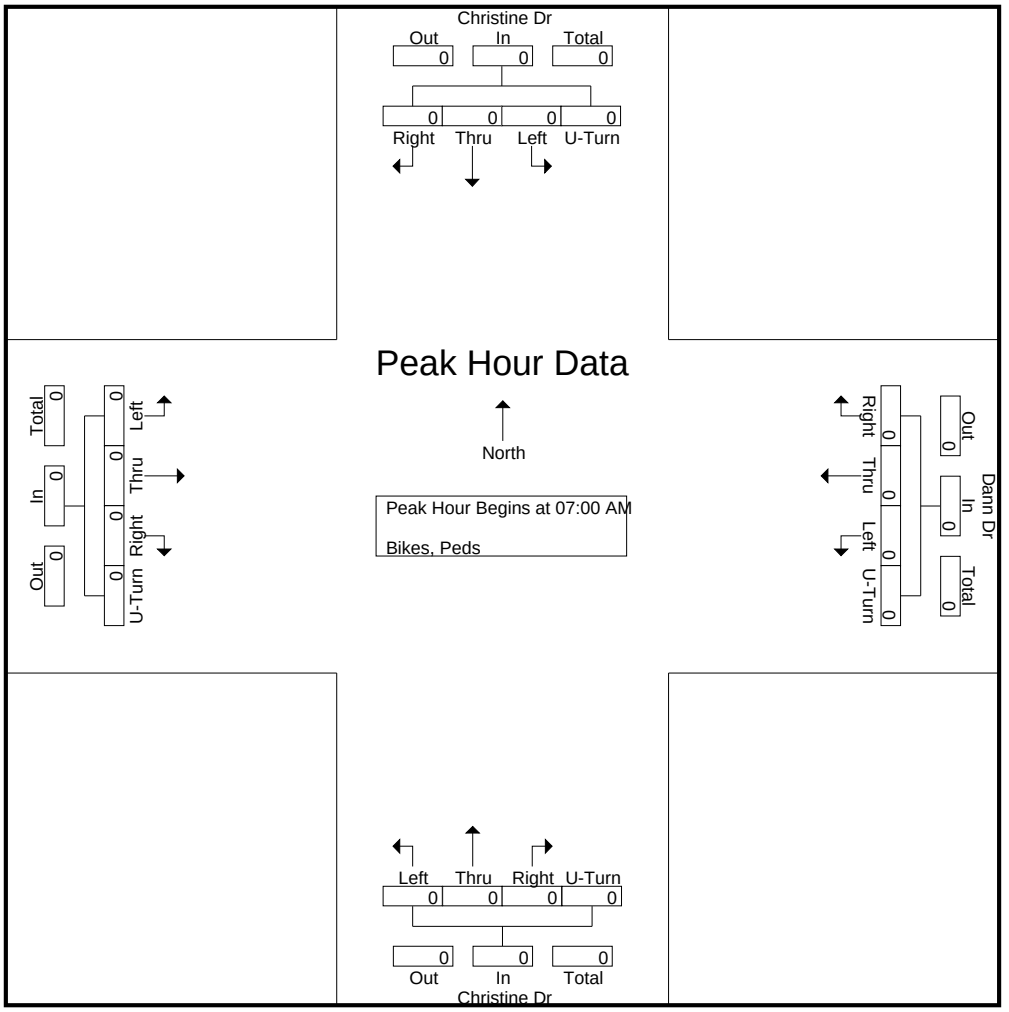
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08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
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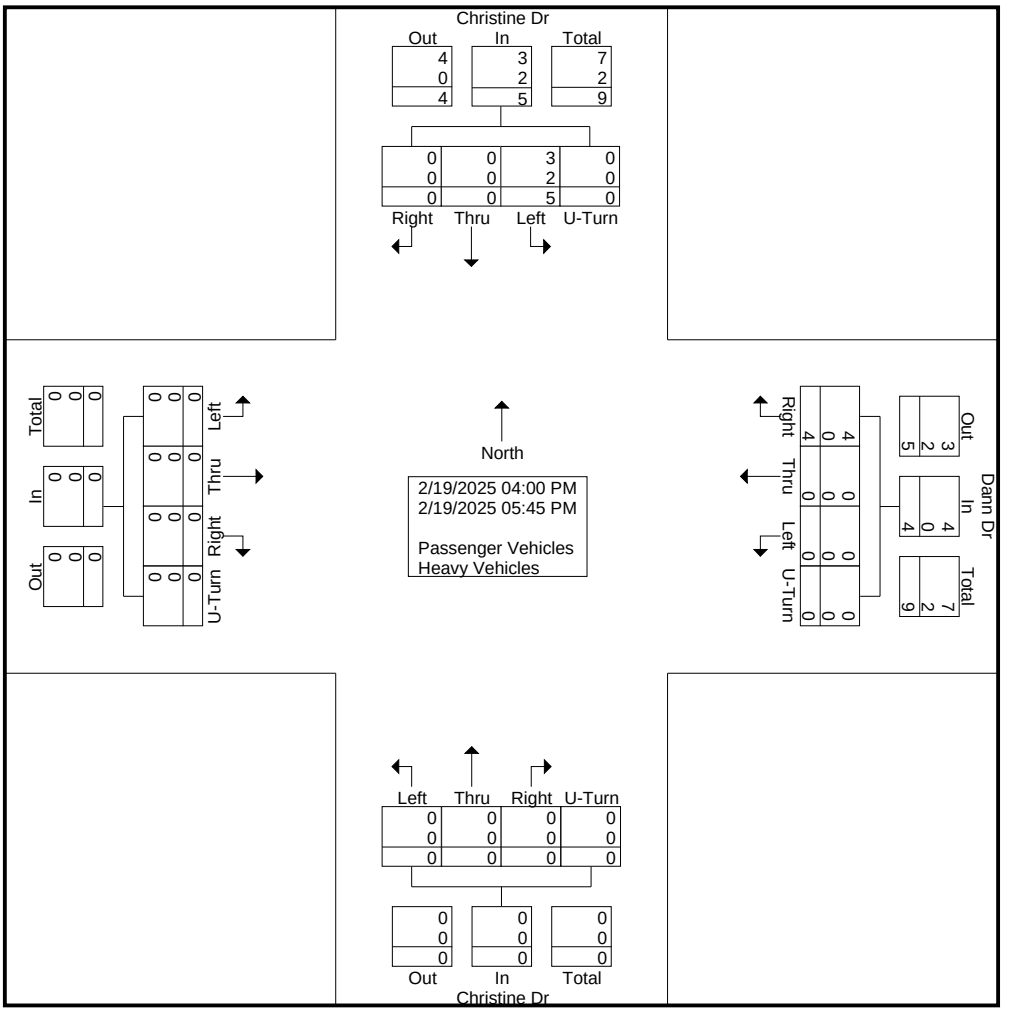
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Peak Hour for Entire Intersection Begins at 07:00 AM																					
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07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



File Name : 16923602 - Christine Dr -- Dann Dr
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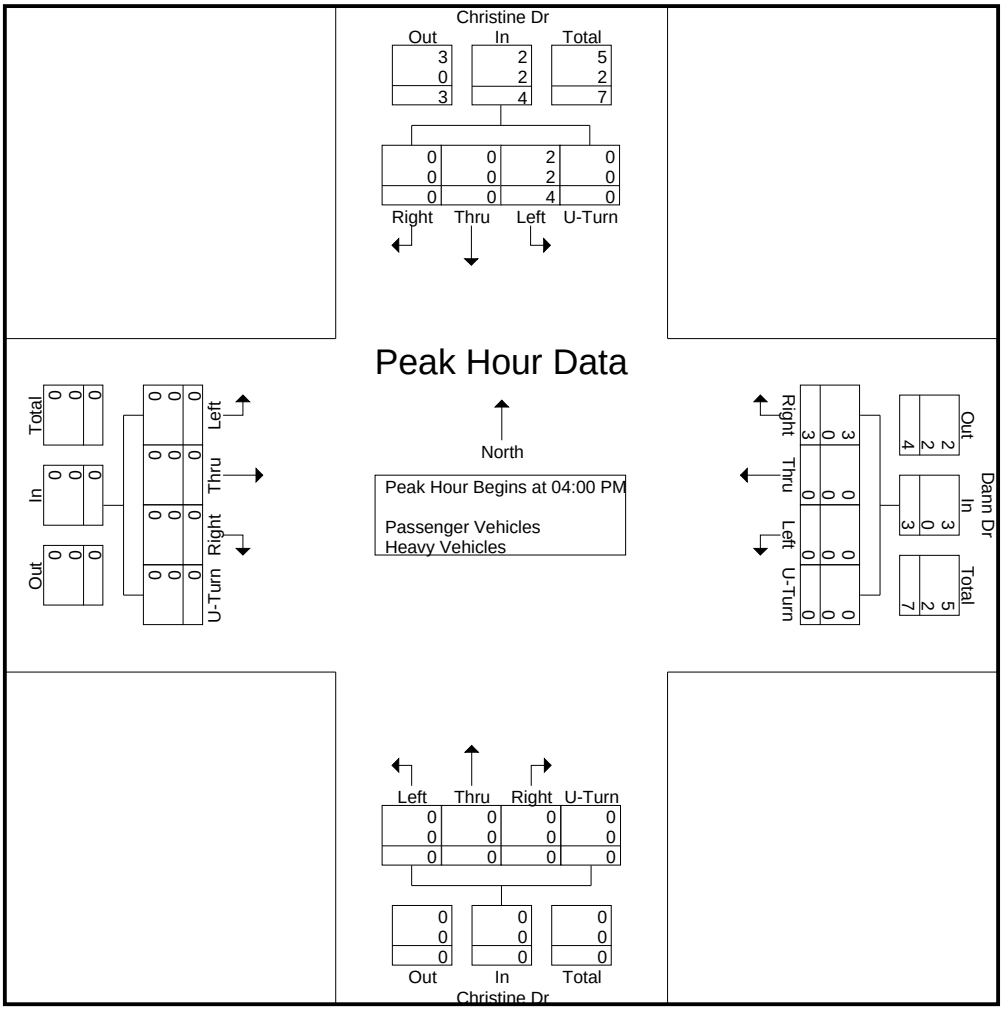
Groups Printed- Passenger Vehicles - Heavy Vehicles

	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
04:00 PM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	2	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	4	0	4	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
05:00 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	0	5	0	5	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	9
Apprch %	0	0	100	0		100	0	0	0		0	0	0	0		0	0	0	0		
Total %	0	0	55.6	0	55.6	44.4	0	0	0	44.4	0	0	0	0	0	0	0	0	0	0	
Passenger Vehicles	0	0	3	0	3	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	7
% Passenger Vehicles	0	0	60	0	60	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	77.8
Heavy Vehicles	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Heavy Vehicles	0	0	40	0	40	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22.2



File Name : 16923602 - Christine Dr -- Dann Dr
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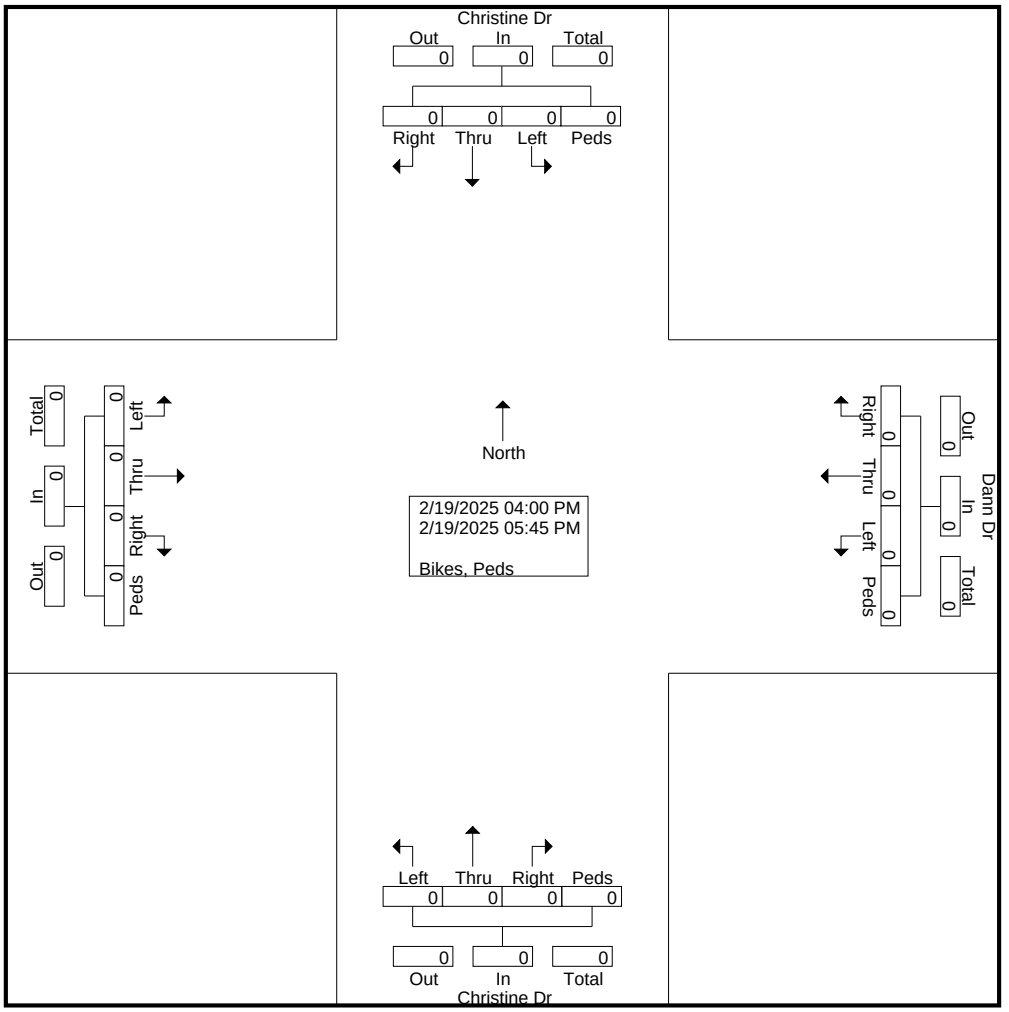
	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	1	0	1	**1**	0	0	0	**1**	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	**2**	0	**2**	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	**3**
04:30 PM	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	0	0	4	0	4	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	7
% App. Total	0	0	100	0		100	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.500	.000	.500	.750	.000	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.583
Passenger Vehicles	0	0	2	0	2	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	5
% Passenger Vehicles	0	0	50.0	0	50.0	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	71.4
Heavy Vehicles	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Heavy Vehicles	0	0	50.0	0	50.0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28.6



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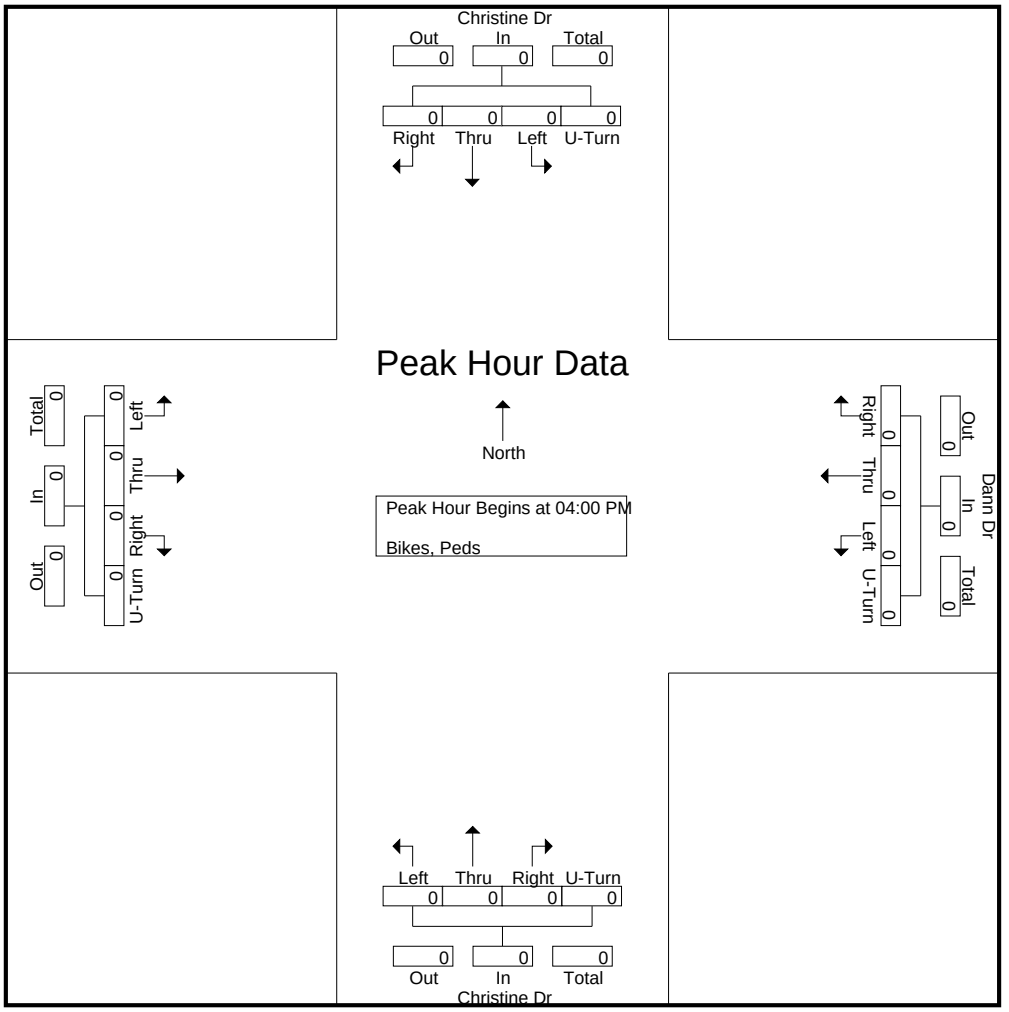
Groups Printed- Bikes, Peds

	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					



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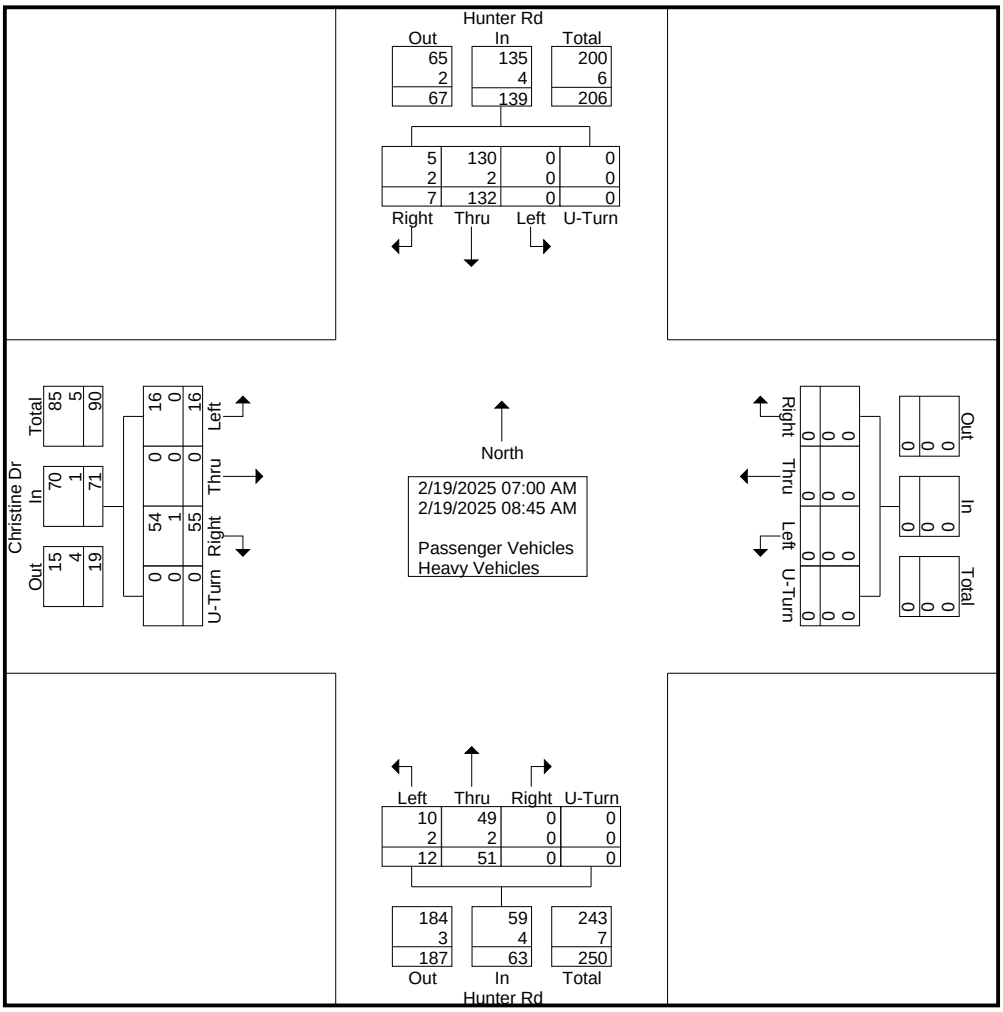
	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



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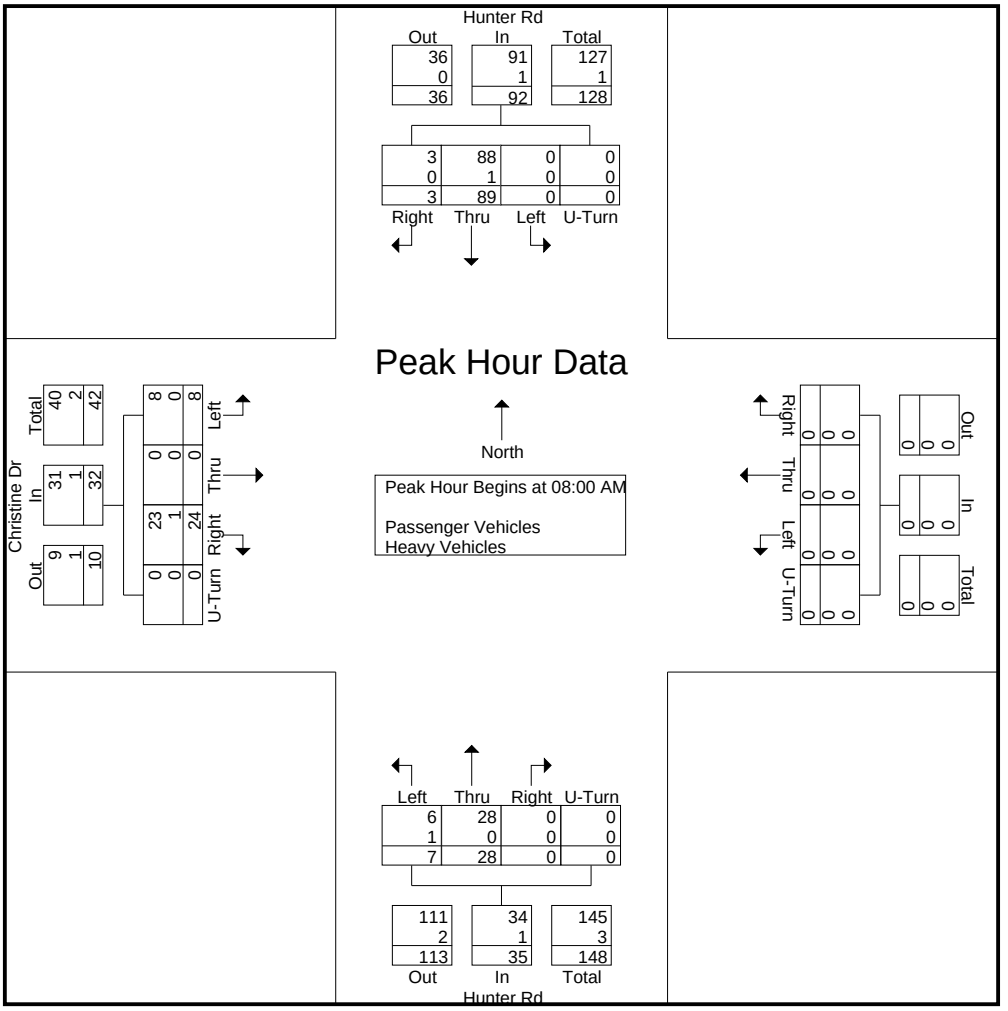
Groups Printed- Passenger Vehicles - Heavy Vehicles

	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	1	11	0	0	12	0	0	0	0	0	0	2	0	0	2	7	0	4	0	11	25
07:15 AM	1	12	0	0	13	0	0	0	0	0	0	2	2	0	4	8	0	0	0	8	25
07:30 AM	1	10	0	0	11	0	0	0	0	0	0	9	0	0	9	6	0	3	0	9	29
07:45 AM	1	10	0	0	11	0	0	0	0	0	0	10	3	0	13	10	0	1	0	11	35
Total	4	43	0	0	47	0	0	0	0	0	0	23	5	0	28	31	0	8	0	39	114
08:00 AM	0	17	0	0	17	0	0	0	0	0	0	7	1	0	8	4	0	3	0	7	32
08:15 AM	1	30	0	0	31	0	0	0	0	0	0	10	3	0	13	10	0	3	0	13	57
08:30 AM	1	16	0	0	17	0	0	0	0	0	0	3	1	0	4	4	0	1	0	5	26
08:45 AM	1	26	0	0	27	0	0	0	0	0	0	8	2	0	10	6	0	1	0	7	44
Total	3	89	0	0	92	0	0	0	0	0	0	28	7	0	35	24	0	8	0	32	159
Grand Total	7	132	0	0	139	0	0	0	0	0	0	51	12	0	63	55	0	16	0	71	273
Apprch %	5	95	0	0		0	0	0	0		0	81	19	0		77.5	0	22.5	0		
Total %	2.6	48.4	0	0	50.9	0	0	0	0	0	0	18.7	4.4	0	23.1	20.1	0	5.9	0	26	
Passenger Vehicles	5	130	0	0	135	0	0	0	0	0	0	49	10	0	59	54	0	16	0	70	264
% Passenger Vehicles	71.4	98.5	0	0	97.1	0	0	0	0	0	0	96.1	83.3	0	93.7	98.2	0	100	0	98.6	96.7
Heavy Vehicles	2	2	0	0	4	0	0	0	0	0	0	2	2	0	4	1	0	0	0	1	9
% Heavy Vehicles	28.6	1.5	0	0	2.9	0	0	0	0	0	0	3.9	16.7	0	6.3	1.8	0	0	0	1.4	3.3



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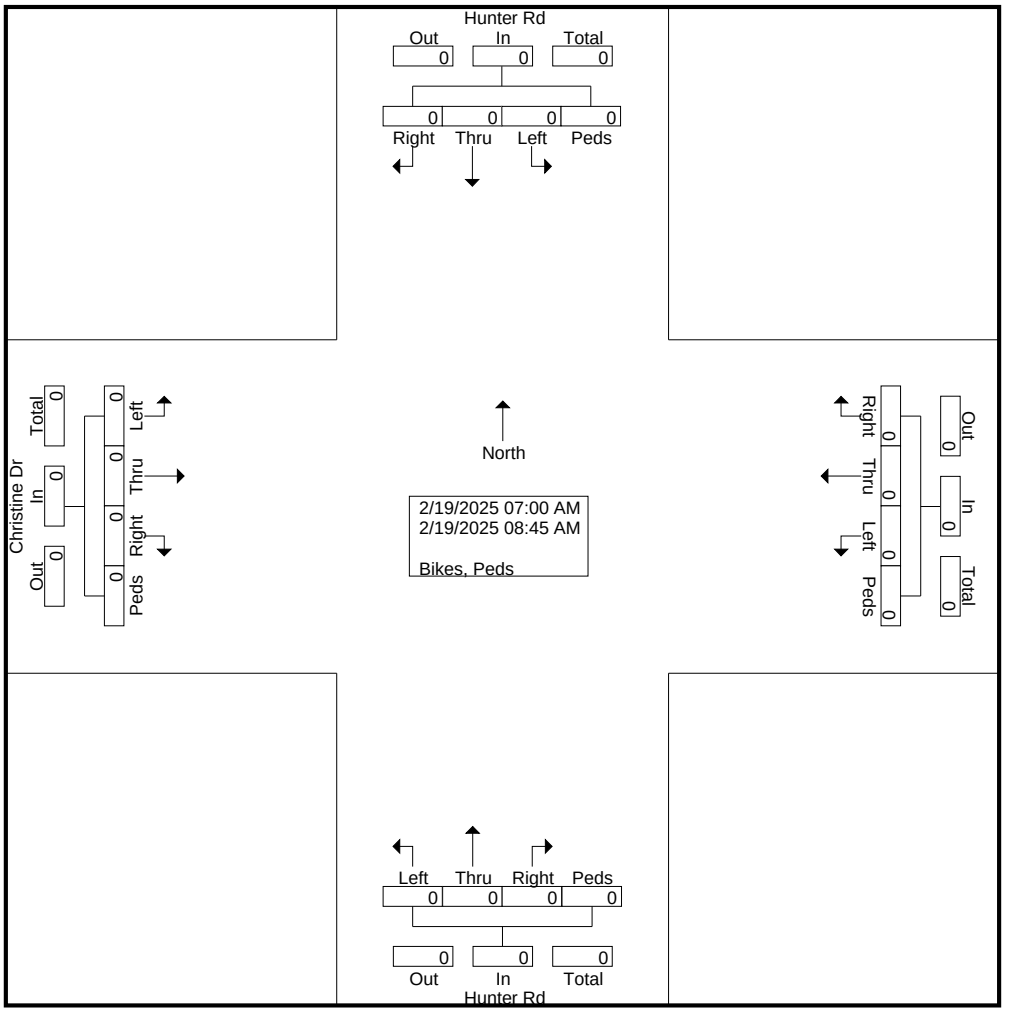
	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	17	0	0	17	0	0	0	0	0	0	7	1	0	8	4	0	**3**	0	7	32
08:15 AM	**1**	**30**	0	0	**31**	0	0	0	0	0	0	**10**	**3**	0	**13**	**10**	0	3	0	**13**	**57**
08:30 AM	1	16	0	0	17	0	0	0	0	0	0	3	1	0	4	4	0	1	0	5	26
08:45 AM	1	26	0	0	27	0	0	0	0	0	0	8	2	0	10	6	0	1	0	7	44
Total Volume	3	89	0	0	92	0	0	0	0	0	0	28	7	0	35	24	0	8	0	32	159
% App. Total	3.3	96.7	0	0		0	0	0	0		0	80	20	0		75	0	25	0		
PHF	.750	.742	.000	.000	.742	.000	.000	.000	.000	.000	.000	.700	.583	.000	.673	.600	.000	.667	.000	.615	.697
Passenger Vehicles	3	88	0	0	91	0	0	0	0	0	0	28	6	0	34	23	0	8	0	31	156
% Passenger Vehicles	100	98.9	0	0	98.9	0	0	0	0	0	0	100	85.7	0	97.1	95.8	0	100	0	96.9	98.1
Heavy Vehicles	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	3
% Heavy Vehicles	0	1.1	0	0	1.1	0	0	0	0	0	0	0	14.3	0	2.9	4.2	0	0	0	3.1	1.9



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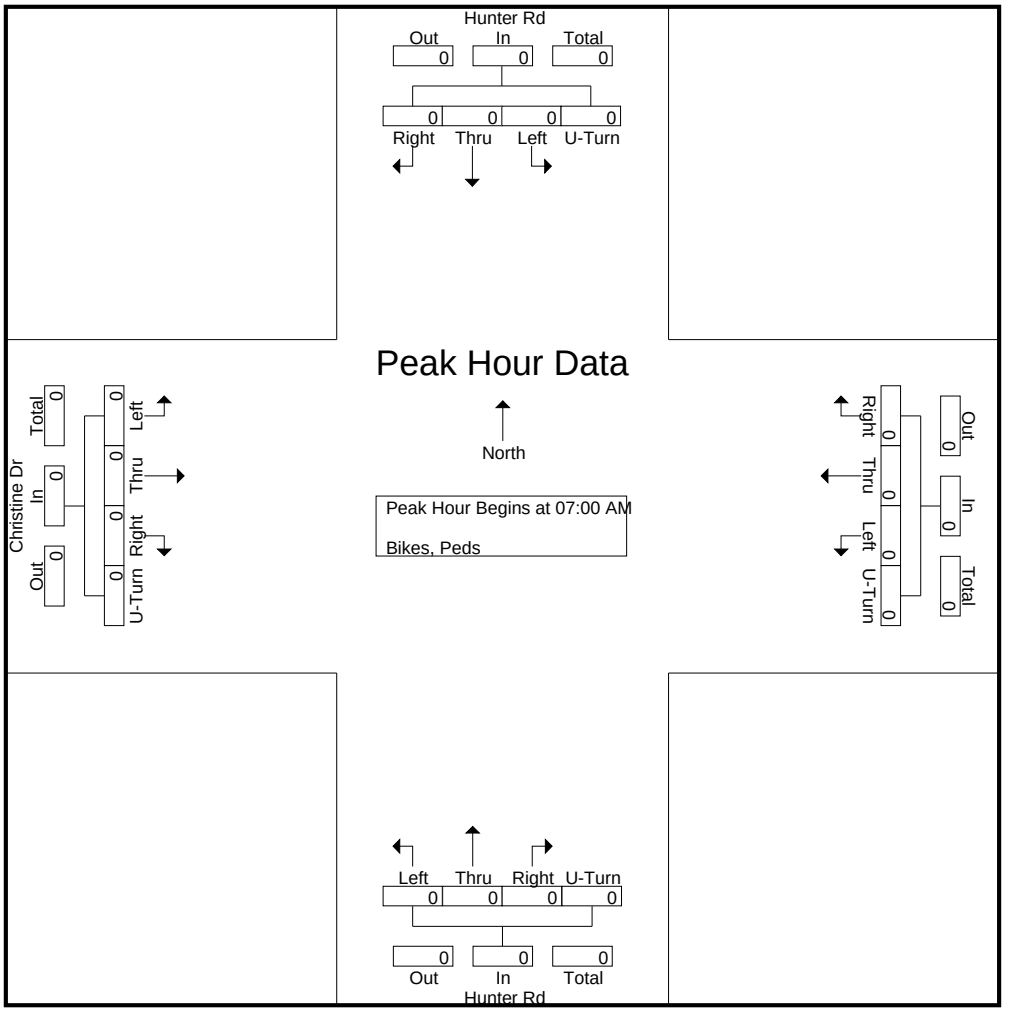
Groups Printed- Bikes, Peds

	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					



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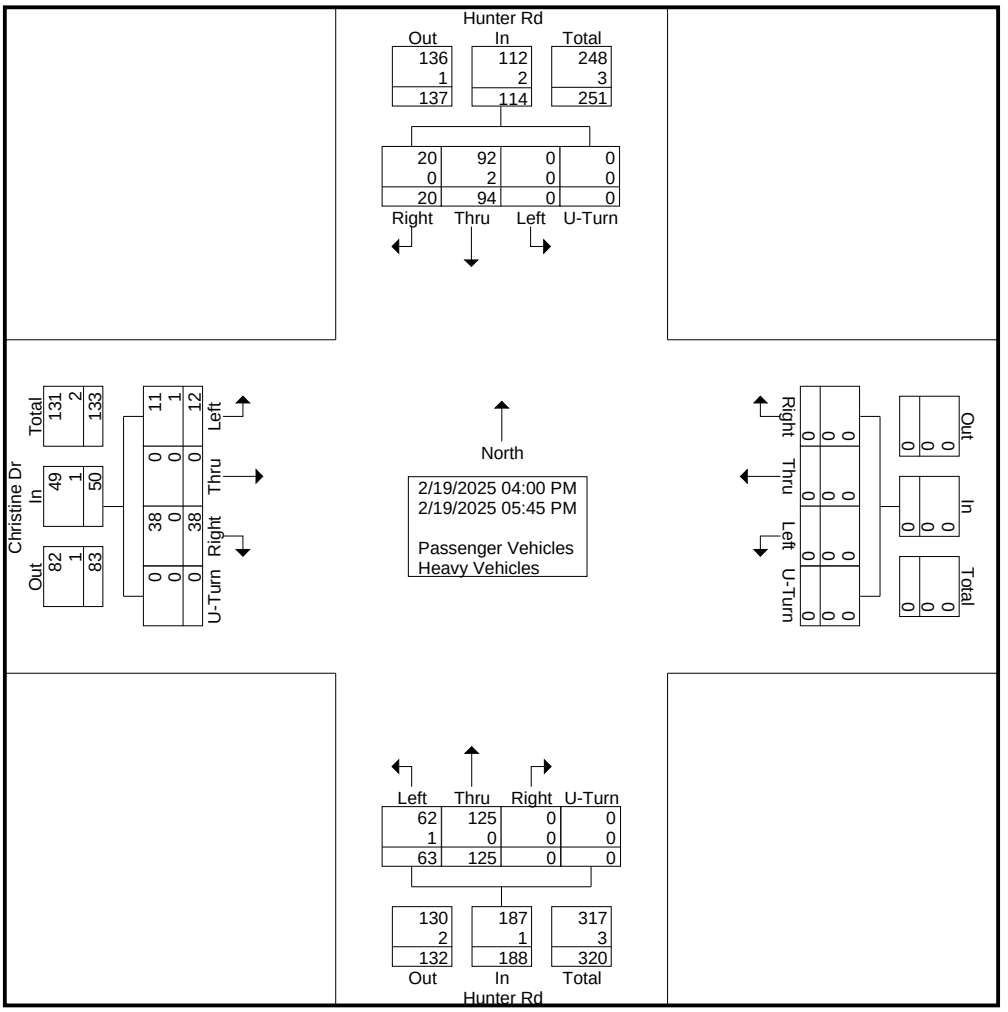
	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



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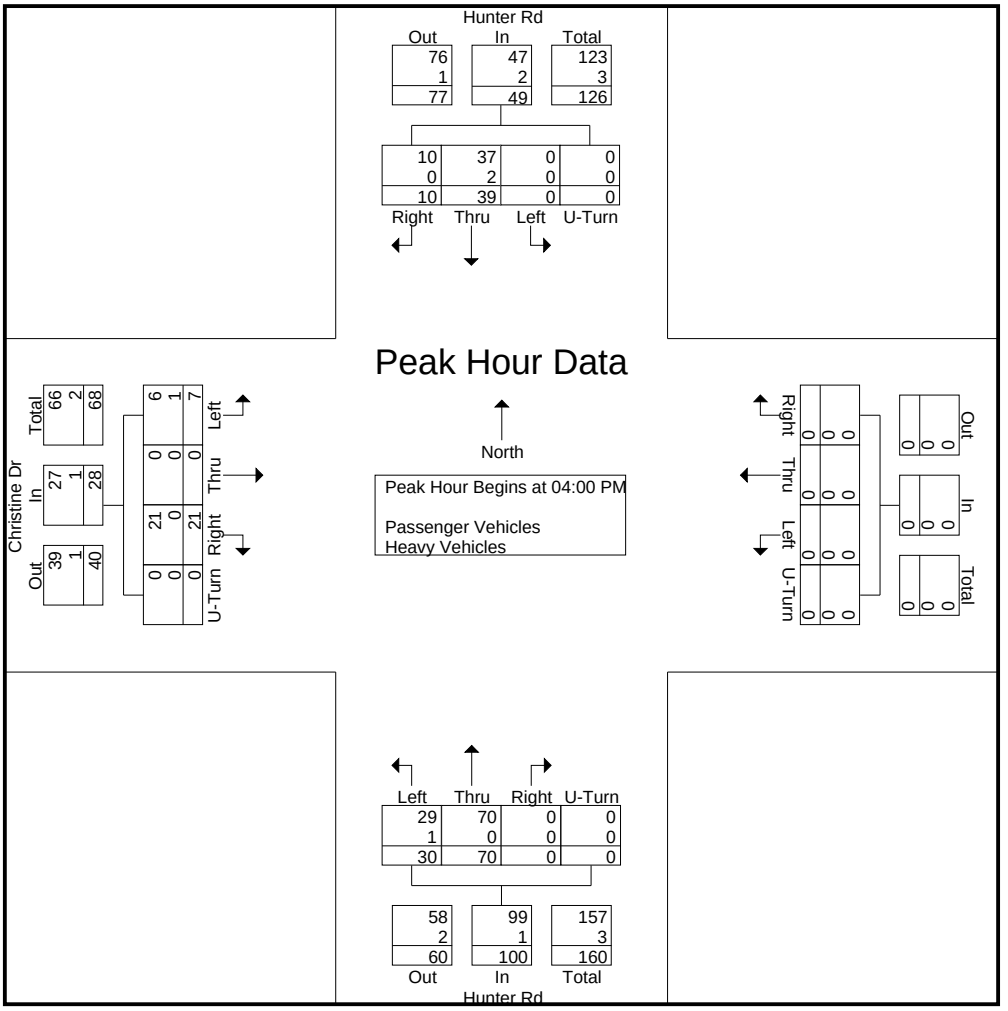
Groups Printed- Passenger Vehicles - Heavy Vehicles

	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
04:00 PM	0	7	0	0	7	0	0	0	0	0	0	23	7	0	30	3	0	2	0	5	42
04:15 PM	4	11	0	0	15	0	0	0	0	0	0	18	8	0	26	6	0	1	0	7	48
04:30 PM	2	13	0	0	15	0	0	0	0	0	0	16	6	0	22	5	0	3	0	8	45
04:45 PM	4	8	0	0	12	0	0	0	0	0	0	13	9	0	22	7	0	1	0	8	42
Total	10	39	0	0	49	0	0	0	0	0	0	70	30	0	100	21	0	7	0	28	177
05:00 PM	2	13	0	0	15	0	0	0	0	0	0	10	7	0	17	5	0	1	0	6	38
05:15 PM	3	15	0	0	18	0	0	0	0	0	0	18	4	0	22	4	0	0	0	4	44
05:30 PM	3	14	0	0	17	0	0	0	0	0	0	13	10	0	23	2	0	3	0	5	45
05:45 PM	2	13	0	0	15	0	0	0	0	0	0	14	12	0	26	6	0	1	0	7	48
Total	10	55	0	0	65	0	0	0	0	0	0	55	33	0	88	17	0	5	0	22	175
Grand Total	20	94	0	0	114	0	0	0	0	0	0	125	63	0	188	38	0	12	0	50	352
Apprch %	17.5	82.5	0	0		0	0	0	0		0	66.5	33.5	0		76	0	24	0		
Total %	5.7	26.7	0	0	32.4	0	0	0	0	0	0	35.5	17.9	0	53.4	10.8	0	3.4	0	14.2	
Passenger Vehicles	20	92	0	0	112	0	0	0	0	0	0	125	62	0	187	38	0	11	0	49	348
% Passenger Vehicles	100	97.9	0	0	98.2	0	0	0	0	0	0	100	98.4	0	99.5	100	0	91.7	0	98	98.9
Heavy Vehicles	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	4
% Heavy Vehicles	0	2.1	0	0	1.8	0	0	0	0	0	0	0	1.6	0	0.5	0	0	8.3	0	2	1.1



File Name : 16923604 - Hunter Rd -- Christine Dr
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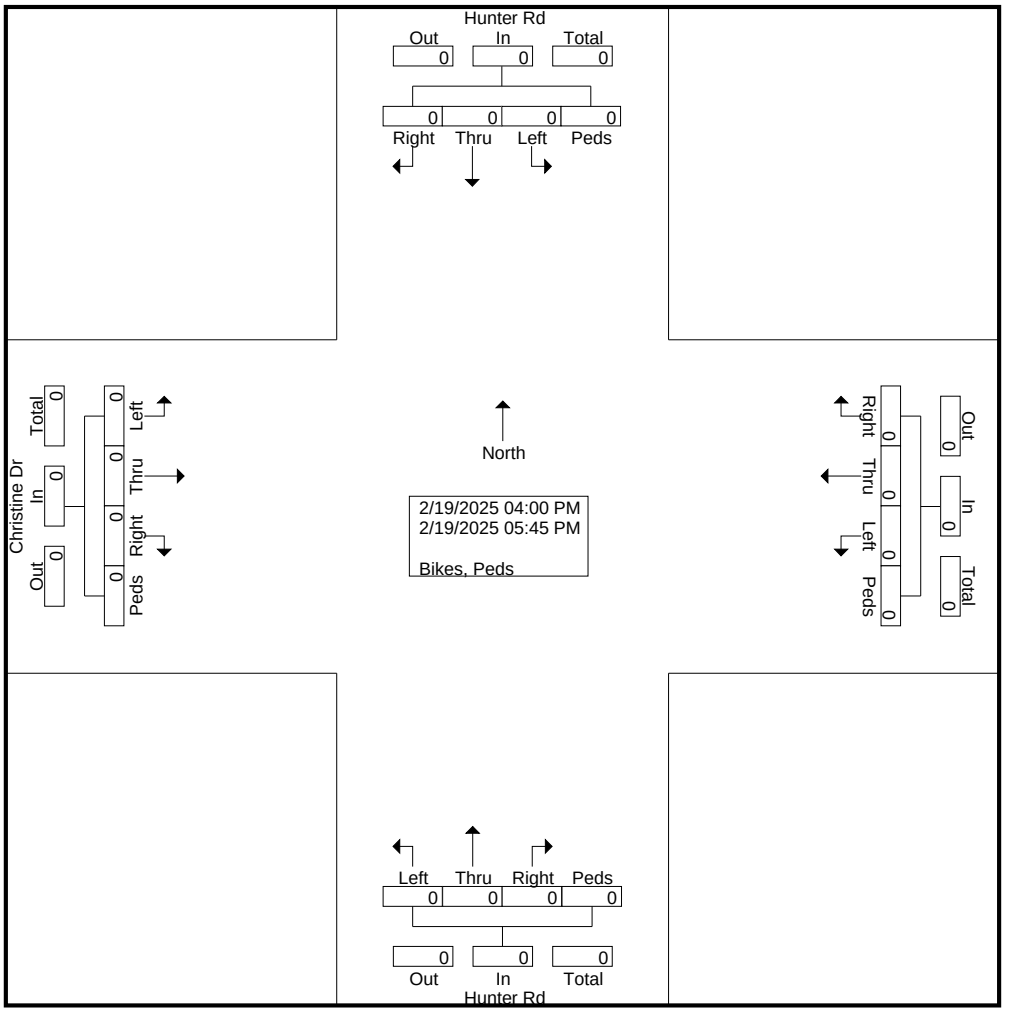
	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	7	0	0	7	0	0	0	0	0	0	**23**	7	0	**30**	3	0	2	0	5	42
04:15 PM	**4**	11	0	0	**15**	0	0	0	0	0	0	18	8	0	26	6	0	1	0	7	**48**
04:30 PM	2	**13**	0	0	15	0	0	0	0	0	0	16	6	0	22	5	0	**3**	0	**8**	45
04:45 PM	4	8	0	0	12	0	0	0	0	0	0	13	**9**	0	22	**7**	0	1	0	8	42
Total Volume	10	39	0	0	49	0	0	0	0	0	0	70	30	0	100	21	0	7	0	28	177
% App. Total	20.4	79.6	0	0		0	0	0	0		0	70	30	0		75	0	25	0		
PHF	.625	.750	.000	.000	.817	.000	.000	.000	.000	.000	.000	.761	.833	.000	.833	.750	.000	.583	.000	.875	.922
Passenger Vehicles	10	37	0	0	47	0	0	0	0	0	0	70	29	0	99	21	0	6	0	27	173
% Passenger Vehicles	100	94.9	0	0	95.9	0	0	0	0	0	0	100	96.7	0	99.0	100	0	85.7	0	96.4	97.7
Heavy Vehicles	0	2	0	0	2	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	4
% Heavy Vehicles	0	5.1	0	0	4.1	0	0	0	0	0	0	0	3.3	0	1.0	0	0	14.3	0	3.6	2.3



File Name : 16923604 - Hunter Rd -- Christine Dr
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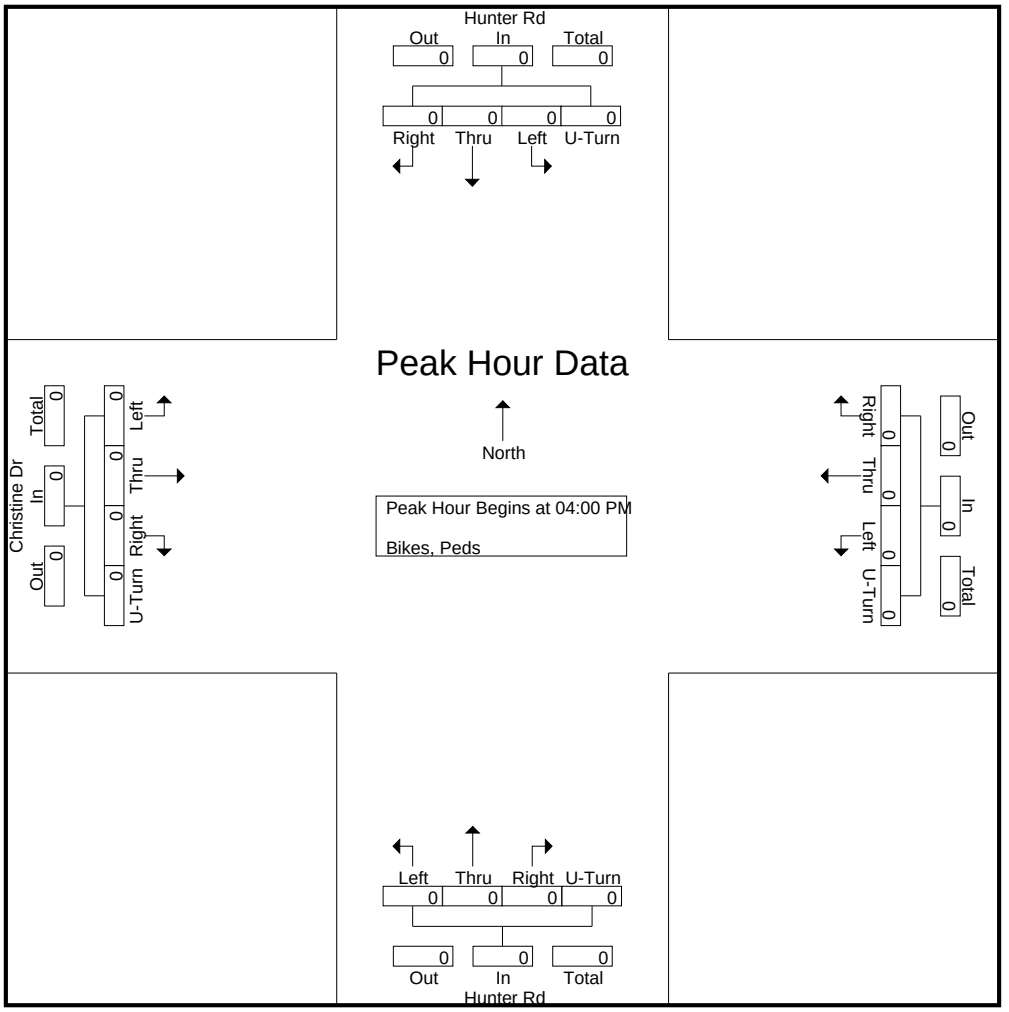
Groups Printed- Bikes, Peds

	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					



File Name : 16923604 - Hunter Rd -- Christine Dr
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Start Date : 2/19/2025
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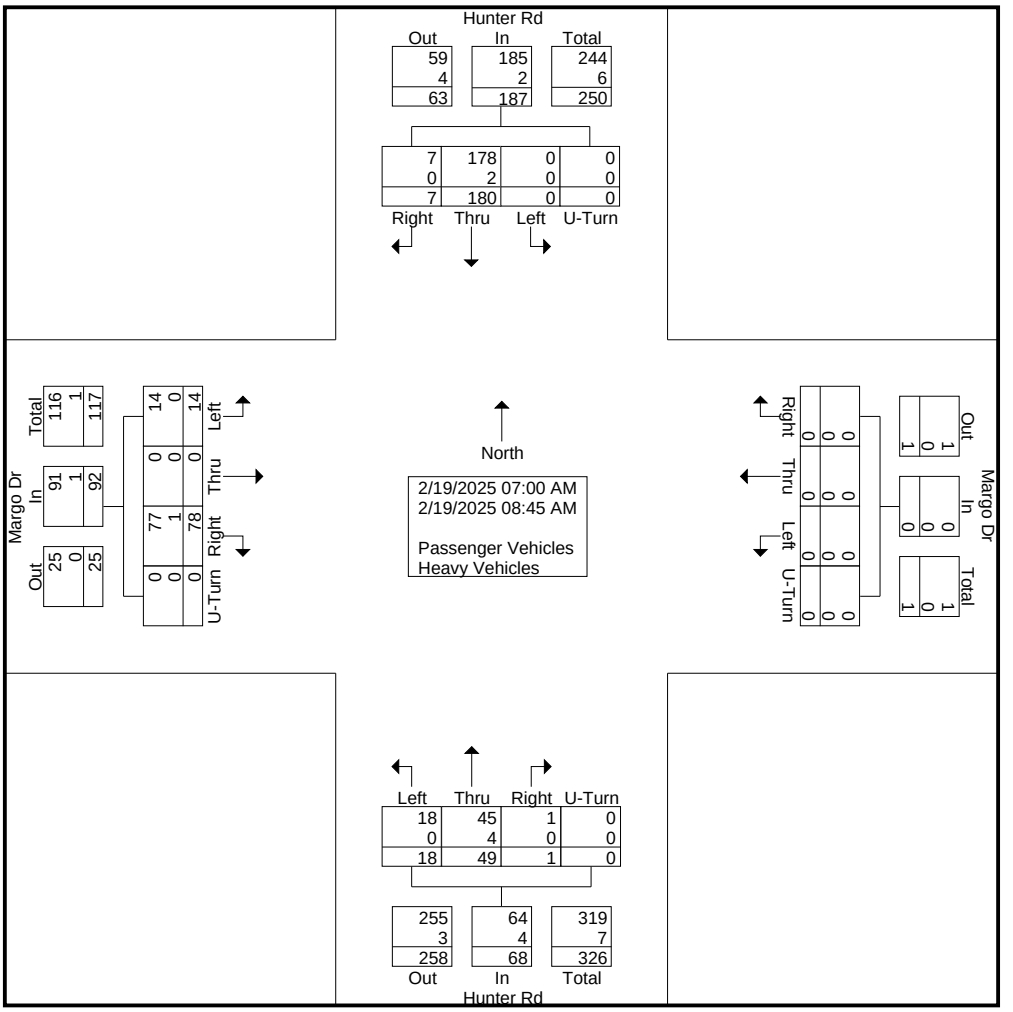
	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



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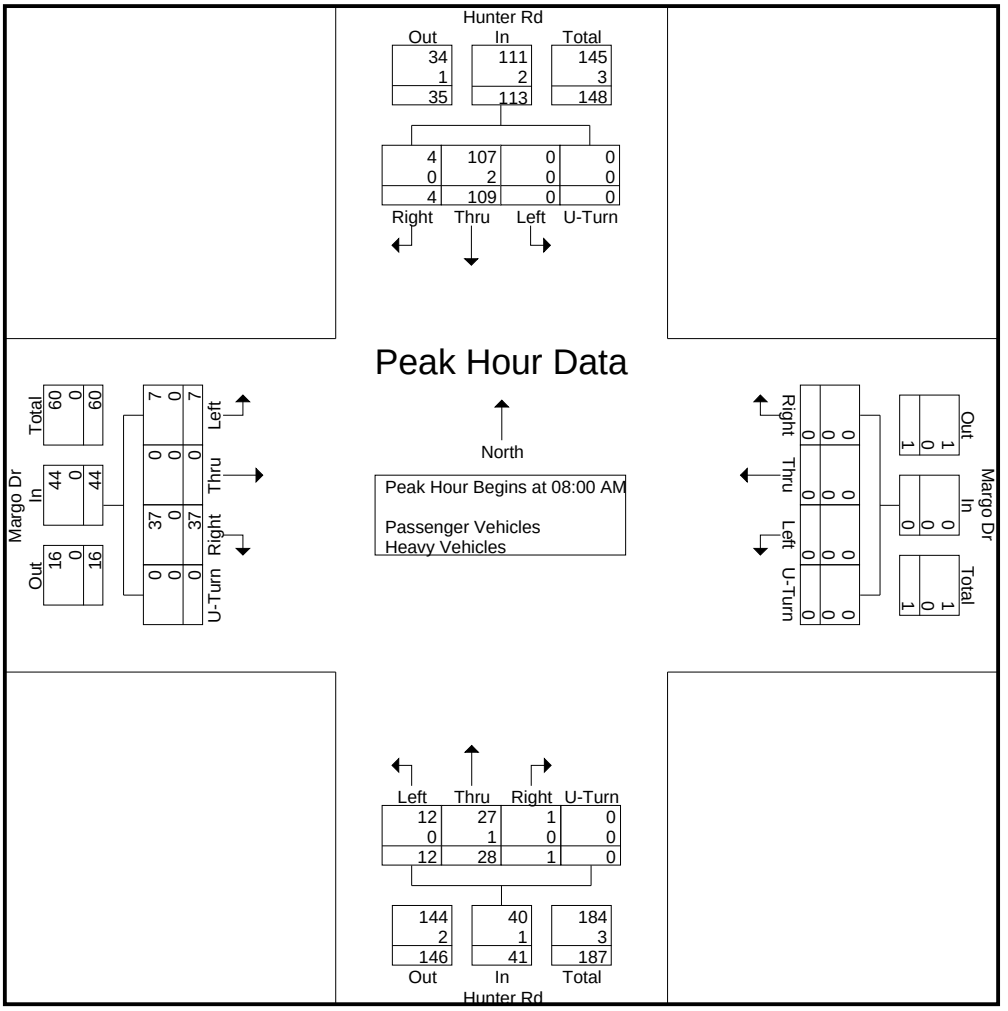
Groups Printed- Passenger Vehicles - Heavy Vehicles

	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	1	17	0	0	18	0	0	0	0	0	0	2	0	0	2	15	0	0	0	15	35
07:15 AM	0	20	0	0	20	0	0	0	0	0	0	3	1	0	4	10	0	1	0	11	35
07:30 AM	1	15	0	0	16	0	0	0	0	0	0	7	3	0	10	7	0	2	0	9	35
07:45 AM	1	19	0	0	20	0	0	0	0	0	0	9	2	0	11	9	0	4	0	13	44
Total	3	71	0	0	74	0	0	0	0	0	0	21	6	0	27	41	0	7	0	48	149
08:00 AM	3	18	0	0	21	0	0	0	0	0	0	8	2	0	10	6	0	0	0	6	37
08:15 AM	0	40	0	0	40	0	0	0	0	0	0	9	3	0	12	11	0	4	0	15	67
08:30 AM	0	20	0	0	20	0	0	0	0	0	0	4	2	0	6	8	0	0	0	8	34
08:45 AM	1	31	0	0	32	0	0	0	0	0	1	7	5	0	13	12	0	3	0	15	60
Total	4	109	0	0	113	0	0	0	0	0	1	28	12	0	41	37	0	7	0	44	198
Grand Total	7	180	0	0	187	0	0	0	0	0	1	49	18	0	68	78	0	14	0	92	347
Apprch %	3.7	96.3	0	0		0	0	0	0		1.5	72.1	26.5	0		84.8	0	15.2	0		
Total %	2	51.9	0	0	53.9	0	0	0	0	0	0.3	14.1	5.2	0	19.6	22.5	0	4	0	26.5	
Passenger Vehicles	7	178	0	0	185	0	0	0	0	0	1	45	18	0	64	77	0	14	0	91	340
% Passenger Vehicles	100	98.9	0	0	98.9	0	0	0	0	0	100	91.8	100	0	94.1	98.7	0	100	0	98.9	98
Heavy Vehicles	0	2	0	0	2	0	0	0	0	0	0	4	0	0	4	1	0	0	0	1	7
% Heavy Vehicles	0	1.1	0	0	1.1	0	0	0	0	0	0	8.2	0	0	5.9	1.3	0	0	0	1.1	2



File Name : 16923605 - Hunter Rd -- Margo Dr
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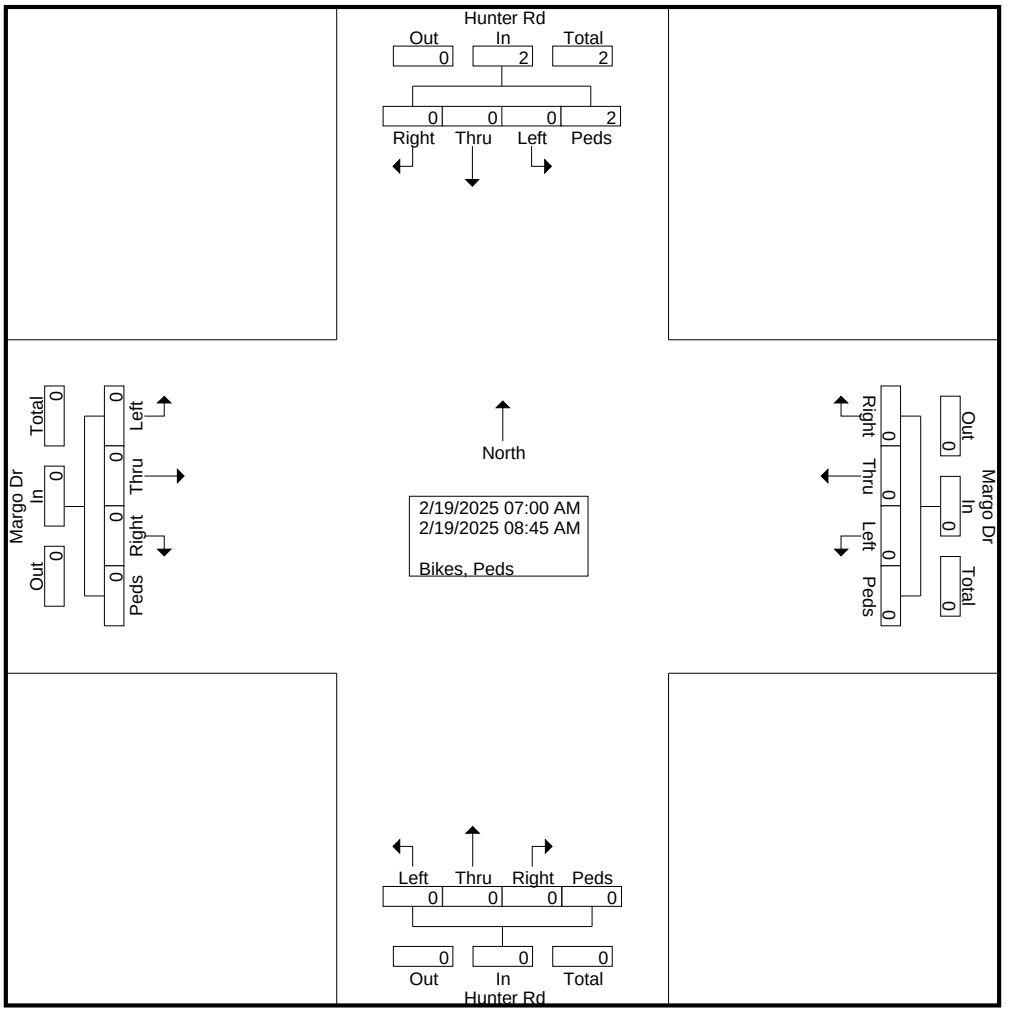
	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**3**	18	0	0	21	0	0	0	0	0	0	8	2	0	10	6	0	0	0	6	37
08:15 AM	0	**40**	0	0	**40**	0	0	0	0	0	0	**9**	3	0	12	11	0	**4**	0	**15**	**67**
08:30 AM	0	20	0	0	20	0	0	0	0	0	0	4	2	0	6	8	0	0	0	8	34
08:45 AM	1	31	0	0	32	0	0	0	0	0	**1**	7	**5**	0	**13**	**12**	0	3	0	15	60
Total Volume	4	109	0	0	113	0	0	0	0	0	1	28	12	0	41	37	0	7	0	44	198
% App. Total	3.5	96.5	0	0		0	0	0	0		2.4	68.3	29.3	0		84.1	0	15.9	0		
PHF	.333	.681	.000	.000	.706	.000	.000	.000	.000	.000	.250	.778	.600	.000	.788	.771	.000	.438	.000	.733	.739
Passenger Vehicles	4	107	0	0	111	0	0	0	0	0	1	27	12	0	40	37	0	7	0	44	195
% Passenger Vehicles	100	98.2	0	0	98.2	0	0	0	0	0	100	96.4	100	0	97.6	100	0	100	0	100	98.5
Heavy Vehicles	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	3
% Heavy Vehicles	0	1.8	0	0	1.8	0	0	0	0	0	0	3.6	0	0	2.4	0	0	0	0	0	1.5



File Name : 16923605 - Hunter Rd -- Margo Dr
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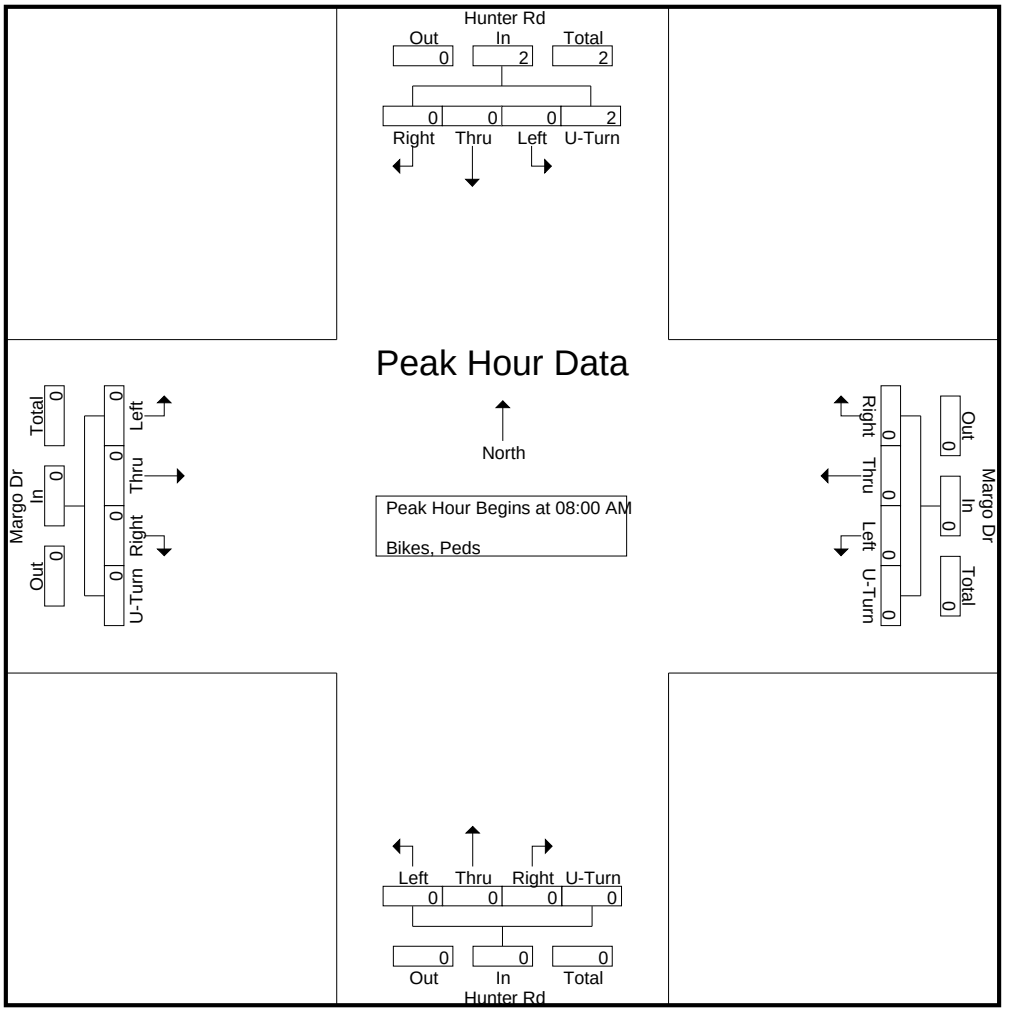
Groups Printed- Bikes, Peds

	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Grand Total	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Apprch %	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	0		
Total %	0	0	0	100	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	



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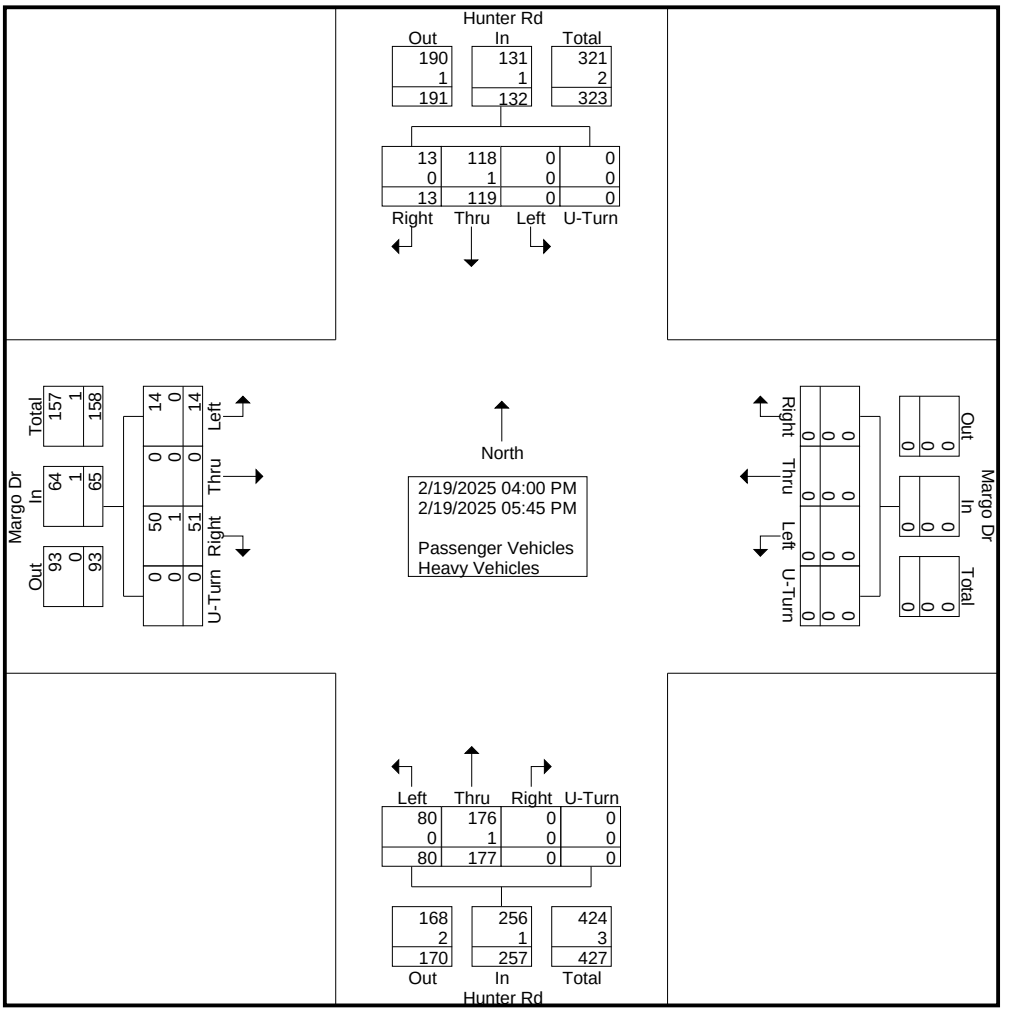
	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	**2**	**2**	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**
Total Volume	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% App. Total	0	0	0	100		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.250	.250	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



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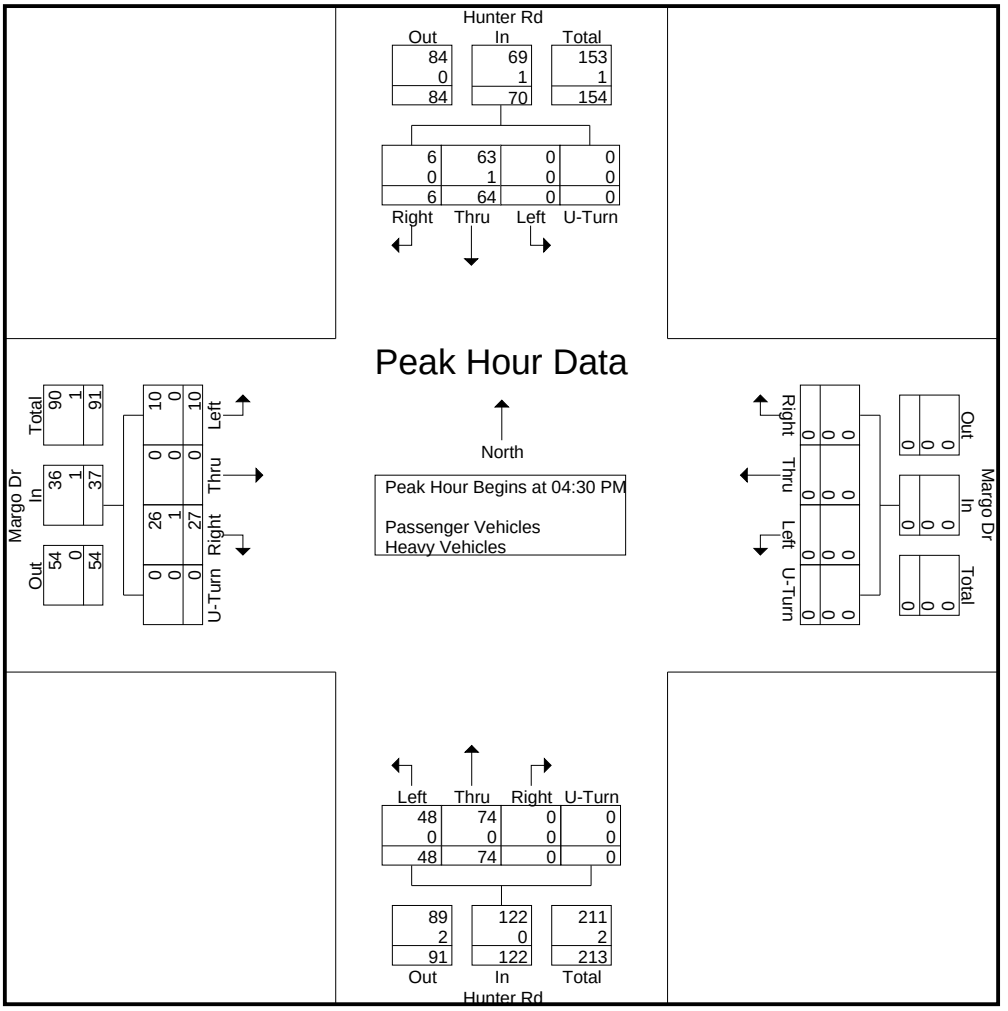
Groups Printed- Passenger Vehicles - Heavy Vehicles

	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
04:00 PM	2	8	0	0	10	0	0	0	0	0	0	29	11	0	40	4	0	1	0	5	55
04:15 PM	2	15	0	0	17	0	0	0	0	0	0	26	5	0	31	7	0	0	0	7	55
04:30 PM	0	18	0	0	18	0	0	0	0	0	0	21	12	0	33	6	0	1	0	7	58
04:45 PM	1	14	0	0	15	0	0	0	0	0	0	20	14	0	34	9	0	2	0	11	60
Total	5	55	0	0	60	0	0	0	0	0	0	96	42	0	138	26	0	4	0	30	228
05:00 PM	3	15	0	0	18	0	0	0	0	0	0	17	11	0	28	2	0	1	0	3	49
05:15 PM	2	17	0	0	19	0	0	0	0	0	0	16	11	0	27	10	0	6	0	16	62
05:30 PM	2	14	0	0	16	0	0	0	0	0	0	21	10	0	31	7	0	2	0	9	56
05:45 PM	1	18	0	0	19	0	0	0	0	0	0	27	6	0	33	6	0	1	0	7	59
Total	8	64	0	0	72	0	0	0	0	0	0	81	38	0	119	25	0	10	0	35	226
Grand Total	13	119	0	0	132	0	0	0	0	0	0	177	80	0	257	51	0	14	0	65	454
Apprch %	9.8	90.2	0	0		0	0	0	0		0	68.9	31.1	0		78.5	0	21.5	0		
Total %	2.9	26.2	0	0	29.1	0	0	0	0	0	0	39	17.6	0	56.6	11.2	0	3.1	0	14.3	
Passenger Vehicles	13	118	0	0	131	0	0	0	0	0	0	176	80	0	256	50	0	14	0	64	451
% Passenger Vehicles	100	99.2	0	0	99.2	0	0	0	0	0	0	99.4	100	0	99.6	98	0	100	0	98.5	99.3
Heavy Vehicles	0	1	0	0	1	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	3
% Heavy Vehicles	0	0.8	0	0	0.8	0	0	0	0	0	0	0.6	0	0	0.4	2	0	0	0	1.5	0.7



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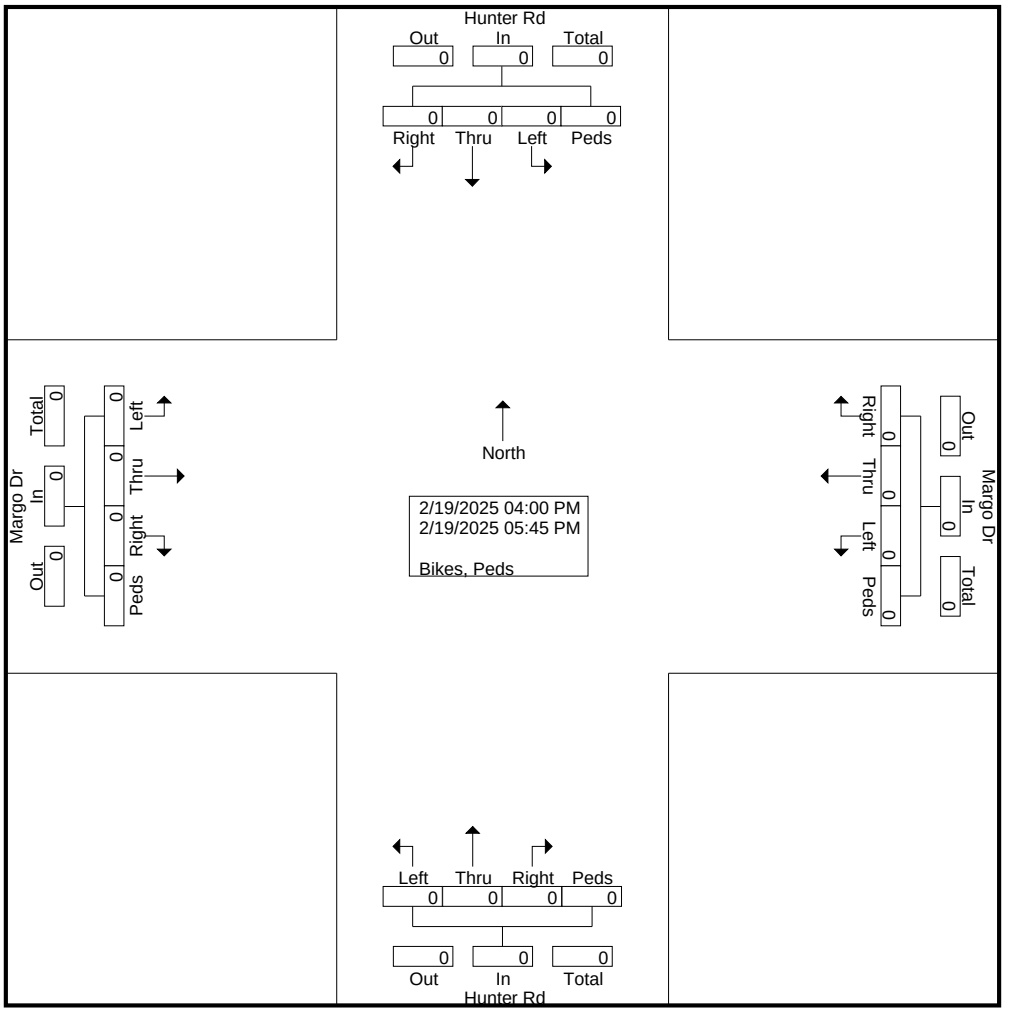
	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	0	**18**	0	0	18	0	0	0	0	0	0	**21**	12	0	33	6	0	1	0	7	58
04:45 PM	1	14	0	0	15	0	0	0	0	0	0	20	**14**	0	**34**	9	0	2	0	11	60
05:00 PM	**3**	15	0	0	18	0	0	0	0	0	0	17	11	0	28	2	0	1	0	3	49
05:15 PM	2	17	0	0	**19**	0	0	0	0	0	0	16	11	0	27	**10**	0	**6**	0	**16**	**62**
Total Volume	6	64	0	0	70	0	0	0	0	0	0	74	48	0	122	27	0	10	0	37	229
% App. Total	8.6	91.4	0	0		0	0	0	0		0	60.7	39.3	0		73	0	27	0		
PHF	.500	.889	.000	.000	.921	.000	.000	.000	.000	.000	.000	.881	.857	.000	.897	.675	.000	.417	.000	.578	.923
Passenger Vehicles	6	63	0	0	69	0	0	0	0	0	0	74	48	0	122	26	0	10	0	36	227
% Passenger Vehicles	100	98.4	0	0	98.6	0	0	0	0	0	0	100	100	0	100	96.3	0	100	0	97.3	99.1
Heavy Vehicles	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% Heavy Vehicles	0	1.6	0	0	1.4	0	0	0	0	0	0	0	0	0	0	3.7	0	0	0	2.7	0.9



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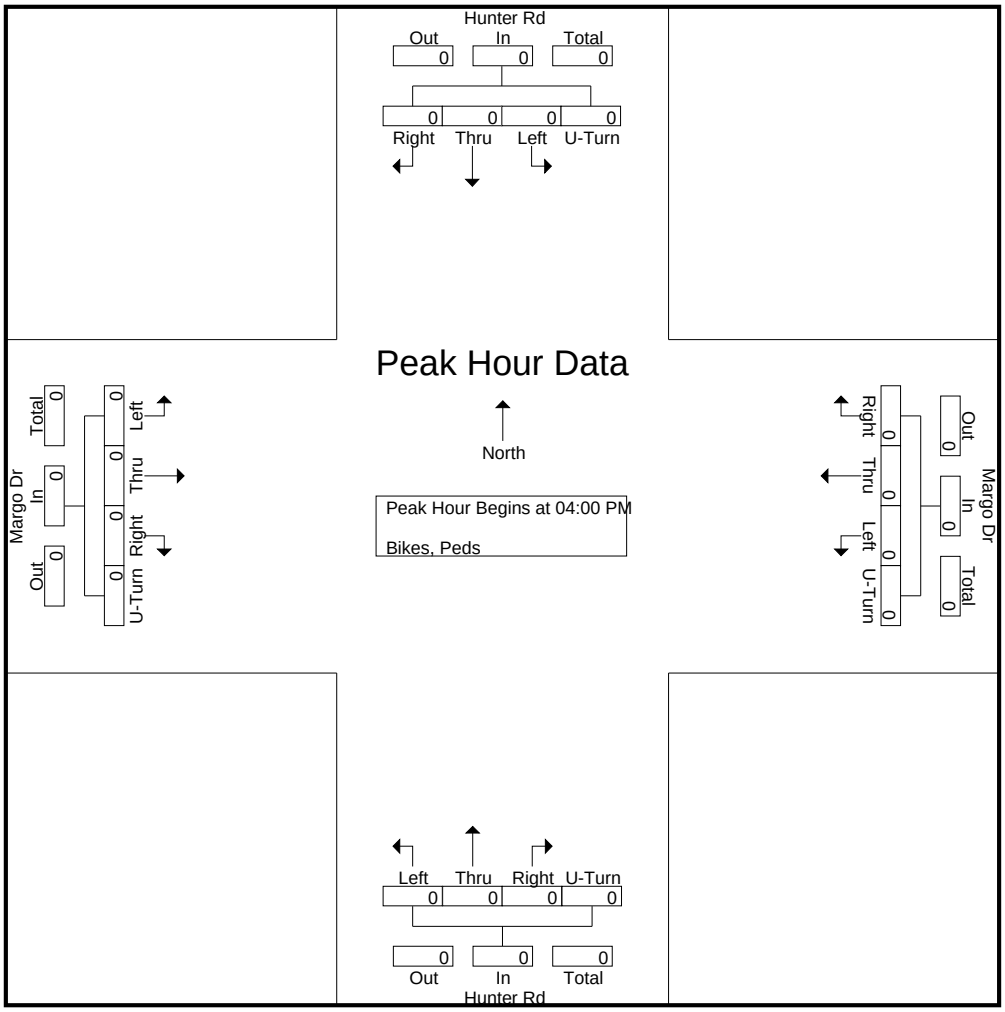
Groups Printed- Bikes, Peds

	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
Total %																					



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	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Level of Service Criteria for Two-Way-Stop-Controlled Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	≤ 1.0	> 1.0
≤10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

LOS for TWSC intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement), as well as the major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches for three primary reasons: (a) major street through vehicles are assumed to experience zero delay; (b) the disproportionate number of major-street through vehicles at a typical TWSC intersection skews the weighted average of all movements, resulting in very low overall average delay for all vehicles; and (c) the resulting low delay can mask LOS deficiencies of minor movements. LOS F is assigned to a movement if its volume-to-capacity ratio exceeds 1.0, regardless of the control delay.

The LOS criteria for TWSC intersections differ somewhat from the criteria used for signalized intersections, primarily because user perceptions differ among transportation facility types. The expectation is that a signalized intersection is designed to carry higher traffic volumes and will present greater delay than an unsignalized intersection. Unsignalized intersections are also associated with more uncertainty for users, as delays are less predictable than they are at signals.

Source: Highway Capacity Manual, 7th Edition. Transportation Research Board, National Research Council.

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	37	12	28	109	4
Future Vol, veh/h	7	37	12	28	109	4
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	79	79	71	71
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	10	51	15	35	154	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	224	156	159	0	-	0
Stage 1	156	-	-	-	-	-
Stage 2	68	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	768	895	1433	-	-	-
Stage 1	877	-	-	-	-	-
Stage 2	960	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	760	895	1433	-	-	-
Mov Cap-2 Maneuver	760	-	-	-	-	-
Stage 1	867	-	-	-	-	-
Stage 2	960	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.45	2.26	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	540	-	870	-	-
HCM Lane V/C Ratio	0.011	-	0.069	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	24	7	28	89	3
Future Vol, veh/h	8	24	7	28	89	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	67	67	74	74
Heavy Vehicles, %	0	4	14	0	1	0
Mvmt Flow	13	39	10	42	120	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	185	122	124	0	-	0
Stage 1	122	-	-	-	-	-
Stage 2	63	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.24	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.326	-	-	-
Pot Cap-1 Maneuver	809	923	1391	-	-	-
Stage 1	908	-	-	-	-	-
Stage 2	965	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	803	923	1391	-	-	-
Mov Cap-2 Maneuver	803	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	965	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.29	1.52	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	360	-	890	-	-
HCM Lane V/C Ratio	0.008	-	0.058	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	27	48	90	64	6
Future Vol, veh/h	10	27	48	90	64	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	90	90	92	92
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	17	45	53	100	70	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	279	73	76	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	207	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	715	984	1536	-	-	-
Stage 1	955	-	-	-	-	-
Stage 2	833	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	688	984	1536	-	-	-
Mov Cap-2 Maneuver	688	-	-	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	833	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.39	2.58	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	626	-	881	-	-
HCM Lane V/C Ratio	0.035	-	0.07	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	21	30	70	49	10
Future Vol, veh/h	7	21	30	70	49	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	82	82
Heavy Vehicles, %	14	0	3	0	5	0
Mvmt Flow	8	24	36	84	60	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	222	66	72	0	-	0
Stage 1	66	-	-	-	-	-
Stage 2	157	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.13	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.227	-	-	-
Pot Cap-1 Maneuver	740	1004	1522	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	843	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	721	1004	1522	-	-	-
Mov Cap-2 Maneuver	721	-	-	-	-	-
Stage 1	904	-	-	-	-	-
Stage 2	843	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.08	2.23	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	540	-	914	-	-
HCM Lane V/C Ratio	0.024	-	0.035	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

1: Hunter Road & Margo Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	7	37	13	29	101	5	192
Hourly Exit Rate	7	37	13	29	101	5	192
Input Volume	7	37	12	28	110	4	198
% of Volume	100	101	108	103	92	133	97

2: Hunter Road & Christine Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	7	20	4	34	86	4	155
Hourly Exit Rate	7	20	4	34	86	4	155
Input Volume	8	24	7	30	89	3	161
% of Volume	90	83	57	113	96	123	96

Total Network Performance

Vehicles Exited	206
Hourly Exit Rate	206
Input Volume	566
% of Volume	36

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	54	23
Average Queue (ft)	23	1
95th Queue (ft)	47	11
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	60	21
Average Queue (ft)	20	1
95th Queue (ft)	49	12
Link Distance (ft)	611	343
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

1: Hunter Road & Margo Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	10	28	52	96	61	7	254
Hourly Exit Rate	10	28	52	96	61	7	254
Input Volume	10	27	48	90	66	6	248
% of Volume	98	104	109	106	92	112	102

2: Hunter Road & Christine Drive Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Vehicles Exited	5	20	32	77	45	10	189
Hourly Exit Rate	5	20	32	77	45	10	189
Input Volume	7	21	30	72	49	10	189
% of Volume	69	95	107	107	92	103	100

Total Network Performance

Vehicles Exited	274
Hourly Exit Rate	274
Input Volume	698
% of Volume	39

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	53	33
Average Queue (ft)	23	3
95th Queue (ft)	51	17
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	44	47	4
Average Queue (ft)	17	2	0
95th Queue (ft)	43	18	3
Link Distance (ft)	611	343	1152
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	39	12	29	114	4
Future Vol, veh/h	7	39	12	29	114	4
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	79	79	71	71
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	10	53	15	37	161	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	232	163	166	0	-	0
Stage 1	163	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	760	887	1424	-	-	-
Stage 1	871	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	752	887	1424	-	-	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	861	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.5	2.21	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	527	-	863	-	-
HCM Lane V/C Ratio	0.011	-	0.073	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.5	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	8	25	7	29	93	3
Future Vol, veh/h	8	25	7	29	93	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	67	67	74	74
Heavy Vehicles, %	0	4	14	0	1	0
Mvmt Flow	13	40	10	43	126	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	192	128	130	0	-	0
Stage 1	128	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.24	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.326	-	-	-
Pot Cap-1 Maneuver	802	917	1385	-	-	-
Stage 1	903	-	-	-	-	-
Stage 2	964	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	795	917	1385	-	-	-
Mov Cap-2 Maneuver	795	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	964	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.33	1.48	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	350	-	884	-	-
HCM Lane V/C Ratio	0.008	-	0.06	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.3	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	28	50	94	67	6
Future Vol, veh/h	10	28	50	94	67	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	90	90	92	92
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	17	47	56	104	73	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	292	76	79	0	-	0
Stage 1	76	-	-	-	-	-
Stage 2	216	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	703	980	1532	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	825	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	676	980	1532	-	-	-
Mov Cap-2 Maneuver	676	-	-	-	-	-
Stage 1	915	-	-	-	-	-
Stage 2	825	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.43	2.58	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	625	-	876	-	-
HCM Lane V/C Ratio	0.036	-	0.072	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	22	31	73	51	10
Future Vol, veh/h	7	22	31	73	51	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	82	82
Heavy Vehicles, %	14	0	3	0	5	0
Mvmt Flow	8	25	37	88	62	12

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	231	68	74	0	-	0
Stage 1	68	-	-	-	-	-
Stage 2	163	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.13	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.227	-	-	-
Pot Cap-1 Maneuver	731	1001	1519	-	-	-
Stage 1	925	-	-	-	-	-
Stage 2	838	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	713	1001	1519	-	-	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	838	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.1	2.21	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	537	-	912	-	-
HCM Lane V/C Ratio	0.025	-	0.036	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.1	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	54	28
Average Queue (ft)	24	2
95th Queue (ft)	47	14
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	59	26
Average Queue (ft)	21	1
95th Queue (ft)	50	14
Link Distance (ft)	611	343
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	53	28
Average Queue (ft)	22	3
95th Queue (ft)	50	16
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB	SB
Directions Served	LR	LT	TR
Maximum Queue (ft)	44	38	4
Average Queue (ft)	18	2	0
95th Queue (ft)	44	19	3
Link Distance (ft)	611	343	1152
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	55	18	29	115	4
Future Vol, veh/h	9	55	18	29	115	4
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	79	79	71	71
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	12	75	23	37	162	6

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	249	165	168	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	84	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	744	885	1422	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	944	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	732	885	1422	-	-	-
Mov Cap-2 Maneuver	732	-	-	-	-	-
Stage 1	855	-	-	-	-	-
Stage 2	944	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.66	2.9	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	689	-	860	-	-
HCM Lane V/C Ratio	0.016	-	0.102	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	26	7	31	93	4
Future Vol, veh/h	11	26	7	31	93	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	67	67	74	74
Heavy Vehicles, %	0	4	14	0	1	0
Mvmt Flow	18	42	10	46	126	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	196	128	131	0	-	0
Stage 1	128	-	-	-	-	-
Stage 2	67	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.24	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.326	-	-	-
Pot Cap-1 Maneuver	798	916	1383	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	961	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	792	916	1383	-	-	-
Mov Cap-2 Maneuver	792	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	961	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.41	1.4	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	332	-	875	-	-
HCM Lane V/C Ratio	0.008	-	0.068	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	6	1	4	18	4	1
Future Vol, veh/h	6	1	4	18	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	9	1	6	26	6	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	31	19	0	0	31	0
Stage 1	19	-	-	-	-	-
Stage 2	13	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	988	1066	-	-	1594	-
Stage 1	1009	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	984	1066	-	-	1594	-
Mov Cap-2 Maneuver	984	-	-	-	-	-
Stage 1	1009	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.66	0	5.81
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	995	1440	-
HCM Lane V/C Ratio	-	-	0.01	0.004	-
HCM Ctrl Dly (s/v)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	38	67	95	68	8
Future Vol, veh/h	11	38	67	95	68	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	90	90	92	92
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	18	63	74	106	74	9

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	333	78	83	0	-	0
Stage 1	78	-	-	-	-	-
Stage 2	254	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	666	977	1527	-	-	-
Stage 1	950	-	-	-	-	-
Stage 2	793	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	632	977	1527	-	-	-
Mov Cap-2 Maneuver	632	-	-	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	793	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.57	3.09	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	744	-	870	-	-
HCM Lane V/C Ratio	0.049	-	0.094	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	23	32	74	53	13
Future Vol, veh/h	9	23	32	74	53	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	82	82
Heavy Vehicles, %	14	0	3	0	5	0
Mvmt Flow	10	26	39	89	65	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	239	73	80	0	-	0
Stage 1	73	-	-	-	-	-
Stage 2	166	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.13	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.227	-	-	-
Pot Cap-1 Maneuver	724	995	1511	-	-	-
Stage 1	921	-	-	-	-	-
Stage 2	835	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	704	995	1511	-	-	-
Mov Cap-2 Maneuver	704	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	835	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.21	2.25	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	543	-	892	-	-
HCM Lane V/C Ratio	0.026	-	0.041	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	19	3	3	11	4	4
Future Vol, veh/h	19	3	3	11	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	23	4	4	13	5	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	25	10	0	0	17	0
Stage 1	10	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	996	1077	-	-	1613	-
Stage 1	1018	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	993	1077	-	-	1613	-
Mov Cap-2 Maneuver	993	-	-	-	-	-
Stage 1	1018	-	-	-	-	-
Stage 2	1010	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.69	0	3.62
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1004	900	-
HCM Lane V/C Ratio	-	-	0.027	0.003	-
HCM Ctrl Dly (s/v)	-	-	8.7	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	55	33
Average Queue (ft)	28	2
95th Queue (ft)	52	17
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	88	6
Average Queue (ft)	24	0
95th Queue (ft)	59	4
Link Distance (ft)	611	343
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Site Drive/Christine Drive & Dann Drive

Movement	WB
Directions Served	LR
Maximum Queue (ft)	31
Average Queue (ft)	5
95th Queue (ft)	25
Link Distance (ft)	280
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	67	34
Average Queue (ft)	26	5
95th Queue (ft)	55	24
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	62	22
Average Queue (ft)	24	1
95th Queue (ft)	52	11
Link Distance (ft)	611	343
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Site Drive/Christine Drive & Dann Drive

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	41	12
Average Queue (ft)	17	1
95th Queue (ft)	44	8
Link Distance (ft)	280	271
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	10	59	19	29	115	5
Future Vol, veh/h	10	59	19	29	115	5
Conflicting Peds, #/hr	2	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	73	73	79	79	71	71
Heavy Vehicles, %	0	0	0	4	2	0
Mvmt Flow	14	81	24	37	162	7

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	252	165	169	0	-	0
Stage 1	165	-	-	-	-	-
Stage 2	87	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	741	884	1421	-	-	-
Stage 1	869	-	-	-	-	-
Stage 2	942	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	728	884	1421	-	-	-
Mov Cap-2 Maneuver	728	-	-	-	-	-
Stage 1	854	-	-	-	-	-
Stage 2	942	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.72	3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	713	-	857	-	-
HCM Lane V/C Ratio	0.017	-	0.11	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	26	7	32	94	4
Future Vol, veh/h	11	26	7	32	94	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	62	62	67	67	74	74
Heavy Vehicles, %	0	4	14	0	1	0
Mvmt Flow	18	42	10	48	127	5

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	198	130	132	0	-	0
Stage 1	130	-	-	-	-	-
Stage 2	69	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.24	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.326	-	-	-
Pot Cap-1 Maneuver	795	915	1382	-	-	-
Stage 1	901	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	789	915	1382	-	-	-
Mov Cap-2 Maneuver	789	-	-	-	-	-
Stage 1	894	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.43	1.37	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	323	-	873	-	-
HCM Lane V/C Ratio	0.008	-	0.068	-	-
HCM Ctrl Dly (s/v)	7.6	0	9.4	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	8	1	4	23	4	1
Future Vol, veh/h	8	1	4	23	4	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	70	70	70	70	70	70
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	11	1	6	33	6	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	35	22	0	0	39	0
Stage 1	22	-	-	-	-	-
Stage 2	13	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	983	1061	-	-	1585	-
Stage 1	1006	-	-	-	-	-
Stage 2	1015	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	980	1061	-	-	1585	-
Mov Cap-2 Maneuver	980	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1012	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.69	0	5.82
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	988	1440	-
HCM Lane V/C Ratio	-	-	0.013	0.004	-
HCM Ctrl Dly (s/v)	-	-	8.7	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0	0	-

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	40	73	95	68	9
Future Vol, veh/h	12	40	73	95	68	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	60	60	90	90	92	92
Heavy Vehicles, %	0	4	0	0	2	0
Mvmt Flow	20	67	81	106	74	10

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	347	79	84	0	-	0
Stage 1	79	-	-	-	-	-
Stage 2	268	-	-	-	-	-
Critical Hdwy	6.4	6.24	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.336	2.2	-	-	-
Pot Cap-1 Maneuver	654	976	1526	-	-	-
Stage 1	949	-	-	-	-	-
Stage 2	782	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	617	976	1526	-	-	-
Mov Cap-2 Maneuver	617	-	-	-	-	-
Stage 1	896	-	-	-	-	-
Stage 2	782	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.65	3.26	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	782	-	861	-	-
HCM Lane V/C Ratio	0.053	-	0.101	-	-
HCM Ctrl Dly (s/v)	7.5	0	9.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.2	-	0.3	-	-

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	23	32	75	54	13
Future Vol, veh/h	9	23	32	75	54	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	88	88	83	83	82	82
Heavy Vehicles, %	14	0	3	0	5	0
Mvmt Flow	10	26	39	90	66	16

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	241	74	82	0	-	0
Stage 1	74	-	-	-	-	-
Stage 2	167	-	-	-	-	-
Critical Hdwy	6.54	6.2	4.13	-	-	-
Critical Hdwy Stg 1	5.54	-	-	-	-	-
Critical Hdwy Stg 2	5.54	-	-	-	-	-
Follow-up Hdwy	3.626	3.3	2.227	-	-	-
Pot Cap-1 Maneuver	721	994	1509	-	-	-
Stage 1	920	-	-	-	-	-
Stage 2	834	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	702	994	1509	-	-	-
Mov Cap-2 Maneuver	702	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	EB	NB	SB
HCM Ctrl Dly, s/v	9.22	2.23	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	538	-	890	-	-
HCM Lane V/C Ratio	0.026	-	0.041	-	-
HCM Ctrl Dly (s/v)	7.4	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	5.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	3	3	14	4	4
Future Vol, veh/h	26	3	3	14	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	82	82	82	82	82	82
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	32	4	4	17	5	5

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	27	12	0	0	21	0
Stage 1	12	-	-	-	-	-
Stage 2	15	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	994	1074	-	-	1608	-
Stage 1	1016	-	-	-	-	-
Stage 2	1013	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	990	1074	-	-	1608	-
Mov Cap-2 Maneuver	990	-	-	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	1010	-	-	-	-	-

Approach	WB	NB	SB
HCM Ctrl Dly, s/v	8.74	0	3.62
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	999	900	-
HCM Lane V/C Ratio	-	-	0.035	0.003	-
HCM Ctrl Dly (s/v)	-	-	8.7	7.2	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	50	28
Average Queue (ft)	29	2
95th Queue (ft)	52	14
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	80	15
Average Queue (ft)	24	1
95th Queue (ft)	56	9
Link Distance (ft)	611	343
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 3: Site Drive/Christine Drive & Dann Drive

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	32	6
Average Queue (ft)	8	0
95th Queue (ft)	30	4
Link Distance (ft)	280	271
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 0

Intersection: 1: Hunter Road & Margo Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	58	40
Average Queue (ft)	26	6
95th Queue (ft)	53	28
Link Distance (ft)	615	908
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 2: Hunter Road & Christine Drive

Movement	EB	NB
Directions Served	LR	LT
Maximum Queue (ft)	69	33
Average Queue (ft)	23	3
95th Queue (ft)	54	17
Link Distance (ft)	611	343
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

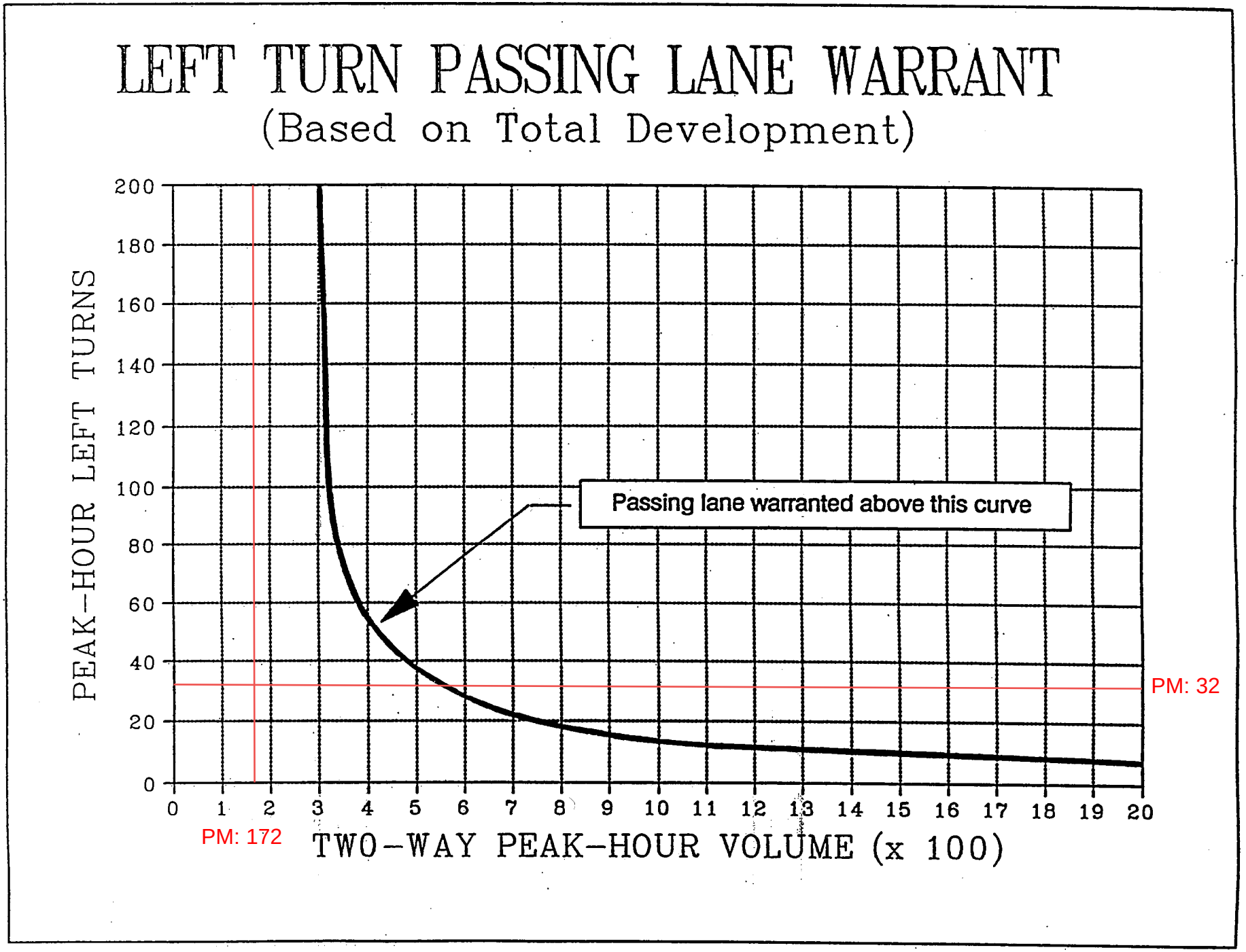
Intersection: 3: Site Drive/Christine Drive & Dann Drive

Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	45	6
Average Queue (ft)	20	0
95th Queue (ft)	47	6
Link Distance (ft)	280	271
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

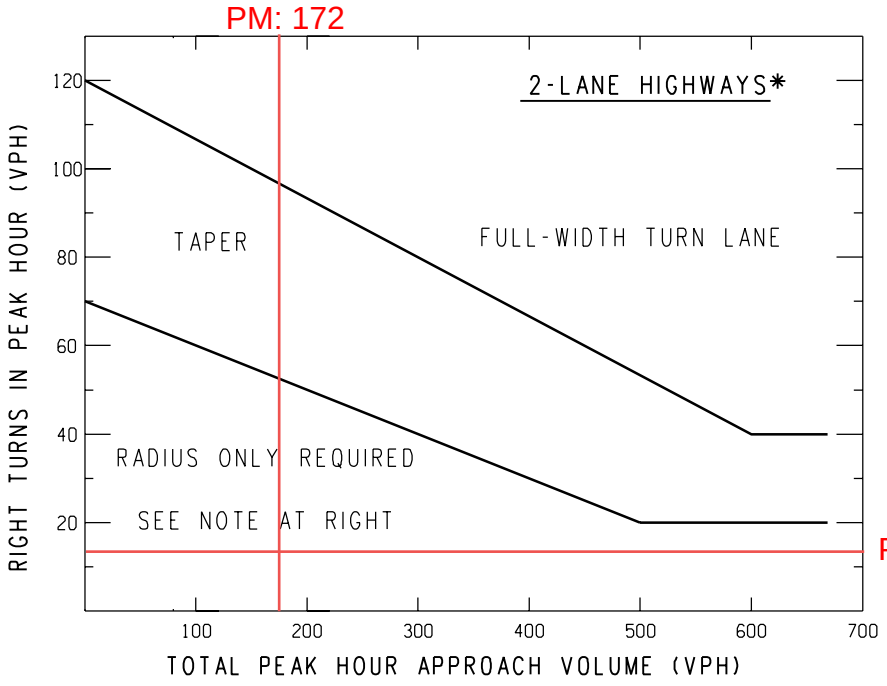
Network Summary

Network wide Queuing Penalty: 0

HUNTER ROAD & CHRISTINE DRIVE LEFT-TURN LANE WARRANT - ALTERNATIVE 1

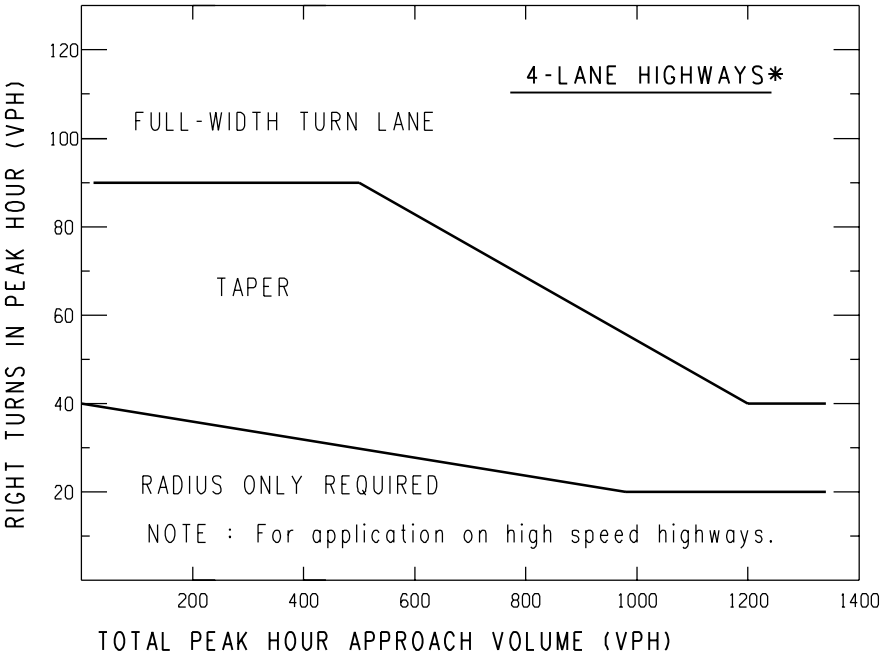


HUNTER ROAD & CHRISTINE DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 1



NOTE:
For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

Adjust peak hour right turns = Peak hour right turns - 20



*If a center left-turn lane exists(i.e. 3 or 5 lane highway), subtract the number of left turns in approach volume from the total approach volume to get an adjusted total approach volume.

Sample Problem:
The Design Speed is 55 mph. The Peak Hour Approach Volume is 300 vph. The Number of Right Turns in the Peak Hour is 100 vph. Determine if a right turn lane is recommended.

Solution:
Figure indicates that the intersection of 300 vph and 100 vph is located above the upper trend line; thus, a right-turn lane may be recommended.

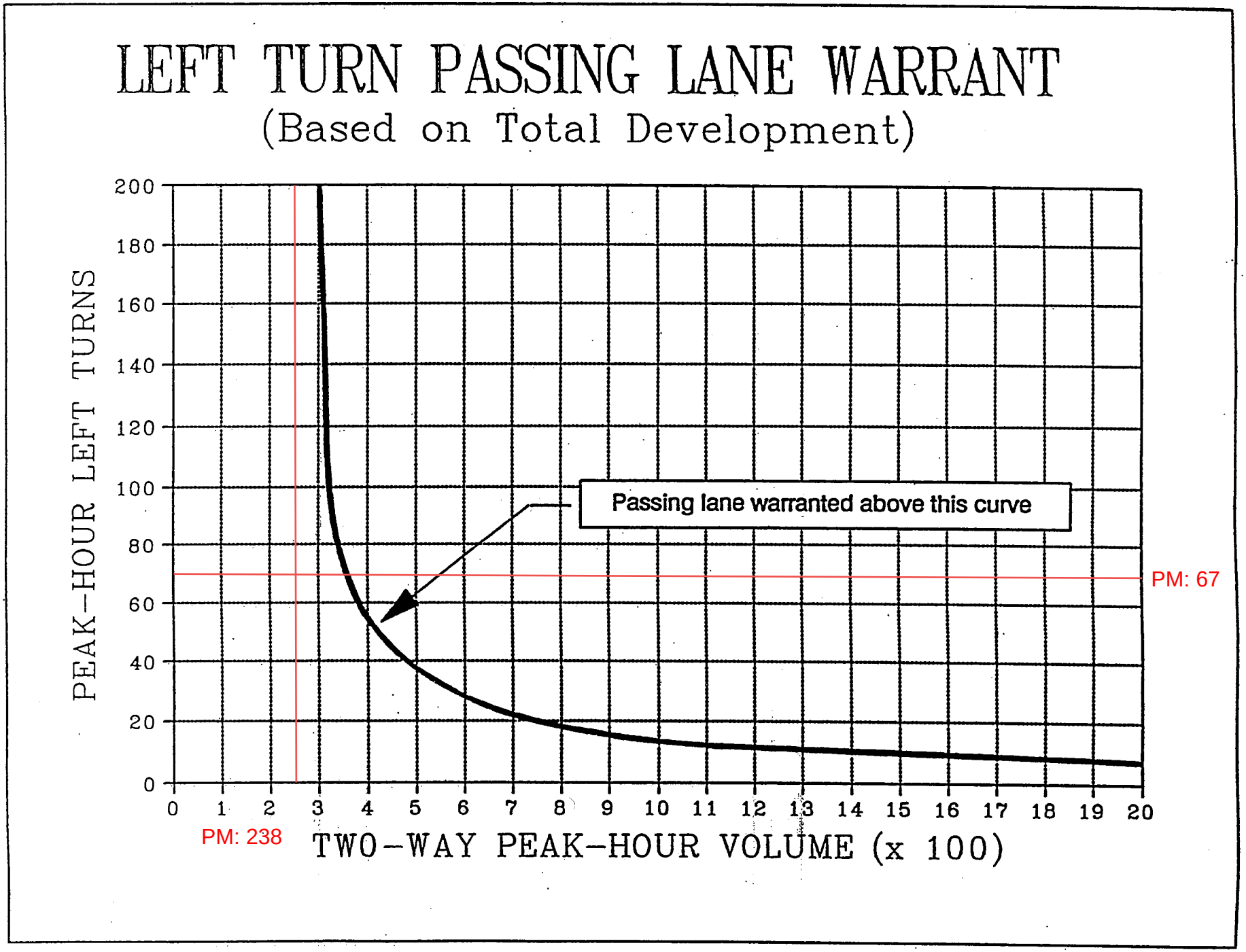
MDOT Michigan Department of Transportation

TRAFFIC AND SAFETY NOTE

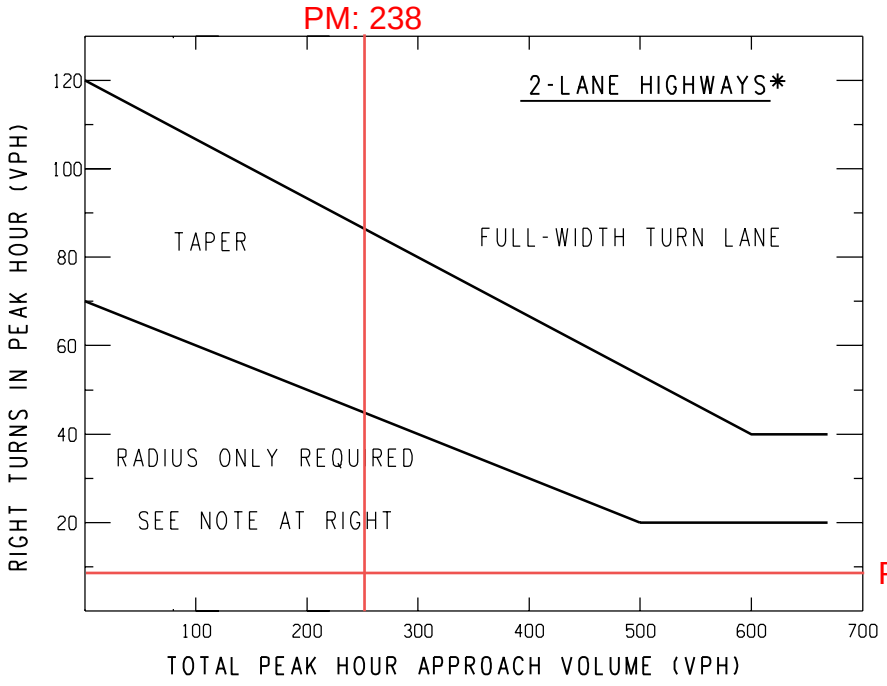
TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS

DRAWN BY: MTS	08/05/2004	604A	SHEET 2 OF 2
CHECKED BY: JAT	PLAN DATE:		
FILE: K:/DGN/ts notes/Note604A tsn.dgn		REV. 08/05/2004	

HUNTER ROAD & MARGO DRIVE LEFT-TURN LANE WARRANT - ALTERNATIVE 1

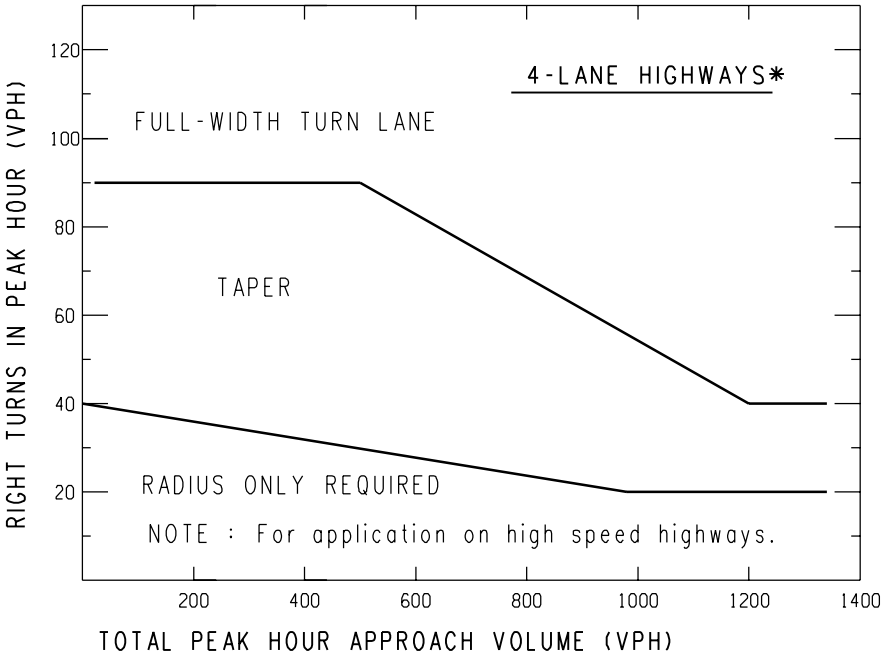


HUNTER ROAD & MARGO DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 2



NOTE:
For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

Adjust peak hour right turns = Peak hour right turns - 20



*If a center left-turn lane exists(i.e. 3 or 5 lane highway), subtract the number of left turns in approach volume from the total approach volume to get an adjusted total approach volume.

Sample Problem:
The Design Speed is 55 mph. The Peak Hour Approach Volume is 300 vph. The Number of Right Turns in the Peak Hour is 100 vph. Determine if a right turn lane is recommended.

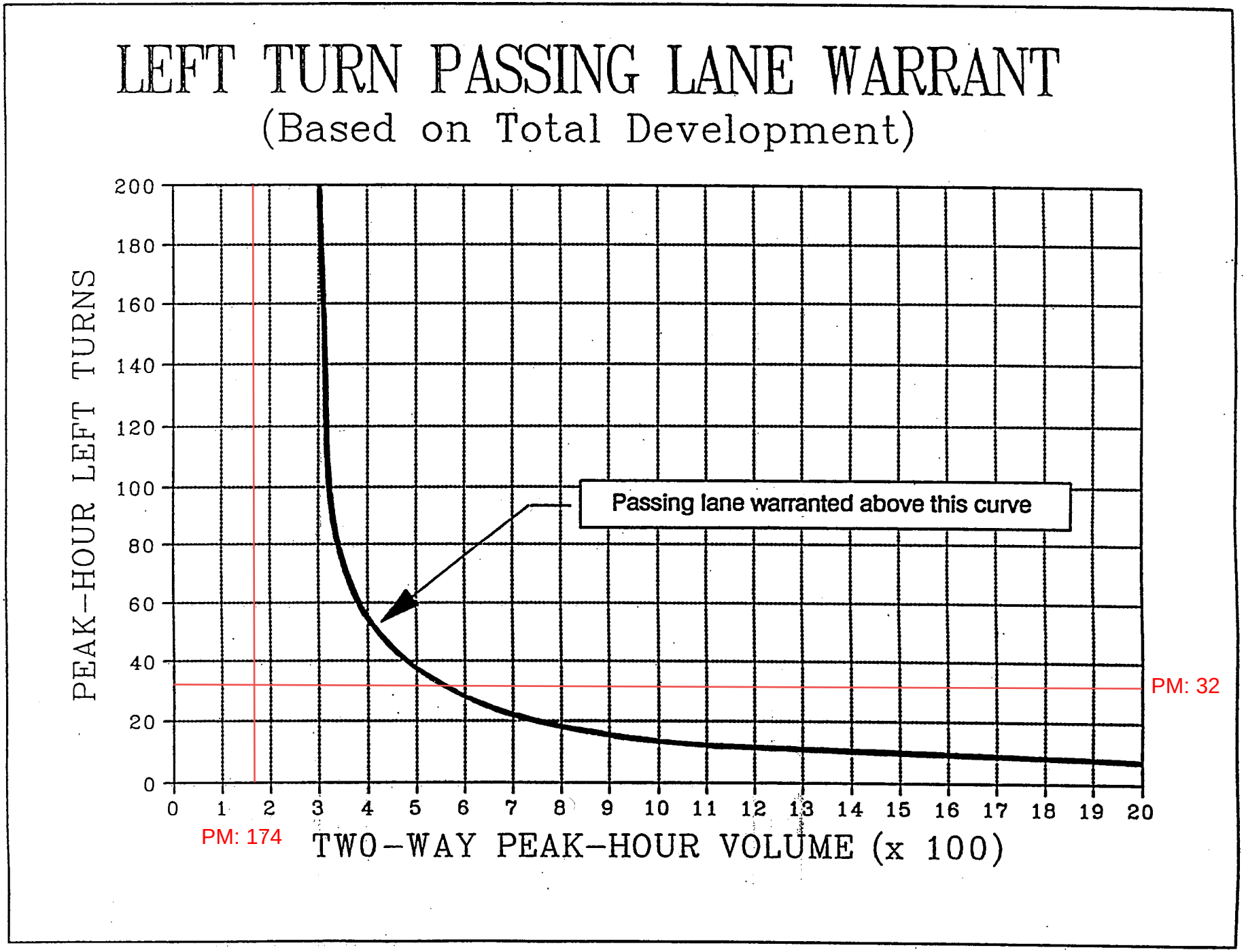
Solution:
Figure indicates that the intersection of 300 vph and 100 vph is located above the upper trend line; thus, a right-turn lane may be recommended.

MDOT Michigan Department of Transportation

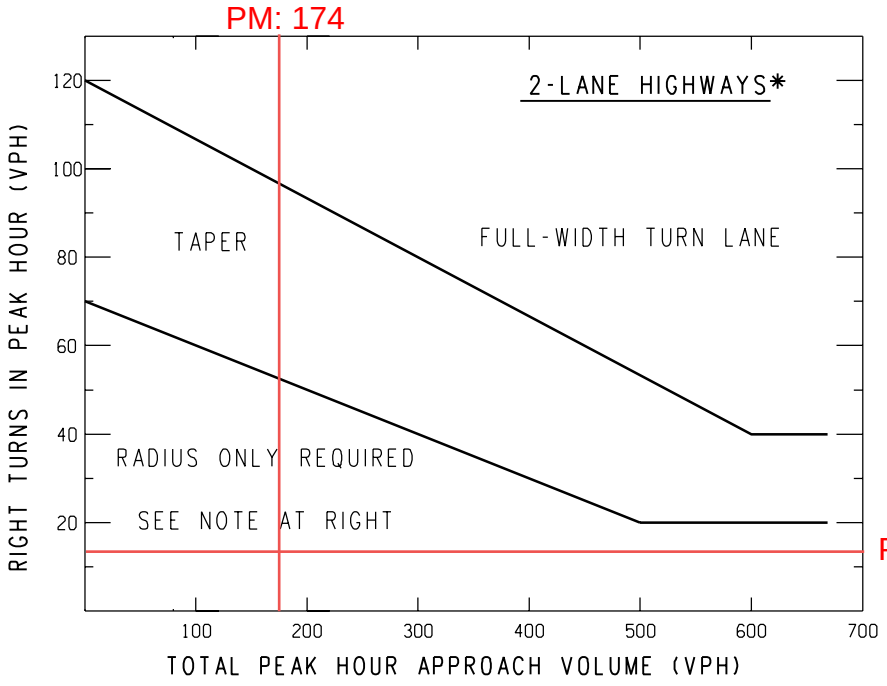
TRAFFIC AND SAFETY NOTE

TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS

DRAWN BY: MTS	08/05/2004	604A	SHEET 2 OF 2
CHECKED BY: JAT	PLAN DATE:		
FILE: K:/DGN/ts notes/Note604A tsn.dgn		REV. 08/05/2004	

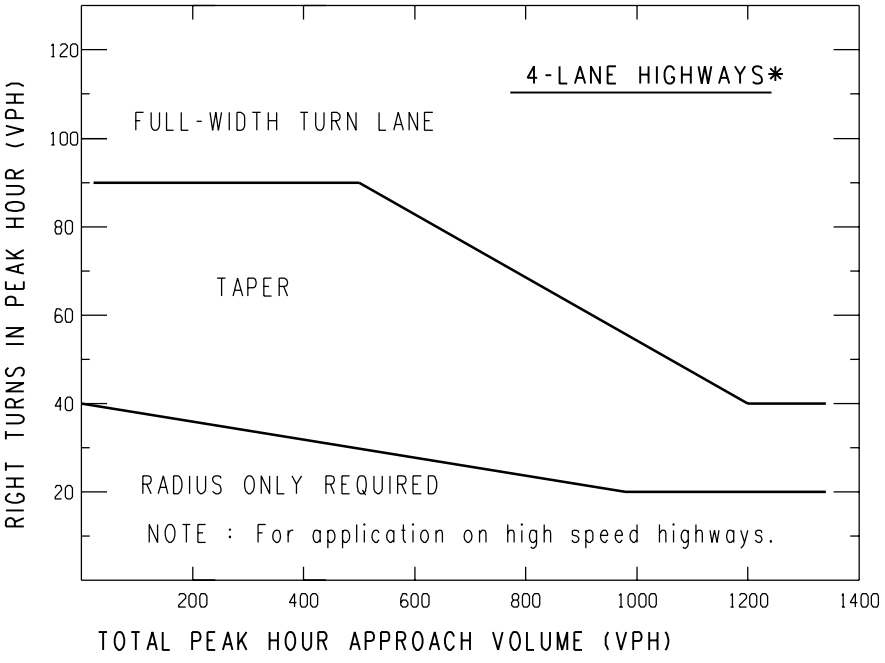

LEFT TURN PASSING LANE WARRANT
(Based on Total Development)
PEAK-HOUR LEFT TURNS
200
180
160
140
120
100
80
60
40
20
0
Passing lane warranted above this curve
PM: 32
PM: 174
0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
TWO-WAY PEAK-HOUR VOLUME (x 100)

HUNTER ROAD & CHRISTINE DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 2



NOTE:
For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

Adjust peak hour right turns = Peak hour right turns - 20



*If a center left-turn lane exists(i.e. 3 or 5 lane highway), subtract the number of left turns in approach volume from the total approach volume to get an adjusted total approach volume.

Sample Problem:
The Design Speed is 55 mph. The Peak Hour Approach Volume is 300 vph. The Number of Right Turns in the Peak Hour is 100 vph. Determine if a right turn lane is recommended.

Solution:
Figure indicates that the intersection of 300 vph and 100 vph is located above the upper trend line; thus, a right-turn lane may be recommended.

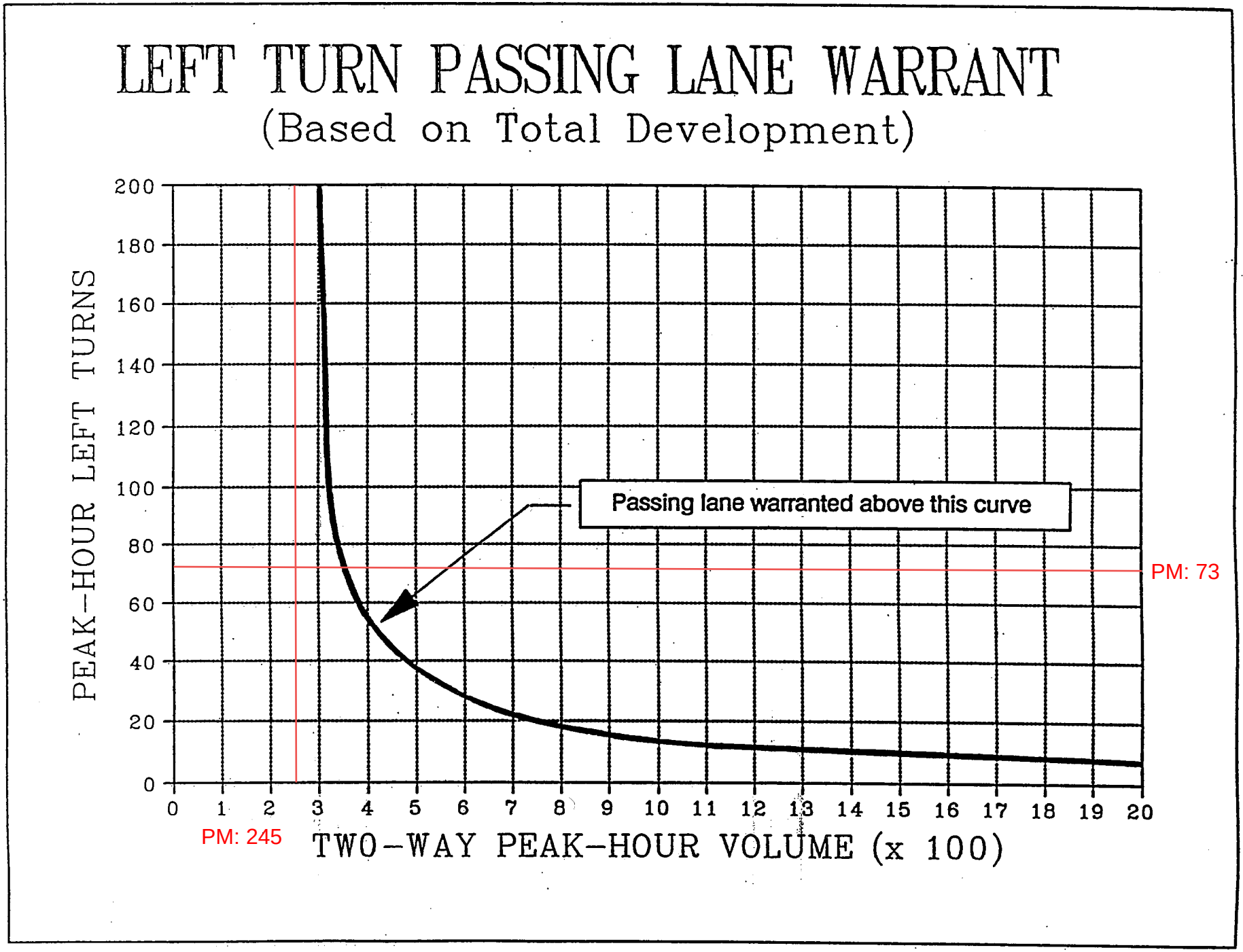
MDOT Michigan Department of Transportation

TRAFFIC AND SAFETY NOTE

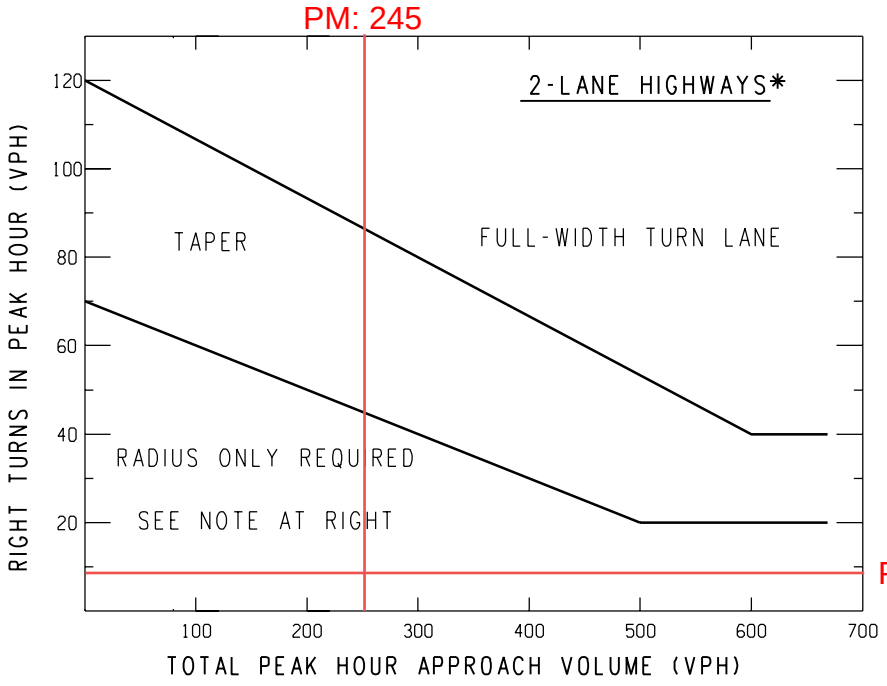
TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS

DRAWN BY: MTS	08/05/2004	604A	SHEET 2 OF 2
CHECKED BY: JAT	PLAN DATE:		
FILE: K:/DGN/ts notes/Note604A tsn.dgn		REV. 08/05/2004	

HUNTER ROAD & MARGO DRIVE LEFT-TURN LANE WARRANT - ALTERNATIVE 2

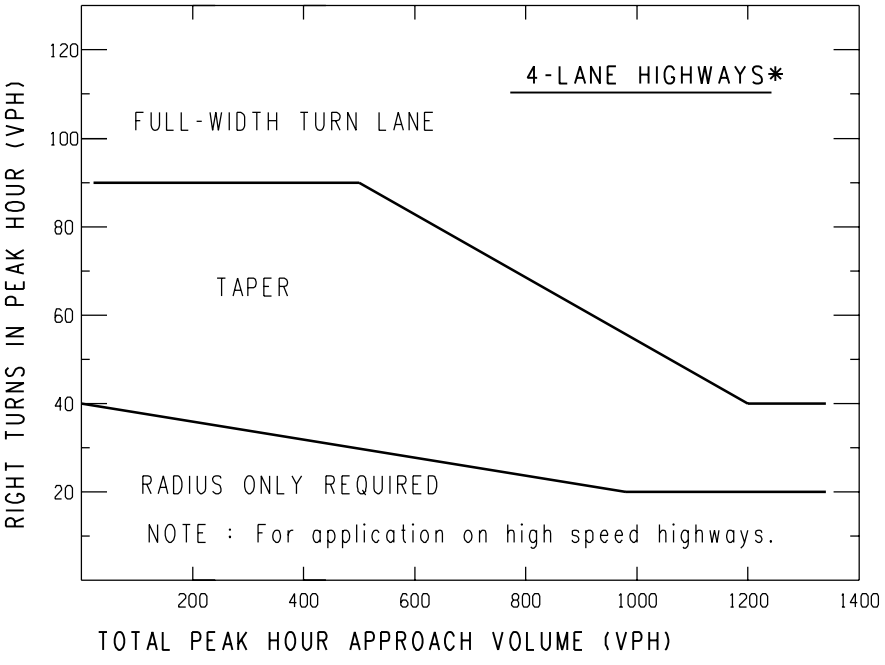


HUNTER ROAD & MARGO DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 2



NOTE:
For posted speeds at or under 45 mph, peak hour right turns greater than 40 vph, and total peak hour approach less than 300 vph, adjust right turn volumes.

Adjust peak hour right turns = Peak hour right turns - 20



*If a center left-turn lane exists(i.e. 3 or 5 lane highway), subtract the number of left turns in approach volume from the total approach volume to get an adjusted total approach volume.

Sample Problem:
The Design Speed is 55 mph. The Peak Hour Approach Volume is 300 vph. The Number of Right Turns in the Peak Hour is 100 vph. Determine if a right turn lane is recommended.

Solution:
Figure indicates that the intersection of 300 vph and 100 vph is located above the upper trend line; thus, a right-turn lane may be recommended.

MDOT Michigan Department of Transportation

TRAFFIC AND SAFETY NOTE

TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS

DRAWN BY: MTS	08/05/2004	604A	SHEET 2 OF 2
CHECKED BY: JAT	PLAN DATE:		
FILE: K:/DGN/ts notes/Note604A tsn.dgn		REV. 08/05/2004	

City of Brighton
WATER DIVISION

May 14, 2025

Mitch Harris Building Co. Inc
211 N 1st St.
Brighton, MI 48116

Subject: The Cove and The Ridge at Woodland Lake

Mitch Harris,

At the request of the City of Brighton, Tetra Tech has completed an evaluation of the water system's capacity to accommodate the additional 16 housing units located outside of the current master plan in Brighton Township, as requested by Boss Engineering and Mitch Harris (see attached map).

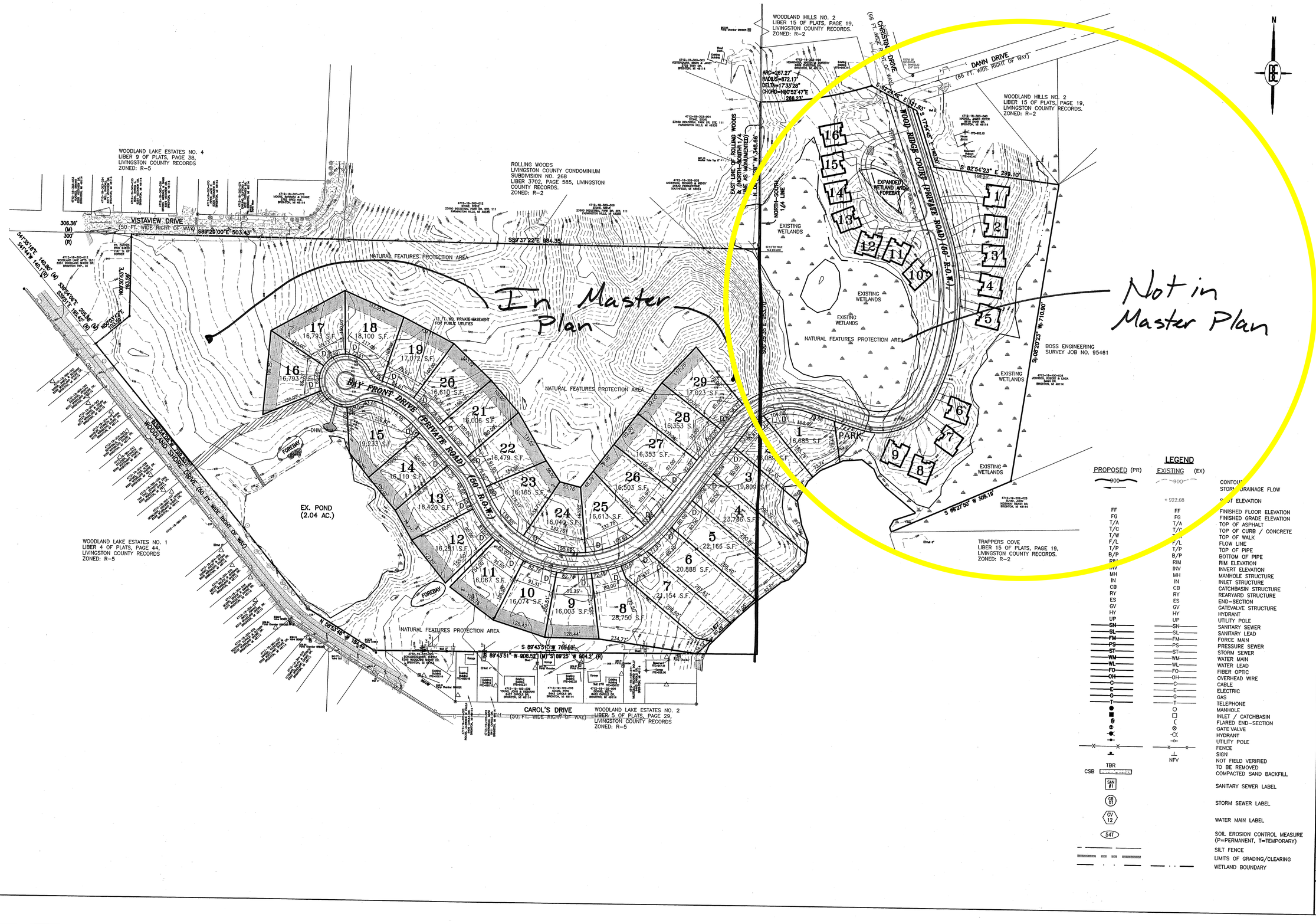
Based on the model results, the existing water system has sufficient capacity to support expansion of the water system and the increased demand associated with the proposed development.

As the project progresses, please ensure that all construction plans for the watermain improvements comply with the City of Brighton Engineering Standards and are submitted for review and approval.

We look forward to working with you on this project.

Respectfully Submitted,

Josh Bradley
Water Treatment Plant Superintendent
City of Brighton



LEGEND

PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
	+ 922.08	STORM DRAINAGE FLOW
		SPOT ELEVATION
FF	FF	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/C	T/C	TOP OF CURB / CONCRETE
T/W	T/W	TOP OF WALK
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
RY	RY	REARYARD STRUCTURE
ES	ES	END-SECTION
GV	GV	GATEVALVE STRUCTURE
HY	HY	HYDRANT
UP	UP	UTILITY POLE
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
FM	FM	FORCE MAIN
PS	PS	PRESSURE SEWER
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
●	○	MANHOLE
■	□	INLET / CATCHBASIN
◖	◖	FLARED END-SECTION
⊗	⊗	GATE VALVE
⊕	⊕	HYDRANT
⊸	⊸	UTILITY POLE
X X	X X	FENCE
⊥	⊥	SIGN
TBR	NFV	NOT FIELD VERIFIED
CSB		TO BE REMOVED
		COMPACTED SAND BACKFILL
SAN #1		SANITARY SEWER LABEL
CB 01		STORM SEWER LABEL
GV 12		WATER MAIN LABEL
547		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		LIMITS OF GRADING/CLEARING
		WETLAND BOUNDARY

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN HEREON ARE APPROXIMATE AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE OWNER AND ITS REPRESENTATIVE DO NOT GUARANTEE, EITHER EXPRESSED OR IMPLIED AS TO THE COMPLETENESS OR ACCURACY THEREOF. IT IS THE RESPONSIBILITY OF THE CONTRACTOR, PRIOR TO COMMENCING WORK, TO CONTACT ALL UTILITY COMPANIES FOR THE PURPOSE OF DETERMINING THE EXACT LOCATION AND ELEVATION OF EXISTING UTILITIES AND TO EXCAVATE AND VERIFY THE EXACT LOCATION AND ELEVATION OF ALL UTILITIES WHICH MAY BE AFFECTED BY THE PROPOSED CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN THE FIELD PRIOR TO CONSTRUCTION, THE ENGINEER SHALL NOTIFY THE CONTRACTOR IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN THE FIELD PRIOR TO CONSTRUCTION IF THE LOCATION OR DEPTH DIFFERS SIGNIFICANTLY FROM THE PLANS.

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HOWELL, MICHIGAN 48855
(800) 246-6735 FAX (517) 548-1670

PROJECT: THE COVE AND THE RIDGE AT WOODLAND LAKE
PREPARED FOR: CCMG FIVE, LLC / NORTHRIDGE CHURCH
3121 E. GRAND RIVER AVE.
HOWELL, MI 48843
517-546-4836

TITLE: OPEN SPACE PLAN - 45 LOT LAYOUT

NO.	BY	REVISION PER	DATE

DESIGNED BY: ST
DRAWN BY: ST
CHECKED BY:
SCALE 1" = 100'
JOB NO. 06403
DATE 10-19-2023
SHEET NO. 1


Woodland Shores
Vista
Coves of Woodland Lake
Outside of
Service District
46 REUs
33 REUs

Date: October 16, 2025

To: Charter Township of Brighton Planning Commission

From: Kelly Mathews

Subject: **PUD Rezoning for the Cove at Woodland Lake**
Sheets dated 10/14/25

Location: 42.8 acres in the R-2 zoning designation, east of Woodland Shore, north of Carols Drive, south of Christine and Dann, and west of Hunter on Woodland Lake

Request: Residential PUD (Planned Unit Development)

Zoning: R-2 (Residential Single Family)

Tax ID#: 12-18-300-011 & 12-18-400-027

Applicant: Mitch Harris Building Co.

The application for rezoning from R-2 (Residential Single Family) to Residential PUD (Planned Unit Development) submitted by Mitch Harris Building Company has been reviewed. This report is based on a review of the application materials, a site visit, and a comparison to applicable standards. In making a recommendation on this request, the Planning Commission should apply appropriate standards in consideration of the review, additional comments from the applicant, and any new information raised at the meeting. A correction needs to be made to the cover sheet that states the number of lots proposed on a private road is 40 with a deviation of 16.

LOCATION AND DESCRIPTION

The subject site is located east of Woodland Shore, north of Carols Drive, south of Christine and Dann, and west of Hunter on Woodland Lake. The property is located in an area designated as a natural features protection area on the map so the project needs to be reviewed under *Article 10* of the Zoning Ordinance. The developer has prepared a general environmental assessment of the property which is required in *Sec. 10-04* of the Zoning Ordinance. The conceptual site plan is approved as part of the rezoning; the developer would be bound to that conceptual plan.

PROCESS

The applicant is proposing a residential planned unit development (PUD). The applicant has provided a parallel plan under the underlying R-2 zoning district and has provided the proposed PUD development plan. The PUD allows both the Township and developer flexibility in zoning to allow for innovative design that would not be permitted under conventional zoning requirements which is what this developer is proposing through this PUD proposal.

The applicant plans on developing thirty-two (32) single family lots and eight (8) detached

condominiums. Eight (8) waterfront lots are proposed on the single-family side and two (2) detached condominium units on the lake. After the PUD rezoning, the applicant will follow the procedures for condominium developments in accordance with *Article 20*. The plan shall be reviewed as follows:

Step	Action	Approval
1. Planning Commission Public Hearing on PUD Rezoning & Conceptual Site Plan	Planning Commission public hearing & review	Recommendation to Township Board
2. County Review of PUD Rezoning	Livingston County Planning Commission review	Recommendation to Township Board
3. Township Board PUD Rezoning & Conceptual Site Plan Approval	Township Board review	Township Board
4. Planning Commission Preliminary Condominium Site Plan & Final PUD Rezoning Review	Planning Commission review	Recommendation to Township Board
5. Township Board Preliminary Condominium Site Plan & Final PUD Rezoning Review	Township Board review	Township Board
6. Construction Plan Review	Township staff and consultant review	Township Planner
7. Final Condominium Review	Township staff and consultant review	Township Planner

PUD ELIGIBILITY

The Zoning Ordinance requires that the applicant must demonstrate that the site qualifies for a PUD. Based on *Section 12-02*, the site is eligible for PUD approval as follows.

1. **Demonstrated Benefit.** The PUD ordinance requires fifty (50%) percent open space for residential PUD's; a calculation has been provided which is 58.9%. The proposed open space is mainly consisting of preserving the large wooded areas. A five (5) ft. concrete sidewalk is being proposed on one side of the private roadway, Bay Front Drive, as required by the zoning ordinance. The roadway is proposed as fifty (50) ft. R.O.W. instead of the required sixty-six (66) ft. R.O.W. with twenty-eight (28) ft. roadways.

   The site is currently very wooded, is designated as a natural features area, and has steep and varying slopes. The developer plans to preserve many of the trees in the development; especially on the northerly side of the property. A buffer area (wooded area) will also be preserved on the southerly side. Additionally, there are quite a few wetland areas on the site which are regulated by EGLE. The proposal is to utilize one of the natural wet areas (pond) as a retention basin and create two (2) retention basins/forebays for the single-family lot side and an expanded wetlands and forebay area for the detached condominium side. *Article 10, Natural Features Overlay*, requires natural feature buffer areas of one hundred (100) ft.

which can be reduced to twenty-five (25) ft. if allowed by the Planning Commission. A minimum fifty (50) ft. setback from the wetlands is proposed and 100 ft. from the lake on the single-family side and fifty (50) ft. on the detached condominium side.

2. **Availability and Capacity of Public Services.** The homes will be served by public sewer and a planned extension of public water.

3. **Compatibility with the Master Plan.** This project is located in the low-density residential area of the master plan which is typically the R-1 and R-2 zoning districts. These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewer. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land uses. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory. The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size.

   The proposal is for thirty-two (32) lots of a minimum size of 16,000 sq. ft. The proposed setbacks are twenty-five (25) ft. front yard, thirty (30) ft. rear yard, and ten (10) ft. side yards. Setbacks from all wetlands must be a minimum of twenty-five (25) ft. The other part of the development is eight (8) detached condominiums.

   The lot sizes required in the R-2 zoning district are approximately 40,000 sq. ft. (.91 acre). The lot widths required in the R-2 district are 160 ft. The lot coverage in the R-2 district is fifteen (15%) percent. The setbacks required in the R-2 zoning district are thirty-five (35) ft. front yard, twelve (12) ft. side yard, thirty-five (35) ft. rear yard, and twenty-five (25) ft. minimum with the average of 300 ft. along the lake required for the natural feature setback (Woodland Lake). The parallel plan for the R-2 zoning district meets all Zoning Ordinance requirements.

4. **Compatibility with the Planned Development Intent.** The proposed plan allows for innovation in land use planning, coordinated development, protects significant natural features, and includes a sidewalk along one side of the roadways as required by the zoning ordinance. Other amenities could be considered to provide additional benefits for the project.

5. **Development Impact.** The site is surrounded by single-family homes.

6. **Unified Control of Property.** The site must be developed as one project/owner.

EXISTING LAND USE, ZONING, AND FUTURE LAND USE

The following table gives an overview of the existing uses and zoning, in addition to the future land use indicated in the Master Plan, for the subject site and surrounding parcels.

	Existing Land Use	Zoning	Master Plan
Subject Site	Vacant	R-2	Low Density Residential
North	Single Family Homes	R-5 & R-2	Medium Density Residential and Low Density Residential
South	Single Family Homes	R-5	Medium Density Residential
East	Single Family Homes	R-2	Low Density Residential
West	Single Family Homes	R-5	Medium Density Residential

PERMITTED USES

The following table gives an overview of both principal permitted uses and permitted uses after special approval in the existing R-2 zoning district.

Principal Uses Permitted R-2
1. Single Family Dwellings 2. Farms 3. Adult Foster Care Home (1-6 adults) 4. Foster Family Home (1-4 children 24 hrs.) 5. Foster Family Group Home (5-6 children 24 hrs.) 6. Family Day Care Home (1-6 children <24 hrs.) 7. Parks & Public Recreation Facilities 8. Essential Public Services 9. Governmental Administrative Offices 10. Libraries 11. Police and Fire Stations 12. Schools, Primary including Charter, Montessori
Permitted Uses after Special Approval R-2
1. Adult Foster Care Small Group Home (7-12 adults) 2. Group Day Care Home (7-12 children <24 hrs.) 3. Airports & Related Uses 4. Cemeteries (Public Only) 5. Golf Courses 6. Swimming Pool Clubs & Recreation Clubs 7. Churches, Temples, & Other Places of Worship or Public Assembly 8. Essential Public Service/Utility Buildings

PROPOSED USE

The applicant has indicated that the proposed use for the approximately 42.8 acres to be rezoned

from R-2 to PUD would be for thirty-two (32) lots of a minimum size of 16,000 sq. ft. Additionally, eight (8) detached condominiums are proposed. A total of forty (40) homes are proposed. One private road is proposed for access to the site which connects into N. Christine and Dann Drives, which are public roads. Per *Sec. 16-08*, a five (5) ft. concrete sidewalk is required along one side of the internal private road which is being proposed.

The applicant has proposed a twenty-eight (28) ft. wide road within a fifty (50) ft. private road R.O.W. Additionally, there is an approximately twenty (20) ft. wide ingress/egress easement shown off of Bayfront Drive extending into Vista View Drive for emergency access. The Planning Commission and Township Board will have to discuss this proposal for a private road with a smaller R.O.W. and road width. If this is acceptable, that will become part of the planned unit development agreement. The proposal is for eight (8) lakefront lots and two (2) detached condominium lakefront units.

The applicant has depicted a parallel plan for the R-2 zoning district depicting thirty-one (31) lots; it depicts natural buffer areas of less than the one hundred (100) ft. requirement per *Article 10*; however, the Planning Commission can approve a smaller natural buffer area. The lot sizes required in the R-2 zoning district are approximately 40,000 sq. ft. (.91 acre) lots. The lot widths required in the R-2 district are 160 ft. The lot coverage in the R-2 district is fifteen (15%) percent. The setbacks required in the R-2 zoning district are thirty-five (35) ft. front yard, twelve (12) ft. side yard, thirty-five (35) ft. rear yard, and twenty-five (25) ft. minimum with the average of 300 ft. along the lake required for the natural feature setback (Woodland Lake). The proposal is for thirty-two (32) lots of a minimum size of 16,000 sq. ft. and eight (8) detached condominiums. The developer has depicted the open space calculations regarding the open space. As depicted on the conceptual plan, most of the site will remain undisturbed and will be protected through a conservation easement.

Most of the property is designated as natural features on the Natural Features Protection Area map. As part of the site plan review, the applicant has to comply with the requirements outlined in *Article 10* of the Zoning Ordinance which includes an environmental impact assessment which has been conducted. Additionally, many wetlands are located on the property which is assumed to be under EGLE's jurisdiction. The applicant has provided a general environmental assessment.

A ten percent (10%) density bonus may be allowed for developing under a PUD; an additional ten percent (10%) may be allowed for connecting into the sewer system; and another ten percent (10%) may be allowed for connecting into the water system. Assuming a thirty percent (30%) increase over the thirty-one (31) units allowable under the R-2 zoning would be forty (40) units.

DISCUSSION

The rezoning request was reviewed based on the review considerations listed in *Section 23-10* of the Zoning Ordinance and the Charter Township of Brighton Master Plan.

1. **Consistency with the goals, policies, and future land use map of the Brighton**

Township Master Plan including any sub area or corridor studies. If conditions have changed since the last Master Plan was adopted, the consistency with recent development trends in the area.

This project is located in the low-density residential area of the future land use map which is typically the R-1 and R-2 zoning districts. These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewer. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land uses. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory. The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size.

2. **Compatibility of the site's physical, geological, hydrological and other environmental features with the potential uses permitted in the proposed zoning district.**

Evidence has not been provided that the site could not develop under the current R-2 zoning designation. However, the developer has a proposal for a denser development but keeping many of the natural features of the site preserved.

Since the applicant is proposing the project as a PUD, the Township will have much more control of the entire site and the preservation of natural features on the site. The conceptual plan depicts forty (40) units. Since this is proposed to be a PUD rezoning, the proposed conceptual site plan and the preservation of the natural features would be what the Township would attain as part of the rezoning since the site plan will become the contract for the site, along with the planned unit development agreement. At this time, we only have a conceptual plan but the entire site plan and all details of the site would be reviewed as part of the subsequent steps in the site plan process.

3. **Compatibility of all of the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential impact on property values.**

The types of uses permitted within the single-family residential districts are mainly the same; the difference is in density. The applicant has depicted how many units could be developed in the R-2 designation. The soils in the area are part of the Fox-Boyer-Oshtemo Association which includes steep or hilly, well drained, moderately coarse to coarse textured soils on moraines.

4. **The capacity of Township infrastructure, utilities, and services is sufficient to**

accommodate the uses permitted in the requested district without compromising the health, safety and welfare of the Township.

Township sewer and public water are proposed. The capacity of the Township's sewer can accommodate the uses in both the current R-2 (Residential Single Family) district and the proposed PUD. The water capacity has been confirmed by the City of Brighton and the water service agreement area will be revised.

5. **The apparent demand for the types of uses permitted in the requested zoning district in the Township in relation to the amount of land in the Township currently zoned to accommodate the demand.**

All of the properties to the north, south, east, and west of the site are developed for single family residential uses of varying sizes. This property is located in a Natural Features Protection Area as designated on the Charter Township of Brighton's Map. As part of the site plan review, the applicant will have to comply with the requirements outlined in *Article 10* of the Zoning Ordinance including an environmental impact assessment. The applicant has provided a general environmental impact assessment. The applicant has proposed lot sizes that he feels are consistent with the neighboring properties. Fairly large buffer areas will be provided along the perimeter of the site which will help shield the views from neighboring properties. The applicant has submitted a traffic impact study (TIS) depicting the traffic from the proposed development. The Township Engineer has reviewed and commented on the TIS.

6. **If a rezoning is reasonable given the above criteria, a determination shall be made that the requested rezoning is more appropriate than another zoning district.**

The proposed PUD rezoning offers a benefit to the Township in terms of open space and protection of natural resources for the Township because the site plan becomes the contract for the site.

SITE PLAN DISCUSSION

The site plan submittal is being reviewed in accordance with *Article 12*, which describes the information and standards for Residential PUD's and PUD rezoning and conceptual plan submission requirements, therefore, the following comments are submitted for the residential portion of the site.

1. **Submittal Requirements.** The following items are requested to be submitted in accordance with *Section 12-11(a)* and *(b).* A parallel plan which depicts the natural features on the site is required to determine how many residential units could be developed under the existing R-2 zoning district to determine the density for the site.

   a. Conceptual plan at a minimum scale of one-inch equals one hundred feet (1"=100'). (Met).

b. Proposed road names, right-of-way widths and public walkway widths. Walkways are required on one side of each road and can also be provided through the open space area per *Sec. 16-08*. (Met).

c. Indication of the proposed sewage, water supply, and storm drainage system. A depiction of the water extension to the site must be provided. Conceptual plans were provided for the utilities. (Met).

d. Explanation of proposed development phases. (Met).

e. Conceptual grading plans. (Met).

f. Conceptual landscaping plan per *Section 14-02(i)* and listed in *Sec. 12-08(d)(1)*; both proposed and existing trees to be removed and remain should be depicted on the plan. (Met).

g. Details on proposed roads and walking paths. Concrete sidewalks as required along one side of the internal roads and must be five (5) ft. in width. Details for the sidewalk have been provided. (Met).

h. Details on proposed utilities. Conceptual utility plans have been shown. (Met).

i. A planned unit development (PUD) agreement must be proposed which includes any requested modifications from the Zoning Ordinance regarding the proposed PUD. (Met).

2. **Density and Dimensional Requirements**. Residential Open Space PUD's allow for modifications to the dimensional standards contained in the existing zoning district, R-2, and the proposed PUD designation, provided natural features are preserved and additional amenities are provided in return. The planned unit development agreement must outline all of the modifications to the dimensional standards contained in the proposed PUD if the benefits acceptable to the Township are proposed. Modifications must be approved by the Planning Commission and Township Board and reflected in the PUD Agreement. The following table lists the Township's requirements for the R-2 Zoning District and what has been proposed.

	Existing R-2	**Proposed PUD**
Individual Lot Sizes	40,000 s.f. (.091 acre)	Min. 16,000 s.f.
Lot Width	160	Shown on plan; 80 ft. min.

	Existing R-2	Proposed PUD
Natural Features Setback	50 ft. from wetland 100 ft. from lake	50 ft. from wetland 50 ft. from lake from detached condominium and 100 ft. from single family home
Front Yard Setback	35	25
Rear Yard Setback	35	30
Side Yard Setback	12	10
Lot Coverage	15	40

The applicant needs to provide the Township benefits in order to realize modifications to the zoning requirements. The above requests are in addition to requests to reduce the width of the road right-of-way (R.O.W.), reduce the width of the pavement for the proposed private road, length of road, maximum number of lots on a private road with a single point of access, and reduced setbacks to the lake from the detached condominiums.

3. **Open Space**. A minimum of fifty (50%) percent of the site shall be dedicated as open space in a Residential PUD. The percentage and acreage of open space must be designated on the site plan (58.9% is depicted on the site plan) and in the PUD agreement and state that the wooded area will be held in a conservation easement and will, therefore, never be disturbed.

RECOMMENDATION

It is recommended that the Planning Commission recommend approval to the Township Board contingent upon any outstanding issues being handled administratively.

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

November 3, 2025

Via email: planner@brightontwp.com

Kelly Mathews, Planner
Charter Township of Brighton
4363 Buno Road
Brighton, MI 48114

RE: Proposed The Cove at Woodland Lake
Preliminary PUD Site Plan & Parallel Plan Review #4
F&V Project No. 871250

Dear Kelly:

We have completed an engineering review of the Preliminary PUD Site Plan, revised dated October 14, 2025, for the proposed The Cove at Woodland Lake, a 40-unit residential condominium. Since our last review, the proposed number of units has been reduced from 45 to 40. Based on our review, we offer the following comments and recommendations for your consideration.

Parallel Plan:

1. The open space plan results in five (5) additional riparian units.
2. Per Sec. 12-04 of the zoning ordinance, the Planning Commission shall review the design of the parallel plan and determine the number of lots that could be feasibly constructed following the parallel design. We offer the following observations for the commissioner's consideration:
    a. The Parallel Plan (Conventional R-2 Site Plan) has been revised from the previous submittals. The proposed private road wetland crossing has been relocated to the narrowest point of the wetland in the same location as the open space plan. Space for storm water management and the feasibility of grading on each unit, on a preliminary level, have also been considered. We feel that the revised parallel plan more accurately represents the number of units that could be feasibly constructed, which resulted in a decrease from 35 units to 31 units.
    b. In addition to the Conventual R-2 Site Plan, a Conventional R-2 Grading Plan and Storm Water Details have been included in this set. This level of detail goes beyond what is typically required and is provided for Preliminary PUD Site Plan Approval. At this preliminary level, retention is being proposed as part of the storm water management plan to reduce storm water runoff discharge to Woodland Lake.

Preliminary PUD Site Plan:

1. The decrease from 35 units to 31 units on the conventual R-2 parallel plan yielded a decrease on the PUD plan from 45 units to 40 units, based on the maximum density bonus of 30%.
2. Additional detail related to the proposed storm water management has been included and a stormwater narrative has been provided on Sheet 6. The storm water management system will be designed to the requirements of the Livingston County Drain Commissioner and Brighton Township with the primary goal of pre-treatment of all storm water runoff and minimizing discharges to Woodland Lake.

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

a. Two sedimentation basins will treat storm water runoff from most of the on-site drainage area before discharging to a retention basin. The retention basin will infiltrate water into the soils and have no direct outlet connection to Woodland Lake. Infiltration tests to confirm the permeability of the existing soils will be conducted.

b. A sedimentation basin in the northeast area of the site will treat storm water runoff from this area before discharging into the existing on-site wetlands, which will provide additional treatment and storage.

c. The storm water runoff from the area near the wetland road crossing in the vicinity of Units 1, 6, and 7 will be pretreated by a mechanical structure before discharging to the existing on-site wetlands.

3. Infiltration tests are required during final design to confirm the permeability of the existing soils.
4. Direct maintenance access to the forebays for heavy equipment shall be considered.
5. The proposed storm sewer and its corresponding inverts connecting Forebay B to the Retention Basin is recommended to be shown in the Retention Basin Cross Section on Sheet 10 for clarification of how this system will function. The depiction of Forebay B's spillway into the Retention Basin should also be revised as this forebay is proposed to overflow into the existing pond.
6. With this project being within the Township's natural features protection area, we note that the majority of the existing natural drainage area from this site to the 2.1± acre pond in the southwest corner is proposed to be intercepted for storm water pre-treatment and retention to minimize discharges to Woodland Lake, helping to maintain water quality. As a result of the decrease in the contributing surface runoff area, the water surface area and elevation of this pond may be impacted.

Repeated comments from previous reviews:

7. The development property is within the Township's sewer service area. The proposed connection is to a manhole on the gravity sanitary sewer along Vistaview Drive. A sanitary sewer capacity evaluation will need to be completed as part of future submittals, but service to this development appears feasible for the purpose of PUD consideration and approval.
8. Preliminary approval of the proposed private road connection to Dann Dr / N Christine Dr should be obtained from the Livingston County Road Commission.
9. Additional grading, stormwater management calcs, and storm sewer design review will be completed upon final site plan and construction plan submittal. The design shall be in accordance with the Livingston County Drain Commissioner's Procedures and Design Criteria for Stormwater Management Systems. The use of the natural features in the storm water management plan shall consider their storage capacity and an overflow route.

Traffic Impact Study:

Traffic Study Impact (TIS) comments were provided on our previous Preliminary PUD Site Plan Reviews. There are no additional comments related to this revised submittal, other than that the traffic-related impacts presented in the study would be anticipated to be reduced with the reduction of five (5) proposed units.

If you have any questions or need any additional information, please contact us at (810) 743-9120 or via e-mail at grose@fveng.com.

Sincerely,

FLEIS & VANDENBRINK



Geric L. Rose, PE, PS
Regional Manager | Associate

Cc (via email): Mitch Harris, Applicant (mharris@mitchharris.net)
Scott Tousignant, PE, Boss Engineering (scottt@bosseng.com)
Kim Hiller, Livingston County Road Commission
Ken Recker, PE, Chief Deputy Drain Commissioner, Livingston County
Mitch Dempsey, Environmental Projects Manager, Livingston County
Jim Rowell, Building Official, Livingston County
Richard Boisvert, CFPS Fire Marshal, Brighton Area Fire Authority
Brian Vick, Township Manager
Dan Cabage, F&V

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

October 27, 2025

Kelly Mathews, Planner
Charter Township of Brighton
Building and Planning
4363 Buno Road
Brighton, MI 48114

RE: Cove at Woodland Lake PUD
Dann Dr. & N. Christine Dr.
Site Plan Review

Dear Kelly:

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on October 16, 2025 and the drawings are October 14, 2025. The project is based on the proposed redevelopment of a two-parcel (29.48 & 12 acres) wooded area as a new residential development of up to 45 units. The plan review is based on the requirements of the International Fire Code (IFC) 2024 edition.

All previous comments have been addressed in the most recent construction plan review.

Additional comments will be provided during the remaining plan review process.

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

Cordially,

Rick Boisvert, CFPS
Fire Marshal

cc: Geric Rose-Fleis & Vandenbrink (grose@fveng.com)
Daniel Cabage-Fleis & Vandenbrink (dcabage@fveng.com)

Archived: Monday, November 3, 2025 8:06:10 AM
From: John Boland
Mail received time: Sat, 1 Nov 2025 17:12:34
Sent: Saturday, November 1, 2025 1:12:35 PM
To: Planner Manager
Cc: Cheryl Wasilewski cc: Tim Agnello Bill Loughead Doug Mancini Tim Happ Stan Lawrence Russ Ward John Guidobono Jim Kahut Doug Taylor Katie Tierney Lorrie Haydon Stuart Meyers Anita's Comcast
Subject: Woodland Lake OWL presentation responses, regarding PUD deviation
Importance: Normal
Sensitivity: None
Attachments:
PlanningResponseOc25.docx

Hi Kelly.
Thank you for allowing me to present to your planning board. Please review the attached file for responses to questions that your panel had for us.
In addition, I have submitted a proposal that has been reviewed by the OWL team. The intent is to give an approach for achieving what can be built in this area, based on what other states have done in similar situations and similar to what was done for Woodland Bluffs. If the Land Division act applies here, this would handle the 13 residences readily and safely. If the act doesn't apply, it could be used as a framework, with Environmental Engineering assistance, for how to establish the best approach to protect our lake's water quality and still move forward with development.

Thank you
John

This Letter is in response to Questions and clarifications from the Brighton Township planning committee, after presentations of our Woodland Lake Water Quality concerns as they relate to the proposed PUD.

Bullet points from presentation and discussion:

- Woodland Lake's conductivity across the lake has increased significantly in recent years. Conductivity is a measure of contamination in a lake (Nutrients, chemicals)
- From 1994-2012, the average conductivity around the lake was 482 microsiemens. From 2012-2024, the average conductivity was 948 Microsiemens, double prior period
- Since 2017, water clarity at master station 6 has gone from 10.6 feet to 5.1 feet in 2021. During the same time, the conductivity readings from Grand River, Hacker Road and Ore Creek inlet were excessively high. We showed that the loss in water clarity was directly related to the conductivity from the road drains. R**2=0.57.
- Many inland lakes across Michigan, Wisconsin, Minnesota and Indiana are seeing the same phenomenon, per discussions with USGS, EGLE, DNR and lake owners associations. **Overbuilding around our lakes and to drains that go into our lakes has created excessive nutrient and contamination runoff that exceeds the lake's capacity to filter it**.
- **The replacement of forests, vegetation and wetlands with significantly impervious surfaces is the largest cause of the overloading of our lakes with nutrients and contaminants. (EGLE, USGS,etc). Woodland Lake data supports this premise**
- Limnologist and university studies on the subject recommend that any development along an inland lake or stream **should be designed for 10% total impervious cover**. **Total impervious cover includes all building roofs, roadways, driveways, patios and walkways for a project**. Based on these studies, Minnesota law now requires anything between 10 and 15% impervious must have environmental engineering to absorb the additional runoff. These can be in the form of 35 foot+ buffer zones, impermeable detention ponds, etc.
- Significant effort must be taken to ensure that the lakes are **protected throughout all phases** of development, from initial deforestation, grading, roadways, through build and after move-in.
- The **proposed PUD would drive 45-50% impervious** surface cover for the land in question. R2 requirements allow 15% impervious surface cover per acre of land. This is not adequate as it does not include the roadways, which are a huge issue for contamination.
- One potential approach for R2 would be similar to the approach taken at the Bluffs of Woodland Lake. By leaving a large natural vegetation/wetland buffer, design to be approved by environmental engineers, and engineering impermeable detention systems and pumpouts for all build phases, there may be a way to protect R2 from overly polluting our lake.
- **The PUD is far too impervious** and would be irresponsible to allow. There is up to an **80-foot grade from the upper areas** of the land being considered running down **to our lake** that is currently being filtered with vegetation and wetlands. This **situation would be very similar to the area feeding the Grand River (Genoa) drain**. (50% impervious surface, 80+ feet gradient to lake, but this new potential build area has a steeper gradient than Grand River Drain. Grand River Drain has approximately 70 acres of runoff, versus 40+ acres for the new development area.)

Backup data and board question responses:

Questions and responses below:

1.) **Are there any grants that are available to help us mitigate the excessive nutrients that are coming into our lake?**

OWL had discussions in July of this year with EGLE to understand if there is any financial help available. They were not aware of any and had been asked the same question by several lake management teams across Michigan and around the country.

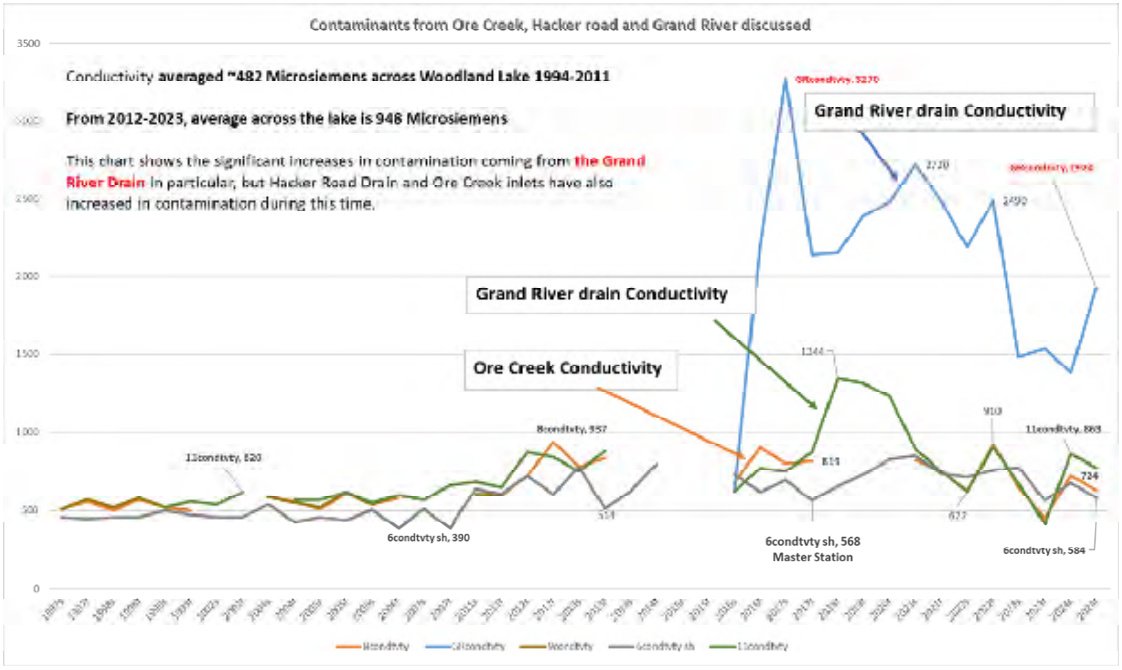
Owl is working with State Representative Tom Barrett, per reference received from Kelly. We will see if Tom can help us with any sort of financial assistance information. As discussed in the planning presentation, if Timber Char doesn't work, the next step for us (along with many lakes) will cost us in the $Millions. We are **hopeful** that at the current levels of contamination, Timber char might have a chance to get us into balance. In discussions with other lakes in Michigan, it is too early to understand the Timber Char capabilities. Adding more filtration bags in 2026 to see if we can enhance our minimal improvements to date.

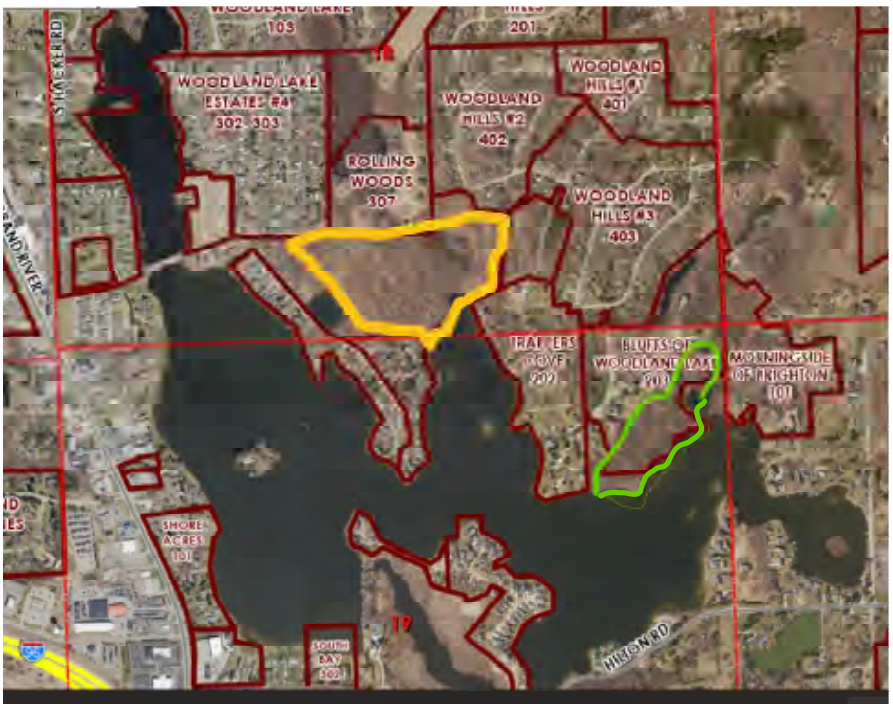
2.) **We were asked for the percentage of flows and contamination coming from the Ore Creek and Hacker Road areas, flowing under the bridge, as compared to the rest of the Woodland Lake struggles.**

Per David Jude in his 2024 report, "Inputs from Ore Creek of substances do not appear to propagate past the northern part of Woodland Lake and remain confined to the area north of the bridge, except during severe rain events." The contamination North of the Bridge becomes absorbed by wetland plants in and around that portion of the lake. We are also seeing a slight reduction in the amount of contaminants from the North due to some commercial activity reduction. He adds "The huge wetland area that Ore Creek runs through is buffering the effects of the input of nutrients (including P) to Woodland Lake during most years."

However, the total amount of contaminants flowing into Woodland Lake (Station 6), is excessive, significantly from the Grand River Drain, but with heavy rains, in part from Hacker, Ore Creek and the 34 other drains entering into our lake currently. There are not enough plants to absorb the input of contaminants. Per Limnologist, the highly impervious surfaces around the main lake, south of the Bridge, allow too much runoff from land, roads, parking lots, patios and roofing. Higher vehicular traffic adds to the contamination around the lake.

Below Chart shows conductivity across the lake (shown as gray line, Master station 6) has been at elevated levels since 2012, **problematic since 2018**. This is consistent with the timing of increased conductivity from the drains around the lake, per multiple sources, likely the result of more impervious surfaces feeding into these drains.





Planning Committee did a nice job of insuring the Bluffs of Woodland Lake and Trappers Cove Wetlands were protected 25 years ago

Bluffs built up high with plenty of wetland and vegetation to take care of runoff from the neighborhood

The **only other remaining large area of wetlands and vegetation** left around the main portion of the lake **to take up nutrients** is where the new Mitch Harris Development is proposed

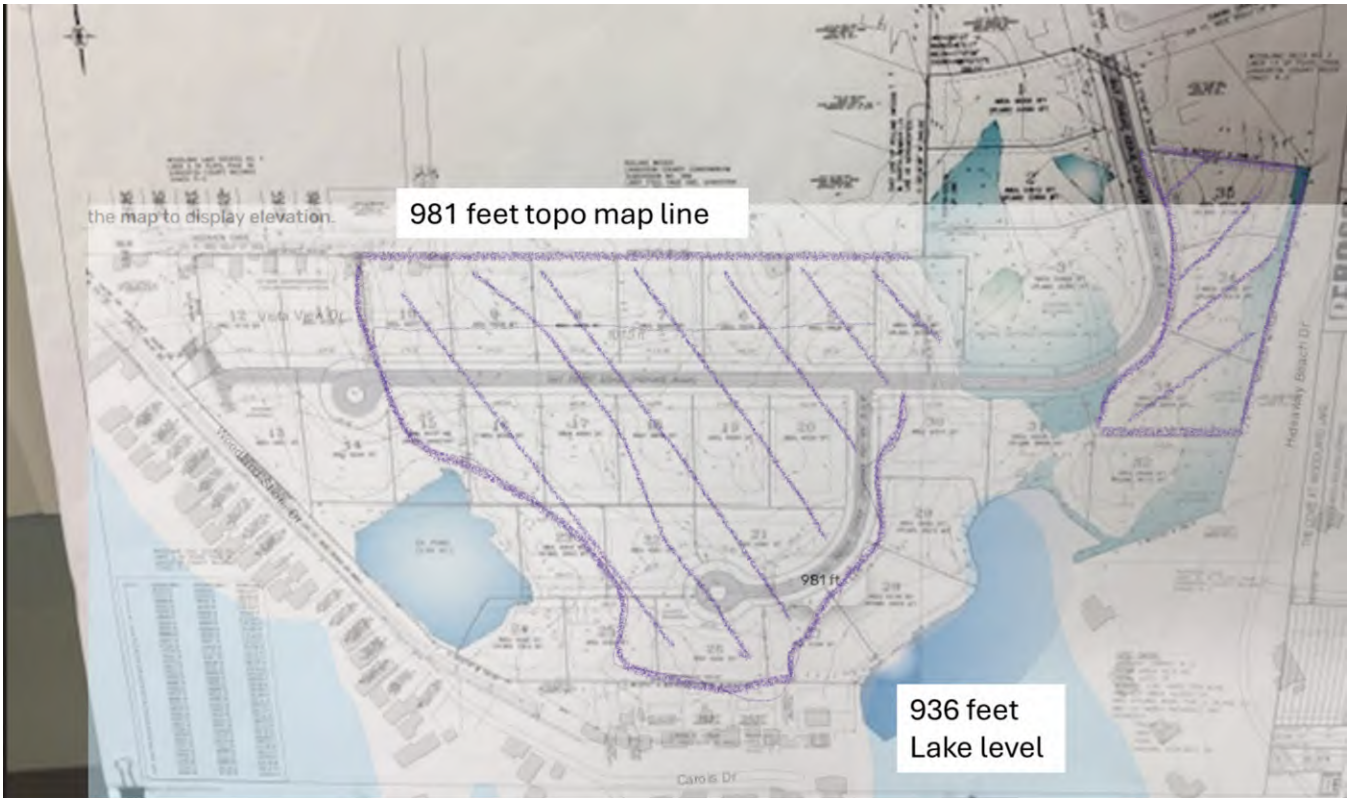
The Below picture shows inlay of one of the prior proposals with a topo map laid on top.

This would be R2 designated building, but add retention ponds for 100 year rain capacity, that would overflow, after settling through the vegetation below on the way to the lake. R2 allows 15% impervious cover on each acre, but doesn't include the roads or retaining walls. This proposal would be for 15% total Impervious cover over the entire build area. Something like this might be OK with appropriate environmental engineering support. Build areas are noted in purple grid, which aligns with 45 feet above the lake's surface..

If the Land Division Act is viable here, it would fit the 13 units allowed. If the act is not legally viable, the below could be used with an Environmental Engineering Firm to define how many residences could be built in a safe manner relative to protecting our lake.

Just trying to offer **an approach to getting to resolution**. I will be out of the country for the 11/10 meeting but would be willing to discuss if it makes sense in the future.

PUD would yield 45-50% impervious surfaces. **New developments** need to be designed to **10% impervious surfaces,** including all roadways, drives, roofing, etc. **Up to maximum 15% would require Environmental engineering** to mitigate runoff into lake. (Significant buffer zones, detention systems, etc.) Minnesota law basis



Planner

From: OWL Woodland Lake <info@woodlandlake.info>
Sent: Monday, January 12, 2026 4:23 PM
To: Planner
Cc: Anita Grapentien; Doug Mancini; Thapp0617; Katie Tierney; John Guidobono; Stuart Meyers; Lorrie Haydon; Russ Ward; Stan Lawrence; Bill Loughead; John Boland; Douglas Taylor; Tim Agnello; Jim Kahut; Tim Roberts; cheryl.wasilewski@gmail.com; Manager
Subject: Document Submission for Brighton Township Planning Commission - February 9th Meeting
Attachments: BrightonTownshipCovesLetterOWL 01122026.pdf; David JudesNew Development on Woodland LakeFNv4.pdf; December-17-PC-Packet.pdf

Planning Commission Members,

Please accept this packet as a formal request for consideration by the Brighton Township Planning Commission in advance of the February 9, 2026, meeting.

This request asks the Planning Commission to reconsider and reverse its November 10 vote (4–2) approving the PUD request for the Cove at Woodland Lake . As you are aware, this proposal was overwhelmingly rejected by the Livingston County Planning Commission due to the significant environmental impacts identified.

Attached, please find:
1. Our official Memo requesting this reversal.

2. The Livingston County Planning Commission report outlining its concerns and its r**ecommendation that the Brighton Township Planning Commission reconsider its prior decision.** (stated on Page 14 of DEC 17-PC Packet)

3. Comments from David Jude, PhD, Limnologist

Thank you for your time and consideration. We look forward to addressing a more responsible plan.

The O.W.L. Board

Please respond to this email with any questions and the appropriate committee member will respond.

MEMO

Date: January 12, 2026

To: Planner; Planning Commission / Brighton Township Trustees

From: O.W.L. (The Organization of Woodland Lake)

Subject: Proposed PUD rezoning for THE COVE AT WOODLAND LAKE (RZ #25/01)

Dear Township Planning Commission/Township Trustees:

The referenced rezoning request was presented (3rd time) Nov 10 Brighton Township Planning Commission (BTPC) meeting with the Commissioners "recommending approval" with a vote of 4 to 2. Subsequently, the Livingston County Planning Commission resoundly rejected this proposal due to its environmental implications. (5 to 1 vote).

There is substantial data supporting that the health and vitality of Woodland Lake has become significantly worse over the last decade or so. A few highlights:

1) Conductivity – a direct reflection of water quality – has generally doubled (to 948 microsiemens) from 2012 to 2023 with some areas measuring as high as 3000 microsiemens. The increasing levels across the lake coincide with timing of increasing contaminants coming from the drains into our lake.
2) Based on ammonia measurements, the lake reaches hypereutrophic level, meaning the lake can no longer support a healthy, balanced ecosystem and is at risk of losing its primary recreational purposes. Due to runoff and loss of vegetation from overbuilding around our lake.
3) Woodland Lake residents have spent over $350,000 in just the last 2 years attempting to reverse these trends with very marginal success to date. The Nutrient Loading of the lake exceeds the natural filtration capacity of the lake.
4) The Timber-Char bags that we've been testing the past 2 years have not created a balance of nutrients across the lake yet. If this is not successful, the next steps are in the $Millions. Many riparians have financial difficulty with the current SAD costs; the new SAD would need to be a ten-fold increase in costs. Additionally, an effective technology to resolve these nutrient issues has not been proven in discussions with many lakes. Prevention is the best proven approach, by far.
5) These new development proposals would both be significantly damaging to the nutrient loading of our lake, plus being a risk for flooding of the pond by Woodland Shore Drive. This additional loading and loss of natural filtration would be a permanent contamination to our lake, requiring additional mitigation. The Cove's drain field would be 20-25 acres, over 40% impervious with up to 80 feet elevation, yielding 1.66 to 1.76 Million gallons of runoff per day to our lake for 100 year rain.

Any development on the highly sloped, 43-acre parcel under consideration – whether R2 or PUD - needs to be done responsibly and in full recognition of the need to improve the water quality concerns stated above or at the very least not make them worse.

The current proposals **deviate from the Brighton Township Master Plan** in many ways. Bold wording is taken directly from the current master plan:

- (page 59) **Private Road standards should allow shorter streets to reduce the amount of impervious coverage.**

This **Master plan designated** this area for **750 feet** of roadway maximum. With 160 feet minimum lot width yields **9.375 lots** using both sides of the road. Adding the 30% bonus factor for public water and sewer would yield **12.1875 lots** of minimum 40,000 sq.ft., **far from the 31 or 40 lots** proposed. The **initial R2** proposal would be a **4.5x deviation** from the master plan road length, **PUD is 4x deviation**. Land division act would be 11-13 units, REU's were for 16 units. The Master plan was attempting to protect natural features/water quality, both of these proposals grossly violate this requirement.

- (page 59) **Minimize total impervious area. Conserve natural areas, provide community recreational space.**

  Neither R2 or PUD proposal is close to this standard

- (page 60) **By requiring minimum vegetated buffers, maintaining riparian corridors and limiting impervious surface coverage can all help mitigate the impacts of development.**

  Not achieved

- (page 60) **Protecting the integrity of local lakes is vital to maintaining the current quality of life in Brighton Township.**

  Let's work together for a plan to do this. These proposals do not.

- (page 60) **Studies have shown that over-development, typically defined as over 10% impervious can contribute to overall water quality degradation**.

  Both current proposals, R2 and PUD, are designed as if there are no inland lake nearby. The baseline R2 has 41% impervious surface over 20 acres and the PUD has 46% impervious surface over 20 acres (**1.76M** and **1.66M gallons** of runoff per day, 100 year rain), both would have hugely negative, permanent impact to our lake. Numerous studies indicate that there is potential of net zero nutrient loading if the impervious surfaces for a development are <25%, with the right mitigation plans (Including Flooding).

O.W.L board and those we represent, view these approvals as permanently damaging to the lake and the surrounding natural features and therefore, are negligent to the Master plan and certainly not in the best interest of the residents and users of this lake.

It is not too late to refocus on a <u>more responsible</u> development proposal. Whether R2 or PUD, we encourage the Planning Commission and the Trustees to advocate for a more environmentally responsible and conscientious development proposal. Elements of such a proposal would include fewer and larger parcels (suggesting 12-16 units, <0.25 impervious total surface), re-establishment of a vegetative buffer area with building envelopes no lower than 960 ft elevation, maintaining a minimum of 100 feet to existing wetlands, and other provisions as necessary to achieve minimal damages to our lake and its' citizens. The Organization of Woodland Lake is willing to take part in working with the developer and an environmental engineering firm to come up with an environmentally acceptable plan for this critical location.

Thank you for your consideration of these comments as you evaluate this rezoning proposal.

Recommendations

Storm Water Management

Increased development activity places additional burden on existing natural drainage systems. The overtaxing of drainage systems leads to localized flooding, environmental damage and costly storm drainage improvements to be borne by taxpayers. Storm water drainage can be managed by installation and improvements to storm water drainage systems and by requiring on-site detention of storm water, which Brighton Township currently does. Another way to manage storm water is through preservation of natural drainage ways and providing onsite storm water detention with controlled discharge. Through these approaches, the impact of development on drainage systems can be minimized.

Acknowledging that some impacts must be anticipated, a comprehensive approach to storm water management using Low Impact Design recommendations is encouraged. These types of measures will be much more effective in pre-treatment of storm water before it enters the ground or surface waters. Storm water protection can be achieved through many of the other recommendations in this chapter. Some additional policies not discussed include:

- Private road standards should allow shorter streets to reduce the amount of pervious coverage. Narrower roads may be considered if allowed by the Brighton Area Fire Authority.
- Minimize use of long cul-de-sacs in favor of connected street patterns.
- Encourage clustering of homes to minimize total impervious area, reduce total construction costs, conserve natural areas, provide community recreational space, and promote watershed protection.
- Promote more flexible design standards for residential subdivision sidewalks. Where practical, consider locating sidewalks on one side of the street and providing common walkways linking pedestrian areas.
- Minimize clearing and grading of forests and native vegetation, except where necessary to accommodate development.
- Conserve vegetation by clustering tree areas, promoting the use of native plants, and planting additional vegetation.

Watershed Planning

A more regional approach to conservation includes watershed planning. Watersheds and the sub-basins within them can be identified using GIS mapping technology that considers topography to locate changes in drainage direction and establish the watershed boundary. Studies have shown that over-development, typically defined as over 10% impervious coverage, within a given sub-basin or watershed can contribute to overall water quality degradation. By requiring minimum vegetated buffers, maintaining riparian corridors, and limiting impervious surface coverage can all help mitigate the impacts of development. Often implemented in a coordinated approach with neighboring communities, protection of watersheds must include all municipalities that regulate any portion of a given watershed and, therefore, requires the Township to pursue local relationships with their municipal neighbors. Additional research to establish watershed and sub-watershed boundaries and existing natural vegetation along surface water resources is needed to accomplish this objective.

Protection of Lakes

Protecting the integrity of the local lakes is vital to maintaining the current quality of life in Brighton Township. Most lakes are surrounded by residential development, which means that impacts to those lakes will also affect the residents that live there. These impacts can be both ecological and recreational, as overpopulation of the lakes can contribute to water quality degradation. Various lake associations are active in preservation efforts, including participation in an on-going water quality monitoring program. The testing program involves volunteers from various homeowner associations to collect water samples and submit them to a biologist who prepares detailed analysis and reports.

Comments on the New Development on Woodland Lake

By David J. Jude, PhD, Limnologist, Fishery Biologist 27 December 2025

I have lived on Woodland Lake from 1976 through 1989 and was involved in water quality sampling and a drawdown that was quite effective in killing Eurasian Milfoil during this period. I have a PhD in Limnology and an MS in fishery biology and two of my colleagues and I formed a consulting company called Freshwater Physicians which is 51 years old. The company does water quality monitoring, wetlands delineations, fishery studies, and court appearances in Michigan and Wisconsin. OWL (Organization of Woodland Lake) has hired us to monitor the water quality of Woodland Lake since 2012. I am intimately aware of the area of the development having visited it while I lived on the lake and often I run the boat in that area during my water quality sampling. I am on the faculty in the School of Environment and Sustainability at the University of Michigan having retired in 2012. I worked for 40 years on fishery and water quality issues in the Great Lakes.

The area suggested for development is a 40-acre, forested area next to Woodland Lake in a sheltered, shallow cove on the northwest side. This area is one of the few, undeveloped areas left on the lake along with some extensive wetlands on the NW side. These areas that are left are critical habitats for amphibians, mammals, and birds, but are also important since they act as buffers for preventing accelerated runoff from developments that cut down trees, put in structures and roads that increase impermeability, plant lawns that are usually over fertilized and treated with poisonous herbicides and insecticides that kill birds as secondary consumers. The runoff from this development will affect Woodland Lake and the adjacent roads, especially Woodland Shore Drive. These undeveloped areas provide many ecological services if left in their native state, but once developed, they exacerbate existing water quality issues in lakes.

Woodland Lake's water quality has been declining in recent years and it will experience further decline if this project goes forward. We have been monitoring water quality for 13 years from 2012 to 2024 and provided reports to OWL to document the condition of the lake each year. Water clarity during 2017 hit a high of 14 ft during summer, while it has declined to around 5 ft during 2025. Dissolved oxygen has been zero on the bottom during almost all surveys fueling increased internal loading. Internal loading (decomposition of organic matter at the deep station during anoxic (no dissolved oxygen) conditions) has increased over time since ammonia (toxic to fish and a nutrient), one of the main products on the bottom at the deep station during summer, has been increasing from 0.20 mg/L (2014) to 1.71 mg/L in 2023, a very high concentration. In addition, total phosphorus at the deep station has also increased dramatically from 0.009 in 2017 to 0.042 mg/L in 2021, along with major conductivity (a measure of the ability of water to conduct electricity – negative ions like chlorides) increases. In addition, macrophytes have declined and have been replaced by the worst type of algae - blue-greens, which can produce toxins that can be toxic to animals and can harm humans if ingested. OWL has been trying to improve water quality conditions and has initiated programs to attempt to reduce nutrients in the lake. According to our

data, the recent costly Phoslock treatment during 2023 along with the TimberChar™ treatment in 2024 have had a mixed effect: water clarity increased an average of about 1.7 ft and 0.9 ft respectively, while TP and SRP have declined at the deep station on the bottom, with some declines (very small) occurring in TP and SRP in the north half. Lastly, the fishery in the lake has been degraded, since with the increased turbidity, visual predators like largemouth bass, northern pike, and most panfish will have increased difficulty in catching prey.

It has been difficult to completely identify all of the factors responsible for these changes and it may be a combination of increasing temperatures due to climate change, the increasing runoff of nutrients from the many drains that enter the lake and their highly impervious surfaces, nutrients from Ore Creek during major rain events, fertilizer applications from both riparians and those in drain fields around the lake, currents generated by increased boat traffic. especially wake boats, and excessive macrophyte control efforts. The inherent system in Woodland Lake, which is a dammed lake that drains a huge watershed (the lake is 309 acres; the watershed is 12,928 acres), is mostly shallow (mean depth of 7.6 ft) and hence susceptible to nutrient enrichment from boat traffic stirring up flocculent sediments that prior to damming was a large wetland in many areas. We are seeing increasing conductivity, nitrates, and phosphorus coming in from the incoming drains (Grand River, Hacker, and Ore Creek) that are correlated with increasing conductivity and nutrient concentrations throughout Woodland Lake over the past 15 years or so. High levels of impervious surfaces along with increasing population, road traffic, and rains contribute to this correlation.

At best this development should not go forward, but failing that, efforts should be made to ensure it does as little damage to the environment as possible. Let me point out some of the potential drawbacks to the project and some remedies to reduce their impact.

Michigan Shoreline Partnership provides guidance on how best to treat shoreline properties. They state that preventing erosion is the easiest and least expensive approach to maintaining a healthy shoreline. Houses should be a minimum of 100 feet from the lake, the development plans state much less. Keep as many trees, shrubs, and native plants as possible. Limit or eliminate turf grass, especially at the lake edge; plant greenbelts instead. It also deters geese from finding attractive grazing land at each house. Minimize impervious surfaces. Support the presence of aquatic plants; only remove enough to get a boat through for access or to provide a small swimming area. In addition, a USGS fact sheet (Hunt et al. 2006) on WI lakes echoes similar recommendations. These include: Maintaining a natural landscape with native vegetation to the degree possible, leave or insert buffer strips or green belts, no lawns on slopes that drain to the lake, no fertilizer use on lakeshore lawns, limiting the amount of impervious areas on the development. Lastly, the Michigan Lakes and Streams publication for January 2026 cites an article by the Wisconsin-based Last Wilderness Alliance that states that research indicates that wake boats should be operated only at 500 ft from the shoreline buffer zone, but the Alliance states it should be 500 ft plus a 200 - ft wide strip (700 ft) for other boaters, anglers, skiers, swimmers, sailors, and those in a pontoon boats to safely navigate in the nearshore zone without dealing with the

threat of dangerous waves. They propose this since the recently designed boats deliver 65% more power than the 2019 models.

The development calls for 10 new docks along the shoreline. We have been working on Michigan inland lakes as noted above for 51 years and we have seen the proliferation of more boats and other recreational craft on lakes, many of these new boats have more powerful engines, and the introduction of wake boats, which create huge currents that can have severe detrimental effects on nearshore areas if they are operated near shore or in shallow water. Woodland Lake is mostly a shallow lake with one deep basin around 35 ft west of the public launch site and the operation of these large speed boats and wake boats can be detrimental to the lake. We have done research on two Michigan inland lakes (Pine and Elizabeth- Freshwater Physicians 2020) on the impact of wake boats on water quality and reviewed all the literature we could find on their effects (one example: Maynord, S. et al. 2008). The upshot is that excessive boat traffic can destroy aquatic vegetation that acts as a deterrent to the currents generated, stirs up flocculant sediments that re - distributes nutrients into the water column fueling algal and macrophyte growth, impacts fish habitat, and erodes shorelines causing more placement of riprap and other devices which are also detrimental to fish. An actual visual count of the number of boats on Woodland Lake was made by a resident and OWL board member Douglas Taylor in 2020. He counted the boats in the water in early October which excluded jet skis, kayaks, row boats, and boats that were shrink wrapped on lifts. He counted 228 boats. Note that the count did not include riparian boats that were removed in September after children went back to school or all the boats that enter from the public launch. Hence, more boats from the development recreating on Woodland Lake will make a bad situation worse.

In addition, we are also concerned about the docks themselves, especially the two that are the north – most as noted on development plans. Those two would be located in wetlands that have formed in that northern section that are thick with sediment, have extensive wetland plant species dominated with cattails, and we would expect riparians to demand access through those docks. That will create a new set of detrimental activities that will destroy wetlands by the building of the docks, possible interest in dredging access for the boat or boats that will be docked there, and increased disturbance to thick and flocculant sediments in that area that will diminish aquatic plants and re-distribute flocculent sediments releasing nutrients to fuel excessive plant growth. That area, if this project is approved, should at least be designated as a no-wake area to reduce impacts.

Literature Cited

Freshwater Physicians, Inc. 2021. The effects of motorized watercraft on the water quality of Pine Lake. 32 pp. FP Report no. 02-2020, Brighton, MI.

Hunt, Randall, Steven R. Greb, and David J. Graczyk. 2006. Evaluating the effects of nearshore development on Wi lakes. USGS fact sheet 2006-3033.

Last Wilderness Alliance in Wisconsin. 2025. Wisconsin lakes and the Last Wilderness Alliance call for urgent action to protect shorelines and people from enhanced wakes. Presque Isle, WI.

Maynord, S., D. Buedebharn, C. Fuschenich, J. Zufelt. 2008. Boat-wave-induced bank erosion on the Denai River, Alaska.

LIVINGSTON COUNTY PLANNING DEPARTMENT
REZONING REQUEST - | -
STAFF REPORT

CASE NUMBER: Z-42-25

COUNTY CASE NUMBER:	**Z-42-25**	**TOWNSHIP:**	**Brighton Charter Township**
REPORT DATE:	**December 1, 2025**	**SECTION NUMBER:**	**12**
STAFF ANALYSIS BY:	**Robert Stanford**	**TOTAL ACREAGE:**	**42.8 Acres**

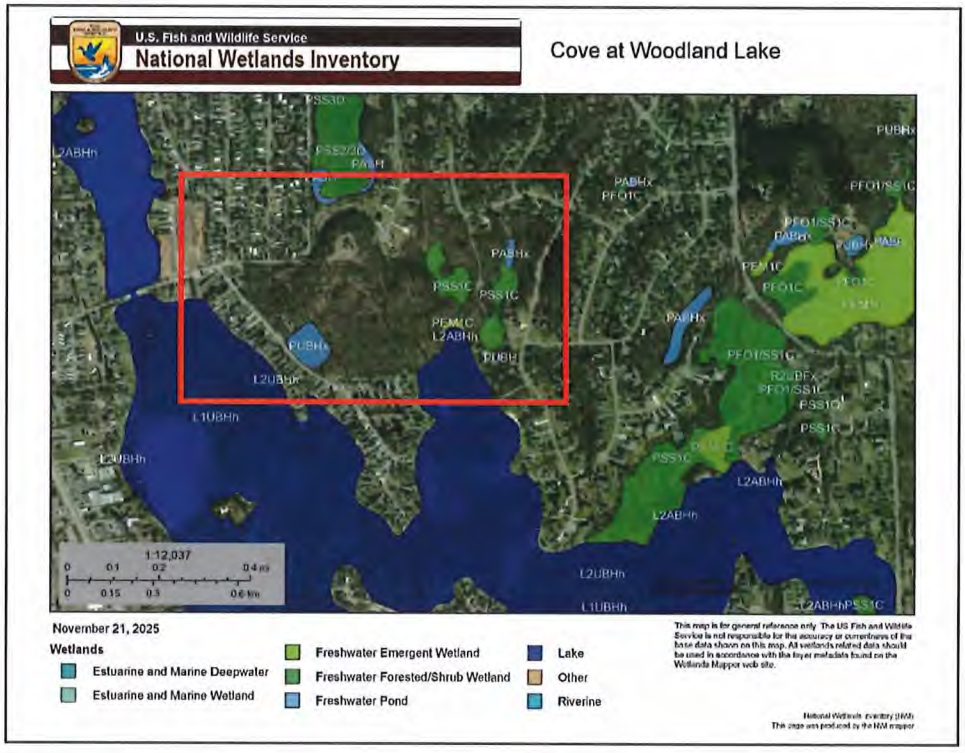
APPLICANT / OWNER:	**Mitch Harris Building Company**
LOCATION / PARCEL ID:	**12-18-300-011 and 12-18-400-027**
LAND USE:	**Vacant**

CURRENT ZONING:	**REQUESTED ZONING:**
R2 Residential Single Family	**RPUD – Residential Open Space Planned Unit Development**
PERMITTED/SPECIAL USES (Not all inclusive):	**PERMITTED**
Permitted: Single family dwellings, Home Occupations, Farms, Adult Foster Care Family Home (1-6 adults), Foster Family Home (1-4 children 24 hrs), Foster Family Group Home (5-6 Children 24 hrs.), Family Day Care Home (1-6 Children < 24 hrs.), Parks & Public Recreation Facilities, Essential Public Services, Governmental Administrative Offices, Libraries, Police and Fire Stations, Schools, Primary including Charter, Montessori.	**Permitted:** Taken from Table 12-03 (page 12-4) of the Township Zoning Ordinance: *Permitted Uses – The Planning Commission shall establish a list of permitted uses as part of the PUD agreement, based upon the following:* *Open space residential projects may be permitted with recreational uses. Residential types permitted in the pre-PUD zoning district shall be permitted with additional uses as provided for herein.* Requirements: Section 12-04 Residential Open Space PUD
Special: Adult Foster Care Small Group Home (7-12 Adults), Group Day Care Home (7-12 Children < 24 hrs.), Golf Courses, Swimming Pool Clubs & Recreation Clubs, Churches, Temples, & other Places of Worship or Public Assembly, Event Barns.	
Minimum Lot Area: 40,000 square feet (0.91 acres)	**Minimum Lot Area:** Parallel plan must be submitted under the underlying residential zoning district. Ordinance requires fifty percent (50%) open space for residential PUD. As proposed, lots sizes to be 16,000 square feet (0.37 acres)

TOWNSHIP PLANNING COMMISSION RECOMMENDATION AND PUBLIC COMMENTS:	**ESSENTIAL FACILITIES AND ACCESS:**
The Brighton Charter Township Planning Commission recommended **APPROVAL** of this rezoning at its November 10, 2025, Regular Planning Commission Meeting. From the draft PC minutes provided for the November 10th PC meeting, there were a number of public comments noted regarding this proposed rezoning.	**Water:** The site is serviced by public water **Sewer:** The site is serviced by public sewer **Ingress/Egress Access:** The latest PUD proposal (as of November 2025) is that all 40 units are proposed to use a single primary exit on Christine/Dann Drives. There is also a proposed emergency access point on Vista View Drive, for which the establishment of a legitimate traffic easement right is under legal contention at the present time (See also Page 5 under "Proposed Use Details"). This overall access arrangement is subject to approval by the township Planning Commission and Township Board and will become part of the PUD agreement.

ANALYSIS BY: Stanford	DATE: December 1, 2025	CASE NUMBER: Z-42-25	PAGE: 2

EXISTING LAND USE, ZONING AND MASTER PLAN DESIGNATION:				
		Land Use:	**Zoning (Minimum Lot Area):**	**Future Land Use / Master Plan:**
Subject Site:		Vacant	R-2 (40,000 sq. ft.)	Low Density Residential
	**To the North:**	Single Family Residences	R-2 and R-5 (40,000 sq. ft. & 11,000 sq. ft.)	Medium Density and Low Density Residential
	To the East:	Single Family Residences	R-2 (40,000 sq. ft.)	Low Density Residential
	To the South:	Single Family Residences	R-5 (11,000 sq. ft.)	Medium Density Residential
	To the West:	Single Family Residences	R-5 (11,000 sq. ft.)	Medium Density Residential

ENVIRONMENTAL CONDITIONS:	
Soils / Topography:	The entire central-most parcel (18-300-011) consists of Hillsdale sandy loam soils, 18-25 percent slopes, with Fox-Boyer and Boyer-Oshtemo complex soils occupying the northern and western boundaries of this parcel. The eastern-most parcel (18-400-027) consists mainly of Carlisle Muck soils on the western portion of this site and Fox-Boyer complex, 18-25 percent slopes, on the eastern portions of this subject site.
Wetlands:	The National Wetland Inventory (NWI) indicates three (3) wetland areas near the cul-de-sac in the eastern and northeastern portions of the subject sites and the surrounding area of the on-site pond (~ 4.5 acres), adjacent to Woodland Shore Drive. Disturbances in this area would require MDEQ permit. Refer to map below: 
County Priority Natural Areas:	According to the Livingston County Planning Department produced map and document entitled: "Livingston County's High-Quality Natural Areas" (2021), The entire subject site of the central-most parcel (18-300-011) is a Priority Level 3 Natural Area. The boundaries of this area extend further east about mid-way into the adjoining subject parcel (18-400-027). Total acreage of this Natural Area is 32 acres. This area scores very high on the vegetative quality scale (4 points out of 4 points). Refer to map on the following page:



TOWNSHIP MASTER PLAN DESIGNATION:

The Future Land Use plan and map of Brighton Charter Township (2020) designates the site as *Low Density Residential*. The Township Master Plan further describes these areas in the following manner (p.17).

These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewers. Because public water and sewer service is not planned to be expanded to these areas in the near future, the lot sizes proposed must be adequate to accommodate onsite well and septic facilities. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land uses. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory. Public sewer services have been extended to some of the low-density residential areas that surround School and Lyons Lakes, while the remaining lakes within this designation are currently served by on-site facilities. The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size.

The two proposed sites also lie within the Township's designated Natural Features Protected Area (Map page 55) in the Township Master Plan. Within these areas, the Master Plan calls for the following recommendations to ensure the preservation of existing vegetation and other valuable natural features. Any newly planned development located within a township Natural Features Protected Area should be required to address compliance with these recommendations to ensure environmental viability is continually maintained in these vital areas. The elements listed below that are highlighted are of critical importance with regard to this specific rezoning request, but all are important.

Clustered Open Space Development
Utilizing clustered development is one of the most effective means of preserving existing vegetation and other valuable natural features. Specific standards were adopted to encourage preservation of open space, vegetative cover and natural topography during site plan review. The Township should strongly encourage developers to use this mechanism for both residential and commercial developments.

Low Impact Development
Low Impact Development (LID) is an approach to development aimed at conserving natural resources and protecting the environment by strategically managing rainfall close to its source, minimizing impervious coverage, using native plant species, and conserving and restoring natural areas during site development or redevelopment. Design techniques are focused on the use of applications that are modeled after nature, rather than building costly infrastructure and water quality restoration systems.

Storm Water Management
Increased development activity places additional burden on existing natural drainage systems. The overtaxing of drainage systems leads to localized flooding, environmental damage and costly storm drainage improvements to be borne by taxpayers. Storm water drainage can be managed by installation and improvements to storm water drainage systems and by requiring on-site detention of storm water, which Brighton Township currently does. Another way to manage storm water is through preservation of natural

drainage ways and providing onsite storm water detention with controlled discharge. Through these approaches, the impact of development on drainage systems can be minimized. Acknowledging that some impacts must be anticipated, a comprehensive approach to storm water management using Low Impact Design recommendations is encouraged. These types of measures will be much more effective in pre-treatment of storm water before it enters the ground or surface waters. Storm water protection can be achieved through many of the other recommendations in this chapter. Some additional policies not discussed include:

• Private road standards should allow shorter streets to reduce the amount of pervious coverage. Narrower roads may be considered if allowed by the Brighton Area Fire Authority.

• Minimize use of long cul-de-sacs in favor of connected street patterns.
• Encourage clustering of homes to minimize total impervious area, reduce total construction costs, conserve natural areas, provide community recreational space, and promote watershed protection.
• Promote more flexible design standards for residential subdivision sidewalks. Where practical, consider locating sidewalks on one side of the street and providing common walkways linking pedestrian areas.
• Minimize clearing and grading of forests and native vegetation, except where necessary to accommodate development.
• Conserve vegetation by clustering tree areas, promoting the use of native plants, and planting additional vegetation.

Watershed Planning
Watersheds and the sub-basins within them can be identified using GIS mapping technology that considers topography to locate changes in drainage direction and establish the watershed boundary. Studies have shown that over-development, typically defined as over 10% impervious coverage, within a given sub-basin or watershed can contribute to overall water quality degradation. By requiring minimum vegetated buffers, maintaining riparian corridors, and limiting impervious surface coverage can all help mitigate the impacts of development.

Protection of Lakes
Protecting the integrity of the local lakes is vital to maintaining the current quality of life in Brighton Township. Most lakes are surrounded by residential development, which means that impacts to those lakes will also affect the residents that live there. These impacts can be both ecological and recreational, as overpopulation of the lakes can contribute to water quality degradation. Various lake associations are active in preservation efforts, including participation in an on-going water quality monitoring program. The testing program involves volunteers from various homeowner associations to collect water samples and submit them to a biologist who prepares detailed analysis and reports.

STAFF COMMENT: Ensuring the development is done in a responsible way to assure that the environmental integrity is maintained and water quality is not impacted seems the better choice rather than relying on "enforcement and monitoring".

Woodland Protection
The preservation of woodlands as part of any development is vital to maintaining the natural community character. Brighton Township uses the environmental impact assessment and natural features overlay district regulations to identify woodlands as part of the site plan review process, which essentially protects land within the non-residential zoning districts. Consideration of bonuses or other incentives should be made to encourage woodland preservation. Site inspections and other methods of enforcement from the Township are also necessary to ensure compliance with regulations and appropriate implementation. Significant woodlands need to continue to be protected including:

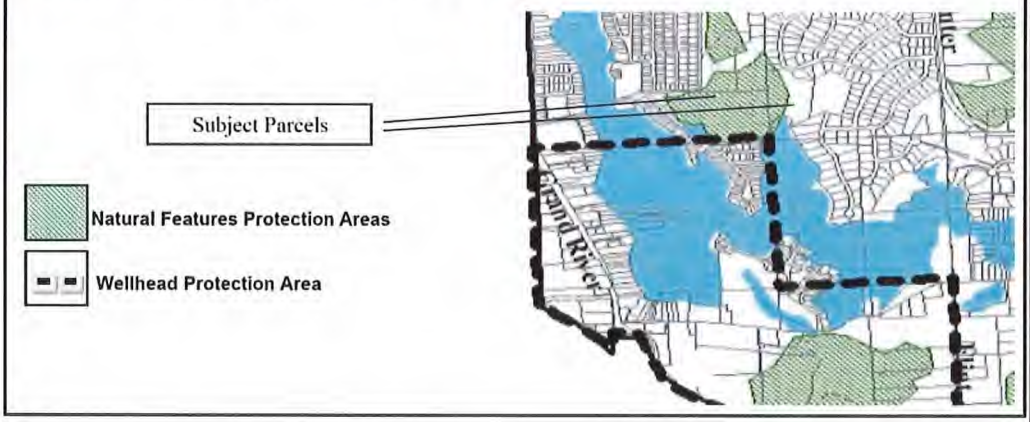
• Forested areas that create significant woodlands.

• Linkage strips where rows of trees create linear corridors and buffers between uses.

• Trees along roads, which help preserve the community character.

• Significant individual landmark trees.

BRIGHTON CHARTER TOWNSHIP NATURAL FEATURES PROTECTION AREAS MAP



COUNTY COMPREHENSIVE PLAN:

The 2026 Livingston County Master Plan is currently being drafted. While the document will not direct parcel specific land use decisions, it will define policies that Townships should consider when amending their own future land use maps and plans. An overwhelming theme as the 2026 plan is being drafted was the concern over preservation of open space, natural areas and rural character, and how to maintain that character for generations to come. We encourage local governments to make wise land use decisions that will mitigate potential land use conflicts while promoting good governance and land management.

COUNTY PLANNING STAFF COMMENTS:

COUNTY PLANNING REVIEW

Rezoning Background Information

This application is for a request to rezone two contiguous parcels totaling 42.8 acres in the R-2 zoning designation, east of Woodland Shore, north of Carols Drive, south of Christine and Dann, and west of Hunter on Woodland Lake The application for rezoning from R-2 (Residential Single Family) to Residential PUD (Planned Unit Development) submitted by Mitch Harris Building Company. The subject site is located east of Woodland Shore, north of Carols Drive, south of Christine and Dann, and west of Hunter on Woodland Lake.

According to the township rezoning application materials, the applicant is proposing a residential planned unit development (PUD). The applicant has provided a parallel plan under the underlying R-2 zoning district and has provided the proposed PUD development plan. Essentially, the PUD allows both the Township and developer flexibility in zoning to allow for innovative design that would not be permitted under conventional zoning requirements which is what this developer is proposing through this PUD proposal.

The applicant plans on developing thirty-two (32) single family lots and eight (8) detached condominiums. Eight (8) waterfront lots are proposed on the single-family side and two (2) detached condominium units on the lake. After the PUD rezoning, the applicant will follow the procedures for condominium developments in accordance with *Article 20 Condominiums* chapter of the township zoning ordinance.

According to township maps, the property is located in an area designated as a **natural features protection area** therefore, the project needs to be reviewed under *Article 10 Natural Features Overlay* chapter of the township zoning ordinance. According to a township planning review of this rezoning, the developer has prepared a general environmental assessment of the property which is required in *Section 10-04 Environmental Impact Assessment* of the zoning ordinance. The township planner in their review has stated that the conceptual site plan is approved as part of the rezoning process and that the developer would be bound to that conceptual plan.

Proposed Use Details (Excerpts taken from Township Planner Review letter – November 10, 2025)

The applicant has indicated that the proposed use for the approximately 42.8 acres to be rezoned from R-2 to PUD would be for thirty-two (32) lots of a minimum size of 16,000 sq. ft. Additionally, eight (8) detached condominiums are proposed. A total of forty (40) homes are proposed. One private road is proposed for access to the site which connects into N. Christine and Dann Drives, which are public roads. Per *Section 16-08 Bikepaths and Sidewalks* of the township zoning ordinance, a five (5) ft. concrete sidewalk is required along one side of the internal private road which is being proposed.

The applicant has proposed a twenty-eight (28) ft. wide road within a fifty (50) ft. private road R.O.W. Additionally, there is approximately twenty (20) ft. wide ingress/egress easement shown off of Bayfront Drive extending into Vista View Drive for emergency access.

STAFF COMMENT: It is Staff's understanding that as of yet, the applicant has not shown proof of ROW permission for this access point, and the legality of this access point is still being litigated.

The Planning Commission and Township Board will have to discuss this proposal for a private road with a smaller R.O.W. and road width. If this is acceptable, that will become part of the planned unit development agreement. The proposal is for eight (8) lakefront lots and two (2) detached condominium lakefront units.

The applicant has depicted a parallel plan for the R-2 zoning district depicting thirty-one (31) lots; it depicts natural buffer areas of less than the one hundred (100) ft. requirement per *Article 10: Natural Features Overlay District* of the township zoning ordinance; however, the Planning Commission can approve a smaller natural buffer area.

STAFF COMMENT: Staff questions why the Planning Commission would allow this reduction. It seems extreme and not aligned with assuring environmental integrity and maintaining water quality (per earlier reference to the township Natural Features Protected Area criteria – See Pages 3-4).

The lot sizes required in the R-2 zoning district are approximately 40,000 sq. ft. (.91 acre) lots. The lot widths required in the R-2 district are 160 ft. The lot coverage in the R-2 district is fifteen (15%) percent. The setbacks required in the R-2 zoning district are thirty-five (35) ft. front yard, twelve (12) ft. side yard, thirty-five (35) ft. rear yard, and twenty-five (25) ft. minimum with the average of 300 ft. along the lake required for the natural feature setback (Woodland Lake). The proposal is for thirty-two (32) lots of a minimum size of 16,000 sq. ft. and eight (8) detached condominiums. The developer has depicted the open space calculations regarding the open space. As depicted on the conceptual plan, most of the site will remain undisturbed and will be protected through a conservation easement.

Most of the property is designated as natural features on the township *Natural Features Protection Area* map. As part of the site plan review, the applicant has to comply with the requirements outlined in Article 10 of the Zoning Ordinance which includes an environmental impact assessment which has been conducted. Additionally, many wetlands are located on the property which is assumed to be under EGLE's jurisdiction. The applicant has provided a general environmental assessment.

STAFF COMMENT: The Township's Natural Features Overlay District provides requirements for mitigation of disturbance of natural features protection areas. To County Planning Staff's knowledge, no mitigation efforts have been indicated by the applicant. The project would greatly disturb state regulated wetlands onsite. Any project that impacts State regulated wetlands is required to apply for a wetlands permit from EGLE (Michigan Department of Environment, Great Lakes and Energy).

The Township Board should require the applicant to secure this permit prior to any recommendation for approval.
In addition, the extreme slopes found on the subject site pose significant concerns regarding the likelihood of runoff erosion issues to Woodland Lake. The applicant should provide assurances to the Township that such erosion will be prevented, with something well beyond standard erosion control methods. The project will also impact a unique geological area that is currently woodland. The area may have endangered or threatened species that will need to be protected.

In addition to being located in the Townships Natural Features Overlay District, and being a Priority Level 3 Natural Area as designated by the Livingston County Natural Features Assessment (2021), the property is also located in one of the Huron River Watershed Council's "Bioreserve Areas" (specifically #1396). The Council's Bioreserve project has identified several hundred unique natural areas in and around Livingston and Washtenaw Counties that aid in the natural filtration of rainwater as well as provided natural habitat for a wide variety of plant and animal species and unique places for people to relax and enjoy nature.

A ten percent (10%) density bonus may be allowed for developing under a PUD; an additional ten percent (10%) may be allowed for connecting into the sewer system; and another ten percent (10%) may be allowed for connecting into the water system. Assuming a thirty percent (30%) increase over the thirty-one (31) units allowable under the R-2 zoning would be forty (40) units.

TOWNSHIP ZONING ORDINANCE REVIEW CONSIDERATIONS

Rezoning Request (Township Planner comments taken from "The Cove at Woodland Lake PUD Rezoning "review letter – November 10, 2025)

The rezoning request was reviewed based on the following six (6) review considerations listed in *Article 23: Administration and Enforcement, Section 23-10: Amendments of the Zoning Ordinance* and the Charter Township of Brighton Master Plan.

1. Consistency with the goals, policies, and future land use map of the Brighton Township Master Plan including any sub area or corridor studies. If conditions have changed since the last Master Plan was adopted, the consistency with recent development trends in the area.

Township Planner Comment: This project is located in the low-density residential area of the future land use map which is typically the R-1 and R-2 zoning districts. These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewer. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land use. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory. The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size.

COUNTY PLANNING STAFF COMMENTS:
As proposed, the PUD option incorporates a higher level of impervious surface area with the development boundaries in comparison with the current R-2 zoning arrangement, as is proposed by the required PUD parallel plan. R-2 zoning equates better with the Master Plan designation of low-density residential development than the PUD as proposed.

2. Compatibility of the site's physical, geological, hydrological and other environmental features with the potential uses permitted in the proposed zoning district.

Township Planner Comment: Evidence has not been provided that the site could not develop under the current R-2 zoning designation. However, the developer has a proposal for denser development but keeping many of the natural features of the site preserved.

Since the applicant is proposing the project as a PUD, the Township will have much more control of the entire site and the preservation of natural features on the site. The conceptual plan depicts forty (40) units. Since this is proposed to be a PUD rezoning, the proposed conceptual site plan and the preservation of the natural features would be what the Township would attain as part of the rezoning since the site plan will become the contract for the site, along with the planned unit development agreement. At this time, we only have a conceptual plan but the entire site plan and all details of the site would be reviewed as part of the subsequent steps in the site plan process.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees with the Township Planner response that from the information supplied for this case, no evidence was provided to indicate that the site could not develop under the current R-2 zoning designation.

While the proposed PUD plan clusters the site development pattern and individual lot sizes (from 40,000 sq. ft. to 16,000 sq. ft.), it consequentially increases the percent allowable building area per site (from 15%-R-2 to 40%-PUD). This increases the overall percentage of impervious surface area which ultimately reaches Woodland Lake and leads to further degradation of the lake's water quality). The major environmental concern with any future development of this site must be the long-term viability and water quality of Woodland Lake.

3. Compatibility of all the potential uses allowed in the proposed zoning district with surrounding uses and zoning in terms of land suitability, impacts on the environment, density, nature of use, traffic impacts, aesthetics, infrastructure and potential impact on property values.

Township Planner Comment: The types of uses permitted within the single-family residential districts are mainly the same; the difference is in density. The applicant has depicted how many units could be developed in the R-2 designation. The soils in the area are part of the Fox-Boyer-Oshtemo Association which includes steep or hilly, well drained, moderately coarse to coarse textured soils on moraines.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees with the Township Planner response that the types of uses permitted within the single-family residential districts are mainly the same. Environmental compatibility, especially associated with the water quality of Woodland Lake is of utmost importance. County Planning Staff has prepared a summarized traffic impact analysis which indicates an increase of ~350 new vehicle trips per day associated with the purposed development.

4. The capacity of Township infrastructure, utilities, and services is sufficient to accommodate the uses permitted in the requested district without compromising the health, safety and welfare of the Township.

Township Planner Comment: Township sewer and public water are proposed. The capacity of the Township's sewer can accommodate the uses in both the current R-2 (Residential Single Family) district and the proposed PUD. The water capacity has been confirmed by the City of Brighton, and the water service agreement area will be revised.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees with the Township Planner's response.

5. The apparent demand for the types of uses permitted in the requested zoning district in the Township in relation to the amount of land in the Township currently zoned to accommodate the demand.

Township Planner Comment: All of the properties to the north, south, east, and west of the site are developed for single family residential uses of varying sizes. This property is located in a Natural Features Protection Area as designated on the Charter Township of Brighton's Map. As part of the site plan review, the applicant will have to comply with the requirements outlined in *Article 10* of the Zoning Ordinance including an environmental impact assessment. The applicant has provided a general environmental impact assessment. The applicant has proposed lot sizes that he feels are consistent with the neighboring properties. Fairly large buffer areas will be provided along the perimeter of the site which will help shield the views from neighboring properties. The applicant has submitted a traffic impact study (TIS) depicting the traffic from the proposed development. The Township Engineer has reviewed and commented on the TIS.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff understands that there is a desperate need in the county for affordable residential housing. Nothing provided by the township for this case indicates that the types of residential housing planned for this proposed development will address this need. It appears that the housing type planned for this development would be characteristic with higher-cost housing examples.

6. If a rezoning is reasonable given the above criteria, a determination shall be made that the requested rezoning is more appropriate than another zoning district.

Township Planner Comment: The proposed PUD rezoning offers a benefit to the Township in terms of open space and protection of natural resources for the Township because the site plan becomes the contract for the site.

COUNTY PLANNING STAFF COMMENTS:
County Planning Staff agrees that clustering the development on site does allow for there to be the opportunity to set aside a certain percentage of the wooded natural areas (~ 20 acre) of the site to the benefit of both the township and its residents However, the amount of impervious surface area created within the PUD development counterbalances this open space benefit, as it contributes to the further degradation of Woodland Lake, which is by far the most significant and important natural feature associated with this development and the immediately residential neighborhood on the whole. There is very little natural area protection for the lands along the lakeshore, those that act as a natural filtration system, as is occurring presently without any development.

PUD ELIGIBILITY

The Zoning Ordinance requires that the applicant must demonstrate that the site qualifies for a PUD. Based on *Section 12-02 Eligibility Criteria* section of the township zoning ordinance.

To be eligible for PUD approval, the applicant must demonstrate that each of the following five (5) criteria will be met:

(a) Demonstrated Benefit. The PUD shall provide one (1) or more of the following benefits not possible under the requirements of another zoning district, as determined by the Planning Commission:

(1) Preservation of significant natural or historic features.
(2) A complementary mixture of uses or a variety of housing types.
(3) Common open space for passive or active recreational use.
(4) Mitigation to offset community impacts.
(5) Redevelopment of a nonconforming site where creative design can address unique site constraints.

Township Planner Comments: The PUD ordinance requires fifty (50%) percent open space for residential PUD's; a calculation has been provided which is 58.9%. The proposed open space is mainly consisting of preserving the large wooded areas. A five (5) ft. concrete sidewalk is being proposed on one side of the private roadway, Bay Front Drive, as required by the zoning ordinance. The roadway is proposed as fifty (50) ft. R.O.W. instead of the required sixty-six (66) ft. R.O.W. with twenty-eight (28) ft. roadways.

The site is currently very wooded, is designated as a natural features area, and has steep and varying slopes. The developer plans to preserve many of the trees in the development; especially on the northerly side of the property. A buffer area (wooded area) will also be preserved on the southerly side. Additionally, there are quite a few wetland areas on the site which are regulated by EGLE. The proposal is to utilize one of the natural wet areas (pond) as a retention basin and create two (2) retention basins/forebays for the single-family lot side and an expanded wetlands and forebay area for the detached condominium side. *Article 10, Natural Features Overlay*, requires natural feature buffer areas of one hundred (100) ft. which can be reduced to twenty-five (25) ft. if allowed by the Planning Commission. A minimum fifty (50) ft. setback from the wetlands is proposed and 100 ft. from the lake on the single-family side and fifty (50) ft. on the detached condominium side.

COUNTY PLANNING STAFF COMMENTS:
While there has been planned a large open space set aside for those areas that lie in the higher elevation areas, north of the planned PUD residential portion of the development, very little preservation has been planned for the natural lands that lie directly adjacent to Woodland Lake, save for a small portion of an onsite wetland that has been set aside for storm water retention/detention. Of most concern are the lots that front directly on and have access to Woodland Lake (8 lots). There have been no open space dedications planned in these critical areas, which allow for the natural filtration of the entire subject property which empties directly into the lake. There must be more thought and planning directed to those areas that have the most critical and important function for the long-term viability and quality of the waters of Woodland Lake.

As it relates to the listing of the five (5) demonstrated benefits above, County Planning Staff responds with the following:

1) Preservation of significant natural or historic features.
The development proposes to preserve at least fifty (50) percent of the overall combined lot area of the two subject sites as open space. As **a related question, Staff would again inquire as to what the demonstrated benefit would be by allowing a smaller percentage natural features buffer and why the Planning Commission would allow this reduction. It seems extreme and not aligned with assuring environmental integrity and maintaining water quality** not only for this potential development site, but for the entire Woodland Lake residential community.

(2) A complementary mixture of uses or a variety of housing types.
This project proposes two distinct housing types within the development package, one being a thirty-two (32) unit single family residential neighborhood and the other an eight (8) unit detached condominium neighborhood. Eight (8) waterfront lots are proposed on the single-family side and two (2) detached condominium units on the lake. This demonstrated benefit appears to have been at least planned for by the applicant.

(3) Common open space for passive or active recreational use.
The development proposes to preserve at least fifty (50) percent of the overall combined lot area of the two subject sites as open space. However, other than preservation of existing woodlands, it is not readily apparent from the information provided to County Planning Staff for this review the type of activities proposed for these preserved open space areas. The ordinance requires both passive and active recreational areas to be planned as part of a PUD project. As such, it does not appear that this provision has been adequately met.

(4) Mitigation to offset community impacts.
It is not clear from the information provided for this review that any onsite mitigation activities are planned. As such, it appears that is provision has not been adequately met.

(5) Redevelopment of a nonconforming site where creative design can address unique site constraints.
From the information provided for this review it appears this provision may not be directly applicable for this particular PUD project.

STAFF CONCLUSION: From the information provided for this review, it does not appear that there is a clear and concise demonstrated benefit as required by the provisions above. Staff would encourage the applicant to make the necessary changes to the proposed project so that a more robust-level of compliance with this provision can be confirmed.

(b) Availability and Capacity of Public Services. The proposed type and density of use shall not result in an unreasonable increase in the use of public services, public facilities, and utility capacities.

Township Planner Comments: The homes will be served by public sewer and a planned extension of public water.

COUNTY PLANNING STAFF COMMENTS:

The Township Planner review states that Township sewer and water are proposed. The review goes on to state that the Township's sewer capacity can accommodate the uses in both the current R-2 zoned district and the proposed PUD.

(c) Compatibility with the Master Plan. The proposed development shall not have an adverse impact on future development as proposed in the Master Plan of the Township.

Township Planner Comments: This project is located in the low-density residential area of the master plan which is typically the R-1 and R-2 zoning districts. These areas are designated for single-family residences, located between the rural residential and more urbanized areas of the Township. This designation encompasses the majority of land planned for future residential use, and generally includes areas that do not have access to municipal water and sewer. Many areas have already been developed where fewer environmental constraints are found. However, the land immediately surrounding many of the lakes is designated for residential land uses. These areas will need to be monitored to ensure the environmental integrity is maintained and water quality remains satisfactory.

The primary type of development within this classification is expected to be single-family residences on lots that are roughly one acre in size. The proposal is for thirty-two (32) lots of a minimum size of 16,000 sq. ft. The proposed setbacks are twenty-five (25) ft. front yard, thirty (30) ft. rear yard, and ten (10) ft. side yards. Setbacks from all wetlands must be a minimum of twenty-five (25) ft.

The other part of the development is eight (8) detached condominiums. The lot sizes required in the R-2 zoning district are approximately 40,000 sq. ft. (.91 acre). The lot widths required in the R-2 district are 160 ft. The lot coverage in the R-2 district is fifteen (15%) percent. The setbacks required in the R-2 zoning district are thirty-five (35) ft. front yard, twelve (12) ft. side yard, thirty-five (35) ft. rear yard, and twenty-five (25) ft. minimum with the average of 300 ft. along the lake required for the natural feature setback (Woodland Lake). The parallel plan for the R-2 zoning district meets all Zoning Ordinance requirements.

COUNTY PLANNING STAFF COMMENTS:
As has been pointed out throughout this review, County Planning Staff agrees that clustering the development on site does allow for there to be the opportunity to set aside a certain percentage of the wooded natural areas (~ 20 acre) of the site to the benefit of both the township and its residents However, the amount of impervious surface area created within the PUD development counterbalances this open space benefit, as it contributes to the further degradation of Woodland Lake, which is by far the most significant and important natural feature associated with this development and the immediately residential neighborhood on the whole.

Therefore, R-2 is more compatible with the Master Plan, due to the larger lot sizes attributable to the Low-Density residential development patterned desired at this location. However, considering this further, even developing under the R-2 zoning for any type of development at this location should also include incorporating serious natural features protection measure, not only for the woodland present, but also for the main natural feature element present, which is Woodland Lake. Generous setbacks from the lake should be of utmost importance for the reasons already stated in this review.

(d) Compatibility with the Planned Unit Development Intent. The proposed development shall be consistent with the intent and spirit of this Ordinance.

Township Planner Comments: The proposed plan allows for innovation in land use planning, coordinated development, protects significant natural features, and includes a sidewalk along one side of the roadways as required by the zoning ordinance. Other amenities could be considered to provide additional benefits for the project.

COUNTY PLANNING STAFF COMMENTS:

According to the Township Zoning Ordinance, **Article 12 Planned Unit Development Districts (PUDs), Section 12-01** provides the intent of the Planned Unit Development (PUD):

(a) The intent of this Article is to permit the coordinated development on larger sites, protect significant natural features present which the property owner and 10 Township wish to preserve, to provide the opportunity to mix compatible uses or residential types, or allow clustering of residential units to preserve common open space and natural features.

Subitem (b) states that the PUD standards are provided to:

(1) Permit flexibility in the regulation of land development allowing for higher quality of design through innovation in land use, variety in design, layout, and type of structures constructed.
(2) Ensure compatibility of design and function between neighboring properties.
(3) Protect and preserve natural resources, natural features, open space, and historical or significant architectural features.
(4) Promote efficient provision of public services, utilities and transportation facilities.
(5) Provide convenient vehicular access throughout the development and minimizing adverse traffic impacts.
(6) Provide complete non-motorized circulation to, from, and within developments.
(7) Provide adequate housing and employment.
(8) Encourage development of convenient recreational facilities as an integral part of residential developments.
(9) Ensure various land uses and building bulk will relate to each other and to adjoining existing and planned uses in such a way that they will be compatible, with no material adverse impact of one use on another.
(10) Encourage development that is consistent with the goals stated within the Township's Master Plan.
(11) Eliminate or reduce the degree of nonconforming uses or structures.

Subitem (c) within this Section concludes the PUD "Intent" section with the following:

(c) These PUD regulations are not intended to be used for circumventing the more specific standards in the Zoning Ordinance, or the planning upon which the standards are based. Rather, these provisions are intended to result in development which is substantially consistent with the zoning standards as generally applied to the proposed uses, but with specific modifications to the general standards that, in the judgment of the Township, assure a superior quality of development. If this improved quality is not clearly apparent upon Township review, a site shall not qualify for the modifications allowable under this Article.

Given the information provided for this case, it appears that this proposed development does not satisfactorily meet the overall intent of the PUD provisions of the Township Zoning Ordinance nor most of the eleven (11) standards established for the PUD designation above. Many of the provisions are not addressed in the proposal.

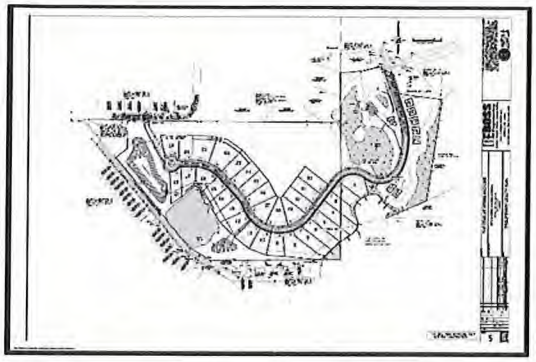
For example, as to subitem (b)(5) in the PUD listing above, Staff conducted a quick review of trip generation standards for a similar development utilizing standards found in the manual *Trip Generation - Institute of Transportation Engineers (ITE).* The *ITE* manual is one of five transportation standards development organizations designated by the U.S. Department of Transportation (U.S. DOT). According to the ITE manual:

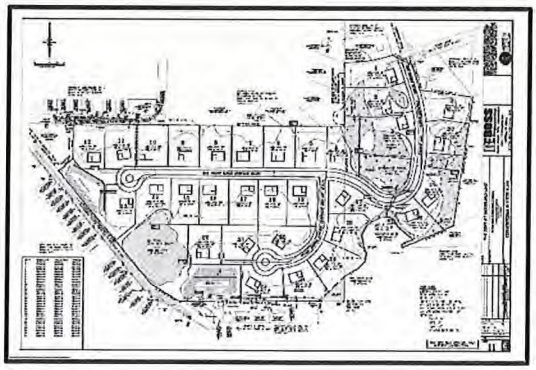
- Average vehicle trips generated by dwelling unit (single-family detached residential – weekday trips) is 9.57 trips.
- Average vehicle trips generated by dwelling unit (single-family detached condominium – weekday trips) is 5.86 trips.

Using these figures as basis and calculating the total number of potential additional trips associated with this proposed development are as follows:

- 32 detached single-family lots * 9.44 trips per dwelling unit = 302 additional new trips within the neighborhood
- 8 detached condominium/townhouse lots * 5.86 trips per dwelling unit = 46 additional new trips within the neighborhood

TOTAL NEW TRIPS = 348 new trips associated with proposed project
Source: ITE Trip Generation, 10th Edition (2020)





(e) Development Impact. The proposed development shall not impede the continued use or development of surrounding properties for uses that are permitted in this Ordinance.

Township Planner Comments: The site is surrounded by single-family homes.

COUNTY PLANNING STAFF COMMENTS:

The PUD open-space style development typically minimizes the normal detrimental developmental impacts to surrounding properties that often result from traditional "cookie-cutter" style development. However, there is a looming question of the impact and/or impediment the development will have resulting from increased percent of lot coverage in the proposed PUD (going from Existing R2 of 15% maximum lot coverage to a proposed PUD maximum lot coverage of 40% - even though lot sizes have been reduced) regarding adequate stormwater management, vastly increased runoff potential and adequate preservation.

Calculation of Maximum Impervious Building Footprint

Proposed PUD — 16,000 sq ft lots @ 40% max building area

$$16{,}000 \times 0.40 = 6{,}400 \text{ sq ft}$$

Existing R-2 — 40,000 sq ft lots @ 15% max building area

$$40{,}000 \times 0.15 = 6{,}000 \text{ sq ft}$$

400 square feet

Even though the larger lot for R-2 is 2.5× bigger, its lower maximum building area percentage allows 400 sq ft less impervious footprint.

Michigan has experienced intense residential and commercial development pressure in the last 20 years and Brighton Township is no different. The loss of vegetative cover, increased impervious surface ratio area and commensurate increased recreatuional use remain a threat to many of Michigan's lakes and streams. EGLE, EPA, MSU, USGS, Michigan Lakes and Streams all agree that overdevelopment of inland lakes are our biggest threat to water quality/clarity. Impervious surfaces, such as roads, roofing,
sidewalks, patios create rapid runoff of nutrients and contaminants, instead of being absorbed into the ground and filtered into the plants.

	Percent Impervious Surface	Percent Going to Runoff
Current	10%	10%
	15%	15%
R-2 Zoning	20%	20%
	35%	30%
Proposed PUD	50%	45%
	75%	55%

The PUD as proposed, versus R-2 current zoning, creates 50% impervious surfaces over 40 acres, instead of the 15% impervious required by R-2 designation. Runoff must be contained in Basins designed for 100-year rain event capacity

The 40 acres being discussed, has as much as 80 feet elevation above Woodland Lake.

Each inch of rain adds 27,154 gallons of water to an acre.

Runoff from this 40 ~acre site will be increased. Instead of 15% runoff with 15% impervious surface, new runoff will be at 45% for 50% impervious surface. The Engineered basins would have to accommodate

27,154 * 45% * 3.5 inches/hour = 42,768 gallons/hr. versus 27,154 * 15% * 3.5 inches/hour = 14,256 gallons/hr. = **3 times the runoff**

Sources: Center for Watershed Protection, supported by over 200 studies, Woodland Lake Shore Homeowners Association (WLSAH)

Woodland Lake has been overbuilt, much the same as many lakes in Michigan and across the U.S.A that are having similar struggles Michigan Lake and stream, USGS, DNR, EPA, MSU and other sources define high levels of impervious surfaces, instead of vegetation and wetlands, are the key issue in the reduced inland lake water quality.



At the time of development, the Brighton Township Planning Commission did a nice job of ensuring the Bluffs and Trappers Cove Wetlands were protected 25 years ago. Built between 959 to 970 feet above sea level. Bluffs built up high with plenty of wetland and vegetation (buffer zone) to take care of runoff from the neighborhood. Staff would encourage the township and the applicant work to create a better development site plan layout which significantly reduces the amount of impervious surface runoff into Woodland Lake.

Wetlands and current woodlands, foliage and vegetation absorb nutrients and contamination from rainwater. As proposed, the steep slows (20-30 feet across the entire build line will require extensive work to protect Woodland Lake during construction and through full occupancy. The current proposed R-2 parallel plan (required as part of the PUD application), is also largely unacceptable due to the lake's current environmental situation. It does not offer an acceptable amount of environmental protection for Woodland Lake. There is a need for increased buffering. Any proposed site plan at this location will need to define mitigation for the loss of vegetation being replaced by home, roads, and parking lots. Vegetative buffer zones greatly aid the proper function of man-made retention and detention ponds.

The bottom line is, the only remaining large area of wetlands and vegetation left around Woodland Lake to take up nutrients is where the new PUD development is planned.

(f) Unified Control of Property
Township Planner Comments: The site must be developed as one project/owner.

COUNTY PLANNING STAFF COMMENTS:

At the time of this review, Staff did not possess enough information to confirm compliance with this provision.

NATURAL FEATURES OVERLAY DISTRICT COMPLIANCE

As both of the subject properties are nearly entirely located within a township Natural Features Overlay District, the applicant must comply with the Township Natural Features Overlay District Ordinance, Article 10.

ARTICLE 10 NATURAL FEATURES OVERLAY DISTRICT (NFOD)

Sec. 10-01 Description and Purpose

The purpose of this Article is to ensure that property is developed in a manner consistent with its zoning designation, and the proposed physical elements are designed and arranged to protect the priority resource protection areas both on the site and in the vicinity of the site as identified by Brighton Township and Livingston County. The Overlay District establishes procedures to enable the applicant and Planning Commission to achieve the mutually compatible objectives of reasonable use of land and protection of vital natural resources. It is the intent of this Article to allow for development in a creative fashion that protects vital natural features of a site while preserving the property owner's right for reasonable use of their land. The use of a PUD option to achieve this purpose is encouraged.

In summary, to be compliant with the provisions of the NFOD, an applicant must, at a minimum, undertake field investigations and subsequently map the provide the following:

- Delineate wetlands (wetland delineation) and streams (if any).
- Tree inventory (specimen/mature trees).
- Topography, soils, floodplain and drainage boundaries.
- Identify habitat features (rare species, contiguous woodlands, significant wildlife corridors) as required or discovered.

The Township may require certified wetland delineations and/or a qualified arborist report.

Compliance with the NFOD also requires the preparation and submission of an Environmental Impact Assessment (EIA). The Article describes what is required:

1. **Preparation of an Environmental Impact Assessment (EIA).** The EIA should include:
    - Project description and alternatives (including a no-build/less-impact alternative).
    - Existing natural features inventory & maps (wetlands, streams, woodlands, steep slopes, habitat).
    - Quantified impacts (acres of wetland/woodland to be disturbed, trees removed by caliper, changes to hydrology).
    - Measures to avoid and minimize impacts (layout choices, reduced footprints, clustering, low-impact drive alignment).
    - Mitigation strategy for unavoidable impacts (on-site preservation, restoration, off-site mitigation, plantings, sequencing).
    - Stormwater and erosion-control measures and how they protect remaining features.

Long-term management plan (maintenance, monitoring, easements, legal protections).

STAFF COMMENT: The notes supplied by the township for this case indicate that the applicant has provided a "GENERAL" EIA:" Staff questions whether this fulfills the requirement or is another more formal assessment planned and if so, when?

FINAL COUNTY PLANNING STAFF COMMENTS:

As part of the review process for this case, County Planning Staff met with leadership members of the Woodland Lake Shores Homeowners Association at their request. A number of questions and concerns were raised. The main focus of the majority of questions centered around the effect that this development will potentially have on the long-term viability of Woodland Lake and the quality of its waters.

Staff has supplied a few of the questions that were raised to give the County Planning Commissioners a sense of the concerns posed by the residents who presently live in proximity to the planned PUD, and who have spent countless hours and large sums of money conducting water quality tests on Woodland Lake for several decades.

- There is an overall elevation drop of 70 feet from highest elevation within the parcel to the lake! Coupled with reported slopes as high as 38 % and these combine to make this parcel extremely challenging from a grading and water management standpoint. *(See page 7 of the November 10 Brighton Township PC packet (BTPC), Pond on WSD at 934; wetlands at 955 and 938, woodland lake at 933 ft; Dann/Christine at 966, highest point of elevation 1002. See page 29 of Brighton Township PC packet for 38% slope reference).*

- The PUD has the potential for the addition of another 40 watercraft to Woodland Lake that is already at 420% of recommended boat density. *(See page 9 of the November 10 BTPC packet, assumes 10 lakefront parcels and that each elect to own 2 boats and 2 PWC's.)*

- While the report indicates on page 29 *of the November 10 BTPC packet* that "...there is no evidence of unusually high counts of animals or unusual or rare species", there are routinely bald eagle sightings in the PUD area and surrounding natural habitat.

- Page 140 of the *November 10 BTPC packet* references Article 10, Natural Features Overlay, which "requires natural feature buffer areas of one hundred (100) ft. which can be reduced to twenty-five (25) ft. if allowed by the Planning Commission" While they may be technically allowed to reduce that to as little as 25 feet (and they are requesting changes down to 50 feet) we believe that deviating from the 100 foot buffer is not an environmentally-conscience decision given the valuable role natural features play in minimizing environmental and water quality impacts.

- Page 147-149 of the *November 10 BTPC* packet offers an engineering review by Geric Rose representing FLEIS & VANDENBRINK. Within those pages:

  1. Under item 2 ,while they describe the "proposed storm water management", they simply reiterate what it is – they do not comment on its "acceptability or suitability." One might have assumed that they would apply their engineering expertise to formulate an opinion on it – even though it is preliminary? What neutral 3rd party ensures the safety factors for long term retention, forebay, pretreatment, detention and sedimentation systems? (Rain levels are increasing) Who manages sedimentation cleanout for forebays and maintenance of the wet retention ponds, etc.? Are there fines for overflow occurrences back to the developer?

  2. Item 6 seems to foreshadow the likely flooding of Woodland Shore Drive and surrounding properties yet there is no proposed "remedy" for that. Bottom of retention basin is at lake level, limiting the ground infiltration. How is it ensured that 1.3 million gallons per day of runoff to retention pond is protected from overflow? (Boss Calculations, 100-year rain, 24 hours).

COUNTY PLANNING STAFF RECOMMENDATION:

Disapproval/ Denial

As proposed, this rezoning to PUD does not enhance the quality of development to a satisfactory level of difference as compared to the current zoning designation, which should always be the result when utilizing this planning tool, as intended by the township PUD Ordinance. A number of deficiencies have been identified as to the areas of concern with the proposed rezoning, mainly focusing on the long-term viability and protection of the key existing natural feature associated with this development, that being the quality of the waters of Woodland Lake.

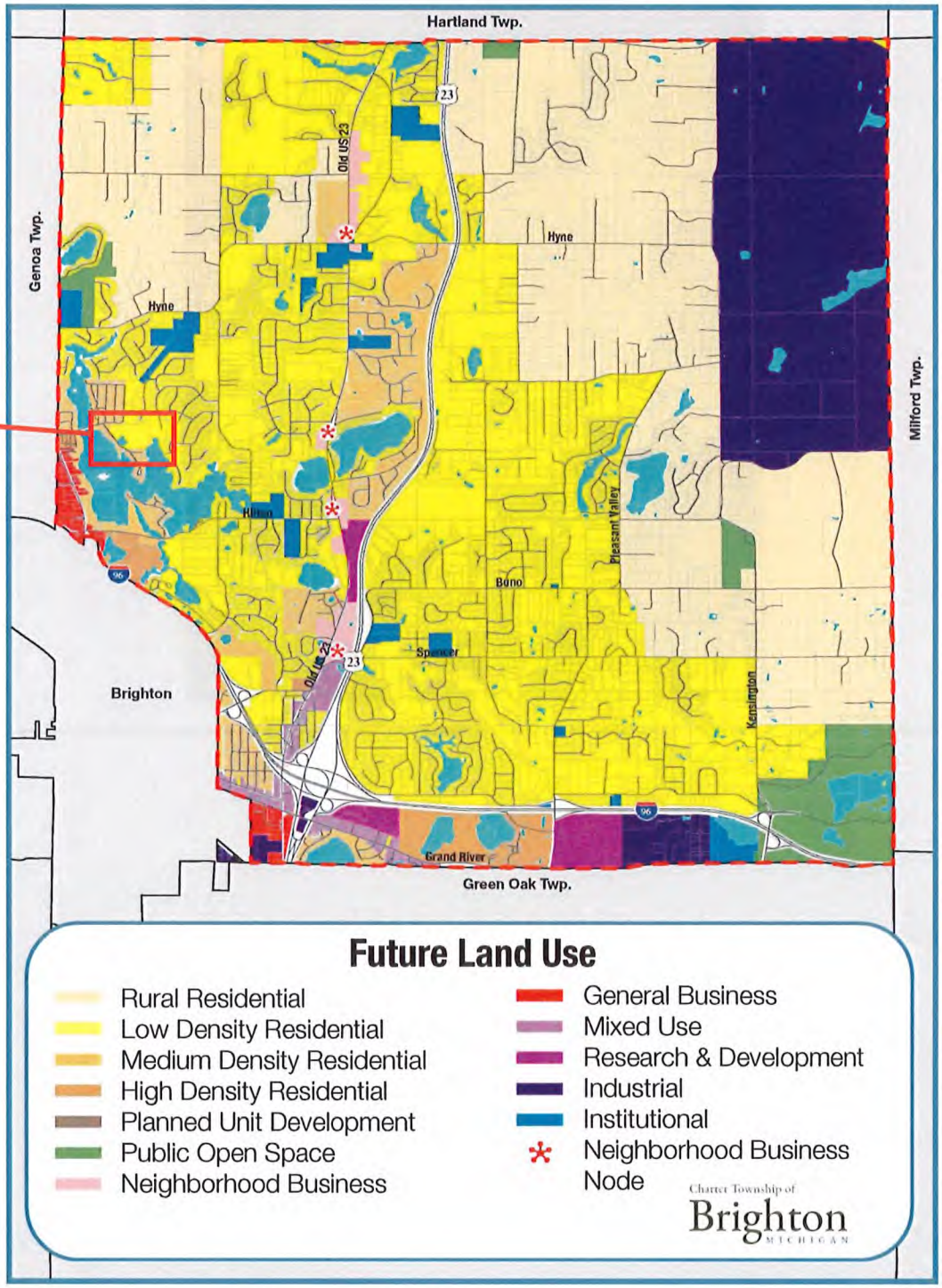
It is suggested and encouraged that the township reconsider the approval of this rezoning as proposed, and in turn, continue to work with the applicant to revise the proposed development plan in a manner that both satisfies both the intended nature of the underlying zoning district (R-2) which is intended to provide predominantly for low-density, single family detached dwellings along with better alignment with the Charter Township's Future Land Use designation of Low-Density Residential development, while incorporating an improved site plan design which allows for more shoreline protection along Woodland Lake (greater buffering) and which significantly reduces impervious surface areas within the development to a level that does not contribute further to the degradation of Woodland Lake. As proposed, the level of planned impervious surface associated with the development counterbalances and nearly completely nullifies the expected beneficial result of any planned open space/natural feature set asides.

EXISTING LAND USE:



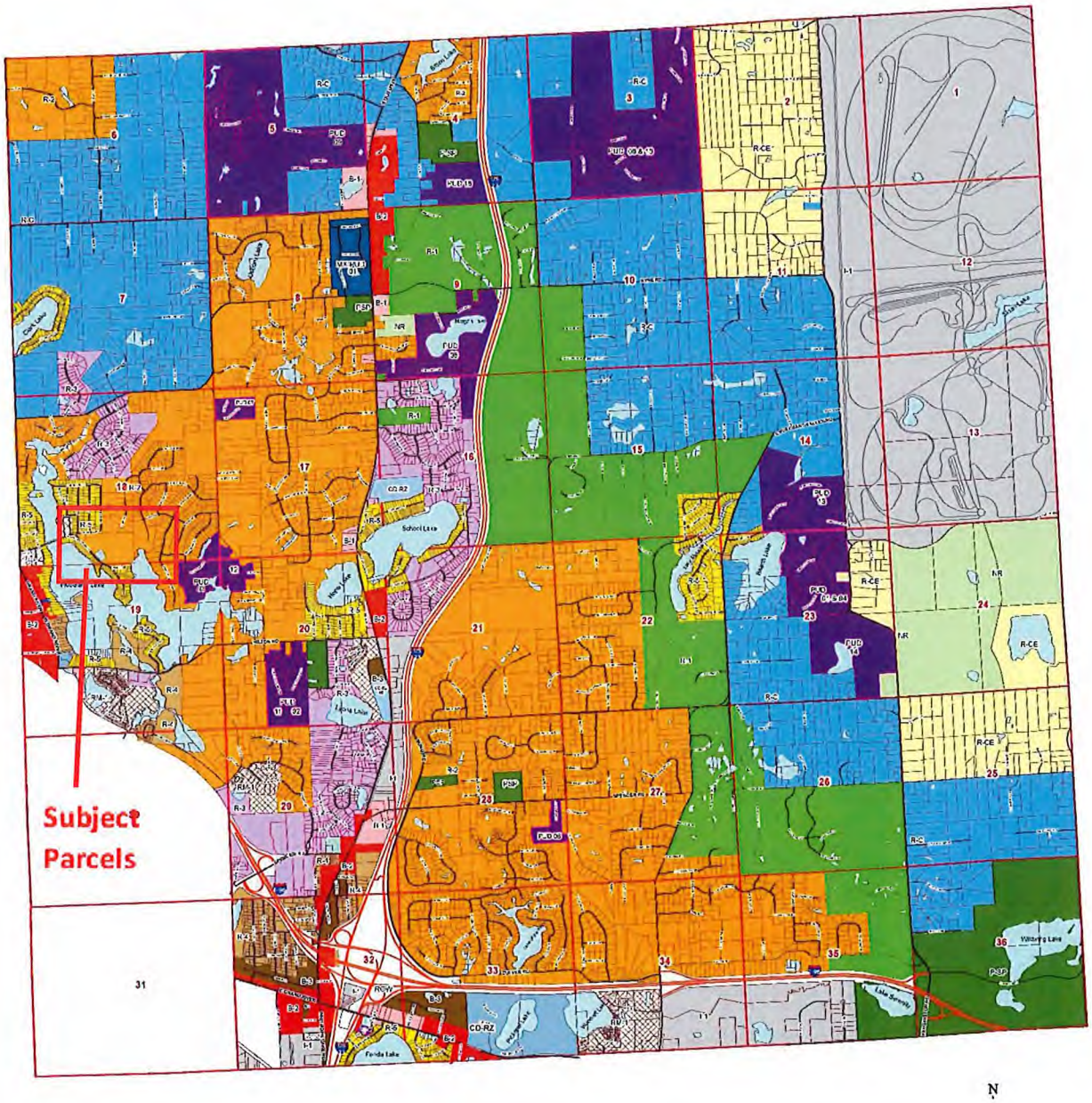
FUTURE LAND USE:

Subject Parcels



ZONING:

CHARTER TOWNSHIP OF BRIGHTON
ZONING DISTRICT MAP



Planner

From:	Logan Connon <ljconnon@gmail.com>
Sent:	Sunday, January 18, 2026 3:49 PM
To:	Manager
Cc:	Planner; Info@woodlandlake.info; Kayla Siemen
Subject:	Request to Deny PUD Rezoning and R2 Baseline Proposal for The Cove at Woodland Lake

Dear Township Trustees,

I am a Brighton Township resident writing to request that the Township Board deny the proposed PUD rezoning and the R-2 proposal for The Cove at Woodland Lake (RZ #25/01) and ask the Planning Commission to reverse its recommendation.

I refer you to the January 12, 2026, letter submitted by the Organization of Woodland Lake (OWL), which outlines clear evidence that the proposed development would significantly increase impervious surface coverage, worsen stormwater runoff, and further degrade the water quality of Woodland Lake—impacts that affect the entire community, not just lakefront residents.

As Township Trustees, you have a responsibility to uphold the Township's adopted Master Plan and protect natural resources that are vital to Brighton Township's quality of life. The health of inland lakes like Woodland Lake directly influences environmental stability, public costs, and long-term property values throughout the township.
The Brighton Township Master Plan emphasizes protecting inland lakes, minimizing impervious surfaces, preserving natural features, and preventing overdevelopment that leads to water quality degradation. The current PUD proposal conflicts with these priorities and sets an unfavorable precedent for future development decisions township wide.

This is not a request to halt growth, but to ensure development is thoughtful, sustainable, and consistent with the Township's adopted planning standards.

For these reasons, I respectfully urge the Township Trustees to deny the PUD rezoning request and the baseline R-2 Plan and direct the Planning Commission to reconsider and reverse its recommendation in favor of a responsible plan.

Additional note:
As new residents in the Woodland Hills neighborhood, we were disappointed to learn about the development plans and proposal that would change the character of the neighborhood we chose in large part due to its quiet streets and large lots. We ask that if any development occurs, it is done in accordance with the existing zoning to maintain the characteristics of our neighborhood. Additionally, as an environmental engineer, Kayla has specific concerns around the additional environmental impact the plan would have on the lake due to increased runoff, pollution from increased boating traffic, etc.

Thank you for your service and consideration.

Sincerely,

Logan Connon and Kayla Siemen
2749 Kathleen Dr
Brighton Township
January 18, 2026

Planner

From: Jennifer Marks <jennifermarks04@gmail.com>
Sent: Tuesday, January 20, 2026 8:02 AM
To: Manager
Cc: Info@woodlandlake.info; Planner
Subject: Proposed Development - Woodland Lake

Dear Township Trustees,

I am writing to you as a riparian property owner on Woodland Lake to urge the Township Board to deny the proposed PUD rezoning for the Cove at Woodland Lake. For the long-term health of our lake, it is imperative that the Planning Commission reverse its recommendation.

The Organization of Woodland Lake (OWL) has collected years of meticulous water quality measurements that indicate a steady decline in the lake's health. To date, riparians have invested millions of dollars into mitigation efforts without financial support from the township, county, or state—all of whom benefit substantially from the Woodland Lake property tax base and public recreational access.

Furthermore, the current development proposal deviates substantially from the Brighton Township Master Plan. This deviation is a major risk to the environmental stability of the lake.

I respectfully request that the Township Trustees deny both the current PUD and the Baseline R-2 Proposal, and direct the Planning Commission to reverse its recommendation.

Thank you for your time and for your commitment to protecting our community's natural resources.

Sincerely,
Jennifer Marks

8365 Hilton Rd
Brighton, MI 48114

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

Dear Township Trustees,

I am a riparian property owner on Woodland Lake and am writing to request that the Township Board **deny the proposed PUD rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake (RZ #25/01) and ask the Planning Commission to reverse its recommendation** in favor of a more responsible development plan.

I respectfully reference the **January 12, 2026, memo submitted by the Organization of Woodland Lake (OWL)**, which documents significant, data-supported concerns related to declining water quality, excessive impervious surface coverage, stormwater runoff, and permanent impacts to Woodland Lake. These impacts directly affect riparian owners who bear the environmental and financial consequences of overdevelopment within the lake's watershed.

As Township Trustees, you have a **duty to uphold the adopted Master Plan and protect the natural features that sustain Brighton Township's quality of life**, including its inland lakes. Protecting Woodland Lake is also central to maintaining long-term property values and the public investment residents have made in this community.

The current PUD proposal and R-2 baseline deviate substantially from the Brighton Township Master Plan, particularly in its failure to limit impervious surfaces, protect natural features, and preserve inland lakes. These are not minor deviations; they pose a long-term risk to the health of Woodland Lake and the surrounding community.

This request is not opposition to development, but a call for **responsible development** that aligns with the Master Plan and protects shared natural resources. Lake residents remain willing to participate constructively in a process that results in an environmentally sound proposal.

For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully, Douglas E Holly Borlace

Name: Douglas and Holly Borlace
Riparian Property Owner, Woodland Lake
Address: 8250 Woodland Shore Drive
Date: 01-18-26

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

Dear Township Trustees,

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For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully,

Name: THOMAS PRINCE

Riparian Property Owner, Woodland Lake

Address: 9068 HUNTER BAY DR, BRIGHTON, MI 48114

Date: 1-19-26

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

Dear Township Trustees,

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For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully,

Name: Valerie Prince VALERIE PRINCE
Riparian Property Owner, Woodland Lake
Address: 9068 HUNTER BAY DRIVE, BRIGHTON, MI 48114
Date: 1-19-26

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com)
Organization of Woodland Lake (O.W.L.) (Info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and R2 Baseline Proposal for The Cove at Woodland Lake

Dear Township Trustees,

I am a Brighton Township resident writing to request that the Township Board **deny the proposed PUD rezoning and the R-2 proposal for The Cove at Woodland Lake (RZ #25/01)** and **ask the Planning Commission to reverse its recommendation**.

I refer you to the **January 12, 2026, letter submitted by the Organization of Woodland Lake (OWL)**, which outlines clear evidence that the proposed development would significantly increase impervious surface coverage, worsen stormwater runoff, and further degrade the water quality of Woodland Lake—impacts that affect the entire community, not just lakefront residents.

As Township Trustees, you have a **responsibility to uphold the Township's adopted Master Plan and protect natural resources that are vital to Brighton Township's quality of life**. The health of inland lakes like Woodland Lake directly influences environmental stability, public costs, and long-term property values throughout the township.

The Brighton Township Master Plan emphasizes protecting inland lakes, minimizing impervious surfaces, preserving natural features, and preventing overdevelopment that leads to water quality degradation. The current PUD proposal conflicts with these priorities and sets an unfavorable precedent for future development decisions township wide.

This is not a request to halt growth, but to ensure development is **thoughtful, sustainable, and consistent with the Township's adopted planning standards**.

For these reasons, I respectfully urge the Township Trustees to **deny the PUD rezoning request** and **the baseline R-2 Plan** and **direct the Planning Commission to reconsider and reverse its recommendation** in favor of a responsible plan.

Thank you for your service and consideration.

Sincerely, Richard C Miles

Name Richard C Miles
Brighton Township Resident
Address; 8335 Hilton Rd Brighton Michigan
Date: 01/18/2026

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

Dear Township Trustees,

I am a riparian property owner on Woodland Lake and am writing to request that the Township Board **deny the proposed PUD rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake (RZ #25/01) and ask the Planning Commission to reverse its recommendation** in favor of a more responsible development plan.

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This request is not opposition to development, but a call for **responsible development** that aligns with the Master Plan and protects shared natural resources. Lake residents remain willing to participate constructively in a process that results in an environmentally sound proposal.

For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully,

Name: Kathleen M Barden
Riparian Property Owner, Woodland Lake
Address: 3036 Hideaway Beach Drive
Date: 1·19·2026

Thank you for your service. May your decision be guided by wisdom and courage.

Manager

From: Howard Dembs <howarddembs@gmail.com>
Sent: Tuesday, January 20, 2026 9:38 AM
To: Manager
Subject: Cove at Woodland

ighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com, Organization of Woodland Lake (info@woodlandlake.info)
Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake Dear Township Trustees, I am a riparian property owner on Woodland Lake and am writing to request that the Township Board deny the proposed PUD rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake (RZ #25/01) and ask the Planning Commission to reverse its recommendation in favor of a more responsible development plan.
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For these reasons, I respectfully ask the Township Trustees to deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.
Thank you for your time and consideration.
Respectfully,
Name:
_____Howard Dembs_____
Riparian Property Owner, Woodland Lake
Address:
_____8469 Woodland Shore Dr_____
Date: ___01/20/26_____

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

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For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully, Sean P Marks

Name: Sean P. Marks
Riparian Property Owner, Woodland Lake
Address: 8365 Hilton Rd., Brighton MI 48114
Date: 1/18/2026

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

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Dear Township Trustees,

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I respectfully reference the **January 12, 2026, memo submitted by the Organization of Woodland Lake (OWL)**, which documents significant, data-supported concerns related to declining water quality, excessive impervious surface coverage, stormwater runoff, and permanent impacts to Woodland Lake. These impacts directly affect riparian owners who bear the environmental and financial consequences of overdevelopment within the lake's watershed.

As Township Trustees, you have a **duty to uphold the adopted Master Plan and protect the natural features that sustain Brighton Township's quality of life**, including its inland lakes. Protecting Woodland Lake is also central to maintaining long-term property values and the public investment residents have made in this community.

The current PUD proposal and R-2 baseline deviate substantially from the Brighton Township Master Plan, particularly in its failure to limit impervious surfaces, protect natural features, and preserve inland lakes. These are not minor deviations; they pose a long-term risk to the health of Woodland Lake and the surrounding community.

This request is not opposition to development, but a call for **responsible development** that aligns with the Master Plan and protects shared natural resources. Lake residents remain willing to participate constructively in a process that results in an environmentally sound proposal.

For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully,

Name: Michele Reynolds
Riparian Property Owner, Woodland Lake
Address: 3103 Causeway Dr, Brighton MI 48114
Date: 1/18/2026

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

Dear Township Trustees,

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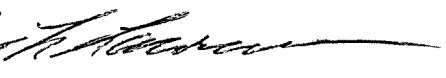
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For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully, 

Name: Stanley L. Lawrence
Riparian Property Owner, Woodland Lake
Address: 3373 Oak Knoll Drive, Brighton 48114
Date: 1/18/2026

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

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For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully, Tony Laubach

Name: Anthony Laubach
Riparian Property Owner, Woodland Lake
Address: 3361 Oak Knoll Drive, Brighton, MI 48114
Date: 1/18/2026

Manager

From: Gary Hamlin <gmhamlin107@gmail.com>
Sent: Monday, January 19, 2026 7:00 AM
To: Manager
Subject: Mitch Harris proposed rezoning

I am sending this email because it's the only way I can express my feelings about the proposed development by Mitch Harris. I've lived on Woodland Lake for 40 yrs now and slowly watched it change from a wonderful quiet fishing lake to a congested waterway best described as like being on an expressway in rush hour traffic. I was 27 yrs old when I bought a cottage on Woodland Shore Drive and over the years I turned it into my forever home with hard work and what little money I had.

I understand that there's no way to stop "progress" and I always knew that property behind our pond would be developed someday. That property was landlocked for years and when Boss engineering bought it for $400,000 dollars I thought that was an incredible bargain even if it was landlocked. Today a fifty foot wide lot sells for that. Boss attempted to rezone that property and the Twp board was brave enough to hold their ground and say no. Money always seems to find a way and the once landlocked property now has an access through the back section and so now is the time that beautiful piece of land gets torn up and developed.

If it must get developed please do the right thing and ensure it's done with the interest of the lake in mind. I know it's difficult to tell a big money developer like Mitch Harris "no" but there's a reason he wants to rezone that property and it's got nothing to do with the quality of Woodland Lake as he won't be living there I can assure you. Another thing that people don't see as they drive by the lake is the clarity of the water. The past three or four years the algae in the lake has gotten terrible. It's only seen in the early morning while the water is calm but it's a green film that sits on top of the water.

I hope I don't sound like an old alarmist but what I have stated is nothing but truth.I worked for a smaller city government, like Brighton, for my lifelong career and I understand that development brings more dollars into the community which in turn makes better benefits and pensions easier to obtain, but at some point the Twp leaders need to stick up for the residents and deny Mitch Harris his rezoning request, he will still make plenty of money on that property!

I know this is long but I hope you take a moment and read it and try and look at this issue from both sides.

Sincerely,
Gary M Hamlin
8424 Woodland Shore Dr.

Manager

From: Tim & JoDee Roberts <jtroberts58@gmail.com>
Sent: Tuesday, January 20, 2026 8:31 AM
To: Manager
Subject: Mitch Harris development on Woodland lake

Dear township planning commision my name is Tim Roberts & I have lived at 9050 Hunter Hunter Bay on Woodland lake for 40 years. I have seen the township & woodland lake grow and develop a LOT. Most of it has been good. But in the last 5 to 10 years it seems like the water quality has gone downhill with things like the Grand River drain and other runoff issues . I'm not against progress but please make Mitch Harris & his group have a responsible runoff and water retention plan. Thank-you Sincerely Tim Roberts

To: Brighton Township Board of Trustees (manager@brightontwp.com)
Cc: Brighton Township Planning Commission (planner@brightontwp.com)
O.W.L. (info@woodlandlake.info)

Re: The Cove at Woodland Lake – RZ #25/01

Subject: Statutory Basis for Denial of PUD and Baseline R-2 Development and Request for Reversal of Planning Commission Recommendation

Dear Township Trustees,

I am a riparian property owner on Woodland Lake and respectfully request that the Brighton Township Board of Trustees **deny the proposed PUD rezoning for The Cove at Woodland Lake (RZ #25/01)** and **direct the Planning Commission to reverse its recommendation**, consistent with the Township's statutory responsibilities and adopted Master Plan.

I reference the **January 12, 2026 memo submitted by the Organization of Woodland Lake (OWL)**, which documents substantial, data-supported concerns regarding declining water quality, excessive impervious surface coverage, stormwater runoff, and permanent environmental impacts to Woodland Lake.

Statutory Responsibilities

Under the **Michigan Zoning Enabling Act (PA 110 of 2006)**, zoning decisions must be made »in.accordance.with.a.plan.designed.to.promote.public.health?safety?and.welfare‹ (**MCL 125.3201(1), p. 9**), and zoning ordinances must be **based on an adopted plan** that gives reasonable consideration to the **conservation of natural resources and property values** (**MCL 125.3203(1), p. 10**).

The **Michigan Planning Enabling Act (PA 33 of 2008)** requires that master plans guide development in a manner that promotes public welfare and ensures the **use of natural resources in accordance with their character and adaptability** (**MCL 125.3807(2)(d)(viii), p. 3**), and that master plans address **waterways, drainage, flood prevention, and pollution prevention** (**MCL 125.3833(2), pp. 7–8**).

Under the **Charter Township Act (PA 359 of 1947), all legislative authority** is vested in the Township Board (**MCL 42.5, p. 4**), and the Act is to be **liberally construed in the interest of public health, safety, and welfare** (**MCL 42.33, p. 20**). The Township is further charged with **stewardship and preservation of township property and assets** (**MCL 42.10, pp. 7–8**).

Master Plan Non-Compliance

As documented in the OWL submission, **neither the proposed PUD nor development under the underlying R-2 Baseline zoning complies with the Brighton Township Master Plan** for this site.

The Master Plan explicitly states:

- **Private road standards should limit road length** to reduce impervious surface coverage (**p. 59**);
- Development should **minimize total impervious area and conserve natural features** (**p. 59**);
- **Vegetated buffers, riparian corridors, and limits on impervious surfaces** are essential to mitigating impacts (**p. 60**); and
- **Protecting the integrity of inland lakes is vital to maintaining quality of life** (**p. 60**).

Both development scenarios substantially exceed these standards.

Regional Planning Commission Rejection

The **Livingston County Planning Commission formally rejected this proposal by a 5–1 vote**, citing environmental and land-use concerns. This independent, regional determination reinforces that the proposed PUD and contemplated R-2 development fail to meet accepted planning standards.

Authority to Limit Buildable Lots

The Township has both the **authority and responsibility** to require development be limited to the number of buildable lots supportable under zoning standards, the Master Plan, and protection of residents and natural resources. Developers are entitled to reasonable use, but not to development intensity that conflicts with adopted policy or causes permanent environmental harm.

Objective limitations include:

- **Land Division Act constraints**, which limit parcel creation based on parent parcel status and statutory criteria; and
- **Master Plan road-length limitations** designed to reduce impervious surface coverage and stormwater impacts (**p. 59**).

Process and Oversight Concerns

I respectfully note concern regarding the administrative recommendation to approve the PUD despite clear Master Plan conflicts, subsequent Planning Commission rejection, and a **5–1 rejection by the Livingston County Planning Commission**. Given the long-term environmental consequences, this warrants careful, independent review by the Township Trustees as the final legislative authority.

Request

For these reasons, I respectfully request that the Brighton Township Board of Trustees:

1. **Deny the proposed PUD rezoning.**
2. **Acknowledge that development under the existing R-2 zoning, as contemplated, also fails to comply with the Master Plan**; and
3. **Direct the Planning Commission to reconsider and reverse its recommendation**, encouraging a development approach consistent with the Master Plan and protective of Woodland Lake.

Thank you for your time and consideration.

Respectfully,

Cheryl Wasilewski

Name: Cheryl Wasilewski

Riparian Property Owner, Woodland Lake

Address: 2621 S. Hacker Road

Date: 1/16/2026

STATUTORY FOOTNOTE APPENDIX

Michigan Zoning Enabling Act (PA 110 of 2006)

- MCL 125.3201(1) – Public health, safety, welfare requirement (p. 9)
- MCL 125.3203(1) – Zoning must be based on a plan; conservation of natural resources and property values (p. 10)

Michigan Planning Enabling Act (PA 33 of 2008)

- MCL 125.3807(2)(d)(viii) – Use of natural resources consistent with character and adaptability (p. 3)
- MCL 125.3833(2) – Waterways, drainage, flood prevention, pollution prevention (pp. 7–8)

Charter Township Act (PA 359 of 1947)

- MCL 42.5 – Legislative authority vested in Township Board (p. 4)
- MCL 42.10 – Stewardship and preservation of township property/assets (pp. 7–8)
- MCL 42.33 – Liberal construction in the interest of public health, safety, and welfare (p. 20)

Planner

From: terri dembs <terri.dembs@gmail.com>
Sent: Tuesday, January 20, 2026 9:48 AM
To: Manager
Cc: Planner; info@woodlandlake.info; Terri Dembs
Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

Dear Township Trustees,

I am a riparian property owner on Woodland Lake and am writing to request that the Township Board deny the proposed PUD rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake (RZ #25/01) and ask the Planning Commission to reverse its recommendation in favor of a more responsible development plan.

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The current PUD proposal and R-2 baseline deviate substantially from the Brighton Township Master Plan, particularly in its failure to limit impervious surfaces, protect natural features, and preserve inland lakes. These are not minor deviations; they pose a long-term risk to the health of Woodland Lake and the surrounding community.

This request is not opposition to development, but a call for responsible development that aligns with the Master Plan and protects shared natural resources. Lake residents remain willing to participate constructively in a process that results in an environmentally sound proposal.

For these reasons, I respectfully ask the Township Trustees to deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.

Thank you for your time and consideration.

Respectfully,

Name: Terri Dembs

Riparian Property Owner, Woodland Lake
Address: 8469 Woodland Shore Drive
Date: 01/20/26

To: Brighton Township Trustees

From: John Boland, OWL

Subject: Coves of Woodland Lake

Good evening.

I want to thank the Township Planning committee and the Township trustees for allowing me the time to present how endangered Woodland Lake is from nutrient loading due to overbuilding around our lake.

From our discussions, a number of opportunities have come to light that would improve the planning process used around lakes and waterways in our township.

The Brighton Township Master Plan was developed, in part, to protect lakes from excessive runoff and nutrient contamination. It defined several Best Management Practices to reach that goal. These include: defining maximum 750 foot Roadway lengths, 40,000 Square Foot minimum lot size, 160 foot minimum lot width, appropriate setbacks, 15% maximum build density and the use of vegetative buffers to absorb nutrients from runoff in developments. Pages 59 and 60 of the Master Plan state that "Studies have shown that over-development, typically defined as over 10% impervious can contribute to overall water quality degradation" and that we "minimize clearing and grading of forests and native vegetation". Additionally, it states "Private Road standards should allow shorter streets to reduce the amount of impervious coverage". The plan goes on to state, "Protecting the integrity of local lakes is vital to maintaining the current quality of life in Brighton Township".

These words are good guidance for developments around inland lakes. There are over 200 studies around the country that conclude overbuilding is the number one contributor to the degradation of water quality in inland lakes being seen around the country. At an average depth of 7.5 feet, our lake is very shallow. This means it is significantly affected by the nutrient runoff from the drains that feed into the lake. We have seen the correlation of the drain contamination levels increase and how they have driven our lakes' contamination levels to double the levels they were in 2007.
The Master Plan guidance is appropriate for all near-water developments, including the Coves of Woodland Lake. The 750 feet of roadway would allow over 9 lots at 160 feet width, or with the 30% bonus for public water and sewer, would allow over 12 PUD units. This is all well-planned protection for our lake. The problem arises when we deviate from those guidelines. The Coves proposals go well beyond the guidelines and will adversely affect the health of the lake and its' wildlife. The Coves plans reflect two approaches. The Baseline plan shows 31 R2 homes, using 3,400 feet of roadway, **4.5 times Master Plan guidance**. The PUD proposal shows 40 residences, uses 2,888 feet of roadway, or **4 times the Master Plan guidance**. These proposals drive 41% to 46% total impervious surfaces across 20 to

25 acres, yielding about 1.7 million gallons of nutrient laden stormwater into our lake for a 100 year rain event. The master plan states that over 10% impervious surface will impact water quality. Any plan over that guidance should have significant environmental buffering and protection to mitigate stormwater runoff impacts. Neither of these proposals enable these protections. Both of these plans will flood the 2.1 acre pond and the homes between the pond and the lake, per Fleis and Vandenbrink's engineering assessment. The Coves proposals go far beyond the Master Plan guidelines and will adversely affect the health of the lake and the wildlife.

The Master Plan is intended for a developer to use, as it would protect the citizen riparians of our lakes more effectively. Studies indicate that the highest level of impervious surfaces that can be mitigated for a development such as the Coves is 25% impervious. We are almost double that level with either proposal. We are concerned that, per statements by the Township, the Master Plan is only guidance and can't be enforced by Brighton Township to protect our citizens and the environment.

We would hope that any developer would respect the Township's master plan and, at a minimum, make modifications that would allow a profitable development, while not damaging the health of the lake nearby. The OWL organization proposed an example proposal for the Coves development that makes an attempt at this approach.

Woodland Lake has significantly more nutrients coming into it than it has vegetation to absorb them, due significantly to the incoming drains. The land where the Coves are intended is the last undeveloped forestation and wetlands remaining around the lake to absorb nutrients in significant amounts. If the Cove development proceeds with either of the current proposals, the Woodland Lake residents will incur substantially more expenses to maintain the lake. From discussions with many other lakes, these will be expensive and with marginal effectiveness. The best protection is prevention. Livingston County Planning overwhelmingly denied the PUD request and recognized, as does the Township, that either of these Cove proposals will have significantly negative repercussions to the lake.

It is clear that the planning system is inadequate. If the goal is to protect the integrity of the lakes, processes must change. Either keep these critical areas protected from development (zone them as undeveloped) or put some legal repercussions to the intent of the Master Plan so the Township has authority to protect the environment, your constituents and the integrity of our natural resources.

Thank you for your consideration

John Boland

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and the Baseline R-2 Proposal for The Cove at Woodland Lake

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For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully, Jake Dadd

Name: Richard C Miles

Riparian Property Owner, Woodland Lake

Address: 8335 Hilton Rd Brighton Michigan

Date: 01/18/2026

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

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Thank you for your time and consideration.

Respectfully,

Name: Constantin Fetelea
Riparian Property Owner, Woodland Lake
Address: 2282 Shore Line Dr
Date: 01/20/2026

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com,
Organization of Woodland Lake (info@woodlandlake.info)

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For these reasons, I respectfully ask the Township Trustees to **deny the current PUD and the Baseline R-2 Proposal request and direct the Planning Commission to reconsider and reverse its recommendation.**

Thank you for your time and consideration.

Respectfully,

Name: Jonathan Larson
Riparian Property Owner, Woodland Lake
Address: 8274 Woodland Shore Dr, Brighton, MI 48114
Date: 01/22/2026

To: Brighton Township Board of Trustees (manager@Brightontwp.com)
Cc: Brighton Township Planning Commission (planner@Brightontwp.com)
Organization of Woodland Lake (O.W.L.) (Info@woodlandlake.info)

Subject: Request to Deny PUD Rezoning and R2 Baseline Proposal for The Cove at Woodland Lake

Dear Township Trustees,

I am a Brighton Township resident writing to request that the Township Board **deny the proposed PUD rezoning and the R-2 proposal for The Cove at Woodland Lake (RZ #25/01)** and **ask the Planning Commission to reverse its recommendation.**

I refer you to the **January 12, 2026, letter submitted by the Organization of Woodland Lake (OWL),** which outlines clear evidence that the proposed development would significantly increase impervious surface coverage, worsen stormwater runoff, and further degrade the water quality of Woodland Lake—impacts that affect the entire community, not just lakefront residents.

As Township Trustees, you have a **responsibility to uphold the Township's adopted Master Plan and protect natural resources that are vital to Brighton Township's quality of life.** The health of inland lakes like Woodland Lake directly influences environmental stability, public costs, and long-term property values throughout the township.

The Brighton Township Master Plan emphasizes protecting inland lakes, minimizing impervious surfaces, preserving natural features, and preventing overdevelopment that leads to water quality degradation. The current PUD proposal conflicts with these priorities and sets an unfavorable precedent for future development decisions township wide.

This is not a request to halt growth, but to ensure development is **thoughtful, sustainable, and consistent with the Township's adopted planning standards**.

For these reasons, I respectfully urge the Township Trustees to **deny the PUD rezoning request** and **the baseline R-2 Plan** and **direct the Planning Commission to reconsider and reverse its recommendation** in favor of a responsible plan.

Thank you for your service and consideration.

Sincerely,



Name Jim Talbott
Brighton Township Resident
Address; 8408 Woodland Shore Dr. Brighton, MI 48114
Date: 1/22/2026

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Assistant to the Township Manager

AGENDA TOPIC: Public Hearing and Adoption of Resolution Confirming the Assessment Roll – Ridgecrest Lane Road Improvement Special Assessment District No. S-I-10-2025

EXPLANATION OF TOPIC:

The final step in the process of creating a special assessment district for Ridgecrest Lane is approval of a resolution which confirms the assessment roll for the project. Prior to voting on the resolution, there must first be a public hearing on the assessment roll. The proposed assessment amount is $16,646.16 per parcel with a ten-year installment schedule. The proposed resolution states that interest will start accruing on June 1, 2026. The interest rate will be 5.40%.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- Resolution 26-TBD
- Assessment Roll
- Supervisor's Certification of the Roll

RECOMMENDATION: Adopt resolution on assessment roll for

SUGGESTED MOTION:
Motion by _____, supported by _____ to adopt Resolution 26-TBD confirming the assessment roll based for the Ridgecrest Lane Road Improvement S.A.D. Number S-I-10-2025.

ROLL CALL VOTE REQUIRED? Yes

RESOLUTION NO. 26-_____
CHARTER TOWNSHIP OF BRIGHTON
LIVINGSTON COUNTY, MICHIGAN
RIDGECREST LANE ROAD IMPROVEMENT
SPECIAL ASSESSMENT DISTRICT S-I-10-2025
Public Act 188 of 1954 Proceedings

PRESENT:

ABSENT:

Motion by _____ and seconded by _____ to adopt Resolution 26-TBD confirming the assessment roll for the Ridgecrest Lane S.A.D. Number S-I-10-2025.

WHEREAS, the Township Board of the Charter Township of Brighton, Livingston County, Michigan, after due and legal notice, has conducted a public hearing upon a proposed assessment roll prepared by the supervisor and assessing officer of the Township for the purpose of road improvements for the assessment of an estimate of the costs of $216,400 for project costs all within the proposed Special Assessment District No. S-I-10-2025 as shown on the plans for such project.

AND WHEREAS, such public hearing was preceded by proper notice in the Livingston County Daily Press & Argus, a newspaper of general circulation in the Township, and by First Class Mail notice to each property owner of record within said district and upon said assessment roll;

TAX IDENTIFICATION NUMBERS:

4712-02-300-016	4712-02-300-018	4712-02-300-021	4712-02-400-023	4712-02-400-026
4712-02-300-017	4712-02-300-014	4712-02-400-024	4712-02-400-016	4712-02-400-013
4712-02-300-015	4712-02-300-020	4712-02-400-025		

AND WHEREAS, comments were received from those present at such public hearing concerning said assessment roll and opportunity to all present to be heard in the matter;

AND WHEREAS, a record of those present to protest, and of written protests submitted at or before the public hearing was made a part of the minutes of the hearing;

AND WHEREAS, the Township Board has duly inspected the proposed assessment roll, alternate methods of apportioning the assessment, and considered all comments and proposed amendments thereto and has found the proposed assessment roll, as amended, to be correct, just and reasonable;

NOW THEREFORE BE IT RESOLVED AS FOLLOWS:

1. The assessment roll submitted by the supervisor and assessing officer of the Township shall hereafter be designated as the **RIDGECREST LANE ROAD IMPROVEMENT SPECIAL ASSESSMENT DISTRICT S-I-10-2025** and shall hereby be confirmed as the assessment roll (the "Special Assessment Roll") for Special Assessment District No. S-I-10-2025.

2. The assessments on the Special Assessment Roll are $16,646.16 per parcel for the project. The Township Board determines that each special assessment may be paid in 10 annual installments, payable as follows:

Installments No. 1 through 10, due December 1,
in the years 2026 through 2034, inclusive: $1,664.62

Installment No. 10, due December 1,
in the year 2035, inclusive: $1,664.58

3. Unpaid installments for the project shall bear interest, payable annually on each installment due date, at a rate of 5.4%, or as otherwise determined by the Township Board in accordance Act 188, Public Acts of Michigan of 1954, as amended ("Act 188"). Interest on such unpaid installments shall accrue from June 1, 2026.

4. Pursuant to Section 12 of Act 188, the Township Board has the right to impose additional pro-rata assessments in the event that the assessments on the Special Assessment Roll prove insufficient for any reason, including the non-collection thereof, to pay for the improvement for which they were made or to pay the principal and interest on the bonds issued in anticipation of the collection of the special assessments.

5. The assessments made in said special assessment roll are hereby ordered and directed to be collected by the Township Treasurer, with billing to occur with the December tax bills. The Township Clerk shall deliver said special assessment roll to said Treasurer with a warrant attached, directing the Treasurer to collect such assessments in accordance with the direction of the Township Board and Act 188.

6. All resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution be and the same are hereby rescinded.

7. That the Township Board adopts Resolution 26-TBD confirming the assessment roll for the Ridgecrest Lane S.A.D. Number S-I-10-2025.

AYES:
NAYS:
ABSENT:

_____ _____

Joseph R. Riker, Clerk Patrick V. Michel, Supervisor

CERTIFICATE

I, Joseph R. Riker, Clerk of the Charter Township of Brighton, County of Livingston, Michigan, do hereby certify that the foregoing is a true and complete copy of the Resolution adopted by the Charter Township of Brighton Board of Trustees on the 26th day of January, 2026.

In witness hereof, I have hereunto affixed my official seal this ## day of Month, Year.

_____

Joseph R. Riker, Clerk

Roll for Year 2025
Population: Special Assessment District (X3310)
Special Population All Active Parcels

Sp. District Heading	Parcel # Owner	Principal Admin Fee	Interest Penalty	Addtl Penlty Cert Fee	Total Installment	Prin Bal Payoff Int	Total Payoff
X3310 RIDGECREST LN RD	4712-02-300-014 HOLINSKI GREGORY & DEBRA 12474 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.16 0.00	16,646.16
X3310 RIDGECREST LN RD	4712-02-300-015 REFALO JULIAN & THERESA TRUST 12440 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.16 0.00	16,646.16
X3310 RIDGECREST LN RD	4712-02-300-016 DINKEL ERIC 12406 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.16 0.00	16,646.16
X3310 RIDGECREST LN RD	4712-02-300-017 HUFF FAMILY TRUST 12417 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.16 0.00	16,646.16
X3310 RIDGECREST LN RD	4712-02-300-018 MCPHEE RONALD & MONICA 12451 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.16 0.00	16,646.16
X3310 RIDGECREST LN RD	4712-02-300-020 GJOLAJ MARK 12479 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15
X3310 RIDGECREST LN RD	4712-02-300-021 DAROCZY JOSEPH & ANITA 12503 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15
X3310 RIDGECREST LN RD	4712-02-400-013 BAYERL JOHN 12671 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15
X3310 RIDGECREST LN RD	4712-02-400-016 DUROCHER DONALD & MICHELLE 12602 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15
X3310 RIDGECREST LN RD	4712-02-400-023 LIGGETT STEPHEN 12544 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15
X3310 RIDGECREST LN RD	4712-02-400-024 RUSSANO CHARLES & ELLEN 12516 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15

Sp. District Heading	Parcel # Owner	Principal Admin Fee	Interest Penalty	Addtl Penlty Cert Fee	Total Installment	Prin Bal Payoff Int	Total Payoff
X3310 RIDGECREST LN RD	4712-02-400-025 MURAWA GARY & LYNN 12533 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15
X3310 RIDGECREST LN RD	4712-02-400-026 JONES JENNA 12619 RIDGECREST LN MILFORD MI 48380	0.00 0.00	0.00		0.00	16,646.15 0.00	16,646.15
Total Parcels: 13		0.00 0.00	0.00		0.00	216,400.00 0.00	216,400.00

1954 PA 188 Proceedings

CERTIFICATE

To the Clerk and Township Board

Brighton Township
Livingston County, Michigan

Dear Officials:

This is to certify that I, Patrick Michel, the Supervisor, has caused the Assessor of Record of Brighton Township, Livingston County, Michigan, to verify the parcels and assessment records for special assessment district **S-I-10-2025**, to be established for the purpose of road paving improvements in the proposed special assessment district for **Ridgecrest Lane**.

I do hereby certify that the assessment roll was made pursuant to the resolution of the Township Board adopted on December 15, 2025, and that in making the assessment roll, according to my best judgment, has conformed in all respects to the directions contained in the resolution and the statutes of this state.

12/30/2025

Patrick Michel, Supervisor Date
Charter Township of Brighton

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Assistant to the Township Manager

AGENDA TOPIC: Public Hearing and Adoption of Resolution Confirming the Assessment Roll – Walking Horse Estates Road Improvement Special Assessment District No. S-I-11-2025

EXPLANATION OF TOPIC:

The final step in the process of creating a special assessment district for Walking Horse Estates is approval of a resolution which confirms the assessment roll for the project. Prior to voting on the resolution, there must first be a public hearing on the assessment roll. The proposed assessment amount is $8,875 per parcel with a ten-year installment schedule. The proposed resolution states that interest will start accruing on June 1, 2026. The interest rate will be 5.40%.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- Resolution 26-TBD
- Assessment Roll
- Supervisor's Certification of the Roll

RECOMMENDATION: Adopt resolution on assessment roll for

SUGGESTED MOTION:
Motion by _____, supported by _____ to adopt Resolution 26-TBD confirming the assessment roll based for the Walking Horse Estates Road Improvement S.A.D. Number S-I-11-2025.

ROLL CALL VOTE REQUIRED? Yes

RESOLUTION NO. 26-_____
CHARTER TOWNSHIP OF BRIGHTON
LIVINGSTON COUNTY, MICHIGAN
WALKING HORSE ESTATES ROAD IMPROVEMENT
SPECIAL ASSESSMENT DISTRICT S-I-11-2025
Public Act 188 of 1954 Proceedings

PRESENT:

ABSENT:

Motion by _____ and seconded by _____ to adopt Resolution 26-TBD confirming the assessment roll for the Walking Horse Estates S.A.D. Number S-I-11-2025.

WHEREAS, the Township Board of the Charter Township of Brighton, Livingston County, Michigan, after due and legal notice, has conducted a public hearing upon a proposed assessment roll prepared by the supervisor and assessing officer of the Township for the purpose of road improvements for the assessment of an estimate of the costs of $145,000 for road paving with the County Road Commission contributing 25% of the costs and the Township contributing 25%, or $2,000 per property, whichever is less, of the project costs all within the proposed Special Assessment District No. S-I-11-2025 as shown on the plans for such project.

AND WHEREAS, such public hearing was preceded by proper notice in the Livingston County Daily Press & Argus, a newspaper of general circulation in the Township, and by First Class Mail notice to each property owner of record within said district and upon said assessment roll;

TAX IDENTIFICATION NUMBERS:

4712-21-402-010	4712-21-402-001	4712-21-402-002	4712-21-402-003	4712-21-402-008
4712-21-402-006	4712-21-402-005	4712-21-402-004	4712-21-402-009	4712-21-402-007

AND WHEREAS, comments were received from those present at such public hearing concerning said assessment roll and opportunity to all present to be heard in the matter;

AND WHEREAS, a record of those present to protest, and of written protests submitted at or before the public hearing was made a part of the minutes of the hearing;

AND WHEREAS, the Township Board has duly inspected the proposed assessment roll, alternate methods of apportioning the assessment, and considered all comments and proposed amendments thereto and has found the proposed assessment roll, as amended, to be correct, just and reasonable;

NOW THEREFORE BE IT RESOLVED AS FOLLOWS:

1. The assessment roll submitted by the supervisor and assessing officer of the Township shall hereafter be designated as the **WALKING HORSE ESTATES ROAD IMPROVEMENT SPECIAL ASSESSMENT DISTRICT S-I-11-2025** and shall hereby be confirmed as the assessment roll (the "Special Assessment Roll") for Special Assessment District No. S-I-11-2025.

2. The assessments on the Special Assessment Roll are $8,875 per parcel for the project. The Township Board determines that each special assessment may be paid in 10 annual installments, payable as follows:

Installments No. 1 through 10, due December 1,
in the years 2026 through 2035, inclusive: $887.50

3. Unpaid installments for the project shall bear interest, payable annually on each installment due date, at a rate of 5.4%, or as otherwise determined by the Township Board in accordance Act 188, Public Acts of Michigan of 1954, as amended ("Act 188"). Interest on such unpaid installments shall accrue from June 1, 2026.

4. Pursuant to Section 12 of Act 188, the Township Board has the right to impose additional pro-rata assessments in the event that the assessments on the Special Assessment Roll prove insufficient for any reason, including the non-collection thereof, to pay for the improvement for which they were made or to pay the principal and interest on the bonds issued in anticipation of the collection of the special assessments.

5. The assessments made in said special assessment roll are hereby ordered and directed to be collected by the Township Treasurer, with billing to occur with the December tax bills. The Township Clerk shall deliver said special assessment roll to said Treasurer with a warrant attached, directing the Treasurer to collect such assessments in accordance with the direction of the Township Board and Act 188.

6. All resolutions and parts of resolutions insofar as they conflict with the provisions of this resolution be and the same are hereby rescinded.

7. That the Township Board adopts Resolution 26-TBD confirming the assessment roll for the Walking Horse Estates S.A.D. Number S-I-11-2025.

AYES:
NAYS:
ABSENT:

_____ _____

Joseph R. Riker, Clerk Patrick V. Michel, Supervisor

CERTIFICATE

I, Joseph R. Riker, Clerk of the Charter Township of Brighton, County of Livingston, Michigan, do hereby certify that the foregoing is a true and complete copy of the Resolution adopted by the Charter Township of Brighton Board of Trustees on the 26th day of January, 2026.

In witness hereof, I have hereunto affixed my official seal this ## day of Month, Year.

_____

Joseph R. Riker, Clerk

Special Assessment Roll for TOWNSHIP OF BRIGHTON

Roll for Year 2025
Population: Special Assessment District (X3244)
Special Population All Active Parcels

Sp. District / Heading	Parcel # / Owner	Principal / Admin Fee	Interest / Penalty	Addtl Penlty / Cert Fee	Total / Installment	Prin Bal / Payoff Int	Total / Payoff
X3244	4712-21-402-001	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	SOOP ROBERT & COLLEEN 3728 HIGHGATE TRL BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-002	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	KOTRBA JEFFREY 3810 HIGHGATE TRL BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-003	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	PEARCE RONALD D 3892 HIGHGATE TRL BRIGHTON MI 48114-8154	0.00				0.00	
X3244	4712-21-402-004	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	SOSZYNSKI JOMARIE REV LIVING TRUST 3811 HIGHGATE TRL BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-005	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	SILVESTRI DINO & JEANNETTE REVOC TR 3731 HIGHGATE TRL BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-006	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	FRANCIS COLLIN 3689 HIGHGATE TRL BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-007	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	HAAS JEFFREY 3647 TRAILS END CT BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-008	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	ROJEWSKI GORDON 3635 TRAILS END CT BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-009	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	GLINZ JASON & JENNIFER 3603 TRAILS END CT BRIGHTON MI 48114	0.00				0.00	
X3244	4712-21-402-010	0.00	0.00		0.00	8,875.00	8,875.00
WALKING HORSE EST	HOLLINGSWORTH MARK & LAURIE 3646 HIGHGATE TRL BRIGHTON MI 48114	0.00				0.00	
Total Parcels: 10		0.00 0.00	0.00		0.00	88,750.00 0.00	88,750.00

1954 PA 188 Proceedings

CERTIFICATE

To the Clerk and Township Board

Brighton Township
Livingston County, Michigan

Dear Officials:

This is to certify that I, Patrick Michel, the Supervisor, has caused the Assessor of Record of Brighton Township, Livingston County, Michigan, to verify the parcels and assessment records for special assessment district **S-I-11-2025**, to be established for the purpose of road repaving improvements in the proposed special assessment district for **Walking Horse Estates**.

I do hereby certify that the assessment roll was made pursuant to the resolution of the Township Board adopted on December 15, 2025, and that in making the assessment roll, according to my best judgment, has conformed in all respects to the directions contained in the resolution and the statutes of this state.

12/30/2025

Patrick Michel, Supervisor Date
Charter Township of Brighton

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Assistant to the Township Manager

AGENDA TOPIC: Road Funding Agreement for Walking Horse Estates

EXPLANATION OF TOPIC:

The Livingston County Road Commission (LCRC) has prepared an agreement for the Walking Horse Estates project. This agreement is contingent upon the confirmation of the special assessment district assessment roll for Walking Horse Estates. The project cost is $145,000. The agreement states that the work shall be done in 2026 and that the Road Commission shall contribute 25% of the costs.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- Proposed Agreement from Road Commission

RECOMMENDATION: Enter into the agreements with the LCRC.

SUGGESTED MOTION:
Motion by _____, supported by _____ to authorize the Township Supervisor and Clerk to sign the Walking Horse Estates project agreement with the Livingston County Road Commission in the amount not-to-exceed of $108,750.

ROLL CALL VOTE REQUIRED? Yes

P R O J E C T A G R E E M E N T

J O B N U M B E R: 489.01.5210BW

This Agreement made and entered into this _____ day of_____, 2025 by and between the TOWNSHIP of BRIGHTON Livingston County, Michigan, hereinafter referred to as "TOWNSHIP" and the BOARD OF COUNTY ROAD COMMISSIONERS OF THE COUNTY OF LIVINGSTON, hereinafter referred to as "ROAD COMMISSION."

W I T N E S S E T H

The Township has selected the following road to be improved as described below:

WALKING HORSE ESTATES
HIGHGATE TRL AND TRAILS END CT
APPROXIMATELY 0.16 MILES
4" HMA CRUSH AND SHAPE
ALTOGETHER WITH THE NECESSARY RELATED WORK

The parties agree as follows:

1. **The Engineer's Opinion of Probable Cost is $145,000. The Township shall pay the Road Commission 75% of the cost of the project not to exceed $108,750.**

   A. The balance shall be paid promptly as invoiced.

   B. The Road Commission shall furnish the Township with a final breakdown of its actual expenses upon completion of the project.

   C. The Township will not withhold payments because of any set-off, counterclaim, or any other claim which it may have against the Road Commission arising out of this or any other matter. If there is a dispute over the balance due upon completion, the Township will pay the amount claimed by the Road Commission, and such payment shall not be a waiver by the Township of any claims it may have arising from this contract and the completion of the project.

2. **All work shall be performed in a good workmanlike manner and in accordance with plans and specifications adopted by the Road Commission.**

3. **The work will be completed in 2026, unless the parties otherwise so agree.**

4. **In the event the project cannot be completed due to circumstances beyond the control of the Road Commission, and through no fault of the Road Commission, the contract price for later completion will be subject to renegotiation.**

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals the date and year first above written.

TOWNSHIP OF BRIGHTON

BY: _____
PATRICK MICHEL, SUPERVISOR

_____
JOSEPH RIKER, CLERK

BOARD OF COUNTY ROAD COMMISSIONERS
OF THE COUNTY OF LIVINGSTON

BY: _____
STEVEN J. WASYLK, MANAGING DIRECTOR

_____
SARAH NEWTON, DIRECTOR OF FINANCE

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Township Manager / Township Planner

AGENDA TOPIC: Acceptance of Hilton Cove lift station and force main infrastructure

EXPLANATION OF TOPIC: As background, Hilton Cove consists of 140 condominium units. The Township is accepting the lift station and force main only at this time. At 80% home Certificate of Occupancies, the Township can accept the gravity sewer and water infrastructure. Hilton Cove has submitted an M&G bond for the lift station and force main.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- GIS map
- Site Plan
- Utility Plan
- Lift Station Details
- 12/10/25 F&V acceptance letter

POSSIBLE COURSES OF ACTION: Accept/not accept recommendation of the Township Engineer to accept the Hilton Cove lift station and force main into the Township's sewer system.

RECOMMENDATION: Accept recommendation of the Township Engineer to accept the Hilton Cove lift station and force main into the Township's sewer system.

SUGGESTED MOTION: Motion by _____, supported by _____ to accept the Hilton Cove lift station and force main into the Township's sewer system.

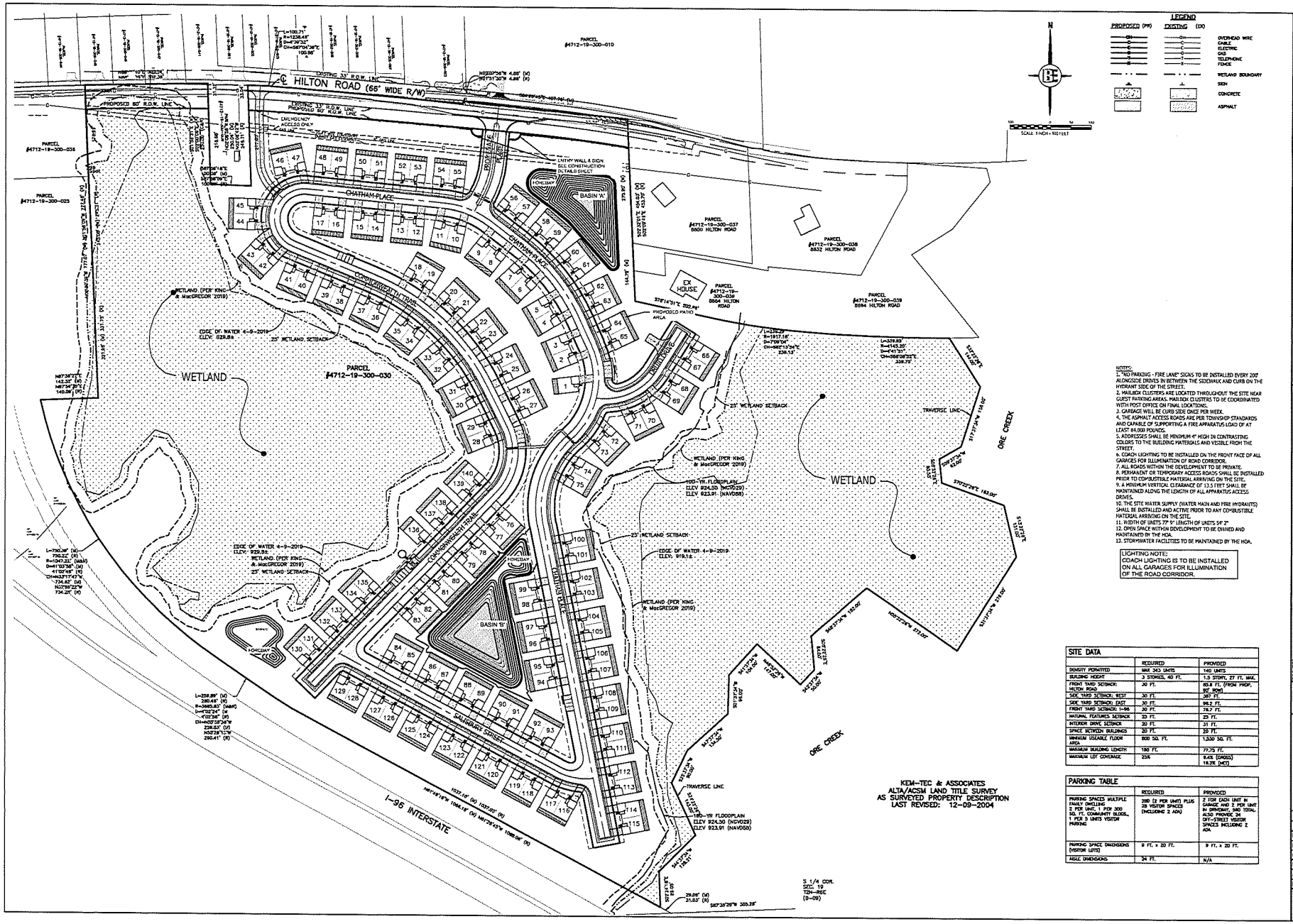
ROLL CALL VOTE REQUIRED? Yes

Hilton Cove



Charter Township of Brighton

0 65 130 260 390 520
Feet



LEGEND

PROPOSED (PR)	EXISTING (EX)
OHW	OVERHEAD WIRE
CATV	CABLE
E	ELECTRIC
G	GAS
T	TELEPHONE
F	FENCE
WETLAND BOUNDARY	
SIGN	
CONCRETE	
ASPHALT	

NOTES:
1. "NO PARKING - FIRE LANE" SIGNS TO BE INSTALLED EVERY 200' ALONGSIDE DRIVES IN BETWEEN THE SIDEWALK AND CURB ON THE HYDRANT SIDE OF THE STREET.
2. MAILBOX CLUSTERS ARE LOCATED THROUGHOUT THE SITE NEAR GUEST PARKING AREAS. MAILBOX CLUSTERS TO BE COORDINATED WITH POST OFFICE ON FINAL LOCATIONS.
3. GARBAGE WILL BE CURB SIDE ONCE PER WEEK.
4. THE ASPHALT ACCESS ROADS ARE PER TOWNSHIP STANDARDS AND CAPABLE OF SUPPORTING A FIRE APPARATUS LOAD OF AT LEAST 84,000 POUNDS.
5. ADDRESSES SHALL BE MINIMUM 4" HIGH IN CONTRASTING COLORS TO THE BUILDING MATERIALS AND VISIBLE FROM THE STREET.
6. COACH LIGHTING TO BE INSTALLED ON THE FRONT FACE OF ALL GARAGES FOR ILLUMINATION OF ROAD CORRIDOR.
7. ALL ROADS WITHIN THE DEVELOPMENT TO BE PRIVATE.
8. PERMANENT OR TEMPORARY ACCESS ROADS SHALL BE INSTALLED PRIOR TO COMBUSTIBLE MATERIAL ARRIVING ON THE SITE.
9. A MINIMUM VERTICAL CLEARANCE OF 13.5 FEET SHALL BE MAINTAINED ALONG THE LENGTH OF ALL APPARATUS ACCESS DRIVES.
10. THE SITE WATER SUPPLY (WATER MAIN AND FIRE HYDRANTS) SHALL BE INSTALLED AND ACTIVE PRIOR TO ANY COMBUSTIBLE MATERIAL ARRIVING ON THE SITE.
11. WIDTH OF UNITS 77' 5" LENGTH OF UNITS 54' 2"
12. OPEN SPACE WITHIN DEVELOPMENT TO BE OWNED AND MAINTAINED BY THE HOA.
13. STORMWATER FACILITIES TO BE MAINTAINED BY THE HOA.

LIGHTING NOTE:
COACH LIGHTING IS TO BE INSTALLED ON ALL GARAGES FOR ILLUMINATION OF THE ROAD CORRIDOR.

KEM-TEC & ASSOCIATES
ALTA/ACSM LAND TITLE SURVEY
AS SURVEYED PROPERTY DESCRIPTION
LAST REVISED: 12-09-2004

SITE DATA

	REQUIRED	PROVIDED
DENSITY PERMITTED	MAX 343 UNITS	140 UNITS
BUILDING HEIGHT	3 STORIES, 40 FT.	1.5 STORY, 27 FT. MAX.
FRONT YARD SETBACK: HILTON ROAD	30 FT.	85.9 FT. (FROM PROP. 60' ROW)
SIDE YARD SETBACK: WEST	30 FT.	207 FT.
SIDE YARD SETBACK: EAST	30 FT.	98.2 FT.
FRONT YARD SETBACK: I-96	30 FT.	78.7 FT.
NATURAL FEATURES SETBACK	25 FT.	25 FT.
INTERIOR DRIVE SETBACK	20 FT.	21 FT.
SPACE BETWEEN BUILDINGS	20 FT.	20 FT.
MINIMUM LIVEABLE FLOOR AREA	800 SQ. FT.	1,230 SQ. FT.
MAXIMUM BUILDING LENGTH	180 FT.	77.75 FT.
MAXIMUM LOT COVERAGE	25%	8.4% (GROSS) 18.3% (NET)

PARKING TABLE

	REQUIRED	PROVIDED
PARKING SPACES MULTIPLE FAMILY DWELLING 2 PER UNIT, 1 PER 300 SQ. FT. COMMUNITY BLDGS., 1 PER 3 UNITS VISITOR PARKING	280 (2 PER UNIT) PLUS 28 VISITOR SPACES (INCLUDING 2 ADA)	2 FOR EACH UNIT IN GARAGE AND 2 PER UNIT IN DRIVWAY, 280 TOTAL. ALSO PROVIDE 34 OFF-STREET VISITOR SPACES INCLUDING 2 ADA
PARKING SPACE DIMENSIONS (VISITOR LOTS)	9 FT. x 20 FT.	9 FT. x 20 FT.
AISLE DIMENSIONS	24 FT.	N/A

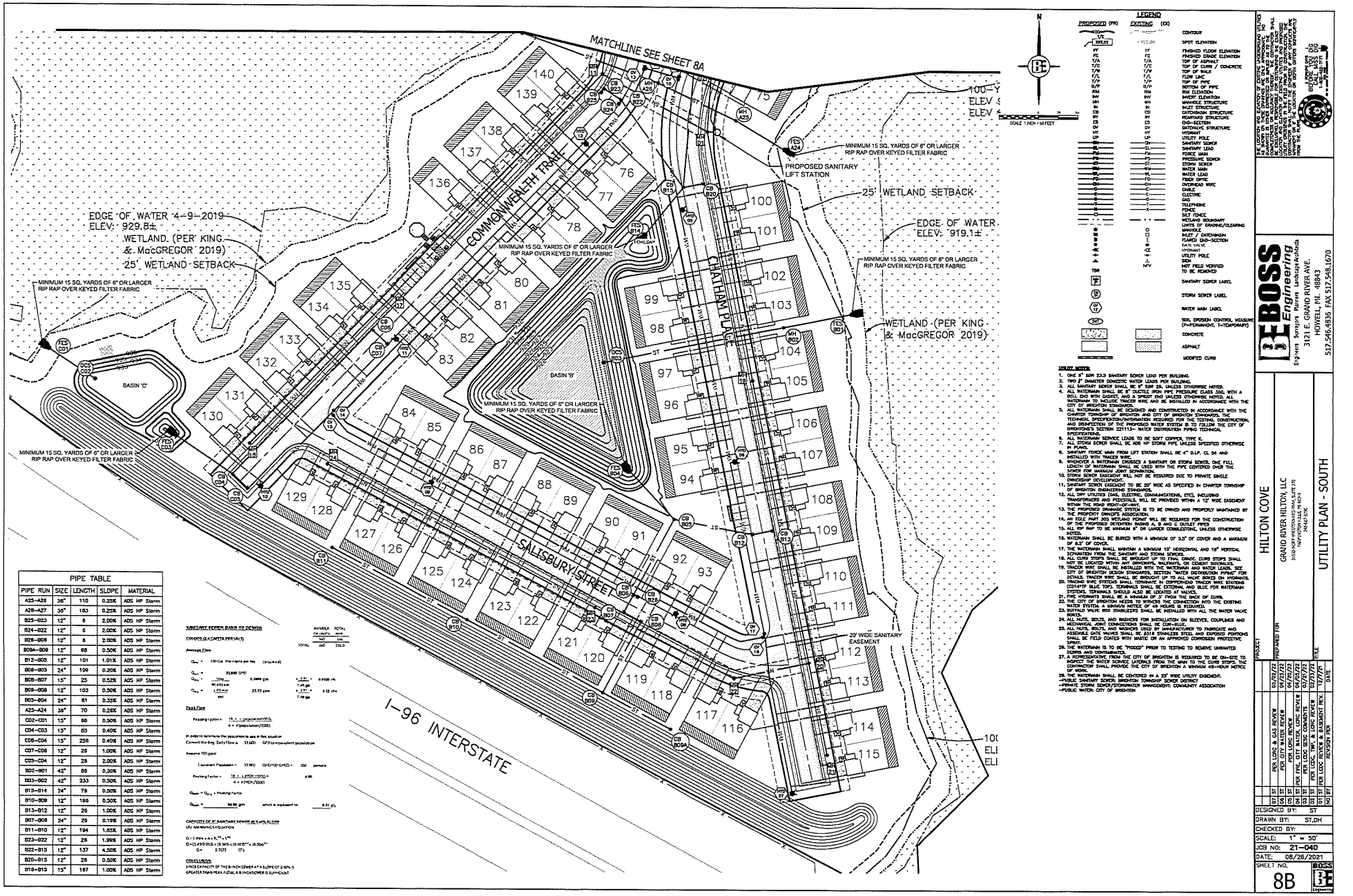
BE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN HEREON ARE APPROXIMATE ONLY. THE CONTRACTOR IS REQUIRED TO CONTACT ALL UTILITIES PRIOR TO THE START OF CONSTRUCTION AND HAVE THEM LOCATE AND STAKE THEIR RESPECTIVE UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OBSERVED OR NOT OBSERVED, STAKED OR NOT STAKED, IN THE FIELD PRIOR TO OR DURING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY BE IMMEDIATELY IF ANY DIFFERENCE EXISTS BETWEEN THE UTILITIES SHOWN ON THESE PLANS AND THE LOCATION AND/OR DEPTH OF UTILITIES IN THE FIELD.

BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.546.1670

PROJECT: HILTON COVE
PREPARED FOR: GRAND RIVER HILTON, LLC
33533 NORTHWESTERN HWY., STE 175
FARMINGTON HILLS, MI 48334
248.667.1270
TITLE: SITE PLAN OVERALL

NO	DATE	REVISION PER
01	04/07/22	PER LDSC & DRC REVIEW
02	04/20/22	PER LDSC REVIEW
03	04/20/22	PER LDSC REVIEW
04	04/20/22	PER ENG, CITY WATER, LDSC REVIEW
05	07/01/22	PER LDSC REVIEW
06	07/07/22	PER LDSC COMMENTS
07	07/27/22	PER LDSC, TWP, & LDSC REVIEW
08	08/26/21	PER LDSC, TWP, & LDSC REVIEW

DESIGNED BY: ST
DRAWN BY: ST,DH
CHECKED BY:
SCALE: 1" = 100'
JOB NO: 21-040
DATE: 08/26/2021
SHEET NO. 7



PIPE TABLE				
PIPE RUN	SIZE	LENGTH	SLOPE	MATERIAL
A25–A26	36"	110	0.25%	ADS HP Storm
A26–A27	36"	183	0.25%	ADS HP Storm
B25–B23	12"	5	2.00%	ADS HP Storm
B24–B22	12"	5	2.00%	ADS HP Storm
B26–B08	12"	5	2.00%	ADS HP Storm
B09A–B09	12"	98	0.50%	ADS HP Storm
B12–B03	12"	101	1.01%	ADS HP Storm
B06–B03	24"	109	0.20%	ADS HP Storm
B05–B07	15"	25	0.52%	ADS HP Storm
B09–B08	12"	103	0.50%	ADS HP Storm
B03–B04	24"	81	0.35%	ADS HP Storm
A25–A24	36"	70	0.28%	ADS HP Storm
C02–C01	15"	88	0.50%	ADS HP Storm
C04–C03	15"	85	0.40%	ADS HP Storm
C06–C04	15"	236	0.40%	ADS HP Storm
C07–C06	12"	28	1.00%	ADS HP Storm
C05–C04	12"	28	2.00%	ADS HP Storm
B02–B01	42"	86	0.30%	ADS HP Storm
B03–B02	42"	333	0.50%	ADS HP Storm
B13–B14	24"	78	0.50%	ADS HP Storm
B10–B09	12"	199	0.50%	ADS HP Storm
B13–B12	12"	26	1.00%	ADS HP Storm
B07–B06	24"	26	0.19%	ADS HP Storm
B11–B10	12"	194	1.65%	ADS HP Storm
B23–B22	12"	28	1.96%	ADS HP Storm
B22–B15	12"	137	4.50%	ADS HP Storm
B20–B15	12"	28	0.50%	ADS HP Storm
B16–B15	12"	167	1.00%	ADS HP Storm

SANITARY SEWER BASIS OF DESIGN

CONDOS (2.4 CAPITA PER UNIT)

	NUMBER OF UNITS	TOTAL
	MID	MID
TOTAL	140	336.0

Average Flow

Q_{ave} = 100 Gal. (Per capita per day) (Maximum) × 336 (Number of) = 33,600 GPD

Q_{ave} = 33,600 GPD / 1440 min/day = 23.33 gpm × 1.5* = 35.00 gpm × 1.5** = 52.50 gpm

Q_{ave} = 23.33 gpm / 60 sec = 0.3889 cfs × 1.5* = 0.5833 cfs × 1.5** = 0.875 cfs

Peak Flow

Peaking factor = $\frac{18 + \sqrt{(population/1000)}}{4 + \sqrt{(population/1000)}}$

In order to determine the population to use in the equation Convert the Avg. Daily Flow = 33,600 GPD to equivalent population

Assume 100 gpcd

Equivalent Population = 33,600 GPD/100 GPCD = 336 persons

Peaking Factor = $\frac{18 + \sqrt{(POP/1000)}}{4 + \sqrt{(POP/1000)}}$ = 4.85

$Q_{peak} = Q_{avg} \times$ Peaking Factor

Q_{peak} = 56.66 gpm which is equivalent to 0.91 cfs

CAPACITY OF 8" SANITARY SEWER @ 0.40% SLOPE
(AS MANNING'S EQUATION

$Q = 1.49/n \times a \times R_h^{2/3} \times S^{1/2}$

$Q = (1.49/0.013) \times (0.349 \times (0.167)^{2/3} \times (0.004)^{1/2}$

$Q =$ 0.7677 cfs

CONCLUSION

SINCE CAPACITY OF THE 8-INCH SEWER AT A SLOPE OF 0.40% IS GREATER THAN PEAK FLOW, A 8-INCH SEWER IS SUFFICIENT

UTILITY NOTES:

1. ONE 6" SDR 23.5 SANITARY SEWER LEAD PER BUILDING.
2. TWO 1" DIAMETER DOMESTIC WATER LEADS PER BUILDING.
3. ALL SANITARY SEWER SHALL BE 8" SDR 26, UNLESS OTHERWISE NOTED.
4. ALL WATERMAIN SHALL BE 6" DUCTILE IRON PIPE, PRESSURE CLASS 350, WITH A BELL END WITH GASKET, AND A SPIGOT END, UNLESS OTHERWISE NOTED. ALL WATERMAIN TO INCLUDE TRACER WIRE AND BE INSTALLED IN ACCORDANCE WITH THE CITY OF BRIGHTON STANDARDS.
5. ALL WATERMAIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE BRIGHTON AND CITY OF BRIGHTON STANDARDS. THE STANDARD SPECIFICATION/INFORMATION REQUIRED FOR TESTING, CONSTRUCTION, AND DISINFECTION OF THE PROPOSED WATER SYSTEM IS TO FOLLOW THE CITY OF BRIGHTON'S SECTION 22113– WATER DISTRIBUTION PIPING TECHNICAL SPECIFICATIONS.
6. ALL WATERMAIN SERVICE LEADS TO BE SOFT COPPER, TYPE K.
7. ALL STORM SEWER SHALL BE ADS HP STORM PIPE UNLESS SPECIFIED OTHERWISE ON PLANS.
8. SANITARY FORCE MAIN FROM LIFT STATION SHALL BE 4" D.I.P. CL 54 AND INSTALLED WITH TRACER WIRE.
9. WHENEVER A WATERMAIN CROSSES A SANITARY OR STORM SEWER, ONE FULL LENGTH OF WATERMAIN SHALL BE LOCATED WITH THE PIPE CENTERED OVER THE SEWER FOR MAXIMUM JOINT SEPARATION.
10. STORM SEWER EASEMENT WILL NOT BE REQUIRED DUE TO PRIVATE SINGLE OWNERSHIP DEVELOPMENT.
11. SANITARY SEWER EASEMENT TO BE 20' WIDE AS SPECIFIED IN CHARTER TOWNSHIP OF BRIGHTON ENGINEERING STANDARDS.
12. ALL DRY UTILITIES (GAS, ELECTRIC, COMMUNICATIONS, ETC), INCLUDING TRANSFORMERS AND PEDESTALS, WILL BE PROVIDED WITHIN A 12' WIDE EASEMENT WITHIN THE ROAD RIGHT-OF-WAY.
13. THE PROPOSED DRAINAGE SYSTEM IS TO BE OWNED AND PROPERLY MAINTAINED BY THE PROPERTY OWNER'S ASSOCIATION.
14. AN EGLE PART 303 WETLAND PERMIT WILL BE REQUIRED FOR THE CONSTRUCTION OF THE PROPOSED DETENTION BASINS A, B AND C OUTLET PIPES
15. ALL RIP RAP TO BE MINIMUM 6" OR LARGER COBBLESTONE, UNLESS OTHERWISE NOTED.
16. WATERMAIN SHALL BE BURIED WITH A MINIMUM OF 5.5' OF COVER AND A MAXIMUM OF 8.5' OF COVER.
17. THE WATERMAIN SHALL MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION FROM THE SANITARY AND STORM SEWERS.
18. ALL CURB STOPS SHALL BE BROUGHT UP TO FINAL GRADE. CURB STOPS SHALL NOT BE LOCATED WITHIN ANY DRIVEWAYS, RAILWAYS, OR CONCRETE SIDEWALKS.
19. TRACER WIRE SHALL BE INSTALLED WITH THE WATERMAIN AND WATER LEADS. SEE CITY OF BRIGHTON DESIGN STANDARDS, SECTION "WATER DISTRIBUTION PIPING" FOR DETAILS. TRACER WIRE SHALL BE BROUGHT UP TO ALL VALVE BOXES OR HYDRANTS. TRACING WIRE SYSTEMS SHALL TERMINATE IN COMPROMISE TRACER WIRE STATIONS (CDI HTP TWS). TERMINALS SHALL BE DETONAL AND BLUE FOR WATERMAIN SYSTEMS. TERMINALS SHOULD ALSO BE LOCATED AT VALVES.
20. FIRE HYDRANTS SHALL BE A MINIMUM OF 3' FROM THE BACK OF CURB.
21. THE CITY OF BRIGHTON NEEDS TO WITNESS THE CONNECTION INTO THE EXISTING WATER SYSTEM. A MINIMUM NOTICE OF 48 HOURS IS REQUIRED.
22. BUFFALO VALVE BOX STABILIZERS SHALL BE INSTALLED WITH ALL THE WATER VALVE BOXES.
23. ALL NUTS, BOLTS, AND WASHERS FOR INSTALLATION ON SLEEVES, COUPLINGS AND MECHANICAL JOINT CONNECTIONS SHALL BE 316—BLUE.
24. ALL NUTS, BOLTS, AND WASHERS USED BY MANUFACTURER TO FABRICATE AND ASSEMBLE GATE VALVES SHALL BE 316 STAINLESS STEEL AND EXPOSED PORTIONS SHALL BE FIELD COATED WITH MASTIC OR AN APPROVED CORROSION PROTECTIVE SPRAY.
25. THE WATERMAIN IS TO BE "PIGGED" PRIOR TO TESTING TO REMOVE UNWANTED FLUIDS AND CONTAMINATES.
26. A REPRESENTATIVE FROM THE CITY OF BRIGHTON IS REQUIRED TO BE ON-SITE TO INSPECT THE WATER SERVICE LATERALS FROM THE MAIN TO THE CURB STOPS. THE CONTRACTOR SHALL PROVIDE THE CITY OF BRIGHTON A MINIMUM 48-HOUR NOTICE OF WORK.
27. THE WATERMAIN SHALL BE CENTERED IN A 20' WIDE UTILITY EASEMENT.
—PUBLIC SANITARY SEWER: BRIGHTON TOWNSHIP SEWER DISTRICT
—PRIVATE STORM SEWER/STORMWATER MANAGEMENT: COMMUNITY ASSOCIATION
—PUBLIC WATER: CITY OF BRIGHTON

03/07/22	ST	PER LDRS, & GAS REVIEW	
04/25/22	ST	PER CITY WATER REVIEW	
04/25/22	ST	PER LDRS REVIEW	
04/30/22	ST	PER FIRE, CITY WATER, LDRC REVIEW	
05/31/22	ST	PER LDRS SESC COMMENTS	
06/23/22	ST	PER LDRC, TWP, & LDRS REVIEW	
07/27/22	KD/ST	PER LDRC REVIEW & SUBSEQUENT REV.	
DATE	BY	DESCRIPTION	

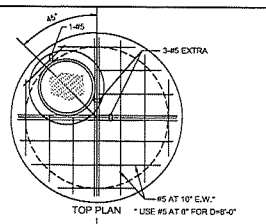
DESIGNED BY: ST
DRAWN BY: ST,DH
CHECKED BY:
SCALE: 1" = 50'
JOB NO: 21—040
DATE: 08/26/2021
SHEET NO. 8B

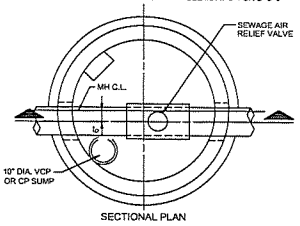
BOSS Engineering
Engineers Surveyors Planners Landscape Architects
3121 E. GRAND RIVER AVE.
HOWELL, MI. 48843
517.546.4836 FAX 517.546.1670

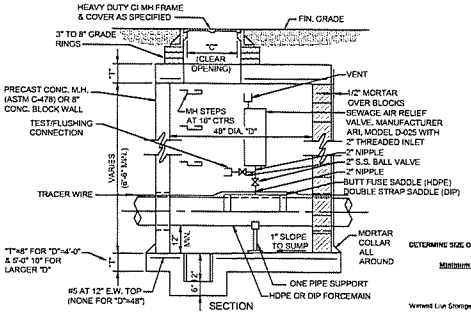
PROJECT: HILTON COVE
PREPARED FOR: GRAND RIVER HILTON, LLC
3133 FORT PRESTON HILLS PKWY, SUITE 270
FORT PRESTON, GA 30041
404-627-3276
TITLE: UTILITY PLAN - SOUTH

BE LOCATION AS TO EXACT OF EXISTING UNDERGROUND UTILITIES SHOWN ON THIS PLAN IS NOT GUARANTEED BY THE ENGINEER OR SURVEYOR. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING ALL UTILITIES PRIOR TO EXCAVATION TO VERIFY THE EXACT LOCATION OF ALL UTILITIES AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OBSERVED IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS BEFORE PROCEEDING WITH CONSTRUCTION.

I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MICHIGAN.
SCOTT A. TOMAN
PROFESSIONAL ENGINEER
DATE: 12/23/21







NOTE: ALL PLUMBING MATERIALS TO BE NON-CORROSIVE, ALL FITTINGS SHALL BE STAINLESS STEEL.

AIR RELIEF STRUCTURE

SANITARY SEWER BASIS OF DESIGN

CONDOS (2.4 CAPITA PER UNIT)

	NUMBER OF UNITS	TOTAL POP.
	140	336
TOTAL	140	336.0

Average Flow

Q_{avg} = 100 Gal. Per capita per day (assumed)

Q_{avg} = 33,600 GPD

Q_{avg} = 1day / 86,400 sec × 0.3889 gpc × 1 ft³ / 7.48 gal = 0.0520 cfs

Q_{avg} = x GD min / sec × 33.33 gpm × 1 ft³ / 7.48 gal = 3.12 cfm

Peak Flow

Peaking Factor = $\frac{18 + \sqrt{(population/1000)}}{4 + \sqrt{(population/1000)}}$

In order to determine the population to use in this equation

Convert the Avg. Daily Flow o 33,600 GPD to equivalent population

Assume 100 gpcd

Equivalent Population = 33,600 GPD/100 GPCD = 336 persons

Peaking Factor = $\frac{18 + \sqrt{(POP./1000)}}{4 + \sqrt{(POP./1000)}}$ = 4.06

$Q_{peak} = Q_{avg}$ x Peaking Factor

Q_{peak} = 94.66 gpm which is equivalent to 0.21 cfs

DETERMINE SIZE OF WETWELL

Minimum Storage Time = 10 min.

Q_{avg} = 94.66 gpm

Wetwell Live Storage Volume (WLSV) = Peak Flow x Minimum Time/Vol = 236.66 gal / Volume (in feet) = 31.64 ft³

Diameter of wetwell = 6 ft.

Area = π = 28.27 ft²

Depth = Vol./Area = 1.12 ft.

Q_{avg} = 33.33 gpm

Max. Storage Time = WLSV/ Q_{avg} = 10.14 min

Set lag pump on/high water alarm 2.5 minutes above pump on and 10 minutes below invert

2.5 min. x Q_{avg} = 236.66 gal = 31.64 ft³ / Vol in 2.5 min / Area = 1.12 ft.

10 min. x Q_{avg} = 333.33 gal = 31.19 ft³ / Vol in 10 min / Area = 1.10 ft.

Finish Grade Elevation = 933.50 ft.

Invert Elevation Pump Chamber = 920.00 ft.

Lag pump on/High water alarm = 918.00 ft.

Pump on at Elev = 917.78 ft.

Pump off at Elev = 916.68 ft.

Low Level Alarm/Cut-off Elev = 915.84 ft.

Inside Bottom Elev Pump Chamber (1.25' below cut-off) = 914.29 ft.

4" Forcemain Out = 938.80 ft.

High Point in Forcemain Elev = 938.80 ft.

STORAGE TIME (LIVE STORAGE =236.66 GAL)

Peak Flow = 94.66

Average Flow = 33.33

@ Average Flow : Live Storage/Average Flow = 236.66 Gal/33.33 GPM = 10.1425 Minutes Fill Time

While Pumping : Peak Flow Out - Average Flow in = 94.66 GPM - 33.33 GPM = 71.33 GPM Out

Live Storage/Flow While Pumping = 236.66 Gal/71.33 GPM = 3.3178 Minutes to Empty

Thus, total cycle time is 13.4828926 minutes.

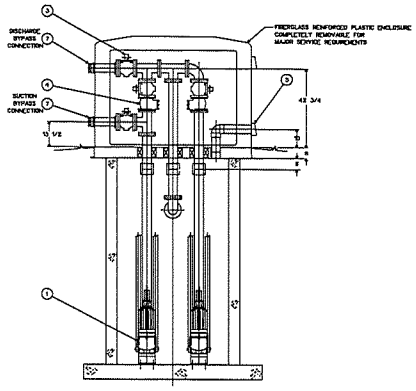
STATIC HEAD

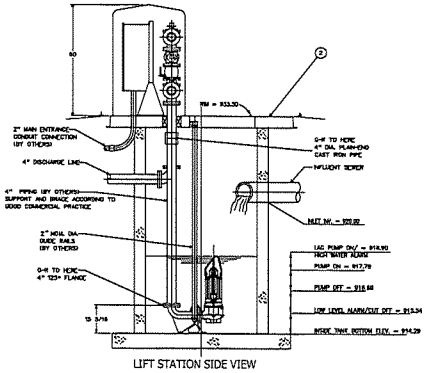
Max. Static Head = 21.84 ft

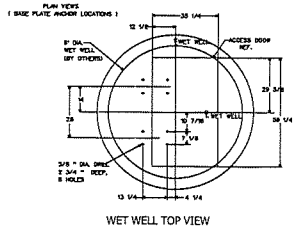
Min. Static Head = 20.72 ft

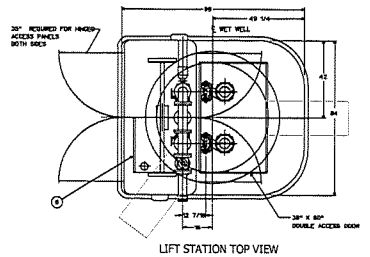
BUOYANCY CALCULATION FOR LIFT STATION

	WEIGHT (DOWN FORCE)		BUOYANCY (UP FORCE)	
GROUNDWATER ELEVATION	924.50		924.50	
MANHOLE DIAMETER	6.00 ft.			
MANHOLE FINISH ELEVATION	933.50		933.50	
MANHOLE TOP DIAMETER	7.50		7.50	
MANHOLE TOP THICKNESS	0.50		0.50	
BOTTOM OF MANHOLE TOP	933.00		933.00	
WEIGHT OF MH TOP		3202.952 lbs.		0 lbs.
TOP ELEVATION OF BARREL	933.00		933.00	
MANHOLE BARREL OUTER DIAMETER	7.50		7.50	
MANHOLE BARREL INNER DIAMETER	6.00		6.00	
BOTTOM ELEVATION OF BARREL	914.29		914.29	
WEIGHT OF BARREL		43149.19 lbs.		28147.0928 lbs.
TOP ELEVATION OF BOTTOM	914.29		914.29	
MANHOLE BOTTOM DIAMETER	8.00		8.00	
MANHOLE BOTTOM THICKNESS	0.50		0.50	
BOTTOM OF MANHOLE BOTTOM	913.79		913.79	
WEIGHT OF MH BOTTOM		3644.247 lbs.		1588.28 lbs.
WEIGHT OF MATERIAL ABOVE MH BOTTOM		0.00 lbs.		
TOP OF CONCRETE	914.29		914.29	
DIMENTIONS OF HOLE	10.00		10.00	
CONCRETE THICKNESS	0.50		0.50	
BOTTOM OF HOLE	913.79		913.79	
WEIGHT OF CONCRETE		3805.75 lbs.		1591.72 lbs.
CU.YD. OF CONCRETE		0.9 cu. Yd.		
WEIGHT OF MATERIAL ABOVE CONCRETE		7474.57 lbs.		
TOTAL WEIGHT		61075.21 lbs.		31287.99 lbs.
	1.95			
SAFETY FACTOR AGAINST UPLIFT>1.5	NO G.W. UPLIFT	O.K.		









NOTE:
THE GORMAN-RUPP PUMP STATION EQUIPMENT AND PUMPS WILL HAVE THREE PHASE POWER.

NOTE:
PUMP STATION TO BE EQUIPPED WITH THE FOLLOWING:
- POWER SUPPLY W/ BATTERY BACKUP (QTY 1) ASTRODYNE "AD55-8DRL" 24VDC POWER SUPPLY AND (QTY 2) POWER SONIC "EP-SLA12-1.2" 12VDC BATTERIES
- CELL MODEM (QTY 1) SIERRA WIRELESS "LX60" CELL MODEM
- ANTENNA (QTY 1) GET WIRELESS "457-08" DIRECTIONAL ANTENNA
- REMOTE I/O MODULE (QTY 1) "ADAM-6251" 16 DIGITAL INPUT MODULE
- REMOTE I/O MODULE (QTY 1) "ADAM-6217" 8 ANALOG INPUT MODULE

NOTE:
THE FOLLOWING TERMINAL CONTACTS IN THE GORMAN-RUPP PUMP STATION CONTROL PANEL FOR SIGNALS TO THE KISM SCADA PANEL WILL BE PROVIDED:
1. PUMP 1 RUNNING
2. PUMP 2 RUNNING
3. PUMP 1 FAILURE
4. PUMP 2 FAILURE
5. HIGH WATER ALARM
6. LOW WATER ALARM
7. POWER FAILURE
8. STATION ENCLOSURE LOW TEMPERATURE ALARM
9. BACK-UP FLOAT SYSTEM ACTIVATION
10. WET WELL LEVEL (4 - 20 MA SIGNAL)

ITEM	DESCRIPTION	MATL & SIZE
1	PUMP	CAST IRON
2	BASE	CAST CONCRETE
3	PLUG VALVE	CAST IRON 4"
4	CHECK VALVE	CAST IRON 4"
5	WETWELL VENT	PVC 4"
6	CONTROL PANEL	STEEL
7	GPM ADAPTER	ALUMINUM

DUPLEX SUBMERSIBLE PUMPS FOR 8' DIA. WET WELL GAS SHOWING OR 8' DIA. WET WELL
4" PIPING BY SUBITEM 6 DISCHARGE BYPASS CONNECTION

USED WITH MODELS: SPV3A, SPV3B, SPV4A, SPV4B, SPV4C, SPV4D, SPV4E

BE LOCATE NO EXCAVATION OF EXISTING UNDERGROUND UTILITIES SHALL BE DONE UNTIL ALL UTILITIES HAVE BEEN LOCATED AND MARKED AS TO LOCATION BY THE RESPECTIVE UTILITY COMPANIES OR THEIR AUTHORIZED AGENTS. IT SHALL BE CONTRACTOR'S RESPONSIBILITY TO NOTIFY MISS DIG 3 WORK DAYS PRIOR TO EXCAVATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES OWNED BY THE LOCATION OR MISS DIG APPROVED SERVICE AGENTS WHETHER OR NOT THEY ARE SHOWN ON THE PLANS.

MISS DIG
3 WORK DAYS
CALL 811
OR
1-800-482-7171

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

PROJECT: HILTON COVE

PREPARED FOR: GRAND RIVER HILTON, LLC
3150 KAT-MEETOSA HIGHWAY, SUITE 225
OKEMOS, MICHIGAN 48864
248.487.5295

TITLE: LIFTSTATION DETAILS

		DATE
07	ST	PER LODC & GAS REVIEW	03/01/22
06	ST	PER CITY WATER REVIEW	04/20/22
05	ST	PER LODC COMMENTS	05/13/22
04	ST	PER FIRE, CITY WATER, LOPC REVIEW	06/13/22
03	BY	PER LOPC SEWER COMMENTS	06/27/22
02	BY	PER LOPC, TWP. & LOPC REVIEW	07/27/22
01	ST	PER LOPC REVIEW & EASEMENT REV.	12/7/22
NO	BY	ADDENDUM #1	DATE

DESIGNED BY: ST
DRAWN BY: ST
CHECKED BY:
SCALE: NO SCALE
JOB NO: 21-040
DATE: 08/26/2021
SHEET NO. 33

BOSS Engineering

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

December 10, 2025

Kelly Mathews, Township Planner
Charter Township of Brighton
4363 Buno Road
Brighton, MI 48114-9298

RE: Hilton Cove
Final Completion/Acceptance Consideration – Pump Station and Force Main
F&V Project 853291

Dear Kelly:

Per your request, we have reviewed this project for consideration of Final Completion and Final Acceptance of the sanitary pump station and force main. As discussed, it is desired for the Township to take over the ownership and responsibility of the pump station and force main at this time. There are no outstanding punch list items related to this infrastructure, and Final Completion and Final Acceptance can be considered once the following items are provided:

1. As-Builts of the Pump Station and Force Main
2. Easement(s) granted to Brighton Township for the Pump Station and Force Main
3. A M&G bond for the pump station and force main in the amount of $244,525

Draft easements should be provided for review prior to execution and recording. The bond shall be effective for two years from the date of Final Acceptance.

In accordance with the Township's Engineering Standards, consideration of Final Completion and Final Acceptance of the public sanitary sewer (gravity portion) and water main will be considered once the project reaches 80% build out (based on certificates of occupancy). **Only the sanitary pump station and force main are being considered for Final Completion and Final Acceptance as this time**. Once 80% buildout is reached, a separate M&G bond will be required for the public gravity sanitary sewer, as well as the public water main, as part of final completion and final acceptance for that infrastructure. It is the responsibility of the Developer to inform the Township and our office once the 80% building threshold has been reached for the commencement of that process.

If you have any questions or need any additional information, please contact us at (810) 743-9120 or via e-mail at grose@fveng.com at your earliest convenience.

Sincerely,

FLEIS & VANDENBRINK

Geric L. Rose, PE, PS
Regional Manager, Associate

Cc (via email): Brian Vick, Township Manager
Don Cucco (dcucco@mshapirorealestate.com)
Dan Cabage, F&V

27725 Stansbury Blvd, Suite 195
Farmington Hills, MI 49334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Township Manager / Township Planner

AGENDA TOPIC: Acceptance of Allor Landing water infrastructure

EXPLANATION OF TOPIC: As background, Allor Landing consists of five (5) live-work units. At 80% home Certificate of Occupancies, the Township can accept the water. Allor Landing has submitted a water M&G bond.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- GIS map
- 10/14/25 e-mail water completion
- Utility Drawings

POSSIBLE COURSES OF ACTION: Accept/not accept recommendation of the Township Engineer to accept Allor Landing into the Township's water system. Allor Landing has submitted a water M&G bond.

RECOMMENDATION: Accept recommendation of the Township Engineer to accept Allor Landing into the Township's water system. Allor Landing has submitted a water M&G bond.

SUGGESTED MOTION: Motion by _____, supported by _____ to accept Allor Landing into the Township's water system. Allor Landing has submitted a water M&G bond.

ROLL CALL VOTE REQUIRED? Yes

Allor Landing



Charter Township of Brighton

0 20 40 80 120 160
Feet

Archived: Monday, December 8, 2025 2:20:03 PM
From: Jozwik, Kari
Sent: Tuesday, October 14, 2025 3:46:02 PM
To: Planner
Subject: Re: Allor Landing DA Building Water Main Construction W Grand River
Importance: Normal
Sensitivity: None

Yes. The water installation has been completed.

Thanks,

Kari

Kari L. Jozwik, PE* (hear name) | Civil Engineering and Landscape Discipline Leader
*Registered in CO, DE, IL, IN, MI, MN, MT, ND, NY, OH, OK, OR, PA, WA, WI
Pronouns: she, her, hers
Direct **+1 (810) 225-8439** | Business **+1 (810) 220-2112** | Mobile **+1 (810) 360-9842** | kari.jozwik@tetratech.com

Chat with me on Teams

Tetra Tech | *Leading with Science®* | High Performance Buildings Group
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From: Planner <planner@brightontwp.com>
Sent: Monday, October 13, 2025 3:37 PM
To: Jozwik, Kari <Kari.Jozwik@tetratech.com>
Subject: Allor Landing DA Building Water Main Construction W Grand River

⚠? **CAUTION:** This email originated from an external sender. Verify the source before opening links or attachments. ⚠?

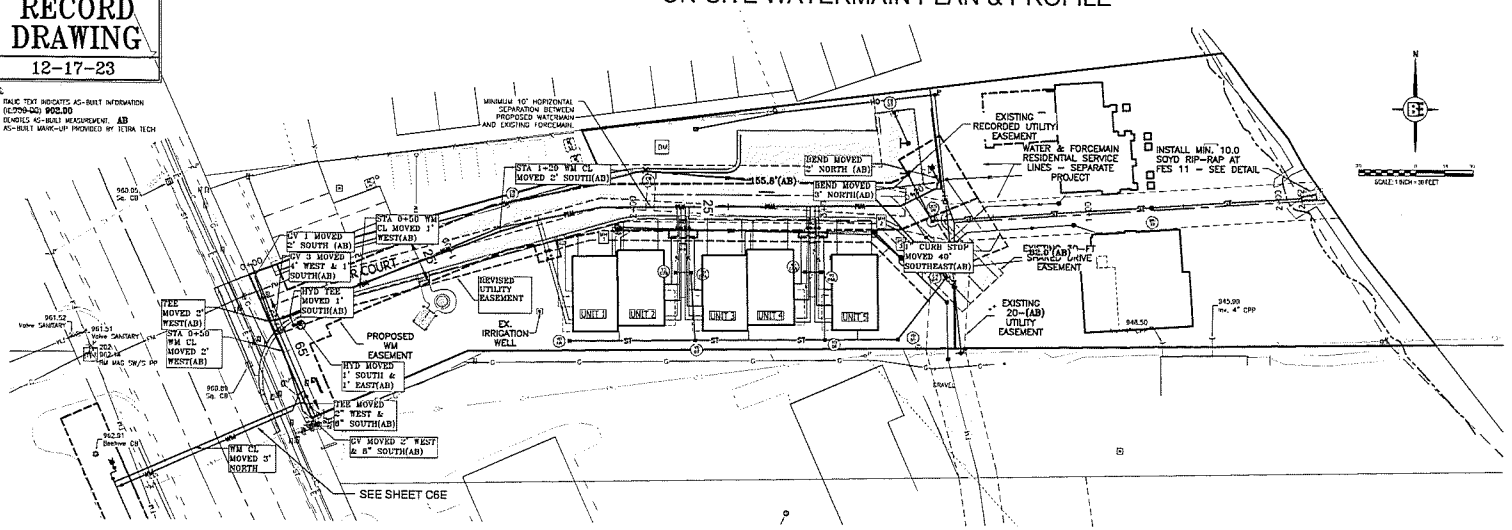
Have you signed off on the installation of the above? Thanks.

Kelly Mathews
Township Planner
Charter Township of Brighton
4363 Buno Road
Brighton, MI 48114
Phone: (810) 229-0562
Fax: (810) 229-1778

RECORD DRAWING
12-17-23

NOTES:
1. ITALIC TEXT INDICATES AS-BUILT INFORMATION (EX.700-00) 902.00
2. BEARINGS AS-BUILT MEASUREMENT. AB
3. AS-BUILT MARK-UP PROVIDED BY TETRA TECH

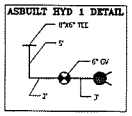
ON-SITE WATERMAIN PLAN & PROFILE



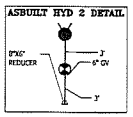
LEGEND

PROPOSED (PR)	EXISTING (EX)	
930	930	CONTOUR
T/C		STORM DRAINAGE FLOW
XXX.XX	XXX.XX	SPOT ELEVATION
FFE	FFE	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/B	T/A	TOP OF BANK (SWALE)
T/CURB	T/CURB	TOP OF CURB
T/CONC	T/CONC	TOP OF CONCRETE
T/WALK	T/WALK	TOP OF WALK
T/WALL	T/WALL	TOP OF WALL
B/WALL	B/WALL	BOTTOM OF WALL
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
GV	GV	GATEVALVE STRUCTURE
HYD	HYD	HYDRANT
UP	UP	UTILITY POLE
INSTALL		PROVIDE AND INSTALL
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
		MANHOLE
		INLET / CATCHBASIN
		FLARED END-SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
X	X	FENCE
SIGN	SIGN	SIGN
TBR	NFV	NOT FIELD VERIFIED TO BE REMOVED
SN #1		SANITARY SEWER LABEL
ST #1		STORM SEWER LABEL
GV 12		WATER MAIN LABEL
541		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		DRAINAGE LIMITS
		GRADING LIMITS
		CONCRETE
		ASPHALT / MDOT ASPHALT
		GRAVEL
		STANDARD 24" CURB AND GUTTER
		MODIFIED 24" CURB & GUTTER
		STD. 3' MOUNABLE CURB & GUTTER
		MOD 3' MOUNABLE CURB & GUTTER

ASBUILT HYD 1 DETAIL



ASBUILT HYD 2 DETAIL



Crossing Data Table			
6	BP	945.18	ST
	TP	941.48	WM
	CLEARANCE	3.70	FEET
7	BP	943.17	ST
	TP	941.67	WM
	CLEARANCE	1.50	FEET

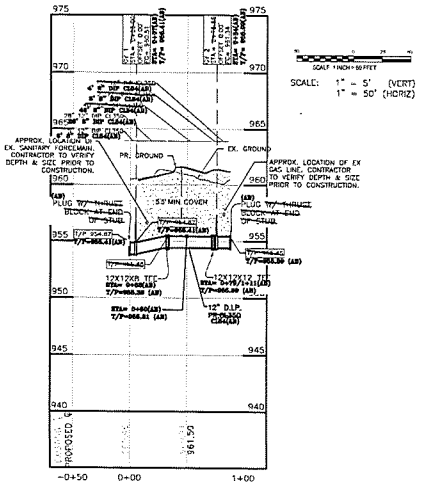
WATERMAIN UTILITY NOTES:

1. ONE 1" DIA. DOMESTIC WATER LEAD PER UNIT (2 PER BLDG) & 1, 2" DIA FIRE SUPPRESSION WATER LEAD PER UNIT (2 PER BLDG) (SEE GENERAL UTILITY NOTES).
2. ALL WATERMAIN SHALL BE PC 350 WITH; A BELL END WITH GASKET, AND A SPIGOT END UNLESS OTHERWISE NOTED. ALL WATERMAIN TO INCLUDE TRACER WIRE AND BE INSTALLED IN ACCORDANCE WITH THE CITY OF BRIGHTON STANDARDS.
3. ALL ON-SITE WATERMAIN SHALL BE 8" DIP. ALL OFF-SITE WATERMAIN SHALL BE 14" HDPE DIPS DR11 (GRAND RIVER CROSSING 12" DIP).
4. ALL WATERMAIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CHARTER TOWNSHIP OF BRIGHTON AND CITY OF BRIGHTON STANDARDS. THE TECHNICAL SPECIFICATION/INFORMATION REQUIRED FOR THE TESTING, CONSTRUCTION, AND DISINFECTION OF THE PROPOSED WATER SYSTEM IS TO FOLLOW THE CITY OF BRIGHTON'S'S SECTION 221113- WATER DISTRIBUTION PIPING TECHNICAL SPECIFICATIONS.
5. ALL WATERMAIN SERVICE LEADS TO BE SOFT COPPER, TYPE K (TO CURB STOP).
6. WHENEVER A WATERMAIN CROSSES A SANITARY OR STORM SEWER, ONE FULL LENGTH OF WATERMAIN SHALL BE USED WITH THE PIPE CENTERED OVER THE SEWER FOR MAXIMUM JOINT SEPARATION.
7. WATERMAIN SHALL BE BURIED WITH A MINIMUM OF 5.5' OF COVER AND A MAXIMUM OF 8.5' OF COVER.
8. THE WATERMAIN SHALL MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION FROM THE SANITARY AND STORM SEWERS.
9. ALL CURB STOPS SHALL BE BROUGHT UP TO FINAL GRADE. CURB STOPS SHALL NOT BE LOCATED WITHIN ANY DRIVEWAYS, WALKWAYS, OR CEMENT SIDEWALKS UNLESS OTHERWISE INDICATED.
10. TRACER WIRE SHALL BE INSTALLED WITH THE WATERMAIN AND WATER LEADS. SEE CITY OF BRIGHTON DESIGN STANDARDS, SECTION "WATER DISTRIBUTION PIPING" FOR DETAILS. TRACER WIRE SHALL BE BROUGHT UP TO ALL VALVE BOXES ON HYDRANTS.
11. TRACING WIRE SYSTEMS SHALL TERMINATE IN COPPERHEAD TRACER WIRE STATIONS (CD14-TP BLUE TOP). TERMINALS SHALL BE EXTERNAL AND BLUE FOR WATERMAIN SYSTEMS. TERMINALS SHOULD ALSO BE LOCATED AT VALVES.
12. FIRE HYDRANTS SHALL BE A MINIMUM OF 3' FROM THE BACK OF CURB.
13. THE CITY OF BRIGHTON NEEDS TO WITNESS THE CONNECTION INTO THE EXISTING WATER SYSTEM. A MINIMUM NOTICE OF 48 HOURS IS REQUIRED.
14. ALL VALVES - EXCEPT TAPPING SLEEVE TO EXISTING WATERMAIN - SHALL BE GATE VALVES & BOXES PER CITY OF BRIGHTON STANDARD DETAILS.
15. BUFFALO VALVE BOX STABILIZERS SHALL BE INSTALLED WITH ALL THE WATER VALVE BOXES.
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17. ALL NUTS, BOLTS, AND WASHERS USED BY MANUFACTURER TO FABRICATE AND ASSEMBLE GATE VALVES SHALL BE #316 STAINLESS STEEL AND EXPOSED PORTIONS SHALL BE FIELD COATED WITH MASTIC OR AN APPROVED CORROSION PROTECTIVE SPRAY.
18. THE WATERMAIN IS TO BE "PIGGED" PRIOR TO TESTING TO REMOVE UNWANTED DEBRIS AND CONTAMINATES.
19. A REPRESENTATIVE FROM THE CITY OF BRIGHTON IS REQUIRED TO BE ON-SITE TO INSPECT THE WATER SERVICE LATERALS FROM THE MAIN TO THE CURB STOPS. THE CONTRACTOR SHALL PROVIDE THE CITY OF BRIGHTON A MINIMUM 48-HOUR NOTICE OF WORK.
20. THE WATERMAIN SHALL BE CENTERED IN A 25' WIDE UTILITY EASEMENT.

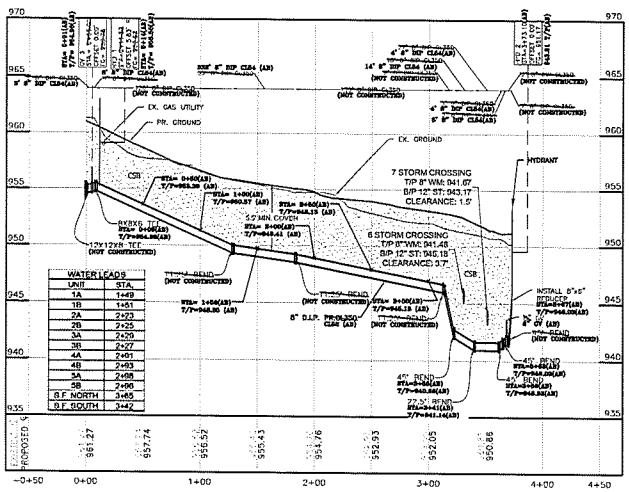
GENERAL UTILITY NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE BRIGHTON TOWNSHIP, CITY OF BRIGHTON (WATER ONLY) LIVINGSTON COUNTY, AND THE STATE OF MICHIGAN.
2. CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING ANY WORK.
3. ALL PIPE LENGTHS SHOWN ARE FROM CL TO CL OR STRUCTURE OR FROM OPEN END OF FLARED END SECTION.
4. ALL STORM SEWER PIPE SHALL BE C-76 CLASS IV RCP WITH WATERTIGHT PREMIUM JOINTS, UNLESS OTHERWISE NOTED.
4. ALL OPEN INLETS OR OUTLET END OF STORM SEWER & CULVERTS SHALL INCLUDE A PREFAB FLARED SECTION & RIP-RAP PER TOWNSHIP STANDARD (DETAIL SHEET C13)
5. ALL STORM SEWER MHS & CBS SHALL INCLUDE INSTALLATION OF 6-IN DIA. BY 4-FT LONG PERFORATED PIPE WITH INVERT TO MATCH THE OUTLET PIPE INVERT ELEVATION.
6. ALL STORM CB INVERTS ARE AT FLOW LINE.
7. CONTRACTOR SHALL MAINTAIN MIN. 18-IN VERTICAL CLEARANCE BETWEEN ALL UTILITY CROSSINGS.
8. DOMESTIC & FIRE SUPPRESSION WATER SERVICES - LIVE WORK UNITS 1-5: ONE, 2" TYPE 'K' COPPER AND ONE, 1" TYPE 'K' COPPER TAPS OFF MAIN TO INDIVIDUAL CURB STOPS, 24" MIN. SEPARATION. EACH LINE AFTER CURB STOPS, MATERIAL SHALL BE SDR 9 250psi CTS POLY FOR EACH LINE. MIN. 1" SERVICE STUBS TO SF LOTS.
9. THE PROPOSED STORM DRAINAGE SYSTEM IS TO BE OWNED AND PROPERLY MAINTAINED BY THE PROPERTY OWNER.
10. THE PROPOSED SANITARY FORCEMAIN SHALL BE TURNED OVER TO THE TOWNSHIP UPON COMPLETION, TESTING & ACCEPTANCE.
11. THE PROPOSED WATERMAIN SHALL BE TURNED OVER TO THE CITY OF BRIGHTON UPON COMPLETION, TESTING & ACCEPTANCE.
12. TWO (2) EXISTING RESIDENTIAL WELLS TO BE ABANDONED PER LIVINGSTON COUNTY REGULATIONS. A THIRD WELL INSTALLED IN 2021 TO REMAIN & BE UTILIZED FOR LANDSCAPE IRRIGATION SYSTEM. DESIGN OF SYSTEM TO BE DESIGN-BUILD BY IRRIGATION CONTRACTOR.
13. ADDITIONAL SPECIFICATIONS, PLAN & PROFILES, GRAPHIC DETAILS, CALCS, & NOTES ARE CONTAINED ON THE FOLLOWING SHEETS:
    - C5 OVERALL GRADING & DRAINAGE
    - C6B & C12A - SANITARY FORCEMAIN
    - C6C, C12C & C13 - STORM WATER
    - C6D, C6E, C6F & C12B WATER MAIN

WM STUBS



ON-SITE WATERMAIN



NOTE:
ANY WORK WITHIN THE GRAND RIVER AVENUE RIGHT-OF-WAY WILL REQUIRE A WORK PERMIT THROUGH THE LIVINGSTON COUNTY ROAD COMMISSION (LCRC)

F&V PROJECT #857651

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

PROJECT: ALLOR LANDING
PREPARED FOR: DA BUILDING LLC
10818 LIGHTHOUSE PT. SOUTH LYON, MI 48178
248-250-1258

NO.	BY	DESCRIPTION	DATE
1	KS	PER REVIEW COMMENTS	12-5-22
2	JW	PER REVIEW COMMENTS	1-11-23
3	KS	PER REVIEW COMMENTS	5-15-23
4	KS	PER REVIEW COMMENTS	12-18-23
5	PC	PER SITE PLAN COMMENTS	4-1-23
6	KS	PER REVIEW COMMENTS	4-14-23

12-23-23
4-24-23

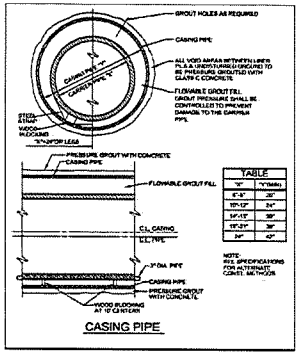
DESIGNED BY: ST
DRAWN BY: JP
CHECKED BY: ST
SCALE: AS NOTED
JOB NO. 20-299
DATE 9-9-22
SHEET NO. C6D

TITLE: WATERMAIN PLAN AND PROFILE

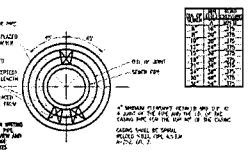
OFF-SITE WATERMAIN PLAN & PROFILE

RECORD DRAWING
12-17-23

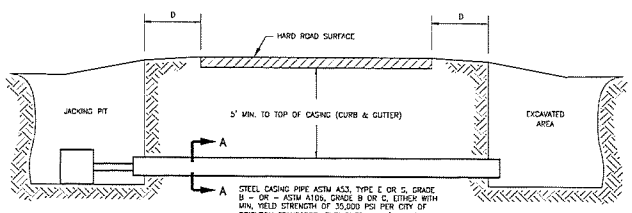
NOTES:
1. ITALIC TEXT INDICATES AS-BUILT INFORMATION (CONSTRUCTED) 9100.00
2. DENOTES AS-BUILT MEASUREMENT. AB
3. AS-BUILT MARK-UP PROVIDED BY TETRA TECH



CASING PIPE



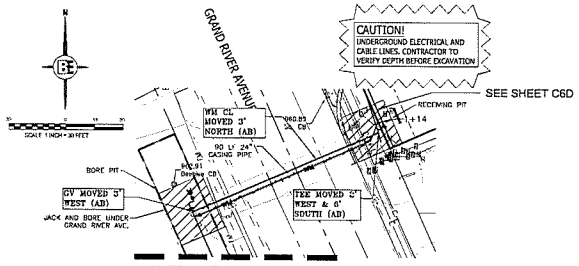
PIPE BARREL SUPPORT FOR SANITARY SEWER CONSTRUCTED IN CASING PIPE

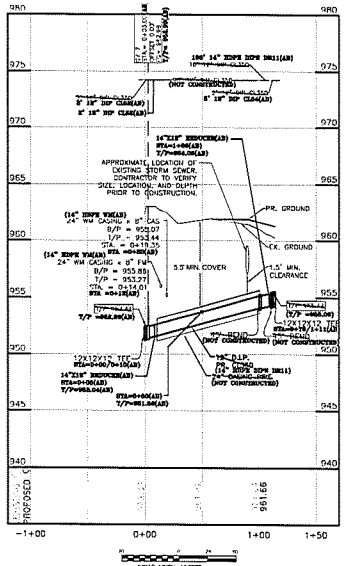


STEEL CASING PIPE ASTM A53, TYPE E OR S, GRADE B - OR - ASTM A106, GRADE B OR C, EITHER WITH MIN. YIELD STRENGTH OF 35,000 PSI PER CITY OF BRIGHTON STANDARDS. FURNISHED IN 20' LENGTHS, PREPARED FOR FIELD WELD.

D = 10' TOP CURB AND GUTTER STREETS

PLAN VIEW
BORE & JACKING DETAIL





SCALE: 1" = 5' (VERT)
1" = 50' (HORIZ)

LEGEND

PROPOSED (PR)	EXISTING (EX)	
100	100	CONTOUR
T/C		STORM DRAINAGE FLOW
XX.XX	XX.XX	SPOT ELEVATION
FFT	FFE	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/B	T/W	TOP OF BANK (SWALE)
T/CURB	T/CURB	TOP OF CURB
T/CONC	T/CONC	TOP OF CONCRETE
T/WALK	T/WALK	TOP OF WALK
T/WALL	T/WALL	TOP OF WALL
B/WALL	B/WALL	BOTTOM OF WALL
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
GV	GV	GATEVALVE STRUCTURE
HYD	HYD	HYDRANT
UP	UP	UTILITY POLE
INSTALL		PROVIDE AND INSTALL
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE
	O	MANHOLE
		INLET / CATCHBASIN
		FLARED END-SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
X	X	FENCE
		SIGN
TBR	NFV	NOT FIELD VERIFIED TO BE REMOVED
SN 1'		SANITARY SEWER LABEL
ST 12"		STORM SEWER LABEL
GV 12"		WATER MAIN LABEL
SAT		SOIL EROSION CONTROL MEASURE (P=PERMANENT, T=TEMPORARY)
		SILT FENCE
		DRAINAGE LIMITS
		GRADING LIMITS
		CONCRETE
		ASPHALT / MDOT ASPHALT
		GRAVEL
		STANDARD 7/4" CURB AND GUTTER
		MODIFIED 7/4" CURB & GUTTER
		STD. 3' MOUNTABLE CURB & GUTTER AND 3' MOUNTABLE CURB & GUTTER
		CASING PIPE
		BORE/RECEIVE PIT

GENERAL WATER MAIN UTILITY NOTES:

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2. CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING ANY WORK.
3. CONTRACTOR SHALL MAINTAIN MIN. 18-IN VERTICAL CLEARANCE BETWEEN ALL UTILITY CROSSINGS.
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   - CS OVERALL GRADING & DRAINAGE
   - C6B & C12A - SANITARY FORCEMAIN
   - C6C, C12C & C13 - STORM WATER
   - C6D, C6E, C6F & C12B WATER MAIN

WATERMAIN UTILITY NOTES:

1. ONE 1" DIA. DOMESTIC WATER LEAD PER UNIT (2 PER BLDG) & 1, 2" DIA FIRE SUPPRESSION WATER LEAD PER UNIT (2 PER BLDG) (SEE GENERAL UTILITY NOTES).
2. ALL WATERMAIN SHALL BE PC 350 WITH; A BELL END WITH GASKET, AND A SPIGOT END UNLESS OTHERWISE NOTED. ALL WATERMAIN TO INCLUDE TRACER WIRE AND BE INSTALLED IN ACCORDANCE WITH THE CITY OF BRIGHTON STANDARDS.
3. ALL ON-SITE WATERMAIN SHALL BE 8" DIP. ALL OFF-SITE WATERMAIN SHALL BE 14" HDPE DIPS DR11 (GRAND RIVER CROSSING 12" DIP).
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5. ALL WATERMAIN SERVICE LEADS TO BE SOFT COPPER, TYPE K (TO CURB STOP).
6. WHENEVER A WATERMAIN CROSSES A SANITARY OR STORM SEWER, ONE FULL LENGTH OF WATERMAIN SHALL BE USED WITH THE PIPE CENTERED OVER THE SEWER FOR MAXIMUM JOINT SEPARATION.
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8. THE WATERMAIN SHALL MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION FROM THE SANITARY AND STORM SEWERS.
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12. FIRE HYDRANTS SHALL BE A MINIMUM OF 3' FROM THE BACK OF CURB.
13. THE CITY OF BRIGHTON NEEDS TO WITNESS THE CONNECTION INTO THE EXISTING WATER SYSTEM. A MINIMUM NOTICE OF 48 HOURS IS REQUIRED.
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17. ALL NUTS, BOLTS, AND WASHERS USED BY MANUFACTURER TO FABRICATE AND ASSEMBLE GATE VALVES SHALL BE #316 STAINLESS STEEL AND EXPOSED PORTIONS SHALL BE FIELD COATED WITH MASTIC OR AN APPROVED CORROSION PROTECTIVE SPRAY.
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19. A REPRESENTATIVE FROM THE CITY OF BRIGHTON IS REQUIRED TO BE ON-SITE TO INSPECT THE WATER SERVICE LATERALS FROM THE MAIN TO THE CURB STOPS. THE CONTRACTOR SHALL PROVIDE THE CITY OF BRIGHTON A MINIMUM 48-HOUR NOTICE OF WORK.
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NOTE:
ANY WORK WITHIN THE GRAND RIVER AVENUE RIGHT-OF-WAY WILL REQUIRE A WORK PERMIT THROUGH THE LIVINGSTON COUNTY ROAD COMMISSION (LCRC)

F&V PROJECT #857651

THE LOCATION AND DEPTH OF EXISTING UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THESE PLANS ARE BASED ON RECORDS OF THE VARIOUS UTILITY COMPANIES AND ON OTHER SOURCES OF INFORMATION AVAILABLE TO THE ENGINEER. THE LOCATION AND DEPTH OF UTILITIES AND STRUCTURES SHOWN ARE NOT GUARANTEED TO BE EXACT OR TO BE COMPLETE. THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING THE LOCATION AND DEPTH OF ALL UTILITIES AND STRUCTURES BY DIGGING TEST PITS (POTHOLING) SUFFICIENTLY IN ADVANCE OF CONSTRUCTION TO PREVENT DELAYS TO THE WORK.

DIAL 811 OR 800-482-7171 TOLL FREE
MISS DIG
CALL 3 WORKING DAYS BEFORE YOU DIG
Public Act 53 of 1974 as amended

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

PROJECT: ALLOR LANDING
DA BUILDING LLC
1661 E LIGHTHOUSE PT.
SOUTH LYON, MI 48178
248-255-1238

PREPARED FOR:

TITLE: OFF-SITE WATERMAIN PLAN AND PROFILE-1

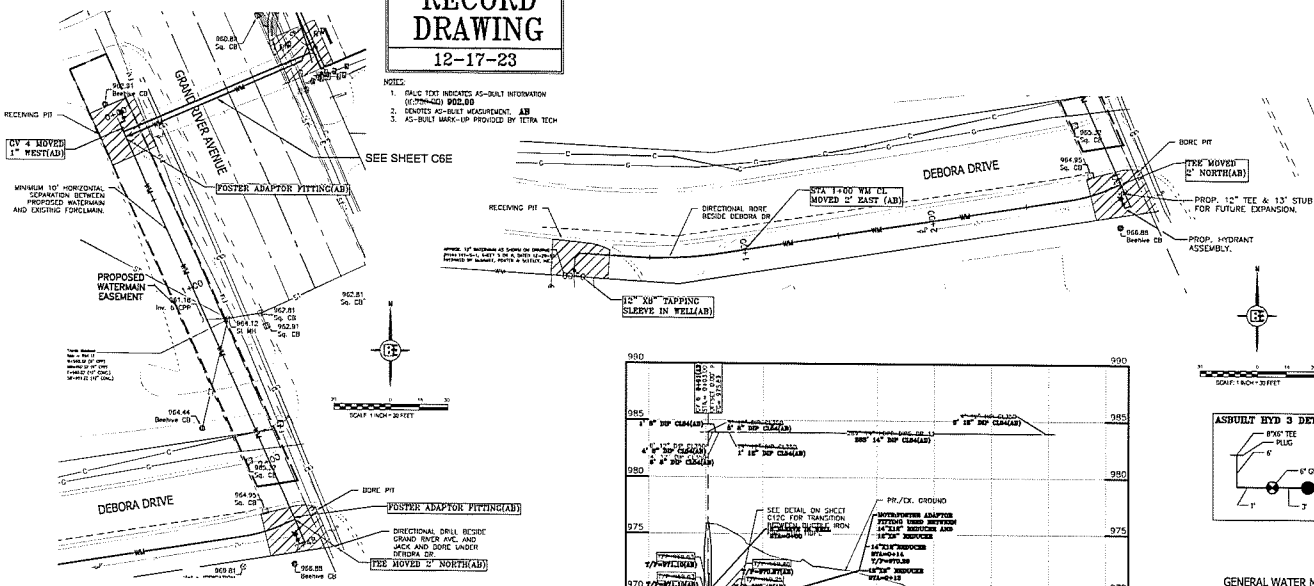
12-23-23 AS-BUILTS

NO	BY	DESCRIPTION	DATE
6	JAL	CSE PW REVIEW COMMENTS	4-14-23
5	PC	ESE REVIEW COMMENTS	1-4-23
4	JAL	DES. PROP SYS COMMENTS	12-8-22
3	JAL	DES. DWY PW REVIEW COMMENTS	11-22-22
2	DM	DES. DEPT REVIEW COMMENTS	9-15-22
1	PC	LCRC REVIEW COMMENTS	9-15-22
NO	BY	REVISION ITEMS	DATE

DESIGNED BY: ST
DRAWN BY: JP
CHECKED BY: ST
SCALE: AS NOTED
JOB NO. 20-299
DATE 9-9-22
SHEET NO. C6E

OFF-SITE WATERMAIN PLAN & PROFILE

RECORD DRAWING
12-17-23



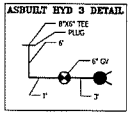
NOTES:
1. (ALC TEXT INDICATES AS-BUILT INFORMATION (#-7004-02) 902.00
2. (DIMENSION) INDICATES AS-BUILT MEASUREMENT. AB
3. AS-BUILT MARK-UP PROVIDED BY TETRA TECH

LEGEND

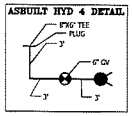
PROPOSED (PR)	EXISTING (EX)	
900	900	CONTOUR
T/C		STORM DRAINAGE FLOW
XX.XX	XX.XX	SPOT ELEVATION
FFE	FFE	FINISHED FLOOR ELEVATION
FG	FG	FINISHED GRADE ELEVATION
T/A	T/A	TOP OF ASPHALT
T/B	T/B	TOP OF BANK (GALE)
T/CURB	T/CURB	TOP OF CURB
T/CONC	T/CONC	TOP OF CONCRETE
T/WALK	T/WALK	TOP OF WALK
T/WALL	T/WALL	TOP OF WALL
B/WALL	B/WALL	BOTTOM OF WALL
F/L	F/L	FLOW LINE
T/P	T/P	TOP OF PIPE
B/P	B/P	BOTTOM OF PIPE
RIM	RIM	RIM ELEVATION
INV	INV	INVERT ELEVATION
MH	MH	MANHOLE STRUCTURE
IN	IN	INLET STRUCTURE
CB	CB	CATCHBASIN STRUCTURE
GV	GV	GATE/VALVE STRUCTURE
HYD	HYD	HYDRANT
UP	UP	UTILITY POLE
INSTALL		PROVIDE AND INSTALL
SN	SN	SANITARY SEWER
SL	SL	SANITARY LEAD
ST	ST	STORM SEWER
WM	WM	WATER MAIN
WL	WL	WATER LEAD
FO	FO	FIBER OPTIC
OH	OH	OVERHEAD WIRE
C	C	CABLE
E	E	ELECTRIC
G	G	GAS
T	T	TELEPHONE

PROPOSED (PR)	EXISTING (EX)	
		MANHOLE
		INLET / CATCHBASIN
		FLARED END-SECTION
		GATE VALVE
		HYDRANT
		UTILITY POLE
		FENCE
		SIGN
TBR	NTV	NOT FIELD VERIFIED TO BE REMOVED
SN		SANITARY SEWER LABEL
ST 12		STORM SEWER LABEL
541		WATER MAIN LABEL
		SOIL EROSION CONTROL MEASURE (M=MEDIMENT, H=HYDROMAT)
		SILT FENCE
		DRAINAGE LIMITS
		GRADING LIMITS
		CONCRETE
		ASPHALT / MDOT ASPHALT
		GRAVEL
		STANDARD 7'4" CURB AND GUTTER
		MODIFIED 7'4" CURB & GUTTER
		STD. 1' MOUNTABLE CURB & GUTTER
		MOD 1' MOUNTABLE CURB & GUTTER
		CASING PIPE
		BORE/RECEIVE PIT

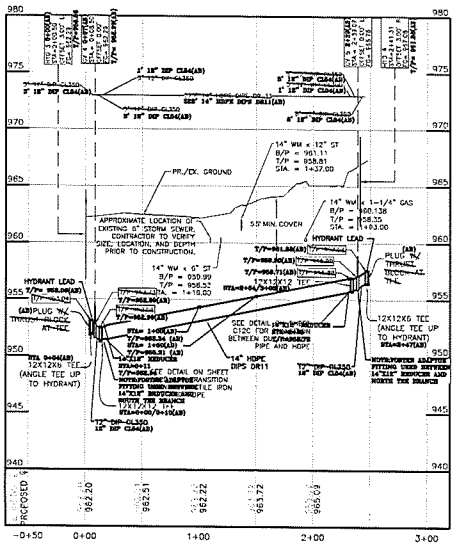
ASBUILT HYD 3 DETAIL

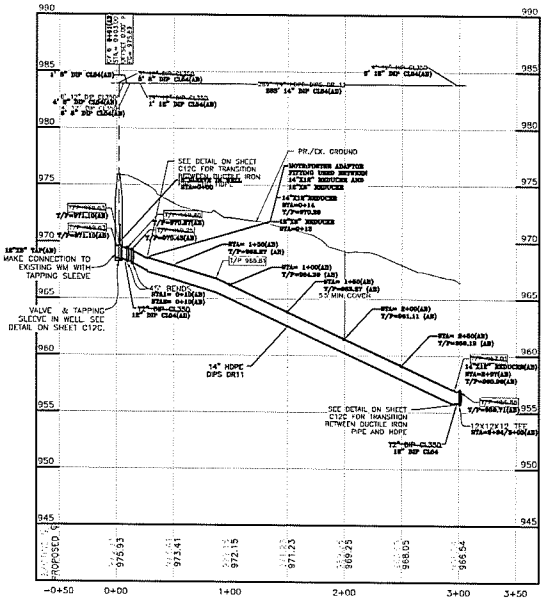


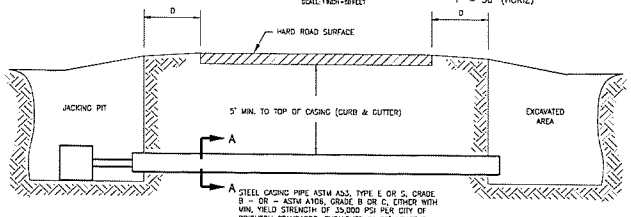
ASBUILT HYD 4 DETAIL



CAUTION!
UNDERGROUND CABLE LINES. CONTRACTOR TO VERIFY DEPTH BEFORE EXCAVATION.







PLAN VIEW
BORE & JACKING DETAIL

GENERAL WATER MAIN UTILITY NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE BRIGHTON TOWNSHIP, CITY OF BRIGHTON (WATER ONLY) LIVINGSTON COUNTY, AND THE STATE OF MICHIGAN.
2. CONTRACTOR TO VERIFY DEPTH AND LOCATION OF ALL EXISTING UTILITIES PRIOR TO COMMENCING ANY WORK.
3. CONTRACTOR SHALL MAINTAIN MIN. 18-IN VERTICAL CLEARANCE BETWEEN ALL UTILITY CROSSINGS.
4. THE PROPOSED WATERMAIN SHALL BE TURNED OVER TO THE CITY OF BRIGHTON UPON COMPLETION, TESTING & ACCEPTANCE.
5. ADDITIONAL SPECIFICATIONS, PLAN & PROFILES, GRAPHIC DETAILS, CALCS, & NOTES ARE CONTAINED ON THE FOLLOWING SHEETS:
   - C5 OVERALL GRADING & DRAINAGE
   - C6B & C12A - SANITARY FORCEMAIN
   - C6C, C12C & C13 - STORM WATER
   - C6D, C6E, C6F & C12B WATER MAIN

WATERMAIN UTILITY NOTES:

1. ONE 1" DIA. DOMESTIC WATER LEAD PER UNIT (2 PER BLDG) & 1, 2" DIA FIRE SUPPRESSION WATER LEAD PER UNIT (2 PER BLDG) (SEE GENERAL UTILITY NOTES).
2. ALL WATERMAIN SHALL BE PC 350 WITH; A BELL END WITH GASKET, AND A SPIGOT END UNLESS OTHERWISE NOTED. ALL WATERMAIN TO INCLUDE TRACER WIRE AND BE INSTALLED IN ACCORDANCE WITH THE CITY OF BRIGHTON STANDARDS.
3. ALL ON-SITE WATERMAIN SHALL BE 8" DIP. ALL OFF-SITE WATERMAIN SHALL BE 14" HDPE DIPS DR11 (GRAND RIVER CROSSING 12" DIP).
4. ALL WATERMAIN SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE CHARTER TOWNSHIP OF BRIGHTON AND CITY OF BRIGHTON STANDARDS. THE TECHNICAL SPECIFICATION/INFORMATION REQUIRED FOR THE TESTING, CONSTRUCTION, AND DISINFECTION OF THE PROPOSED WATER SYSTEM IS TO FOLLOW THE CITY OF BRIGHTONS'S SECTION 221113– WATER DISTRIBUTION PIPING TECHNICAL SPECIFICATIONS.
5. ALL WATERMAIN SERVICE LEADS TO BE SOFT COPPER, TYPE K (TO CURB STOP).
6. WHENEVER A WATERMAIN CROSSES A SANITARY OR STORM SEWER, ONE FULL LENGTH OF WATERMAIN SHALL BE USED WITH THE PIPE CENTERED OVER THE SEWER FOR MAXIMUM JOINT SEPARATION.
7. WATERMAIN SHALL BE BURIED WITH A MINIMUM OF 5.5' OF COVER AND A MAXIMUM OF 8.5' OF COVER.
8. THE WATERMAIN SHALL MAINTAIN A MINIMUM 10' HORIZONTAL AND 18" VERTICAL SEPARATION FROM THE SANITARY AND STORM SEWERS.
9. ALL CURB STOPS SHALL BE BROUGHT UP TO FINAL GRADE. CURB STOPS SHALL NOT BE LOCATED WITHIN ANY DRIVEWAYS, WALKWAYS, OR CEMENT SIDEWALKS UNLESS OTHERWISE INDICATED.
10. TRACER WIRE SHALL BE INSTALLED WITH THE WATERMAIN AND WATER LEADS. SEE CITY OF BRIGHTON DESIGN STANDARDS, SECTION "WATER DISTRIBUTION PIPING" FOR DETAILS. TRACER WIRE SHALL BE BROUGHT UP TO ALL VALVE BOXES ON HYDRANTS.
11. TRACING WIRE SYSTEMS SHALL TERMINATE IN COPPERHEAD TRACER WIRE STATIONS (CD14-TP, BLUE TOP). TERMINALS SHALL BE EXTERNAL AND BLUE FOR WATERMAIN SYSTEMS. TERMINALS SHOULD ALSO BE LOCATED AT VALVES.
12. FIRE HYDRANTS SHALL BE A MINIMUM OF 3' FROM THE BACK OF CURB.
13. THE CITY OF BRIGHTON NEEDS TO WITNESS THE CONNECTION INTO THE EXISTING WATER SYSTEM. A MINIMUM NOTICE OF 48 HOURS IS REQUIRED.
14. ALL VALVES – EXCEPT TAPPING SLEEVE TO EXISTING WATERMAIN – SHALL BE GATE VALVES & BOXES PER CITY OF BRIGHTON STANDARD DETAILS.
15. BUFFALO VALVE BOX STABILIZERS SHALL BE INSTALLED WITH ALL THE WATER VALVE BOXES.
16. ALL NUTS, BOLTS, AND WASHERS FOR INSTALLATION ON SLEEVES, COUPLINGS AND MECHANICAL JOINT CONNECTIONS SHALL BE COR-BLUE.
17. ALL NUTS, BOLTS, AND WASHERS USED BY MANUFACTURER TO FABRICATE AND ASSEMBLE GATE VALVES SHALL BE #316 STAINLESS STEEL AND EXPOSED PORTIONS SHALL BE FIELD COATED WITH WASTIC OR AN APPROVED CORROSION PROTECTIVE SPRAY.
18. THE WATERMAIN IS TO BE "PIGGED" PRIOR TO TESTING TO REMOVE UNWANTED DEBRIS AND CONTAMINATES.
19. A REPRESENTATIVE FROM THE CITY OF BRIGHTON IS REQUIRED TO BE ON-SITE TO INSPECT THE WATER SERVICE LATERALS FROM THE MAIN TO THE CURB STOPS. THE CONTRACTOR SHALL PROVIDE THE CITY OF BRIGHTON A MINIMUM 48-HOUR NOTICE OF WORK.
20. THE WATERMAIN SHALL BE CENTERED IN A 25' WIDE UTILITY EASEMENT.

NOTE:
ANY WORK WITHIN THE GRAND RIVER AVENUE RIGHT-OF-WAY WILL REQUIRE A WORK PERMIT THROUGH THE LIVINGSTON COUNTY ROAD COMMISSION (LCRC)

F&V PROJECT #857651

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

PROJECT: ALLOR LANDING
PREPARED FOR: DA BUILDING LLC
10618 LIGHTHOUSE PT.
SOUTH LYON, MI 48178
248-250-2265
TITLE: OFF-SITE WATERMAIN PLAN AND PROFILE-2
45-B-478
12-23-23

6	INC	CGE W/ REVISED COMMENTS	4-16-23	DATE
5	PC	LDC 3RD REVIEW COMMENTS	1-4-23	
4	INC	LDC TROOP SITE COMMENTS	12-8-22	
3	INC	DTE/CPA SITE PLAN REVISIONS	11-21-22	
2	PC	LDC SITE PLAN COMMENTS	9-30-22	
1	PC	LDC SITE PLAN COMMENTS	8-31-22	
NO	BY	REVISION NOTE		

DESIGNED BY: ST
DRAWN BY: MB
CHECKED BY: ST
SCALE: AS NOTED
JOB NO. 20-299
DATE 9-9-22
SHEET NO. C6F

ALL DIMENSIONS IN ENGLISH UNITS UNLESS OTHERWISE NOTED. ALL WORK AND MATERIALS SHALL BE IN ACCORDANCE WITH THE LATEST RULES AND REGULATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION OVER THE PROJECT. ALL MATERIALS AND WORKMANSHIP SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE YEAR AFTER FINAL ACCEPTANCE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF ALL EXISTING STRUCTURES AND UTILITIES, BOTH SURFACE AND SUBSURFACE. THE CONTRACTOR SHALL NOTIFY ALL UTILITIES A MINIMUM OF THREE WORKING DAYS PRIOR TO EXCAVATION. CALL MISS DIG 1-800-482-7171 OR 811

I HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLIC ACT 288 OF 1967 AS AMENDED AND THE RULES PROMULGATED THEREUNDER.

I HEREBY CERTIFY THAT THESE PLANS AND SPECIFICATIONS HAVE BEEN PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF PUBLIC ACT 288 OF 1967 AS AMENDED AND THE RULES PROMULGATED THEREUNDER.

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Township Planner

AGENDA TOPIC: Approval of Fill Permit for 5480 Kensington Road

EXPLANATION OF TOPIC: The applicant is requesting a fill permit to bring in soil for his site to raise and level an area and to create berms as depicted in the plan.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- GIS map
- 1/19/26 letter from Township Engineer
- Application and materials

POSSIBLE COURSES OF ACTION: Accept/not accept recommendation of the Township Engineer to allow the applicant to have a fill permit for his site at 5480 Kensington Road.

RECOMMENDATION: Accept the recommendation of the Township Engineer to allow the applicant to have a fill permit for his site at 5480 Kensington Road.

SUGGESTED MOTION: Motion by_____, supported by _____ to accept the recommendation of the Township Engineer to allow the applicant to have a fill permit for his site at his site at 5480 Kensington Road.

ROLL CALL VOTE REQUIRED? Yes

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

Revised January 19, 2026
January 14, 2026

Via Email: planner@brightontwp.com

Kelly Mathews, Planner
Charter Township of Brighton
4363 Buno Road
Brighton, MI 48114

RE: Limited Area Fill Permit
5480 Kensington Road
F&V Project 875550

Dear Kelly:

We have reviewed the application and site plan for the limited area fill permit at 5480 Kensington Road. The applicant proposes to place 4,000 cubic yards of fill material to raise and level an area on the north side of the property adjacent to an outbuilding and to create berms along portions of the east, south, and north property lines of an approximately 18-acre parcel.

Per the application, the proposed work is expected to be completed during the summer of 2026. Hours of operation are noted to be 7:00am to 6:00pm Monday through Saturday while work is in progress. Haul routes will be along public roads suitable for truck traffic when frost laws are not in effect.

Upon our initial review additional detail was requested related to the proposed berms. Per the response, the proposed berms will have a minimum height of 6 feet and a maximum height of 8 feet above existing grade and will be constructed in accordance with Section 14-02 (f) of the zoning ordinance.

Per the Charter Township of Brighton Code of Ordinances, a letter of credit or surety bond can be requested of the applicant if recommended by the Township Engineer and approved by the Township Board. In fixing the amount, the cost of removal of any and all unfit soil or materials at the site and the cost of restoring the site should be considered. With the proposed fill primarily being used to construct berms on private property, and the short project duration for receiving and placing the fill, we feel that this requirement can be waived for the proposed work.

The proposed berms shall not block or restrict offsite storm water runoff from neighboring properties or permanently alter the existing surface drainage of the area.

Based on the application submitted and the additional details above, we recommend approval of the limited area fill permit.

If you have any questions or need any additional information, please contact us at (810) 743-9120 or via e-mail at grose@fveng.com at your earliest convenience.

Sincerely,

FLEIS & VANDENBRINK

Geric L. Rose, PE, PS
Regional Manager, Associate
Cc: Royce Law trucking@fonsoninc.com

27725 Stansbury Blvd, Suite 195
Farmington Hills, MI 49334
P: 248.536.0080
F: 248.536.0079

LIMITED AREA FILL PERMIT APPLICATION
CHARTER TOWNSHIP OF BRIGHTON

4363 Buno Road
Brighton, MI 48114
Email: Planner@brightonmi.com; Phone: 810-229-0562

Chapter 15 of the Brighton Township *Code of Ordinances* should be reviewed when filling out this application

1) Name of Project 5480 Kensington

2) Name and Addresses of Property Owner: Peter & Teresa Scodellaro
5480 Kensington ROAD Brighton 4811

3) Name and Addresses of Operator Fonson Company Inc
7644 Whitmore Lake rd. Brighton

4) Name, phone number and email addresses of contact person(s):

Royce Law 810-217-0222 trucking@fonsoninc.com

5) Legal Description of Property: See attached: 12-35-200-034 and 12-35-200-022

6) Attach a detailed statement depicting the method of operation, compaction method(s), traffic control and haul routes (requires approval of the Livingston County Road Commission), hours of operation, and proposed length of time to complete the project.

7) Attach three (3) copies of the site plan, including topographic survey map, areas to be filled and final grade elevation, and three (3) sets of the application and all application materials. Please also include a digital copy (PDF, CD, or Flash Drive).

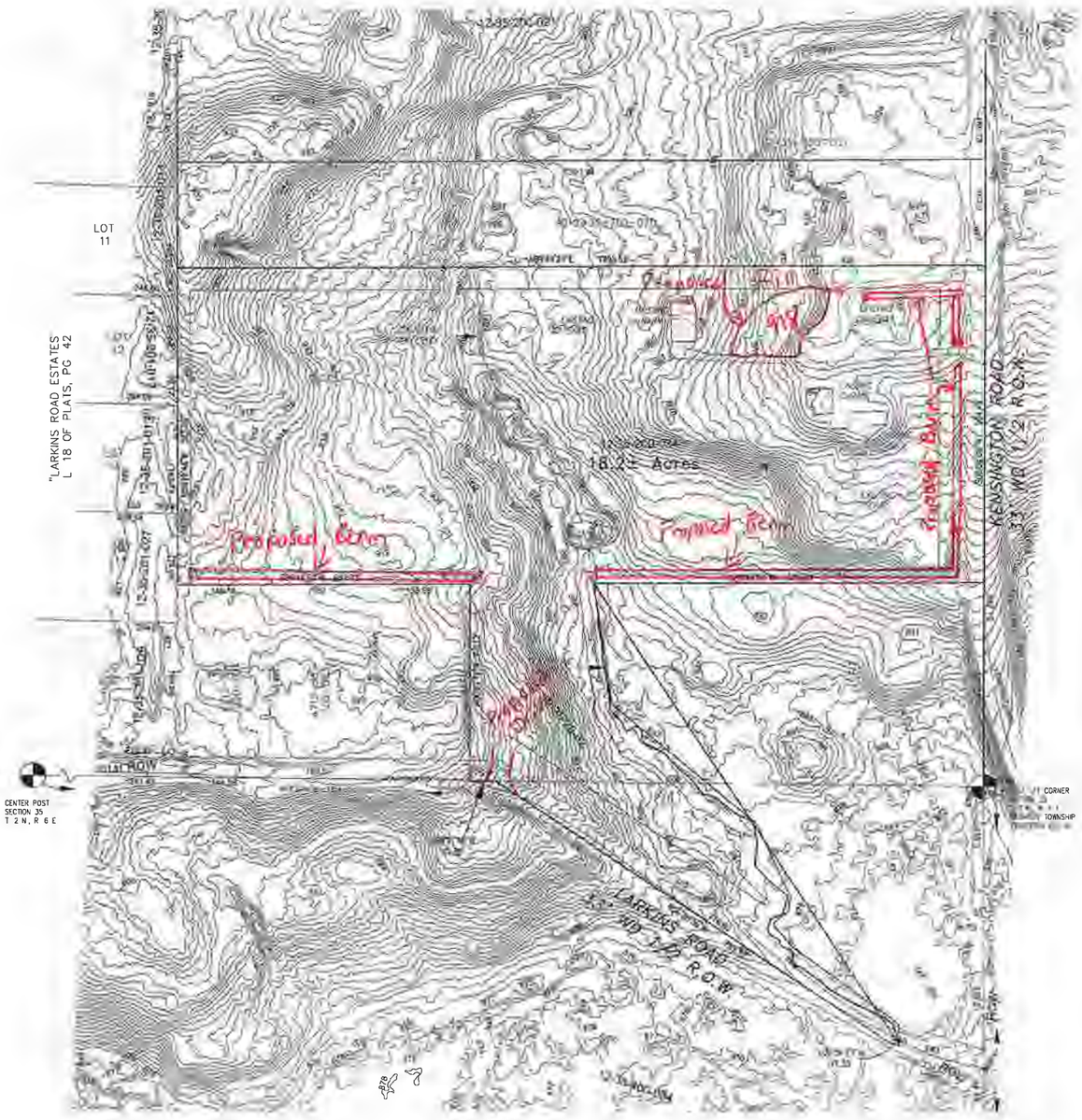
8) Amount of fill in cubic yards proposed 4000 yds

9) Type and source of fill proposed: Clean fill from Fonson yard

10) Fee $ 850.00

Signature of Applicant/Agent Peter Scodellaro Teresa Scodellaro Date 12-2-2025

Note: As outlined in *Chapter 15* of the *Code of Ordinances*, all requirements must be met, including a letter of credit or surety bond, if required, in the amount recommended by the Township Engineer and approved by the Township Board, to satisfy the conditions of this Ordinance.



GRAPHIC SCALE

(IN FEET)
1 INCH = 100 FEET

- All berms will be outside of LCRC R-O-W, and designated wetlands.

Know what's below. Call before you dig.
BEFORE YOU DIG CALL 811 OR 1-800-482-7171 (TOLL FREE)

(810) 227-9533
CIVIL ENGINEERS
LAND SURVEYORS
2183 PLESS DRIVE
BRIGHTON, MICHIGAN 48114

DESIGN WMP DRAFT JHG CHECK WMP	REVISION # DATE REVISION-DESCRIPTION	REVISION # DATE REVISION-DESCRIPTION	5480 KENSINGTON RD	EXISTING CONDITION	CLIENT PETE SCODELLER 5480 KENSINGTON RD BRIGHTON MICHIGAN 48116 248-705-6749	SCALE 1in = 100ft PROJECT No 254923 DWG NAME 4923 SP	1


12-35-200-020
12-36-100-037
12-35-200-034
Section 36
Section 35
ROW
Charter Township of Brighton
12-35-200-004
12-35-200-003
12-35-200-002
12-35-200-032
12-35-200-033
12-35-200-022
12-35-400-004
KENSINGTO
SEMCOG, Esri, HERE, Garmin, Geo

Method of Operations for Grading and Fill

The proposed work at 5480 Kensington Rd is expected to be completed by June 2026. Changes to allowable start dates, unforeseen site conditions, and poor weather may extend this date. Hours of operation will be 7am to 6pm Monday through Saturday while work is in progress at this site.

Fill material will be imported using Kensington Rd and Larkins Rd. Both roads are suitable for this truck traffic if frost laws are not in effect per LCRC. No temporary traffic control or special routes or entrances will be required for trucking.

Material imported to raise the elevation of the fill area on the north side of the property will be clean compatible fill consisting of clay or sand and topsoil. This material will be placed in 2 ft lifts and compacted with a vibratory roller to eliminate settlement and achieve appropriate density.

Material imported to construct berms will be clean fill consisting of clay, sand, and topsoil. This material will be shaped and graded off with a dozer; no compaction will be necessary. All disturbed areas will be restored per the conditions in our soil erosion permit.

AGENDA NOTES

MEETING DATE: January 26, 2026

PERSON PLACING ITEM ON AGENDA: Township Supervisor

AGENDA TOPIC: Committee Appointments

EXPLANATION OF TOPIC:
The Township Supervisor is responsible for recommending appointments to the various committees. As such, I have spoken with the following residents who have expressed a willingness to be appointed. Listed below are recommendations to fill positions for the terms listed:

Board/Committee	Appointee		Term Exp	A=Appoint R=Reappoint
Planning Commission	William Anderson		12/31/2028	R
Planning Commission	Larry Herzinger		12/31/2026	R
Planning Commission	Steve Holden		12/31/2028	R
Planning Commission	Allan Lutes		12/31/2026	R
Zoning Board of Appeals	Jack Cogley		12/31/2026	R
Zoning Board of Appeals	John Gibbons		12/31/2026	R
Zoning Board of Appeals	Frank Grapentien		12/31/2028	R
Zoning Board of Appeals	Brian Green	Alternate	12/31/2026	R
Utilities Committee	John Dorset		12/31/2027	R
Utilities Committee	Bill Dunlop		12/31/2027	R
Utilities Committee	Bob Kittridge		12/31/2027	R
FIB Water	Thomas Kavanagh		12/31/2028	R
FIB Water	Mark Sebby		12/31/2028	R
FIB Water	(Open Spot)	Alternate (G. Marshall)	12/31/2027	

RECOMMENDATION: It is the recommendation of the Supervisor that the residents listed above be appointed to the identified committees for the listed terms.

SUGGESTED MOTION: Motion by _____, supported by _____to accept the recommendation of the Supervisor and appoint the residents listed above to the identified committees for the listed terms.

ROLL CALL VOTE REQUIRED? No

Brighton Township

October 2025



F&V operations
and resource management

F&V operations
and resource management

BRIGHTON TOWNSHIP
LIVINGSTON COUNTY, MI

WATER AND WASTEWATER
OPERATIONS AND MAINTENANCE REPORT

October 2025

2960 Lucerne Drive SE, Suite 100
Grand Rapids, MI 49546
P: 616.588.2900
F: 616.977.1005
www.fv-operations.com

Novebmer 17, 2025

Brighton Township
4363 Buno Rd,
Brighton, MI 48114

SUBJECT: Brighton Township Monthly Operation and Maintenance Report October 2025

Dear: Mr. Brian Vick

Please find attached the Monthly Operation and Maintenance Report for the Brighton Township Wastewater Treatment Plant (WWTP) and wastewater collection systems. This report is intended to provide a brief explanation of the activities related to the operation and maintenance of the facilities. The information and data used to compile this report is available for your review upon request.

Required and routine monitoring of the wastewater treatment plant was performed in accordance with the NPDES discharge permit during this period. Copies of the Final Effluent data from the October Discharge Monitoring Reports (DMRs) are available on request.

If you have any questions regarding the contents of this report or our operational activities, please contact me at your convenience at 517.673.9369, or by email at bdamon@fv-operations.com.

Sincerely,
F&V Operations and Resource Management



Brandon Damon
Project Manager

Enclosures:
Operations & Maintenance Highlights

BRIGHTON TOWNSHIP WWTP & COLLECTION SYSTEM REPORT

Wastewater Treatment Plant (WWTP)

Filter Reject pump station: UIS was called to find out the reason that the reject pumps would not work in auto. UIS found the issue was with the PLC was in fault lock out. UIS was able to reset this fault lock out to make the pumps work in auto again.

UV Replacement Project: CSM has started getting equipment onsite for the UV replacement.

Collection System

Lift station 3 (10/5/2025): called out for a high wet well operators arrived and found that the pump had lost prime Operator was able to reprime the pump.

Lift station 3 (10/14/2025): call out for high wet well. Operators attempted to reprime the pump with no success. Operators contacted project manager and FVOP was able to utilize there 6” bypass pump to keep the station from backing up the Collection system. Upon investigation it was found that the suction check valve had broken and parts where order and the pump was put back into service.

After talking with Zach, it was agreed to leave the bypass pump in place until CSM could get set up for the pipe replacement as a backup.

Lift station 3 (10/21/2025): CSM started piping and valve replacement and the FVOP bypass pump was replaced with one provided by CSM. The main piping work is done but CSM is working to finish up the last few items.

Lift station 3 (10/30/2025): M&K cleaned the wet well on lift station 3 as this scheduled work had to be postponed on the 14th due to issues with the station.

Lift Station 10 (10/14/2025): called out for high wet well level staff was able to reprime the pump and get the pump back in service. The replacement VFD for pump one has been installed the contractor is working on programing the VFD.

Grinder Pumps

FVOP responded to and repaired **5 grinder stations** during the month of September, including **1 after-hours call-out**.

MISS DIGS

FVOP completed **20 MISS DIG** tickets during the month of September.

Grinder Emergency				
Date	**Reason for Work | Employees**	**Address**	**Work Order #**	**Hours Worked**
10/6/2025	Call Out 1	8035 Cortez Dr	25-000250	3.00
				3.00
Lift Station 3 Bypass Pump				
Date	**Reason for Work | Employees**	**Description**	**Work Order #**	**Hours Worked**
10/14/2025	Set Up Bypass 1	Set up Bypass Pump	25-000254	3.00
				3.00
Collection Emergencies				
Date	**Reason for Work | Employees**	**Description**	**Work Order #**	**Hours Worked**
10/5/2025	Alarm 2	LS3 Pump Lost Prime	25-000262	12.00
10/14/2025	Alarm 2	LS3 and LS10 High Water	25-000254 - 25-000255	15.00
10/22/2025	Alarm 1	LS3	25-000259	1.00
10/23/2025	Alarm 2	LS3	25-000260	6.50
				34.50

Brighton Township

November 2025



F&V operations
and resource management

BRIGHTON TOWNSHIP
LIVINGSTON COUNTY, MI

WATER AND WASTEWATER
OPERATIONS AND MAINTENANCE REPORT

November 2025

2960 Lucerne Drive SE, Suite 100
Grand Rapids, MI 49546
P: 616.588.2900
F: 616.977.1005
www.fv-operations.com

December 22, 2025

Brighton Township
4363 Buno Rd,
Brighton, MI 48114

SUBJECT: Brighton Township Monthly Operation and Maintenance Report November 2025

Dear: Mr. Brian Vick

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Sincerely,
F&V Operations and Resource Management



Brandon Damon
Project Manager

Enclosures:
Operations & Maintenance Highlights

BRIGHTON TOWNSHIP WWTP & COLLECTION SYSTEM REPORT

Wastewater Treatment Plant (WWTP)

UV Replacement Project: CSM has started UV replacement.

Water processed through WWTP of November
Total of 9,750,000 Gallons
Average daily flow of 325,000 Gallons

Collection System

5934 Fonda Lake 11/3/2025: Responded to grinder alarm. Pump removal required tripod setup; rags and root intrusion discovered. Hartland Septic pumped station: Comprehensive Contracting replaced damaged station and installed new pump (11/5/2025). Station put back into service.

Grinder Pumps

FVOP responded to and repaired **15 grinder stations** during the month of November, including **3 after-hours call-out**.

MISS DIGS

FVOP completed **20 MISS DIG** tickets during the month of November.

MINUTES
LIVINGSTON COMMUNITY WATER AUTHORITY
NOVEMBER 19, 2025 REGULAR MEETING 9:00 A.M.
GREEN OAK CHARTER TOWNSHIP HALL
10001 SILVER LAKE ROAD
BRIGHTON, MI 48116

Chairman M. St. Charles called the meeting to order at 9:00 a.m. The Pledge was recited.

ROLL CALL

Present: P. Michel, **Charter Township of Brighton; M. St. Charles, T.Wiggle-Bazzy, Green Oak Township; P. Hughes, J. Negri, Hamburg Township**

Absent: D. Schifko, Charter Township of Brighton

Also present: A. Willets, Livingston Community Water Co.; A. Dowson, Highland Treatment; R. Hobgood, OHM; K. Palka,Pfeffer, Hanniford Palka Accountant; D. McKenzie, Deputy Supervisor, Green Oak Township; D. Ercolani, Utility Clerk, Green Oak Township; B. Vick, Manager, Charter Township of Brighton; L. Weaire, Recording Secretary

PUBLIC COMMENT

No response

APPROVAL OF THE NOVEMBER 19, 2025 AGENDA

P. Michel moved and J. Negri seconded **to approve the November 19, 2025 agenda as presented.**

Ayes: Unanimous

Motion carried.

APPROVAL OF THE OCTOBER 15, 2025 MEETING MINUTES

T. Wiggle-Bazzy moved and P. Michel seconded **to approve the October 15, 2025 meeting minutes as amended.** (amendment was to remove the P in front of D. Schifko under adjournment)

Ayes: Unanimous

Motion carried.

FINANCIAL REPORTS November 2025

P. Michel moved and T. Wiggle-Bazzy seconded **to approve the check register, the cash balance of funds and escrow balances.**

Ayes: Unanimous

Motion carried

Note: The YTD total interest on the bond funds is $119,800.41.

CIP PAMAR – Change Order #5

P. Michel moved and P. Hughes seconded **to approve PAMAR's Change Order #5, which reduces the contract amount by $33,567.74 and then showing a revised contract amount of $6,207,672.51.**

Ayes: Unanimous

Motion carried.

CIP PAY APPLICATION #15 – Richard Hobgood, OHM

Pay Application #15 includes Change Order #5 which shows the current contract value on this Pay Application of $6,207,672.51. This Pay Application pays all outstanding items, plus an additional $40,000 in retainage, thus the total amount due the contract on this Pay Application is $65,581.54.

$10,000 will be held in retainage to make sure all items outlined in the contract have been fulfilled. OHM will then run another Pay Application to release the final $10,000.

J. Negri moved and T. Wiggle-Bazzy seconded **to proceed and issue a check for $65,581.54 as outlined in the Pay Application #15 provided here, November 19, 2025.**

Ayes: Wiggle-Bazzy, Michel, Hughes, Negri, St. Charles

Motion carried.

K. Palka discussed each of the Resolutions, 002, 003, 004, 005 and 006 shown below, to be adopted at this meeting, held on November 19, 2025.

RESOLUTION 25-002 2-2025 Amended Budget
P. Michel moved and T. Wiggle-Bazzy seconded **to adopt Resolution No. 25-002, Fiscal Year 2025 O & M Fund #101 Amended Budget Adoption.**
Ayes: Wiggle-Bazzy, Michel, Hughes, Negri, St. Charles
Absent: Schifko
Motion carried.

RESOLUTION 25-003 2026 Budget Adoption
J. Negri moved and P. Michel seconded **to adopt Resolution No. 25-003, Fiscal Year 2026 Original O & M Fund #101 Budget Adoption.**
Ayes: Wiggle-Bazzy, Michel, Hughes, Negri, St. Charles
Absent: Schifko
Motion carried.

RESOLUTION 25-004 2026 Water Rates
T. Wiggle-Bazzy moved and P. Michel seconded **to adopt Resolution 25-004, fiscal Year 2026 Water Rate and direct the Chairperson to publish the Resolution in the newspaper of record.**
Ayes: Wiggle-Bazzy, Michel, Hughes, Negri, St. Charles
Absent: Schifko
Motion carried.

RESOLUTION 25-005 2025 Amended Capital Reserve Budget
P. Michel moved and J. Negri seconded **to adopt Resolution 25-005, Fiscal Year 2025 Capital Replacement Reserve Fund Budget Adoption.**
Ayes: Wiggle-Bazzy, Michel, Hughes, Negi, St. Charles
Absent: Schifko
Motion carried.

RESOLUTION 25-006 2026 Capital Reserve Budget
P. Michael moved and T. Wiggle-Bazzy seconded **to adopt Resolution 25-006, Fiscal Year 2026 Original Budget Adoption.**
Ayes: Wiggle-Bazzy, Michel, Hughes, Negri, St. Charles
Absent: Schifko
Motion carried.

Corrpro Agreement 2026
T. Wiggle Bazzy moved and J. Negri seconded **to authorize the Chairperson to sign the agreement from Corrpro for the year 2026 in the amount of $1,025.**
Ayes: Unanimous
Motion Carried.

OPERATORS REPORT
October 2025 Report
Meters were installed at 9736 and 9691 Chalifonte and meter swaps took place at 9390 Lee Rd., 5865 Whitmore Lake Rd.,6421 and 6134 Stephen, 9615 Musch, 8742 Clarin Ct. and 8798 Bonaventure. Curb stop inspection occurred at 9691 Chalifonte.
Total gallons pumped; **11.358MG.** Maximum daily flow; **.743MG.** Total flush/wasted; **0.777MG.** Actual billable gallons; **10.761MG.**There was one shut-off for repair. There were no shut-offs for non-payment of utility bill(s).
There were some water quality complaints from Country Club Annex which was more about the color of the water than a serious need for repairs. A flush is scheduled for tomorrow as well as winterizing the hydrants. Rickett Rd. is open and the hydrant has been raised by the contractor. They put an extension on it and Highland Treatment supplied them with a new break away kit.

WATER KIOSK –Discussion – Anthony Dowson, Highland Treatment
P. Michel moved and T. Wiggle-Bazzy seconded **to untable and discuss the Water Kiosk.**

Ayes: Unanimous
Motion Carried.
A. Dowson spoke with Whiteford and Lyon Township who have water stations with the former having water quality problems and the latter, mostly used by contractors. These two water stations are between 4 and 6 years old and as of yet, the stations have not paid for themselves. The initial cost of just the Kiosk is $70,000 and then add another $40,000 for a satisfactory location for the Kiosk, billing set-up, and there has been limited interest for the water station A. Dowson deemed the Authority was making more money selling off the hydrant meter rentals.
P. Michel moved and P. Hughes seconded **to thank Anthony Dowson for his hard work, investigating this topic, however, this motion is to abandon the idea of a Water Kiosk.**
Ayes: Unanimous
Motion carried.

P. Michel stated that further discussion regarding an increase of commercial meter rental rates should be addressed at a future board meeting. Consensus of the board was in agreement and the Chairperson will add this item to the December 17, 2025 meeting. K. Palka, at the request of the Board, will offer his opinion on the subject of increased commercial meter rental rates.

PURCHASE OF BLADDER TANK – Walker Booster Station
The Board requested at least 2 more quotes regarding the purchase of a Bladder Tank
P. Michel moved and T. Wiggle-Bazzy seconded **to table and put this item on the December 17, 2025 board** meeting agenda.
Ayes: Unanimous
Motion carried.

ENGINEERS REPORT – Richard Hobgood, OHM
Construction and Design Review Summary
CONSTRUCTION
Wyman Gordon Expansion – Had a pre-con meeting. Water main is not installed as of this date.
High Hills, Phase 4 – Construction is done. Working through administrative items.
COSTCO Gas Station – Water main is in and tested. After present gas station is demolished, hydrant will have to be relocated sometime in the spring 2026. An extra request for escrow.
Hamburg Townhomes Phase 1 – Water main in and connected. Close out on administrative items.
Legacy Park at Green Oak, Phase 1 & 1A – Have not started construction.
High Hills, Phase 3 – Moving forward with final inspection.
High Hills, Phase 2 – Moving forward with final inspection.
DESIGN
Legacy Park at Green Oak, 2B and Part 4 – First review done. Waiting for second review.
Legacy Park at Green Oak, 2A & 3 (Part 3) – First review done. Waiting for second review.
Legacy Park at Green Oak, Phase 1B & 2 (Part 2) – First review done. Waiting for second review.
CIP PROJECT UPDATES / UPDATED SCHEDULE / SCHEDULE SPENDING
The schedule was updated as the water project is coming to a close. If PAMAR gets everything submitted to the Authority by next month, we, LCWA, can release retainage and close out the contract.

CHAIRPERSONS REPORT – Mark St. Charles
M. St. Charles reviewed and pinpointed issues of concern regarding the Water Affordability Bill that is being proposed in the Senate.

CORRESPONDENCE
None.

DISCUSSION ITEMS
T. Wiggle-Bazzy gave kudos to D. Ercolani for her due diligence in contacting the customers of LCWA who have not paid their water bill. New procedures are in place in the Treasurer's office; streamlining mete rentals, cash receipting everything in the computer and cash receipting in BS&A.

TOWNSHIP REPRESENTATIVES REPORT
No report.

ADJOURNMENT
P. Michel moved and J. Negri seconded **to adjourn.**
Ayes: Unanimous
Motion carried.
The meeting adjourned at 10:30 a.m.

Respectfully submitted,

Prepared by:
Lucille Weaire – Recording Secretary

Mark St. Charles – Chairman

BRIGHTON TOWNSHIP TREASURERS' REPORT
CASH AND INVESTMENTS/OCTOBER 2025

FUND	ACCOUNT	BANK	OCT ENDING BALANCE
101	BT Escrow Natural Ag	Huntington	$0.00
101	General Fund Ckg.	Flagstar	$4,639,784.18
101	EFT	Flagstar	$109.96
101	Payroll Account	Flagstar	$43,228.46
101	General Fund	MBIA	$5,297,452.81
101	General Fund-CDARS	CIBC-CDARS 0894	$1,058,417.30
101	General Fund-CDARS	CIBC - CDARS 7217	$1,124,527.08
101	General Fund- CDARS	State Bk/Choice One 1-CDAR	$1,266,757.00
101	General Fund - CDARS	CIBC - CDARS 7054	$0.00
101	General Fund - CDARS	Huntington-CDAR 2167	$0.00
101	General Fund-CDARS	Huntington -CDAR 8267	$1,000,000.00
101	General Fund - CD	Flagstar Bank CD 869	$0.00
101	General Fund - CDARS	Horizon CDARS 0024	$832,619.60
101	General Fund - CDARS	Flagstar - CDAR 0644	$1,077,079.69
101	General Fund CDARS	F&M Bank CDARS 4879	$1,054,517.28
101	General Fund CDARS	Huntington-CDAR 4463	$1,000,000.00
101	General Fund - CHK	Horizon Bank 48	$203.71
101	General Fund - CHK	F&M Bank 879 chk	$159.82
101	General Fund - CHK	Huntington - 769chk	$100.00
208	Parks Fund ICS 604	Flagstar	$0.00
209	Cemetery Fund	F&M Bank	$188,769.73
212	Liquor Law	Flagstar	$63,694.49
102	Budget Stab	F&M Bank	$313,647.05
284	Opioid Settlement	Flagstar	$0.00
591	Municipal Water	F&M Bank	$917,259.32
598	Sewer Cap Reserve	F&M Bank	$5,731,246.18
590	Sewer 2000	Flagstar	$1,493,027.01
701	Bldg Perform Bond	F&M Bank	$93,307.00
701	Compliance Depart	Flagstar	$0.00
701	General Agency T&A	Flagstar	$2,043.29
701	General Agency Dog	Flagstar	$120.59
702	Pathway	F&M Bank	$888,351.30
703	Current Tax Checking	Flagstar	$201,043.22
442	Future Rd Imp	F&M Bank	$907,844.96
725	Construction Escrow	F&M Bank	$215,626.73
725	BT Escrow Natural Ag	Huntington	$0.00
812	Road Main	F&M Bank	$147,073.16
814	Road Projects	F&M Bank	$69,117.24
817	Municipal Refuse	F&M Bank	$21,097.78
840	Aquatics	F&M Bank	$47,805.61
860	2022 Rd Imp SA Bond	F&M Bank	$260,426.96
861	2020 Rd Imp Bond Pay Fund	F&M Bank	$94,939.81
701	Compliance -701	Indepandent Bank	$877.42
284	Opioid Settlement	Independent Bank	$3,883.04
208	Parks Fund ICS	Independent Bank	$1,431,572.87

BRIGHTON TOWNSHIP TREASURERS' REPORT
CASH AND INVESTMENTS/NOVEMBER 2025

FUND	ACCOUNT	BANK	NOV ENDING BALANCE
101	BT Escrow Natural Ag	Huntington	$0.00
101	General Fund Ckg.	Independent Bank	$4,301,046.87
101	EFT	Independent Bank	$107.08
101	Payroll Account	Independent Bank	$39,344.95
101	General Fund	MBIA	$5,315,185.76
101	General Fund-CDARS	CIBC-CDARS 0894	$1,062,251.69
101	General Fund-CDARS	CIBC - CDARS 7217	$1,128,090.96
101	General Fund- CDARS	State Bk/Choice 1-CDAR18	$0.00
101	General Fund - CDARS	Choice 1 - CDARS 2705	$1,320,996.99
101	General Fund - CDARS	CIBC - CDARS 7054	$0.00
101	General Fund - CDARS	Huntington-CDAR 2167	$0.00
101	General Fund-CDARS	Huntington -CDAR 8267	$1,000,000.00
101	General Fund - CD	Flagstar Bank CD 869	$0.00
101	General Fund - CDARS	Horizon CDARS 0024	$835,439.93
101	General Fund - CDARS	Flagstar - CDAR 0644	$1,077,079.69
101	General Fund CDARS	F&M Bank CDARS 4879	$1,054,517.28
101	General Fund CDARS	Huntington-CDAR 4463	$1,000,000.00
101	General Fund - CHK	Horizon Bank 48	$203.71
101	General Fund - CHK	F&M Bank 879 chk	$160.24
101	General Fund - CHK	Huntington - 769chk	$100.00
208	Parks Fund ICS 604	Independent Bank	$1,434,093.89
209	Cemetery Fund	F&M Bank	$189,269.32
212	Liquor Law	Independent Bank	$63,008.71
102	Budget Stab	F&M Bank	$314,477.14
284	Opioid Settlement	Independent Bank	$3,894.55
591	Municipal Water	F&M Bank	$919,686.92
598	Sewer Cap Reserve	F&M Bank	$5,812,787.61
590	Sewer 2000	Independent Bank	$1,573,807.47
701	Bldg Perform Bond	F&M Bank	$93,307.00
701	Compliance Depart	Independent Bank	$875.75
701	General Agency T&A	Independent Bank	$145.02
701	General Agency Dog	Independent Bank	$167.79
702	Pathway	F&M Bank	$890,702.39
703	Current Tax Checking	Independent Bank	$52,432.28
442	Future Rd Imp	F&M Bank	$910,247.64
725	Construction Escrow	F&M Bank	$210,566.84
812	Road Main	F&M Bank	$146,331.33
814	Road Projects	F&M Bank	$71,957.17
817	Municipal Refuse	F&M Bank	$21,153.62
840	Aquatics	F&M Bank	$46,931.19
860	2022 Rd Imp SA Bond	F&M Bank	$406,926.17
861	2020 Rd Imp Bond Pay Fund	F&M Bank	$253,074.22

ALL FLAGSTAR ACCOUNTS CLOSED IN SEPT/NOV 2025 AND MOVED TO INDEPENDENT BANK

BRIGHTON TOWNSHIP TREASURERS' REPORT
CASH AND INVESTMENTS/DECEMBER 2025

FUND	ACCOUNT	BANK	DEC ENDING BALANCE
101	BT Escrow Natural Ag	Huntington	$0.00
101	General Fund Ckg.	Independent Bank	$4,527,661.24
101	EFT	Independent Bank	$111.99
101	Payroll Account	Independent Bank	$7,200.30
101	General Fund	MBIA	$5,333,033.68
101	General Fund-CDARS	CIBC-CDARS 0894	$1,066,228.49
101	General Fund-CDARS	CIBC - CDARS 7217	$1,131,785.48
101	General Fund- CDARS	State Bk/Choice 1-CDAR18	$0.00
101	General Fund - CDARS	Choice 1 - CDARS 2705	$1,325,323.30
101	General Fund - CDARS	CIBC - CDARS 7054	$0.00
101	General Fund - CDARS	Huntington-CDAR 2167	$0.00
101	General Fund-CDARS	Huntington -CDAR 8267	$1,000,000.00
101	General Fund - CD	Flagstar Bank CD 869	$0.00
101	General Fund - CDARS	Horizon CDARS 0024	$838,364.30
101	General Fund - CDARS	Flagstar - CDAR 0644	$1,077,079.69
101	General Fund CDARS	F&M Bank CDARS 4879	$1,065,256.00
101	General Fund CDARS	Huntington-CDAR 4463	$1,000,000.00
101	General Fund - CHK	Horizon Bank 48	$203.71
101	General Fund - CHK	F&M Bank 879 chk	$160.73
101	General Fund - CHK	Huntington - 769chk	$15,521.05
208	Parks Fund ICS 604	Independent Bank	$1,433,466.95
209	Cemetery Fund	F&M Bank	$189,844.13
212	Liquor Law	Independent Bank	$62,175.12
102	Budget Stab	F&M Bank	$315,432.20
284	Opioid Settlement	Independent Bank	$4,244.72
591	Municipal Water	F&M Bank	$931,964.02
598	Sewer Cap Reserve	F&M Bank	$5,918,734.12
590	Sewer 2000	Independent Bank	$1,515,452.36
701	Bldg Perform Bond	F&M Bank	$92,710.00
701	Compliance Depart	Independent Bank	$880.06
701	General Agency T&A	Independent Bank	$148.27
701	General Agency Dog	Independent Bank	$126.02
702	Pathway	F&M Bank	$893,407.44
703	Current Tax Checking	Independent Bank	$7,022,228.30
442	Future Rd Imp	F&M Bank	$697,625.10
725	Construction Escrow	F&M Bank	$193,828.75
812	Road Main	F&M Bank	$149,862.43
814	Road Projects	F&M Bank	$16,165.14
817	Municipal Refuse	F&M Bank	$30,529.63
840	Aquatics	F&M Bank	$60,988.64
860	2022 Rd Imp SA Bond	F&M Bank	$414,288.81
861	2020 Rd Imp Bond Pay Fund	F&M Bank	$254,966.95

ALL FLAGSTAR ACCOUNTS CLOSED IN SEPT/NOV 2025 AND MOVED TO INDEPENDENT BANK

Memorandum

Date: January 26, 2026
To: Board of Trustees
From: Township Manager
SUBJECT: Veterans Park Landscape

In November I forwarded to the Township Board a set of “progress plans” for the improvements at Veteran Park. The attached plans were received this week from our engineers and are ready to be made available for the bidding process. I am merely providing these to you, at this time, to keep you in the loop and for you to provide any last-minute feedback.

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Attached:

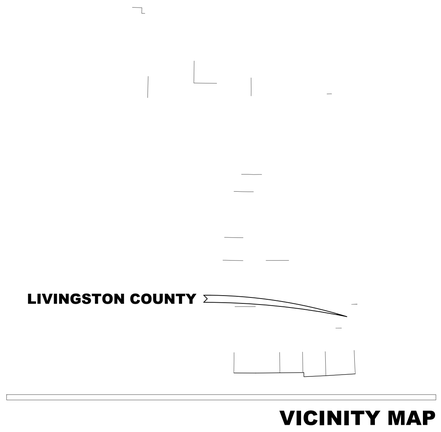
- Construction Plans January 19, 2026

BRIGHTON TOWNSHIP VETERANS PARK

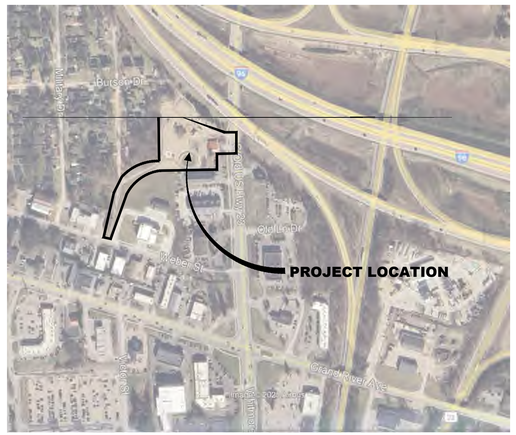
BRIGHTON CHARTER TOWNSHIP, LIVINGSTON COUNTY, MI

LAWN RESTORATION PROJECT

DECEMBER 2025



VICINITY MAP



LOCATION MAP

N

PROPERTY DESCRIPTIONS

TOWNSHIP PARCEL # 4712-32-104-092:
BRIGHTON TOWNSHIP T2N-R6E, LOT 464 OF BRIGHTON COUNTRY CLUB ANNEX AMENDED PLAT RECORDED IN LIVINGSTON COUNTY REGISTER OF DEEDS UNDER RECORD NUMBER 2022P-0001; MORE PARTICULARLY DESC AS THE N'LY 1/2 OF LOT 19, THE REMNANT PORTIONS OF LOTS 20, 21 AND 22, LOTS 70,71, 72, 73, 74, 95, 96, 97 AND 98, THE VACATED PORTION OF THOMAS AVE LYING BETWEEN A LN DRAWN FROM THE NW COR OF LOT 70 TO THE NE COR OF LOT 98 AND A LN DRAWN FROM THE SW COR OF LOT 73 TO THE SE COR OF LOT 95, THE E 1/2 OF VACATED THOMAS AVE ADJACENT TO LOT 74, THE VACATED PORTION OF THE PUBLIC ALLEY LYING BETWEEN A LN DRAWN FROM THE NE COR OF LOT 70 TO A PT 20 FT S OF THE NW COR OF LOT 22 TO A LN DRAWN FROM THE SE COR OF LOT 71 TO A PT 20 FT S OF THE NW COR OF LOT 19 AND THE W 1/2 OF THE VACATED ALLEY ADJACENT TO LOTS 72, 73 AND 74 OF THE ORIGINAL PLAT OF BRIGHTON CC ANNEX) 2.23 AC M/L COMBINED ON 02/01/2022 FROM 4712-32-104-082, 4712-32-104-030, 4712-32-104-031, 4712-32-104-032, 4712-32-104-033, 4712-32-104-040, 4712-32-104-041, 4712-32-104-042, 4712-32-104-043, 4712-32-104-044 PER CIRCUIT COURT ORDER CASE NO. 19-30562-CH, RECORDED AT LIVINGSTON COUNTY REGISTER OF DEEDS UNDER RECORD NO. 2021R-028511 LD#22/03 COMBINED ON 07/23/2025 WITH 4712-32-104-034, 4712-32-104-035, 4712-32-104-038, 4712-32-104-039 INTO 4712-32-104-093;

TOWNSHIP PARCEL # 4712-32-104-091
SEC 32, T2N, R6E, BRIGHTON COUNTRY CLUB ANNEX AS AMENDED 1/29/04, LOT 462 (AMENDED TO COMBINE LOTS 131-134, LOTS 143-146, EXC THE N 24 FT OF LOT 146 WITH THE VACATED PORTION OF SAUNDERS AVE LYING BETWEEN LOTS 132-134, 143-145, THE S 36 FT OF 131 & THE S 36 FT OF 146; PER CIRCUIT COURT CASE NO.01-18507-CH); ALSO INCL BRIGHTON CC ANNEX LOTS 85 THRU 93 AND LOTS 135 THRU 138. ALSO INCLUDING BRIGHTON CC ANNEX AMENDED PLAT RECORD NO. 2022P-0001, RECORDED AT LIVINGSTON COUNTY ROD, LOT 465 (FORMERLY LOT 94 & W 1/2 OF VACATED THOMAS AVE ADJACENT THERETO) COMBINED ON 10/20/2021 FROM 4712-32-104-090, 4712-32-104-015, 4712-32-104-016, 4712-32-104-017, 4712-32-104-018, 4712-32-104-020, 4712-32-104-021, 4712-32-104-022, 4712-32-104-023, 4712-32-104-024, 4712-32-104-025, 4712-32-104-026, 4712-32-104-027, 4712-32-104-028, 4712-32-104-029; LD #21/14 TAX LEGAL AMENDED 2/1/22 PER AMENDED PLAT OF BRIGHTON CC ANNEX RECORD NO. 2022P-0001

THE ABOVE DESCRIPTIONS WERE TAKEN FROM LIVINGSTON COUNTY RECORDS. FLEIS & VANDENBRINK HAS NOT COMPLETED A BOUNDARY SURVEY AT THIS TIME

SHEET INDEX

SHEET NO.	SHEET TITLE
G-001	COVER SHEET
C-101	EXISTING CONDITIONS & REMOVALS
C-102	SOIL EROSION & SEDEMENTATION CONTROL PLAN
C-103	SITE LAYOUT & LANDSCAPE PLAN
C-501	DETAILS
I-101	IRRIGATION PLAN
I-501	IRRIGATION DETAILS

PROJECT DESCRIPTION:

REMOVE EXISTING LAWN AREA INCLUDING 6" OF SOIL WITHIN THE PERIMETER PATHWAY BUT EXCLUDING THE DETENTION AREA. INSTALLATION OF UNDERGROUND IRRIGATION SYSTEM THAT WILL CONNECT TO THE DPW BUILDING ON WEBER STREET, SOUTH OF THE PARK. CORRECT DRAINAGE ISSUE AT DOG PARK ENTRANCE WITH DRAIN PIPE AND GRADING, INSTALLATION OF "STORY WALK" SIGNAGE ALONG PATHWAY. PROTECT EXISTING TREES AND PLANTINGS SHOWN TO REMAIN, REPLACE REMOVED SOIL WITH 6" OF TOP SOIL AND RESEED LAWN AREAS. PLANT ADDITIONAL TREES, SHRUBS, AND PERENNIALS AS SHOWN ON PLANS.

ALTERNATE #1 - PLACE LIMITED EXCAVATED SOILS IN TWO AREAS AS INDICATED ON PLANS TO CREATE EARTHEN BERMS. ALL EXCESS SOILS NOT USED FOR BERMS ARE TO BE REMOVED FROM THE SITE IN A LOCATION DETERMINED BY THE TOWNSHIP.









EXISTING SITE PHOTOS TAKEN IN SUMMER, 2025

9475 Holly Rd, Suite 201
Grand Blanc, MI 49439
P: 810.743.9120
F: 810.771.7860

BRIGHTON CHARTER TWP
LIVINGSTON COUNTY, MI
VETERANS PARK LAWN RESTORATION PROJECT

COVER SHEET

DESIGN TEAM | PROJ MNGR: LME | DESIGNED BY: AEG | DRAWN BY: AEG | CHECKED BY:

NOT FOR CONSTRUCTION

F&V PROJECT NO.
874320

G-001

M:\Proj\F23001-870000\874320 Brighton Veterans Park Restoration\04-CAD\Proj\874320_COVER SHEET.dwg Monday, January 19, 2026 at 3:10pm lsae

EXISTING LEGEND:

NOTE: ALL ITEMS LISTED ON THE LEGEND MAY NOT BE PRESENT ON DRAWING

- SECTION CORNER
- SURVEY CONTROL POINT
- BM #1 BENCHMARK
- FOUND IRON ROD
- FOUND CONCRETE MONUMENT
- SET IRON ROD
- SET CONCRETE MONUMENT
- MONUMENT BOX
- SIGN
- STREET SIGN
- BUMPER BLOCK
- MAIL BOX
- MONITORING WELL
- POST

STORM:
- MANHOLE
- ROUND CATCH BASIN
- SQUARE CATCH BASIN
- FLARED END SECTION
- PIPE INVERT
- CLEANOUT
- DOWNSPOUT

SANITARY:
- MANHOLE
- CLEANOUT
- VALVE & BOX

CABLE TV:
- MANHOLE
- HANDHOLE
- RISER
- MARKER

- UTILITY POLE
- GUY ANCHOR
- ROCK
- SOIL BORING
- RAILROAD CROSSING
- PEDESTRIAN CROSSING
- PEDESTRIAN PUSH BUTTON
- PARKING METER
- STRAIN POLE
- TRAFFIC SIGNAL
- AIR CONDITIONER
- FLAG POLE
- VENT
- ANTENNA

WATER:
- MANHOLE
- VALVE & BOX
- CURB STOP & BOX
- FIRE HYDRANT
- WELL
- METER
- FIRE DEPARTMENT CONNECTION

NATURAL GAS:
- VALVE & BOX
- METER
- MARKER

FIBER OPTIC:
- MANHOLE
- HANDHOLE
- RISER
- MARKER

- CONIFEROUS TREE
- DECIDUOUS TREE
- BUSH
- DEAD TREE
- STUMP
- UNKNOWN MANHOLE
- UNKNOWN CLEANOUT
- UNKNOWN HANDHOLE
- UNKNOWN RISER
- FILL PORT
- ELECTRICAL OUTLET
- SPRINKLER VALVE
- SPRINKLER HEAD

ELECTRIC:
- MANHOLE
- HANDHOLE
- METER
- LIGHT POLE
- GROUND LIGHT
- WALL LIGHT
- TRANSFORMER
- RISER
- MARKER
- STREET LIGHT

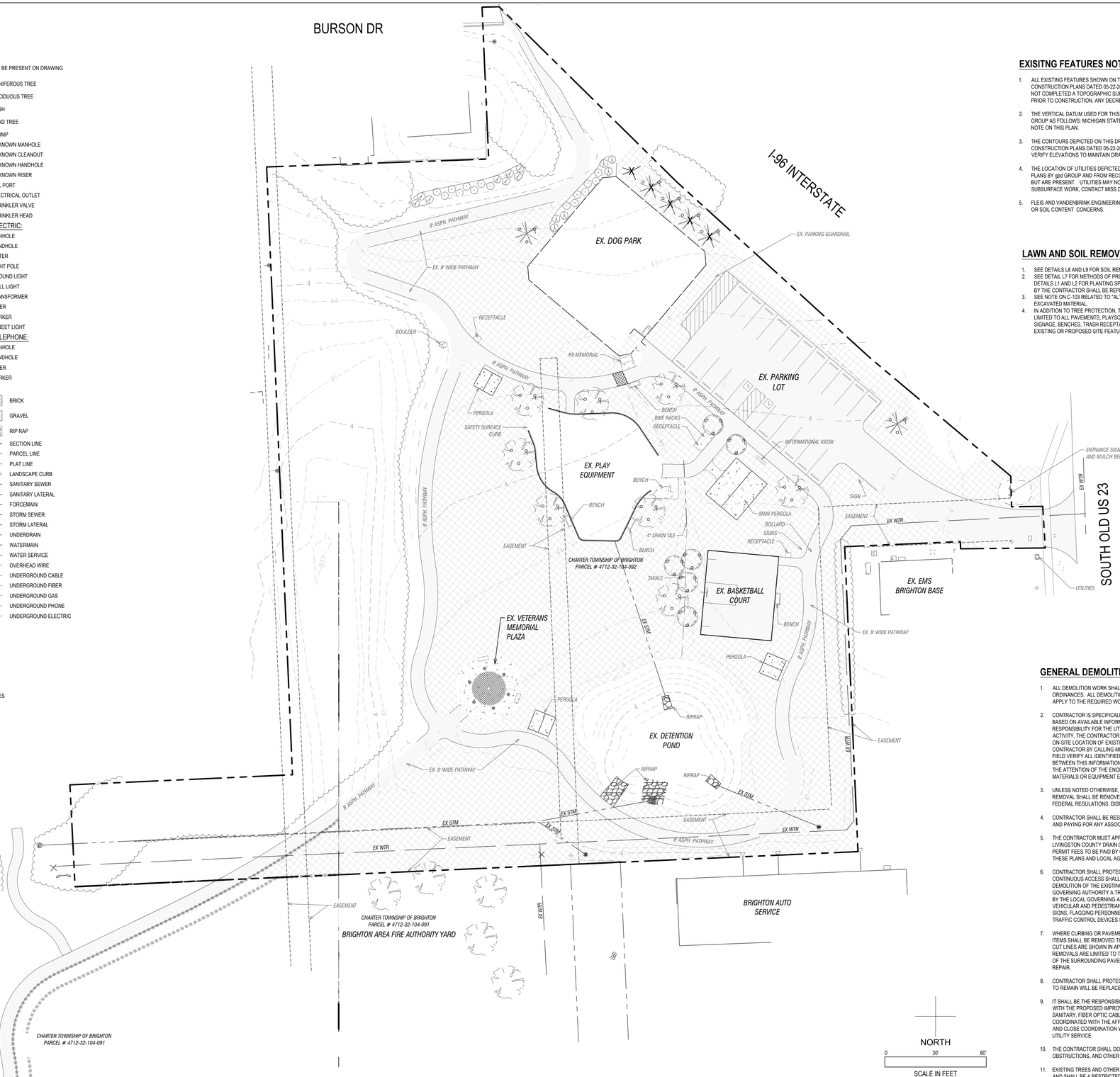
TELEPHONE:
- MANHOLE
- HANDHOLE
- RISER
- MARKER

ASPHALT	BRICK
CONCRETE / SIDEWALK	GRAVEL
BUILDING	RIP RAP
BOUNDARY LINE	SECTION LINE
RIGHT OF WAY LINE	PARCEL LINE
EASEMENT LINE	PLAT LINE
CURB & GUTTER	LANDSCAPE CURB
ASPHALT CURB	SANITARY SEWER
DITCH	SANITARY LATERAL
EDGE OF WATER	FORCEMAIN
FENCE	STORM SEWER
GUARD RAIL	STORM LATERAL
LANDSCAPING	UNDERDRAIN
WETLAND	WATERMAIN
MAJOR CONTOUR	WATER SERVICE
MINOR CONTOUR	OVERHEAD WIRE
BOTTOM OF BANK	UNDERGROUND CABLE
TOP OF BANK	UNDERGROUND FIBER
BUSH LINE	UNDERGROUND GAS
BRUSH LINE	UNDERGROUND PHONE
TREE LINE	UNDERGROUND ELECTRIC

DEMOLITION LEGEND:

- EXISTING LAWN & SOIL REMOVAL AREA. SEE NOTES
- X TREE PROTECTION FENCING
- REMOVAL ITEMS
- APPROXIMATE LIMITS OF DISTURBANCE

BENCHMARK #1 -
BOSS NAIL/TAG EAST SIDE OF 10" POPLAR TREE
ELEVATION: 942.18
ELEVATIONS ARE NAVD 88.
(TAKEN FROM PREVIOUS PLANS BY OTHERS)



NORTH
0 30' 60'
SCALE IN FEET

EXISITNG FEATURES NOTES:

1. ALL EXISTING FEATURES SHOWN ON THESE PLANS WERE TAKEN FROM THE PROPOSED VETERANS PARK CONSTRUCTION PLANS DATED 05-22-2023 BY GPD GROUP AND ARE NOT AS-BUILT. FLEIS AND VANDENBRINK HAS NOT COMPLETED A TOPOGRAPHIC SURVEY. ALL EXISTING FEATURES MUST BE FIELD VERIFIED BY CONTRACTOR PRIOR TO CONSTRUCTION. ANY DECREPANCOIES FOUND MUST BE IMMEDIATELY REPORTED TO THE ENGINEER.
2. THE VERTICAL DATUM USED FOR THIS PROJECT IS BASED ON THE 05-22-2023 CONSTRUCTION PLANS BY GPD GROUP AS FOLLOWS: MICHIGAN STATE PLAN, SOUTH ZONE, NAD 83. ELEVATIONS ARE NAVD 88. SEE BENCH MARK NOTE ON THIS PLAN.
3. THE CONTOURS DEPICTED ON THIS DRAWING WERE TAKEN FROM THE PROPOSED VETERANS PARK CONSTRUCTION PLANS DATED 05-22-2023 BY GPD GROUP AND ARE NOT AS-BUILT. CONTRACOTR SHALL FIELD VERIFY ELEVATIONS TO MAINTAIN DRAINAGE AS INTENDED BY THESE PLANS. CONTOUR INTERVAL = 1,'
4. THE LOCATION OF UTILITIES DEPICTED ON THIS DRAWING ARE SHOWN FROM THE 05-22-2023 CONSTRUCTION PLANS BY gpd GROUP AND FROM RECORDS PROVIDED BY UTILITY OWNERS. SOME UTILITIES MAY NOT BE SHOWN, BUT ARE PRESENT. UTILITIES MAY NOT BE IN THE EXACT POSITION SHOWN. BEFORE CONSTRUCTION OR ANY SUBSURFACE WORK, CONTACT MISS DIG AND EXERCISE CAUTION.
5. FLEIS AND VANDENBRINK ENGINEERING, INC. HAS NOT REVIEWED THIS PROJECT FOR ENVIRONMENTAL, WETLAND, OR SOIL CONTENT CONCERNS.

LAWN AND SOIL REMOVAL NOTES:

1. SEE DETAILS L8 AND L9 FOR SOIL REMOVAL AND LAWN RESTORATION SPECIFICATIONS.
2. SEE DETAIL L7 FOR METHODS OF PROTECTION, GRADING AROUND, AND FINAL TREATMENT OF EXISTING TREES. SEE DETAILS L1 AND L2 FOR PLANTING SPECIFICATIONS OF PROPOSED TREES. ANY EXISTING OR PROPOSED TREES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT NO COST TO THE TOWNSHIP.
3. SEE NOTE ON C-103 RELATED TO "ALTERNATE #1" FOR INFORMATION REGARDING LIMITED ON-SITE BERMING OF EXCAVATED MATERIAL.
4. IN ADDITION TO TREE PROTECTION, THE CONTRACTOR MUST PROTECT ALL EXISTING SITE FEATURES INCLUDING BUT NOT LIMITED TO ALL PAVEMENTS, PLAYSCAPE EQUIPMENT (INCLUDING CURB EDGING AND SAFETY SURFACE), PAVILIONS, SIGNAGE, BENCHES, TRASH RECEPTACLES, FENCING, UTILITIES, STORM WATER FEATURES, ETC. . ANY DAMAGE TO EXISTING OR PROPOSED SITE FEATURES SHALL BE REPLACED BY THE CONTRACTOR AT NO COST TO THE TOWNSHIP.

GENERAL DEMOLITION NOTES:

1. ALL DEMOLITION WORK SHALL CONFORM TO ALL APPICABLE LOCAL, STATE AND FEDERAL CODES AND ORDINANCES. ALL DEMOLITION OPERATIONS SHALL COMPLY WITH MIOSHA REGULATIONS INSOFAR AS THEY APPLY TO THE REQUIRED WORK. A SOIL EROSION CONTROL PERMIT WILL BE REQUIRED PRIOR TO DEMOLITION.
2. CONTRACTOR IS SPECIFICALLY CAUTIONED THAT LOCATIONS OF EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED ON AVAILABLE INFORMATION PROVIDED BY THE TOWNSHIP AND UTILITY OWNERS. ENGINEER ASSUMES NO RESPONSIBILITY FOR THE UTILITY MAPPING ACCURACY. PRIOR TO START OF ANY DEMOLITION OR CONSTRUCTION ACTIVITY, THE CONTRACTOR SHALL NOTIFY UTILITY COMPANIES 48 HOURS PRIOR TO ANY EXCAVATION FOR ON-SITE LOCATION OF EXISTING UTILITIES. THE LOCATIONS OF UTILITIES SHALL BE OBTAINED BY THE CONTRACTOR BY CALLING MICHIGAN UTILITY NOTIFICATION CENTER (MISS DIG) AT 811. THE CONTRACTOR SHALL FIELD VERIFY ALL IDENTIFIED UTILITIES FOR LOCATION AND DEPTH PRIOR TO CONSTRUCTION. ANY DISCREPANCY BETWEEN THIS INFORMATION AND THE INFORMATION REPRESENTED ON THIS PLAN SET SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY OTHER UNDERGROUND MATERIALS OR EQUIPMENT ENCOUNTERED DURING EXCAVATION NOT SPECIFICALLY NOTED ON THIS PLAN SET.
3. UNLESS NOTED OTHERWISE, ALL MATERIAL THAT IS NOT SUITABLE AS BACKFILL AND MATERIALS NOTED FOR REMOVAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS. DISPOSAL LOCATION TO BE COORDINATED WITH TOWNSHIP.
4. CONTRACTOR SHALL BE RESPONSIBLE FOR APPLYING FOR AND OBTAINING ALL NECESSARY DEMOLITION PERMITS AND PAYING FOR ANY ASSOCIATED PERMIT FEES.
5. THE CONTRACTOR MUST APPLY FOR AND OBTAIN THE REQUIRED SOIL EROSION CONTROL PERMIT FROM LIVINGSTON COUNTY DRAIN COMMISSIONERS OFFICE PRIOR TO DEMOLITION OR EARTHWORK OCCURRING. ALL PERMIT FEES TO BE PAID BY CONTRACTOR. ALL EROSION CONTROL DEVICES SHALL BE INSTALLED ACCORDING TO THESE PLANS AND LOCAL AGENCY REQUIREMENTS PRIOR TO CONSTRUCTION.
6. CONTRACTOR SHALL PROTECT THE PUBLIC AT ALL TIMES WITH FENCING, BARRICADES, ENCLOSURES, ETC. CONTINUOUS ACCESS SHALL BE MAINTAINED FOR THE SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF THE EXISTING FACILITIES. IF REQUIRED, CONTRACTOR SHALL PREPARE AND SUBMIT TO THE GOVERNING AUTHORITY A TRAFFIC AND/OR PEDESTRIAN TRAFFIC PLAN PER STATE STANDARDS TO BE APPROVED BY THE LOCAL GOVERNING AUTHORITY. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING VEHICULAR AND PEDESTRIAN TRAFFIC CONTROL DEVICES SUCH AS BARRICADES, WARNING SIGNS, DIRECTIONAL SIGNS, FLAGGING PERSONNEL, AND LIGHTS TO CONTROL THE MOVEMENT OF TRAFFIC WHERE NECESSARY. TRAFFIC CONTROL DEVICES SHALL CONFORM TO APPROPRIATE DEPARTMENT OF TRANSPORTATION STANDARDS.
7. WHERE CURBING OR PAVEMENT IS INDICATED TO BE REMOVED, IT SHALL BE SAWCUT FULL DEPTH. CONCRETE ITEMS SHALL BE REMOVED TO THE NEAREST JOINT IF THE JOINT IS WITHIN 3 FEET OF THE REMOVAL LINE. SAW CUT LINES ARE SHOWN IN APPROXIMATE LOCATION AND MAY BE ADJUSTED BY THE CONTRACTOR AS NECESSARY. REMOVALS ARE LIMITED TO THE WORK AREA AS SHOWN ON THIS PLAN BUT IF ANY DAMAGE IS INCURRED ON ANY OF THE SURROUNDING PAVEMENT, ETC., THE CONTRACTOR SHALL BE RESPONSIBLE FOR ITS REMOVAL AND REPAIR.
8. CONTRACTOR SHALL PROTECT EXISTING FEATURES WHICH ARE TO REMAIN. DAMAGE TO ANY EXISTING FEATURES TO REMAIN WILL BE REPLACED AT CONTRACTOR'S EXPENSE.
9. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT WITH THE PROPOSED IMPROVEMENTS SHOWN ON THIS PLAN SET. ELECTRICAL, TELEPHONE, CABLE, WATER, SANITARY, FIBER OPTIC CABLE AND/OR GAS LINES NEEDING TO BE REMOVED OR RELOCATED SHALL BE COORDINATED WITH THE AFFECTED UTILITY COMPANY. ADEQUATE TIME SHALL BE PROVIDED FOR RELOCATION AND CLOSE COORDINATION WITH THE UTILITY COMPANY IS NECESSARY TO PROVIDE A SMOOTH TRANSITION IN UTILITY SERVICE.
10. THE CONTRACTOR SHALL DOCUMENT AND WITNESS ACTUAL LOCATIONS OF CAPPED UTILITIES, SUBSURFACE OBSTRUCTIONS, AND OTHER ITEMS WHICH WILL BE HIDDEN AFTER PROPOSED CONSTRUCTION ACTIVITIES.
11. EXISTING TREES AND OTHER NATURAL VEGETATION ON OR ADJACENT TO THE PROJECT IS OF PRIME CONCERN AND SHALL BE A RESTRICTED AREA. CONTRACTOR SHALL PROTECT TREES AND SHRUBS, SHOWN TO REMAIN, AT ALL TIMES.

9475 Holly Rd, Suite 201
Grand Blanc, MI 49439
P: 810.743.9120
F: 810.771.7860

BRIGHTON CHARTER TWP
LIVINGSTON COUNTY, MI
VETERANS PARK LAWN RESTORATION PROJECT
EXISTING CONDITIONS & REMOVALS

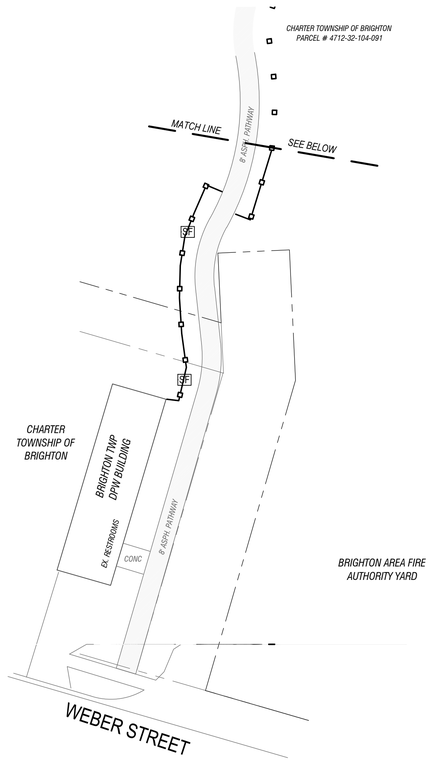
DESIGN TEAM	
PROJ MNGR:	LME
DESIGNED BY:	AEG
DRAWN BY:	AEG
CHECKED BY:	

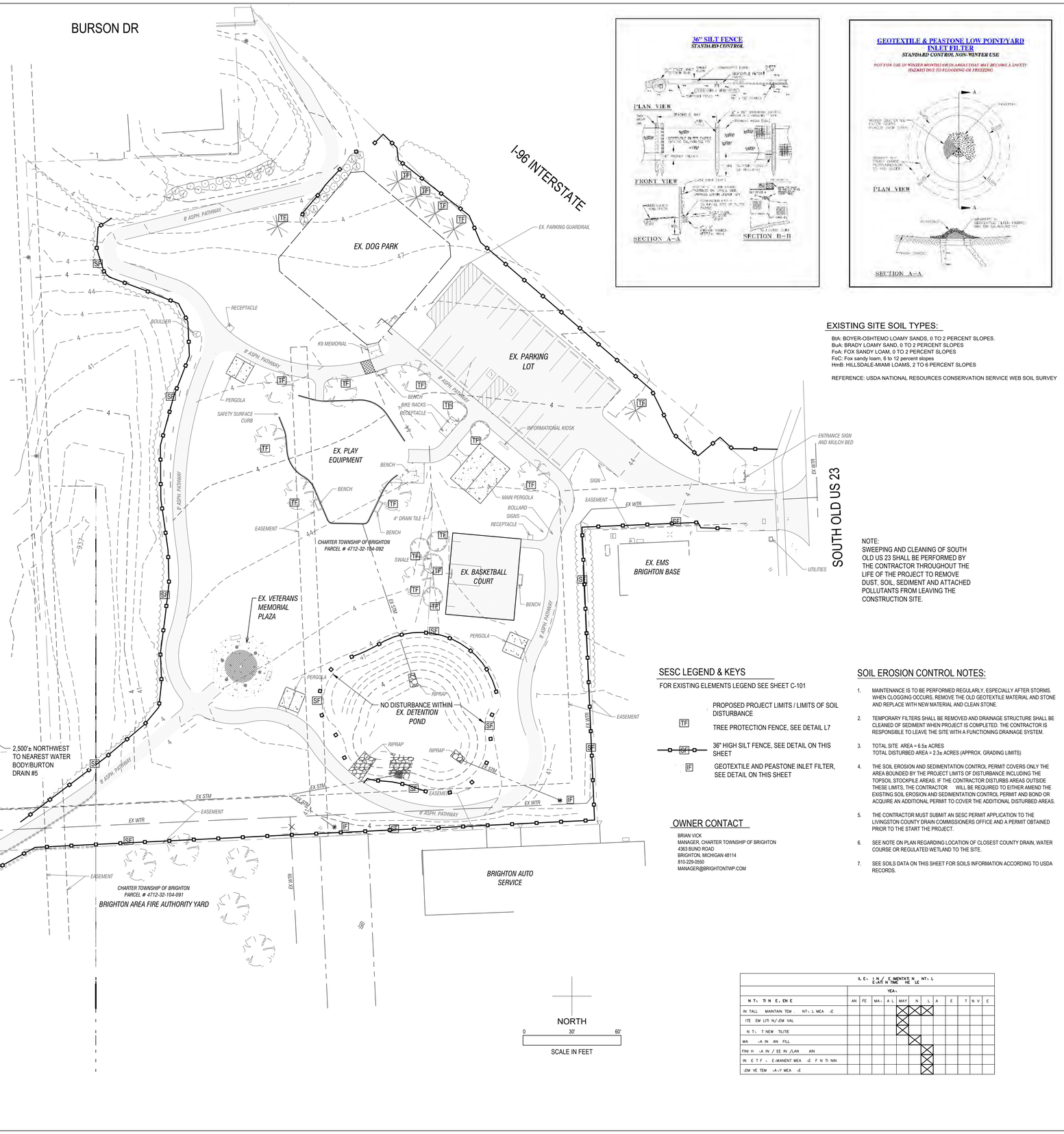
NOT FOR CONSTRUCTION

F&V PROJECT NO.
874320

C-101

M:\Proj\874320\1-876002\874320 Brighton Veterans Park Restoration\04-CAD\Print\C-101 EXISTING CONDITIONS.dwg Monday, January 19, 2026 at 3:11pm lisae





EXISTING SITE SOIL TYPES:

BtA: BOYER-OSHTEMO LOAMY SANDS, 0 TO 2 PERCENT SLOPES.
BuA: BRADY LOAMY SAND, 0 TO 2 PERCENT SLOPES
FoA: FOX SANDY LOAM, 0 TO 2 PERCENT SLOPES
FoC: Fox sandy loam, 6 to 12 percent slopes
HmB: HILLSDALE-MIAMI LOAMS, 2 TO 6 PERCENT SLOPES

REFERENCE: USDA NATIONAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

NOTE:
SWEEPING AND CLEANING OF SOUTH OLD US 23 SHALL BE PERFORMED BY THE CONTRACTOR THROUGHOUT THE LIFE OF THE PROJECT TO REMOVE DUST, SOIL, SEDIMENT AND ATTACHED POLLUTANTS FROM LEAVING THE CONSTRUCTION SITE.

SESC LEGEND & KEYS

FOR EXISTING ELEMENTS LEGEND SEE SHEET C-101

- PROPOSED PROJECT LIMITS / LIMITS OF SOIL DISTURBANCE
- TF — TREE PROTECTION FENCE, SEE DETAIL L7
- SF — 36" HIGH SILT FENCE, SEE DETAIL ON THIS SHEET
- IF — GEOTEXTILE AND PEASTONE INLET FILTER, SEE DETAIL ON THIS SHEET

OWNER CONTACT

BRIAN VICK
MANAGER, CHARTER TOWNSHIP OF BRIGHTON
4363 BUNO ROAD
BRIGHTON, MICHIGAN 48114
810-229-0550
MANAGER@BRIGHTONTWP.COM

SOIL EROSION CONTROL NOTES:

1. MAINTENANCE IS TO BE PERFORMED REGULARLY, ESPECIALLY AFTER STORMS. WHEN CLOGGING OCCURS, REMOVE THE OLD GEOTEXTILE MATERIAL AND STONE AND REPLACE WITH NEW MATERIAL AND CLEAN STONE.
2. TEMPORARY FILTERS SHALL BE REMOVED AND DRAINAGE STRUCTURE SHALL BE CLEANED OF SEDIMENT WHEN PROJECT IS COMPLETED. THE CONTRACTOR IS RESPONSIBLE TO LEAVE THE SITE WITH A FUNCTIONING DRAINAGE SYSTEM.
3. TOTAL SITE AREA = 6.5± ACRES
   TOTAL DISTURBED AREA = 2.3± ACRES (APPROX. GRADING LIMITS)
4. THE SOIL EROSION AND SEDIMENTATION CONTROL PERMIT COVERS ONLY THE AREA BOUNDED BY THE PROJECT LIMITS OF DISTURBANCE INCLUDING THE TOPSOIL STOCKPILE AREAS. IF THE CONTRACTOR DISTURBS AREAS OUTSIDE THESE LIMITS, THE CONTRACTOR WILL BE REQUIRED TO EITHER AMEND THE EXISTING SOIL EROSION AND SEDIMENTATION CONTROL PERMIT AND BOND OR ACQUIRE AN ADDITIONAL PERMIT TO COVER THE ADDITIONAL DISTURBED AREAS.
5. THE CONTRACTOR MUST SUBMIT AN SESC PERMIT APPLICATION TO THE LIVINGSTON COUNTY DRAIN COMMISSIONERS OFFICE AND A PERMIT OBTAINED PRIOR TO THE START THE PROJECT.
6. SEE NOTE ON PLAN REGARDING LOCATION OF CLOSEST COUNTY DRAIN, WATER COURSE OR REGULATED WETLAND TO THE SITE.
7. SEE SOILS DATA ON THIS SHEET FOR SOILS INFORMATION ACCORDING TO USDA RECORDS.

SEQUENCE OF CONSTRUCTION	YEAR											
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
INSTALL / MAINTAIN TEMP. / PERM. MEASURES												
SITE PREPARATION												
INSTALL UTILITIES												
INSTALL PAVEMENT												
FINISH GRADING / SEEDING / LANDSCAPING												
INSTALL PERMANENT MEASURES												
REMOVE TEMPORARY MEASURES												

9475 Holly Rd, Suite 201
Grand Blanc, MI 49439
P: 810.743.9120
F: 810.771.7860

BRIGHTON CHARTER TWP
LIVINGSTON COUNTY, MI
VETERANS PARK LAWN RESTORATION PROJECT
SOIL EROSION & SEDIMENTATION CONTROL PLAN

DESIGN TEAM | PROJ MNGR: LME | DESIGNED BY: AEG | DRAWN BY: AEG | CHECKED BY:

NOT FOR CONSTRUCTION

F&V PROJECT NO.
874320

C-102

M:\Proj\873001-876000\874320 Brighton Veterans Park Restoration\04-CAD\Prod\C-102 SOIL EROSION & SEDIMENTATION CONTROL PLAN.dwg Monday, January 19, 2026 at 3:17pm tsae

PROPOSED LEGEND:

- LAWN RESTORATION AREA
- PROPOSED CONCRETE (FOR BENCH)
- SURFACE FLOW DIRECTION
- DECIDUOUS ORNAMENTAL TREE
- EVERGREEN TREES
- PERENNIALS
- ALUMINUM LANDSCAPE EDGING
- STORY WALK SIGN POST & PANEL
- DRAINAGE SWALE
- APPROXIMATE LIMITS OF DISTURBANCE

NOTE: FOR EXISTING SITE ELEMENTS LEGEND REFER TO EXISTING SHEET C-101

ALTERNATE #1 - BERMS

AS AN ALTERNATE TO REMOVING ALL EXCAVATED MATERIAL OF-SITE, THIS OPTION INVOLVES PLACING SOME OF THE EXCAVATED MATERIAL IN BERMS ALONG EAST AND NORTH PROPERTY LINES AS INDICATED ON THESE PLANS AND REMOVING THE REMAINING EXCESS MATERIAL TO AN OFF SITE LOCATION DETERMINED BY THE TOWNSHIP. THIS ALTERNATE INCLUDES ALL GRADING AND SHAPING TO ACHIEVE THE LANDSCAPE BERMS AT HEIGHTS AND SLOPES ACCORDING TO THESE PLANS AND THE DETAIL ON C-501. THIS ALTERNATE ALSO INCLUDES REMOVING STORING AND TRANSPLANTING THE EXISTING PINE TREES ON THE NORTH BERM.

THE CONTRACTOR IS RESPONSIBLE FOR TRANSPLANTING OF EXISTING PINE TREES FROM EXISTING ELEVATION TO PROPOSED BERM ELEVATION. ALL NECESSARY AND PROPER PRACTICES, IN ACCORDINACE WITH AMERICAN NURSEYMAN STANDARDS, SHALL BE IMPLEMENTED BY THE CONTRACTOR TO ENSURE PROPER DIGGING, TEMPORARY STORAGE, AND FINAL TRANSPLANTING OF THE EXISTING TREES USING PROPER MAINTENANCE MEASURES, INCLUDING, BUT NOT LIMITED TO, WATERING, MEDIUM NUTRITION, AND ROOT UPKEEP. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING TREES AS A RESULT OF TRANSPLANTING AND SHALL REPLACE THE DAMAGED TREE WITH AN APPROVED EQUAL EVERGREEN TREE AT NO COST TO THE TOWNSHIP.

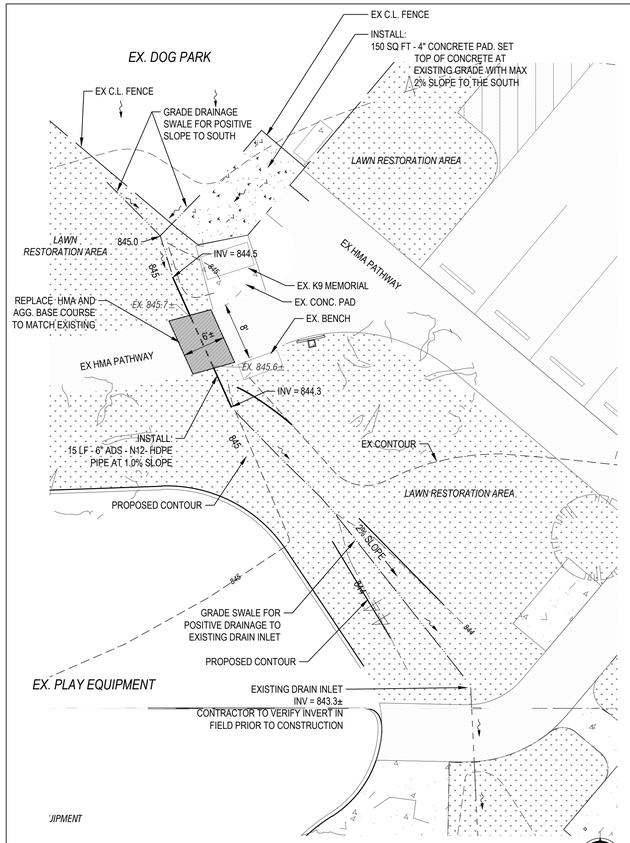
ALL OTHER PROPOSED PLANTINGS, EDGING, AND MULCH ARE TO BE INCLUDED IN THE LANDSCAPE COST AS THEY ARE PROPOSED REGARDLESS OF ALTERNATE #1 APPROVAL.

PROPOSED PLANTING LEGEND

SYM	COMMON NAME	BOTANICAL NAME	MIN. SIZE	QTY
	GALAXY MAGNOLIA TREE	*Magnolia lilliiflora* 'Nigra' *x Magnolia sprengeri 'Diva'*	2.5"-3"	3 ea
	BLACK HILLS SPRUCE	*Picea glauca* 'Black Hills'	8'-10'	4 ea
	GREEN GIANT ARBORVITAE	*Thuja occidentalis* 'Green Giant'	8'-10'	15 ea
	DARK GREEN ARBORVITAE	*Thuja occidentalis* 'Dark Green'	8'-10'	7 ea
	SPICE ISLAND VIBURNUM	*Viburnum carlesii* 'Spice Island'	#5	12 ea
×	KARL FOERSTER GRASS	*Calamagrostis x acutiflora* 'Karl Foerster'	#3	9 ea
·	GREEN GEM BOXWOOD	*Buxus microphylla x sempervirens* 'Green Gem'	#3	15 ea
	HAMELN GRASS	*Pennisetum alopescuroides* 'Hameln'	#2	15 ea
○	LITTLE GOLDSTAR BLACK-EYED SUSAN	*Rudbeckia fulgida* 'Little Goldstar'	#1	13 ea
⊙	NEON SEDUM	*Hylotelephium spectabile* 'Neon'	#1	6 ea
○	PURRSIAN BLUE CATMINT	*Nepta faassenii 'Purrsian Blue'*	#1	12 ea
	ALUMINUM 3/16 LANDSCAPE EDGING			

LANDSCAPE NOTES:

1. ALL LANDSCAPE BEDS ARE TO BE EDGED WITH AN ALUMINUM LANDSCAPE EDGING (IN LOCATIONS NOTED ON PLANS) PRIOR TO PLANTING. UPON PLANTING, APPLY AN APPLICATION OF PRE-EMERGENT HERBICIDE AND HARD WOOD MULCH ACCORDING TO DETAILS. ALL EXISTING INDIVIDUAL TREE PLANTINGS WITHIN LAWN AREAS ARE TO RECEIVE AN APPLICATION OF PRE-EMERGENT HERBICIDE AND A 4" LAYER OF HARD WOOD MULCH ACCORDING TO DETAILS.
2. PLANT MATERIALS, QUANTITIES, AND LOCATIONS HAVE BEEN FIGURED AS CLOSELY AS POSSIBLE. HOWEVER, MATERIALS, QUANTITIES, AND LOCATIONS MAY BE ADJUSTED ON SITE IF NECESSARY. IT REMAINS THE RESPONSIBILITY OF THE LANDSCAPE CONTRACTOR TO COMPLETE THE PROJECT AS INTENDED PER THIS PLAN.
3. REFER TO IRRIGATION PLANS FOR LOCATIONS, SPECIFICATIONS, AND QUANTIFIES OF IRRIGATION COMPONENTS. ALL IRRIGATION LINES ARE TO BE INSTALLED PRIOR TO SEEDING AND PLANTING. IRRIGATION HEADS ARE TO BE DIRECTED AWAY FROM WALKS, PATHWAYS, PLAY AREAS, VETERANS MEMORIAL PLAZA, AND PARKING LOT.
4. CONTRACTOR SHALL PROVIDE SPECIFIED SHRUBS, GROUND COVER, AND OTHER PLANT MATERIALS THAT COMPLY WITH ALL RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 - 2014 "AMERICAN STANDARD FOR NURSERY STOCK". ALL PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, WELL ROOTED STOCK, GROWN WITH GOOD HORTICULTURAL PRACTICES. ALL CONTAINER GROWN PLANTS SHALL HAVE A WELL ESTABLISHED ROOT SYSTEM REACHING THE SIDES OF THE CONTAINER TO MAINTAIN A FIRM ROOT BALL, BUT SHALL NOT HAVE EXCESSIVE ROOT GROWTH ENCIRCLING THE INSIDE OF THE CONTAINER. SLL PLANTINGS ARE TO BE INSTALLED IN ACCORDANCE WITH METHODS ESTABLISHED BY THE AMERICAN STANDARD FOR NURSERY STOCK.
5. CONTRACTOR TO SUBMIT SEED MIX TO ENGINEER FOR APPROVAL PRIOR TO PLACEMENT.



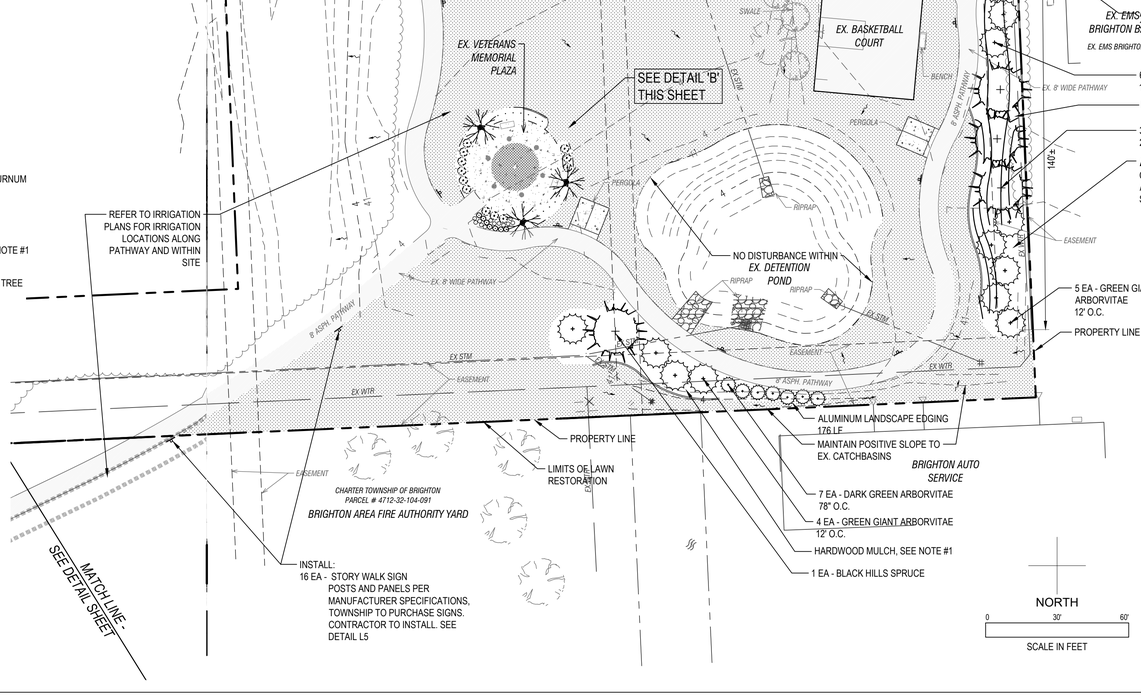
A DOG PARK DRAINAGE DETAIL

SCALE: 1" = 10'

0 10' 20'

VERTICAL: 1" = 10'

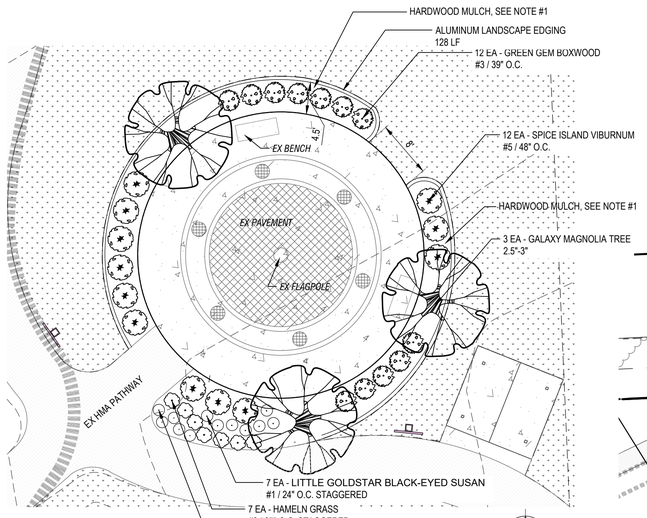
NORTH



NORTH

0 30' 60'

SCALE IN FEET



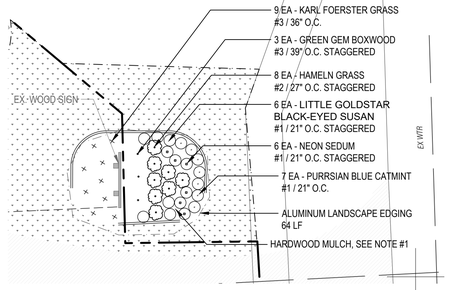
B VETERANS MEMORIAL PLAZA DETAIL

SCALE: 1" = 10'

0 10' 20'

VERTICAL: 1" = 10'

NORTH



NORTH

C ENTRANCE SIGN LANDSCAPE DETAIL

SCALE: 1" = 10'

0 10' 20'

VERTICAL: 1" = 10'

9475 Holly Rd, Suite 201
Grand Blanc, MI 49439
P: 810.743.9120
F: 810.771.7860

BRIGHTON CHARTER TWP
LIVINGSTON COUNTY, MI

VETERANS PARK LAWN RESTORATION PROJECT

SITE LAYOUT & LANDSCAPE PLAN

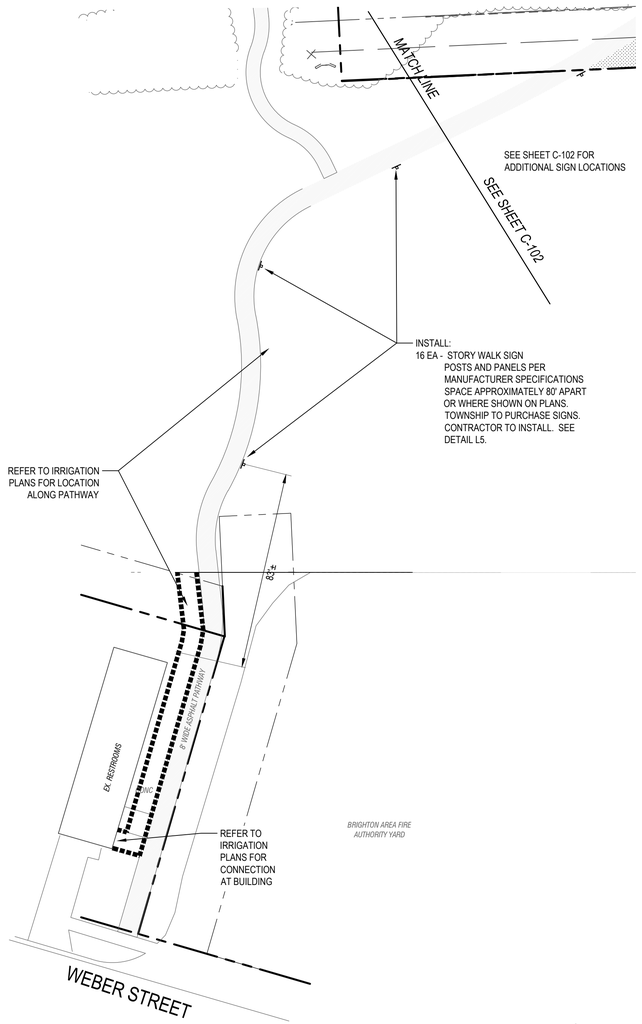
DESIGN TEAM	PROJ MNGR:	LME
	DESIGNED BY:	ABG
	DRAWN BY:	AEG
	CHECKED BY:	

NOT FOR CONSTRUCTION

F&V PROJECT NO.
874320

C-103

M:\Proj\F3001-8\19000\874320 Brighton Veterans Park Restoration\04-CAD\Proj\C-103 SITE LAYOUT & LANDSCAPE PLAN.dwg Monday, January 19, 2026 at 3:12pm tlate



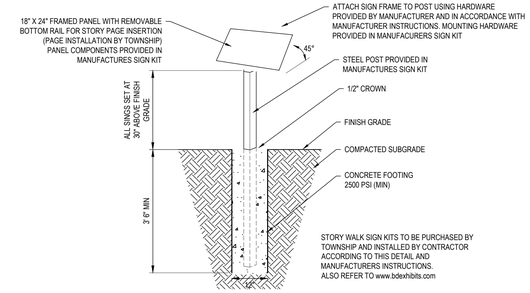
E STORY WALK SIGN PLACEMENT PLAN

SCALE: 1" = 30'

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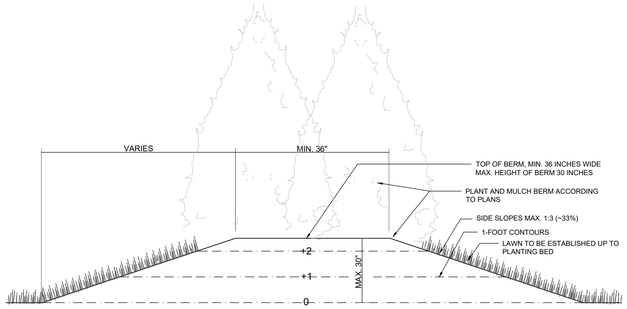
VERTICAL: 1" = 10'

NORTH



L5 STORY WALK SIGNAGE DETAIL

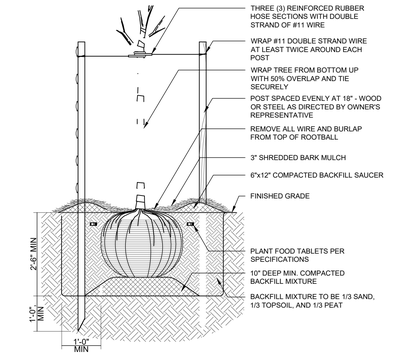
NOT TO SCALE



NOTE:
1. THIS DETAIL REPRESENTS AN ALTERNATE FOR BIDDING PURPOSES AND MUST NOT BE IMPLEMENTED AS PART OF CONSTRUCTION UNLESS THE PROJECT IS SPECIFICALLY AWARDED WITH ALTERNATE #1 INCLUDED AS APPROVED BY THE OWNER.
2. CONTRACTOR TO USE EXCAVATED SOIL FROM SITE TO CONSTRUCT BERMS AS SHOWN ON THIS DETAIL AND THE SITE LAYOUT, BERMS WITH PLANTINGS SHALL BE MULCHED.

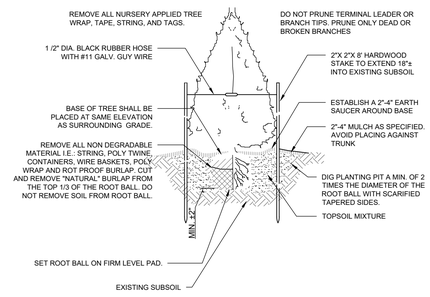
L6 ALTERNATE #1 - BERM CROSS SECTION DETAIL

NOT TO SCALE



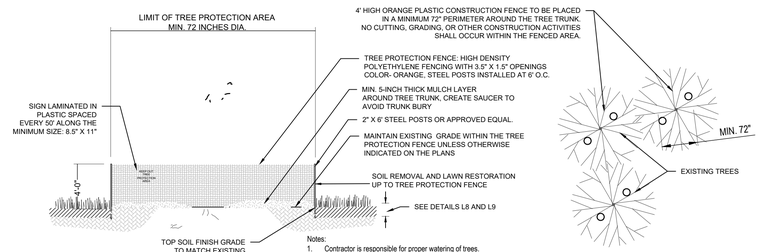
L1 DECIDUOUS PLANTING DETAIL

NOT TO SCALE



L2 EVERGREEN PLANTING DETAIL

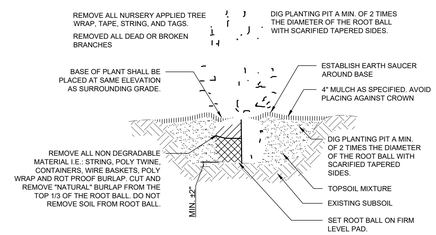
NOT TO SCALE



Notes:
1. Contractor is responsible for proper watering of trees.
2. No pruning shall be performed & no equipment shall operate inside the protective fence
3. See site preparation plan for any modifications with the Tree Protection area.

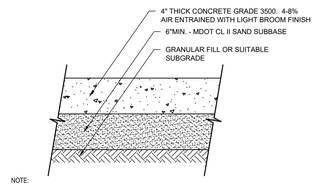
L7 EXISTING TREE PROTECTION DETAIL

NOT TO SCALE



L3 SHRUB PLANTING DETAIL

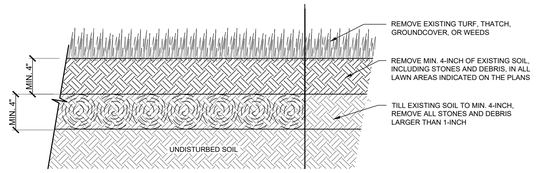
NOT TO SCALE



NOTE:
1. PROVIDE 1/2" EXPANSION JOINT WHERE CONCRETE MEETS EXISTING WALK.

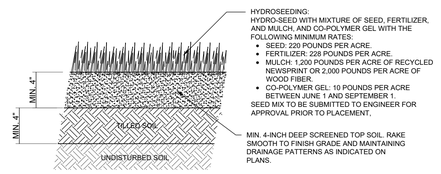
D1 4" CONCRETE BENCH PAD

NOT TO SCALE



L8 LAWN REMOVAL & SOIL MODIFICATION

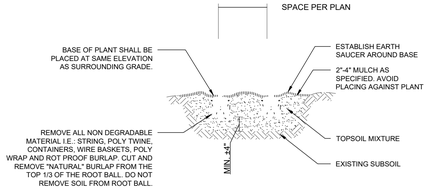
NOT TO SCALE



NOTE:
1. USE 9-15 LBS OF SOIL MOIST HYDRO PER ACRE OR 3-4 LBS PER 1000 GAL TANK.
2. SLOWLY POUR PRODUCT IN TANK AND AGITATE. WAIT FIVE MINUTES BEFORE ADDING FERTILIZER.
3. INSTALLATION TO BE COMPLETED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.

L9 LAWN RESTORATION CROSS SECTION

NOT TO SCALE



L4 PERENNIAL PLANTING DETAIL

NOT TO SCALE

9475 Holly Rd, Suite 201
Grand Blanc, MI 49439
P: 810.743.9120
F: 810.771.7860

BRIGHTON CHARTER TWP
LIVINGSTON COUNTY, MI
VETERANS PARK LAWN RESTORATION PROJECT

DETAILS

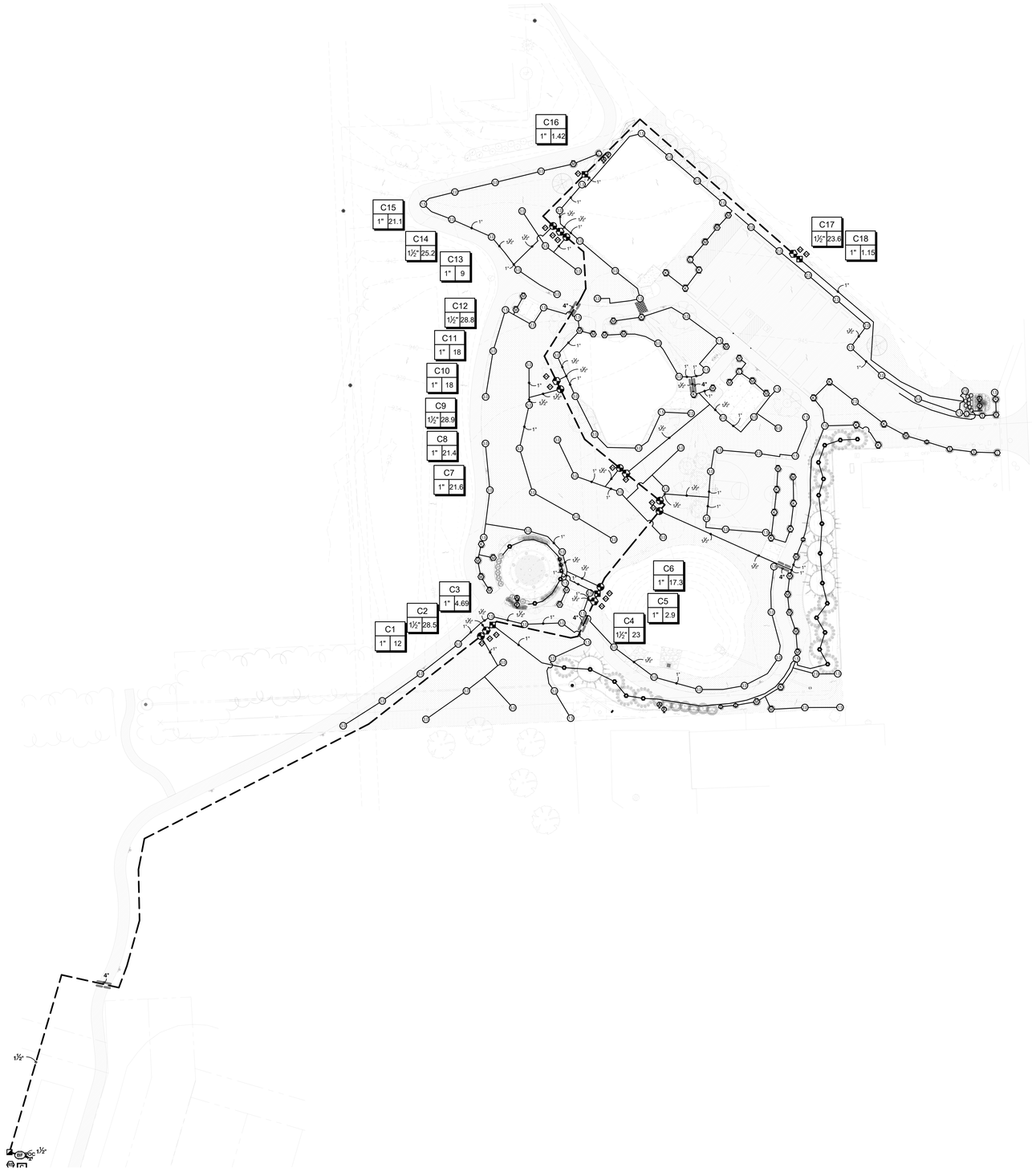
DESIGN TEAM | PROJ MNGR: LME | DESIGNED BY: AEG | DRAWN BY: AEG | CHECKED BY:

NOT FOR CONSTRUCTION

F&V PROJECT NO.
874320

C-501

M:\Proj\873001-876000\874320 Brighton Veterans Park Restoration\04-CAD\Print\C-501 DETAILS.dwg Monday, January 19, 2026 at 3:12pm tlaa



IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL	QTY
LCS SS RCS	Hunter MP Strip PROS-04-PRS40-CV	8
	Hunter MP1000 PROS-04-PRS40-CV	36
	Hunter MP2000 PROS-04-PRS40-CV	17
800 A 800 F	Hunter MP800SR PROS-04-PRS40-CV	4

SYMBOL	MANUFACTURER/MODEL	QTY
1.5	Hunter PGP-04 1.5	28
2.0	Hunter PGP-04 2.0	20
3.0	Hunter PGP-04 3.0	61
6.0	Hunter PGP-04 6.0	1

SYMBOL	MANUFACTURER/MODEL	QTY
	Rain Bird XCZ-100-PRF 1"	4
	Flush Valve	4
	Drip Air Relief Valve	4
	Drip Ring-0.6 @12" OC, Approx. 20 LF per tree	22
	Netafim TLDL-06-12	525.3 lf

SYMBOL	MANUFACTURER/MODEL	QTY
	Hunter PGV-101G 1"	8
	Hunter PGV-151 Globe 1-1/2"	6
	Hunter HQ-44RC 1"	1
BF	Febco 765 1-1/2"	1
C	Hunter I2C-0800-PL	1
21	Hunter EZ-1	18
HS	Hunter WR-CLIK	1
POC 1"	POC 1 1/2"	1
	Irrigation Lateral Line: Polyethylene Pipe 100 PSI 1"	4,227 lf
	Irrigation Lateral Line: Polyethylene Pipe 100 PSI 1 1/2"	702.3 lf
	Irrigation Mainline: PVC Class 160 SDR 26 1 1/2"	1,248 lf
	Pipe Sleeve: PVC Class 160 SDR 26 4"	44.6 lf

Valve Callout

IRRIGATION SPECIFICATIONS

1. IRRIGATION SYSTEM DESIGN BASED ON 30 GPM AT 68 PSI.
2. IRRIGATION DESIGN IS FROM THE POINT OF CONNECTION(POC)ONLY. THE DESIGN IS BASED ON GALLONS PER MINUTE(GPM)AND POUNDS PER SQUARE INCH(PSI)FURNISHED BY OTHERS.
3. IRRIGATION CONTRACTOR IS TO VERIFY POINT OF CONNECTION IN THE FIELD. INSTALLER IS TO CONFIRM THE MINIMUM DISCHARGE REQUIREMENTS OF THE POINT OF CONNECTION AS INDICATED ON THE LEGEND PRIOR TO INSTALLATION.
4. THE PRESSURE REQUIREMENT AT THE POINT OF CONNECTION IS BASED ON NO MORE THAN 5 FEET OF ELEVATION CHANGE IN THE AREAS OF IRRIGATION.
5. ALL PRODUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND ACCORDING TO LOCAL BUILDING, ELECTRICAL, AND PLUMBING CODES.
6. IRRIGATION CONTRACTOR WILL ARRANGE INSPECTIONS REQUIRED BY LOCAL AGENCIES AND ORDINANCES DURING THE COURSE OF CONSTRUCTION AS REQUIRED. ALL WIRING TO BE PER LOCAL CODE. BACKFLOW PREVENTION TO BE PER LOCAL CODE.
7. LOCATION OF IRRIGATION COMPONENTS SHOWN ON DRAWING IS APPROXIMATE. ACTUAL PLACEMENT MAY VARY SLIGHTLY AS REQUIRED TO ACHIEVE FULL, EVEN COVERAGE.
8. ALL SPRINKLER HEADS SHALL BE INSTALLED PERPENDICULAR TO FINISH GRADES. EXCEPT AS OTHERWISE INDICATED.
9. INSTALL IRRIGATION MAINS WITH A MINIMUM 18" OF COVER BASED ON FINISH GRADES. INSTALL IRRIGATION LATERALS WITH MINIMUM 12" OF COVER BASED ON FINISH GRADES.
10. PIPE LOCATIONS ARE DIAGRAMMATIC. VALVES AND MAINLINE SHOWN IN PAVED AREAS ARE FOR GRAPHIC CLARITY ONLY.
11. THE IRRIGATION CONTRACTOR SHALL COMPLY WITH PIPE SIZES AS INDICATED.
12. ALL WIRE SPLICES OR CONNECTIONS SHALL BE MADE WITH APPROVED WATERPROOF WIRE CONNECTIONS AND BE IN A VALVE OR SPLICE BOX.
13. ALL CONTROL WIRING DOWNSTREAM OF THE CONTROLLER IS TO BE 14 AWG, UL APPROVED DIRECT BURY.
14. THE DESIGN IS BASED ON THE SITE INFORMATION AND/OR DRAWING SUPPLIED WITH THE DESIGN CRITERIA BEING SET(AREA TO BE IRRIGATED, EQUIPMENT MANUFACTURER AND MODEL TO BE USED, WATER SOURCE INFORMATION, ELECTRICAL POWER AVAILABILITY, ETC...). SITEONE LANDSCAPE SUPPLY BEARS NO RESPONSIBILITY OR LIABILITY FOR ANY ERRORS IN DESIGN OR INSTALLATION THAT ARISE DUE TO INACCURACIES IN THE ABOVE REFERENCED INFORMATION SUPPLIED TO SITEONE LANDSCAPE SUPPLY LANDSCAPES IN RELATION TO THIS PROJECT, UNLESS OTHERWISE NOTED.

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SCALE: 1" = 40' - 0"

0' 20' 40' 80'

Project Services™

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http://www.projectservices.siteone.com

650 Stephenson Highway
Troy, Michigan 48083
Phone 248.588.2100
Fax 248.588.3528
www.Siteone.com
800.347.4272

Project Name:

VETERANS PARK LAWN RESTORATION PROJECT

BRIGHTON TWP, MI, 48116

Customer Name:

Design Date: 12/18/25

Drawn By: C.BEST

REVISIONS

Description	Date
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Drawing Title:

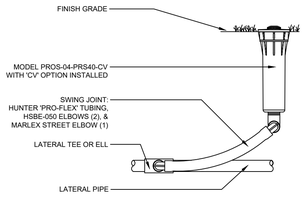
IRRIGATION DESIGN

Drawing Scale: 1" = 40'

Project Services Number: 425287

Sheet Number:

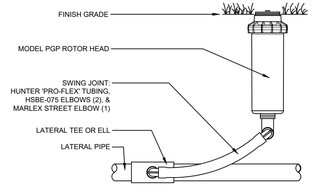
IR-1



1 PROS-04-PRS40-CV MP ROTATOR SPRINKLER

S1-RO1-HUN-01

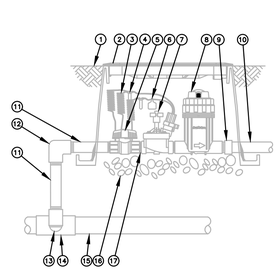
*When using larger GPM nozzles, beware of high friction loss in swing joints.



OPTIONS:
☐ R = FACTORY INSTALLED RECLAIMED RUBBER COVER
☐ CV = FACTORY INSTALLED DRAIN CHECK VALVE

2 PGP ROTOR HEAD WITH PRO-FLEX TUBING

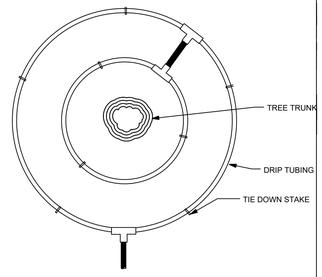
NTS S1-RO-HUN-01



1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH COVER: RAIN BIRD VB-STD
3. 30-INCH LINEAR LENGTH OF WIRE, COILED
4. WATERPROOF CONNECTION: RAIN BIRD DB SERIES
5. 1-INCH BALL VALVE (INCLUDED IN XCZ-PRB-100-COM KIT)
6. ID TAG
7. REMOTE CONTROL VALVE: RAIN BIRD PCSS (INCLUDED IN XCZ-PRB-100-COM KIT)
8. PRESSURE REGULATING QUICK CHECK BASKET FILTER: RAIN BIRD PRB-QKCHK-100 (INCLUDED IN XCZ-PRB-100-COM KIT)
9. PVC SCH 40 FEMALE ADAPTOR
10. LATERAL PIPE
11. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
12. PVC SCH 40 ELL
13. PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
14. PVC SCH 40 TEE OR ELL
15. MAINLINE PIPE
16. 3-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
17. PVC SCH 80 NIPPLE, CLOSE (INCLUDED IN XCZ-PRB-100-COM KIT)

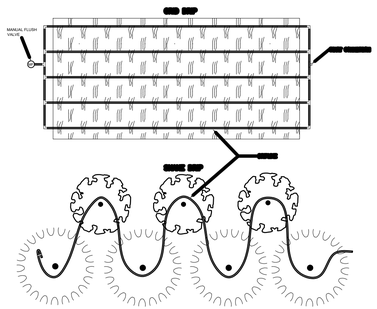
3 XCZ-100-COM 1" CONTROL ZONE KIT

NTS



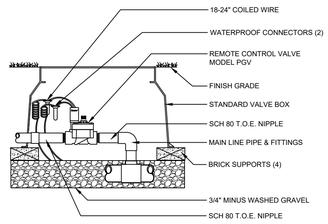
4 TYPICAL DRIP TREE RING

NTS



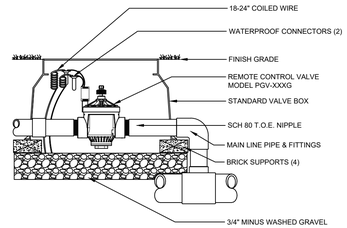
5 TYPICAL DRIP TUBING LAYOUT

NTS



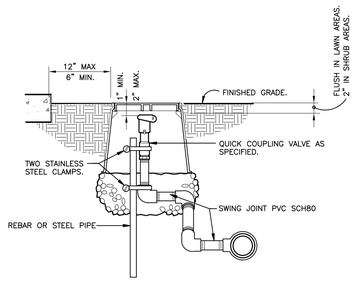
6 PGV GLOBE VALVE 1"

S1-VA-HUN-01



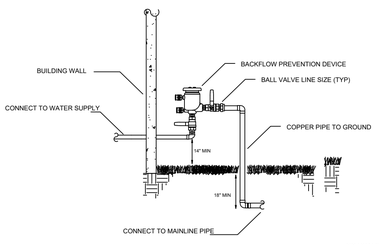
7 PGV GLOBE VALVE 151/201

NTS S1-VA-HUN-02



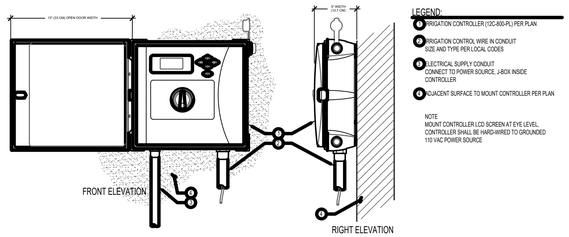
8 QUICK COUPLING VALVE IN BOX

S1-QU-01



NO SCALE

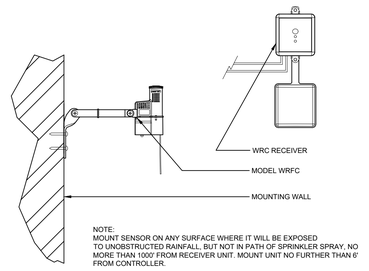
9 PRESSURE VACUUM BREAKER



LEGEND:
A IRRIGATION CONTROLLER (10C-800-PL) PER PLAN
B IRRIGATION CONTROL WIRE IN CONDUIT SIZE AND TYPE PER LOCAL CODES
C ELECTRICAL SUPPLY CONDUIT CONNECT TO POWER SOURCE, J-BOX INSIDE CONTROLLER
D ADJACENT SURFACE TO MOUNT CONTROLLER PER PLAN

NOTE
MOUNT CONTROLLER LCD SCREEN AT EYE LEVEL.
CONTROLLER SHALL BE HARD-WIRED TO GROUNDED 110 VAC POWER SOURCE

10 HUNTER ICC2 CONTROLLER PLASTIC WALL MOUNT



NOTE:
MOUNT SENSOR ON ANY SURFACE WHERE IT WILL BE EXPOSED TO UNOBSTRUCTED RAINFALL, BUT NOT IN PATH OF SPRINKLER SPRAY. NO MORE THAN 1000' FROM RECEIVER UNIT. MOUNT UNIT NO FURTHER THAN 6' FROM CONTROLLER.

11 WIRELESS RAIN/FREEZE-CLIK

S1-SE-HUN-02

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Project Name:
VETERANS PARK LAWN RESTORATION PROJECT

BRIGHTON TWP, MI, 48116

Customer Name:

Design Date: 12/18/25

Drawn By: C.BEST

REVISIONS

Description	Date
1	
2	
3	
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5	
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Drawing Title:
DETAIL SHEET

Drawing Scale: 1" = N.T.S

Project Services Number: 425287

Sheet Number:
IR-2

5102 (Rev. 01-19)

GRETCHEN WHITMER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

RACHAEL EUBANKS
STATE TREASURER

December 17, 2025

Patrick Michel, Supervisor
Brighton Township, Livingston County
4363 Buno Road
Brighton, MI 48114

Dear Patrick Michel:

The State Tax Commission at their December 16, 2025 meeting approved the enclosed Certificate of Achievement. This certificate acknowledges Brighton Township, Livingston County for receiving a perfect score on their 2025 PA 660 Assessment Audit Review. The Commission wishes to congratulate the local unit and thank you for your continued efforts to provide fair and equitable assessing in the State of Michigan.

Sincerely,

Joycelyn Isenberg, Executive Director
State Tax Commission

Enc: Certificate of Achievement

Certificate of Achievement

This acknowledges that

Brighton Township, Livingston County

On the 16th of December 2025 has been recognized for the outstanding achievement of receiving a perfect score on the 2025 PA 660 Assessment Audit Review. We wish to congratulate you and thank you for your continued efforts to provide fair and equitable assessing in the State of Michigan.

Peggy L. Nolde, Chairperson

W. Howard Morris, Member

Nancy L. Quarles, Member

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