

PROPOSED AGENDA

**CHARTER TOWNSHIP OF BRIGHTON
PLANNING COMMISSION
4363 BUNO ROAD
BRIGHTON, MI 48114**

**JUNE 9, 2025
REGULAR MEETING
6:30 P.M.
(810) 229.0562**

- A. CALL TO ORDER**
- B. PLEDGE OF ALLEGIANCE**
- C. ROLL CALL**
- D. CALL TO THE PUBLIC**
- E. AGENDA**
- F. MINUTES**

1. MAY 12, 2025 REGULAR MEETING

G. BUSINESS

- 1. PUBLIC HEARING ON 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)**

2. DISCUSSION ON CHICKEN ORDINANCE

- H. REPORTS AND CORRESPONDENCE**
- I. CALL TO THE PUBLIC**
- J. ADJOURNMENT**

The Charter Township of Brighton will provide the 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 upon 10 days' notice to the Charter Township of Brighton, Attn: Township Manager. Individuals should contact the Charter Township of Brighton by writing or contacting the following: Kelly Mathews, 4363 Buno Road, Brighton, MI 48114. Telephone: 810-229-0562 or e-mail planner@brightontwp.com.

MEMORANDUM

TO: BRIGHTON TOWNSHIP RESIDENTS
FROM: JOSEPH R. RIKER, CLERK
SUBJECT: PLANNING COMMISSION ELECTRONIC PACKETS
DATE: JANUARY 31, 2019

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

PROPOSED MINUTES

CHARTER TOWNSHIP OF BRIGHTON
PLANNING COMMISSION
4363 BUNO ROAD
BRIGHTON, MI 48114

MAY 12, 2025
REGULAR MEETING
6:30 P.M.
(810) 229.0562

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

CALL TO THE PUBLIC

None.

AGENDA

C. Doughty moved and W. Hofsess seconded **to approve the agenda.**
Motion carried.

MINUTES

L. Herzinger moved and B. Anderson seconded **to approve the March 10, 2025 regular meeting minutes as presented.**

Abstain: A. Lutes
Motion carried.

PRELIMINARY SITE PLAN SP #25/03 FOR PURE ENERGY; ADDRESS: 5942 WHITMORE LAKE RD.; OWNER AND APPLICANT: PLATINUM DEVELOPMENT GROUP; TAX ID#: 12-32-300-067 AND 12-32-300-072 AND GREEN OAK TAX ID#; 16-05-100-007; ZONING: I-1 (INDUSTRIAL) AND LI (LIMITED INDUSTRIAL – GREEN OAK TOWNSHIP)

Applicant Representative Wayne Perry, Desine Inc., overviewed the plans for a 13,000 sq. ft. addition to the south for the Pure Energy building. He stated part of the building is in Green Oak Township and there will be new parking to the north, updated storm drainage, same architecture, and truck/loading areas in the rear. Also, in attendance was Neil Ganshorn, Rand Construction, and Karl Vollmar, Pucci and Vollmer Architects. K. Mathews, Township Planner, overviewed her report dated April 10, 2025. G. Rose, Township Engineer, Fleis & Vandenbrink, overviewed his letter dated April 25, 2025. BAFA's letter dated April 24, 2025 and the LCDC's letter date April 24, 2025 were acknowledged.

B. Anderson moved and A. Lutes seconded **to approve SP#25/03 for preliminary site plan for an addition for Pure Energy; Owner and Applicant: Platinum Development Group; Tax ID#: 12-32-300-067 and 12-32-300-072 and Green Oak Tax ID#; 16-05-100-007; Zoning: I-1 contingent upon the conditions in the letters from the Township Engineer, Township Planner, and any other outside agencies being complied with and Green Oak Township's approval. Also add trees, if possible, clean lot to the north, and have the Township Attorney review the ZBA wall signage variance.**

Ayes: C. Doughty, B. Anderson, J. Rose, L. Herzinger, A. Lutes

Nayes: W. Hofsess

Motion carried.

REPORTS AND CORRESPONDENCE

C. Doughty - Township Board update - budget, Township Hall landscaping, Meijer Park ribbon cutting, Veterans Park playscape repair, sewer REU rate increase, on-going construction, potential roundabout at Hyne/Hacker.

CALL TO THE PUBLIC

None.

ADJOURNMENT

W. Hofsess moved and L. Herzinger seconded **to adjourn.**
Motion carried.

The meeting adjourned at 7:20 P.M.
Respectfully submitted,

Steve Holden, Chairperson

William Hofsess, Secretary

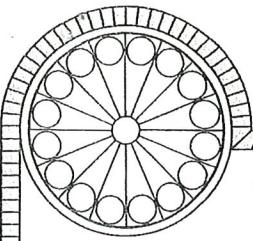
Kelly Mathews, Recording Secretary

THE COVE AT WOODLAND LAKE



Charter Township of Brighton

0 112.5225 450 675 900
Feet



CHARTER TOWNSHIP OF BRIGHTON

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

PUD R2725/01

PLANNING COMMISSION APPLICATION

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

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

6. Current Property Owner Information

BRIGHTON TOWNSHIP

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

**Charter Township of Brighton
Planning Commission Application**

Page 2

9. Type and Description of Development

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

PUD New Site Plan

Subdivision Revised Site Plan

Site Condo 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

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

The Cove at Woodland Lake

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 photographs. 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 its 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 than 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.

The Cove at Woodland Lake

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 at Woodland Lake

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: Minimum lot size PUD/R-2: Deviation:	40,000 S.F. 16,000 S.F. 24,000 S.F.
3.	Minimum setbacks R-2: Minimum setbacks proposed: Deviation:	Front - 35 Ft. Side - 12 Ft. Rear - 35 Ft. Front - 25 Ft. Side - 10 Ft. Rear - 30 Ft. Front - 10 Ft. Side - 2 Ft. Rear - 5 Ft.
4.	Right-of-way required: Right-of-way proposed: Deviation:	66 Ft. 50 Ft. 16 Ft.
5.	Maximum Road Length allowed: Maximum Road Length proposed: Deviation:	750 Ft. 2,888 Ft. 2,138 Ft.
6.	Maximum Lots on a private road with a single point of access: Number of lots proposed on a private road with a single point of access: Deviation:	24 45 21
7.	Maximum lot coverage (%) R-2 zoning: Maximum lot coverage (%) proposed: Deviation:	15 40 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: Minimum lake setback proposed (Single Family Home): Minimum lake setback proposed (Detached Condo):	100 Ft. 100 Ft. 50 Ft.
10.	Minimum wetland setback per PUD ordinance: Minimum wetland setback proposed:	50 Ft. 50 Ft.

The Cove at Woodland Lake

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

The Cove at Woodland Lake

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.

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 $\frac{1}{2}$ mile west of Hunter Road and approximately $\frac{3}{4}$ 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

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	

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%

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.

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

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:

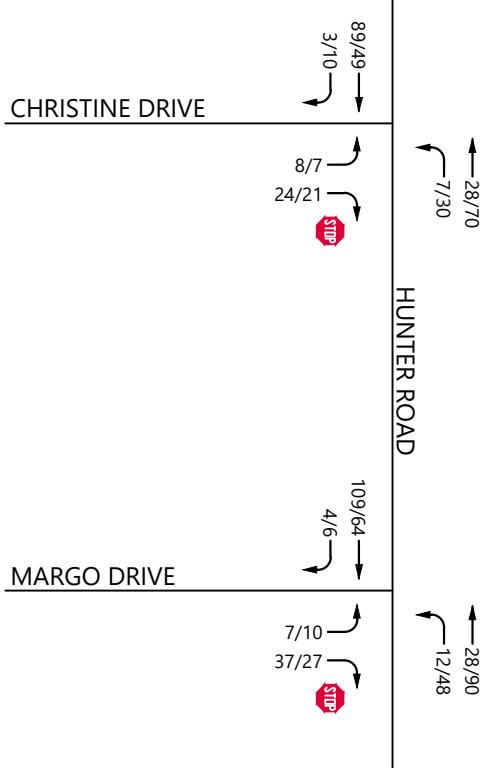
- The results of the existing conditions analysis indicate that all approaches and movements at the study intersections currently operate acceptably at a LOS A during the peak hours.
- An ambient traffic growth of 0.5% was applied to establish 2029 no-build traffic volumes without the proposed development.
- 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.

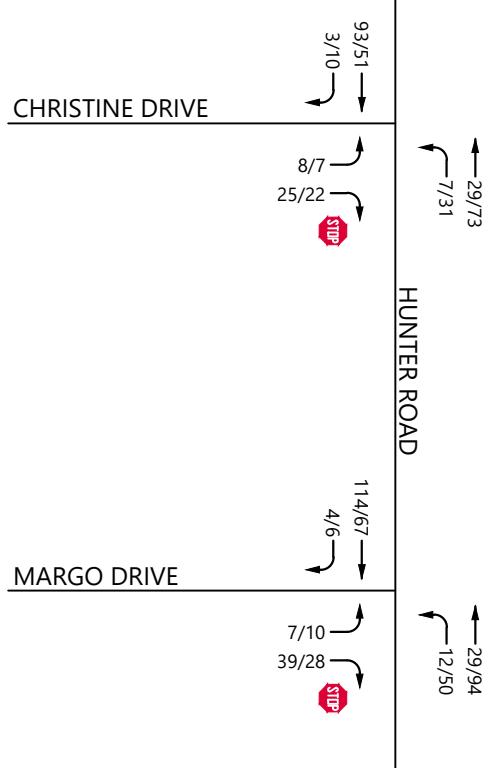
Attached: Figure 2 – 3
Traffic Volume Data
Synchro HCM Calculations
Turn Lane Warrants

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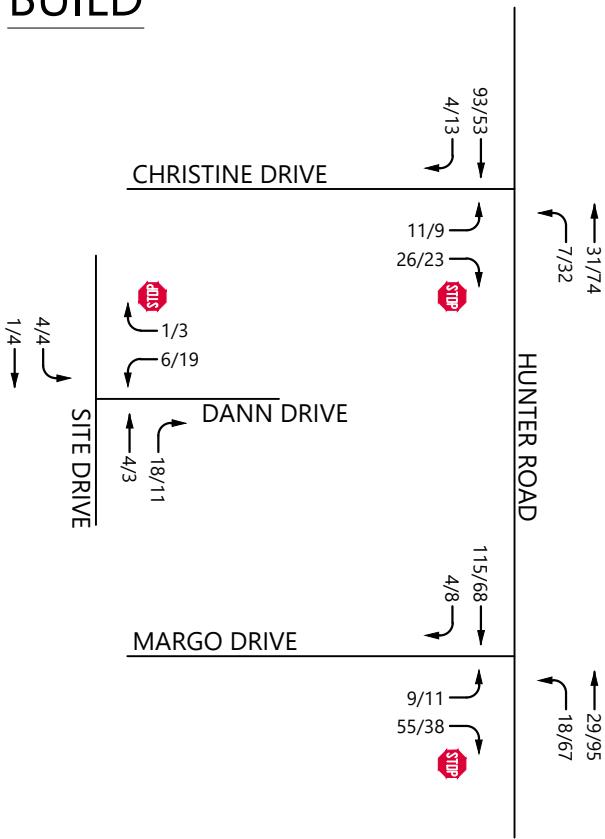
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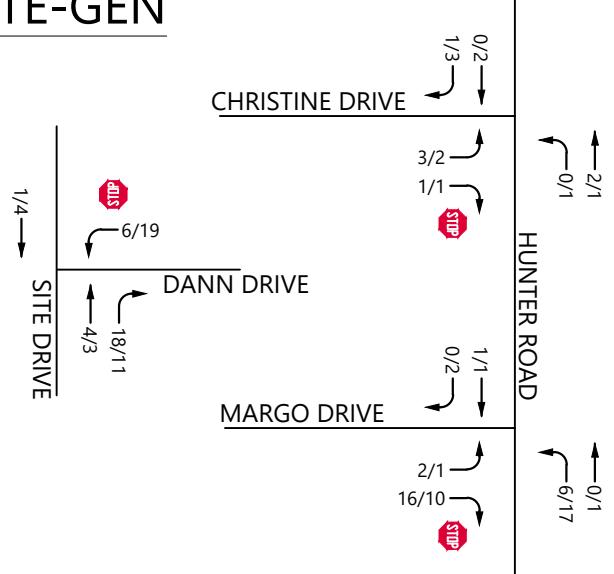
NO-BUILD



BUILD



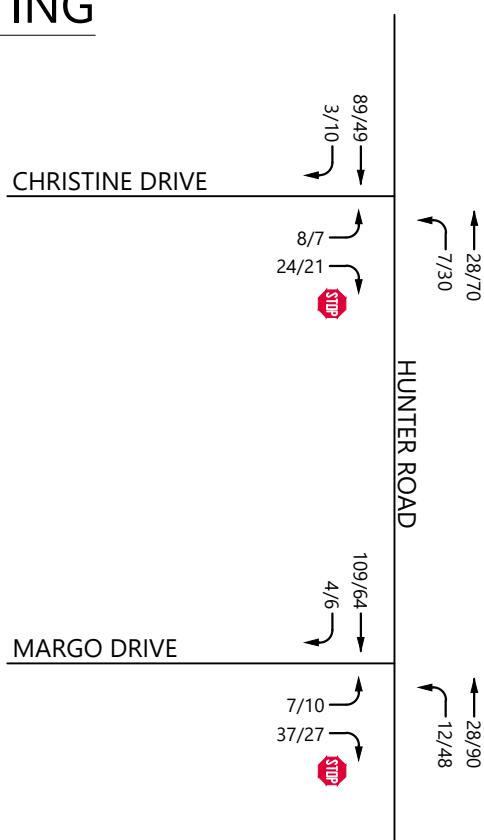
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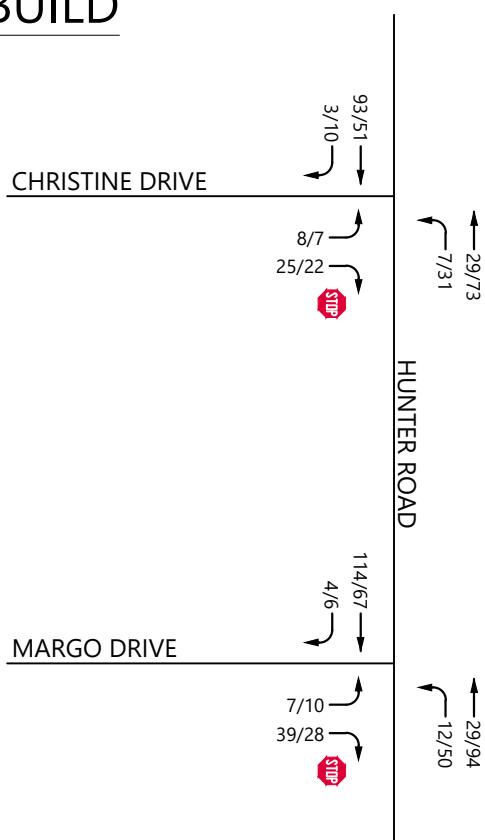
**Cove at Woodland Lake Residential
Brighton Township, MI**

Figure 2
Traffic Volume Summary - ALT 1

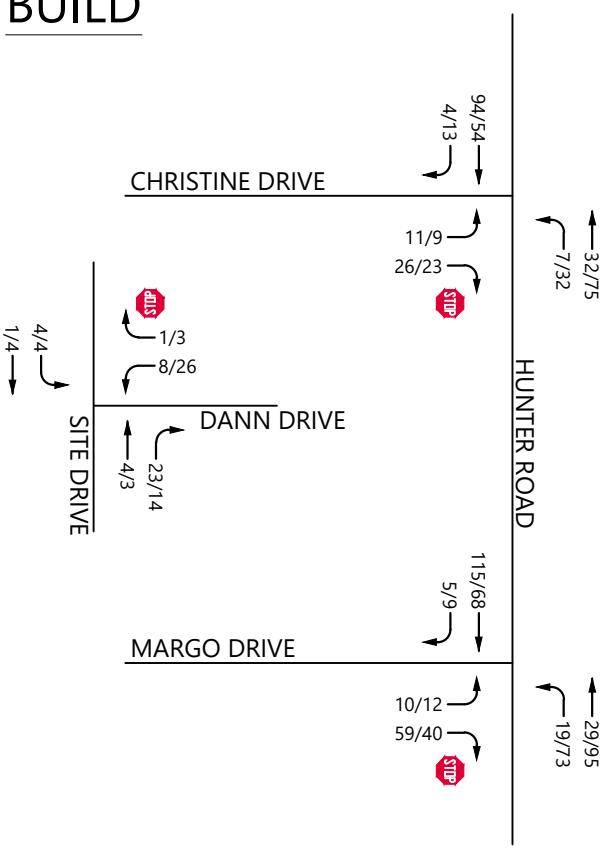
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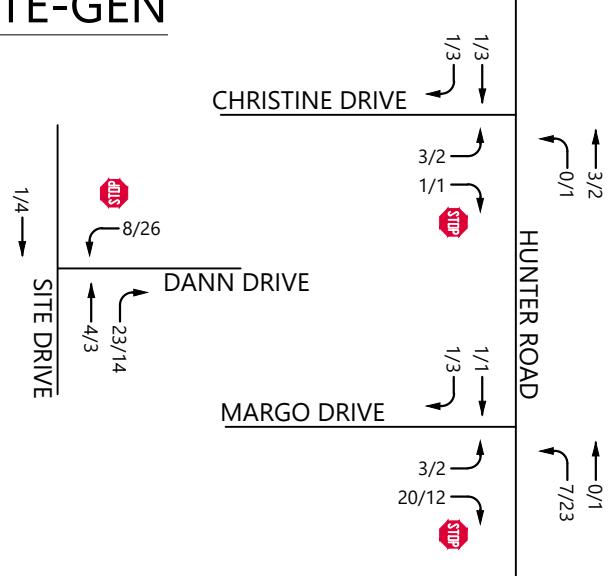
NO-BUILD



BUILD



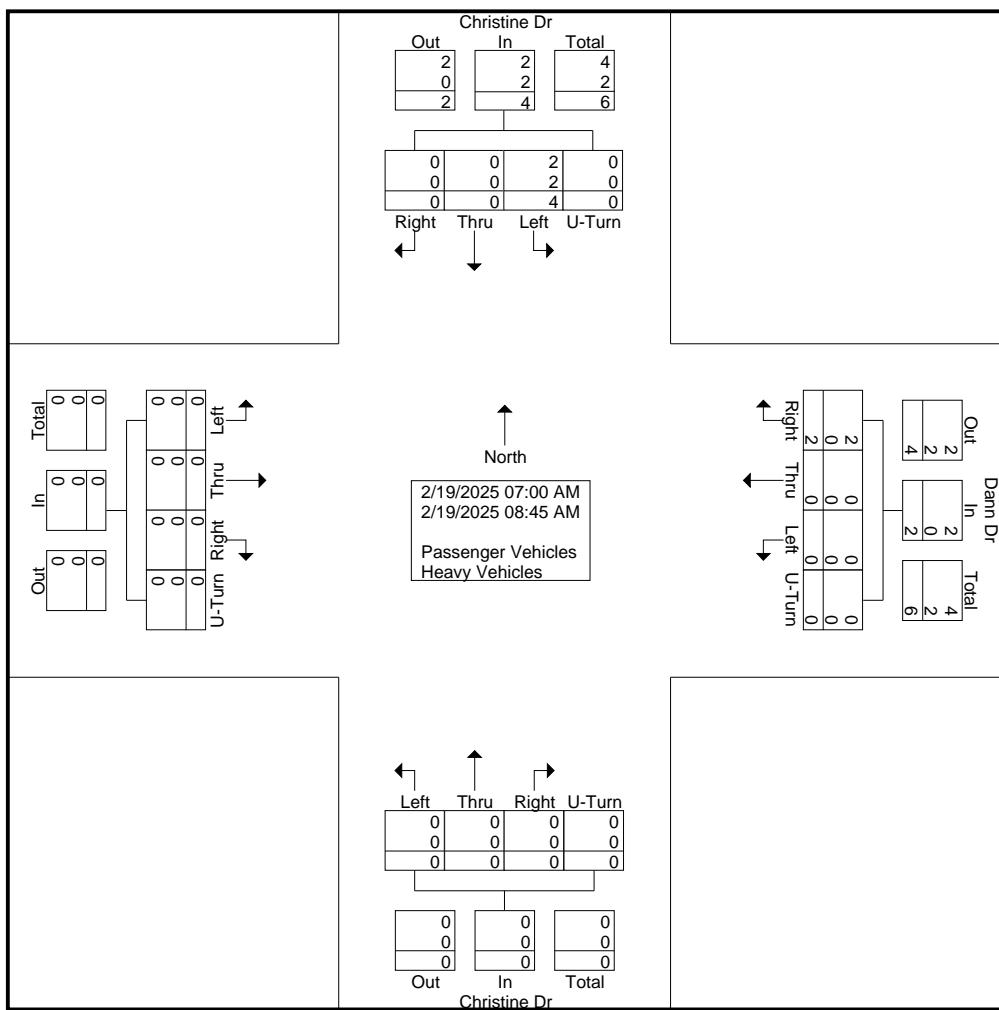
SITE-GEN



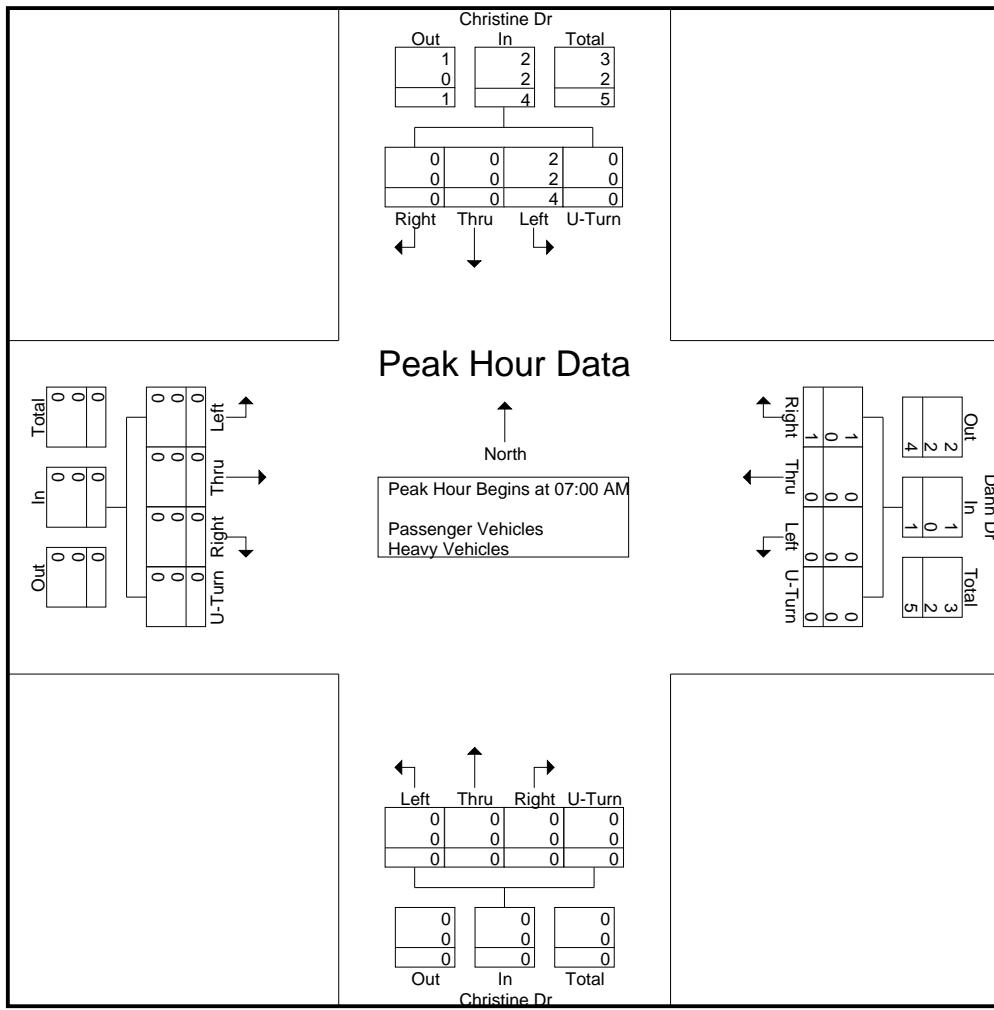
**Cove at Woodland Lake Residential
Brighton Township, MI**

Figure 3
Traffic Volume Summary - ALT 2

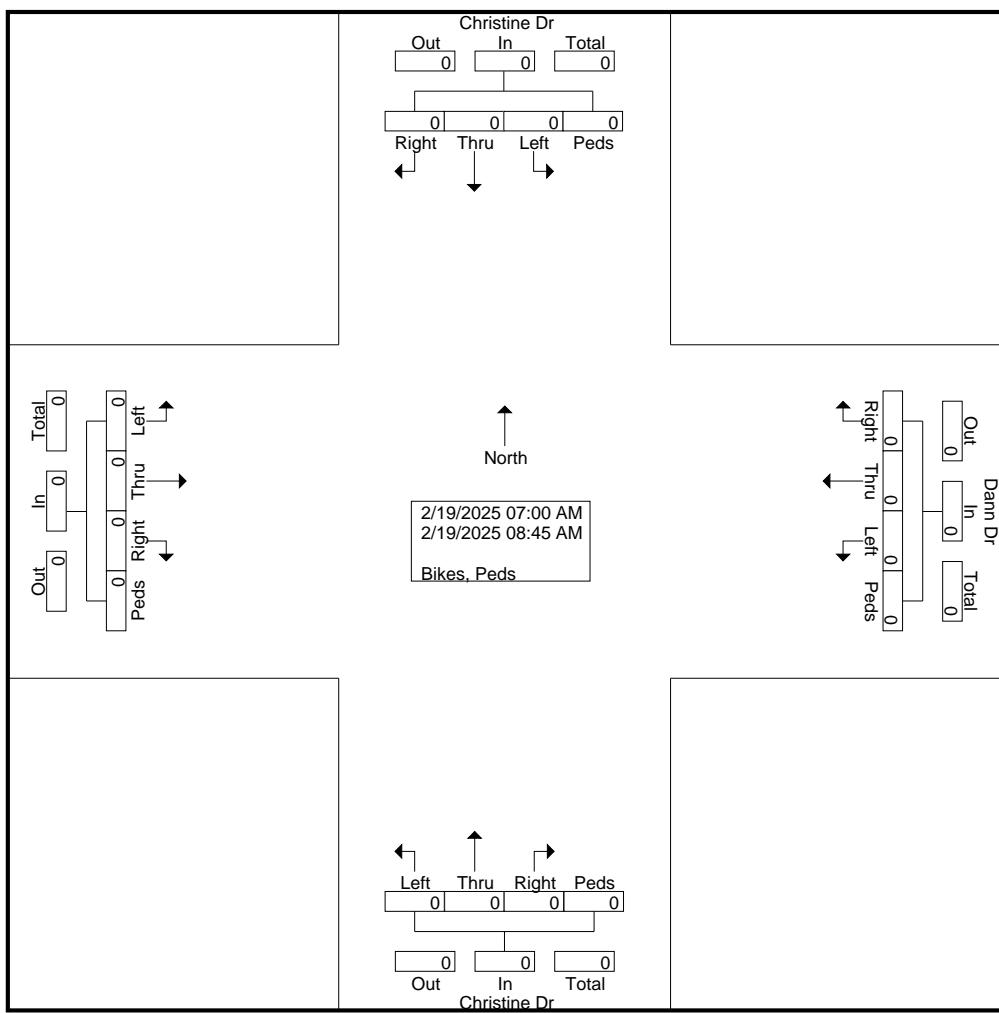
Groups Printed- Passenger Vehicles - Heavy Vehicles



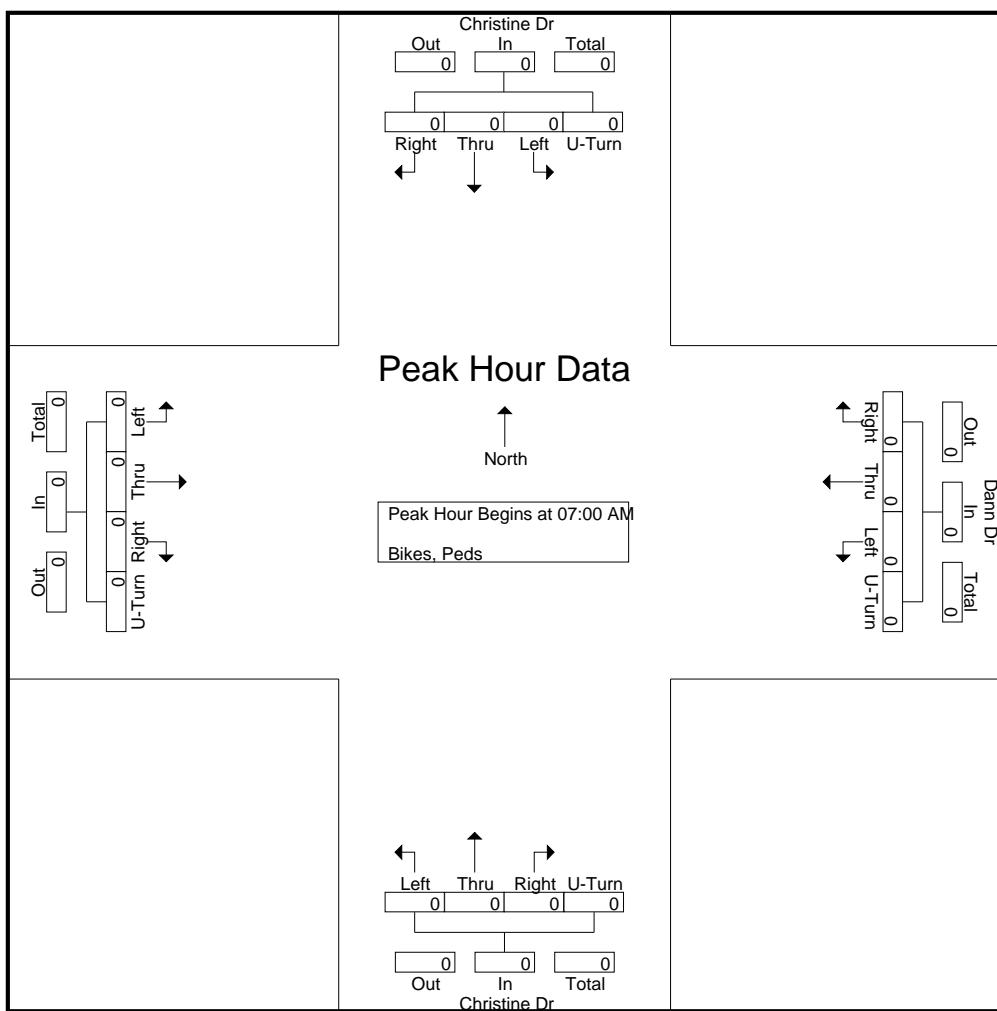
	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
07:15 AM	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	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
07:45 AM	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	
Total Volume	0	0	4	0	4	1	0	0	0	1	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	0	0	0	0	
PHF	.000	.000	.500	.000	.500	.250	.000	.000	.000	.250	.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	3	
% Passenger Vehicles	0	0	50.0	0	50.0	100	0	0	0	100	0	0	0	0	0	0	0	0	0	60.0	
Heavy Vehicles	0	0	2	0	2	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	40.0	



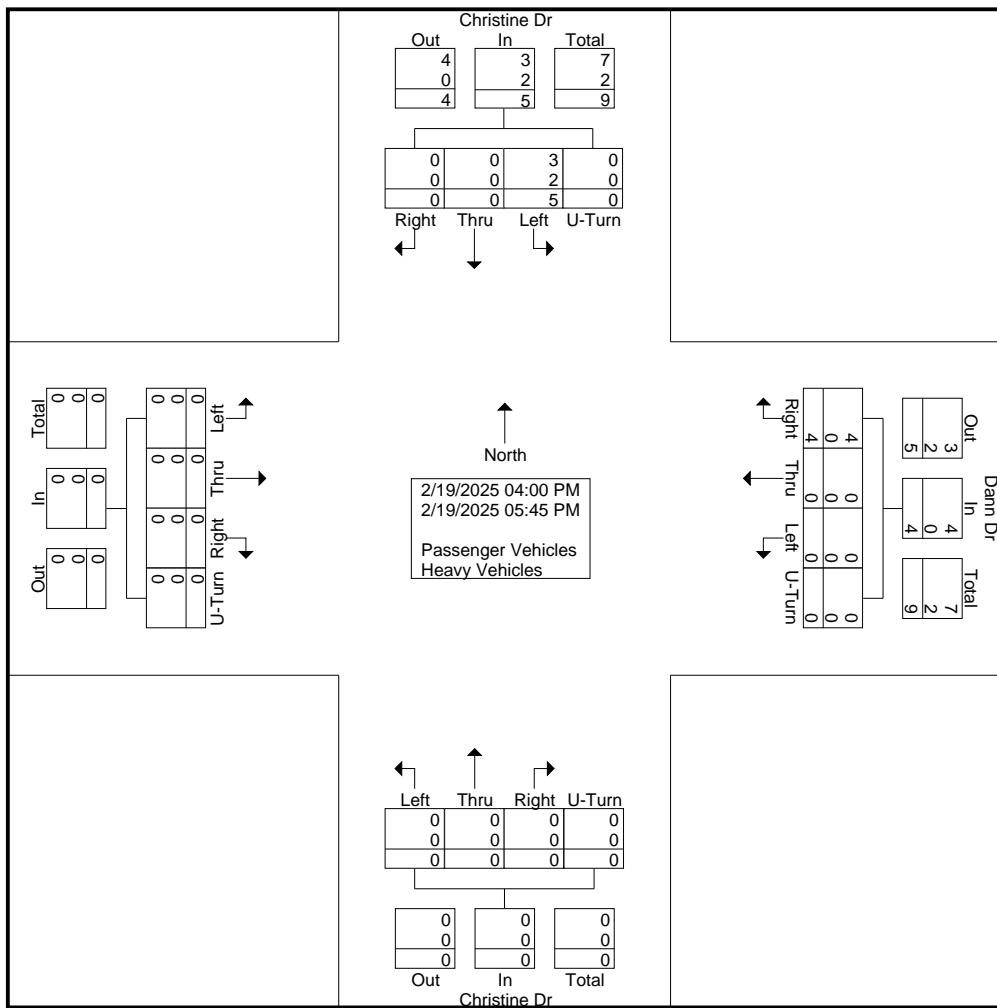
Start Time	Groups Printed- Bikes, Peds																			
	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound				
Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	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
07:45 AM	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
08:00 AM	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
08:30 AM	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
Total	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
Apprch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %																				



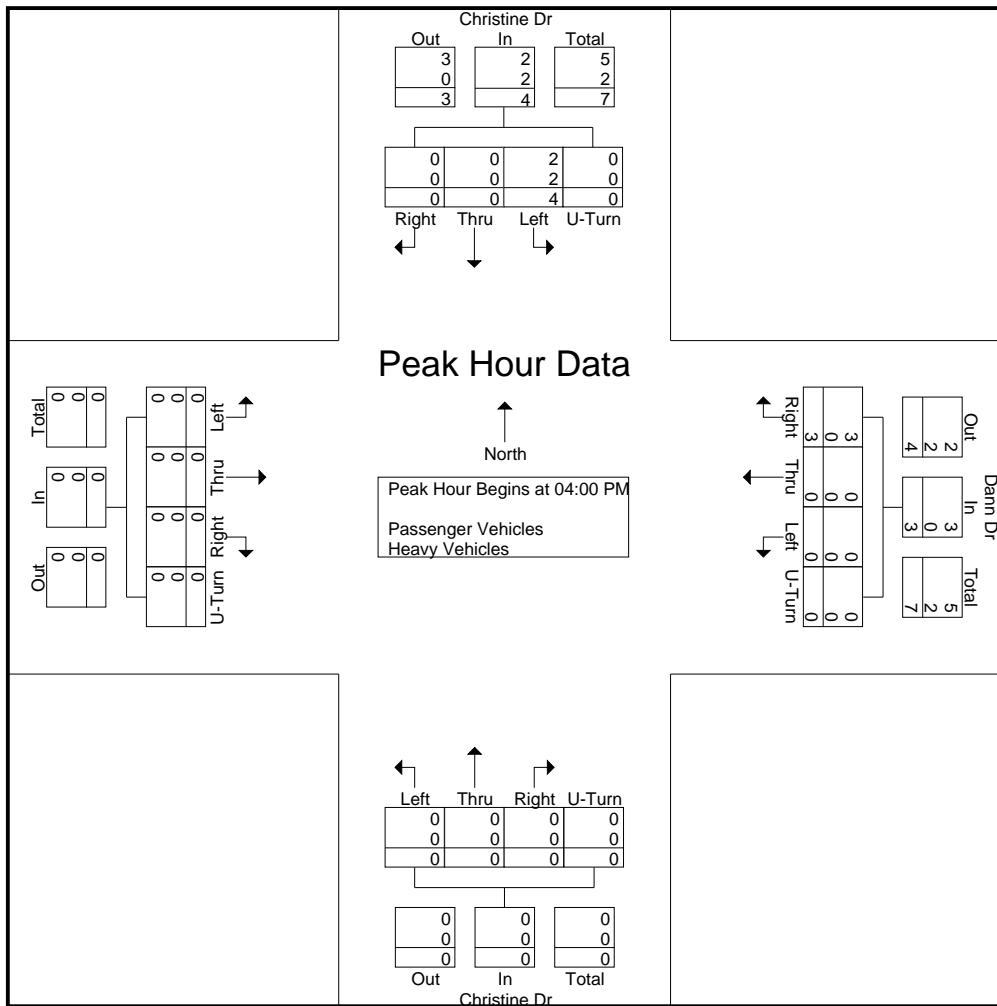
	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
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	
07:15 AM	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	
07:45 AM	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	
% App. Total	0	0	0	0	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	



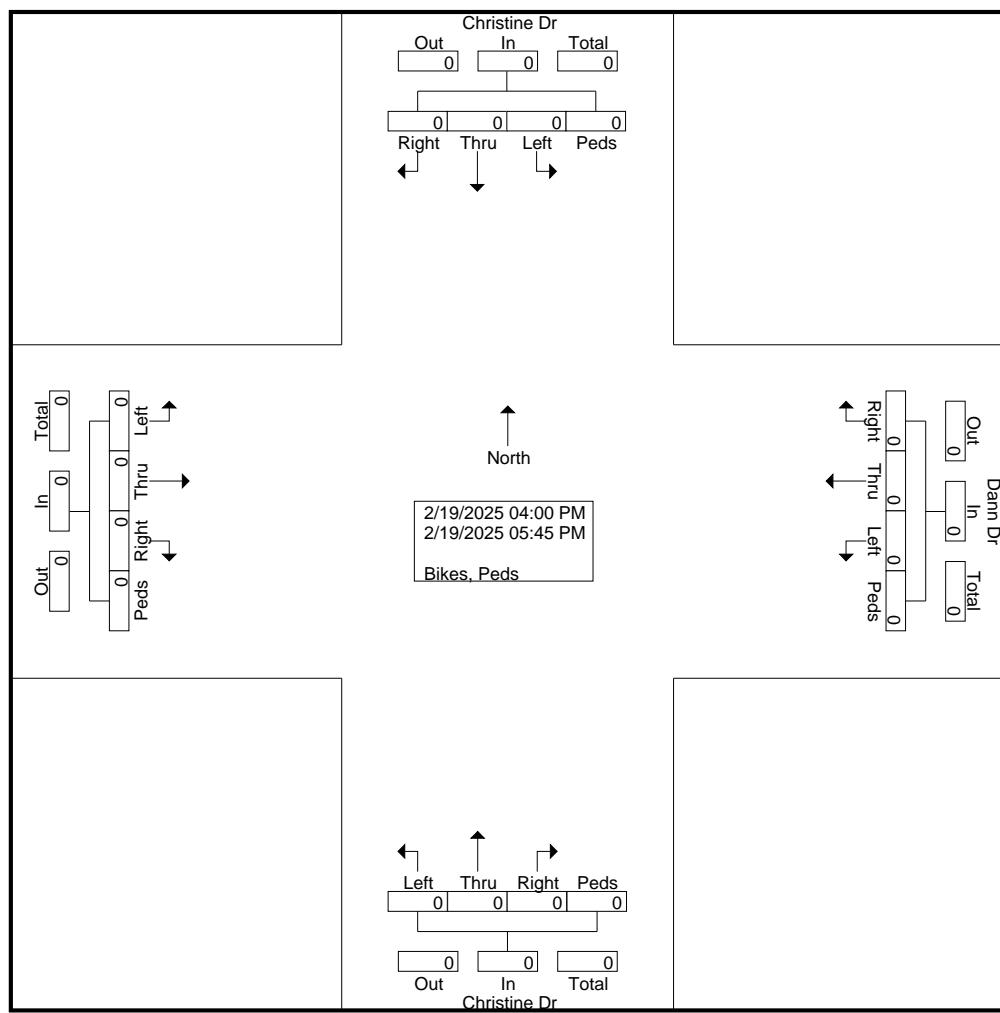
	Groups Printed- Passenger Vehicles - Heavy Vehicles															Eastbound					
	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	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	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	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



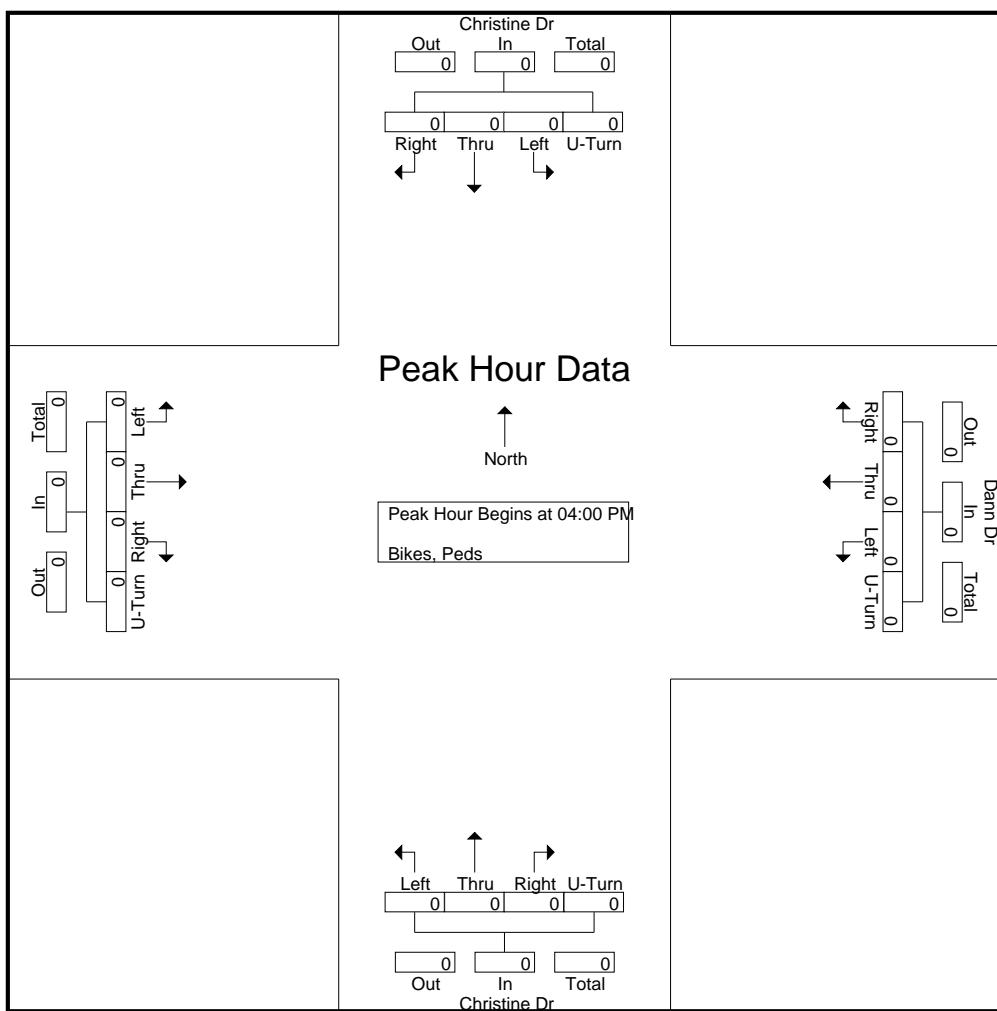
	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 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	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



	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	0	0	0	0	0
Total %																					

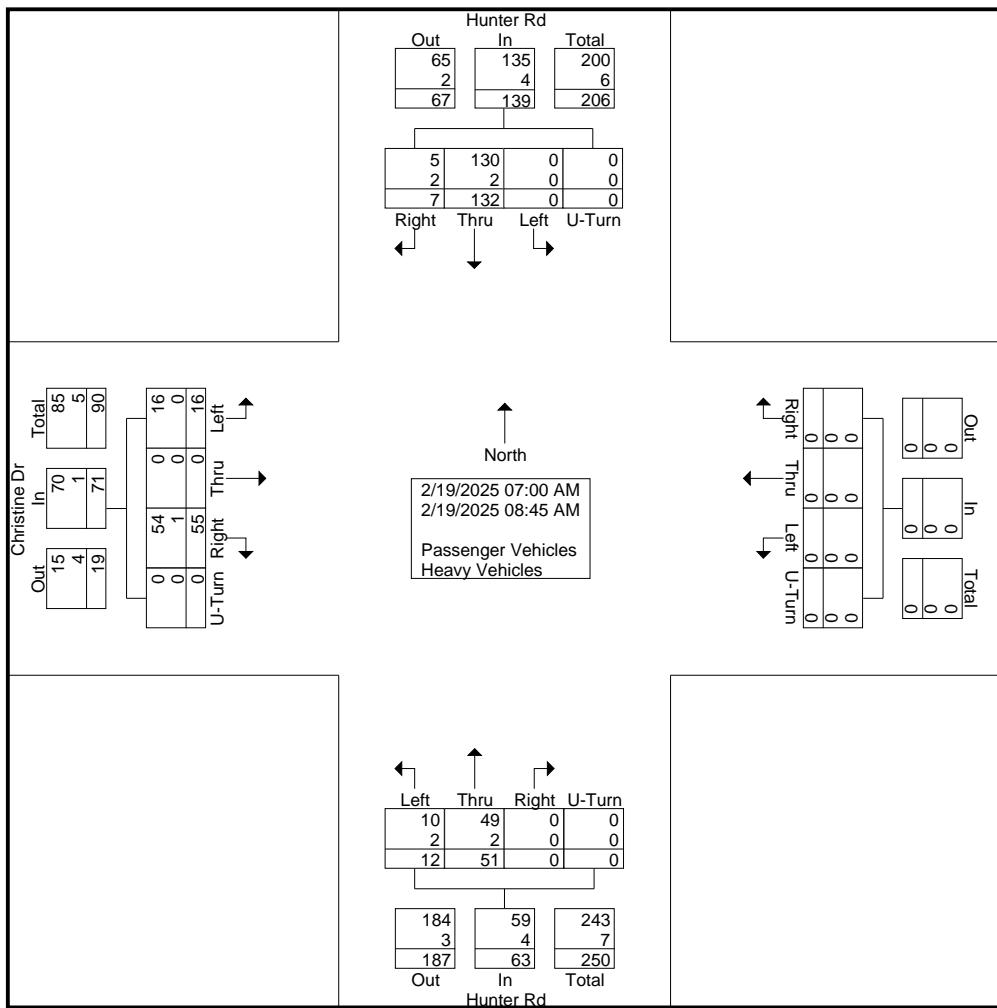


	Christine Dr Southbound					Dann Dr Westbound					Christine Dr Northbound					Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
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	
04:15 PM	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	
04:45 PM	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	
% App. Total	0	0	0	0	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	

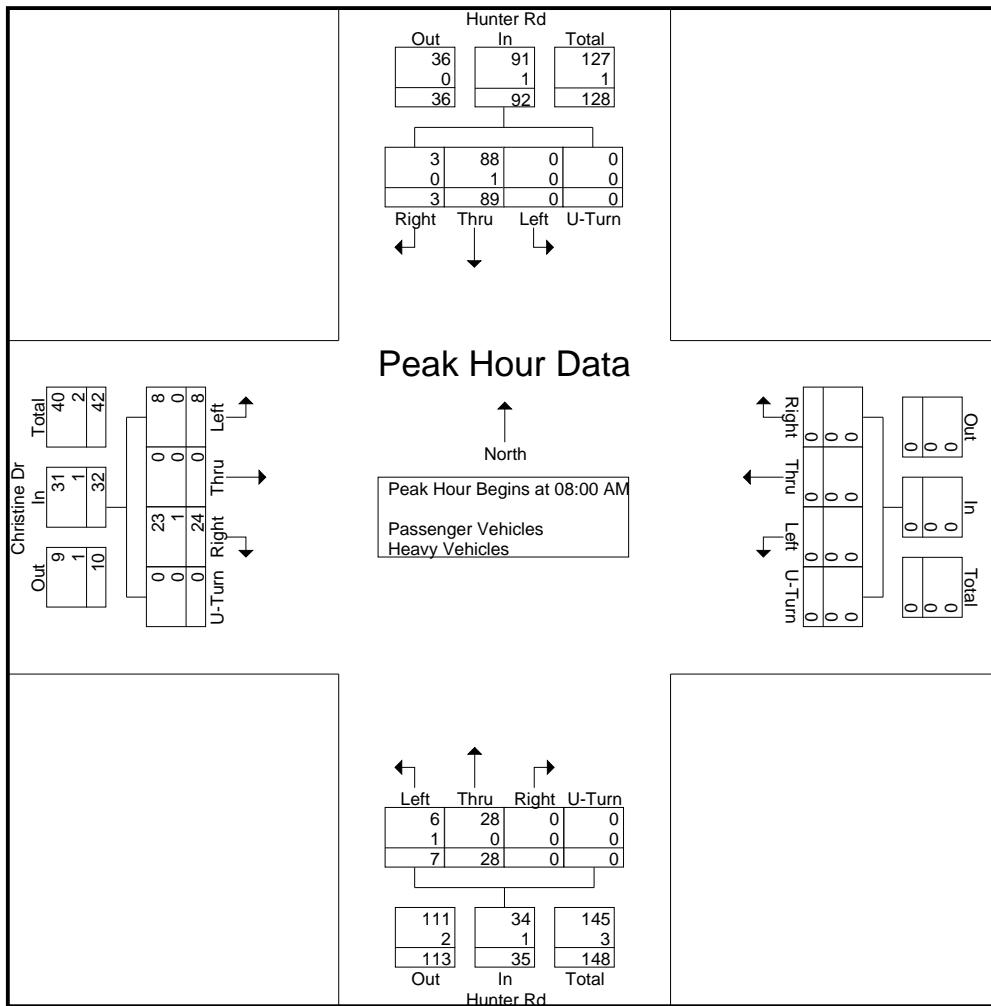


Groups Printed- Passenger Vehicles - Heavy Vehicles

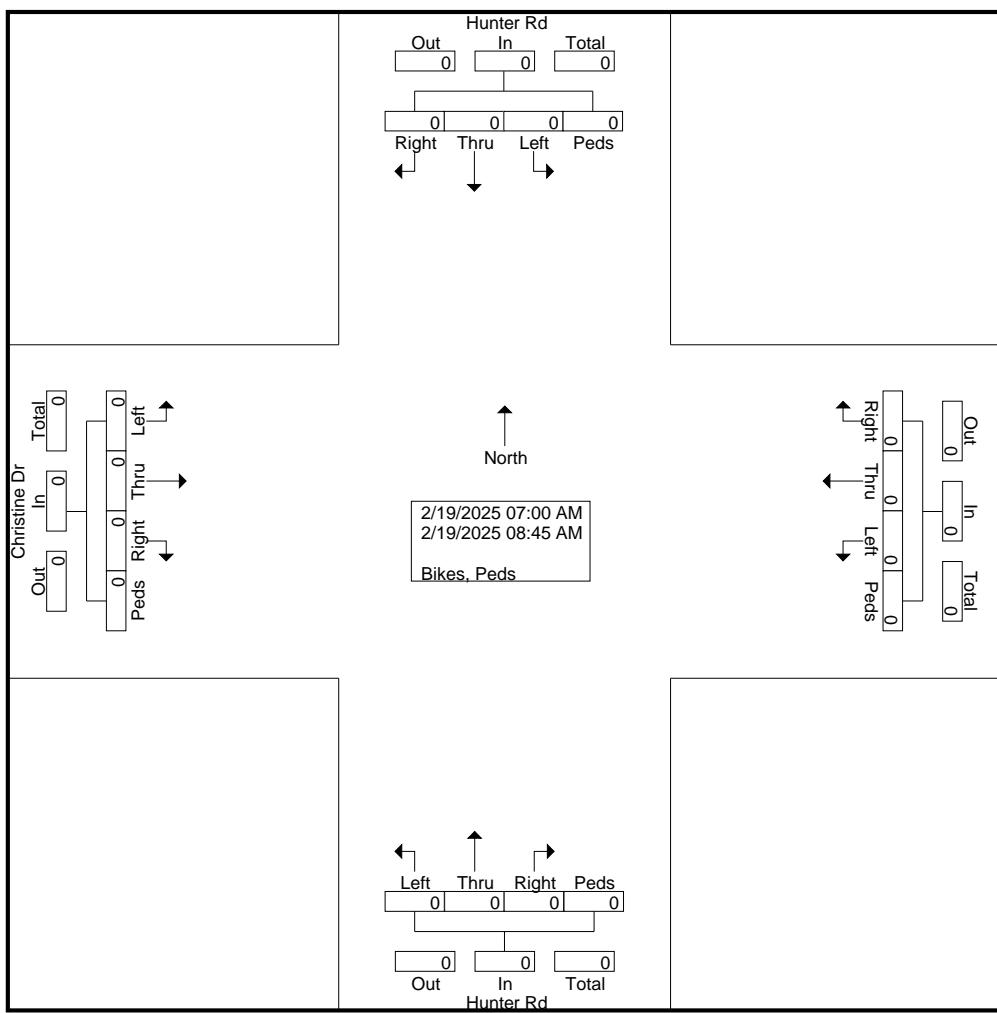
Start Time	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
07:00 AM	1	11	0	0	12	0	0	0	0	0	0	2	0	0	2	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	0	0	81	19	0	0	77.5	0	22.5	0	0	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	0
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



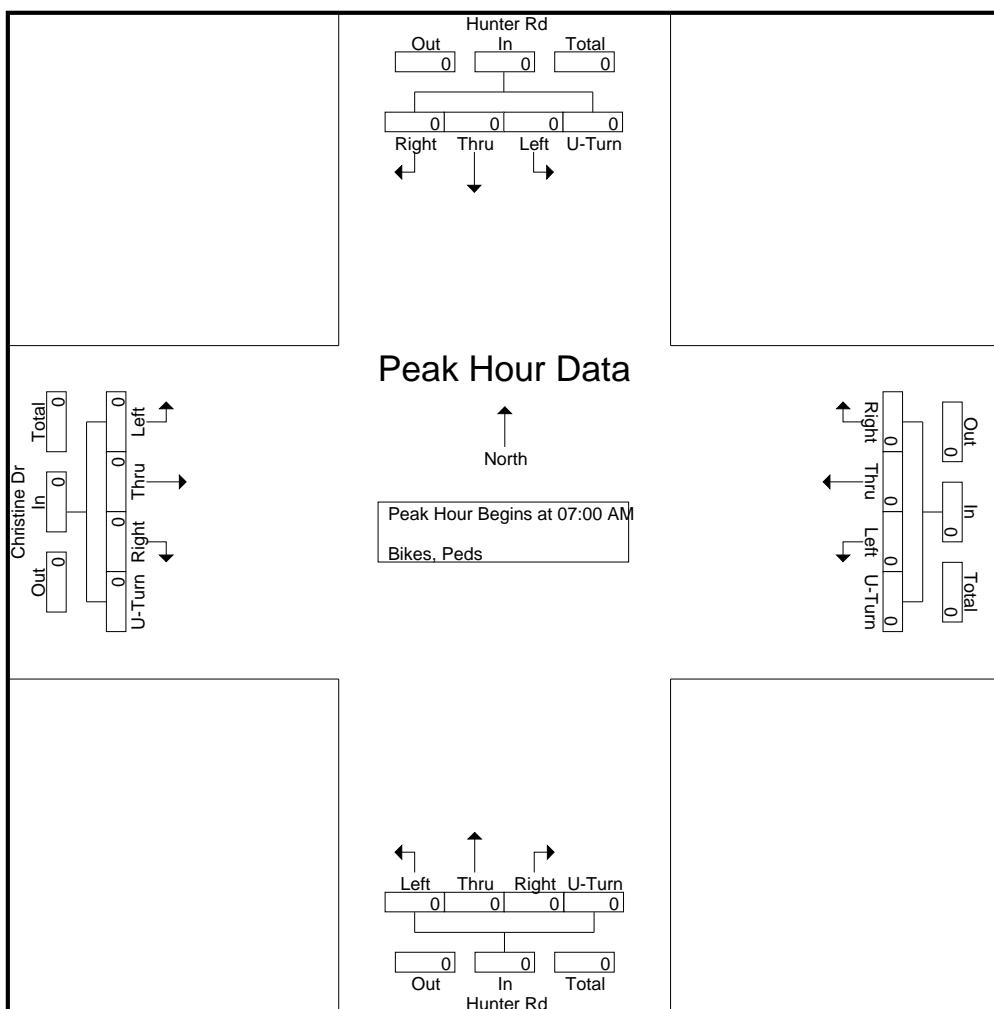
	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound							
	Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 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	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	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	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	0	8	2	0	10	6	0	1	0	7	44	
Total Volume	3	89	0	0	92	0	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	0	0	0	80	20	0	0	75	0	25	0	0	0	
PHF	.750	.742	.000	.000	.742	.000	.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	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	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	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	0	14.3	0	2.9	4.2	0	0	0	3.1	1.9	



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

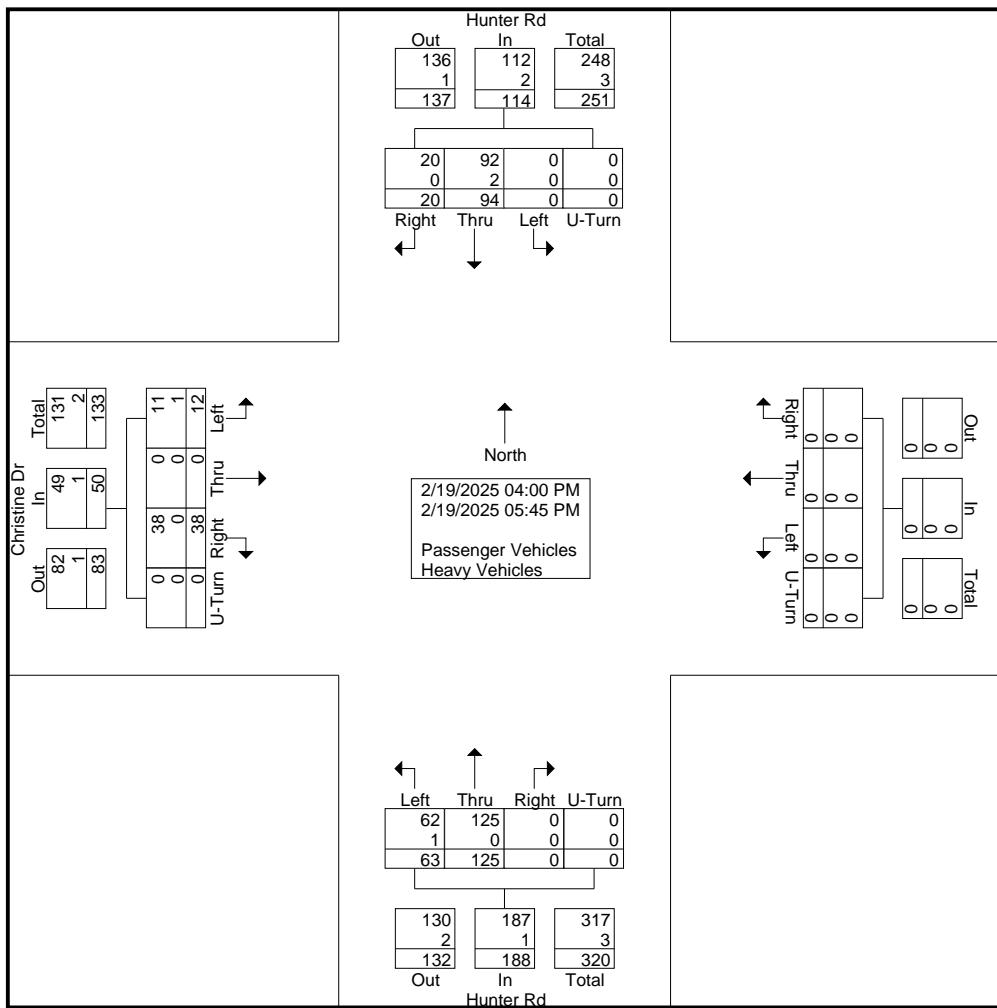


	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound							
	Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total		
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																							
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	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	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	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	0	
Total Volume	0	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	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	.000	

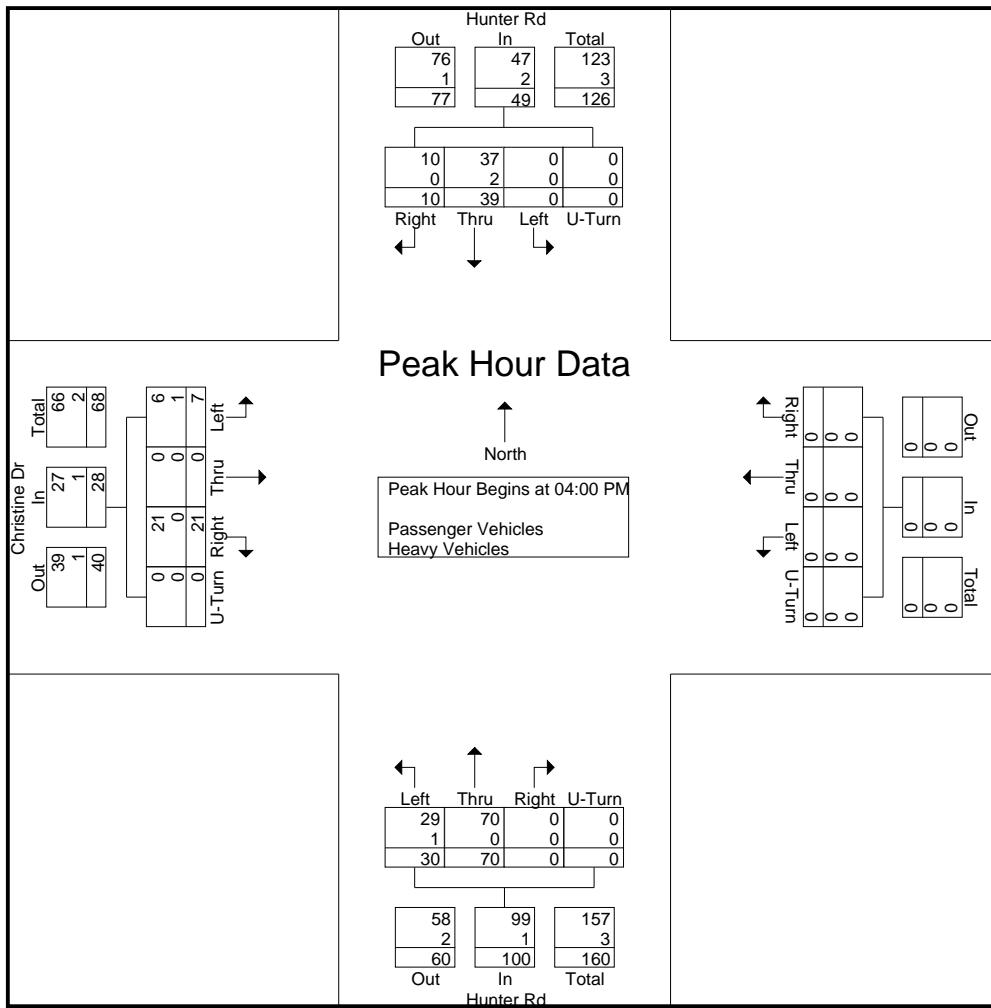


Groups Printed- Passenger Vehicles - Heavy Vehicles

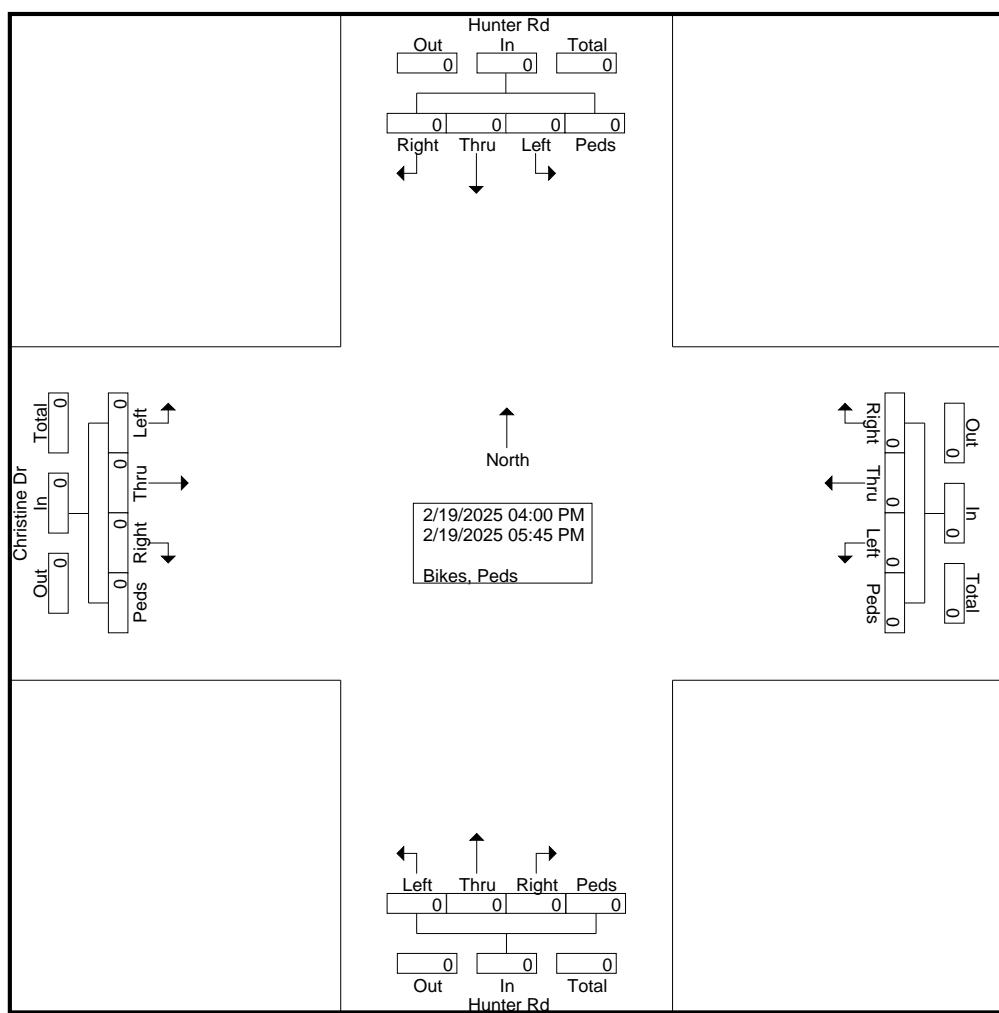
Start Time	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound					Int. Total
	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
04:00 PM	0	7	0	0	7	0	0	0	0	0	0	23	7	0	30	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	0	0	66.5	33.5	0	0	76	0	24	0	0	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	0
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	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



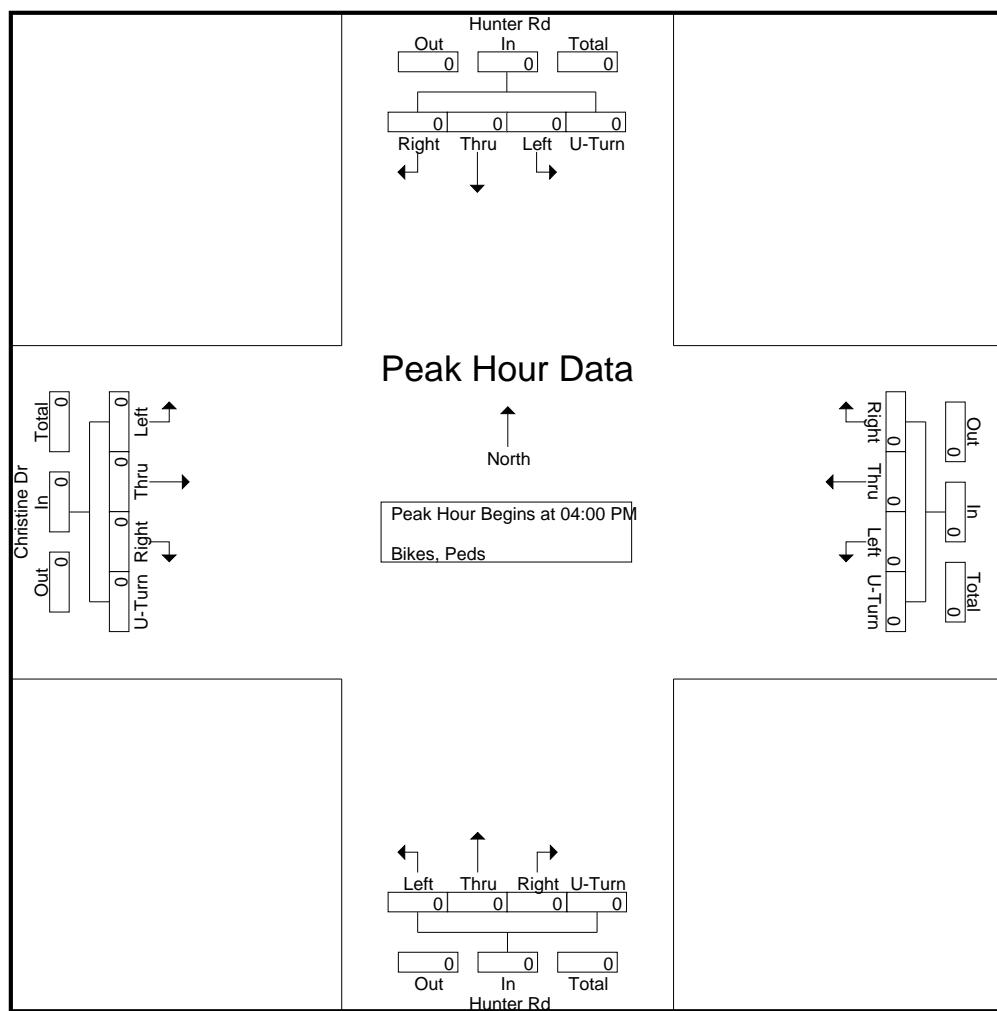
	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound							
	Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 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	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	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	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	0	13	9	0	22	7	0	1	0	8	42	
Total Volume	10	39	0	0	49	0	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	0	0	0	70	30	0	0	75	0	25	0	0	0	
PHF	.625	.750	.000	.000	.817	.000	.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	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	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	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	0	3.3	0	1.0	0	0	14.3	0	3.6	2.3	



Groups Printed- Bikes, Peds

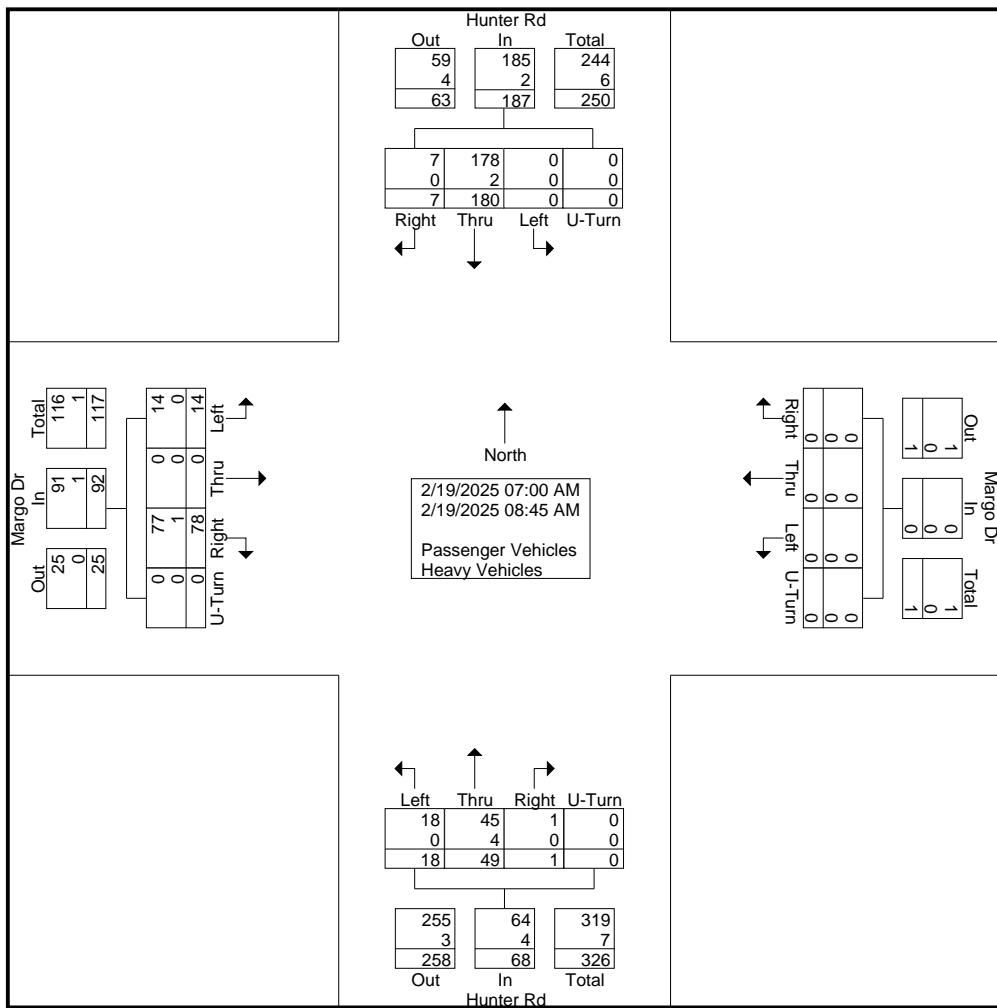


Start Time	Hunter Rd Southbound					Westbound					Hunter Rd Northbound					Christine Dr Eastbound				
	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																				
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
04:15 PM	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
04:45 PM	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
% App. Total	0	0	0	0	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

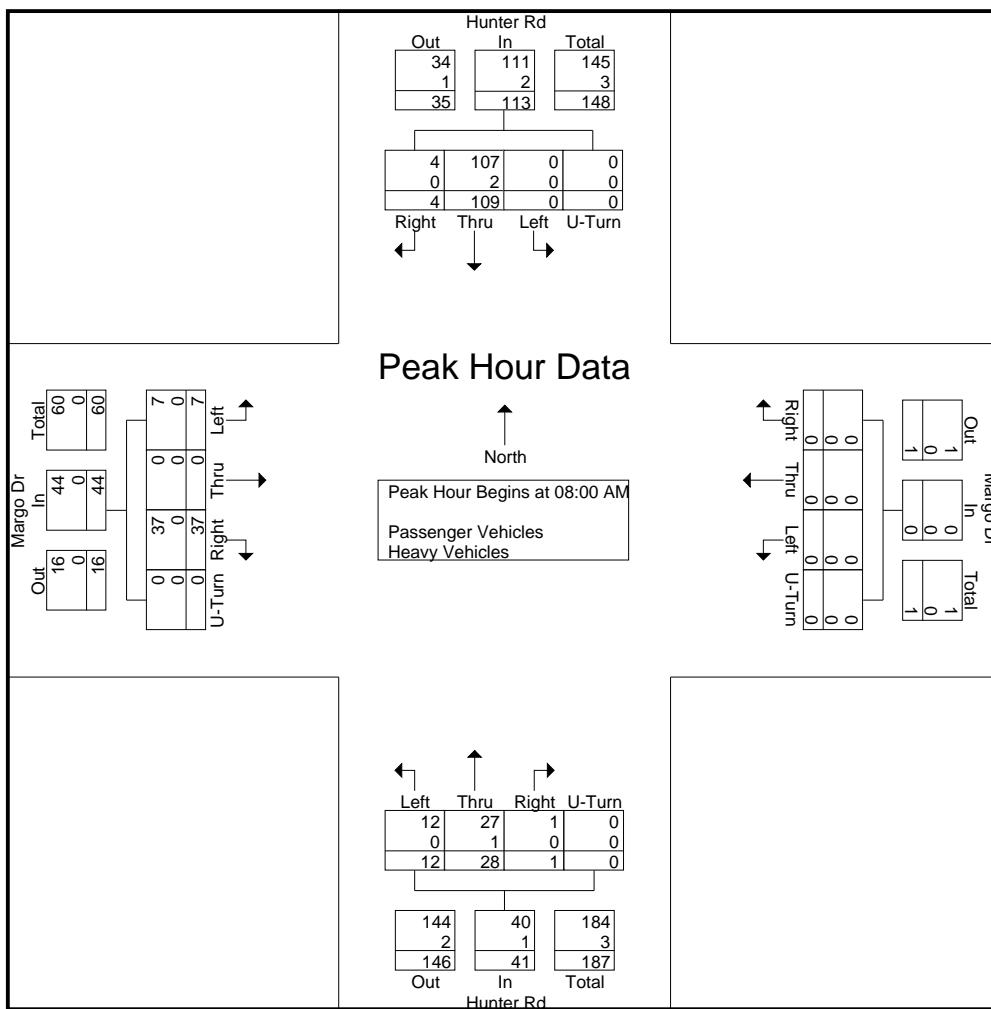


Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					Int. Total
	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	0	0	1.5	72.1	26.5	0	0	84.8	0	15.2	0	0	347
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	347
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

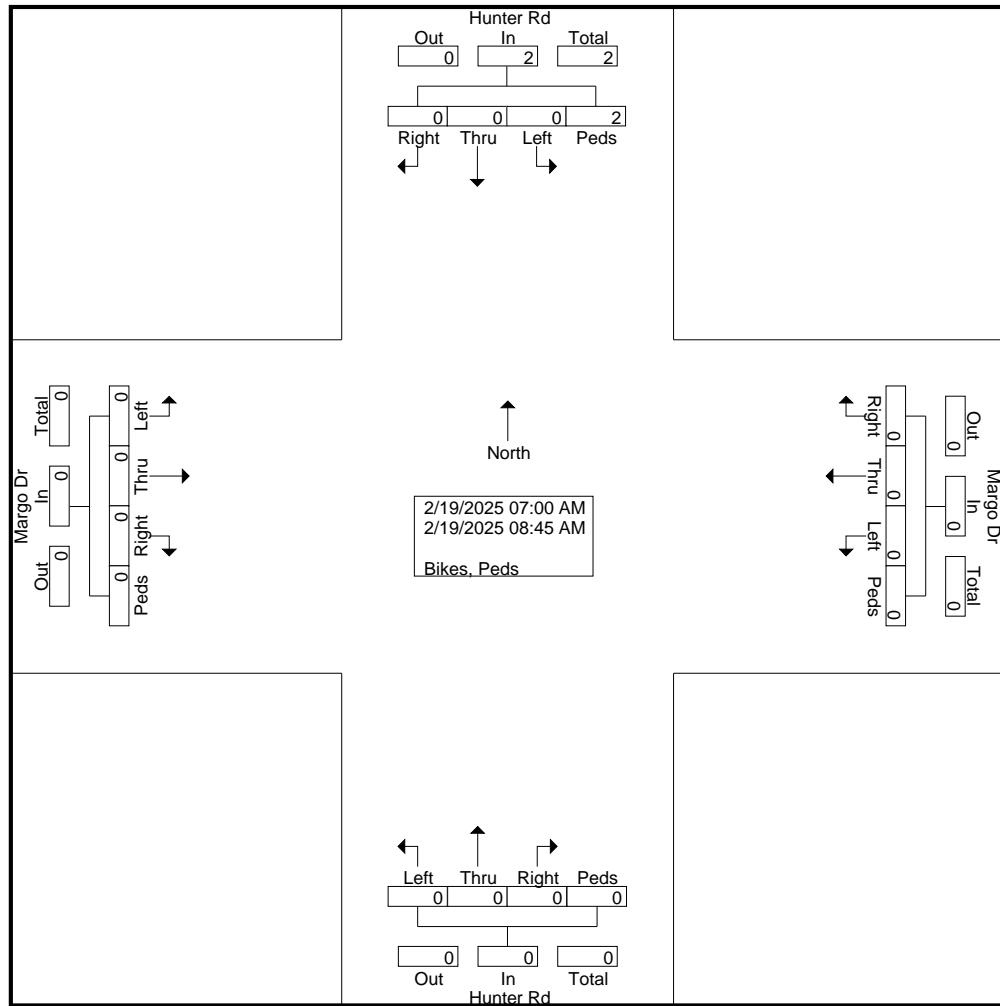


	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - 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	0	0	2.4	68.3	29.3	0	84.1	0	15.9	0	0	0	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

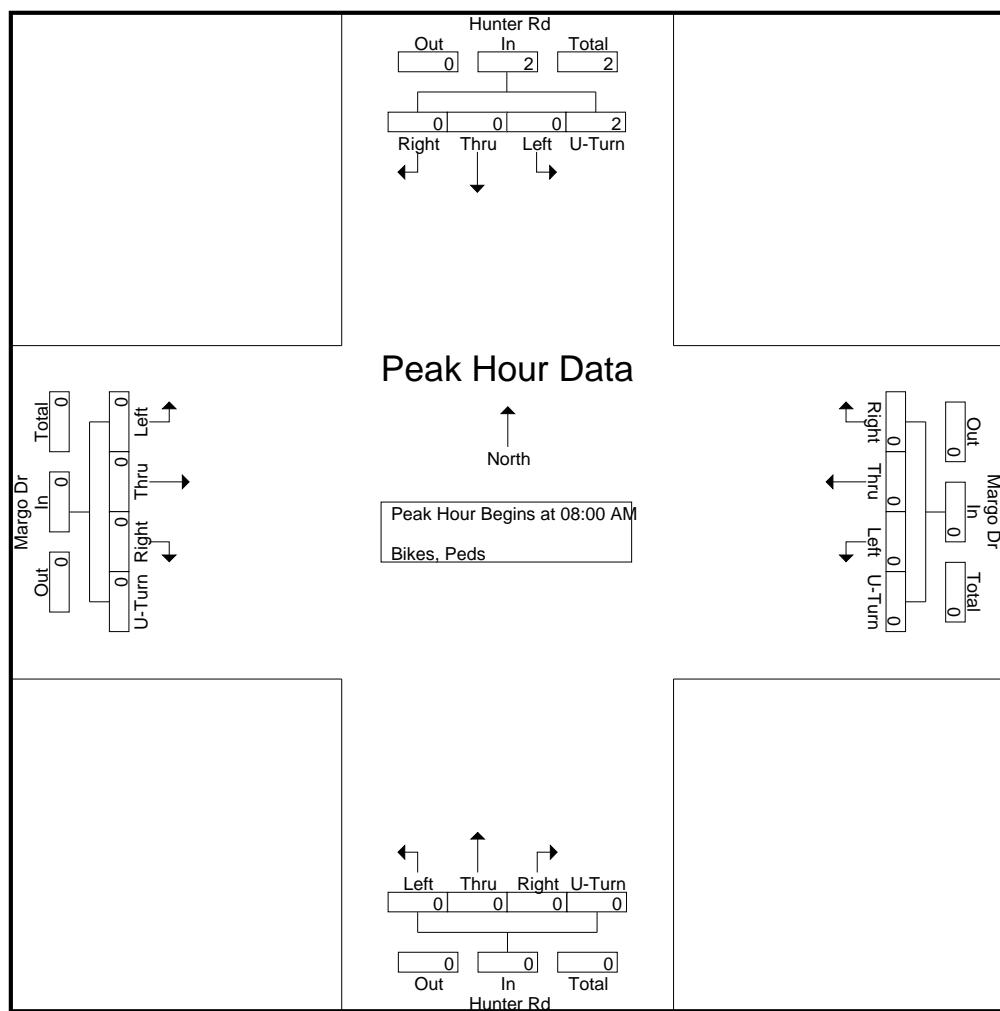


Groups Printed- Bikes, Peds

Start Time	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					Int. Total
	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	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	0

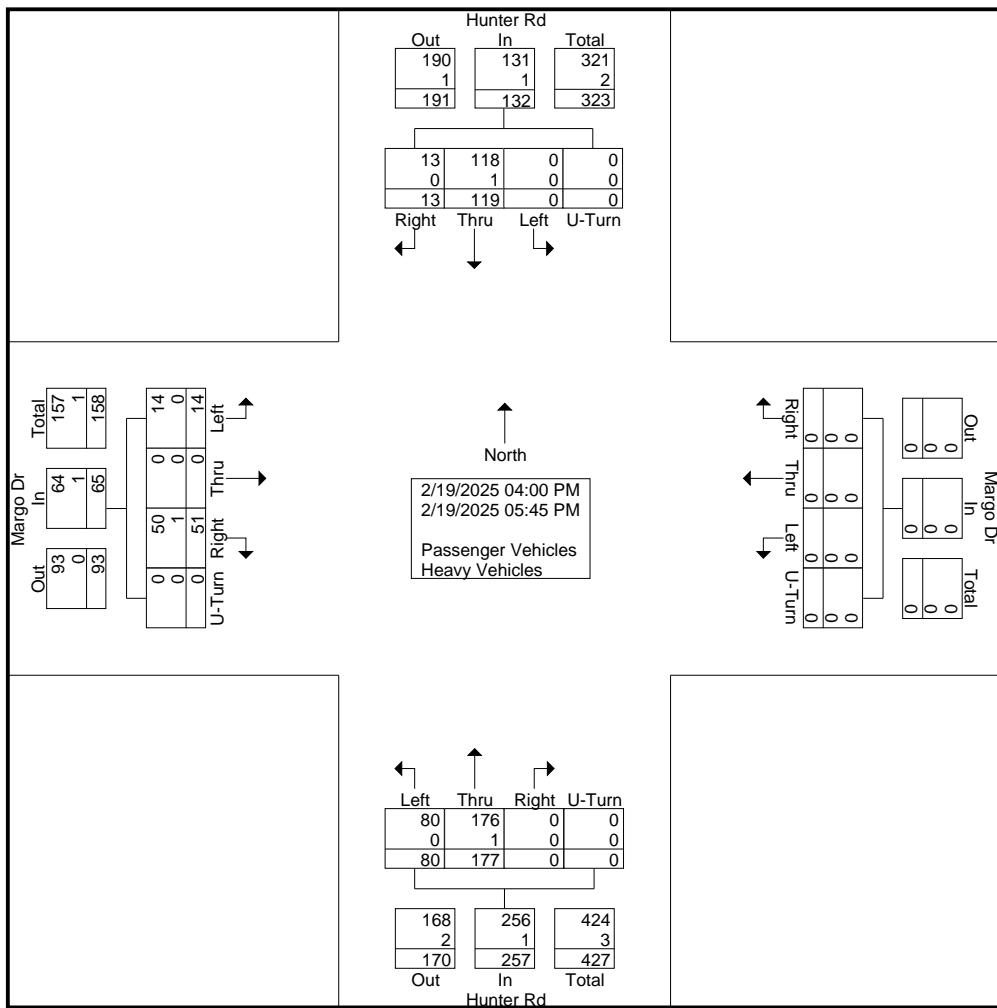


	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
Start Time	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Right	Thru	Left	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 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	
08:15 AM	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	
08:45 AM	0	0	0	2	2	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	2	
% App. Total	0	0	0	100	100	0	0	0	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	.250	

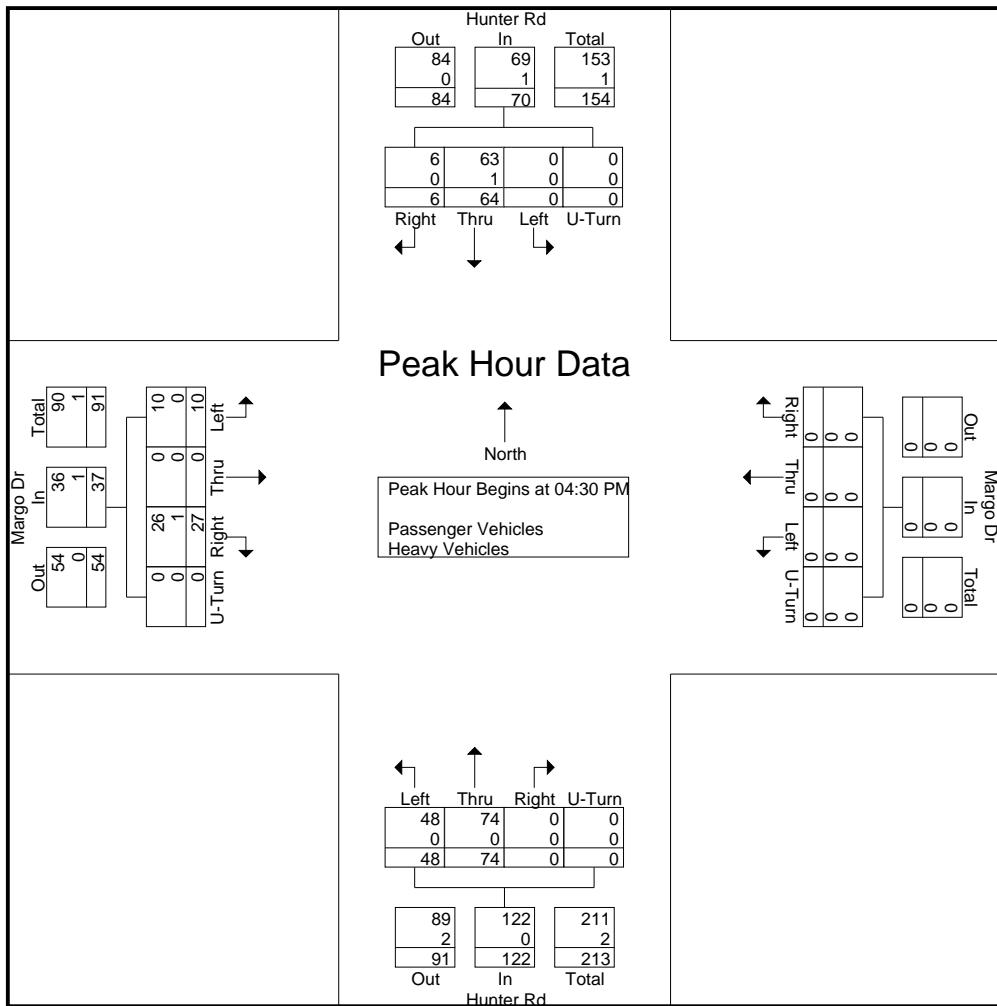


Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					Int. Total
	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	0	0	68.9	31.1	0	78.5	0	21.5	0	0	0	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	0
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

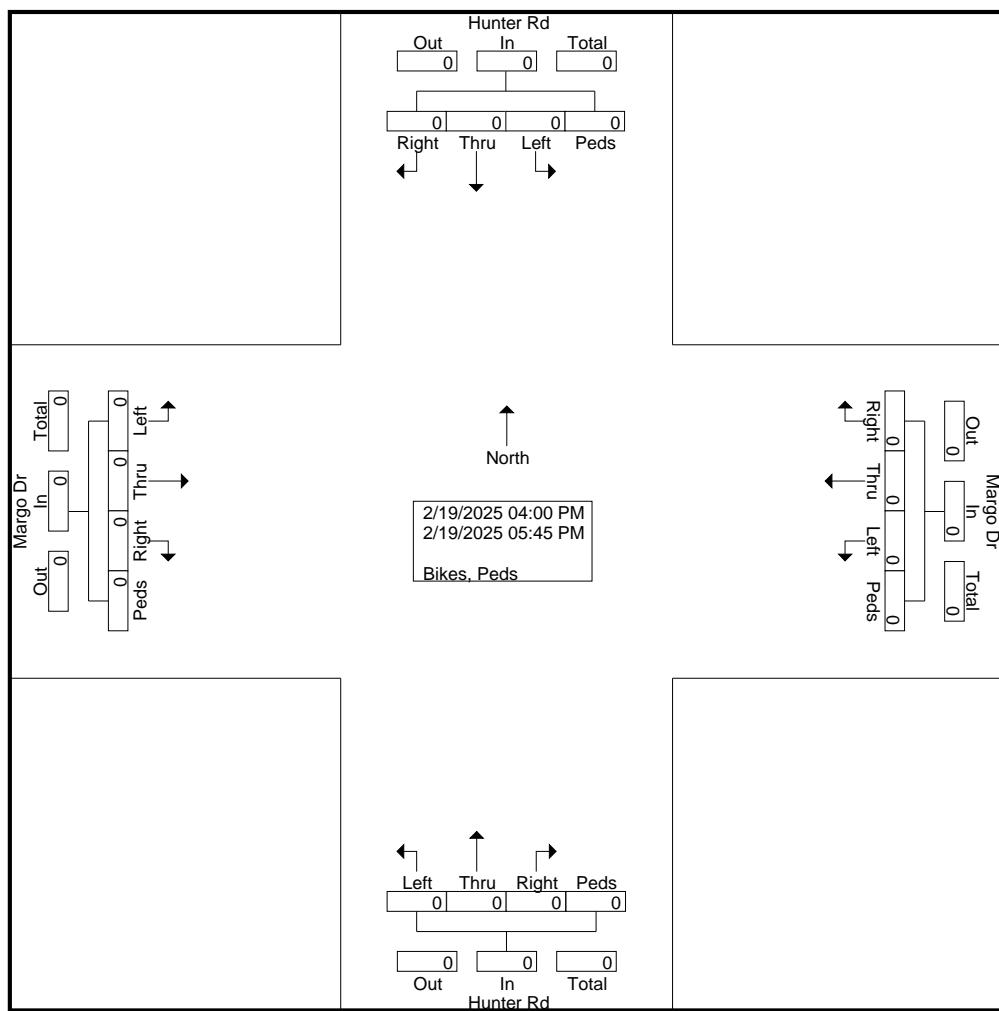


	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound						
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - 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	0	0	60.7	39.3	0	73	0	27	0	0	0	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	0	2.7	0.9

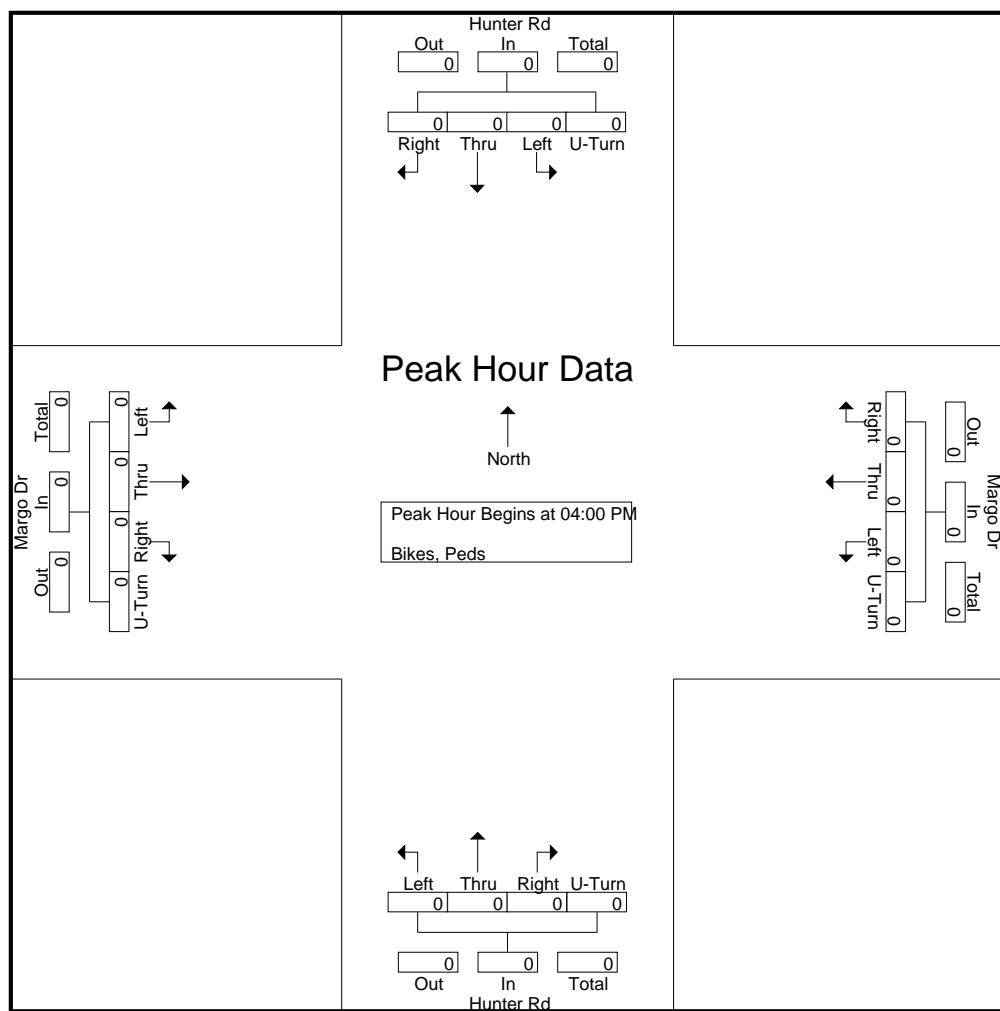


Groups Printed- Bikes, Peds

Start Time	Hunter Rd Southbound					Margo Dr Westbound					Hunter Rd Northbound					Margo Dr Eastbound					
	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	0	0	0	0	0
Total %																					



	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	
04:15 PM	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	
04:45 PM	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	
% App. Total	0	0	0	0	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	



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	W			W		W
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	W			4	1	
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	W	W	W	W	W	W
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	W			4	1	
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

Queuing and Blocking Report

Existing Conditions
AM Peak Hour

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

Queuing and Blocking Report

Existing Conditions
PM Peak Hour

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	W			W	W	
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	W	W	W	W	W	W
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	W	W	W	W	W	W
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	W	W	W	W	W	W
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	-	-

Queuing and Blocking Report

No-Build Conditions

AM Peak Hour

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

Queuing and Blocking Report

No-Build Conditions
PM Peak Hour

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	W			R	P	
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	W			W	W	
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	W		B			W
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
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	NBRWBLn1	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
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-

Intersection

Int Delay, s/veh	3.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W			R		R
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	W	W	W	W	W	W
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	W		B			W
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
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	NBRWBLn1	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
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Queuing and Blocking Report

Build Conditions - ALT 1

AM Peak Hour

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

Queuing and Blocking Report

Build Conditions - ALT 1

PM Peak Hour

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	W			4	1	
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	W			W		
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	W		B			W
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	NBRWBLn1	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	W			W	W	
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	W			4	1	
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	W		B			W
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
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	NBRWBLn1	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
HCM Lane LOS	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0

Queuing and Blocking Report

Build Conditions - ALT 2

AM Peak Hour

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

Queuing and Blocking Report

Build Conditions - ALT 2

PM Peak Hour

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

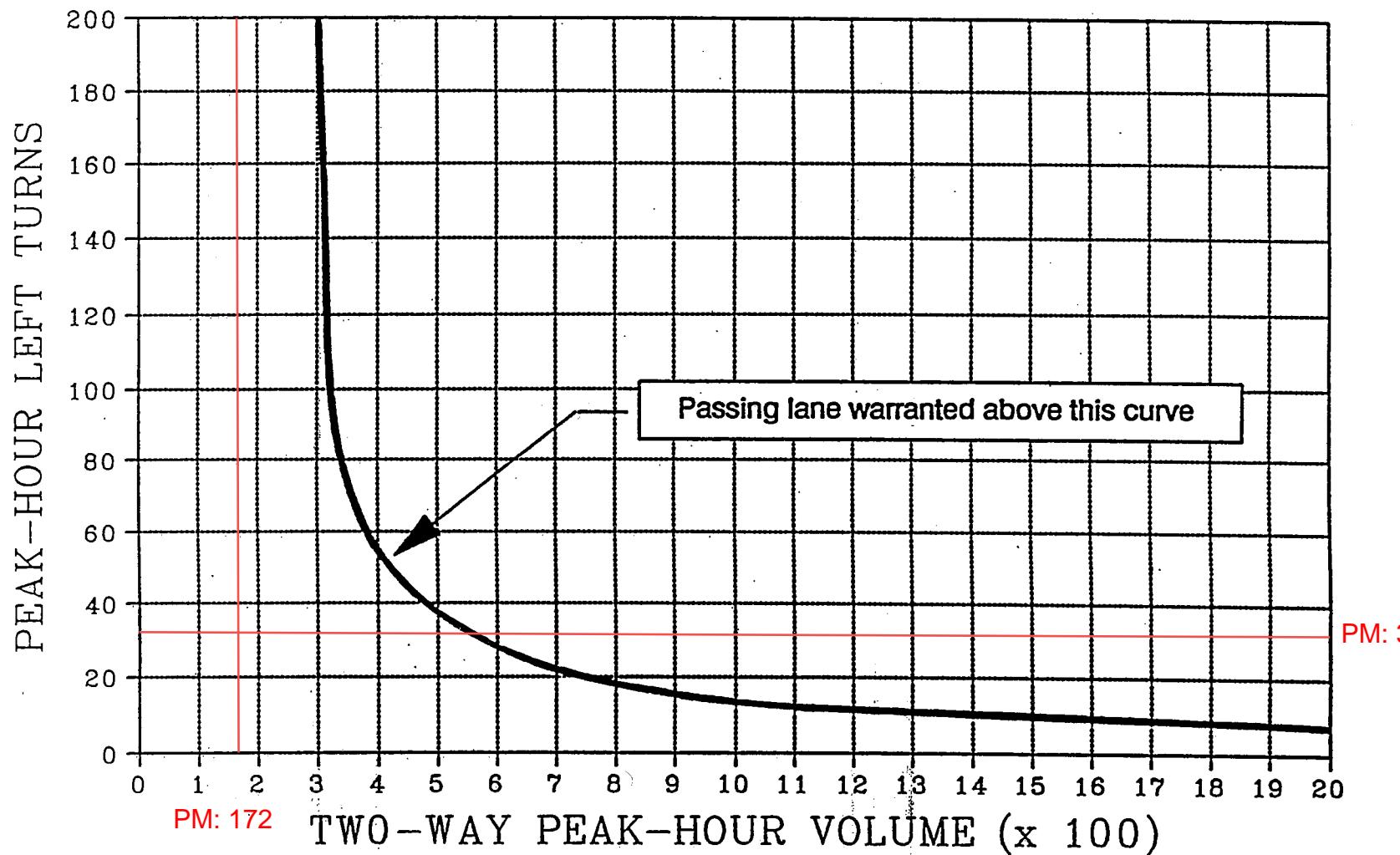
Movement	WB	SB
Directions Served	LR	LT
Maximum Queue (ft)	45	6
Average Queue (ft)	20	0
95th Queue (ft)	47	6
Link Distance (ft)	280	271
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

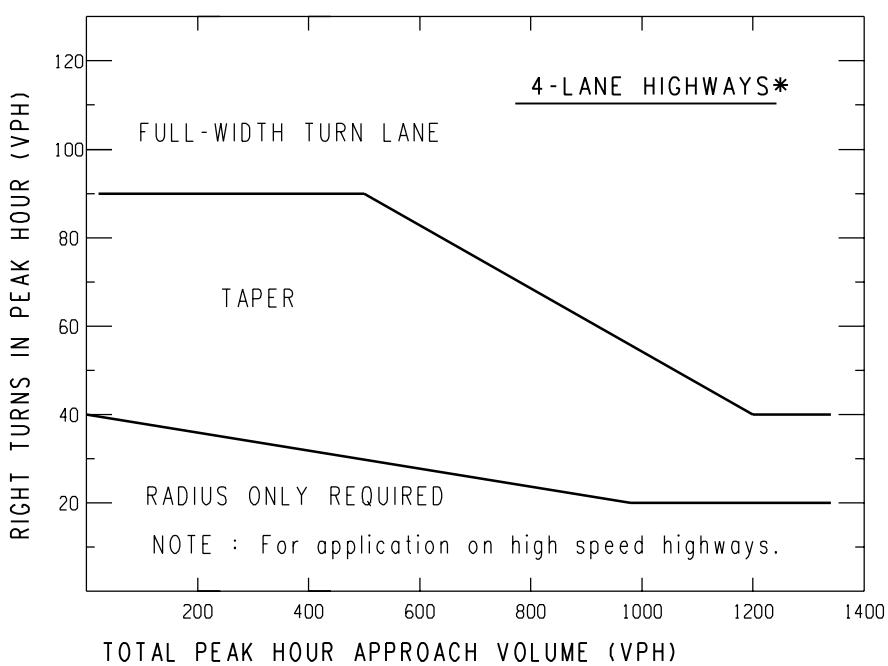
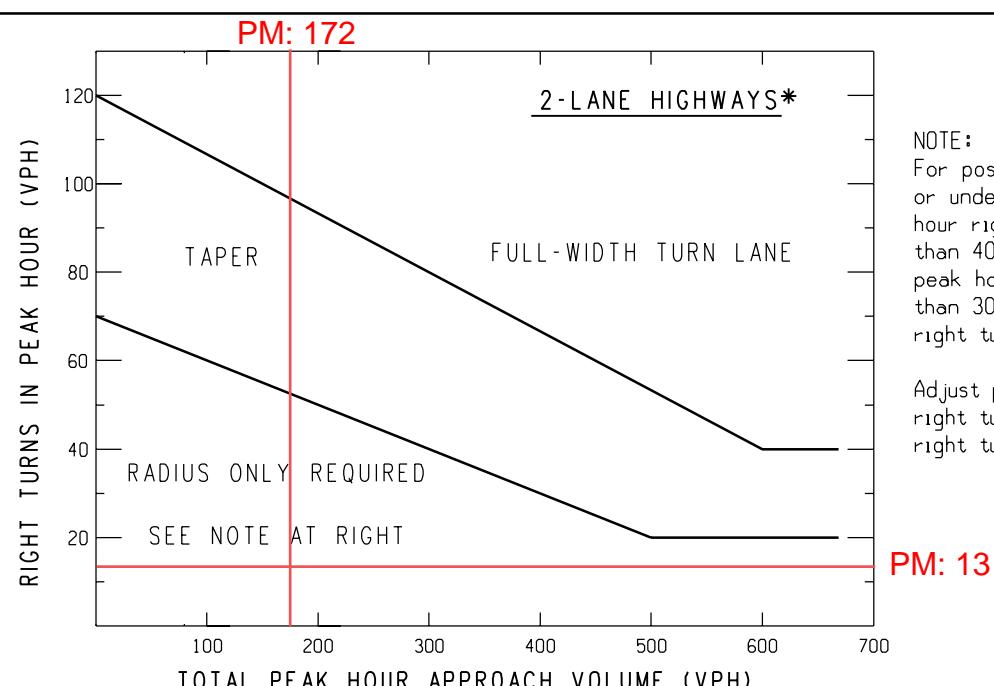
Network wide Queuing Penalty: 0

LEFT TURN PASSING LANE WARRANT

(Based on Total Development)



HUNTER ROAD & CHRISTINE DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 1



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.

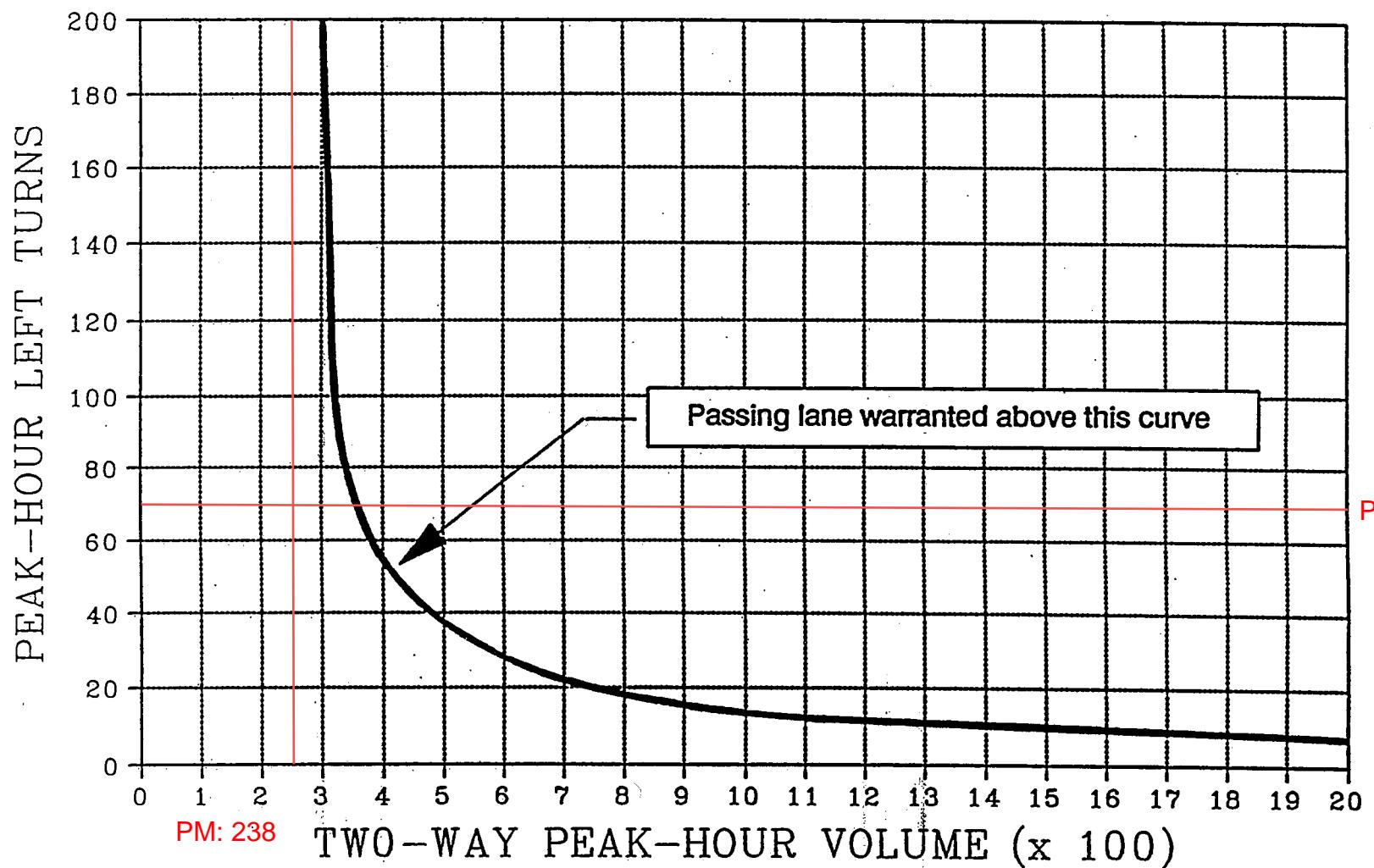
Solution:

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.

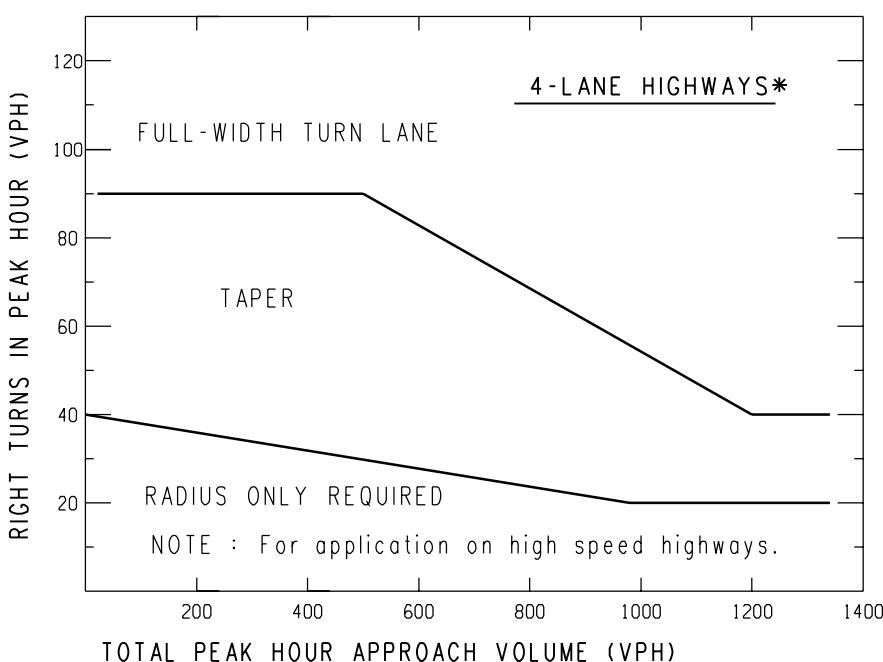
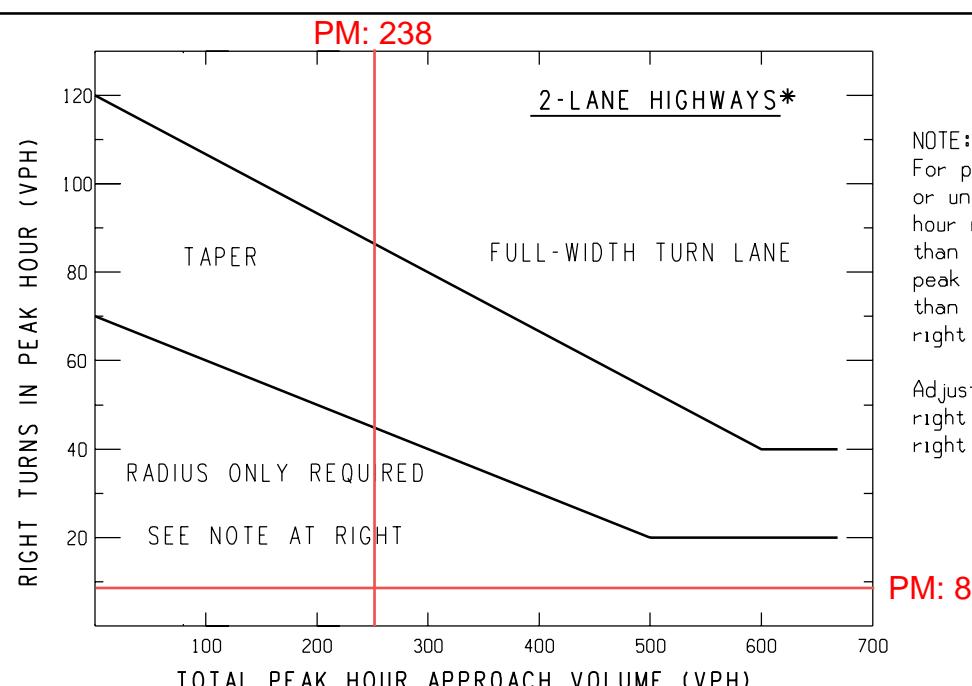
 TRAFFIC AND SAFETY NOTE	TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS		
	DRAWN BY: MTS CHECKED BY: JAT FILE: K:/DGN/ts notes/Note604A.tsn.dgn	08/05/2004 PLAN DATE: REV. 08/05/2004	604A SHEET 2 OF 2

LEFT TURN PASSING LANE WARRANT

(Based on Total Development)



HUNTER ROAD & MARGO DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 2



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.

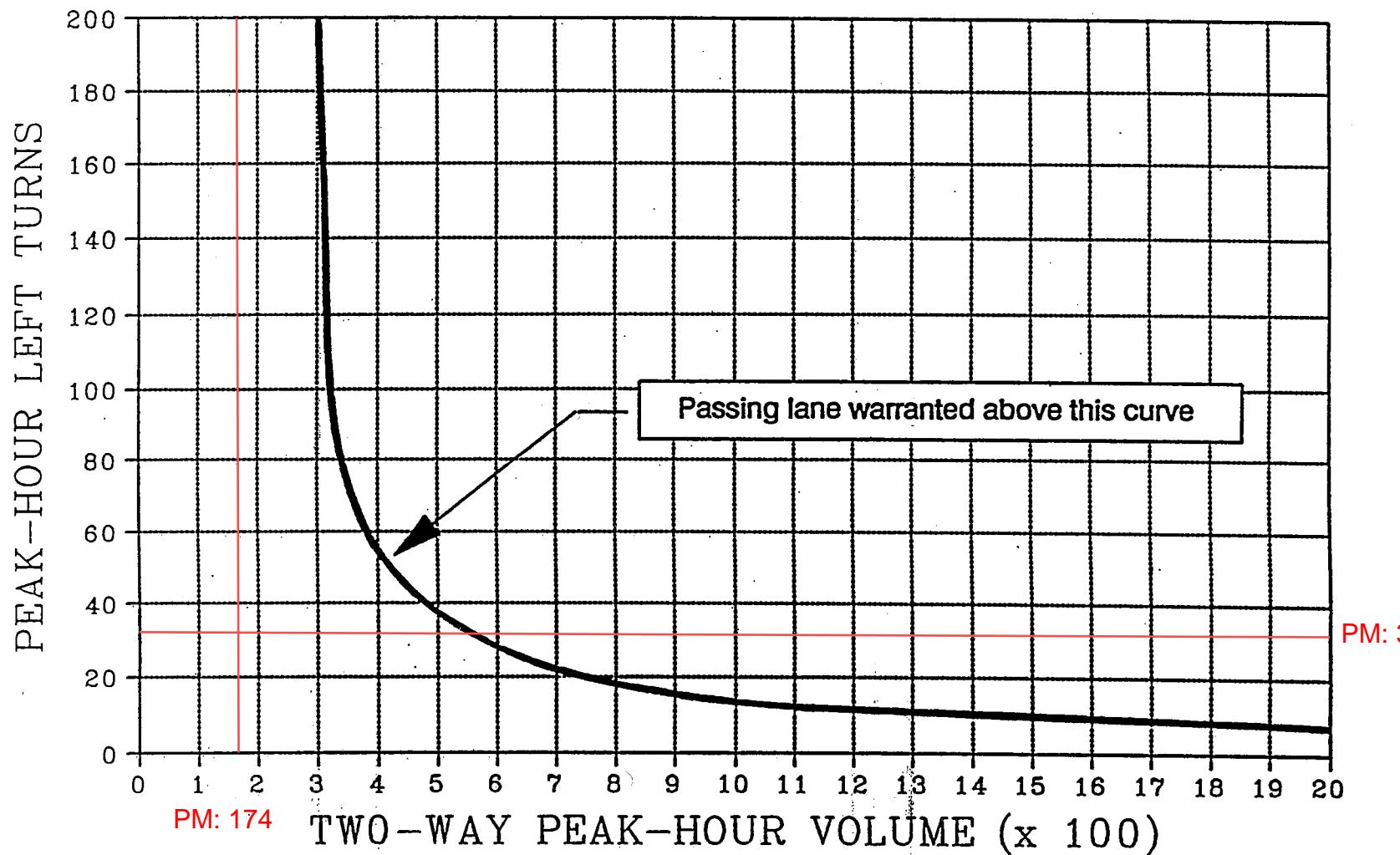
Solution:

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.

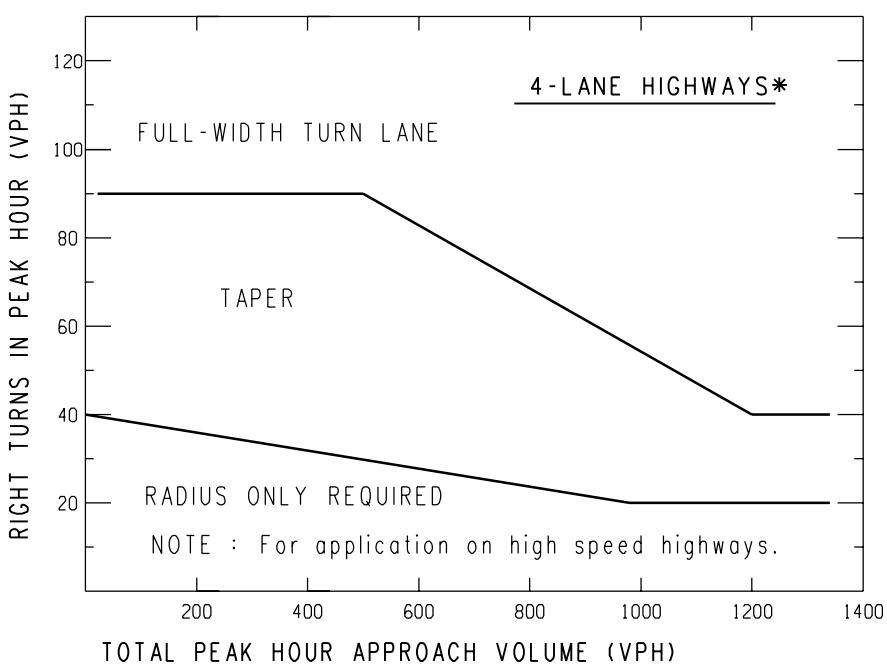
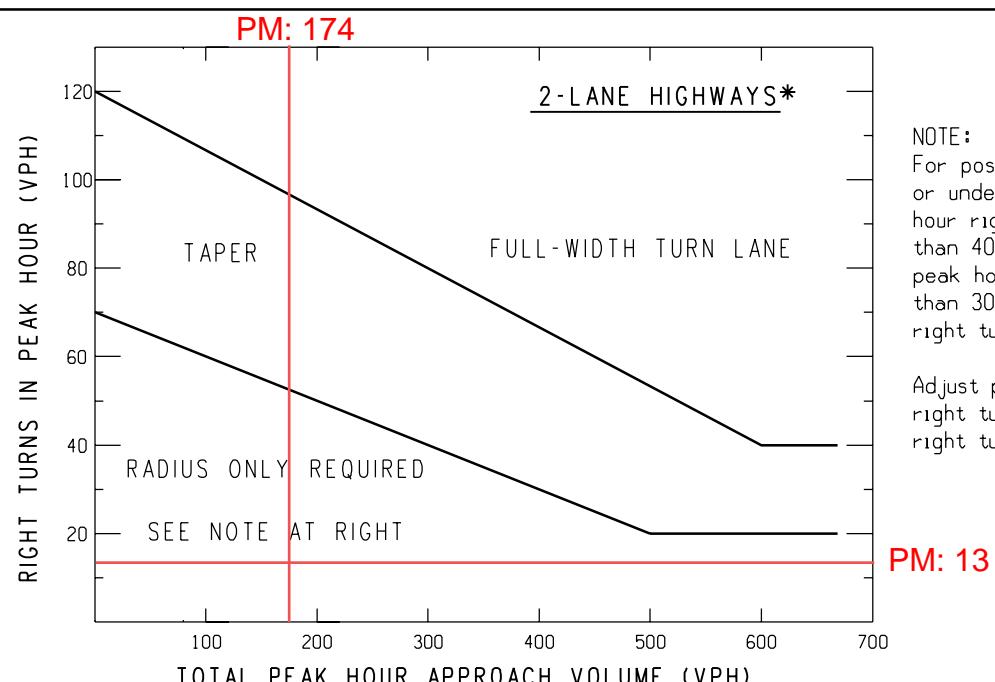
 TRAFFIC AND SAFETY NOTE	TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS		
	DRAWN BY: MTS CHECKED BY: JAT FILE: K:/DGN/ts notes/Note604A.tsn.dgn	08/05/2004 PLAN DATE: REV. 08/05/2004	604A SHEET 2 OF 2

LEFT TURN PASSING LANE WARRANT

(Based on Total Development)



HUNTER ROAD & CHRISTINE DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 2



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.

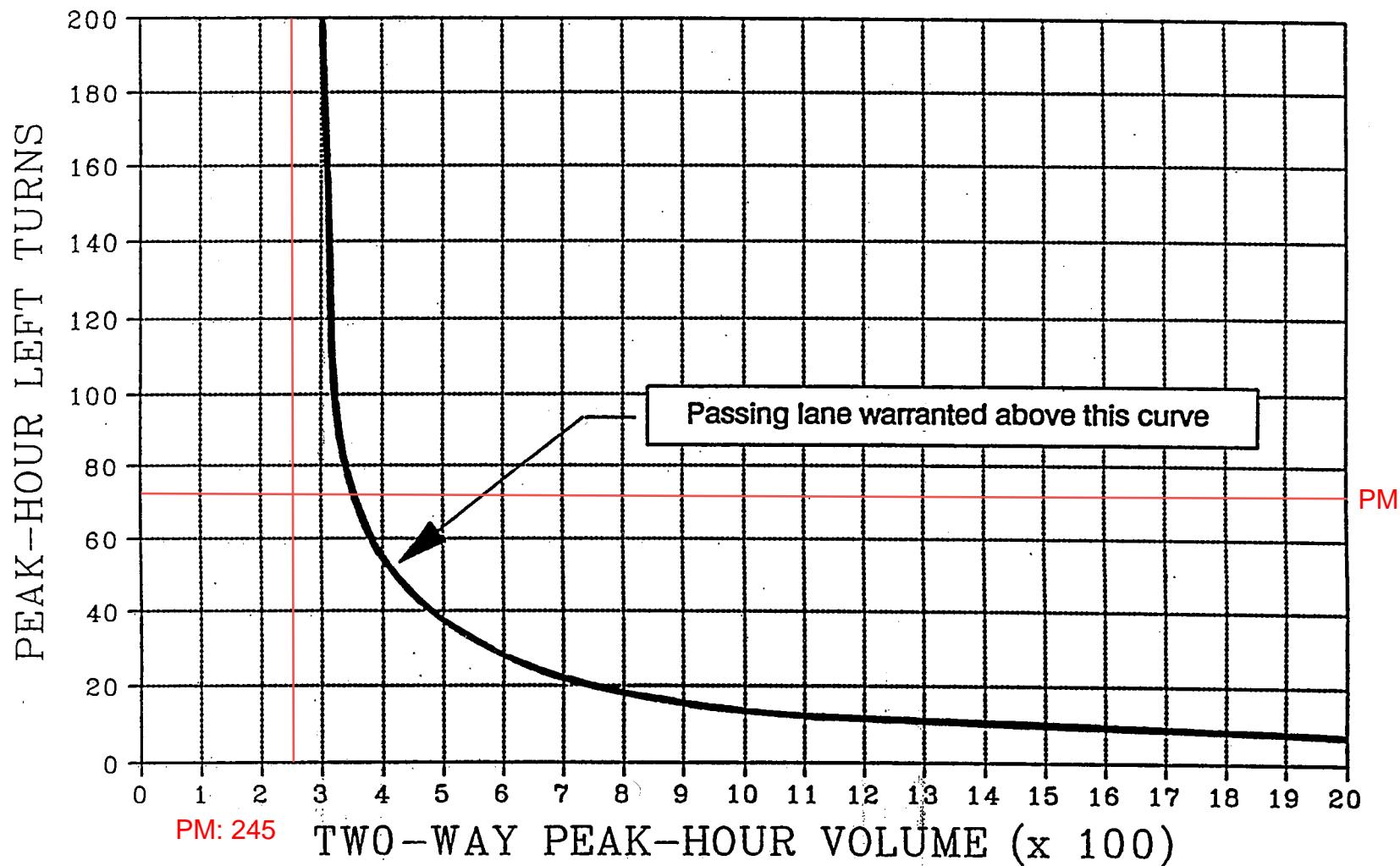
Solution:

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.

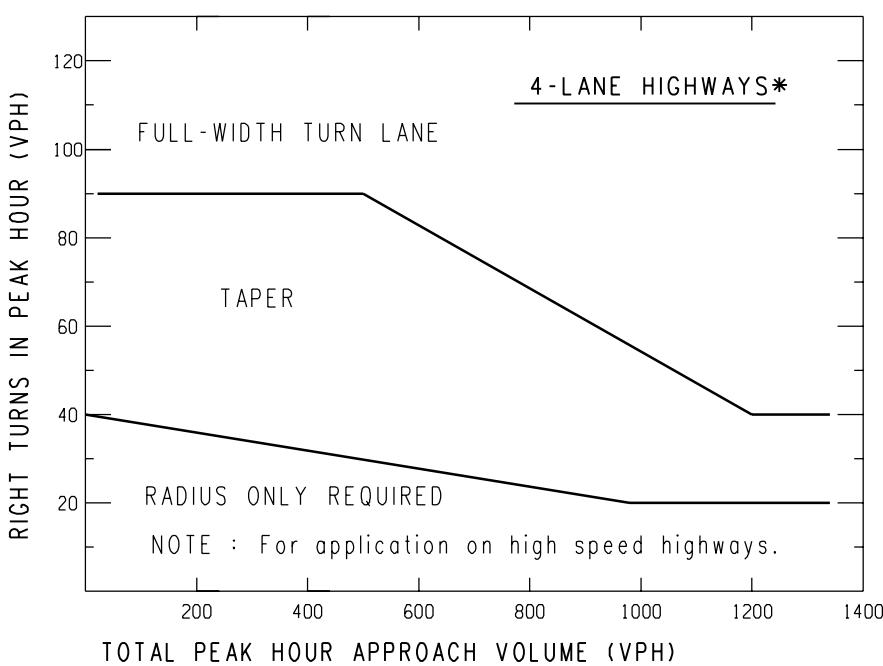
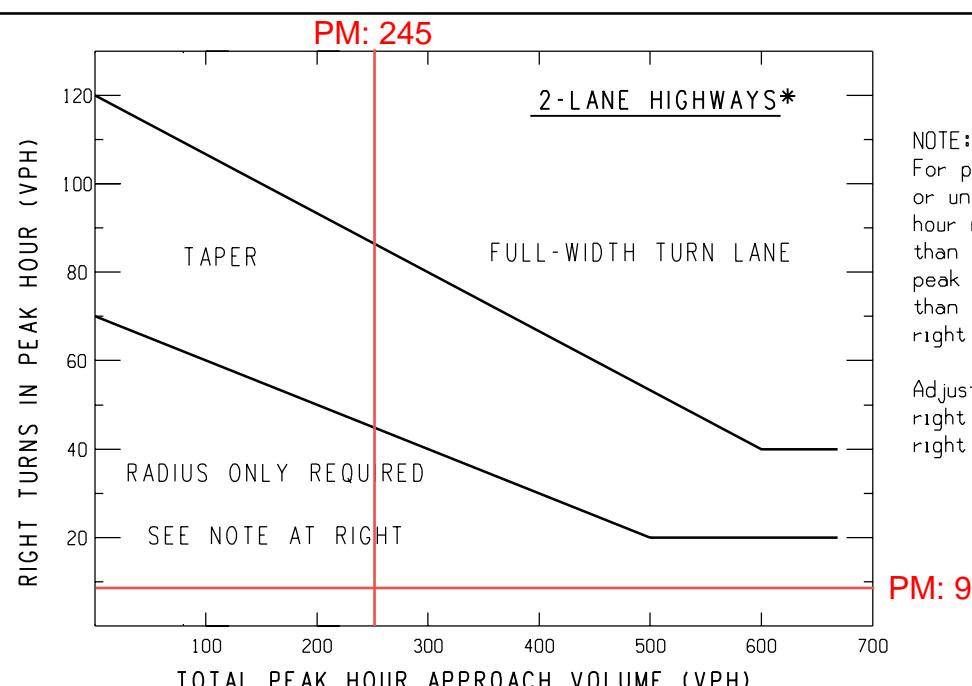
 TRAFFIC AND SAFETY NOTE	TRAFFIC VOLUME GUIDELINES FOR RIGHT-TURN LANES AND TAPERS		
	DRAWN BY: MTS CHECKED BY: JAT FILE: K:/DGN/ts notes/Note604A.tsn.dgn	08/05/2004 PLAN DATE: REV. 08/05/2004	604A SHEET 2 OF 2

LEFT TURN PASSING LANE WARRANT

(Based on Total Development)



HUNTER ROAD & MARGO DRIVE RIGHT-TURN LANE WARRANT - ALTERNATIVE 2



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.



TRAFFIC AND SAFETY
NOTE

TRAFFIC VOLUME GUIDELINES
FOR RIGHT-TURN LANES AND TAPERS

DRAWN BY: MTS

08/05/2004

604A

SHEET

CHECKED BY: JAT

PLAN DATE:

2 OF 2

FILE: K:/DGN/ts notes/Note604A.tsn.dgn

REV. 08/05/2004

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 $\frac{1}{4}$ 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 $\frac{1}{4}$ 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;

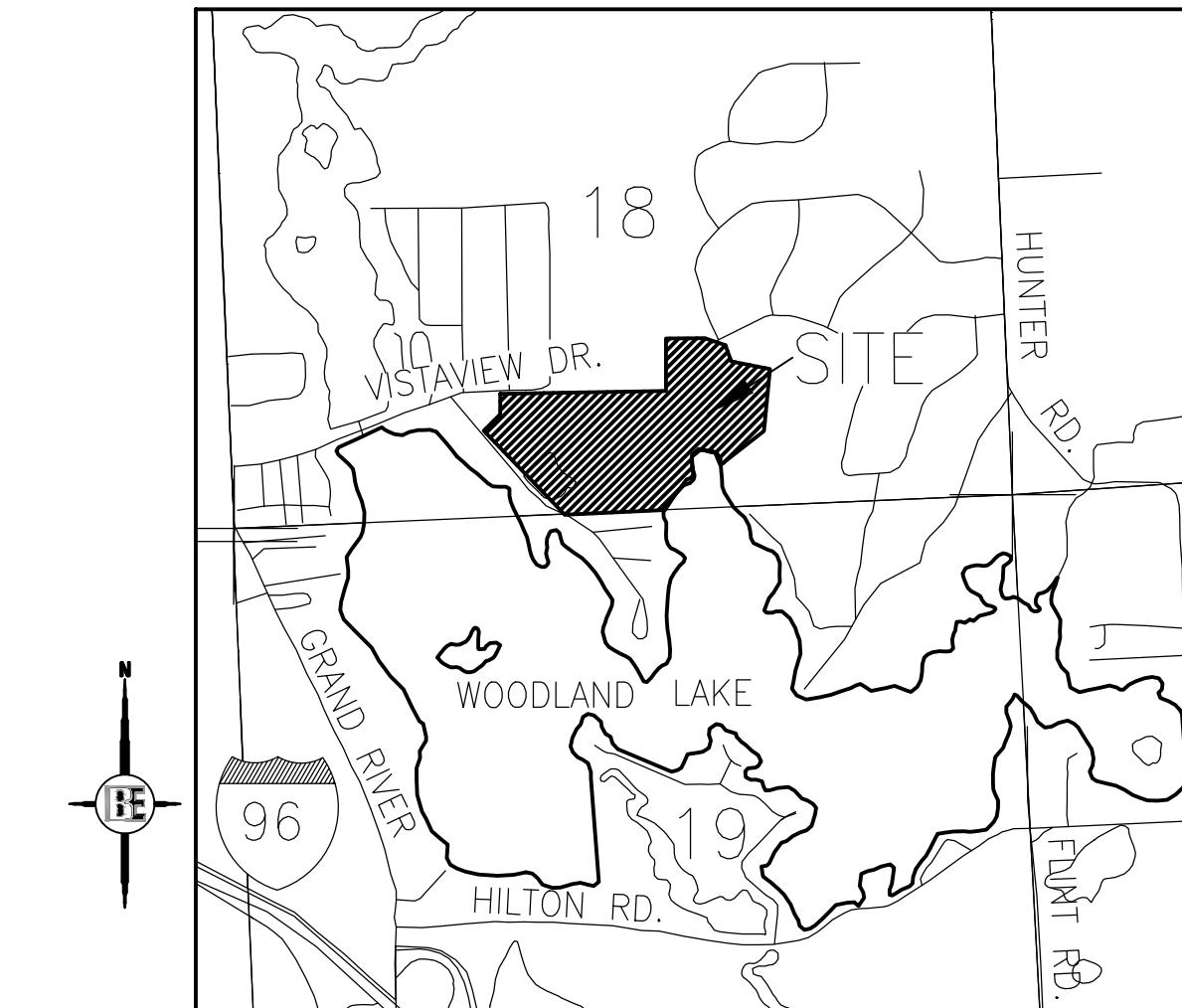
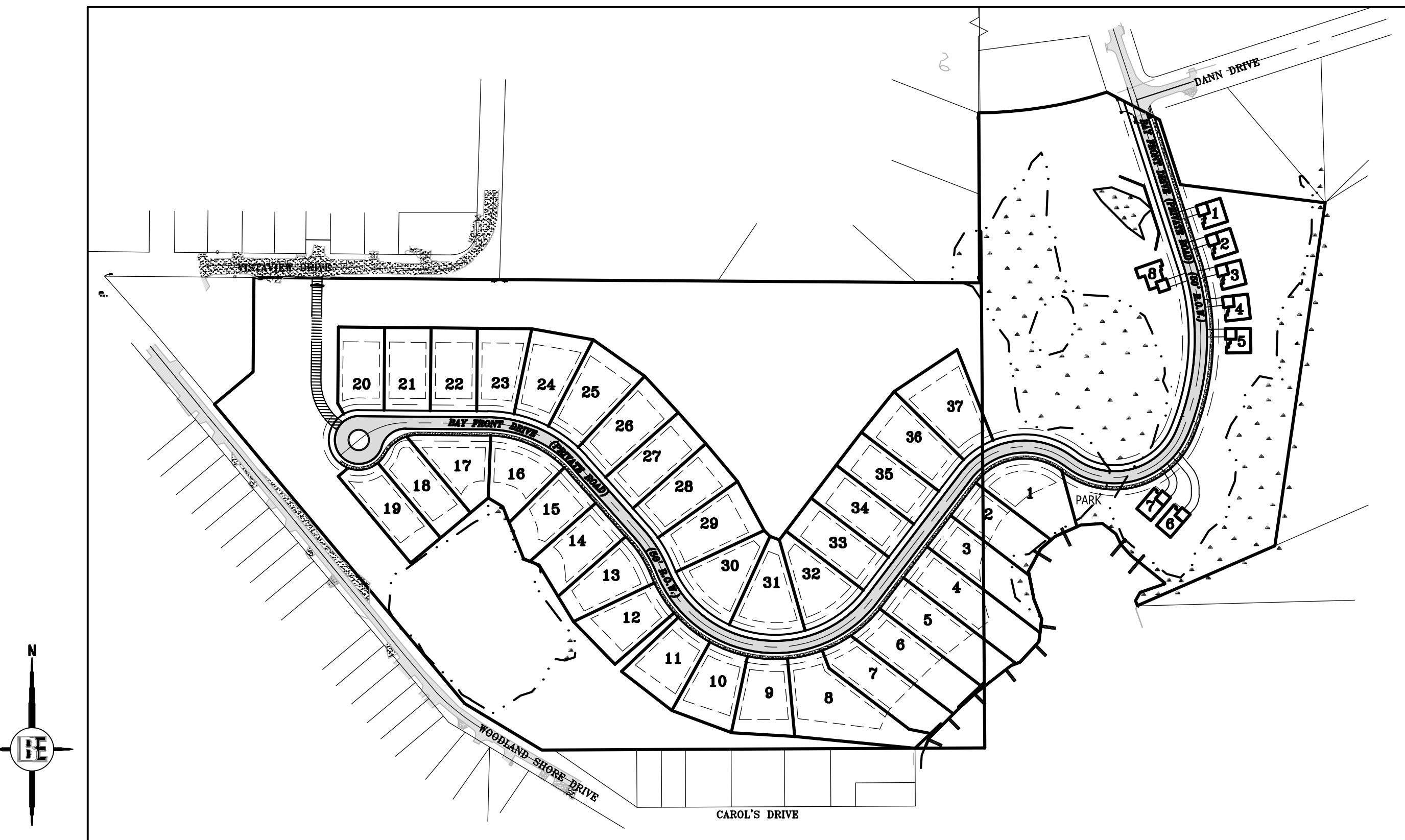
THENCE ALONG THE TRUE NORTH-SOUTH $\frac{1}{4}$ LINE OF SECTION 18 AND IN WOODLAND LAKE, S00°25'35"W, 125.5 FEET, MORE OR LESS, TO THE CALCULATED POSITION OF THE SOUTH 1/4 CORNER OF SECTION 18, AND THE POINT OF BEGINNING, SAID POINT BEARING S00°25'35"W, 134.41 FEET FROM TRAVERSE POINT "F", CONTAINING 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 $\frac{1}{4}$ 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 $\frac{1}{4}$ 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:

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



LOCATION MAP
NO SCALE

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	CONVENTIONAL R-2 SITE PLAN OVERLAY

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
DEVIATION: 2,138 FT

MINIMUM ROAD WIDTH ALLOWED: 30' B/C-B/C
MINIMUM ROAD WIDTH PROPOSED: 27' B/C-B/C
DEVIATION: 3 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: 45
DEVIATION: 21

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

OVERALL SITE MAP

NO SCALE

PERMITS & APPROVALS

AGENCY	DATE SUBMITTED	DATE APPROVED
• TOWNSHIP PUD APPROVAL	—	—
• TOWNSHIP ENGINEERING APPROVAL	—	—
• LCDC SESC	—	—
• NPDES SESC NOC	—	—
• EGLE - ACT 399	—	—
• EGLE - PART 41	—	—
• EGLE - WETLAND	—	—

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.

FOR SITE PLAN APPROVAL ONLY!
NOT FOR CONSTRUCTION

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:

BEBOSS
Engineering

Engineers Surveyors Planners Landscape Architects

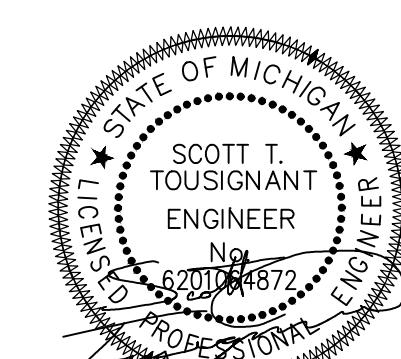
3121 E. GRAND RIVER AVE.

HOWELL, MI. 48843

517.546.4836 FAX 517.548.1670

CONTACT: SCOTT TOUSIGNANT

EMAIL: SCOTT@BOSSENG.COM



1

NO	BY	CK	REVISION	DATE	JOB NO:
ISSUE DATE: 3/3/25					
JOB NO: 24-419					

GENERAL NOTES

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

INDEMNIFICATION STATEMENT

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

CONTRACTOR TO FOLLOW MANUFACTURER SPECS/RECOMMENDATIONS THAT SUPERCEDE PLANS

GENERAL GRADING & SESC NOTES

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

GENERAL LANDSCAPE NOTES

- ALL PLANT MATERIAL SHALL CONFORM TO THE REQUIREMENTS AND SPECIFICATIONS OF THE GOVERNING MUNICIPALITY. ALL STOCK SHALL BE NURSERY GROWN, CONFORMING TO ANSI Z60.1 "AMERICAN STANDARD FOR NURSERY STOCK", AND IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. STOCK SHALL EXHIBIT NORMAL GROWTH HABIT AND BE FREE OF DISEASE, INSECTS, EGGS, LARVAE, & DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS, OR DISFIGUREMENT. ALL PLANT MATERIAL SHALL BE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT.
- ALL PLANT MATERIALS SHALL BE BALLED AND BURLAPPED OR CONTAINER STOCK. NO BARE ROOT STOCK IS PERMITTED. ALL PLANT BALLS SHALL BE FIRM, INTACT, AND SECURELY WRAPPED AND BOUND.
- ALL PLANT BED MATERIALS SHALL BE EXCAVATED OF ALL BUILDING MATERIALS, OTHER EXTRANEous OBJECTS, AND POOR SOIL TO A MINIMUM DEPTH OF 12-INCHES AND BACKFILLED TO GRADE WITH SPECIFIED PLANTING MIX (SEE BELOW).
- PLANTING MIXTURE SHALL CONSIST OF 5 PARTS TOPSOIL FROM ON-SITE (AS APPROVED), 4 PARTS COARSE SAND, 1 PART SPHAGNUM PEAT MOSS (OR APPROVED COMPOST), AND 5 LBS OF SUPERPHOSPHATE FERTILIZER PER CU. YD. OF MIX. INGREDIENTS SHALL BE THOROUGHLY BLENDED FOR UNIFORM CONSISTENCY.
- ALL PLANT BEDS AND INDIVIDUAL PLANTS, NOT OTHERWISE NOTED SHALL BE MULCHED WITH A 4-INCH LAYER OF SHREDDED BARK MULCH. EDGE OF MULCH BEDS AS SHOWN, DECIDUOUS TREES IN LAWN AREAS SHALL RECEIVE A 5-Ft DIAMETER CIRCLE OF MULCH AND CONIFER TREES 8-Ft (PLANTED CROWN OF TREE) UNLESS OTHERWISE NOTED.
- LANDSCAPE STONE SHALL BE INSTALLED WHERE NOTED OR INDICATED (HATCHED). STONE SHALL BE 3/4"-1-1/4" WASHED RIVER GRAVEL OR AS SELECTED AND SHALL BE INSTALLED TO A MINIMUM DEPTH OF 3-INCHES.
- ALL LANDSCAPE BEDS, UNLESS OTHERWISE NOTED SHALL BE INSTALLED OVER WEED BARRIER FABRIC - WATER PERMEABLE FILTRATION FABRIC OF NON-WOVEN POLYPROPYLENE OR POLYESTER FABRIC. FABRIC SHALL BE OF SUITABLE THICKNESS FOR APPLICATION.
- ALL PLANTS AND PLANT BEDS SHALL BE THOROUGHLY WATERED UPON COMPLETION OF PLANTING AND STAKING OPERATIONS.
- THE CONTRACTOR SHALL GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF 1 YEAR FROM THE DATE THE WORK IS ACCEPTED IN WRITING BY THE LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL REPLACE, WITHOUT COST TO THE OWNER, WITHIN A SPECIFIED PERIOD OF TIME ALL DEAD PLANTS AND ALL PLANTS NOT IN A VIGOROUS, THRIVING CONDITION, AS DETERMINED BY THE LANDSCAPE ARCHITECT, DURING AND AT THE END OF THE GUARANTEE PERIOD. REPLACEMENT STOCK SHALL CONFORM TO THE ORIGINAL SPECIFICATIONS.
- EDGING SHALL BE PROVIDED FOR ALL LANDSCAPE BEDS NOT ADJACENT TO CONCRETE PAVEMENT. EDGING SHALL BE BLACK ALUMINUM EDGING, 3/16-INCH X 4-INCH. INSTALL PER MANUFACTURER'S INSTRUCTIONS. ALL EDGING SHALL BE INSTALLED IN STRAIGHT LINES OR SMOOTH CURVES WITHOUT IRRREGULARITIES.
- SOD SHALL BE DENSE, WELL ROOTED TURF, FREE OF WEEDS. IT SHALL BE COMPRISED OF A BLEND OF AT LEAST TWO KENTUCKY BLUEGRASS AND ONE FESCUE. IT SHALL HAVE A UNIFORM THICKNESS OF 3/4-INCH AT TIME OF PLANTING, AND CUT IN UNIFORM STRIPS NOT LESS THAN 10-INCHES BY 18-INCHES. SOD SHALL BE KEPT MOIST AND LAID WITHIN 36-HOURS AFTER CUTTING.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ESTABLISH A DENSE LAWN OF PERMANENT GRASSES, FREE OF LUMPS AND DEPRESSIONS. ALL SODDED AREAS THAT BROWN-OUT OR HAVE NOT FIRMLY KNITTED TO THE SOIL BASE WITHIN A PERIOD OF 1 MONTH SHALL BE REPLACED BY THE CONTRACTOR, AT NO COST TO THE OWNER.
- ALL AREAS OF THE SITE THAT BECOME DISTURBED DURING CONSTRUCTION AND ARE NOT TO BE PAVED, STONED, LANDSCAPED OR SODDED SHALL BE SEADED 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%
PENNINE PERENNIAL RYE	20%

THE ABOVE SEED MIXTURE SHALL BE SOWN AT A RATE OF 250 LBS PER ACRE. PRIOR TO SEEDING, THE TOPSOIL SHALL BE FERTILIZED WITH A COMMERCIAL FERTILIZER WITH A 10-0-10 ANALYSIS:

10% NITROGEN - MIN 25% FROM A UREA FORMALDEHYDE SOURCE
0% PHOSPHATE
10% POTASH - SOURCE POTASSIUM SULFATE OR POTASSIUM NITRATE

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

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

- 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 ONLY FOR WATERMAIN.
- WHERE UNSTABLE GROUND CONDITIONS ARE ENCOUNTERED, STONE BEDDING SHALL BE USED AS DIRECTED BY THE ENGINEER.
- BACKFILL SHALL BE OF A SUITABLE MATERIAL AND SHALL BE FREE OF ANY ORGANIC MATERIALS AND ROCKS.
- BACKFILL ABOVE THE PIPE SHALL BE OF GRANULAR MATERIAL MDOT CLASS II TO A POINT 12" ABOVE THE TOP OF THE PIPE, WHERE THE TRENCH IS NOT WITHIN THE INFLUENCE OF THE ROAD, SUITABLE SITE MATERIAL MAY BE COMPACTION 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 COMPACTION IN LAYERS NOT EXCEEDING 12" IN THICKNESS. COMPACTION SHALL BE 95% AS DETERMINED BY AASHTO T99.
- 18" MINIMUM VERTICAL SEPARATION AND 10' HORIZONTAL SEPARATION IS TO BE MAINTAINED BETWEEN WATERMAIN AND SANITARY/STORM SEWER TO THE MAXIMUM EXTENT POSSIBLE.

GENERAL STORM NOTES

- ALL STORM PIPE LENGTHS ARE SHOWN FROM C/L TO C/L OF STRUCTURE OR FROM C/L OF STRUCTURE TO DISCHARGE END OF FLARED END SECTION.
- STORM PIPE MATERIALS SHALL BE AS FOLLOWS:
 - 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.
 - HDPE (HIGH DENSITY POLYETHYLENE): SHALL MEET THE REQUIREMENTS OF ASTM F2648.
 - PP (POLYPROPYLENE): SHALL MEET THE REQUIREMENTS OF ASTM F2881.
 - PVC (POLYVINYL CHLORIDE): SHALL MEET THE REQUIREMENTS OF ASTM D3034.
- STORM PIPE JOINTS SHALL MEET THE REQUIREMENTS OF ASTM D3212. HDPE AND PP PIPE GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477.
- ALL STORM PIPE TO HAVE WATERTIGHT PREMIUM JOINTS, UNLESS OTHERWISE NOTED ON THE PLANS.
- STORM DRAINAGE STRUCTURES SHALL BE FURNISHED WITH STEPS WHICH SHALL BE STEEL ENCASED WITH POLYPROPYLENE PLASTIC OR EQUIVALENT. STEPS SHALL BE SET AT 16" CENTER TO CENTER.
- ALL FLARED END SECTIONS 15" AND LARGER SHALL BE FURNISHED WITH AN ANIMAL GRATE.
- FLARED END SECTIONS DISCHARGING STORM WATER SHALL RECEIVE A MINIMUM OF 10 SQ YDS OF PLAIN COBBLESTONE RIP RAP WITH A MINIMUM STONE SIZE OF 6" AND SHALL BE PLACED ON A GEOTEXTILE FABRIC WRAP.
- ALL CATCH BASINS WITHIN THE ROADWAY SHALL INCLUDE INSTALLATION OF 6" DIAMETER PERFORATED PIPE SUBDRAIN.
- STORM DRAINAGE STRUCTURE COVERS SHALL BE OF THE FOLLOWING (OR APPROVED EQUAL):

Cover Use	Frame	Grate/Back
'A' MANHOLE	1040	TYPE 'B'
'B' TYPE B 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
- THE PROPOSED DRAINAGE SYSTEM IS TO BE OWNED AND PROPERLY MAINTAINED BY THE PROPERTY OWNER (LIVINGSTON COUNTY ONLY)

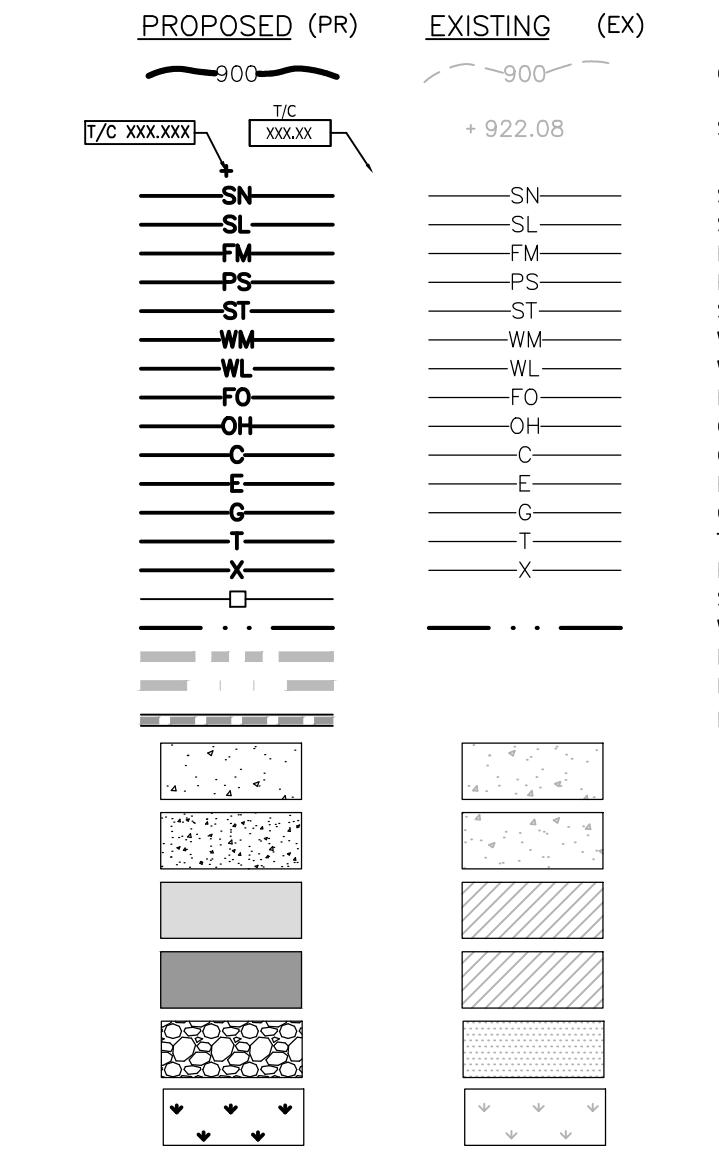
GENERAL SANITARY NOTES

- ALL SANITARY PIPE LENGTHS ARE SHOWN FROM C/L OF STRUCTURE TO C/L OF STRUCTURE.
- SANITARY PIPE MATERIALS SHALL BE AS FOLLOWS:
 - PVC SDR-26 (SANITARY MAIN)
 - PVC SDR-23.5 (SANITARY LEADS)
 - HDPE DR-11 (SANITARY FORCEMAIN)
- ALL PVC SDR SANITARY SEWER PIPE SHALL MEET THE REQUIREMENTS OF ASTM D3034 AND D2241. PVC SDR 40 PIPE SHALL MEET THE REQUIREMENTS OF ASTM D1785. GASKET JOINTS FOR SANITARY PIPE SHALL MEET THE REQUIREMENTS OF ASTM D3139 AND D3212.
- 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.
- 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.
- MANHOLES SHALL BE CONSTRUCTED WITH FLOW CHANNEL WALLS THAT ARE FORMER, AT A MINIMUM, TO THE SPRINGLINE OF THE PIPE.
- ALL NEW MANHOLES SHALL HAVE AN APPROVED FLEXIBLE, WATERTIGHT SEALS WHERE PIPES PASS THROUGH MANHOLE WALLS.
- WHEREVER AN EXISTING MANHOLE IS TO BE TAPPED, THE STRUCTURE SHALL BE CORED AND A KOR-N-SEAL BOOT UTILIZED FOR THE PIPE CONNECTION.
- ALL MANHOLES SHALL BE PROVIDED WITH WATERTIGHT COVERS. COVERS TO BE EJCO 1040 TYPE 'A' SOLID COVER.
- 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.
- SANITARY SEWER LATERALS SHALL HAVE A MINIMUM SLOPE OF 1.0%.
- CLEANOUTS SHALL BE INSTALLED EVERY 100', AT ALL BENDS AND STUBS.
- PUBLIC SANITARY FORCEMAIN SHALL BE CENTERED WITHIN A 12 FOOT WIDE SANITARY FORCEMAIN EASEMENT.

GENERAL WATERMAIN NOTES

- WATERMAIN PIPE MATERIALS SHALL BE AS FOLLOWS:
 - D.I.P. CL52 (WATERMAIN)
 - TYPE 'K' COPPER (WATER LATERAL - MAIN TO CURB STOP)
 - HDPE DR-9 (WATER LATERAL - CURB STOP TO STUB)
- WATERMAIN FITTINGS SHALL BE OF DUCTILE IRON WITH CEMENT MORTAR LINING AND MECHANICAL JOINTS CONFORMING TO AWWA C110.
- WATERMANS SHALL BE DISINFECTED IN ACCORDANCE WITH AWWA C651. BAC-T SAMPLES SHALL BE TAKEN IN ACCORDANCE WITH R235.1110 OF THE ADMINISTRATIVE RULES PROMULGATED UNDER MICHIGAN SAFE DRINKING WATER ACT, 1976 PA 399, AS AMENDED.
- ALLOWABLE LEAKAGE OR HYDROSTATIC PRESSURE TESTING SHALL BE IN ACCORDANCE WITH AWWA C600 AND C605.
- MAXIMUM DEFLECTION AT PIPE JOINTS SHALL BE IN ACCORDANCE WITH PIPE MANUFACTURERS CURRENT RECOMMENDATIONS AND AWWA SPECIFICATIONS.
- 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.
- 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.
- WATERMAIN VALVES SHALL BE IRON BODY RESILIENT WEDGE GATE VALVES, NON-RISING STEMS, COUNTERCLOCKWISE OPEN, AWWA C509.
- FIRE HYDRANTS SHALL BE INSTALLED WITH AN AUXILIARY VALVE WITH CAST IRON VALVE BOX. THE HYDRANT PUMPER HOSE CONNECTION SHALL FACE THE ROADWAY.
- THE BREAKAWAY FLANGE AND ALL BELOW GRADE FITTINGS SHALL HAVE STAINLESS STEEL NUTS AND BOLTS.
- PUBLIC WATERMAIN SHALL BE CENTERED WITHIN A 20 FOOT WIDE WATERMAIN EASEMENT.

LINES & HATCHES LEGEND

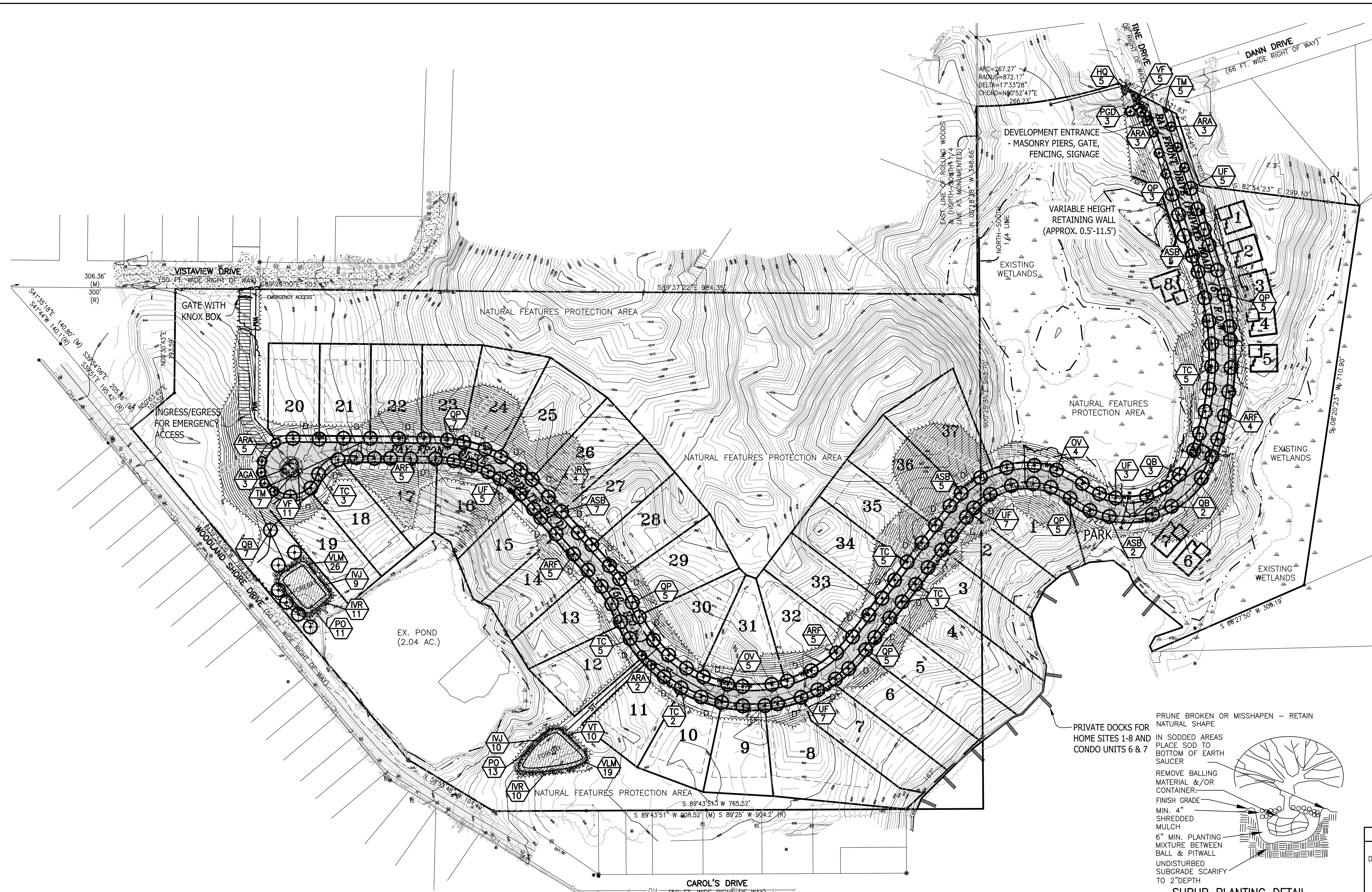


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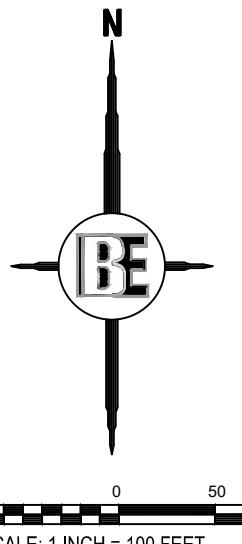
THE COVE AT WOODLAND LAKE
MITCH HARRIS BUILDING COMPANY
21 NORTH FIRST STREET SUITE 100
BROOKFIELD, WI 53005
843.223.7836

GENERAL NOTES & LEGEND

PROJECT	PREPARED FOR	
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SEE SHEET 2 FOR GENERAL NOTES AND LEGEND

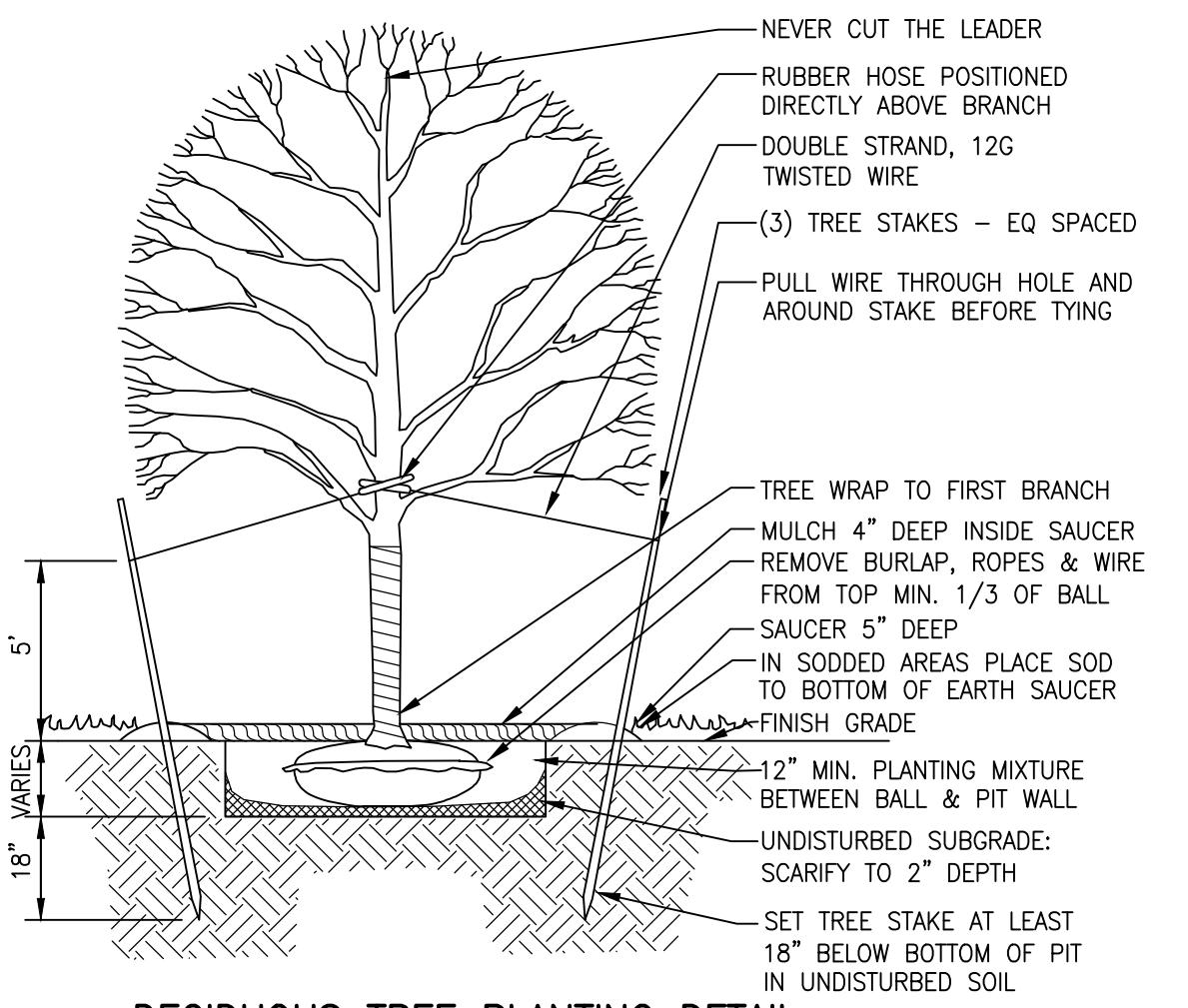


SCALE: 1 INCH = 100 FEET

THE LOCATION AND ELEVATION OF EXISTING UNDERGROUND UTILITIES AS SHOWN ON THESE DRAWINGS ARE NOTED AS REFERENCE ONLY. THE CONTRACTOR SHALL BE EXCLUSIVELY RESPONSIBLE FOR DETERMINING THE EXACT LOCATION, COMPLETENESS OR ACCURACY THEREOF. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE EXACT LOCATION OF ALL UTILITY CROSSINGS IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IF ANY CONFLICTS ARE FOUND IN THE FIELD. THE ENGINEER SHALL NOTIFY THE CONTRACTOR IF ANY CONFLICTS ARE FOUND IN THE PLANS.

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DECIDUOUS TREE PLANTING DETAIL
(NOT TO SCALE)

BEFORE BACK FILLING AROUND PLANT, REMOVE ALL PLASTIC BALING MATERIAL & METAL CONTAINERS. PUNCH HOLES IN FIBER POTS TO PROVIDE DRAINAGE.

NEVER PRUNE CONIFERS

TREE SHALL BEAR SAME RELATION TO FINISH GRADE AS IT BORE TO PREVIOUS EXISTING GRADE.

RUBBER HOSE 1/2" UP TREE POSITIONED DIRECTLY ABOVE BRANCH

GUYING CABLE - 3 GUYS / TREE (EQ SPACED) DOUBLE-STRAND, 12G TWISTED WIRE

4" MULCH INSIDE SAUCER
EARTH SAUCER 5" DEEP

IN SODDED AREAS PLACE SOD TO BOTTOM OF EARTH SAUCER

2'X4"X30" STAKE SET BELOW FIN GRADE

REMOVE MIN. TOP 1/3 OF BURLAP, ROPES & WIRE

PLANTING MIX SUBGRADE SCARIFY TO 4" DEPTH

12" MIN.

CONIFER TREE PLANTING DETAIL
(NOT TO SCALE)

PROJECT

PREPARED FOR

DATE

TIME

DATE

REVISION PER

REVISION DATE

3/25/2018

3/25/2018

3/25/2018

3/25/2018

3/25/2018

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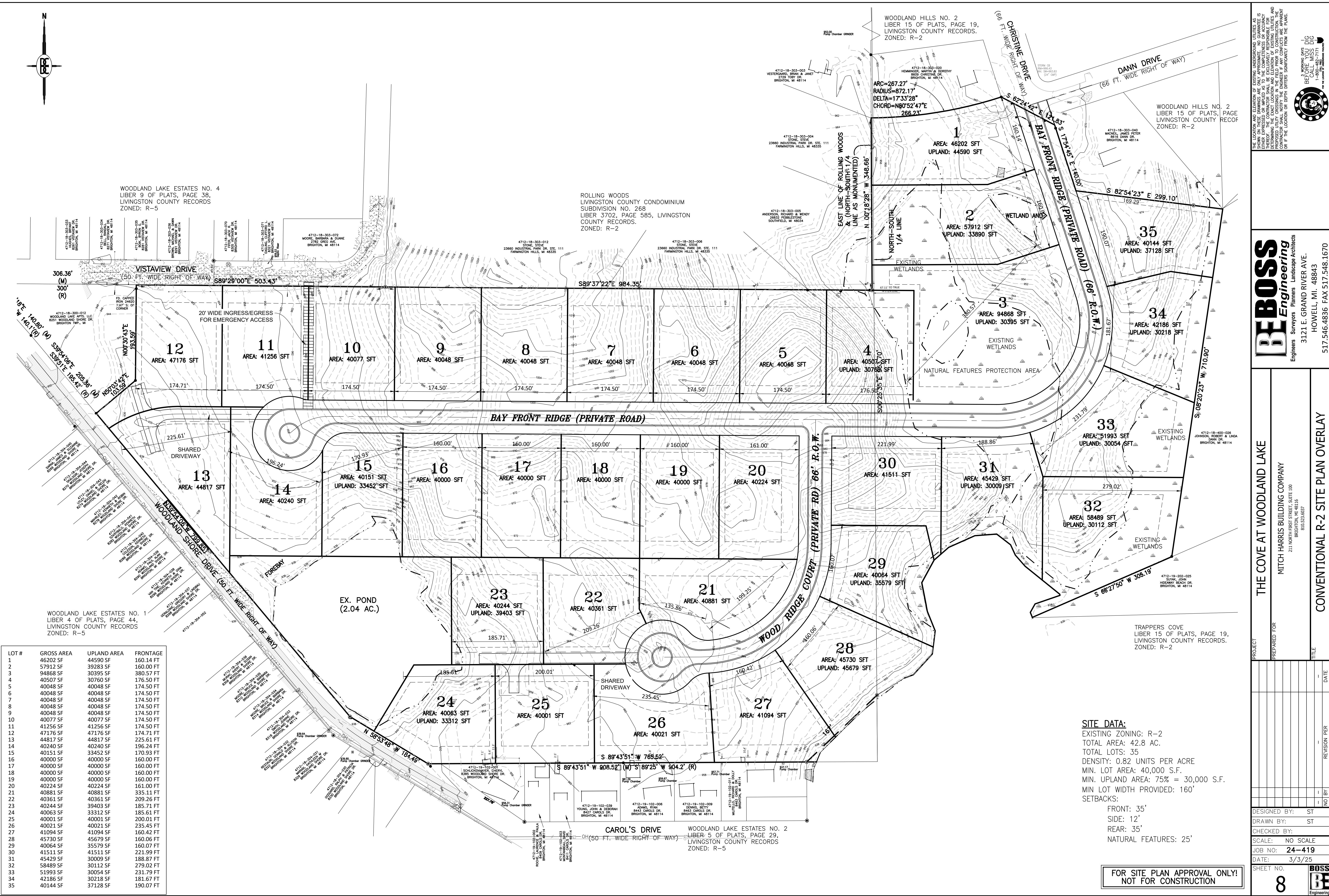
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May 14, 2025

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,

A handwritten signature in blue ink that reads "Josh Bradley".

Josh Bradley
Water Treatment Plant Superintendent
City of Brighton



Planner

From: winniebiggie@aol.com
Sent: Saturday, May 3, 2025 5:14 PM
To: Planner
Subject: Woodland Lake proposed development
Attachments: woodland.pdf

Please do not allow this Mitch Harris development to go through. We are all in favor of doing anything we can to stop this. we also support closing the boat launch. There is wat too many people on the lake that don't follow the rules. Attached is a copy of why the development should be denied.

Sincerely,
Susan And Ron Scott
3293 Hunter Rd. Brighton,

We have a separate parcel across the lake from our house.

To: Planning Commission
4363 Buno Road
Brighton MI 48114
planner@brightontwp.com

Steve Holden, Chairperson and ZBA
Liaison, John Rose, Vice Chairperson|
William Hofess, Secretary,
Bill Anderson, Member at Large
Larry Herzinger Member at Large Allen

CC: O.W.L. Organization of Woodland Lake (info@woodlanlake.info)

From: The undersigned Brighton Township residents

Regarding: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

10
⑥
Dear Planning Commission:

The current request for rezoning of 48.2 acres on Woodland Lake **should be DENIED** and any similar future proposal on the lake take the following into consideration:

- The current homeowners on Woodland Lake have spent **over \$350,000** in just the past 2 years attempting to address contamination, nutrient loading and water clarity issues, with very marginal success due to the **extensive inputs** to the lake from **boating, fertilizers and road drainage** into the lake
- A standard "recreation carrying capacity" analysis demonstrates that Woodland Lake is currently at **450% of the recommended boating density** per acre of lake. This is **dangerous** to boaters and adds significant boat churn and contamination, per the professional limnologist we utilize and numerous studies across the United States.
- The **Dissolved Oxygen** levels in the lake continue to be at **dangerous levels** to sustain aquatic life due to the combination of a shallow lake (7.5 feet average) and the excessive loading from boats, fertilizer and road drainage
- The Capacity of the public launch should be reduced to 15 boats versus its' current 28 boat capacity due to the dangers and environmental impacts to aquatic life.
- The current number of docks/boat slips should be documented and **no additional docks allowed** on the lake. If a new dock is allowed, the boat launch should be reduced further by 1 boat capacity.
- This proposal **impacts our wetlands**. The wetlands perform a **critical filtering** of Nitrates and phosphates, helping to reduce the algae and ammonia buildups. All future proposals that impact wetlands on Woodland Lake need to **be denied**. Prior neighborhood requests impacting wetlands have been denied, as is/was appropriate
- All future construction within 1,000 feet of the lake **requires sewers**, with no PUD bonus consideration
- Design or modification of any road needs to ensure **no potential drainage runoff** into Woodland Lake

Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed:

Susan Scott
Ben Scott
Susan and Ben Scott

Print Name

3293 Hunter Rd.

Street Address, Brighton Mi 48114

Date

Planner

From: kimdrake@comcast.net
Sent: Saturday, May 3, 2025 1:32 PM
To: Kim Drake; Planner; sytandy@gmail.com; info@woodlandlake.info
Subject: Asking to deny proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

To: Planning Commission
4363 Buno Road
Brighton MI 48114
planner@brightontwp.com

Steve Holden, Chairperson and ZBA
Liaison, John Rose, Vice Chairperson
William Hofsess, Secretary,
Bill Anderson, Member at Large

CC: O.W.L. Organization of Woodland Lake (Info@woodlandlake.info)

From: The undersigned Brighton Township residents

Regarding: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

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- All future construction within 1,000 feet of the lake **requires sewers**, with no PUD bonus consideration
- Design or modification of any road needs to ensure **no potential drainage runoff** into Woodland Lake

Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed:

Andy Drake
Andy Drake
Kim Drake

Print Name

Andy Drake & Kim Drake

3151 Hidden Cove Ct

Street Address, Brighton MI 48114

Date

May 2, 2025

Planner

From: Holly Borlace <hborlace@gmail.com>
Sent: Friday, May 2, 2025 12:37 PM
To: Planner
Cc: info-WoodlandLake.info@shared2.ccsend
Subject: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD
Attachments: Planning Comission letter.pdf

To: Planning Commission
4363 Buno Road
Brighton MI 48114
planner@brightontwp.com

Steve Holden, Chairperson and ZBA
Liaison, John Rose, Vice Chairperson
William Hofsess, Secretary,
Bill Anderson, Member at Large

CC: O.W.L. Organization of Woodland Lake (info@woodlanlake.info)

From: The undersigned Brighton Township residents

Regarding: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

Dear Planning Commission:

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- All future construction within 1,000 feet of the lake **requires sewers**, with no PUD bonus consideration
- Design or modification of any road needs to ensure **no potential drainage runoff** into Woodland Lake

Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed: Doug Borlace

Doug Borlace 8250 Woodland Shore Drive May 02, 2025
Print Name Street Address, Brighton Mi 48114 Date

Planner

From: Jim <bigomsu050@gmail.com>
Sent: Friday, May 2, 2025 9:15 AM
To: Planner
Cc: info@woodlandlake.info
Subject: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

Dear Planning Commission:

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Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed:

James H. Ortiz

To: Planning Commission
4363 Buno Road
Brighton MI 48114
planner@brightontwp.com

Steve Holden, Chairperson and ZBA
Liaison, John Rose, Vice Chairperson
William Hofsess, Secretary,
Bill Anderson, Member at Large

CC: O.W.L. Organization of Woodland Lake (info@woodlanlake.info)

From: The undersigned Brighton Township residents

Regarding: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

Dear Planning Commission:

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Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed:



Sean Foran

8351 Hilton Road, Brighton Mi 48114

May 5, 2025

To: Planning Commission
4363 Buno Road
Brighton MI 48114
planner@brightontwp.com

Steve Holden, Chairperson and ZBA
Liaison, John Rose, Vice Chairperson|
William Hofsess, Secretary,
Bill Anderson, Member at Large

CC: O.W.L. Organization of Woodland Lake (info@woodlanlake.info)

From: The undersigned Brighton Township residents

Regarding: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

Dear Planning Commission:

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Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed:



MICHELLE M. MORRIS

8266 Woodland Shore Dr.

5/5/25

Print Name

Street Address, Brighton Mi 48114

Date

Planner

From: cheryl.wasilewski@gmail.com
Sent: Tuesday, May 13, 2025 3:22 PM
To: Planner
Cc: info@woodlandlake.info
Subject: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD Please Deny
Attachments: Woodland Lake Zoning -Wasilewski Cheryl.docx

Hello Planning Commission:

I am writing you to please deny the rezoning of the 42.8 Acres (Woodland Cove Development). The lake has been deteriorating with all of the new developments being build around the lake. We should not be adding any additional housing near the the lake or any development that will cause more lake traffic and/ or more runoff into the lake.

Sincerely,
Cheryl Wasilewski
810-772-8191

To: Planning Commission
4363 Buno Road
Brighton MI 48114
planner@brightontwp.com

Steve Holden, Chairperson and ZBA
Liaison, John Rose, Vice Chairperson|
William Hofsess, Secretary,
Bill Anderson, Member at Large

CC: O.W.L. Organization of Woodland Lake (info@woodlanlake.info)

From: The undersigned Brighton Township residents

Regarding: Proposed rezoning of 42.8 acres on Woodland Lake from R2 to PUD

Dear Planning Commission:

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Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed:

Stacey Robosan _____

Stacey Robosan _____

Print Name

2621 S. Hacker Road, Brighton Mi 48114

Date 5/13/2025

Planner

From: kwalker7957@att.net
Sent: Tuesday, May 27, 2025 1:45 PM
To: Planner; Karl Vogelheim; Steve.Thornburg@dana.com
Subject: planned pud rezone of current r2 with access at Dan & Christine dr

Hi Kelly

Confirming our conversation this morning it appears that the about 6 or 7 houses near woodland shore dr fall in the zone 3 of the approach end to Brighton airport (45G). It also appears that these houses cannot be rezoned into a zone of more population but only less per the zoning requirements of the MDOT approach zone for runway 4 at Brighton airport. I would suggest that the township dig out the previous sent mdot zoning requirements to verify before the next pud meeting. Also, I would like to confirm the township intentions to send a letter to the new residents and developer of the multifamily homes that they are under zone 2 of the same approach zone (Grandfathered in) to runway 4 and there will be airplane noise from departing airplanes. I understand that a new developer has purchased the rights, and it is no longer Corrigan. This was the agreement we made about 5 years ago when it was still Corrigan. We are looking to be good neighbors and hopefully do not want any noise complaints after they move in.

Thanks

Sincerely

Keith Walker

VP Brighton airport association

Planner

From: TAMMY COOPER <lakebluffcoopers@comcast.net>
Sent: Tuesday, June 3, 2025 10:43 AM
To: Planner
Subject: Dann Road rezoning

Dear Planning Commission:

The current request for rezoning of 48.2 acres on Woodland Lake **should be DENIED** and any similar future proposal on the lake take the following into consideration:

- The current homeowners on Woodland Lake have spent **over \$350,000** in just the past 2 years attempting to address contamination, nutrient loading and water clarity issues, with very marginal success due to the **extensive inputs** to the lake from **boating, fertilizers and road drainage** into the lake
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- All future construction within 1,000 feet of the lake **requires sewers**, with no PUD bonus consideration
- Design or modification of any road needs to ensure **no potential drainage runoff** into Woodland Lake
- The increased traffic will greatly impact the eroded road conditions.
- An additional potential 88 cars traveling these quiet roads will pose additional risks to the numerous walkers and children on bikes.
- Thank you for your consideration in this critical environmental and safety issue. Please deny this proposal and any future, similar requests.

Signed:

Tammy Cooper
8850 Lake Bluff Drive

Planner

From: Jennifer Marks <jennifermarks04@gmail.com>
Sent: Thursday, June 5, 2025 12:37 PM
To: Planner
Cc: info@woodlandlake.info
Subject: Rezoning Woodland Lake - Critical Environmental Concerns

Good afternoon Ms. Matthews,

I am writing to respectfully urge you to deny the rezoning request to develop 48+ acres on Woodland Lake.

As a Woodland Lake resident for the past 8+ years, I have personally witnessed the steady decline in water quality and aquatic life. Homeowners have invested over \$350,000 in the past two years alone to address contamination and nutrient overload. Yet, the lake continues to suffer—primarily due to two key factors:

- **Severe overcapacity:** Woodland Lake currently operates at 450% of the recommended boating density for its size and depth. It cannot support additional watercraft from new development.
- **Unmanaged runoff:** Road and drain runoff, with limited filtration, continues to contribute high levels of nitrates and phosphates, further degrading the ecosystem.

Additionally, this rezoning would endanger the lake's critical wetland areas. These wetlands are essential to our ongoing efforts to improve water quality and must remain protected, as they have been in the past.

I urge you to prioritize the long-term health of Woodland Lake and the well-being of its community by denying this rezoning request.

Sincerely,

Jennifer Marks

8365 Hilton Rd

Brighton, MI 48114

Date: May 15, 2025

To: Charter Township of Brighton Planning Commission

From: Kelly Mathews

Subject: **PUD Rezoning for the Cove at Woodland Lake**
Sheets 1-8 dated March 3, 2025

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.

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-seven (37) 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.

- Demonstrated Benefit.** The PUD ordinance requires fifty (50%) percent open space for residential PUD's; a calculation has been provided which is 54.5%. The fifty percent (50%) percent open space cannot include the landscape greenbelt. 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-seven (27) 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-seven (37) 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.

Greenbelts as required in the landscape ordinance cannot be included in the open space calculation; the developer has depicted an open space calculation depicting 54.5%.

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-seven (37) lots of a minimum size of 16,000 sq. ft. Additionally, eight (8) detached condominiums are proposed. A total of forty-five (45) 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-seven (27) ft. wide road within a fifty (50) ft. private road R.O.W. Additionally, there is an approximately fifteen (15) ft. wide ingress/egress easement shown off of Bayfront Drive extending into Vista View Drive for emergency access. (The applicant will need to get an easement in order to access Vista View). 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) lake front lots and two (2) detached condominium lake front units.

The applicant has depicted a parallel plan for the R-2 zoning district depicting thirty-five (35) 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-seven (37) lots of a minimum size of 16,000 sq. ft. and eight (8) detached condominiums. Greenbelts as required in the landscape ordinance cannot be included in the open space calculation; 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 should be protected through a conservation easement. Other amenities could be considered for the development.

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-five (35) units allowable under the R-2 zoning would be forty-five (45) units and forty-five (45) units are proposed.

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-five (45) 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 will review and comment 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. (Not Met).
 - d. Explanation of proposed development phases. Not specifically mentioned. (Not 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. (Not 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.
Natural Features Setback	50 ft. from wetland 100 ft. from lake	50 ft. from wetland 50 ft. from lake from detached condominium
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 (54.5% 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. Other amenities for the development should be considered.

RECOMMENDATION

It is recommended that the Planning Commission recommend approval to the Township Board. The additional information that is required to be provided prior to being placed on a Township Board agenda includes conceptual plans to extend water to site, PUD agreement, rezoning application, and any other details as outlined in this letter and other letters.

May 27, 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 #1
F&V Project No. 871250**

Dear Kelly:

We have completed an engineering review of the Preliminary PUD Site Plan dated March 3, 2025 for the proposed The Cove at Woodland Lake, a 45-unit residential condominium. Based on our review, we offer the following comments and recommendations for your consideration.

Parallel Plan:

1. A table of Deviations from R-2 to PUD is provided on the cover sheet. Deviations requested include lot size, setbacks, right-of-way width, road length, road width, maximum number of lots on a private road with a single point of access, maximum lot coverage, and minimum lake setback.
2. There are two areas where lots would be accessed via a shared driveway. Shared residential driveways for up to three dwellings or lots are allowed per the ordinance, and therefore the plan is in compliance.
3. The open space plan results in four additional riparian units.

Preliminary PUD Site Plan:

1. The Brighton Area Fire Authority has objected to the road width deviation requested. Per their March 20, 2025 review letter, they are requesting that the road width (back of curb to back of curb) be increased to 28 feet (proposed as 27 feet) to allow for a minimum clear width of 26 feet gutter to gutter. They also requested modifications to the landscape plan to prevent tree canopy encroachment into the overhead clearance area along the access width.
2. As also mentioned by the Fire Authority, the cul-de-sac shall meet the minimum geometrics for fire apparatus accessibility.
3. The existing adjacent roads, including Woodland Shore Drive, Vistaview Drive, Christine Drive, and Dann Drive shall be labeled as public or private.
4. The development property is within the Township's sewer service area. The connection to the existing service lead will depend on the existing size and the pressure main size required for the proposed units.
5. Preliminary approval of the proposed private road connection to Dann Dr / N Christine Dr should be obtained from the Livingston County Road Commission.
6. The 45 units proposed are based on receiving the maximum density bonus of 30%, based on connection to both public sewer and public water.

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7. 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:

The Traffic Study Impact (TIS) dated March 10, 2025, was prepared by Colliers Engineering & Design. F&V has reviewed the TIS and has the following comments for Township consideration.

1. The proposed development is a PUD with the potential for 35 to 45 single family residential units. The TIS evaluated the conservative impact of the maximum 45 units.
2. Site access for the proposed PUD is provided via connection to the intersection of Christine Drive and Dann Drive/Margo Drive which provides access to Hunter Road.
3. Traffic data collection was performed on Wednesday, February 19, 2025, at the study intersections of Hunter Road & Chrstine Drive and Hunter Road & Margo Drive. The data collection was performed during a typical weekday, while school was in session.
4. The crash analysis performed shows there was one (1) crash reported in the past five (5) years of available data. Review of the crash details indicates there is no existing correctable crash pattern.
5. MDOT auxiliary turn lane warrants were reviewed at the study intersections, indicating that auxiliary turn lane treatments are not recommended at either of the study intersections.
6. The traffic control recommendations of the Christine Drive & Dann Drive / Site Drive intersection indicate that no traffic control is recommended at this driveway. However, the intersection corner clearance should be verified on the site plan to ensure there is adequate sight distance (115-feet or greater) in order to provide safe uncontrolled operations. Additionally, if there is a future crash pattern associated with uncontrolled operations, STOP control may need to be considered.
7. The TIS provides a proportional analysis, highlighting the impact and increased traffic at the study intersections. This analysis evaluated the additional traffic associated with the proposed maximum density of 45 units. The analysis performed is summarized in the table below:

Intersection	AM Peak Hour				PM Peak Hour			
	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%

The result of the analysis indicates:

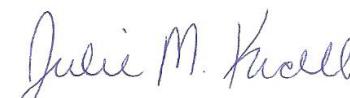
- The Hunter Road & Christine Drive intersection is expected to experience an increase in traffic volumes of approximately 6%.
- The Hunter Road & Margo Drive intersection is expected to experience an increase in traffic volumes of approximately 16%.

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


Julie M. Kroll, PE, PTOE
Traffic Engineering Group Manager | Sr. 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

March 20, 2025

Kelly Mathews, Planner
Charter Township of Brighton
Building and Planning
4363 Buno Road
Brighton, MI 48114

RE: Cove at Woodland Lake PUD
0 Dann Dr. (Dann Dr. & N. Christine)
Site Plan Review

Dear Kelly:

The Brighton Area Fire Department has reviewed the above-mentioned site plan. The plans were received for review on March 5, 2025 and the drawings are dated March 3, 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) 2021 edition. **Comments are limited to primary proposed layout. The alternate layout will be reviewed separately if selected.**

1. The proposal indicates an increased density for municipal water and sewer. The fire authority supports this proposed density increase as it includes a water supply capable of providing the required fire flow for the development. Hydrant spacing and locations will be determined once the Site Plan is submitted. **(Hydrants shall be located at the following locations: On VistaView at the entrance to the secondary access drive, In the center of the cul de sac island on Bay Pointe Dr., In front of Lot 25, Between Lot 30 & 31, Lot 35, Across from Lot 7, In front of Lot 8, and the water main extended to the intersection of Christine, Dann and Bay Pointe and a hydrant located East of the gate.)**
2. The residences shall be provided address numbers a **minimum of 4"** high letters of contrasting colors and be clearly visible from the street. The location and size shall be verified prior to installation.

IFC 505.1

3. Two-way emergency vehicle access roads shall be a minimum clear width of 26-feet. With a width of 26-feet, one side (building side) of the drive shall be marked as a fire lane. To avoid fire lane signage the access road width is recommended to be increased to 32-feet. Include the location of the proposed fire lane signage and a detail of the fire lane sign in the submittal. Access roads to the site shall be provided and maintained during construction. Access roads shall be constructed to be capable of supporting the imposed load of fire apparatus weighing at least 84,000 pounds. **(Roadway cross-section on Sheet 4 indicates a 27' back of curb roadway dimension. The clear width of the road gutter to gutter shall be 26'. Based on the detail would indicate a 35' roadway. This shall be increased to 26')**

IFC D 103.6

IFC D 103.1

IFC D 102.1

IFC D 103.3

4. Provide details of the secondary access surface and gate that will be installed.



March 20, 2025

Page 2

Cove at Woodland Lake PUD
0 Dann Dr. (Dann Dr. & N. Christine)
Site Plan Review

5. Access through the site shall provide emergency vehicles with a turning radius of 50-feet outside and 30-feet inside. Vehicle circulation shall account for non-emergency traffic and maintain the vehicle within the boundary of lanes of travel. *Provide an emergency vehicle circulation plan. Cul-de-sac's and turn arounds shall comply with Appendix D of the IFC.*

IFC 503.2.4

6. A minimum vertical clearance of 13½ feet shall be maintained along the length of all apparatus access drives. This includes but is not limited to porte-cochere's, lighting, and large canopy trees. **(The landscape plan indicates significant encroachment of the roadway by many trees at maturity. Setback of the tree plantings, change of species, or widening of the roadway to 32' must be done to prevent this encroachment to overhead clearance.)**

IFC 503.2.1

7. The Knox Box on the secondary access gate shall be replaced with a Knox Padlock. Maintenance of the secondary access in all weather shall be included in the maintenance agreement for the development. The Bay Pointe gate at Christine shall be provided with a Knox Key Switch incorporated for emergency access.

IFC 506.1

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)

To: Planning Commission

From: Kelly Mathews

Re: Chicken Ordinance

Date: 6/4/25

The Township Board has asked the Planning Commission to review the current ordinance on chickens. Please see attached information from the May Township Board meeting where the issue was on the agenda.

AGENDA NOTES

MEETING DATE: May 19, 2025

PERSON PLACING ITEM ON AGENDA: Manager

AGENDA TOPIC: Ordinance Discussion (Chickens/Fowl/Poultry)

EXPLANATION OF TOPIC:

At the April 21, 2025 Board meeting, a citizen spoke during the Call to the Public and requested that the Township amend our ordinance to allow greater opportunity for property owners that want to have chickens. I have attached a copy of our ordinance. The provision that requires (5) acres is likely what excludes most interested citizens from having chickens. I mentioned to the Board that I would survey our surrounding communities to see what their restrictions are (Ordinance Excerpts attached), and here is a summary:

Genoa Township:	Minimum lot (2) acres; in Districts AG, CE, RR
Green Oak Township:	Minimum lot (2) acres in RE District and minimum lot (5 acres) Zoning Districts RF
Hamburg Township:	Minimum lot (2) acres in RAA, WFR, and NR; minimum lot (1) acre in RA Zoning District
Hartland Township:	Minimum lot (2.5) acres
Highland Township:	Minimum lot (.5) acre
Milford Township:	Minimum lot (2) acres in R1R District and Minimum lot (1) acre in R1S District
Lyon Township:	Minimum lot (1) acre - Hobby Farm
Brighton City:	200 feet from any dwelling (practically impossible given their density)

I have also attached a copy of the proposed state legislation referenced by the citizen. HB 4049 and 4050 would preempt local control and allow egg-laying hens on $\frac{1}{4}$ acre lots. Hamburg Township specifically references the neighborhood restrictions (e.g., condo/HOA deeds and/or bylaws) and was cited by Highland Township staff as a reason that many lots are prohibited from having chickens, given their least-restrictive acreage requirement.

MATERIALS ATTACHED AS SUPPORTING DOCUMENTS:

- A. Ordinance Excerpts from the communities listed above
- B. HB 4049 and 4050
- C. Zoning Map

RECOMMENDATION: If the Board is interested in changing the ordinance, direct staff, or the Planning Commission (as many communities address this issue in their zoning ordinances), to draft an ordinance update which incorporates Township Board direction.

SUGGESTED MOTION: None

BRIGHTON Twp.

Chapter 5 - ANIMALS^[1]

ARTICLE I. - IN GENERAL

Sec. 5-1. - Generally.

This chapter shall be known and cited as the "Brighton Township Animal Regulations." It is the purpose of this chapter to secure the public health, safety and general welfare of the residents of the township by regulating the possession and care of animals within the township.

(Ord. No. 110, § 1, 6-7-94)

Sec. 5-2. - Definitions.

As used in this chapter:

Farm animal shall mean a domestic animal that is typically kept on farms or is typically associated with farms or farming operations. This definition includes, but is not limited to, such animals as cows, pigs, horses, goats, llamas, buffalo, sheep, **chickens**, pigeons, rabbits, geese and ducks. This definition does not include a wild animal as described herein.

Household animal (also called a household pet) shall mean a domesticated animal that is typically found in residential dwellings and is not typically disruptive to the residential character of an area. This definition would include, by way of example and not by way of exclusion, such animals as domesticated dogs, cats, gerbils, hamsters, turtles, tropical fish, parrots, canaries and parakeets. This definition does not include a farm animal or wild animal as described herein.

Wild animal (also called an exotic animal) shall mean an animal that is not typically domesticated nor found on farms, but typically exists in the wild and is typically found in zoos, circuses, wildlife sanctuaries, or nature preserves. This definition includes, but is not limited to, such animals as elephants, rhinoceroses, camels, lions, tigers, leopards, panthers, cheetahs, cougars, jaguars, lynx, mountain lions, puma, badgers, bears, bobcats, coyotes, deer, antelope, elk, moose, otters, ostriches, snakes, crocodiles, alligators, seals, sharks, and whales, wolves and primates such as baboons, orangutans, chimpanzees, monkeys and gorillas.

(Ord. No. 110, § 1, 6-7-94)

Sec. 5-3. - Permitted animals.

- (a) Notwithstanding other provisions of this Code, household pets may be possessed and cared for in the township, provided that an animal does not become excessively noisy, excessively odorous, dangerous or in any way disruptive to the character of the area in which it is possessed or otherwise become a public nuisance.
- (b) Farm animals may be possessed in the township provided that all of the following conditions are met:
 - (1) That the property upon which they are possessed consists of a parcel of land under single ownership or control, with at least five (5) acres in area;
 - (2) That the animals possessed are housed and/or penned out at a distance no closer than one hundred (100) feet to any neighboring dwelling;
 - (3) That the animals possessed are kept and cared for under sanitary conditions; and
 - (4) That the animals possessed do not become excessively noisy, excessively odorous, dangerous, or in any way disruptive to the character of the area in which they are possessed, or otherwise become a public nuisance.

area to meet needs of intended use, location and size of any sign and description of any lighting or other external features. A sketch building floor plan indicating the limits of a home occupation shall also be provided.

- b. The Zoning Administrator shall give notice of the proposed special land use and inform all property owners or occupants of any structure within three hundred (300) feet of the property being considered for the special land use, in accordance with the Michigan Zoning Enabling Act (Public Act 110 of 2006). The notice shall state when and where the special land use request will be considered, state where written comments will be received and note that residents or occupants within three hundred (300) feet of the property can request a Public Hearing within ten (10) days receipt of the notice.
- c. If a written request for a Public Hearing is not received within a ten (10) day period, the Zoning Administrator shall have the authority to review and approve, approve with conditions or deny the special land use request.
- d. The applicant or the Zoning Administrator have the option of initiating a public hearing before the Planning Commission following the procedures for other types of special land uses.

(g) The keeping animals shall comply with the following requirements:

- (1) The keeping of household pets, including dogs, cats, rabbits, fish, birds, hamsters and other animals generally regarded as household pets is permitted as an accessory use to any agricultural or residential use. No more than the following number of dogs, cats or similarly sized pets, six (6) months of age or older over one (1) pound in weight shall be kept or housed per dwelling unit in a residential district unless the use is approved as a commercial kennel.

Lot area	Maximum Number Of Pets
Lots less than ten (10) acres	3 of any species or a total of 5 in combination
Lots of ten (10) acres or more	5 of any species or a total of 7 in combination

- (2) The keeping of animals other than domesticated pets is only permitted as provided for in the following table. The keeping of equine and livestock is prohibited in all other zoning districts. These provisions do not apply to farms in the Agricultural District that are at least ten (10) acres in area, provided all other applicable state and county requirements are met.

Animal	Zoning Districts Permitted	Minimum Lot Area for First Animal	Lot Area for Each Additional Animal
Chickens, turkeys or rabbits	AG, CE & RR	2 acres	0.05 acres
Horses, ponies, other equine mules, burros, llamas and alpaca	AG & CE	3 acres	1 acres
Sheep or goats	AG, CE & RR	2 acres	0.25 acres
Swine	AG & CE	10 acres	0.5 acres
Cattle, bison, ostriches or elk	AG & CE	10 acres	1.5 acres

- (3) All grazing areas shall be fenced. An accessory structure shall be provided to house such animals. Any barn, or stable structure and any outdoor feed (non-grazing) area training or exercising corrals shall be setback at least one hundred (100) feet from any occupied dwelling or any adjacent building used by the public. All stables shall be

Sec. 3.04 DIMENSIONAL STANDARDS

3.04.01 Residential Schedule of Area and Bulk Requirements. All lots, buildings, and structures shall comply with the area height and bulk requirements in Table 3.04.01:

District	Minimum Lot Size ^(m) or Maximum Density		Maximum Building Height		Principal Structure Minimum Yard Setback ^{(g) (h) (i)}				Max Lot Coverage	(Per Unit) Floor Area
	Min. Lot Area, Max. Units Per Acre ^{(a) (b)}	Width ^{(c) (d)}	Stories	Feet ^(e)	Front ^(f)	Smaller Side	Total 2 Sides	Rear		
Agricultural (AG)	40 acres for farms, 10 acres for non-farm dwellings		2	35	75	40	80	60	NA	980 sq. ft.
Country Estate (CE)	5 acres	220 ft	2	35	75	40	80	60	NA	1500 sq. ft
Rural Residential (RR)	2 acres	200 ft	2	35	50	30	60	60	NA	1200 sq. ft.
Low Density Residential (LDR)	1 acre	150 ft	2	35	50	30	60	60	NA	980 sq. ft.
Suburban Residential (SR)	21,780 sq. ft., with public sewer; 1 acre without public sewer	100 ft	2	35	40	20	40	50	20% bldg, 35% imp. sur.	980 sq. ft.
Urban Residential (UR)	14,500 square feet per unit, requires public sewer and water	90 ft.	2	25	35	10 ^(j)	25 ^(j)	50	35% bldg, 50% imp. sur.	980 sq. ft.
Lakeshore Resort Residential (LRR)	12,800 square feet lots of record in existence on 1/1/91, requires public sanitary sewer 1 acre lots created after 1/1/91 without public sanitary sewer. 21,780 square foot lots created after 1/1/91 with public sanitary sewer.	80 ft	2	25	35	10 ^(k)	20 ^(k)	40	35% bldg, 50% imp. sur.	900 sq. ft.
Medium Density Residential (MDR)	10,000 sq. ft. per single family lot 5 units per acre for duplexes and attached townhomes Requires public sewer and water	75 ft	2	35	25 ^(l)	5 ^(l)	20 ^(l)	30	35% bldg footprint, max 50% impervious surface	900 sq. ft.
High Density Residential (HDR)	8 units per acre assuming all setbacks and other requirements can be met, min 21,780 sq. ft. per building Requires public sewer and water	165 ft	3	40	35 ^(l)	15 ^(l)	30 ^(l)	30	35% bldg footprint, max 50% impervious surface (bldg plus paved areas) efficiency = 450 sq. ft. 1 bedroom = 600 sq. ft. 2 bedroom = 750 sq. ft. 3 bedroom = 900 sq. ft. each addl = 150 sq ft Ground floor = 500 sq ft/unit	

(as amended 3/5/10 and 06/12/19)

Sec. 38-195. Livestock and farm animals.

The raising or keeping of animals which are normally part of the livestock maintained on a farm is prohibited, except in the RE and the RF zoning districts. Such restriction shall not apply to the raising or keeping of horses, which is regulated under Sections 38-135(2)a.4., 38-135(5)b.5 and 38-196(18), or the raising and keeping of domesticated household pets.

ARTICLE III. DISTRICT REGULATIONS

Sec. 38-131. District designations.

For the purpose of this chapter, the Township is hereby divided into the following districts:

Zoning Districts	
PL	Public land
RF	Residential/farming
RE	Residential rural estate
LA, R-1, R-2, R-2A, and R-3	Residential single-family
RM	Residential multiple-family
RMH	Residential mobile home park
LB	Local business
GB	General business
HC	Highway commercial
RO	Research office
LI	Limited industrial
GI	General industrial
PUD	Planned unit development
VMU-1	Village Mixed Use 1
VMU-2	Village Mixed Use 2

Sec. 38-132. Zoning district map.

- (a) **Identification.** The zoning districts as provided in Section 38-131 are bounded and defined as shown on the map entitled "Zoning District Map of Green Oak Township." The zoning district map, along with all notations, references and other explanatory information, shall accompany and be made a part of this chapter.
- (b) **Authority.** Regardless of the existence of purported copies of the zoning district map which may be published, a true and current copy of the zoning district map, available for public inspection, shall be located in, and maintained by, the office of the Township Clerk. The clerk's copy shall be the final authority as to the current zoning status of any land, parcel, lot, district, use, building, or structure in the Township.
- (c) **Rules for interpretation of district boundaries.** Where uncertainty exists with respect to the boundaries of any of the districts indicated on the zoning district map, the following rules shall apply:
 - (1) A boundary indicated as approximately following the centerline of a highway, alley, or easement shall be construed as following such centerline.
 - (2) A boundary indicated approximately following a recorded lot line or the line bounding a parcel shall be construed as following such line.
 - (3) A boundary indicated as approximately following a municipal boundary line of a city, village, or township shall be construed as following such line.
 - (4) A boundary indicated as following a railroad line shall be construed as being located midway in the right-of-way.

Green OAK

Sec. 38-136. Schedule of area, height, and setback regulations.

III-12

Table of Contents

Zoning Map

Definitions

BACK

ARTICLE III

The following regulations regarding lot sizes, yards, setbacks, lot coverage, building size, and densities apply within the zoning districts as indicated. No building shall be erected, nor shall an existing building be altered, enlarged, or rebuilt, nor shall any open space surrounding any building be encroached upon or reduced in any manner, except in conformity with the regulations established in this section for the district in which such building is located. No portion of a lot used in complying with the provisions of this section for yards, courts, or lot area occupancy in connection with an existing or projected building or structure shall again be used to qualify or justify any other building or structure existing or intended to exist at the same time.

Zoning District	Schedule of Regulations									
	Minimum Lot Size per Unit	Maximum Building Height		Minimum Yard Setback Required				Maximum % Lot Area Covered by All Buildings - Lot Coverage	Maximum % of Impervious Surface	Additional Regulations
Area	Width at Building Site	Stories	Feet	Front Yard	Side Yard	Rear Yard	Waterfront Yard**			
Public Lands, PL	5 acres	300 feet	2½	32	60 feet	20 feet	50 feet	60 feet	20%	--
Residential Farming, RF	2 acres	150 feet	2½	32	50 feet	20 feet	50 feet	50 feet	25%	--
Residential Rural Estate, RE	7,200 sq ft	60 feet	2½	32	30 feet	7 feet	30 feet	30 feet	30%	--
Residential Single-Family, R-1	12,000 sq ft	90 feet	2½	32	30 feet	10 feet	40 feet	30 feet	30%	--
Residential Single-Family, R-2	21,750 sq ft	125 feet	2½	32	40 feet	15 feet	45 feet	40 feet	30%	--
Residential Single-Family, R-2A	32,670 sq ft	135 feet	2½	32	45 feet	20 feet	50 feet	45 feet	30%	--
Residential Single-Family, R-3	1 acre	150 feet	2½	32	45 feet	20 feet	50 feet	45 feet	30%	--
Residential Multiple Family, RM	3 acres	200 feet	2½	32	35 feet	20 feet	50 feet	35 feet	30%	--
Residential Mobile Home Park, RMH	--	--	--	--	--	--	--	--	--	(see Section 38-137(h))
Local Business, LB	20,000 sq ft	100 feet	2½	32	25 feet	20 feet	25 feet	25 feet	35%	90%
General Business, GB	20,000 sq ft	100 feet	2½	32	40 feet	25 feet	30 feet	40 feet	35%	90%
Highway Commercial, HC	20,000 sq ft	100 feet	2½	35	50 feet	15 feet	40 feet	50 feet	35%	90%
Limited Industrial, LI	1 acre	150 feet	3	50	50 feet	20 feet	40 feet	50 feet	35%	90%
General Industrial, GI	2 acres	200 feet	3	50	75 feet	35 feet	75 feet	75 feet	35%	90%
Research Office, RO	1 acre	150 feet	3	50	50 feet	15 feet	40 feet	50 feet	35%	90%
Village Mixed Use 1, VMU-1	--	--	--	--	--	--	--	--	--	(see Table 138-1)
Village Mixed Use 2, VMU-2	--	--	--	--	--	--	--	--	--	(see Table 138-2)

* If fronting on a natural river, these setbacks will not apply.

* Refer to Section 38-137(i) for additional standards.



VERSION: JAN 16, 2025 (CURRENT) ▾

- Chapter 20 - NUISANCES
- Chapter 22 - OFFENSES AND MISCELLANEOUS PROVISIONS
- Chapter 24 - PARKS AND RECREATION
- Chapter 26 - ROADS AND BRIDGES
- Chapter 28 - STREETS, SIDEWALKS AND OTHER PUBLIC PLACES
- Chapter 30 - TRAFFIC AND VEHICLES
- Chapter 32 - UTILITIES
- Chapter 34 - WATERWAYS

Parcel. See definition of the term *Lot*.

Parking space means a land area of not less than ten by 20 feet, exclusive of driveways and aisles, to be usable for the parking of a motor vehicle, and so located as to be readily accessible to a public

Patio means an improved recreation area which is commonly made of pavement or pavers, no

Permanent resident means an owner of a property or a tenant that lives in a dwelling unit for

Persons means and includes any individual, political subdivision, estate, trust or body of perso

Planning commission means the planning commission of the Township of Hamburg, Livingston

Pole barn means a structure used for storage having a metal roof and metal sides.

Porch means a structure, which may be a covered, partially enclosed and is projecting out from ground.

Poultry means domestic fowl, such as, but not limited to, chickens, turkeys, ducks, or geese.

Principal building means a building in which is conducted the main use of the lot upon which it

(c) Raising and keeping of poultry:

- (1) In the Waterfront Residential (WFR) or Natural River (NR) zoning districts the raising and keeping of poultry shall only be permitted on lots greater than **two acres**.
- (2) Animals must be kept within a fenced area which shall be located no nearer than 100 feet from any water body. This requirement shall not apply to a water body which is located entirely within the subject property and is not connected to any water body off the subject property.
- (3) **On parcels two acres or less, a maximum of eight poultry animals are permitted.**
- (4) **On parcels greater than two acres, 16 poultry animals are permitted.** For each additional one acre over two acres, 16 additional poultry animals are permitted.
- (5) Roosters shall only be permitted on parcels greater than two acres.
- (6) Poultry must be located within the required rear yard in an enclosed structure.
- (7) The setback standards per section 36-293, natural features setback requirements, shall apply to all districts.
- (8) Animals shall be maintained and accommodated in a manner so as not to pose a nuisance to adjoining property or a hazard to water quality and public health, safety, and welfare. Where necessary to protect water quality and public health, safety and welfare, the zoning administrator may require additional setbacks or buffer strips from property lines or adjacent water bodies.
- (9) Poultry must be kept and cared for under sanitary conditions; poultry shall not become excessively noisy, odorous, dangerous, or in any way disruptive to the character of the area in which they are kept, or otherwise become a public nuisance.
- (10) On lots over ten acres additional poultry may be permitted with approval of a special use permit per section 36-36.
- (11) Private restrictions on the use of property shall remain enforceable and take precedence over these additional district regulations. Private restrictions include but are not limited to deed restrictions, condominium master deed restrictions, neighborhood association bylaws, and covenant deeds. The interpretation of private restrictions is the sole responsibility of the private parties involved.

(a) Residential use table.

 EXPAND

Sec. 36-164. - Establishment of districts.

The Township is hereby divided into the following zoning districts as shown on the Zoning District Map:

- (1) RAA - Low Density Rural Residential District
- (2) RA - Medium Density Residential District
- (3) RB - High Density Residential District
- (4) WFR - Waterfront Residential District
- (5) NR - Natural River Residential District
- (6) MHP - Mobile Home Park Residential District
- (7) NS - Neighborhood Service District
- (8) CS - Community Service District
- (9) LI - Limited Industrial District
- (10) GI - General Industrial District
- (11) MD - Mixed Development District
- (12) VC - Village Center District
- (13) VR - Village Residential District
- (14) PPRF - Public and Private Recreational Facilities District

(Zoning Ord. 2020, § 7.1, 1-5-2021; Ord. No. 22-001, 9-5-2023)

District	Minimum Lot Area (Sq. Ft.) ^{1,6} *
A.	RAA-Low Density Rural Residential 87,120
B.	RA-Medium Density Residential 43,560 = 1 acre
C.	RB-High Density Residential 10,000
D.	WFR-Waterfront Residential 43,560
E.	NR-Natural River Residential 43,560
F.	MHP-Mobile Home Park Residential See Section 36-176
G.	NS-Neighborhood Service 10,000

Requires 2 ACRES

Requires 2 ACRES

4.10.2.B Keeping of Animals

Type of Animal	Number of Animals Permitted on Minimum-Sized Lot	Number of Animals Permitted per Acre above the Minimum Lot Size	Minimum Lot Size
Cattle and Equine	2	2 animals/acre	5 acres
Swine, Sheep, Goats	2	2 animals/acre	5 acres
Turkey/Geese	25	25 animals/acre	2.5 acres
Fowl/Poultry	50	50 animals/acre	2.5 acres
All Others	1,000 pounds live weight per acre	1,000 pounds live weight per acre	Shall be based on the size of the largest animal kept

Association of Zoological Parks and Aquariums; wildlife sanctuaries; nature preserves; circuses; bona fide scientific, medical, or educational research facilities.

2. Domesticated Animals. Except for a farm, as defined in Section 2.2, or as superseded by the Right to Farm Act (P.A. 93 of 1981, as amended), the raising and keeping of Domesticated Animals, as defined in Section 2.2, shall be permitted only in the CA District and subject to the following conditions:
 - A. Minimum lot size for cattle, equine, swine and sheep or goats shall be five (5) acres. Minimum lot size for poultry, fowl, turkeys, and geese shall be two and one half (2.5) acres. The minimum lot size for all other animals shall be determined based upon the size of the largest animal kept.
 - B. The number of Domesticated Animals allowed for each acre of lot size is identified in the following table. Where there are different types of animals kept on the same parcel, the required lot size must be calculated as the combined total requirement for each type of animal (for example, one cattle, one equine and two swine require a total of six (6) acres).
 - C. All lots shall be properly fenced in such a manner that no livestock, poultry or other animals will run at large.
 - D. No animal waste shall be accumulated or be stored within one hundred (100) feet of a property line. No structure for housing such animals shall be located within one hundred (100) feet of a property line.
 - E. Animals shall be maintained and accommodated in a manner so as not to pose a nuisance to adjoining property or a hazard to water quality and public health, safety, and welfare.

4.11 SEXUALLY ORIENTED BUSINESSES

1. Purpose. It is the purpose of this Ordinance to regulate Sexually Oriented Businesses in order to promote the health, safety, morals, and general welfare of the citizens of the Township, and to establish reasonable and uniform regulations to prevent the deleterious location and concentration of Sexually Oriented Businesses within the Township. The provisions of this Ordinance have neither the purpose nor effect of imposing a limitation or restriction on the content of any communicative materials, including sexually oriented materials. Similarly, it is not the intent nor effect of this ordinance to restrict or deny access by adults to sexually oriented materials protected by the First Amendment, or to deny access by the distributors and exhibitors of sexually oriented entertainment to their intended market. Neither is it the intent nor effect of this Ordinance to condone or legitimize the distribution of obscene material.
2. Uses Constituting Adult Uses. Applicable uses considered under this Section are defined in Section 2.2. Such terms include: "Sexually Oriented Businesses" and "Specified Sexual Activities" and "Specified Anatomical Areas."
3. Required Spacing. Sexually Oriented Businesses shall meet all of the following space requirements. Unless otherwise specified, the measurements shall be made in a straight line, without regard to intervening structures or objects, from the nearest point of the building or structure used as part of the premises where Sexually Oriented Businesses are conducted to the nearest property line of premises of the types of uses listed below:
 - A. At least one thousand (1,000) feet from any other Sexually Oriented Businesses. For this subsection, the distance between any two Sexually Oriented Businesses shall be measured in a straight line, without regard to the intervening structures or

C. **Adult foster care large group home:** A facility with the approved capacity to receive at least 13 but not more than 20 adults to be provided supervision, personal care, and protection in addition to room and board, for 24 hours a day, 5 or more days a week, and for 2 or more consecutive weeks, for compensation.

7. **ADULT DAY CARE FACILITY:** A facility which provides care for any part of a day but less than twenty-four (24) hour care for elderly and/or functionally impaired persons over 18 years of age, provided through a structured program of social and rehabilitative and/or maintenance services in a supportive group setting other than the client's home.

8. **AGRICULTURE:** The act or business of cultivating or using land or soils for the production of crops for the use of animals or humans and includes, but is not limited to, pasturage, floriculture, dairying, horticulture, viticulture, and livestock or poultry husbandry, but excluding such uses as feedlots and industrial poultry factories.

9. **AIRPORT:** A cleared and leveled area where aircraft can take off and land. Airports may include hard surfaced or grass landing strips, a control tower, hangars, passenger terminals, and accommodation for cargo.

10. **ALLEY:** A public right-of-way shown on a plat or a private right-of-way which provides a secondary vehicular access to a lot, block or parcel of land.

11. **ALTERATION:** Any change, addition or modification to a structure or type of occupancy; any change in the structural members of a building, such as walls, partitions, columns, beams, girders, or any change which may be referred to herein as "altered" or "reconstructed."

12. **ANIMALS, DOMESTICATED:** All animals, including poultry and excluding household pets, normally found on a farm or raised for commercial purposes. Such animals shall be distinguished by size as follows:

- Large size animals, including horses and cattle.
- Medium size animals, including sheep, swine, goats and miniature horses.
- Small size animals, including rabbits, mink, dogs, cats, mice, rats, and snakes.

D. **Poultry, birds or fowl:** including chickens, ducks, geese, turkeys, pigeons, parrots, and guinea hens.

13. **ANIMALS, EXOTIC:** An animal from a species which is not commonly domesticated, or which is not native to the State of Michigan, or a species which, irrespective of geographic origin, is of wild or predatory character, or which because of size, aggressive character or other characteristics would constitute an unreasonable danger to human life or property if not kept, maintained or confined in a safe and secure manner. Exotic animals shall include but not be limited to the following:

- Poisonous or venomous animals including fish, toads, snakes, lizards, insects, scorpions, and spiders.
- Any constrictor snake over eight (8) feet long.
- Piranha fish.
- Non-human primates.
- Alligators, crocodiles, and caimans
- Large cats including but not limited to bobcat, cheetah, cougar, jaguar, leopard lion, lynx, mountain lion, panther, ocelot, tiger, wildcat and hybrids with domestic species.
- Carnivores including but not limited to bear, wolves, fox, coyotes, jackal, weasel, wolverine, and hybrids with domestic species.
- Large animals typically kept in zoological gardens, not including barn yard animals.
- Animals that pose rabies risk.
- Birds of prey including but not limited to owls, hawks, and falcons.

1 Purpose and Introduction

2 Definitions

3 Zoning Districts

4 Use Standards

5 Site Standards

6 Development Procedures

7 Admin and Enforcement

Highland Charter Township, Michigan - Co... / Chapter 25 - ZONING ORDINANCE / ARTICLE 2. - RULES OF CONSTRUCTION... / Sec. 2.13. - Definitions beginning with th...
the assembly for luminous tube and fluorescent lighting. A light fixture is a luminary.

Light pollution. Artificial light which causes a detrimental effect on the environment, the enjoyment of the night sky or the practical use of adjacent properties.

Light trespass. The shining of light produced by a luminary beyond the boundaries of the property on which it is located.

Livestock. Farm animals, such as beef cattle, dairy cows, horses, sheep, hogs, goats, chickens, and turkeys otherwise known as bovine, equine, swine, ovine and poultry raised for home use or for profit, especially on a farm.

Sec. 4.05. - Agricultural & Rural Residential District (ARR).



A. *Intent.* The ARR Zoning District is intended for those areas under active cultivation, pasturage or other agricultural uses. The ARR Zoning District is primarily composed of large open land areas and wooded areas. It is the Township's desire to preserve agricultural lands and to permit operations typical of agricultural properties or to retain the natural environment. Uses will be predominantly residential, even though farming still exists. Even where land is not considered a "farm," residents in the ARR District have made a lifestyle choice. Areas designated as State Lands, County or Township open space, or recreational opportunities are also located in the ARR District.

B. *Permitted uses.*

1. Single-family detached dwelling.
2. Farming, general and specialized, including but not limited to nurseries, greenhouses, equestrian and other large animal husbandry, poultry raising, bee-keeping and similar bona fide agricultural enterprises and the usual agricultural buildings and structures, including Class A and Class B Farm Markets.

(3)Class III animal: Rabbits which are not maintained or kept as domesticated household pets, animals considered as poultry, and other animals weighing less than seventy-five (75) pounds not specifically treated herein.

(c)Class III animals may be maintained in any agricultural or residential zoning classification district, with a minimum of one-half acre, provided that they do not create a public nuisance.

MILFORD Twp

Sec. 32-75. - Keeping and raising of horses, cattle, fowl, rabbits or other small animals.

In the R-1-R and R-1-S districts, the keeping and raising of horses, cattle, fowl, rabbits, or other small animals and accessory buildings to house same are permitted provided:

- A. They are so housed and fenced as not to become a nuisance and the requirements of section 32-157, accessory building, structures, and swimming pools in residential districts and section 32-92, dog kennels are met.
- B. A suitable fence or other enclosure shall be erected around the outdoor premises used for horses, cattle, fowl, rabbits, or other small animals, subject to the standards in section 5.16, fences, walls, and other protective barriers.
- C. There shall be no obnoxious odors, flies, or other nuisances caused by the keeping of livestock or fowl.
- D. Such activity shall also comply with standards listed in chapter 4, animals and article IX, nuisance, chapter 18 of Milford Township Code of Ordinances.

(Ord. No. 156-A-223, § 1, 9-21-2022)

Table 32-33.A.3

Lot Size and Width Under Lot Averaging

District	Lot size		Lot Width	
	Minimum	Average	Minimum (feet)	Average (feet)
R-1-R	2 acres	3 acres	165	200
R-1-S	1 acre	1½ acres	125	50
R-1	9,600 sq. ft.	11,200 sq. ft.	70	80

Hobby farm animal: Animals often found on a farm and kept as an accessory to a single-family residential use. Hobby farm animals may include, but are not limited to, chickens, ducks, geese, pigeons, peacocks, rabbits, sheep, goats, cattle, swine, goats and llamas. Hobby farm animals do not include roosters, dogs, cats, deer or other wild animals.

Section 19.02. Site development standards for nonresidential uses.

L. **Farms and hobby farms.** The following provisions shall apply to farms and hobby farms, as defined in section 3.02:

1. *Location.* A farm operated as a commercial enterprise may be located in an R-1.0 or planned development district only, and shall not be located within the boundaries of a recorded subdivision plat or condominium unless approved as part of a planned development agreement.
2. *Prohibited uses.* Farms shall not be used for the disposal of garbage, sewage or sewage sludge, rubbish, or offal. Farms may not be occupied by rendering plants. Farms shall not be used for the slaughtering of animals, except where the animals have been raised on the premises for consumption by residents on the premises.
3. *Sod production.* The growing, stripping, and removal of sod is permitted, provided that all stripped land shall be reseeded by fall of the year in which it was stripped so as to prevent the erosion of soil by wind or water.
4. *Stables and riding arenas.* Stables and riding arenas shall be subject to the provisions in subsection 19.02.DD.
5. *Hobby farm.* Hobby farms, as defined in section 3.02, shall comply with the following requirements:
 - a. Farm animals may be kept on lots of one acre or larger, subject to the following density standards:

Hobby Farm Animal Density Limits

Animal	Number of Animals per 1/2 Acre
Chickens, ducks, pigeons (no roosters)	5

- b. Hobby farm animals shall be kept within a building or fenced area. No farm animals are permitted to run at large.
- c. Structures used for keeping hobby farm animals shall not be located in any required front yard, shall be set back 30 feet from all other property lines, and shall be set back 100 feet from dwellings on neighboring properties.
- d. Hobby farms shall comply with noise and odor performance standards of this Ordinance.
- e. Indoor and outdoor areas where hobby farm animals are kept shall be cleaned and manure spread or disposed of at least weekly.
- f. Manure shall be stored at least 75 feet from all property lines.
- g. **Hobby farms shall have a minimum lot size of one acre.**

O.

BRIGHTON CITY

1 Purpose and
Introduction

2 Definitions

3 Zoning
Districts

4 Use
Standards

5 Site
Standards

6 Development
Procedures

7 Admin and
Enforcement

Eminent domain means the right of a government to appropriate private property for public use by making reasonable payment to the owner of such property.

Encroachment means the intrusion of any improvement partly or entirely on the land of another.

Engineer means the properly designated professional engineer of the City.

Entrance ramp means a roadway connecting a feeder road with a limited access freeway and used for access on to such limited access freeway.

Erection means the physical operations on any premises required for the moving or construction including new construction, reconstruction, alteration, building, excavation, fill, drainage, installation of utilities and the like.

Erosion means the detachment and movement of soil or rock fragments, or the wearing away of the land surface by uncontrolled natural water, wind, ice, or gravity action.

Escrow means a deed, a bond, money, or a piece of property delivered to a third person to be delivered by him to the grantee only upon fulfillment of a condition. Money, securities, documents, or other property deposited with a third party to be held by the third party (called the escrow agent) until the happening of a future event and then to be delivered to the designated party. In some states nearly all real estate transactions are closed through the use of escrow.

Essential services means the erection, construction, alteration or maintenance by public utilities or municipal departments of underground, surface, or overhead gas, electrical, steam, fuel or water transmission or distribution system collection, communication (excluding any wireless cellular and personal communications service (PCS) telecommunication tower), supply or disposal systems, including towers, poles, wires, mains, drains, sewers, pipes, conduits, cables, fire alarm and police call boxes, traffic signals, hydrants and similar equipment in connection herewith, but not including buildings which are necessary for the furnishing of adequate services by such utilities or municipal departments for the general health, safety or welfare.

Excavation means any breaking of the ground to hollow out by cutting, digging, or removing any soil or rock matter, except for common household gardening and general farm care.

Exit ramp means a roadway connecting a limited access freeway with a feeder road and used for access from such limited access freeway to a feeder road.

Family means an individual or group of two or more persons related by blood, marriage, social contract or adoption (and including the domestic employees thereof), together with not more than two persons not so related, living together in the whole or part of the dwelling unit comprising a single housekeeping unit. Every additional group of two or less persons living in such housekeeping unit shall be considered a separate family for the purpose of this Chapter.

Farm means a parcel or parcels of contiguous unplatted land of **not less than five acres (2.0250 hectares)** which is directly farmed or used in the normal pursuits of agriculture by one farmer, and which may include establishments operating as greenhouses, nurseries, orchards, **chicken** hatcheries, or apiaries. But establishments operating as fish hatcheries, stockyards, recreational parks, stone quarries, gravel pits, breeding or raising furbearing animals or game, or keeping more than the normal number of dogs or livestock usually kept on a farm shall not be considered farms hereunder as to the particular part or portion of the premises used or engaged in the operation of such enterprises.

Fee simple means an estate in which the owner is entitled to the entire property, with unconditional power of disposition during the owner's life, and which descends to the heirs upon the owner's death if the owner dies without a will.

Fence means a barrier of fabric, wood, metal or plastic material of definite height and location to serve the purpose of carrying out the requirements of this Chapter.

Fence, obscuring means a barrier of definite height and location to serve as an obscuring screen in carrying out the requirements of this Chapter.

Chapter 14. Animals

Article I. IN GENERAL

§ 14-4. Determination of keeping.

Within the meaning of this chapter, a person shall be considered as keeping or harboring animals, fowl, or birds if he shall allow animals, fowl, or birds to habitually remain or be lodged or fed upon his premises.

(Code 1981, § 129.6)

§ 14-5. Keeping in city.

It shall be unlawful for any person owning, possessing or harboring any animal, fowl or bird to keep such animal, fowl or bird within 200 feet of any dwelling, except his own dwelling, or to suffer or permit any animal, fowl or bird owned by him, or in his possession or control, to run at large in any street or public place. This section shall not apply to such animals as are commonly kept or housed as household pets.

(Code 1981, § 129.4)

§ 14-6. Minimum conditions for keeping.

Every person lawfully keeping or housing any animal or fowl shall care for and maintain the structure used for the keeping or harboring thereof, and shall manage and control such animal or fowl so as:

- (1) To prevent any malodorous or offensive condition to exist.
- (2) To prevent any frequent or long continued noises which shall disturb the comfort or repose of any person.
- (3) To prevent any nuisance to arise therefrom.

(Code 1981, § 129.5)

HOUSE BILL NO. 4049

January 30, 2025, Introduced by Reps. DeSana, Markkanen, Meerman, Greene, Smit, Cavitt, Neyer, Alexander, Woolford, Maddock, Fox and Morgan and referred to Committee on Agriculture.

A bill to amend 2006 PA 110, entitled
"Michigan zoning enabling act,"
by amending section 204 (MCL 125.3204).

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 Sec. 204. (1) A zoning ordinance ~~adopted under this act~~ shall
2 provide for the use of a single-family residence by an occupant of
3 that residence for a home occupation to give instruction in a craft
4 or fine art within the residence.

5 (2) The rearing of egg-laying hens is a permitted use of
6 property under a zoning ordinance and is not subject to a special

1 land use approval or any other approval under this act if both of
2 the following requirements are met:

3 (a) The property is at least 1/4 acre in size.

4 (b) The number of hens does not exceed 5 hens for every 1/4
5 acre of property size or a total of 25 hens, whichever is less.

6 (3) This section does not prohibit the regulation of noise,
7 advertising, traffic, hours of operation, or other conditions that
8 may accompany ~~the a use of a residence~~ under this section.

9 Enacting section 1. This amendatory act does not take effect
10 unless House Bill No. 4050 (request no. H01183'25) of the 103rd
11 Legislature is enacted into law.

HOUSE BILL NO. 4050

January 30, 2025, Introduced by Reps. DeSana, Markkanen, Meerman, Greene, Smit, Cavitt, Neyer, Alexander, Woolford, Maddock, Fox and Morgan and referred to Committee on Agriculture.

A bill to amend 1981 PA 93, entitled
"Michigan right to farm act,"
by amending section 4 (MCL 286.474), as amended by 2018 PA 292.

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 Sec. 4. (1) Subject to subsection (2), the director shall
2 investigate all complaints involving a farm or farm operation,
3 including, but not limited to, complaints involving the use of
4 manure and other nutrients, agricultural waste products, dust,
5 noise, odor, fumes, air pollution, surface water or groundwater

1 pollution, food and agricultural processing by-products, care of
2 farm animals, and pest infestations. ~~Within~~ **Not later than** 7
3 business days ~~of~~**after** receipt of the complaint, the director shall
4 conduct an on-site inspection of the farm or farm operation. The
5 director shall notify, in writing, the city, village, or township
6 and the county in which the farm or farm operation is located of
7 the complaint.

8 (2) The commission and the director shall enter into a
9 memorandum of understanding with the director of the department of
10 ~~environmental quality~~ **environment, Great Lakes, and energy**. The
11 investigation and resolution of environmental complaints concerning
12 farms or farm operations must be conducted in accordance with the
13 memorandum of understanding. However, the director shall notify the
14 department of ~~environmental quality~~ **environment, Great Lakes, and**
15 **energy** of any potential violation of the natural resources and
16 environmental protection act, 1994 PA 451, MCL 324.101 to
17 324.90106, or a rule promulgated under that act. Activities at a
18 farm or farm operation are subject to applicable provisions of the
19 natural resources and environmental protection act, 1994 PA 451,
20 MCL 324.101 to 324.90106, and the rules promulgated under that act.
21 The commission and the director shall develop procedures for the
22 investigation and resolution for other farm-related complaints.

23 (3) If the director finds ~~upon~~**on** investigation under
24 subsection (1) that the person responsible for a farm or farm
25 operation is using generally accepted agricultural and management
26 practices, the director shall notify, in writing, that person, the
27 complainant, and the city, village, or township and the county in
28 which the farm or farm operation is located of this finding. If the
29 director identifies that the source or potential sources of the

1 problem were caused by the use of other than generally accepted
2 agricultural and management practices, the director shall advise
3 the person responsible for the farm or farm operation that
4 necessary changes should be made to resolve or abate the problem
5 and to conform with generally accepted agricultural and management
6 practices and that if those changes cannot be implemented within 30
7 days, the person responsible for the farm or farm operation shall
8 submit to the director an implementation plan ~~including that~~
9 **includes** a schedule for completion of the necessary changes. When
10 the director conducts a follow-up on-site inspection to verify
11 whether those changes have been implemented, the director shall
12 notify, in writing, the city, village, or township and the county
13 in which the farm or farm operation is located of the time and date
14 of the follow-up on-site inspection and shall allow a
15 representative of the city, village, or township and the county to
16 be present during the follow-up on-site inspection. If the changes
17 have been implemented, the director shall notify, in writing, the
18 person responsible for the farm or farm operation, the complainant,
19 and the city, village, or township and the county in which the farm
20 or farm operation is located of this determination. If the changes
21 have not been implemented, the director shall notify, in writing,
22 the complainant and the city, village, or township and the county
23 in which the farm or farm operation is located that the changes
24 have not been implemented and whether a plan for implementation has
25 been submitted. ~~Upon~~~~On~~ request, the director shall provide a copy
26 of the implementation plan to the city, village, or township and
27 the county in which the farm or farm operation is located.

28 (4) A complainant who brings more than 3 unverified complaints
29 against the same farm or farm operation within 3 years may be

1 ordered, by the director, to pay to the department the full costs
2 of investigation of any fourth or subsequent unverified complaint
3 against the same farm or farm operation. As used in this
4 subsection, "unverified complaint" means a complaint in response to
5 which the director determines that the farm or farm operation is
6 using generally accepted agricultural and management practices.

7 (5) Except as provided in subsection (6), this act does not
8 affect the application of state statutes and federal statutes.

9 (6) ~~Beginning June 1, 2000, except~~ **Except** as otherwise
10 provided in this section, it is the express legislative intent that
11 this act preempt any local ordinance, regulation, or resolution
12 that purports to extend or revise in any manner the provisions of
13 this act or generally accepted agricultural and management
14 practices developed under this act. Except as otherwise provided in
15 this section, a local unit of government shall not enact, maintain,
16 or enforce an ordinance, regulation, or resolution that conflicts
17 in any manner with this act or generally accepted agricultural and
18 management practices developed under this act.

19 (7) A local unit of government may submit to the director a
20 proposed ordinance prescribing standards different from those
21 contained in generally accepted agricultural and management
22 practices if adverse effects on the environment or public health
23 will exist within the local unit of government. A proposed
24 ordinance under this subsection must not conflict with existing
25 state ~~laws~~ or federal laws. At least 45 days ~~prior to~~ **before the**
26 enactment of the proposed ordinance, the local unit of government
27 shall submit a copy of the proposed ordinance to the director. Upon
28 receipt of the proposed ordinance, the director shall hold a public
29 meeting in that local unit of government to review the proposed

1 ordinance. In conducting ~~its~~**the** review, the director shall consult
2 with the departments of ~~environmental quality~~**environment, Great**
3 **Lakes, and energy** and health and human services and shall consider
4 any recommendations of the county health department of the county
5 where the adverse effects on the environment or public health will
6 allegedly exist. ~~Within~~**Not later than** 30 days after the public
7 meeting, the director shall make a recommendation to the commission
8 on whether the ordinance should be approved. An ordinance enacted
9 under this subsection must not be enforced by a local unit of
10 government until approved by the commission.

11 (8) ~~By~~**Not later than** May 1, 2000, the commission shall issue
12 proposed generally accepted agricultural and management practices
13 for site selection and odor controls at new and expanding animal
14 livestock facilities. The commission shall adopt ~~such~~**the** generally
15 accepted agricultural and management practices ~~by~~**not later than**
16 June 1, 2000. In developing ~~these~~**the** generally accepted
17 agricultural and management practices **described under this**
18 **subsection**, the commission shall do both of the following:

19 (a) Establish an advisory committee to provide recommendations
20 to the commission. The advisory committee must include the entities
21 listed in section 2(d), 2 individuals representing townships, 1
22 individual representing counties, and 2 individuals representing
23 agricultural industry organizations.

24 (b) For the generally accepted agricultural and management
25 practices for site selection, consider groundwater protection, soil
26 permeability, and other factors determined necessary or appropriate
27 by the commission.

28 (9) **Not later than September 1, 2025, the commission shall**
29 **issue proposed generally accepted agricultural and management**

1 practices for site selection for the rearing of egg-laying hens in
2 primarily residential areas. The commission shall adopt the
3 generally accepted agricultural and management practices not later
4 than October 1, 2025. In developing the generally accepted
5 agricultural and management practices described under this
6 subsection, the commission shall ensure that the practices include
7 the following standards:

8 (a) The property used for rearing egg-laying hens must be at
9 least 1/4 acre in size.

10 (b) The number of hens must not exceed 5 hens for every 1/4
11 acre of property size or a total of 25 hens, whichever is less.

12 (10) (9) If generally accepted agricultural and management
13 practices require ~~the~~^a person responsible for the operation of a
14 farm or farm operation to prepare a manure management plan, the
15 person responsible for the operation of the farm or farm operation
16 shall provide a copy of ~~that~~^{the} manure management plan to the
17 city, village, or township or the county in which the farm or farm
18 operation is located, ~~upon~~^{on} request. A manure management plan
19 provided under this subsection is exempt from disclosure under the
20 freedom of information act, 1976 PA 442, MCL 15.231 to 15.246.

21 (11) (10) The department shall do both of the following:

22 (a) Make available on the department's website current
23 generally accepted agricultural and management practices.

24 (b) Establish a toll-free telephone number for receipt of
25 information on noncompliance with generally accepted agricultural
26 and management practices.

27 (12) (11) As used in this section:

28 (a) "Adverse effects on the environment or public health"
29 means any unreasonable risk to human beings or the environment,

1 based on scientific evidence and taking into account the economic,
2 social, and environmental costs and benefits and specific
3 populations whose health may be adversely affected.

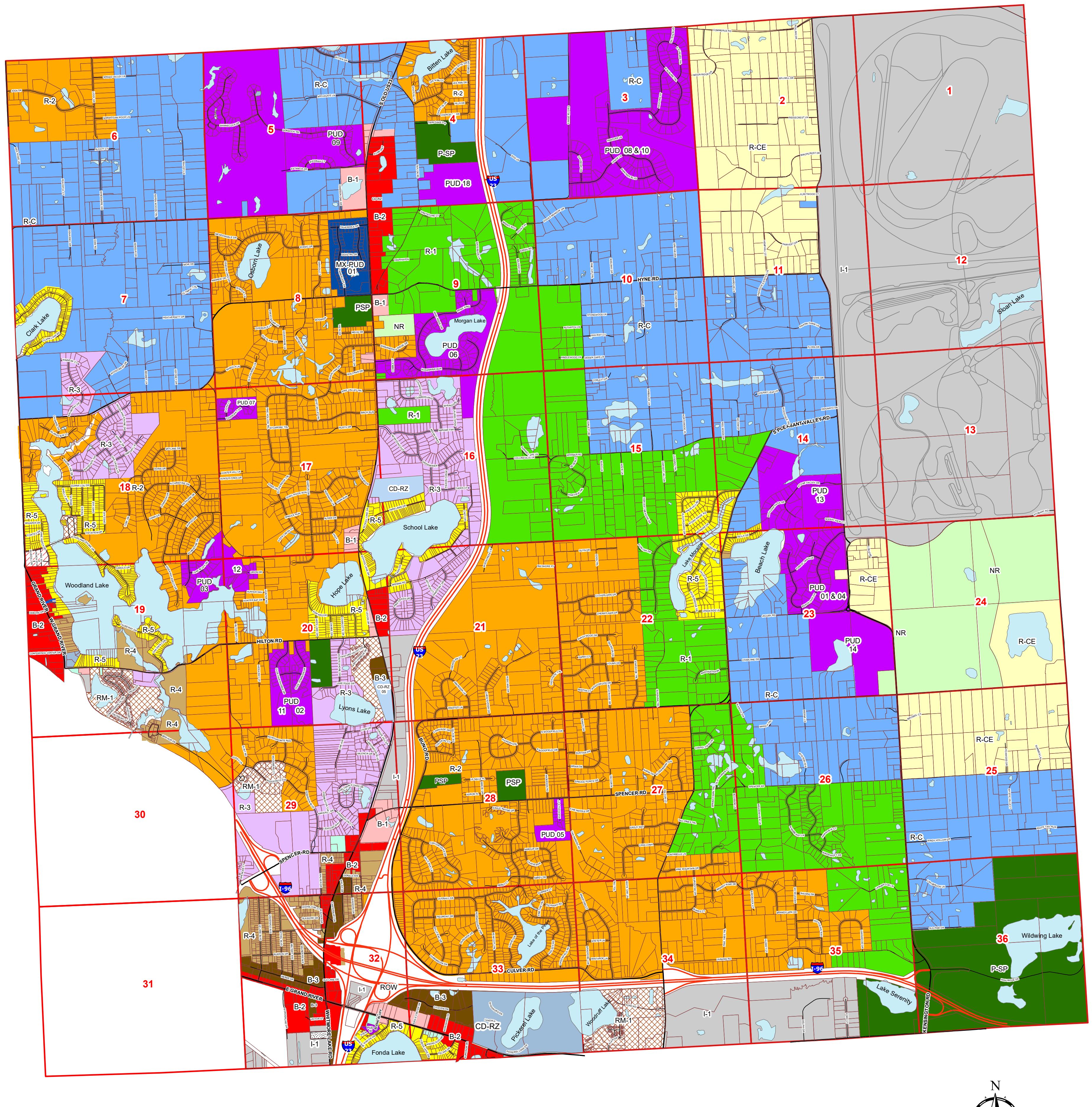
4 (b) "Commission" means the commission of agriculture and rural
5 development.

6 (c) "Department" means the department of agriculture and rural
7 development.

8 (d) "Director" means the director of the department or ~~his or~~
9 ~~her~~**the director's** designee.

10 Enacting section 1. This amendatory act does not take effect
11 unless House Bill No. 4049 (request no. H01202'25) of the 103rd
12 Legislature is enacted into law.

CHARTER TOWNSHIP OF BRIGHTON ZONING DISTRICT MAP



ZONING DISTRICTS

- B-1 (LOCAL BUSINESS)
- B-2 (GENERAL BUSINESS)
- B-3 (SPECIAL BUSINESS)
- CD-RZ (CONDITIONAL REZONING)
- COM-PUD (COMMERCIAL PUD)
- I-1 (INDUSTRIAL)
- MX-PUD (MIXED USE PUD)
- NR (NATURAL RESOURCES)
- OS (OFFICE SERVICE)
- P-SP (PUBLIC/SEMI-PUBLIC)
- PUD (PLANNED UNIT DEVELOPMENT)
- R-1 (RESIDENTIAL SINGLE FAMILY/1.6 ACRES)
- R-2 (RESIDENTIAL SINGLE FAMILY/.91 ACRES)
- R-3 (RESIDENTIAL SINGLE FAMILY/.45 ACRES)
- R-4 (RESIDENTIAL SINGLE FAMILY/.27 ACRES)
- R-5 (RESIDENTIAL SINGLE FAMILY/.29 ACRES)
- R-C (RESIDENTIAL COUNTRY/2.5 ACRES)
- R-CE (RESIDENTIAL COUNTRY ESTATES/5 ACRES)
- RM-1 (RESIDENTIAL MULTIPLE FAMILY)
- RMH (RESIDENTIAL MANUFACTURED HOME)

RESIDENTIAL PUD'S

- PUD 01 - THE OAKS AT BEACH LAKE - OCTOBER 12, 1994
- PUD 02 - THE HOMESTEAD ON HILTON - MARCH 29, 1995
- PUD 03 - THE BLUFFS OF WOODLAND LAKE - JUNE 14, 1995
- PUD 04 - THE OAKS AT BEACH LAKE II - APRIL 17, 1996
- PUD 05 - RIVER HILLS - APRIL 17, 1996
- PUD 06 - MORGAN LAKE ESTATES - OCTOBER 22, 1997
- PUD 07 - GLENVIEW - JANUARY 21, 1998
- PUD 08 - HILLSBOROUGH ESTATES - OCTOBER 22, 1997
- PUD 09 - HUNTMORE ESTATES (REVISED) - DECEMBER 7, 1998
- PUD 10 - HILLSBOROUGH ESTATES (REVISED) - DECEMBER 7, 1998
- PUD 11 - HILTON PINES A.K.A. HAWTHORNE - OCTOBER 4, 1999
- PUD 12 - MORNINGSIDE - OCTOBER 8, 2000
- PUD 13 - STONE VALLEY - DECEMBER, 2002
- PUD 14 - SUNSET/TOWNSHIP PARK - AUGUST 2, 2004

REVISED FOR SECOND ADDENDUM TO JOINT PLANNED DEVELOPMENT AGREEMENT DATED OCTOBER 6, 2008

- PUD 15 - BRIGHTON SENIOR ASSISTED LIVING - OCTOBER 11, 2007
- REVERTED PER PLANNING COMMISSION ACTION & ZONING ARTICLE 12-10(g) NOVEMBER 8, 2010
- PUD 16 - SCENIC POINTE RESIDENTIAL LIVING COMMUNITY - APRIL 24, 2009
- PUD 17 - BRIGHTON INVESTORS RESIDENTIAL PUD - AUTOMATIC REVERSION ON JANUARY 21, 2015
- PUD 18 - BELANGER MEADOWS - JANUARY 4, 2024

COMMERCIAL PUD'S

- COM - PUD 01 - POWERHOUSE COMMERCIAL PUD - OCTOBER 17, 2008

CONDITIONAL REZONING

- CD-RZ 01 - GRAND-HILTON CONDITIONAL REZONING - JULY 4, 2008
- CD-RZ 02 - ENCORE VILLAGE CONDITIONAL REZONING - JANUARY 31, 2018
- CD-RZ 03 - TANDALE CONDITIONAL REZONING - OCTOBER 7, 2019
- CD-RZ 04 - OLD US 23 LLC REZONING - FEBRUARY 16, 2022
- CD-RZ 05 - S. OLD US 23 TOWNHOMES - JANUARY 2, 2025

MIXED USE PUD'S

- MX - PUD 01 - DEERFIELD PRESERVE/DEERFIELD SHOPPES - DECEMBER 17, 2005
- MX - PUD 02 - DA BUILDING - FEBRUARY 16, 2022

MAP CORRECTIONS - CHANGED ZONING ON MAP FROM R-4 TO R-2 TO CORRECT ERRORS ON PARCELS 4712-19-100-040 (8143 GRAND RIVER) & 4712-19-101-014 (8163 GRAND RIVER)
FEBRUARY 27, 2013

SOURCE:
Livingston County GIS
LSL, Langworthy, Strader, LeBlanc & Associates, Inc.

EFFECTIVE DATE: APRIL 5, 2004
1st Amendment: August 2, 2004 (Ordinance No. 222)
2nd Amendment: September 1, 2004 (Ordinance No. 223)
3rd Amendment: September 1, 2004 (Ordinance No. 224)
4th Amendment: November 7, 2004 (Ordinance No. 225)
5th Amendment: May 3, 2005 (Ordinance No. 226)
6th Amendment: December 27, 2005 (Ordinance No. 230)
7th Amendment: May 15, 2007 (Ordinance No. 236)
8th Amendment: October 11, 2007 (Ordinance No. 240)
9th Amendment: May 16, 2008 (Ordinance No. 241)
10th Amendment: July 4, 2008 (Ordinance No. 242)
11th Amendment: October 17, 2008 (Ordinance No. 244)
12th Amendment: April 24, 2009 (Ordinance No. 245)
13th Amendment: April 30, 2010 (Ordinance No. 249)
14th Amendment: February 1, 2013 (Ordinance No. 255)
15th Amendment: January 31, 2018 (Ordinance No. 268)
16th Amendment: October 7, 2019 (Ordinance No. 272)
17th Amendment: February 22, 2021 (Ordinance No. 277)
18th Amendment: February 16, 2022 (Ordinance No. 279)
19th Amendment: February 16, 2022 (Ordinance No. 280)
20th Amendment: January 4, 2024 (Ordinance No. 282)
21st Amendment: January 2, 2025 (Ordinance No. 283)

DATED: 2/4/2025

NOTE: This map depicts the current zoning for parcels in the Township. There is a future land use map that depicts the future plan for parcels in the Township.

Brian and Elizabeth Fullerton
3880 Van Amberg Road
Brighton Township, MI 48114
Fullerton04@gmail.com
(313)820-2701

Date:May 19th, 2025

To:

Brighton Township Board
Attn: Township Clerk and Planning Commission
4363 Buno Road
Brighton, MI 48114

Subject: Proposal to Amend Township Ordinance to Allow Backyard Chickens

Dear Brighton Township Board Members,

I am writing to formally propose an amendment to the Brighton Township Zoning Ordinance to allow residents to keep a small number of backyard hens for personal use on residential properties. Specifically, I respectfully request that the Township adopt a provision permitting up to four (4) hens per half acre, with a maximum of twelve (12) hens per property. Roosters would not be permitted. While this proposed ordinance would establish a township-wide allowance for keeping backyard hens, individual Homeowners Associations (HOAs) would retain the right to regulate or prohibit hens within their own communities. This approach respects local governance while allowing greater flexibility for residents not governed by HOA restrictions.

The intent of this proposal is to promote self-sufficiency, educational opportunities for children (including participation in 4-H programs), and sustainable living practices, all while maintaining community aesthetics and property values. Properly managed backyard hens are low-impact, quiet, and hygienic, especially without roosters.

Expert Support and Regional Precedents

Numerous municipalities throughout Michigan and across the country have recognized the low risk and high benefit of backyard hens and have enacted reasonable regulations to support them. I respectfully request that Brighton Township follow the example set by these nearby communities:

- **Hamburg Township Ordinance §36-457 (2022):** Allows up to six hens on residential parcels 0.25 acres or greater. No roosters, no neighbor permission required.
Source: Hamburg Township Zoning Ordinance

- **Ann Arbor City Code §9:42 (2021):** Permits up to four hens on residential properties with no minimum acreage required. The city encourages sustainable practices and youth education.
Source: City of Ann Arbor Ordinance Library
- **Genoa Township Zoning Ordinance Article 3, Section 3.03.02(C):** Permits chickens in Agricultural Residential districts with clear setbacks and cleanliness standards.
Source: Genoa Township Zoning Ordinance

In addition, experts from the Michigan State University Extension have consistently supported urban and suburban poultry keeping, citing benefits for food security, youth development, and ecological education. According to Dr. Nancy K. Thelen, a retired MSU Extension educator, “Chickens are one of the best ways to engage families and children in sustainable agriculture right from their backyard.”

Pending State Legislation

It's important to note that the Michigan House of Representatives is currently considering **House Bill 4049**, which would allow residents statewide to keep backyard chickens—up to 25 hens, depending on lot size—regardless of local ordinances. This bill aims to provide homeowners with more flexibility in using their residential property for small-scale agricultural activities like keeping backyard chickens.

Brighton Township's Current Ordinances

Brighton Township's current ordinances already permit the keeping of certain birds, such as peafowl, under specific conditions. This existing allowance demonstrates the Township's recognition of residents' interests in maintaining various types of birds. Extending similar provisions to include backyard hens would align with the Township's established practices and support residents seeking to engage in sustainable and educational activities.

Proposed Ordinance Language

Below is a sample of proposed ordinance language for consideration:

Section “X”: Residential Keeping of Hens

(a) Purpose:

To allow residents the opportunity to keep a limited number of backyard hens for personal use, including egg production, educational purposes, and household sustainability, while maintaining the public health, safety, and welfare of the community.

(b) Applicability:

This section applies to all residentially zoned parcels within Brighton Township, excluding properties subject to restrictive covenants imposed by Homeowners Associations (HOAs), which may enforce more restrictive provisions.

(c) Standards and Requirements:

1. Residents may keep up to four (4) hens per one-half ($\frac{1}{2}$) acre of land area, with a maximum of twelve (12) hens permitted per residential property.
2. Roosters are strictly prohibited.
3. Hens must be kept in a secure, enclosed coop and run, which shall:
 - Be located in the rear yard only;
 - Be set back a minimum of ten (10) feet from all side and rear property lines;
 - Be located at least twenty-five (25) feet from any adjacent residential dwelling.
4. All enclosures shall be maintained in a clean, sanitary, and odor-free condition.
5. Hens shall not be permitted to roam freely outside the designated enclosure.

(d) Limitations:

This ordinance shall not supersede subdivision covenants or HOA bylaws. Homeowners' Associations may independently regulate or prohibit the keeping of hens within their respective communities.

This language aligns with best practices and proven ordinances across Michigan. It encourages responsibility and animal welfare while preserving neighborhood quality and safety.

Closing

This proposed change offers a common-sense, low-cost opportunity for Brighton Township families to engage in wholesome, educational, and environmentally conscious activities. We respectfully urge the Board to take this matter under consideration, direct it to the Planning Commission for review, and schedule a public hearing.

We would be happy to speak further at a meeting or provide additional research or references if requested.

Thank you for your time and thoughtful consideration.

Sincerely,
Brian and Elizabeth Fullerton

Uncle Sam Expects You To Keep Hens and Raise Chickens



Two Hens in the Back Yard for Each Person in the House Will Keep a Family In Fresh Eggs

EVEN the smallest back yard has room for a flock large enough to supply the house with eggs. The cost of maintaining such a flock is small. Table and kitchen waste provide much of the feed for the hens. They require little attention—only a few minutes a day.

An interested child, old enough to take a little responsibility, can care for a few fowls as well as a grown person.

Every back yard in the United States should contribute its share to a bumper crop of poultry and eggs in 1918.

**In Time of Peace a Profitable Recreation
In Time of War a Patriotic Duty**

For information about methods of Back-Yard Poultry Keeping suited to your location and conditions, write

Your State Agricultural College
or
The United States Department of Agriculture
Washington, D. C.

This Space Reserved for the Postmaster

HOUSE BILL NO. 4049

January 30, 2025, Introduced by Reps. DeSana, Markkanen, Meerman, Greene, Smit, Cavitt, Neyer, Alexander, Woolford, Maddock, Fox and Morgan and referred to Committee on Agriculture.

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by amending section 204 (MCL 125.3204).

THE PEOPLE OF THE STATE OF MICHIGAN ENACT:

1 Sec. 204. (1) A zoning ordinance ~~adopted under this act~~ shall
2 provide for the use of a single-family residence by an occupant of
3 that residence for a home occupation to give instruction in a craft
4 or fine art within the residence.

5 (2) The rearing of egg-laying hens is a permitted use of
6 property under a zoning ordinance and is not subject to a special

1 land use approval or any other approval under this act if both of
2 the following requirements are met:

3 (a) The property is at least 1/4 acre in size.

4 (b) The number of hens does not exceed 5 hens for every 1/4
5 acre of property size or a total of 25 hens, whichever is less.

6 (3) This section does not prohibit the regulation of noise,
7 advertising, traffic, hours of operation, or other conditions that
8 may accompany ~~the a use of a residence~~ under this section.

9 Enacting section 1. This amendatory act does not take effect
10 unless House Bill No. 4050 (request no. H01183'25) of the 103rd
11 Legislature is enacted into law.



City of Hillsdale
97 N Broad St
Hillsdale, MI 49242
(517) 437-6441
clerk@cityofhillsdale.org

For Office Use Only
Date Received:
By:
Amount Paid/Check #:

Animal Keeping Permit

Application Review Fee: \$25.00

Permit Cost: \$5.00

Animal Keeping Location:

Animal/Insect Type:

No. of Animals/Insect:

Owner Name:

Owner Address:

Owner Signature:

Date:

FOR OFFICE USE ONLY

Approved Denied

Police Chief Signature:

Date:

City Clerk Signature:

Date:



City of Hillsdale
97 N Broad St
Hillsdale, MI 49242
(517) 437-6441
clerk@cityofhillsdale.org

ARTICLE IV. - KEEPING RESTRICTIONS

Sec. 4-101. - Compliance; exception.

It is unlawful for any person to harbor, keep, or suffer to be kept contrary to the provisions of this article and the applicable portions of chapter 36, pertaining to zoning, within the city for any purpose any live animals, birds, fowl or insects, whether domestic or wild, other than common house pets; provided, however, that offspring of animals, birds, or fowl kept on premises within the city pursuant to and in accordance with the provisions of this article shall be exempt from the provisions hereof for the six months immediately following their birth, and except as otherwise provided in this article.

Sec. 4-102. - Permit required.

No animals, birds, fowl, or insects shall be kept on any premises within the city without a permit therefor. A permit covering all such animals, birds, fowl, or insects as are on the premises on the effective date of the ordinance from which this article is derived or to be placed on the premises after the effective date of the ordinance from which this article is derived shall be issued by the city clerk upon compliance with all of the terms and provisions of chapter 36, pertaining to zoning, and upon payment of a fee as currently established or as hereafter adopted by resolution of the city council from time to time. Such permit shall be dated and shall expire at the end of one year whereupon it shall be necessary to renew same; provided, that prior to placing any additional animals, birds, fowl, or insects covered by the terms of this article upon any premises located within the city subsequent to the issuance of a permit under the provisions of this article, the person desiring to harbor, keep or permit the keeping of such additional animals, birds, fowl and insects shall make application for an amended permit, the amended permit to be issued upon compliance with all the terms and provisions of this article and applicable provisions of chapter 36 without cost to the applicant therefor and to expire on even date with the original permit issued.

Sec. 4-103. - Permit application.

- (a) Each application for an original or amended permit shall state the name and address of the applicant, the proposed location of the animals, fowl, birds, or insects and an accurate description of the kind and number of animals, fowl, birds, or insects to be kept or otherwise harbored thereon.
- (b) Each application shall be referred to the director of public safety, who shall cause an investigation and inspection to be made of the proposed site and who shall approve of the issuance of the requested permit or amended permit upon determining that the issuance thereof will not violate the terms and provisions of this article or the applicable provisions of chapter 36, and will not otherwise be unsanitary or dangerous to the health of any persons or person.

Sec. 4-104. - Permit for wild animals.

Notwithstanding anything contained in this article to the contrary, no captured wild animals such as bears, squirrels, raccoons, foxes, reptiles, or any other wild animal shall be permitted to be kept in the city without a special permit therefor to be granted by the city council upon such conditions as it deems expedient to protect the health and safety of the public, and without compliance to the applicable state statutes, rules and regulations.



City of Hillsdale
97 N Broad St
Hillsdale, MI 49242
(517) 437-6441
clerk@cityofhillsdale.org

Sec. 4-105. - Permit for bees.

Notwithstanding anything contained in this article to the contrary, no permit shall be issued to any applicant for the keeping of bees or hives of bees where there are other occupied human habitations within a radius of 250 feet, unless the applicant shall have obtained the consent in writing of 90 percent of the residents within the 250-foot radius. The director of public safety may in his sole discretion refuse to approve the issuance of any permit when he deems the safety or health of the residents of the city will or may be endangered; provided, that the consent otherwise required pursuant to the terms of this section shall not apply to bees or hives of bees kept upon any premises located within the city upon the effective date of the ordinance from which this article is derived.

Sec. 4-106. - Permit for cattle, sheep, swine and horses.

Notwithstanding anything contained in this article to the contrary, no permit shall be issued to any applicant for the keeping in the city of cattle, oxen, sheep, goats, hogs, swine, horses, donkeys, or ponies when there are other occupied human residential habitations within a radius of 500 feet, unless the applicant shall have obtained the consent in writing of 75 percent of all the residents within the 500-foot radius. The director of public safety may in his sole discretion refuse to approve the issuance of a permit for the keeping of any of the aforesaid animals when, after proper investigation and report thereon, he determines and finds that the keeping of the cattle, oxen, goats, hogs, swine, sheep, horses, donkeys and ponies in an occupied residential area in the city would be unsanitary or unhygienic and/or for any reason unsafe or dangerous to the health, safety, or welfare of the residents of the city; provided, that the consent otherwise required pursuant to the terms of this section shall not apply to cattle, oxen, goats, hogs, swine, sheep, horses, donkeys and ponies kept upon any premises located within the city upon the effective date of the ordinance from which this article is derived.

Sec. 4-107. - Permit for birds, fowl and rabbits.

Notwithstanding anything contained in this article to the contrary, no permit shall be issued to any applicant for the keeping of four or more rabbits, chickens, geese, ducks, turkeys, pigeons, or guinea hens where there are other occupied human habitations within a radius of 250 feet unless the consent in writing shall have been obtained of 75 percent of the residents within the 250-foot radius. The director of public safety may deny and refuse to approve the issuance of any permit if he determines the sanitary and hygienic condition of the proposed location unsafe or dangerous to the health, safety, or welfare of the residents of the city; provided, however, no permit shall be required for the keeping of four or fewer of the animals or creatures enumerated in this section; provided further, that the consent otherwise required pursuant to the terms of this section shall not apply to the keeping of four or more rabbits, chickens, geese, ducks, turkeys, pigeons or guinea hens kept upon any premises located within the city upon the effective date of the ordinance from which this article is derived.

Sec. 4-108. - Nuisance abatement.

The keeping of any animals, birds, fowl, or insects within the corporate limits of the city without compliance with the provisions of this article shall be and constitutes a nuisance. It shall be the duty of the director of public safety where any such nuisance as defined in this article is maintained or continued to give the owner or occupant of the premises 30 days' notice in writing



City of Hillsdale
97 N Broad St
Hillsdale, MI 49242
(517) 437-6441
clerk@cityofhillsdale.org

thereof and if at the expiration of the period such nuisance is not abated, the director of public safety shall petition the county circuit court to declare the same a nuisance and order it abated in addition to any and all penalties provided in this article.

Sec. 4-109. - Running at large.

It is unlawful for any animals, birds, fowl, or insects covered by this article to run at large or to be allowed or permitted to run at large or be staked out within the city upon the streets, alleys, public places, or upon the private property of others without the written consent of the owner of such private property. Any cattle, horses, mules, sheep, swine, or goats found running at large shall be impounded and disposed of in accordance with the provisions of the statutes of the state in such case made and provided.

State Law reference— Livestock running at large prohibited, MCL 433.51 et seq.

Secs. 4-110—4-140. - Reserved.

Detroit Chicken Laws

Are chickens allowed in <u>Detroit</u> ?	Yes
How many chickens can you have?	6
Can you have roosters in <u>Detroit</u> ?	No
<u>Chicken coop placement</u> rules:	At least 20 feet away from neighboring homes and 10 feet away from any property line
Application process:	Permit required
More information:	Detroit City Code

Detroit has a growing urban gardening scene, and part of that scene involves keeping chickens for eggs. Here's a summary of the laws related to backyard chicken keeping in Detroit, Michigan:

- The City of Detroit allows residents to keep chickens on their property as long as they follow certain regulations.
- A maximum of 6 chickens are allowed per household, but roosters are prohibited.
- Chicken coops and runs must be located at least 20 feet away from neighboring homes and 10 feet away from any property line.
- Chicken coops and runs must be predator-proof and provide at least 4 square feet of space per chicken.
- Chicken owners must keep their coops and runs clean and sanitary and dispose of chicken waste properly.
- Chicken owners are not allowed to slaughter chickens on their property.
- Chicken owners must obtain a permit from the city and comply with any additional zoning or health regulations that apply to their property.
- Violations of these regulations can result in fines and/or the revocation of the chicken-keeping permit.

It's important for residents of Detroit who want to keep chickens to obtain the necessary permit and follow these regulations to ensure the health and safety of their chickens and to avoid legal issues.

Flint Chicken Laws

Are chickens allowed in Flint?	No
How many chickens can you have?	0
Can you have roosters in Flint?	No
Chicken coop placement rules:	Not applicable
Application process:	Not applicable
More information:	Flint city code

If you're thinking about raising chickens in Flint, make sure to educate yourself about the rules and regulations. You may be in for a disappointment.

- 1. Prohibition of Poultry Keeping:** The City of Flint prohibits the keeping of poultry or domestic fowl on residentially zoned lots, other than household pets such as canaries and parakeets.
- 2. Exceptions for Educational or Research Purposes:** While the general rule prohibits backyard chicken keeping, there are exceptions for educational or research purposes. If you meet the criteria for these purposes, you may be allowed to keep chickens.

If you **are** allowed to keep chickens in Flint (rare exceptions), you must comply with the following requirements:

- **Confinement:** Provide and maintain a yard, pen, shelter, or building for chicken confinement.
- **Space:** Allocate at least 25 square feet of ground or floor space per chicken.
- **Distance:** Keep chickens at least 50 feet away from residential buildings.
- **Cleanliness:** Remove manure and waste matter from the chicken area daily.
- **No Roosters:** Roosters are not permitted.
- **Containment:** Chickens must not be allowed to roam freely.

Contacting Flint officials is necessary to ensure you have the most recent information about the rules for backyard chickens, as these regulations can change over time.

Grand Rapids Chicken Laws

Are chickens allowed in Grand Rapids?	Yes
How many chickens can you have?	4 to 6 (depending on lot size)
Can you have roosters in Grand Rapids?	No
Chicken coop placement rules:	Coops at least 10 feet from property lines.
Application process:	Permit required
More information:	Grand Rapids municipal code

Before starting to raise chickens in Grand Rapids, it's crucial to gain knowledge about the rules and regulations that govern this activity.

- **The City of Grand Rapids allows residents to keep up to 4 chickens on a lot less than 5,000 sq. feet, and up to 6 chickens** on a lot of 5,000 sq. feet or more in size.
- **Roosters are prohibited** in Grand Rapids.
- **Chickens must be kept in a coop or fenced enclosure in the rear yard** of the property.
- **The coop must be at least 6 square feet per chicken** and the enclosure must be at least 10 feet from any lot line.
- **Chicken feed must be stored in rodent-proof containers.**

Requirements

- **Live in a single-family or two-family home.**
- **Have a lot that is at least 3,800 square feet in size.**
- **Obtain a permit from the City Manager** or his/her designee.

Permit Denial Happens If:

- **The applicant's property is located in a floodplain** or other area that is not suitable for chicken keeping.
- **The applicant has a history of animal neglect or cruelty.**

It is possible for cities to change their rules on backyard chickens over time. That's why it's important to contact Grand Rapids officials for the most up-to-date information.

Lansing Chicken Laws

Are chickens allowed in Lansing ?	Yes
How many chickens can you have?	5
Can you have roosters in Lansing ?	No
Chicken coop placement rules:	Coops no closer than 40 feet to any neighboring dwelling or 10 feet from any property line.
Application process:	No permit required
More information:	Lansing municipal code

If you have an interest in raising chickens in [Lansing](#), it's vital to learn about the rules and regulations that you must follow.

- **The City of Lansing allows residents to keep up to five hens on their property.**
- **Roosters, ducks, peacocks, turkeys, and emus are not allowed.**
- **Hens must be kept in a secure enclosure** that prevents rodents from entering.
- **The enclosure must be located at least 10 feet from the property line of any adjacent property and at least 40 feet from any residential structure** on an adjacent property.
- **Additional guidelines for keeping chickens in Lansing:**
 - Regularly clean the chicken coop and run to prevent the spread of disease.
 - Properly dispose of chicken manure.
 - Do not allow chickens to roam freely in the neighbourhood.
 - Be considerate of neighbours and prevent disturbances caused by chickens.

Backyard chicken rules in cities might undergo changes over the years. To stay informed, it's vital to communicate with Lansing officials.

Please return Permit Application, Diagram, and \$55 Fee to:

City Clerk's Office
301 E. Huron St.
Ann Arbor, MI 48104



Application to keep up to 6 chickens.

5-year permit from date of issuance.

CITY OF ANN ARBOR PERMIT TO KEEP BACKYARD CHICKENS

DIAGRAM AND \$55 FEE REQUIRED. PLEASE ALLOW UP TO 10 DAYS FOR PROCESSING.

Applicant/Contact Name: _____

Primary or Secondary School Name (if applicable): _____

Phone Number: _____ Email: _____

Permit Address (where backyard chickens will be housed): _____

Single-family Dwelling

Two-family Dwelling

Primary or Secondary School

Number of Backyard Chickens to be kept at the Permit Address (6-Bird Maximum): _____

REQUIRED: Attach a diagram of the property that includes the following:

- Proposed location(s) of all enclosures that will be used to keep chickens/ducks
- Distances from the enclosure(s) to neighboring residential structures (neighbors' homes)
- Distances from the enclosure(s) to the property lines

NOTE: A covered enclosure or fenced enclosure shall not be located closer than ten (10) feet from a property line of an adjacent property nor shall it be located closer than forty (40) feet to any residential structure on an adjacent property. **Only** the forty (40) foot requirement can be waived with written statements of all occupants of the building (two-family dwelling) and all adjacent landowners.

Are you requesting a waiver of the 40-feet requirement? YES NO

If Yes: Complete the attached 40-feet Distance Waiver Consent form and instruct neighboring Property Owners and Occupants (if applicable) to sign their consent to this waiver.

If the requirements of Chapter 107 are not complied with, the City may revoke any permit granted and/or initiate prosecution for a civil infraction violation. A person who has been issued a permit shall submit it for examination upon demand by any police officer or code enforcement officer. Fenced enclosures are subject to all provisions of Chapter 104 (Fences). Notwithstanding the issuance of a permit by the City, private restrictions on the use of property shall remain enforceable and take precedence over a permit. Private restrictions include but are not limited to deed restrictions, condominium master deed restrictions, neighborhood association by-laws, and covenant deeds. A permit issued to a person whose property is subject to private restrictions that prohibit the keeping of chickens is void. The interpretation and enforcement of the private restriction is the sole responsibility of the private parties involved.

I understand the above restrictions on the permit and am submitting this application in compliance with Chapter 107 (Animals) of the Code of the City of Ann Arbor.

Applicant Signature

Date

Property Owner Consent to Permit (if not the Applicant/Occupant):

Property Owner (or School Principal)

Date

OFFICE USE ONLY

Approved by Clerk's Office: _____ Expiration Date: _____

Comments: _____

Copy: Applicant/City Clerk's Office (retains original)



CITY OF ANN ARBOR PERMIT TO KEEP BACKYARD CHICKENS

40-FEET DISTANCE WAIVER CONSENT FORM (If Applicable)

Applicant/Contact Name: _____

Primary or Secondary School Name (If Applicable): _____

Permit Address (where backyard chickens will be housed): _____

A covered enclosure or fenced enclosure shall not be located closer than ten (10) feet from a property line of an adjacent property nor shall it be located closer than forty (40) feet to any residential structure on an adjacent property. The forty (40) foot requirement, only, can be waived with written statements of all occupants of the building (two-family dwelling) and all adjacent landowners.

Are you requesting a waiver of the 40 feet requirement? YES NO

If Yes: Distance to residential structure on adjacent property: _____ feet.

Instruct Property Owners and Occupants (if applicable) to sign their consent to this waiver on the space provided below.

Please list all adjacent properties and obtain consent signatures.

Instructions to Adjacent Property Owners and to Occupants of Two-Family Dwellings:

(1) Your neighbor is applying for a permit to keep backyard chickens. A maximum of six chickens may be kept under this permit.

(2) Your neighbor has checked the box above requesting a waiver of the distance requirements for placement of the coop. Your permission is required to allow enclosures for housing chickens to be kept closer than 40 feet to a residential structure. Do not sign the form if you are not giving consent to this waiver.

By signing this form, you are providing written consent to waive the 40 foot distance requirement.

Adjacent Properties:

Street Address _____ **Owner Name** _____ **Signature (consent to this waiver)** _____

If the Applicant applying for this permit resides in a two-family dwelling, all occupants of the dwelling must sign:

Applicant Address _____ **Occupant** _____ **Signature (consent to this waiver)** _____

9:42. Keeping of chickens or ducks.

(1) Any person who keeps chickens or ducks in the city shall obtain a 6-bird permit from the city prior to acquiring the chickens or ducks. Written statements waiving the distance requirement in subsection (3) below are required for 6-bird permits and shall be submitted at the time of application and become a part of the permit if issued. Application shall be made to the City Clerk and the fee for the permit shall be as determined by Council resolution.

Six-bird permits expire and become invalid 5 years after the date of issuance. A person who wishes to continue keeping birds shall have obtained a new permit on or before the expiration date of the previous permit. Application for a new permit shall be pursuant to the procedures and requirements that are applicable at the time the person applies for a new permit.

Only as used in this section, the term "bird" means only chickens or ducks or a combination of both.

(2) Notwithstanding the issuance of a permit by the city, private restrictions on the use of property shall remain enforceable and take precedence over a permit. Private restrictions include but are not limited to deed restrictions, condominium master deed restrictions, neighborhood association by-laws, and covenant deeds. A permit issued to a person whose property is subject to private restrictions that prohibit the keeping of birds is void. The interpretation and enforcement of the private restriction is the sole responsibility of the private parties involved.

(3) A person who keeps or houses birds on a property shall comply with all of the following requirements:

- (a) Have been issued the permit required under subsection (1) of this section.
- (b) Keep no more than 6 birds.
- (c) The principal use of the person's property is for a single-family dwelling, 2-family dwelling, or a primary or secondary school.
- (d) No person shall keep any rooster (male chicken). Both drakes (male ducks) and hen ducks (female ducks) may be kept.
- (e) No person shall slaughter any chickens or ducks.
- (f) The birds shall be provided with a covered enclosure and must be kept in the covered enclosure or a fenced enclosure, except as otherwise provided in this section. Fenced enclosures are subject to all provisions of Chapter 55 (Unified Development Code).
- (g) A person shall not keep birds in any location on the property other than in the rear yard, as defined in Chapter 55, except as otherwise provided in this section. For properties where the principal use is a primary or secondary school, a person shall not keep birds in that property's front required setback area as defined under Chapter 55 of this Code.
- (h) Notwithstanding other requirements of this section, the birds may be kept outside of the covered enclosure or fenced enclosure subject to the requirements they may only be in the rear yard or side yard, as defined in Chapter 55, and a person shall be present with the birds in the same location.
- (i) No covered enclosure or fenced enclosure shall be located closer than 10 feet to any property line of an adjacent property.
- (j) All enclosures for the keeping of birds shall be so constructed or repaired as to prevent rats, mice, or other rodents from being harbored underneath, within, or within the walls of the enclosure. A covered enclosure or fenced enclosure shall not be located closer than 40 feet to any residential structure on an adjacent property provided, however, this requirement can be waived as follows:
 - (i) If the principal use of applicant's property is for a single-family dwelling, or a primary or secondary school, to obtain such a waiver the applicant shall present at the time of applying for a

permit the written statements of all owners of adjacent property that there is no objection to the issuance of the permit.

- (ii) If the principal use of the applicant's property is for a 2-family dwelling, to obtain such a waiver the applicant shall present at the time of applying for a permit the written statements of the occupants of the other dwelling stating that there is no objection to the issuance of the permit.
- (k) All enclosures for the keeping of birds shall be so constructed or repaired as to prevent rats, mice, or other rodents from being harbored underneath, within, or within the walls of the enclosure.
- (l) All feed and other items associated with the keeping of birds that are likely to attract or to become infested with or infected by rats, mice, or other rodents shall be protected so as to prevent rats, mice, or other rodents from gaining access to or coming into contact with them.
- (m) If the above requirements are not complied with, the city may revoke any permit granted under this section and/or initiate prosecution for a civil infraction violation.

For purposes of this section, "adjacent property" means all parcels of property that the applicant's property comes into contact with at 1 or more points, except for parcels that are legally adjacent to but are in fact separated from the applicant's property by a street or private street.

- (4) A person who has been issued a permit shall submit it for examination upon demand by any police officer or code enforcement officer.
- (5) Permits that were issued under this section when only chickens were allowed and before the effective date of the amendment adding ducks to this section shall continue to allow only chickens until the permit expires. A person may keep ducks only by obtaining a new 6-bird permit on or after the effective date of the amendment to this section that added ducks to this section.

A violation of this section shall be a civil infraction, punishable by a fine of not more than \$500.00.

(Ord. No. 08-19, § 2, 6-2-08, eff. 8-7-08; Ord. No. 14-28, § 1, 2-2-15; Ord. No. 17-06, § 1, 5-15-17; Ord. No. 18-09, § 10, 7-16-18; Ord. No. 18-31, § 2, 11-8-18; Ord. No. 20-17, § 1, 5-18-20; Ord. No. 21-28, § 8, 9-20-21)



BUILDING & ORDINANCE DEPARTMENT

One South Huron ♦ Ypsilanti, MI 48197
Phone: (734) 482-1025
www.cityofypsilanti.com

Office Use Only:

Receipt: _____

Method: _____

Domestic Fowl Permit Application Fee: \$25.00

Please print or type

Applicant Information:

Name:	Driver's License #:	
Address of location that chickens will be housed:	Apt. # (if applicable)	Phone #:
Email Address (optional):		
Number of fowls to be kept (Maximum/total of 4 in any combination – Roosters are not permitted): Hens _____ Ducks _____ Drakes _____		

Property Owner Information: (if property is not owner occupied)

Name:	Phone #:		
Address:	City:	State:	Zip:

Permits are valid for two years from the date of issue.

Permits are non-transferable and may not be sold or assigned.

If the requirements of Chapter 14 of the Ypsilanti Code of Ordinances are not complied with, the City may revoke any permit granted and/or initiate prosecution for a civil infraction violation. A person who has been issued a permit shall submit it for examination upon demand by any city official or police officer. Fenced enclosures are subject to City of Ypsilanti Zoning Code of Ordinances. Notwithstanding the issuance of a permit by the City, private restrictions on the use of property shall remain enforceable and take precedence over a permit. Private restrictions include but are not limited to deed restrictions, condominium master deed restrictions, neighborhood association by-laws, and covenant deeds. A permit issued to a person whose property is subject to private restrictions that prohibit the keeping of chickens is void. The interpretation and enforcement of the private restriction is the sole responsibility of the private parties involved.

I understand the above restrictions on the permit and am submitting this application in compliance with Chapter 14 (Animals) of the Code of the City of Ypsilanti (ordinance on back of application).

Applicant Signature

Date

How would you like the permit to be sent? Email First class mail

For Office Use Only

Approved by: _____ Date: _____

Sec. 14-5. - Keeping of female chickens (hens) and ducks (male/drake and female/duck).

- (a) Any person who keeps hens, ducks, or drakes in the City of Ypsilanti shall obtain a permit from the city prior to acquiring the hens and pay a permit fee set by city council. This permit shall be kept by the owner and presented upon demand by any city official or police officer. Permits are non-transferable and do not run with the land. A permit may be obtained by any property owner of a property whose principal use is as a single-family or two-family zoned property within the city. Permits issued prior to June 1, 2010 will expire on July 1, 2011 and be renewable for two-year periods. Permits shall provide a limited license for the activity, and no vested zoning rights shall arise from said permit issuance.
- (b) Notwithstanding the issuance of a permit by the city, private restrictions on the use of property shall remain enforceable and take precedence over a permit. Private restrictions include, but are not limited to, deed restrictions, condominium master deed restrictions, and covenant deeds. A permit issued to a person whose property is subject to private restrictions that prohibit keeping of hens is void. The interpretation and enforcement of the private restriction is the sole responsibility of the private parties involved.
- (c) A person who keeps or houses hens, ducks, and drakes on his or her property shall comply with the following requirements:
 - (1) Must obtain a permit pursuant to subsection (a) of this section.
 - (2) Keep no more than a total of four fowl, in any combination of hens, ducks, or drakes.
 - (3) The principal use of the person's property must be for a single-family dwelling or two-family dwelling.
 - (4) No person shall keep a male chicken (rooster).
 - (5) Any person keeping hens, ducks, or drakes shall remain subject to public nuisance animal controls codified in Section 14-11 of the Ypsilanti Code.
 - (6) The hens, ducks, or drakes shall be provided with a covered enclosure and must be kept in the covered enclosure (flighted species) or a fenced enclosure at all times (flightless species). Fenced enclosures are subject to the provisions of [Section 122-635](#), fences and walls, of this Code.
 - (7) A person shall keep hens, ducks, or drakes in the backyard only. For this subsection, "backyard" means the portion of a lot enclosed by the property's rear lot line and the side lot lines to the points where the side lot lines intersect with an imaginary line established by the rear of the single-family or two-family structure and extending to the side lot lines.
 - (8) All enclosures for the keeping of hens, ducks, or drakes shall be constructed, repaired and maintained in a manner to prevent rats, mice, or other rodents from being harbored underneath, within, or within the walls of the enclosure.
 - (9) All feed and other items associated with the keeping of hens, ducks, or drakes that are likely to attract or to become infested shall be so protected so as to prevent rats, mice, or other rodents from gaining access to or coming into contact with them.
 - (10) Chicken coops, duck houses, and enclosures shall be at least 20 feet from any residential structure not owned by the permittee unless written permission is granted from the owner of the affected residential structure.

(d) If the requirements of subsection (c) are not fully complied with, the city may revoke any permit granted under this section and/or initiate prosecution for a civil infraction violation.

(Ord. No. 1100, § 1, 7-21-2009; Ord. No. 1118, § 1, 6-1-2010; Ord. No. 1264, § 1, 4-19-2016; Ord. No. 1297, § 1, 11-28-2017; Ord. No. [1384](#), § 1, 1-25-2022)

Editor's note— Ord. No. 1297, § 1, adopted Nov. 28, 2017, renumbered the former § 14-4 as § 14-5 as set out herein. The historical notation has been retained with the amended provisions for reference purposes.

See editor's note to chapter 14.