



The Maryland-National Capital Park and Planning Commission
Prince George's County Planning Department
Development Review Division
301-952-3530

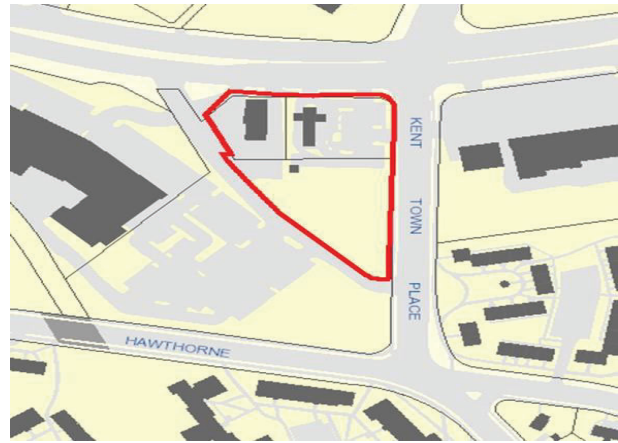
Note: Staff reports can be accessed at <http://mncppc.iqm2.com/Citizens/Default.aspx>

Special Exception Royal Farms #411 (Kent Village)

SE-4834

| REQUEST | STAFF RECOMMENDATION |
|--|--------------------------|
| A special exception for a 4,649 square foot food and beverage store, in combination with eight fuel gas station pumps, with a variance to Section 27-358(a)(2) to allow the gas station to be less than 300 feet from an outdoor playground. | APPROVAL with conditions |

| | |
|--|---------------|
| Location: In the southwest quadrant of the intersection of MD 202 (Landover Road) and Kent Town Place. | |
| Gross Acreage: | 4.48 |
| Zone: | C-S-C |
| Dwelling Units: | 0 |
| Gross Floor Area: | 4,649 sq. ft. |
| Lots: | 0 |
| Parcels: | 0 |
| Planning Area: | 72 |
| Council District: | 05 |
| Election District: | 13 |
| Municipality: | N/A |
| 200-Scale Base Map: | 204NE06 |
| Applicant/Address: RF Landover, LLC 3611 Roland Ave Baltimore, MD 21211 | |
| Staff Reviewer: Sam Braden IV Phone Number: 301-952-3411 Email: Sam.BradenIV@ppd.mncppc.org | |



| | |
|------------------------------|------------|
| Planning Board Date: | 07/29/2021 |
| Planning Board Action Limit: | N/A |
| Staff Report Date: | 07/14/2021 |
| Date Accepted: | 04/16/2021 |
| Informational Mailing: | 03/26/2020 |
| Acceptance Mailing: | 03/30/2021 |
| Sign Posting Deadline: | N/A |

The Planning Board encourages all interested persons to request to become a person of record for this application. Requests to become a person of record may be made online at http://www.mncppcapps.org/planning/Person_of_Record/. Please call 301-952-3530 for additional information.

Table of Contents

| | |
|---|----|
| FINDINGS | 4 |
| 1. Location and Site Description..... | 4 |
| 2. History and Previous Approvals..... | 4 |
| 3. Neighborhood and Surrounding Uses | 4 |
| 4. Request..... | 4 |
| 5. Development Data Summary | 4 |
| 6. Required Findings..... | 5 |
| 7. Variance Request..... | 11 |
| 8. Parking Regulations..... | 12 |
| 9. 2010 Prince George’s County Landscape Manual Requirements | 12 |
| 10. Tree Canopy Coverage..... | 12 |
| 11. Prince George’s County Woodland and Wildlife Habitat Conservation Ordinance | 12 |
| 12. Signage..... | 12 |
| 13. Referral Comments | 13 |
| RECOMMENDATION..... | 13 |

THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION

PRINCE GEORGE'S COUNTY PLANNING BOARD

TECHNICAL STAFF REPORT:

TO: The Prince George's County Planning Board
The Prince George's County District Council

VIA: Jeremy Hurlbutt, Supervisor, Zoning Review Section, Development Review Division

FROM: Sam Braden IV, Senior Planner, Zoning Review Section,
Development Review Division

SUBJECT: Special Exception SE-4834
Royal Farms #411 (Kent Village)

REQUEST: A special exception for a 4,649-square-foot food and beverage store in combination with eight fuel gas station pumps, with a variance to Section 27-358(a)(2) to allow the gas station to be less than 300 feet from an outdoor playground.

RECOMMENDATION: **APPROVAL with conditions**

NOTE:

The Planning Board has scheduled this application on the consent agenda for transmittal to the Zoning Hearing Examiner on the agenda date of July 29, 2021.

You are encouraged to become a person of record in this application. The request must be made in writing and addressed to the Prince George's County Office of the Zoning Hearing Examiner, County Administration Building, Room 2184, 14741 Governor Oden Bowie Drive, Upper Marlboro, MD 20772. Questions about becoming a person of record should be directed to the Hearing Examiner at 301-952-3644. All other questions should be directed to the Development Review Division at 301-952-3530.

FINDINGS:

1. **Location and Site Description:** The subject property is located in the southwest quadrant of the intersection of MD 202 (Landover Road) and Kent Town Place. The site has two businesses that exist on the property in the Commercial Shopping Center (C-S-C) Zone and consists of three parcels. All existing site features will be razed to construct a 4,649-square-foot food and beverage store in combination with a gas station.

2. **History and Previous Approvals:** The subject property is located on Tax Map 59 in Grids D-1 and D-2, consisting of Parcel G-9 and Parcel H, and part of Parcel K, containing a total of 4.48 acres of land in the C-S-C Zone. The subject property contains Kent Village Shopping Center in Parcel G-9, recorded by plat among the Prince George’s County Land Records in Plat Book 41 page 79, dated August 1961, and Parcel H, recorded in Plat Book 57 page 22, dated May 1965. Parcels G-9 and H, consisting of existing development, are part of Preliminary Plan of Subdivision 12-1626. Both parcels were recorded prior to 1970. All existing features for the proposed food and beverage store with gas station will be razed.

3. **Neighborhood and Surrounding Uses:** The general neighborhood is bounded to the north by Landover Road, Baltimore Avenue to the west, Kent Town Place to the east, and Hawthorne Street to the south. The neighborhood primarily includes residential and commercial uses. The immediate uses surrounding the subject property are as follows:
 - North—** Multifamily residential development at MD-202 in the C-S-C Zone.

 - East—** Shopping center and multifamily residential uses in the C-S-C and Multifamily Medium Density Residential (R-18) Zones.

 - South—** Multi-family residential development at Hawthorne Street in the R-18 Zone.

 - West—** Shopping center in the C-S-C Zone.

4. **Request:** The applicant requests approval of a special exception to construct a food and beverage store in combination with a gas station, with a variance to Section 27-358(a)(2) of the Zoning Ordinance to allow the gas station to be less than 300 feet from an outdoor playground.

5. **Development Data Summary:**

| | EXISTING | PROPOSED |
|------------------|----------------------------------|--|
| Zone(s) | C-S-C | C-S-C |
| Use(s) | Eating or Drinking Establishment | Food and Beverage Store Gas Station |
| Acreage | 1.87 | 4.84 |
| Lots | 0 | 0 |
| Gross Floor Area | 4,011 sq. ft. | 4,649 sq. ft. |
| Dwellings | 0 | 0 |

6. **Required Findings:** A special exception is subject to the general findings for approval of all special exceptions contained in Section 27-317(a) of the Prince George’s County Zoning Ordinance. Part 4 of the Zoning Ordinance also includes additional required findings for specific uses. A food and beverage store is subject to the additional findings of Section 27-355 of the Zoning Ordinance, and gas stations are subject to Section 27-358. The analysis of all the required findings for approval are provided below.

In support of the application, the applicant filed a statement of justification (SOJ) submitted April 16, 2021 incorporated by reference herein. This case was heard at the Subdivision and Development Review Committee (SDRC) meeting on April 30, 2021. The applicant submitted revised site and landscape plans for the subject property, which were received on May 20, 2021, as requested by staff at the SDRC meeting.

General Special Exception Findings—Section 27-317(a) provides the following:

(a) A Special Exception may be approved if:

(1) The proposed use and site plan are in harmony with the purposes of this Subtitle.

Staff finds that the proposed use will provide jobs within the area. There will be an increase in commercial property taxes paid to the County’s coffers. Furthermore, economic redevelopment is stimulated by this proposed development. Also, there will be additional tax revenue being created by sales tax and gasoline tax, ensuring economic stability within all parts of the County.

(2) The proposed use is in conformance with all the applicable requirements and regulations of this Subtitle.

The proposed use is in conformance with the requirements and regulations set forth in Subtitle 27 of the Zoning Ordinance, except for Section 27-358(a)(2), for which a variance has been requested by the applicant, as discussed in Finding 7 below. Most notably, the food and beverage store in combination with a gas station are each uses that are permitted in the C-S-C Zone, upon approval of a special exception, including conformance with the requirements in Sections 27-355 and 27-358 of the Zoning Ordinance.

(3) The proposed use will not substantially impair the integrity of any validly approved Master Plan or Functional Master Plan, or in the absence of a Master Plan or Functional Map Plan, the General Plan.

The subject property is located in the C-S-C Zone, and each of the proposed use designations are permitted as special exceptions. The application includes a recommended streetscape from the 2014 *Approved Landover Metro Area and MD 202 Corridor Sector Plan and Sectional Map Amendment* (pages 52–54), on the south side of Landover Road. These frontage improvements will provide a more

pedestrian and bicycle friendly environment. Largely, the South Landover Road Focus Area is envisioned as a mixed-residential area, with the residential designation being dominant. However, the mixed-use designation allows for various use types, such as small-scale, neighborhood-serving commercial uses. In accordance with Subtitle 27, staff does not have any issues with the proposed circulation of the site, and additional right-of-way will not be required. Therefore, the proposed use will not substantially impair the integrity of the applicable master plan.

(4) The proposed use will not adversely affect the health, safety or welfare of residents or workers in the area.

The proposed development provides a safe, internal circulation for vehicles and pedestrians, in addition to safe ingress and egress of vehicles from surrounding public rights-of-way and the internal road. Also, the number of access points along Landover Road will be reduced from four to one.

The special exception boundary of the subject property on which the special exception use is proposed to be conducted is nearly 230 feet from the Kent Village Apartment Complex, which sits on 12.91 acres, and is known as Block F. The outdoor playground is located in the center of the apartment complex, and is more than 700 feet from the special exception boundary. However, since distance is measured from lot line to lot line under Section 27-358(a)(2), a variance is required, as the lot, Block F, is within 300 feet of the proposed special exception.

The playground located southwest of the proposed development site is completely screened from all public roads, and is not visible from Kent Town Place or Hawthorne Street. The physical location of the playground is more than 700 feet from the closest point of the special exception site boundary. Hawthorne Road and the Lower Beaverdam Creek separate the subject property from the playground.

The proposed use will not have adverse effects on the health, safety, or welfare of residents, due to the proposed layout location on the site, which will place the gas pumps on the north side of the site, facing MD 202 with the food and beverage store located on the southern part of the site (part of Parcel K). The store will screen the gas pumps which will be approximately 788 feet from the existing playground. Staff finds that the proposed use will not adversely affect the health, safety, or welfare of residents or workers in the area.

(5) The proposed use will not be detrimental to the use or development of adjacent properties or the general neighborhood.

Staff finds that the proposed use is compatible with the surrounding existing commercial development. The development shall be in compliance with required site design standards, physical features, and align with the harmony of the community. Ultimately, the proposed use will not be detrimental to the use or development of adjacent properties or the general neighborhood.

- (6) The proposed site plan is in conformance with an approved Tree Conservation Plan; and**
- (7) The proposed site plan demonstrates the preservation and/or restoration of the regulated environmental features in a natural state to the fullest extent possible in accordance with the requirement of Subtitle 24-130(b)(5).**

The site has an approved Natural Resources Inventory Equivalency Letter (NRI-046-2020). This site is not associated with any regulated environmental features such as streams, wetlands, 100-year floodplain, or associated buffers. In addition, the site is not within the primary management area. As a result, a Standard Letter of Exemption (S-036-2020) from the Prince George's County Woodland and Wildlife Habitat Conservation Ordinance (WCO) was approved.

Specific Special Exception Requirements:

Section 27-355—Food or Beverage Store.

- (a) A food and beverage store may be permitted, subject to the following:**
 - (1) The applicant shall show a reasonable need for the use in the neighborhood;**
 - (2) The size and location of, and access to, the establishment shall be oriented toward meeting the needs of the neighborhood;**

The applicant states that a food and beverage store is useful, appropriate, and convenient for use in the neighborhood. The applicant provided a market study from Valbridge Property Advisors, dated June 29, 2020. Staff finds that the proposed development meets the fueling station demands of the Hyattsville trade area. Also, the four access points adequately serve the site, reducing the impact of traffic congestions. Overall, the site accessibility and major connections to MD 202 will ensure adequate traffic flow on-site and within the surrounding neighborhood.

In addition, the proposed size of the building conforms to the requirements of the C-S-C Zone. The size and location of the proposed development, and access to the food and beverage store, are oriented toward meeting the needs of the neighborhood.

- (3) The proposed use shall not unduly restrict the availability of land, or upset the balance of land use, in the area for other allowed uses;**

The proposed use will not unduly restrict the availability of land, or upset the balance of land use, in the area for other allowed uses. The special exception is being developed on the sites of two existing take out and fast-food restaurants. The site's redevelopment should not pose an obstacle for other potential uses which might want to move into the area. It may also help to revitalize surrounding retail.

- (4) In the I-1 and I-2 Zones, the proposed use shall be located in an area which is (or will be) developed with a concentration of industrial or office uses;**

The subject property is located in the C-S-C Zone; therefore, this requirement does not apply.

- (5) The retail sale of alcoholic beverages from a food and beverage store approved in accordance with this Section is prohibited; except that the District Council may permit an existing use to be relocated from one C-M zoned lot to another within an urban renewal area established pursuant to the Federal Housing Act of 1949, where such use legally existed on the lot prior to its classification in the C-M Zone and is not inconsistent with the established urban renewal plan for the area in which its located.**

There will be no alcoholic beverages sold in the proposed food and beverage store.

Section 27-358—Gas Stations.

- (a) A gas station may be permitted, subject to the following:**

- (1) The subject property shall have at least one hundred and fifty (150) feet of frontage on and direct vehicular access to a street with a right-of-way width of at least seventy (70) feet;**

The subject property has 250 feet of frontage along Landover Road and 392 linear feet of frontage on Kent Town Place. The plan proposes an access point located on Landover Road, and two access points on Kent Town Place. Both rights-of-way have a width of at least 70 feet or greater.

- (2) The subject property shall be located at least three hundred (300) feet from any lot on which a school, outdoor playground, library, or hospital is located;**

The boundary of the subject property is located in the 300-foot radius of an outdoor playground. Specifically, the site is located approximately 230 feet from the 12-acre lot (Block F) that includes an outdoor playground, surrounded by multifamily residential dwellings.

The outdoor playground is physically located more than 700 feet away, and separated from the proposed development site by apartments, the Lower Beaverdam Creek, and Hawthorn Road. A variance of 70 feet has been requested for the requirement of 300 feet for SE-4834, and staff supports the variance as discussed in Finding 7 below.

- (3) The use shall not include the display and rental of cargo trailers, trucks, or similar uses, except as a Special Exception in accordance with the provisions of Section 27-417.**

This plan does not include the display and rental of cargo trailers, trucks, or similar uses.

- (4) The storage or junking wrecked motor vehicles (whether capable of movement or not) is prohibited:**

This plan does not include the storage or junking of wrecked vehicles.

- (5) Access driveways shall not be less than 30 feet wide unless width is allowed for a one-way driveway by the Maryland State Highway Administration or the County Department of Public Works and Transportation, whichever is applicable, and shall be constructed in accordance with the minimum standards required by the County Road Ordinance or the Maryland State Highway Administration regulations, whichever is applicable. In the case of a corner lot, a driveway may begin at a point not less than 20 feet from the point of curvature (pc) of the curb return or the point of curvature of the edge of paving at an intersection without curb and gutter. A driveway may begin or end at a point not less than 12 feet from the side or rear lot line of any adjoining lot.**

This proposal includes four access driveways: a 35-foot-wide access driveway at Landover Road; a 35-foot-wide access driveway at Kent Town Place; and two 35-foot-wide access driveways onto the internal road. Since the special exception is on a corner lot, each of the access driveways are more than 20 feet from the point of curvature. Furthermore, the rear lot line requirement does not apply to this property because there is not an adjoining lot. The remainder of Parcel K is separated from the subject site by an internal private road, Kent Town Drive.

(6) Access driveways shall be defined by curbing;

As shown on the special exception site plan, the access driveways are to be defined by curbing.

(7) A sidewalk at least five (5) feet wide shall be provided in the area between the building line and those areas serving pedestrian traffic;

The proposed development has the following sidewalks: an 8-foot-wide sidewalk on the west and south sides, a 6-foot-wide sidewalk on the east side, and a 12-foot-wide sidewalk on the north side of the property. The sidewalk from Kent Town Place will provide a pedestrian pathway to the store from the property frontage.

(8) Gasoline pumps and other service appliances shall be located at least twenty-five (25) feet behind the street line;

The gas station meets this requirement. All gas pumps are more than 25 feet behind street lines.

(9) Repair service shall be completed within forty-eight (48) hours after the vehicle for service. Discarded parts resulting from any work shall be removed promptly from the premises. Automotive replacement parts and accessories shall be stored either inside the main structure or in an accessory building used solely for the storage. The accessory building shall be wholly enclosed. The building shall either be constructed of brick (or another material similar in appearance to the main structure) and placed on a permanent foundation, or it shall be entirely surround with screening material. Screening shall consist of a wall, fence, or fence, or sight-tight landscape material, which shall be at least as high as the accessory building. The type of screening shall be shown on the landscape plan; and

There will be no vehicle repair at the site.

(10) Details on architectural elements such as elevation depictions of each façade, schedule or exterior finishes, and description of architectural character of proposed buildings shall demonstrate compatibility with existing and proposed surrounding development.

The special exception site plan includes architectural elevations in the submission. The architecture of the building incorporates a band of composite siding at the top portion, brick veneer in the middle, and stone veneer at the base of the building. The main entrance, with a high-profile roof, projects from the rest of the building. The front

elevation is accented with a pitched roof and a cupola over the main entrance, supported by stone veneer and painted steel columns. Oversized windows help break up the horizontal mass of the building. The rear elevation presents long, uninterrupted bands of the composite siding, in combination with red brick and stone veneer. The applicant has used durable quality materials including stone, brick, and composite siding. The gasoline pumps and canopy are designed to coordinate well with the architecture and materials of the main building. Based on the architectural elevations provided, the proposed buildings will be compatible with the current and proposed surrounding development.

7. **Variance Request:** The applicant seeks a variance to the strict interpretation of Section 27-358(a)(2), which requires that the subject property be located at least 300 feet from any lot of a school, outdoor playground, library, or hospital.

Section 27-230(a)(1) provides the following findings for approval of a variance:

(a) A variance may only be granted when the District Council, Zoning Hearing Examiner, Board of Appeals, or the Planning Board as applicable, finds that:

- (1) A specific parcel of land has exceptional narrowness, shallowness, or shape, exceptional topographic conditions, or other extraordinary situations or conditions;**

The proposed site is composed of Parcels G-9, H, and an oddly triangular shaped part of Parcel K. The special exception area is bounded by public and private rights-of-way. The odd shape is due to right-of-way improvements of MD 202, Kent Town Place, and Kent Town Drive, which is now a private road.

- (2) The strict application of this Subtitle will result in peculiar and unusual practical difficulties to, or exceptional or undue hardship upon, the owner of the property; and**

The strict application of this subtitle would result in peculiar and unusual practical difficulties, as it would be impossible for the applicant to construct gas pumps to operate an otherwise allowable special exception use at any location on the property, even though the pumps are significantly farther than 300 feet from the nearby playground.

- (3) The variance will not substantially impair the intent, purpose, or integrity of the General Plan or Master Plan.**

The variance will not substantially impair the intent, purpose, or integrity of the 2014 *Landover Metro Area and MD 202 Corridor Sector Plan and Sectional Map Amendment*. This plan recommends mixed-use residential land use, and the support of redeveloped retail uses along the corridor. The subject property for the special exception is located in the Established Communities policy area. The Plan Prince George's 2035 Approved General

Plan describes Established Communities as areas appropriate for context-sensitive infill and low- to medium-density development, and recommends maintaining and enhancing public services and infrastructure, to ensure that the needs of residents are met.

The proposed uses of the site are a permitted use by special exception in the C-S-C Zone. Therefore, the variance is compatible with the surrounding area and community.

8. **Parking Regulations:** In accordance with the parking and loading regulations contained in Section 27-568 of the Zoning Ordinance, there are 49 proposed parking spaces provided, which exceeds the minimum requirement of 46 spaces for the proposed uses. One loading space is provided, satisfying the requirement for the development. All parking and loading spaces are appropriately sized.
9. **2010 Prince George's County Landscape Manual Requirements:** The landscape plan displays landscaping, screening, and buffering that is in general conformance with the 2010 *Prince George's County Landscape Manual* requirements. The requirements are as follows: Section 4.2, Landscape Strips Along Streets; Section 4.3, Parking Lot Requirements; Section 4.4, Screening Requirements; Section 4.6, Buffering Development from Special Roadways (for frontage along Landover Road); and Section 4.9, Sustainable Landscape Requirements. However, the submitted landscape plans do not have a Section 4.6 Schedule. The applicant must provide a Section 4.6 schedule and show conformance with the requirements. Furthermore, the landscape plan also shows a landscape strip along public roadway Kent Town Drive. Section 4.10 is applicable to private streets only.
10. **Tree Canopy Coverage:** This application is subject to the requirements of the Tree Canopy Coverage Ordinance. The subject site is located within the C-S-C Zone and required to provide 10 percent of the site area in tree canopy coverage (TCC). In accordance with the Tree Canopy Coverage Ordinance, the proposed development is required to provide a minimum of 0.45 acre (19,602 square feet). The TCC schedule includes errors and takes credit for existing off-site tree canopy, adjacent to the property, to fulfill the TCC requirement for the subject site, which is not in conformance with Section 25-129(a) of the Tree Canopy Coverage Ordinance. The applicant should revise the plan and schedule to satisfy the requirements of Tree Canopy Coverage Ordinance.
11. **Prince George's County Woodland and Wildlife Habitat Conservation Ordinance:** The site is exempt from the provisions of the WCO because the property contains less than 10,000 square feet of woodland and has no previous tree conservation plan approvals. A Standard Letter of Exemption from the WCO was issued for this site (S-157-2020), which expires on October 7, 2022.
12. **Signage:** The signage chart, sign details, and sign location key map shown on Sheet 5 of the special exception plan requires revisions, due to numerous inconsistencies and errors. For example, the signage chart shows five canopy-mounted signs provided, but the plans only show three. Plans show locations for signage types six and nine, for which no details are provided, and they are not accounted for in the signage chart. The chart notes two directional signs are provided, but the plans show four. A new signage plan is needed with all required information for the proposed signage for this development.

Freestanding signage–The site plan shows six freestanding signs with advertising. There are two larger signs with gas station pricing and four smaller directional signs. The proposed signs on the signage plan should be revised, in accordance with Section 27-614(d)(2) of the Zoning Ordinance. The directional signs with advertising must be removed from the plan entirely, or can be retained, provided all advertising for the Royal Farms business is removed. Furthermore, site plans display the labeling of two pylon signs proposed, but details show monument signs instead.

Building and canopy-mounted signage–The series of building and canopy-mounted signage shown on the plans appear to be in general conformance with the applicable requirements of Section 27-613 of the Zoning Ordinance. However, as previously noted, the signage plan in general requires several corrections and clarifications to demonstrate conformance with Part 12, Signs.

13. Referral Comments: The following referrals were received and are incorporated herein by reference. All of the comments are addressed on the site plan, or as part of this technical staff report:

- a. Community Planning Division, dated May 28, 2021 (White to Braden)
- b. Transportation Planning Section, Traffic, dated May 27, 2021 (Burton to Braden)
- c. Transportation Planning Section, Pedestrian and Bicycle Facilities, dated May 24, 2021 (Smith to Braden)
- d. Environmental Planning Section, dated May 21, 2021 (Rea to Braden)
- e. Historic Preservation Section, dated April 26, 2021 (Stabler to Braden)
- f. Urban Design Section, dated May 25, 2021 (Bossi to Braden)
- g. Prince George’s County Department of Permitting, Inspections and Enforcement, dated May 20, 2021 (Giles to Braden)

RECOMMENDATION

A special exception use is considered compatible with uses permitted by right within the Commercial Shopping Center (C-S-C) Zone if specific special exception criteria are met. A special exception must be approved if the applicant satisfies the required criteria which are intended to address any distinctive adverse impacts associated with the use.

Based on the applicant’s statement of justification, the analysis contained in the technical staff report, associated referrals, and materials in the record, the applicant has demonstrated conformance with the required special exception findings, as set forth in Section 27-317 (in general), Section 27-355 (food and beverage store), and Section 27-358 (gas station) of the Prince George’s County Zoning Ordinance, except for Section 27-358(a)(2). Staff finds the proposed application satisfies the requirements for approving a variance and, therefore, finds the application will be in conformance with the Zoning Ordinance requirements if the variance is granted.

Therefore, staff recommends APPROVAL of Special Exception SE-4834, for Royal Farms #411 (Kent Village), and Variance to Section 27-358(a)(2), for the gas station to be less than 300 feet from an outdoor playground, subject to the following conditions:

1. Prior to certificate approval, the applicant shall revise the special exception plan and provide additional information as follows:
 - a. Provide a new signage plan, including clearly identifying the number and location of freestanding signs, to demonstrate conformance with the applicable requirements of Part 12, Signs, of the Prince George's County Zoning Ordinance.
 - b. Revise the plan and the tree canopy coverage schedule to demonstrate conformance with the Tree Canopy Coverage Ordinance.
2. Prior to certificate of approval, remove the Section 4.10 schedule and replace it with the Section 4.2 schedule and landscape planting on the landscape plan if Kent Town Drive is a public roadway.
3. Prior to certification of the special exception, revisions shall be made to the site and landscape plan by providing a schedule to demonstrate conformance with Section 4.6 of the 2010 *Prince George's County Landscape Manual*.

ITEM: 4E

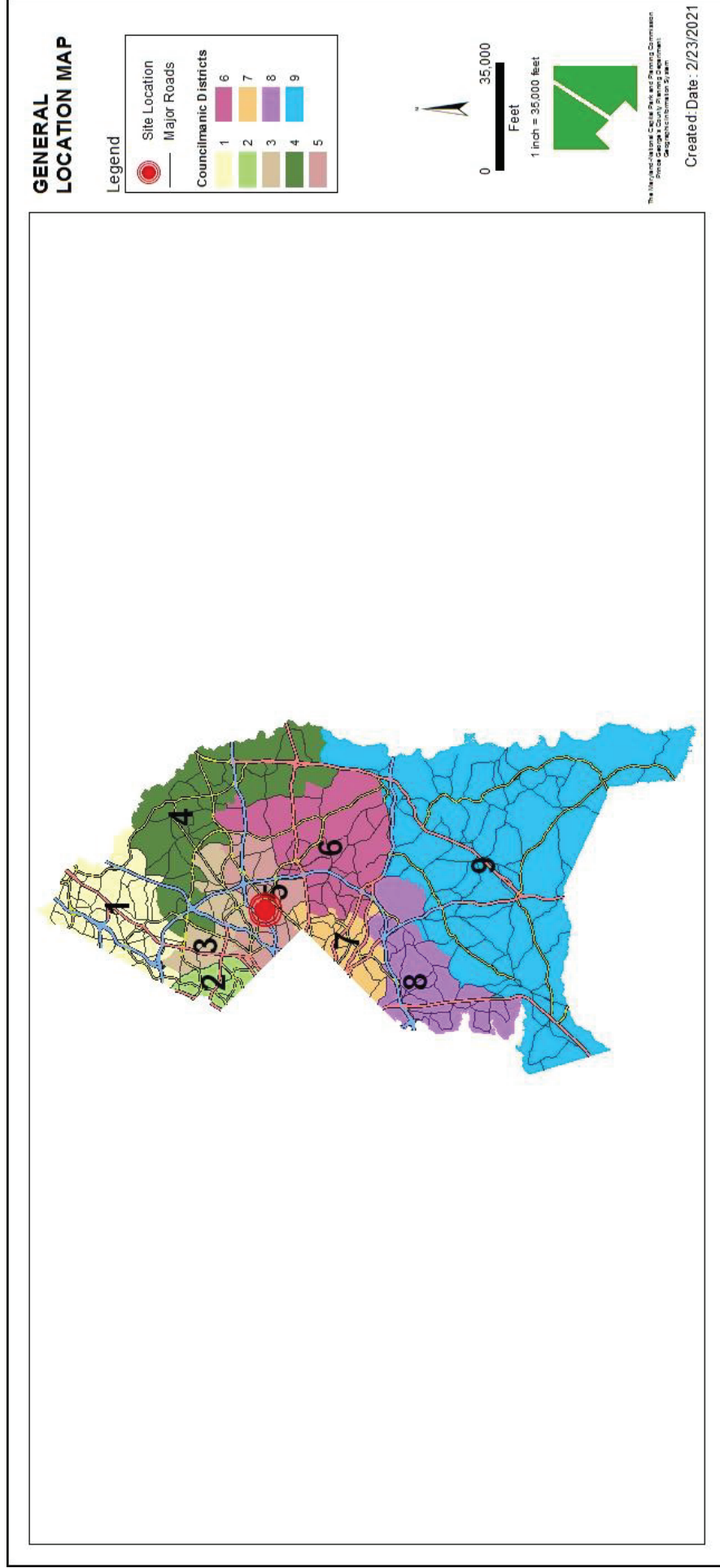
CASE: SE-4834

ROYAL FARMS #411, KENT VILLAGE

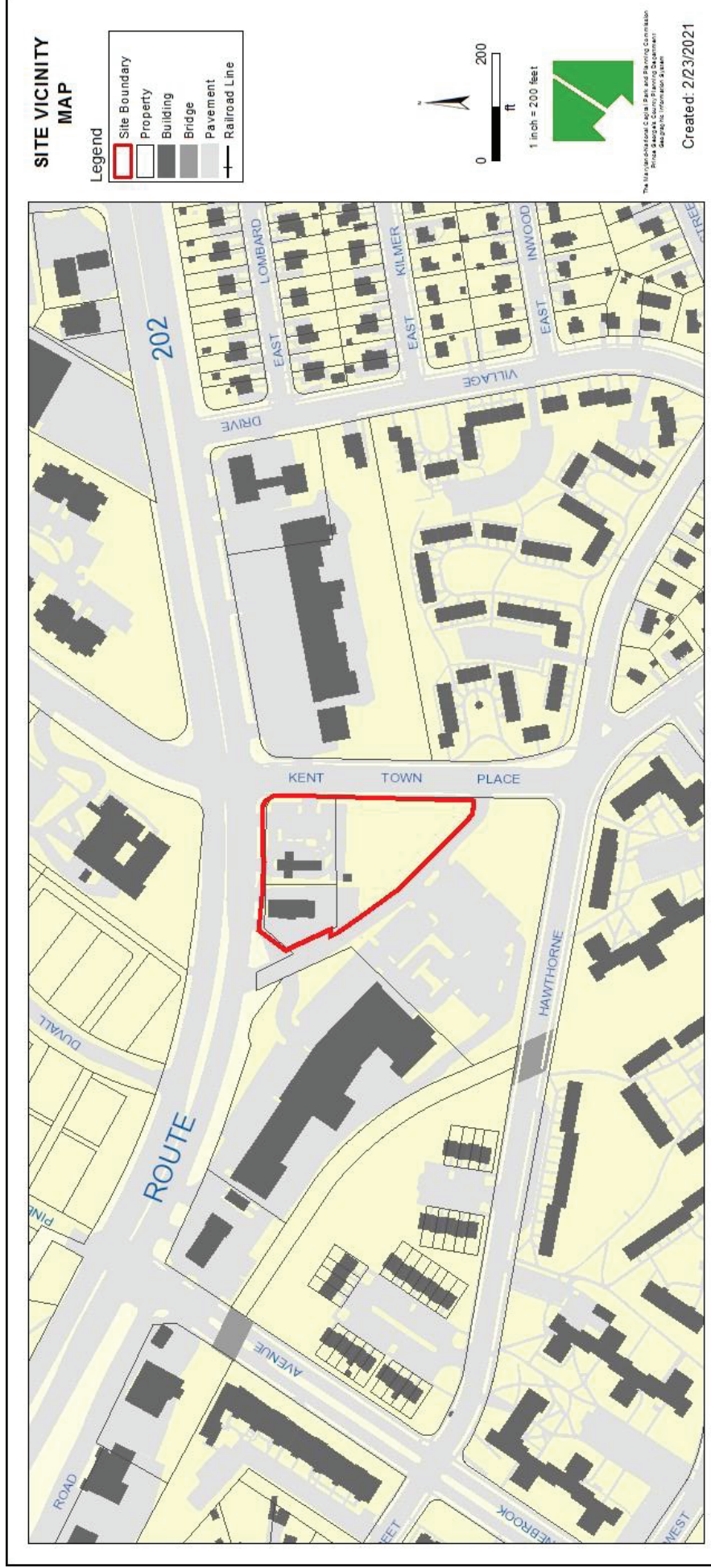
THE PRINCE GEORGE'S COUNTY PLANNING DEPARTMENT



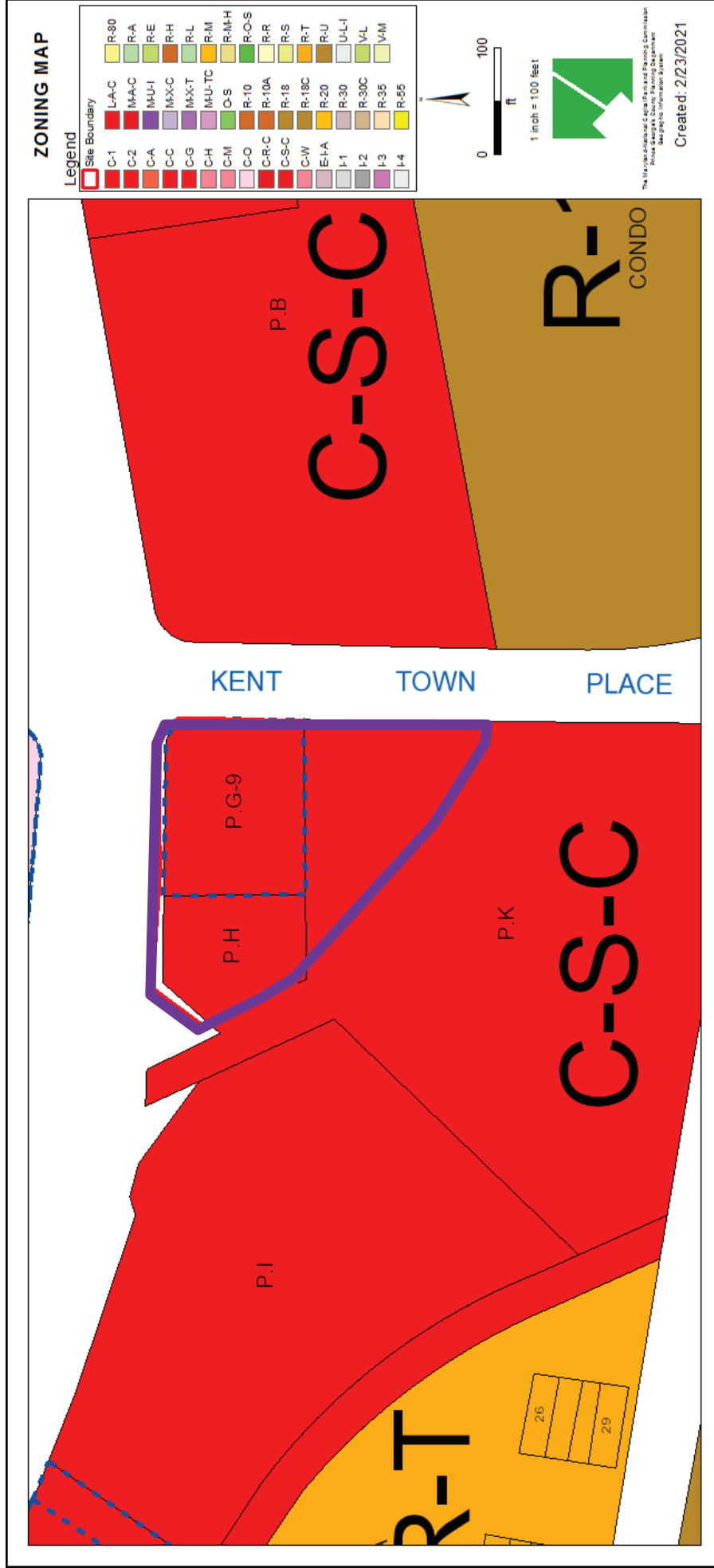
GENERAL LOCATION MAP



SITE VICINITY



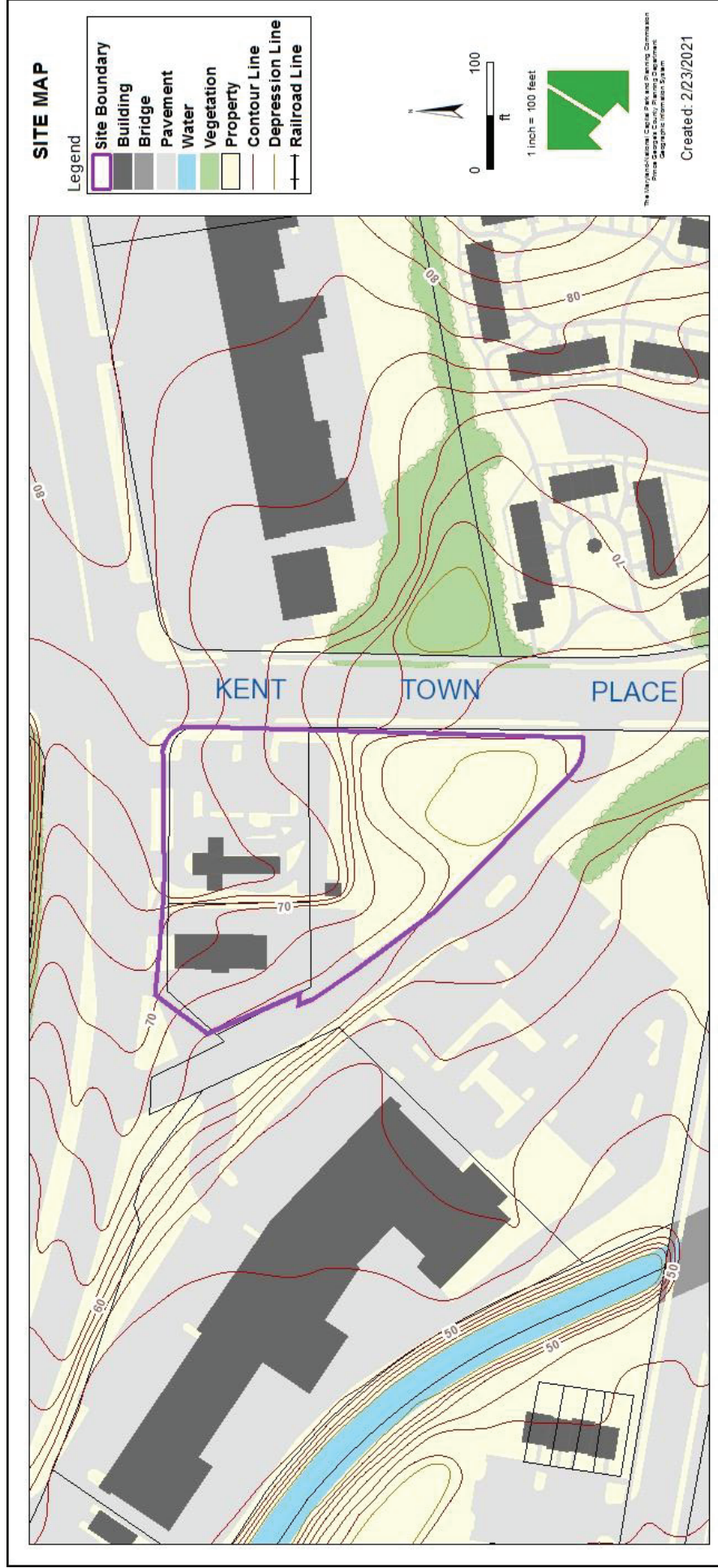
ZONING MAP



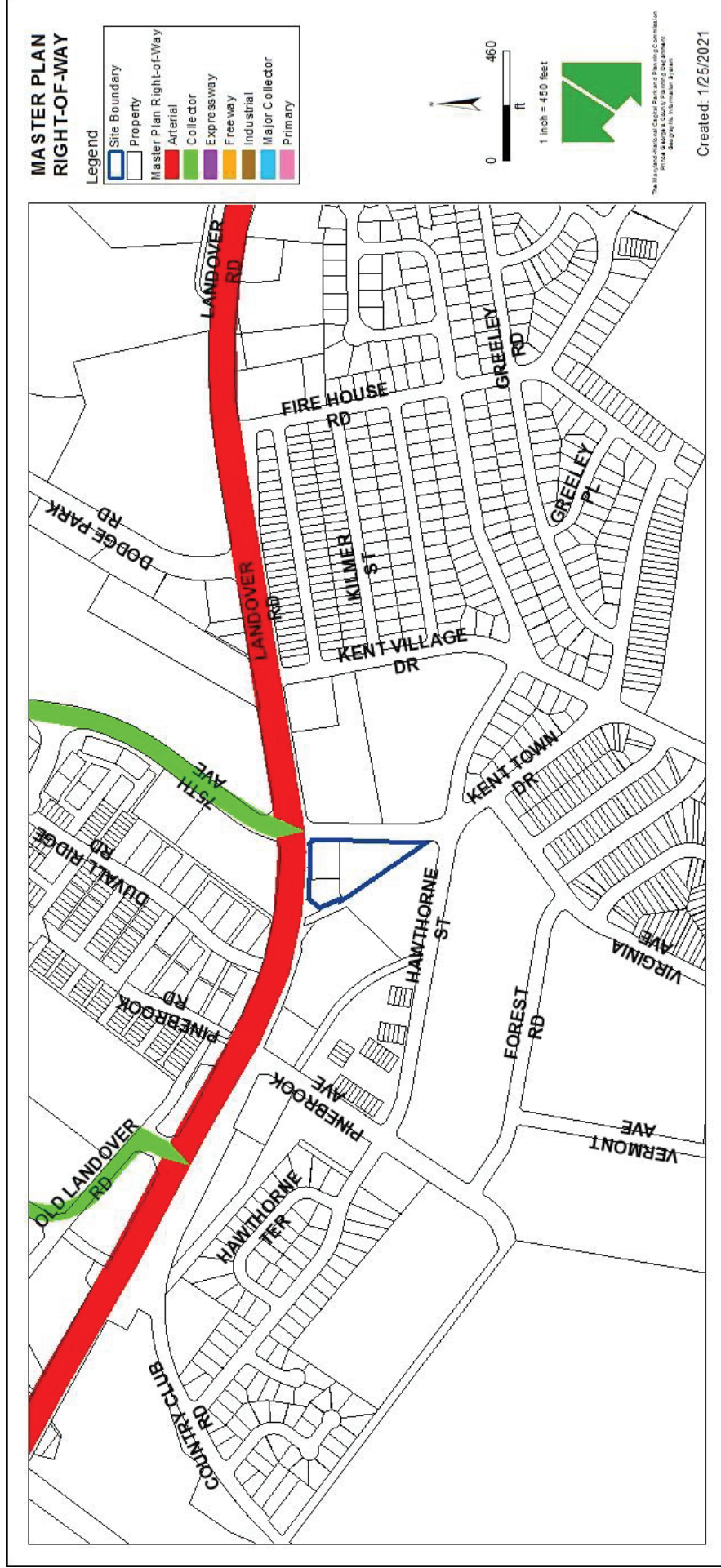
AERIAL MAP



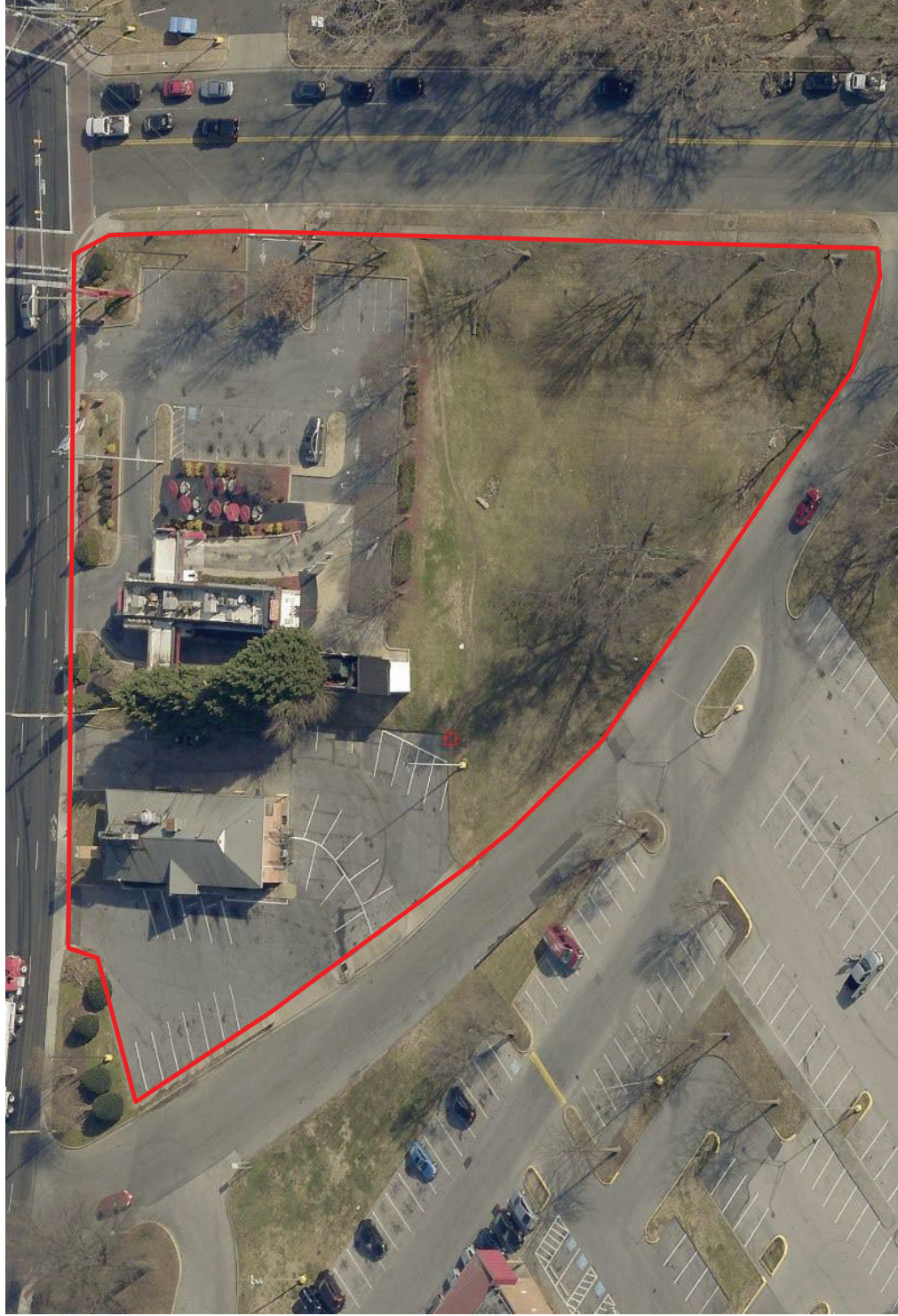
SITE MAP



MASTER PLAN RIGHT-OF-WAY MAP



BIRD'S-EYE VIEW WITH APPROXIMATE SITE BOUNDARY OUTLINED





CALL 411 FOR MORE
 BEFORE YOU GO
 1-753-THE-LAW
 1-753-825-5273

GRAPHIC SCALE IN FEET
 SCALE: 1"=20'

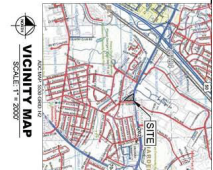
SITE PLAN
 SCALE: 1"=20'



| DESCRIPTION | DATE | REVISIONS | APPROVED |
|-------------|------------|-----------|----------|
| DESIGN | 02/24/2021 | 1 | APPROVED |
| REVISIONS | | | |
| DATE | | | |
| BY | | | |
| APPROVED | | | |
| DATE | | | |
| BY | | | |

| ITEM | REVISIONS | DATE | APPROVED |
|------|-----------|------------|----------|
| 1 | 1 | 02/24/2021 | APPROVED |
| 2 | 2 | | |
| 3 | 3 | | |
| 4 | 4 | | |
| 5 | 5 | | |
| 6 | 6 | | |
| 7 | 7 | | |
| 8 | 8 | | |
| 9 | 9 | | |
| 10 | 10 | | |

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



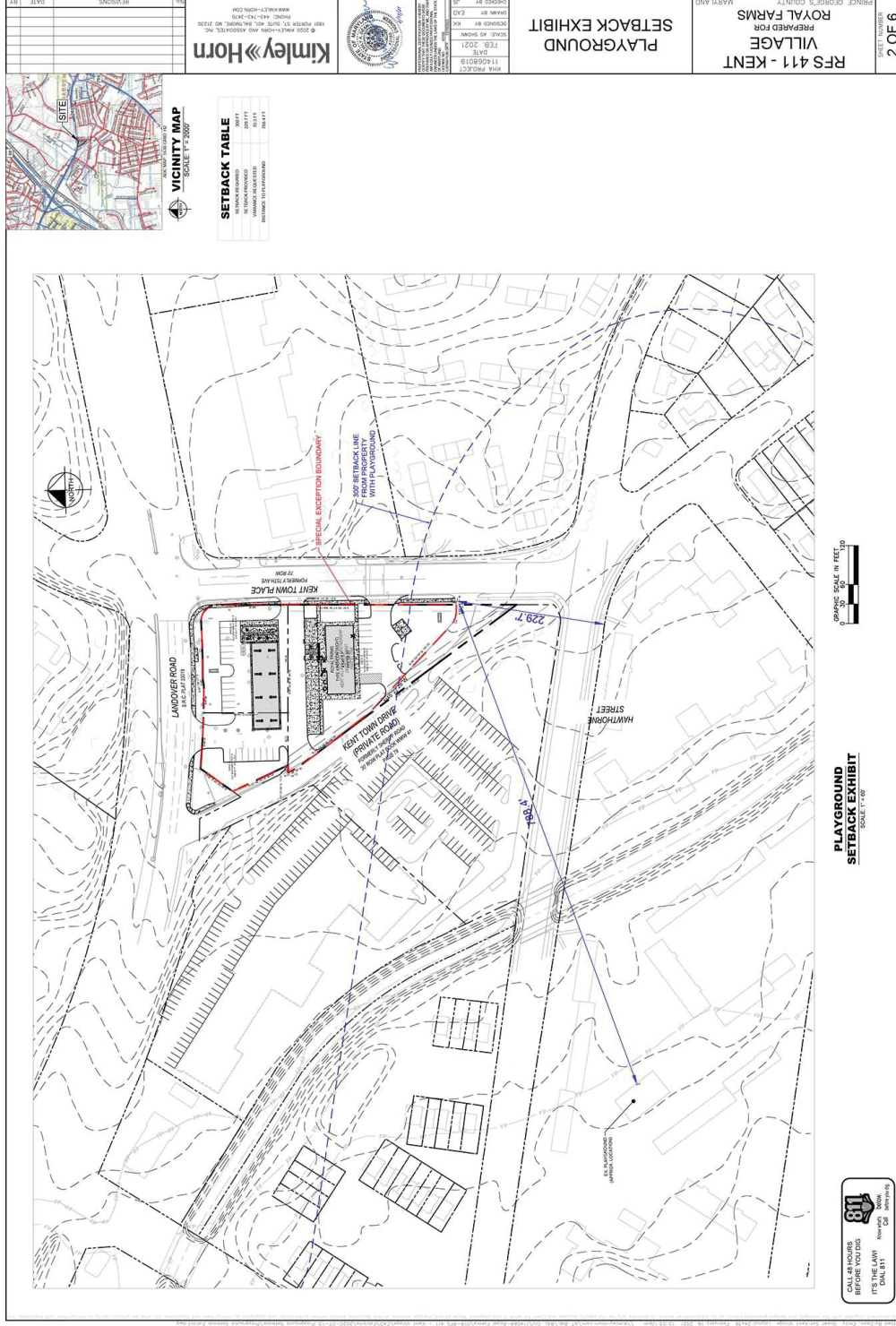
RFS 411 - KENT VILLAGE
 PREPARED FOR
 ROYAL FARMS
 SE-4834
 PRINCE GEORGE'S COUNTY MARYLAND

SITE PLAN

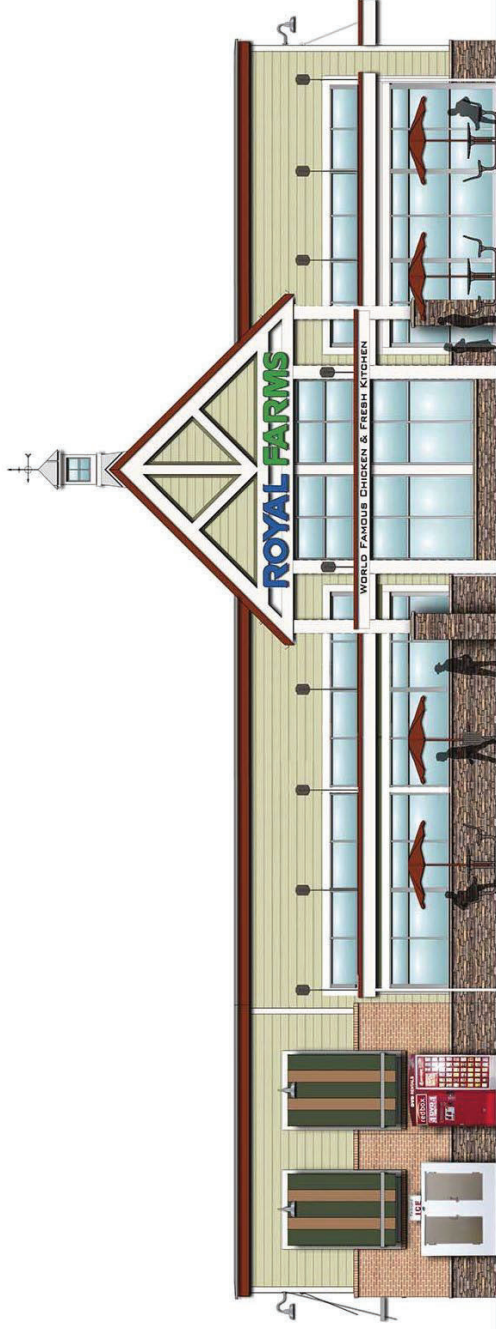
KimleyHorn
 © 2020 KIMLEY-HORN AND ASSOCIATES, INC.
 1807 FORSTER ST., SUITE 402, BALTIMORE, MD 21230
 PHONE: 443-742-8420
 WWW.KIMLEY-HORN.COM



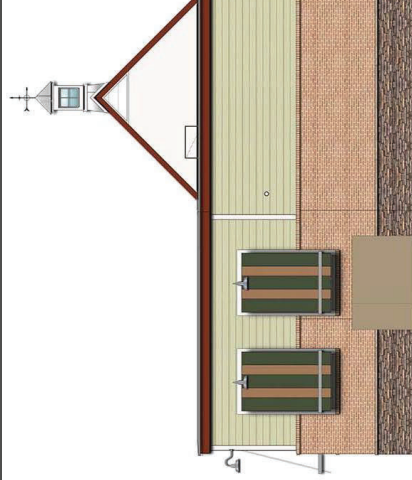
PLAYGROUND SETBACK EXHIBIT



FRONT AND REAR ELEVATIONS

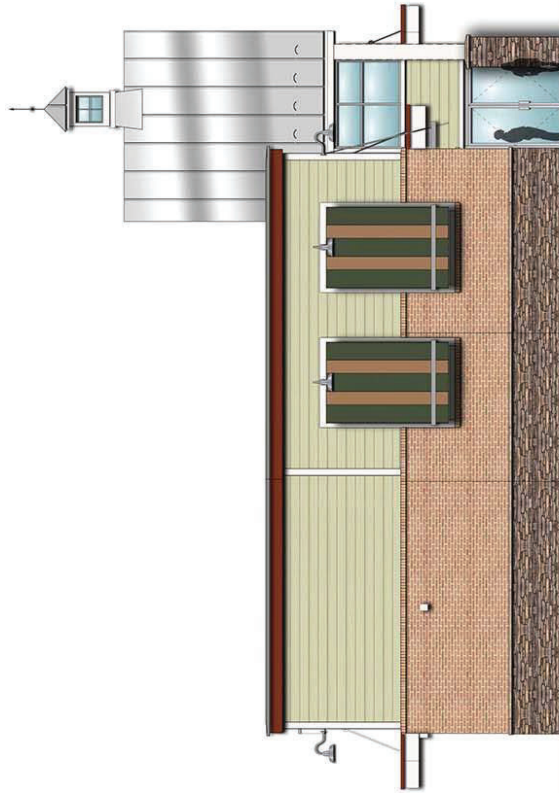


Front Elevation
1/4" = 1'-0"

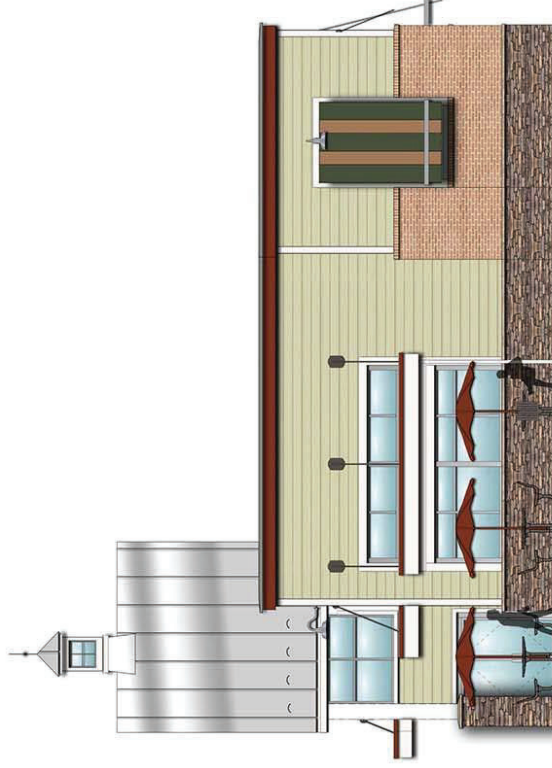


Rear Elevation
1/4" = 1'-0"

RIGHT AND LEFT ELEVATIONS



Right Elevation
1/4" = 1'-0"



Left Elevation
1/4" = 1'-0"

ROYAL FARMS

Royal Farms #411
7415 Landover Road, Hyattsville MD 20785
Proposed Elevations
July 10, 2020

RA RATCLIFFE
ARCHITECTS

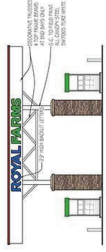
10403 Stevenson Road • Stevenson, Maryland 21153
Phone: 410-541-2000 • Fax: 410-544-8819 • post@ratcliffe.com



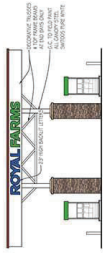
GAS CANOPIES, SIGNAGE AND SCREENING ENCLOSURES



5 FUEL CANOPY REAR ELEVATION
1/8" = 1'-0"



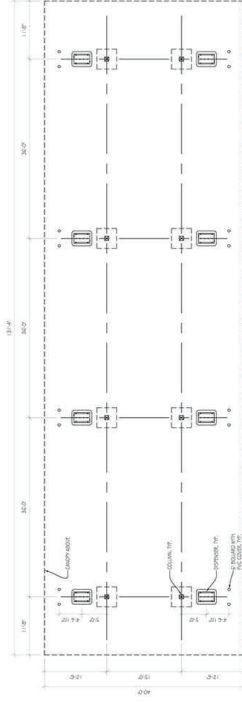
3 FUEL CANOPY SIDE ELEVATION
1/8" = 1'-0"



4 FUEL CANOPY SIDE ELEVATION
1/8" = 1'-0"



2 FUEL CANOPY FRONT ELEVATION
1/8" = 1'-0"



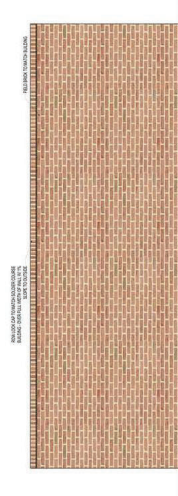
1 FUEL CANOPY PLAN
1/8" = 1'-0"



Dumpster Enclosure - Front Elevation
1/2" = 1'-0"



Fuel Sign Elevation
1/2" = 1'-0"



Dumpster Enclosure - Rear Elevation
1/2" = 1'-0"



STATEMENT OF JUSTIFICATION
SE-4834
Royal Farms #411 Kent Village

OWNER: Kent Village LTD Partnership
7007 Heatherhill Road
Bethesda, Maryland 20817

APPLICANT: RF Landover, LLC
d/b/a Royal Farms
3611 Roland Avenue
Baltimore, Maryland 21211

ATTORNEY/AGENT: Matthew C. Tedesco, Esq.
McNamee, Hosea, Jernigan, Kim, Greenan & Lynch, P.A.
6411 Ivy Lane, Suite 200
Greenbelt, Maryland 20770
(301) 441-2420 Voice
(301) 982-9450 Fax
MTedesco@mhlawyers.com

CIVIL ENGINEER: Kimley-Horn
Attn: Emily Dean, P.E.
1801 Porter Street, Suite 401
Baltimore, Maryland 21230
(443) 884-5085
Emily.Dean@kimley-horn.com

REQUEST: Pursuant to Sections 27-317, 27-355(a) and 27-358(a), a Special Exception is being filed to develop a food or beverage store in combination with a gas station in the C-S-C Zone; and a variance to Section 27-358(a)(2) is being requested.

I. DESCRIPTION OF PROPERTY

1. Addresses-7401 and 7415 Landover Road, and 2500 Kent Town Place, Hyattsville, MD 20785.
2. Use - Food or Beverage Store in combination with a Gas Station.
3. Incorporated Area-None.
4. Council District - 5.
5. Property-Parcels G-9, Hand P/0 K.
6. Total Area- 4.479 Acres. (special exception boundary)
7. Tax Map/Grid-59/D2.

8. Location - The site is located on the southwest quadrant of the intersection of Landover Road (MD 202) and Kent Town Road.
9. Zoned: C-S-C.
10. 200 Sheet - 204NE06.

II. COMMUNITY/NEIGHBORHOOD

The subject property is located in the 2014 *Approved Landover Metro Area and MD 202 Corridor Sector Plan and Sectional Map Amendment*. The property is bounded to the north by Landover Road (MD Route 202) and beyond by residential apartments and multifamily unit uses in R-18, C-S-C and C-O Zones; to the east by Kent Town Place and beyond by a shopping center and residential condominiums in C-S-C and R-18 Zones; to the south by Hawthorne Street and beyond by residential apartments in the R-18 Zone; and to the west by a shopping center in the C-S-C Zone.

For zoning purposes, the applicant's proposed neighborhood, as graphically depicted below, is defined by the following boundary:

- North: Generally, extending from the north end of the Landover Metro Station parking lot to the rear of Dodge Park Shopping Center.
- East: MD 704 (Martin Luther King Highway).
- South: Cattail Branch.
- West: Penn Line Rail Road.



The character of the community/neighborhood is generally a mix of residential and commercial/ industrial uses.

III. APPLICANT'S PROPOSAL

The special exception boundary is currently improved with two buildings, with various dates of construction. The total area of the property (i.e., the boundary of the proposed special exception) is 4.479 acres, and is known as Parcels G-9, Hand part of K, which are reflected on plats WWW 41 at Page 79; WWW 57 at Page 22; and NLP142 at Page 52. Parcel H was developed circa 1964 as a takeout restaurant. Parcel G-9 was developed circa 1998 and is a Checkers restaurant. The subject property is subdivided and contains approximately 4,011 square feet of existing development. All existing structures on the subject property (i.e., within the boundary of the special exception area) are proposed to be razed and replaced with a 4,649 square foot food or beverage store and eight (8) multi-product fueling dispensers to accommodate a new and modern Royal Farms.

A Royal Farms is unique in that it offers various convenience needs to its patrons and serves as a food and beverage store, a quasi-eating or drinking establishment (with indoor and outdoor seating), and offers the retail sale of gasoline. It is incorrect to broadly label a Royal Farms as a "gas station" or service station. This is especially true given the definition of a "gas station" in the Zoning Ordinance¹ does not accurately capture or define Royal Farms.

Regarding Royal Farms, its mission is "To Be the Best." The proposed development will include a 4,649 square foot food and beverage store, indoor and outdoor seating, and eight (8) multi-product gas dispensers, which will facilitate the development of this property with a modern and attractive commercial retail development that satisfies the needs of the modern consumer. The proposed project will result in a new attractive development that will use sustainable building materials; will utilize environmental site design techniques to the fullest extent practical; will add attractive landscaping; will provide for the convenience needs of the surrounding community; will create jobs for the local economy; and will increase the County's tax base.

Design Features

¹ (99) Gas Station (Automobile Filling Station): (A) A "Building" or "Lot" having pumps and storage tanks, where the primary "Use" is the retail sale of motor vehicle fuels. No storage or parking space shall be offered for rent. Vehicle-related services may be offered incidental to the primary "Use," such as:

- (i) Sales and servicing of spark plugs, batteries, and distributors and distributor parts; tune-ups;
 - (ii) Tire servicing and repair, but not recapping or regrooving;
 - (iii) Replacement of mufflers and tail pipes, **water** hoses, fan belts, brake fluid, light bulbs, fuses, floor mats, windshield wipers and wiper blades, grease retainers, wheel bearings, mirrors, and the like;
 - (iv) Washing and polishing, and sale of automotive washing and polishing materials;
 - (v) Greasing, lubrication, and radiator flushing;
 - (vi) Minor servicing and repair of carburetors, fuel, oil and water pumps and lines, and minor engine adjustments not involving removal of the head or crank case or racing the engine;
 - (vii) Emergency wiring repairs;
 - (viii) Adjusting and repairing brakes;
 - (ix) Provision of road maps and other information to travelers.
- (B) Services allowed at a "Gas Station" shall not include major chassis or body work; repair of transmissions or differentials; machine shop work; straightening of body parts; or painting, welding, or other work involving noise, glare, fumes, smoke, or other characteristics to an extent greater than normally found in "Gas Stations."

The site plan proposes a total of four points of vehicular access, all of which are full access entrances. Currently, there are four points of access on Landover Road (MD 202); however, with the proposed redevelopment, the applicant is proposing to consolidate these four access points into one on Landover Road (MD 202). Another access point is proposed on Kent Town Place (currently, there is one), and two relocated entrances are proposed on the internal drive (currently there are two). The proposed site design places the primary gas station canopy, with four pump islands containing eight multi-product dispensers, parallel to the alignment of Landover Road (MD 202) (a master planned arterial roadway) and the food or beverage store to the south. This design ensures that the gas pumps are along Landover Road (MD 202), which is a heavily traveled arterial road, and the convenience store acts as a buffer to the higher density residential developments across Kent Town Place and Hawthorne Street. Surface parking is proposed abutting the front and back of the proposed store, and along the perimeters of the property to ensure safe and efficient on-site circulation. In addition, and more importantly, the proposed layout creates a safe environment for patrons utilizing all of the services offered by Royal Farms. Further, as an expert in the field and having designed numerous sites that are aesthetically pleasing and safe and efficient, the applicant very strongly contends that its layout will result in a very successful and high quality development.

The retail building for the Royal Farms is designed to reflect a somewhat rural aesthetic which is a trademark of Royal Farms. The new model has been constructed throughout Maryland and most recently in a number of locations throughout Prince George's County. The building design incorporates a band of composite siding at the top portion of the building, brick veneer in the middle, and stone veneer at the base of the building. The main entrance projects from the rest of the building and features two side entry points. The front elevation is accented with a shed-style roof over the main entrance supported by stone veneer and painted steel columns and topped with a cupola, and over-sized windows that help break up the horizontal mass. The rear elevation presents long uninterrupted bands of the composite siding, red brick and stone veneer, with one additional entrance to the store. The applicant is proposing two (2) twenty-five foot tall pylon signs with a decorative stone base: one on its frontage on Landover Road, east of the site entrance, and another along the frontage of Kent Town Place, located between Kent Town Place and the intersection with the internal drive.

There is no question that the proposed exterior building materials, which include stone, brick, and composite siding, are of notable quality and durability. The pumps and canopy are reflective of the architecture and materials of the main building. Due to the visibility of the pumps, canopy, and retail building, the design of these features are important and are of high quality. The quality of design is currently on display at many locations throughout the County. The applicant anticipates that the proposed development will have a similar positive impact to the County in the form of new jobs, reinvestment, increased taxes, etc. As evidenced by a number of previously approved detailed site plans, the applicant uses high end finishes, and designs a project that is often used as the model for other similar uses. Indeed, from 2006-2008, the applicant began to incorporate energy and water-efficient "green" building features, and by 2010, the applicant had fully embraced sustainability and has since incorporated sustainable building designs into its construction. Since 2010, all of the vegetable oil used to prepare Royal Farms' famous chicken has been converted into biofuel. The majority of materials are purchased locally, and over 85% of all waste from construction is recycled or repurposed.

Pursuant to Sections 27-3 I 7(a), 27-355(a) and 27-358(a), a Special Exception is being filed to develop a food or beverage store in combination with a gas station. As discussed in detail below, the applicant contends that all of the requirements for a special exception site plan have been met.

IV. CRITERIA FOR APPROVAL

Section 27-317. Required findings.

(a) A Special Exception may be approved if:

- (1) The proposed use and site plan are in harmony with the purpose of this Subtitle;**
- (2) The proposed use is in conformance with all the applicable requirements and regulations of this Subtitle;**

COMMENT: The plan complies with the general purposes of this Subtitle, and is in compliance with all requirements and regulations set forth in Subtitle 27. Specifically, a food or beverage store in combination with a gas station is a permitted use, subject to special exception approval in the C-S-C Zone and the proposal complies with the specific gas station and food or beverage requirements set forth in Sections 27-358(a)2 and 27-355(a), respectively.

Specifically, the general purposes of the Zoning Ordinance are found in Section 27-102. The instant Application satisfies the following purposes for the reasons provided:

To protect and promote the health, safety, morals, comfort, convenience, and welfare of the present and future inhabitants of the County.

The use is one that serves the needs of all County residents that rely on their automobile as a means of transportation. The applicant will also be providing much needed stormwater management and landscaping that currently does not exist on site. Finally, the food or beverage store will provide citizens and patrons with a variety of food options to serve their needs in a convenient and expedited way. Indeed, the food options within a Royal Farms are very similar to grocery stores, but on a smaller scale to serve the convenient needs of the community. Food options are not limited to Royal Farms' famous fried chicken, but also include a number of other healthy food options throughout the store and on its menu. Accordingly, this purpose is met.

To implement the General Plan, Area Master Plans, and Functional Master Plans.

The 2014 General Plan ("Plan 2035") placed the property within the Established Communities Growth Policy Area. This proposal furthers Plan 2035's vision of context sensitive infill development. Moreover, Plan 2035, Generalized Future Land Use recommends mixed uses for the subject property. This proposal includes the co-location of two uses in combination with the other (a food or beverage store and gas station); accordingly, this purpose is satisfied.

To promote the conservation, creation, and expansion of communities that will be developed with adequate public facilities.

Redevelopment of the subject property in the manner proposed will have no negative impact on the public facilities within the area since there will be few additional vehicular trips and no other public facility is impacted by the uses. Indeed, because the redevelopment proposes to consolidate four existing access points onto MD 202 into one, the transformational public facility for safe and efficient access is being served.

To promote the most beneficial relationship between the uses of land and buildings and protect landowners from adverse impacts of adjoining development.

² Saving the requested variance to Section 27-358(a)(2) regarding the distance between the special exception boundary and property that has a playground, which is discussed in greater detail in Section V of the this Statement of Justification.

The gas station and food or beverage store are to be developed in accordance with all applicable laws concerning screening and buffering, and the photometric plan will not impact adjacent uses. This purpose is, therefore, met. Notwithstanding, due to extraordinary conditions, the applicant is seeking a variance from Section 27-358(a)(2) for relief from the 300' setback from property that has a playground. The basis for this variance is articulated in greater detail below in Section V.

To encourage economic development activities that provide desirable employment and a broad, protected tax base/to ensure the social and economic stability of all parts of the County.

The uses ensure that a certain number of jobs will be provided and that commercial property taxes will be increased and paid into the County's coffers. Moreover, the redevelopment of the property, with a new modern commercial development, will result in higher tax assessments, which will encourage economic redevelopment; not to mention the additional tax revenue that will be created by the co-location of the uses in the form of sales tax and gasoline tax.

To lessen the danger and congestion of traffic on the streets, and to insure the continued usefulness of all elements of the transportation system for their planned functions.

The proposed uses will bring a relatively small number of additional trips to the site, as most vehicle trips associated with the proposed use are pass-by trips that are already on the road networks. As mentioned previously, the significant reduction of entrances along MD 202 into the site and the relocation and addition of the other entrances on Kent Town Road and the private internal driveway will also lessen the danger and congestion of traffic in that area. Although the use is an auto-oriented use, accommodations for pedestrian and bicyclists - in the form of sidewalks and crosswalks - are being accommodated.

The purposes of the commercial zones found in Sections 27-446 and 454 are also met since the two uses provide convenience to the residents and businesses in the area; there will be sufficient buffering and screening to lessen any impact upon adjacent uses; the uses meet the intent of the General and Sector Plans (as discussed below); and, the new uses are more compatible with the other commercial uses at the neighboring intersection and are compatible with general retail uses.

Accordingly, the provisions of Section 27-317(a)(1) are met.

(3) The proposed use will not substantially impair the integrity of any validly approved Master Plan or Functional Master Plan, or, in the absence of a Master Plan or Functional Master Plan, the General Plan;

COMMENT: SE-4834 conforms to this finding. The Approved Prince George's County General Plan, Plan 2035, places the property within a commercial designation which is described as "Retail and business areas, including employment uses such as office and service uses" (Pages 100-101). The Approved Landover Metro Area and MD 202 Corridor Sector Plan's South Landover Road Focus Area Vision (Pages 52-54) in the short-term, recommendations includes improvements to streetscape on the south side of Landover Road, which the applicant has included in the special exception site plan. The Mid-Term Vision and Recommendations, include using the underutilized surface parking lot of Kent Village Shopping Center (to the west of the subject site) to begin to create mixed-use residential units and rezoning the shopping center to allow for the mix of use. The Sector Plan, approved in 2014, did not itself, rezone the South Landover Road Focus Area for mix-use residential. Although, in the long term, the South Landover Road Focus Area is envisioned as a mixed-residential area, and the residential designation will be dominant, the mixed-use designation allows for other types of uses such as small-scale, neighborhood-serving commercial uses. Again, the property is located in the C-S-C Zone, and the use is permitted subject to a special

exception. At the time of ZHE hearing, the applicant also intends to provide a Land Planning Report from an expert Land Planner, which will further supplement this finding.

(4) The proposed use will not adversely affect the health, safety, or welfare of residents or workers in the area;

COMMENT: SE-4834 provides for a safe internal circulation for vehicles and pedestrians, as well as a safe ingress and egress of vehicles from Landover Road, Kent Town Place and the internal road. The applicant is proposing to reduce the number of access points along MD 202 from four to one, which will create a far safer environment for the citizens, pedestrian, and motorists in the area and the public traveling on MD 202. The uses will be developed in a context sensitive manner; will provide up to date stormwater management; and will provide convenience goods to the traveling public and residents/workers in the area. Finally, since the food choices within a Royal Farms are similar to that of a grocery store, just in a more convenient - grab and go - format. Healthy food options are available if desired. Accordingly, it will not adversely affect the health, safety, or welfare of residents/workers in the area, nor be detrimental to the use or development of adjacent properties or the general neighborhood.

(5) The proposed use will not be detrimental to the use or development of adjacent properties or the general neighborhood; and

COMMENT: The proposed food or beverage store in combination with a gas station is located in the middle of an existing fully-developed commercial strip on the south side of Landover Road. The existing uses on the subject property, a carry-out restaurant and a fast-food restaurant with drive-through service, are of comparable intensity and character to the proposed food or beverage store and gas station. Many other comparable uses exist in near proximity within the same strip, particularly including other gas stations roughly a thousand feet equidistant both to the east and west and another comparable food and beverage store immediately across Kent Town Place, so the character of the general neighborhood's land use will not change substantively from that which now exists. Additionally, there are other even more visually-intense land uses in the immediate vicinity, including vehicle storage yards a quarter-mile to the west, and an older industrial park on the north side of Landover Road. The visual character of the proposed use, with its conformance to modern landscaping and tree canopy coverage standards, will present a better appearance than the surrounding older, nonconforming commercial development.

Nearby residential uses are all multifamily dwellings or higher-density attached dwellings, and are separated from the proposed use by either the divided arterial roadway of Landover Road, or else by vehicular entrances oriented to Hawthorne Street, a block to the south.

In summary, the fully-developed character of the general neighborhood, the compatibility of the proposed use with the surrounding existing commercial development, its conformance to modern site design standards, and the higher-density character and the separation of circulation from the nearby residential development indicate that the proposed uses will not be detrimental to the use or development of adjacent properties or the general neighborhood.

(6) The proposed site plan is in conformance with an approved Type 2 Tree Conservation Plan; and

(7) The proposed site plan demonstrates the preservation and/or restoration of the regulated environmental features in a natural state to the fullest extent possible in accordance with the requirement of Subtitle 24-130(b)(5).

COMMENT: A Natural Resources Inventory Equivalency Letter (NRI-046-2020) and Woodland Conservation Letter of Exemption (S-036-2020) were approved for the property due to the fact that no

regulated environmental features are located on the property or no on-site regulated environmental features will be impacted and the property contains less than 10,000 square feet of woodland. These findings have been met.

(b) In addition to the above required findings, in a Chesapeake Bay Critical Area Overlay Zone, a Special Exception shall not be granted:

- (1) Where the existing lot coverage in the CBCA exceeds that allowed by this Subtitle, or**
- (2) Where granting the Special Exception would result in a net increase in the existing lot coverage in the CBCA.**

COMMENT: SE-4834 is not located within a Chesapeake Bay Critical Overlay Zone, this finding does not apply.

C-S-C ZONE REQUIREMENTS

The proposed food or beverage store is a permitted use in the C-S-C Zone. The inclusion of a gas station is permitted subject to the approval of a special exception in the C-S-C Zone. Specifically, the application complies with **Section 27-358** as follows:

Section 27-358

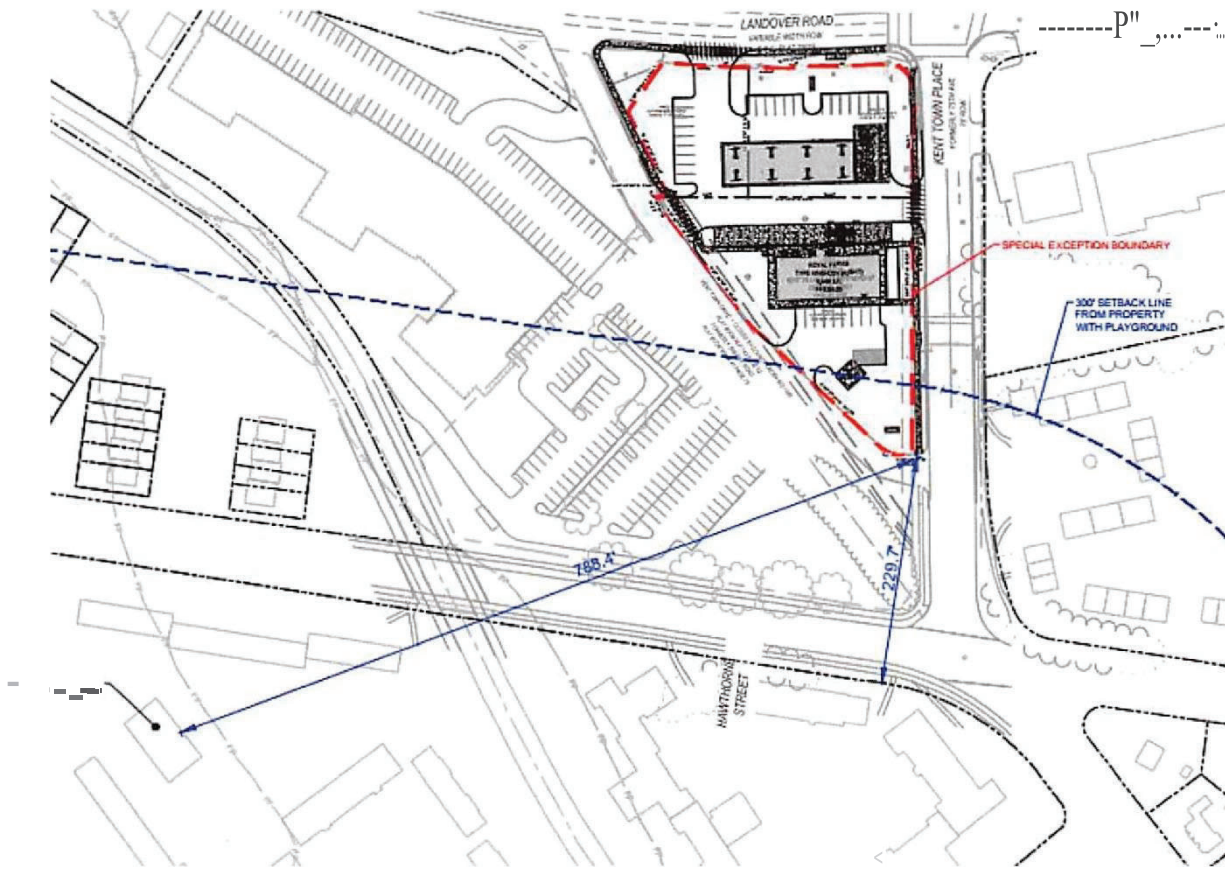
(a) A gas station may be permitted, subject to the following:

- (1) The subject property shall have at least one hundred and fifty (150) feet of frontage on and direct vehicular access to a street with a right-of-way width of at least seventy (70) feet;**

COMMENT: The subject property is completely surrounded by roads, and has approximately 250 linear feet of frontage along MD 202 and 392 linear feet of frontage on Kent Town Place. SE-4834 proposes one access point on Landover Road (MD 202), which has a variable width right-of-way width that measures approximately 120 feet, and is designated as a master planned arterial (A-20). Two access points are proposed Kent Town Place, which has a platted right-of-way width of 70 feet.

- (2) The subject property shall be located at least three hundred (300) feet from any lot on which a school, outdoor playground, library, or hospital is located;**

COMMENT: The subject property is located within the 300 foot radius of a lot with an outdoor playground. A variance to the 300 foot requirement is being requested with SE-4834. See Section V.



- (3) The use shall not include the display and rental of cargo trailers, trucks, or similar uses, except as a Special Exception in accordance with the provisions of Section 27-417.**

COMMENT: There will be no display or rental of cargo trailers, trucks, or similar uses, and a note to this effect is provided on the site plan.

- (4) The storage or junking or wrecked motor vehicles (whether capable of movement or not) is prohibited:**

COMMENT: The applicant will not store motor vehicles at the subject property, and note to this effect is provided on the site plan.

- (5) Access driveways shall not be less than 30 feet wide unless a lesser width is allowed for a one-way driveway by the Maryland State Highway Administration or the County Department of Public Works and Transportation, whichever is applicable, and shall be constructed in accordance with the minimum standards required by the County Road Ordinance or the Maryland State Highway Administration regulations, whichever is applicable. In the case of a corner lot, a driveway may begin at a point not less than 20 feet from the point of curvature (pc) of the curb return or the point of curvature of the edge of paving at an intersection without curb and gutter. A driveway may begin or end at a point not less than 12 feet from the side or rear lot line of any adjoining lot.**

COMMENT: This proposal provides for a total of four access driveways: one 35' wide access driveway onto Landover Road (MD 202); one 35' wide access driveways onto Kent Town Place, and two 35' wide

access driveways onto the internal road. All proposed driveways are more than 20' from the point of curvature. The rear property line requirement is not applicable to this property.

(6) Access driveways shall be defined by curbing;

COMMENT: As shown on the special exception site plan submitted in conjunction with this application, the access driveways are defined by curbing.

(7) A sidewalk at least five (5) feet wide shall be provided in the area between the building line and those areas serving pedestrian traffic;

COMMENT: An 8' wide sidewalk is provided along the western and southern sides of the proposed building, a 6' wide sidewalk is provided along the eastern side of the proposed building, and a 12' wide sidewalk along the northern side of the proposed building that serve pedestrian traffic, which allow pedestrians to move safely between the parking field(s) and the store.

(8) Gasoline pumps and other service appliances shall be located at least twenty-five (25) feet behind the street line;

COMMENT: This criteria is met. All gasoline pumps and service appliances are located more than twenty-five (25) feet behind the street lines. Indeed, the gasoline pumps are approximately 76' from Landover Road, approximately 51' from Kent Town Place, and approximately 63' from the internal road.

(9) Repair service shall be completed within forty-eight (48) hours after the vehicle left for service. Discarded parts resulting from any work shall be removed promptly from the premises. Automotive replacement parts and accessories shall be stored either inside the main structure or in an accessory building used solely for the storage. The accessory building shall be wholly enclosed. The building shall either be constructed of brick (or another material similar in appearance to the main structure) and placed on a permanent foundation, or it shall be entirely surrounded with screening material. Screening shall consist of a wall, fence, or sight-tight landscape material, which shall be at least as high as the accessory building. The type of screening shall be shown on the landscape plan; and

COMMENT: There is no vehicle repair service proposed.

(10) Details on architectural elements such as elevation depictions of each facade, schedule or exterior finishes, and description of architectural character of proposed buildings shall demonstrate compatibility with existing and proposed surrounding development.

COMMENT: Architectural elevations for the proposed store and gas canopy have been submitted in conjunction with the special exception site plan. The applicant believes that the architectural character of the proposed store, gas canopy, and pump islands (with the use of brick, stone and metal) will be consistent with the surrounding development/community, and is compatible with the commercial character of the area.

(b) In addition to what is required by section 27-296(c), the site plan shall show the following:

- (1) The topography of the subject lot and the abutting lots (for a depth of at least fifty (50) feet;**
- (2) The location and type of trash enclosure; and**
- (3) The location of exterior vending machines or vending area.**

COMMENT: The site plan submitted in conjunction with this application shows the topography of the subject property as well as the topography of the abutting property for a depth of at least 50 feet. The

location and the type of existing trash enclosure to serve the site are shown on the site plan south of the proposed store and are reflected on the detail sheets, respectively. There are no vending machines proposed.

- (c) Upon abandonment of the gas station, the Special Exception shall terminate and all structures exclusively used in the business (including underground storage tanks), except buildings, shall be removed by the owner of the property. For the purpose of this subsection, the term "abandonment" shall mean nonoperation as a gas station for a period of fourteen (14) months after the retail services cease.

COMMENT: The applicant will comply with this provision, if even applicable.

(d) The District Council shall find that the proposed use:

- (1) Is necessary to the public in the surrounding area; and**
- (2) Will not unduly restrict the availability of land, or upset the balance of land use, in the area for other trades and commercial uses.**

COMMENT: The Zoning Ordinance and the County Code do not define the term "necessary." However, undefined words or phrases shall be construed according to common usage, while those that have acquired a particular meaning in the law shall be construed in accordance with that meaning. (Prince George's County Code, Section 27-108.01(a)) Webster's New World Dictionary (2nd College Edition) defines necessary as "essential" and "indispensable." In *Brandywine Enterprises, Inc. v. County Council*, 117 Md. App. 525, 540 (1997), the Court of Special Appeals addressed the definition of "necessary" in the County's Zoning Ordinance as it relates to rubble fills and noted that "'necessary'... means necessary rather than reasonably convenient or useful." The Court went on to note that the best method for determining need for a rubble fill would be to assess whether there would be an actual deficit of capacity. In a case involving liquor licenses, *Baltimore County Licensed Beverage Association, Inc. v. Kwon*, 135 Md. App. 178, 194 (2000), the Court of Special Appeals held that the meaning is dependent upon the context in which "necessary" is used. The Court then found that "'necessary,' in this instance, means that the transfer of the liquor license to the transfer site will be 'convenient, useful, appropriate, suitable, proper, or conducive' to the public in that area." The District Council has determined that the proper standard to apply in the review of the instant request is whether the gas station will be "convenient, useful, appropriate", etc., given the nature of the use.

The subject gas station will be located along a busy commuter route in the County and within close proximity to densely populated residential development (including a number of multifamily buildings) and employment areas. Therefore, the proposed gas station will be reasonably convenient to residents and workers in the area. Furthermore, the use will not unduly restrict the availability of land in that the proposed station is being developed on land that is currently developed with a commercial use.

The practice of co-locating a gas facility with a food or beverage store arises from the appropriateness of a site with high vehicular traffic for both gas and food or beverage uses. Not to mention, it responds to the modern consumers desire to have a one-stop shop for its convenience needs. The combination of uses has the added benefit for providing for increased vehicular trip efficiency by allowing customers to expediently combine trips and minimize traffic on the roads. In other words, the combining of a food or beverage store with a gas station makes the combined uses reasonably convenient for the consumer. There is no debate that combining a gas component with the existing food or beverage store, at this location, is convenient, useful, suitable, appropriate or conducive to the public in that area. Furthermore, the use will not unduly restrict the availability of land in that the proposed station is being developed on land already developed. Finally, in further support of the gas station being convenient or useful, the applicant has included a Market Study from Valbridge Property Advisors dated June 29, 2020. Moreover, the applicant, given its own internal analysis contends that demand in the market area exists and that the addition of a gas station will

be useful to the area.

In addition, although the food or beverage store is a permitted use in the C-S-C Zone, it is worth mentioning that it too meets the criteria for special exception approval set forth in Section 27-355 of the Zoning Ordinance as follows:

Section 27-355. Food or beverage store.

(a) A food and beverage store may be permitted, subject to the following:

- (1) The applicant shall show a reasonable need for the use in the neighborhood;**
- (2) The size and location of, and access to, the establishment shall be oriented toward meeting the needs of the neighborhood;**

COMMENT: It is well established that this criterion requires that an applicant demonstrate that a proposed food or beverage store is reasonably convenient, useful, appropriate, etc. That is, the holdings regarding Section 27-358(d)(1) have also been held to apply to the requirements in Section 27-355(a)(1) concerning Food or Beverage Stores since "need" has been similarly defined. *See Lucky Stores, Inc. v. Board of Appeals*, 270 Md. 513,517, 32 A. 2d 758, 766 (1973), *citing Neuman v. Mayor & Council of Baltimore*, 251 Md. 92,246 A. 2d 583 (1968) ("Need ... must be considered as elastic and necessary ... [and] does not mean absolute necessity...."). As provided in the Market Analysis, and supported by the practice of colocation of gas facilities with food or beverage stores, the need for the later make the former reasonably convenient or useful. Further the proposed size of the new facility is appropriate for the site and conforms to the applicable regulations in the C-S-C Zone. The size and location of the new building, as well as access points to the food or beverage store are oriented toward meeting the needs of the neighborhood.

In further support of the required finding, the applicant has also provided a Market Study from Valbridge Property Advisors dated June 29, 2020.

- (3) The proposed use shall not unduly restrict the availability of land, or upset the balance of land use, in the area for other allowed uses;**

COMMENT: As indicated above and supported by the site plan filed in conjunction with this application, the food or beverage store with the combined gas station facility, will not restrict the availability of land or upset the balance of land use in the area. SE-4834 proposes access driveways on Landover Road, an internal road, and Kent Town Place.

- (4) In the 1-1 and 1-2 Zones, the proposed use shall be located in an area which is (or will be) developed with a concentration of industrial or office uses;**

COMMENT: The subject property is located within the C-S-C Zone; therefore, this criterion does not apply.

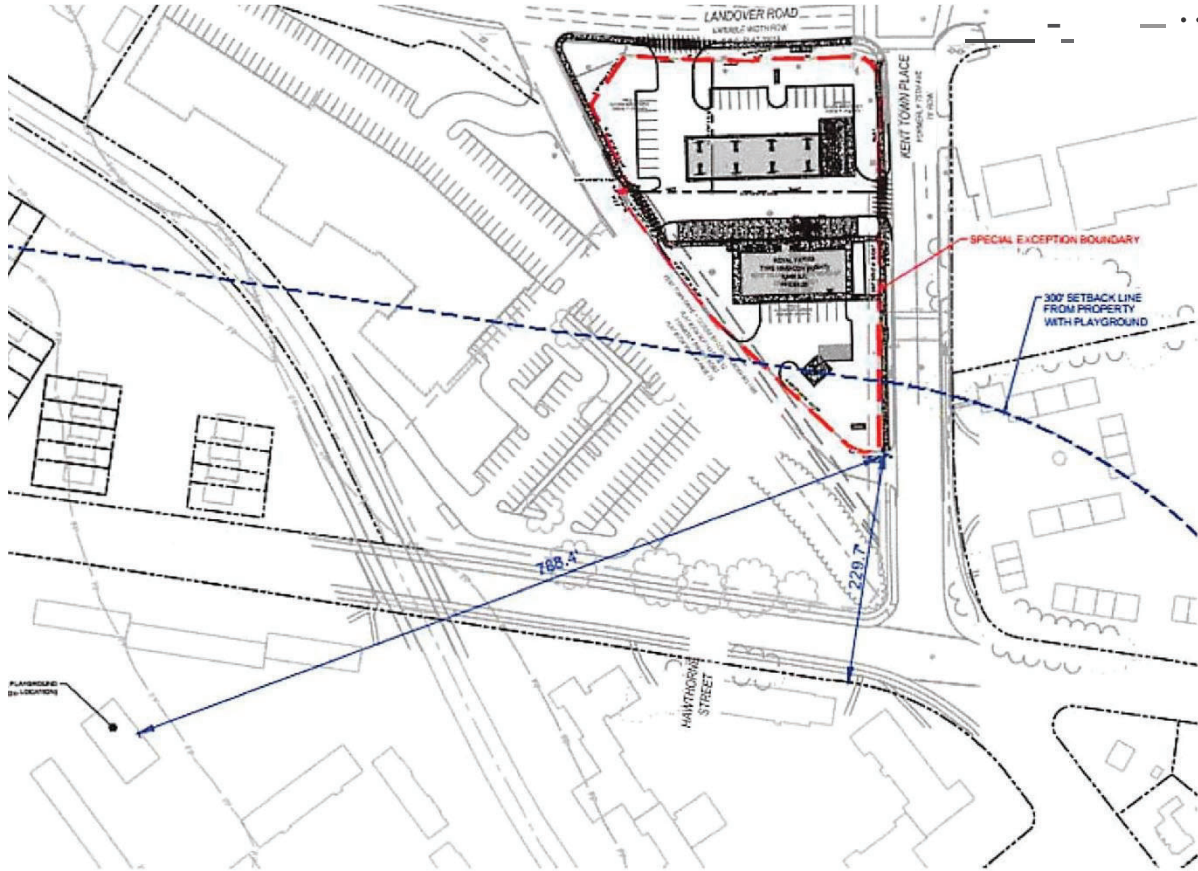
- (5) The retail sale of alcoholic beverages from a food and beverage store approved in accordance with this Section is prohibited; except that the District Council may permit an existing use to be relocated from one C-M zoned lot to another within an urban renewal area established pursuant to the Federal Housing Act of 1949, where such use legally existed on the lot prior to its classification in the C-M Zone and is not inconsistent with the established urban renewal plan for the area in which it is located.**

COMMENT: Alcoholic beverages will not be sold within the proposed food or beverage store.

V. VARIANCE REQUEST FROM THE REQUIREMENTS OF SECTION 27-358(a)(2)

Section 27-358(a)(2) requires that the subject property (i.e., the special exception area) shall be located at least three hundred (300) feet from any lot on which a school, outdoor playground, library, or hospital is located. The special exception boundary however, is located across Hawthorne Street and a private road, about 229 feet north of the corner of a large parcel (Block F, 12.91 Acre). Block F, which is one large parcel consisting of 12.91 acres is developed with the Kent Village Apartment Complex which is a mix of two to four story multi-family buildings constructed circa 1960s that includes an outdoor playground. The playground is generally located in the center of Block F - surrounded by residential buildings, and to the west of a large storm drainage culvert bisects Block F. The playground is completely screened from all public roads and is not visible from Kent Town Place or Hawthorne Street. Indeed, the playground is approximately 788 feet from the closest point of the special exception boundary. See Playground Setback Exhibit submitted with this Application.





Intersection of Hawthorne Street and Kent Town Place looking southwest. (The playground is not visible).



Hawthorne Street looking south (east of the large storm drain that bisects Block F). (The playground internal to Block F is not visible).



Hawthorne Street looking southwest across the large storm drain facility that bisects Block F. (The playground internal to Block F is not visible).



Hawthorne Street looking southeast. (The playground in ternal to B lo c k Fis not visib le) .

As a result of extraordinary issues associated with the subject property and the environs surrounding the property to include an outdoor playground that is located in the middle of a 12.91 acres complex that is walled off by development the applicant is requesting a variance of about 70 feet to Section 27-358(a)(2) pursuant to Section 27-235.

Sec. 27-235. - District Council authority.

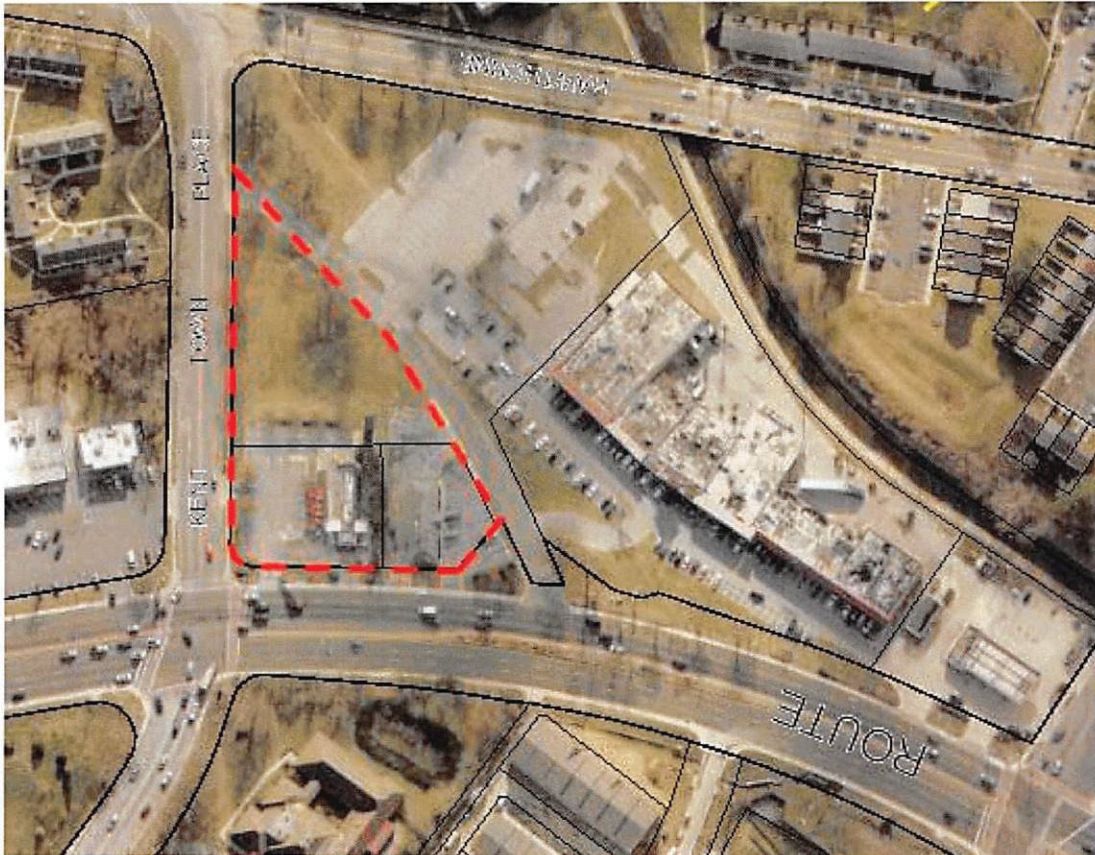
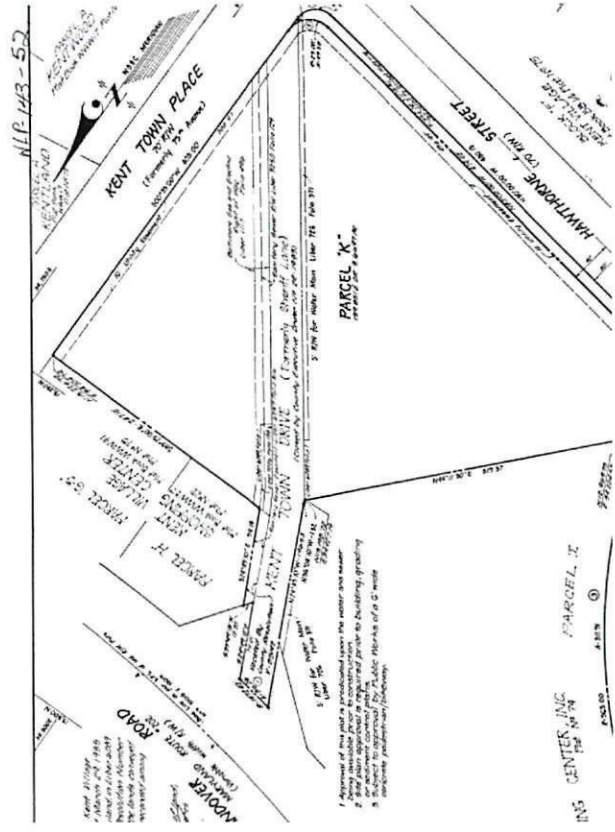
The District Council may grant appeals involving variances from the strict application of this Subtitle (known as variances) in conjunction with its approval of a Special Exception or subsequent site plan amendment. The Council shall be governed by the provisions of Section 27-230 when it grants the variances.

Sec. 27-230. - Criteria for granting appeals involving variances.

(a) A variance may only be granted when the District Council, Zoning Hearing Examiner, Board of Appeals, or the Planning Board as applicable, finds that:

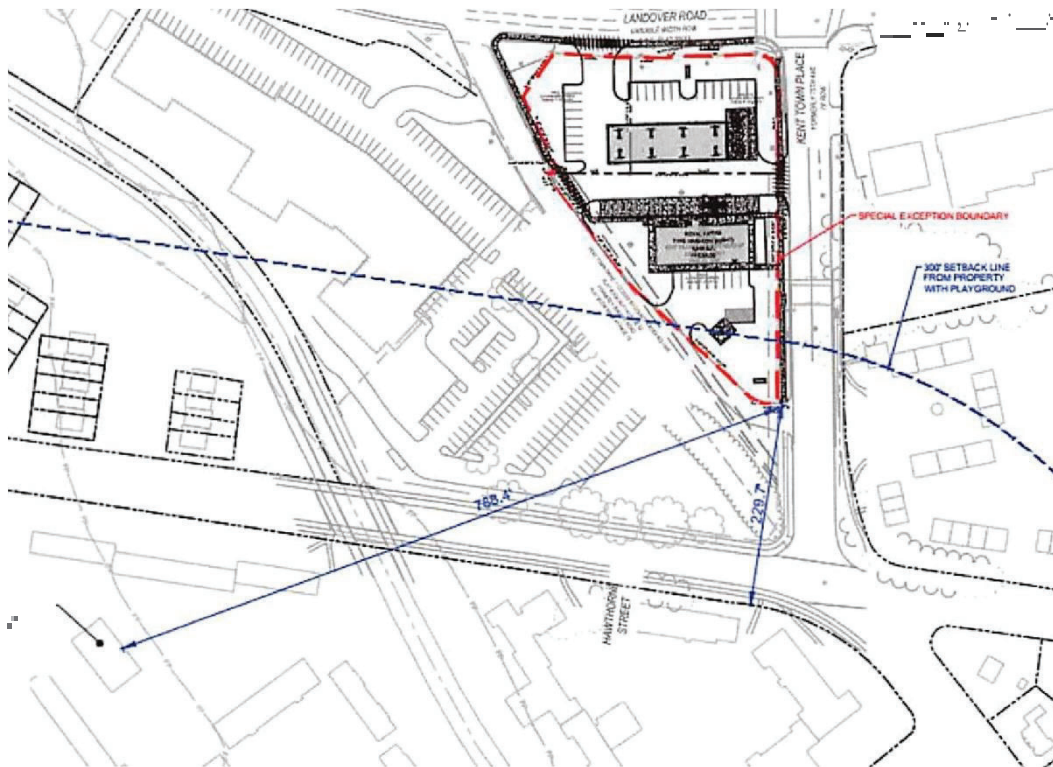
- (1) A specific parcel of land has exceptional narrowness, shallowness, or shape, exceptional topographic conditions, or other extraordinary situations or conditions;**

COMMENT: There is no dispute that the special exception area that comprises portions of three different parcels is oddly shaped and impacted by extraordinary situations or conditions. The special exception area is triangular in shape and the area is bounded on all three sides by public and private rights-of-ways.



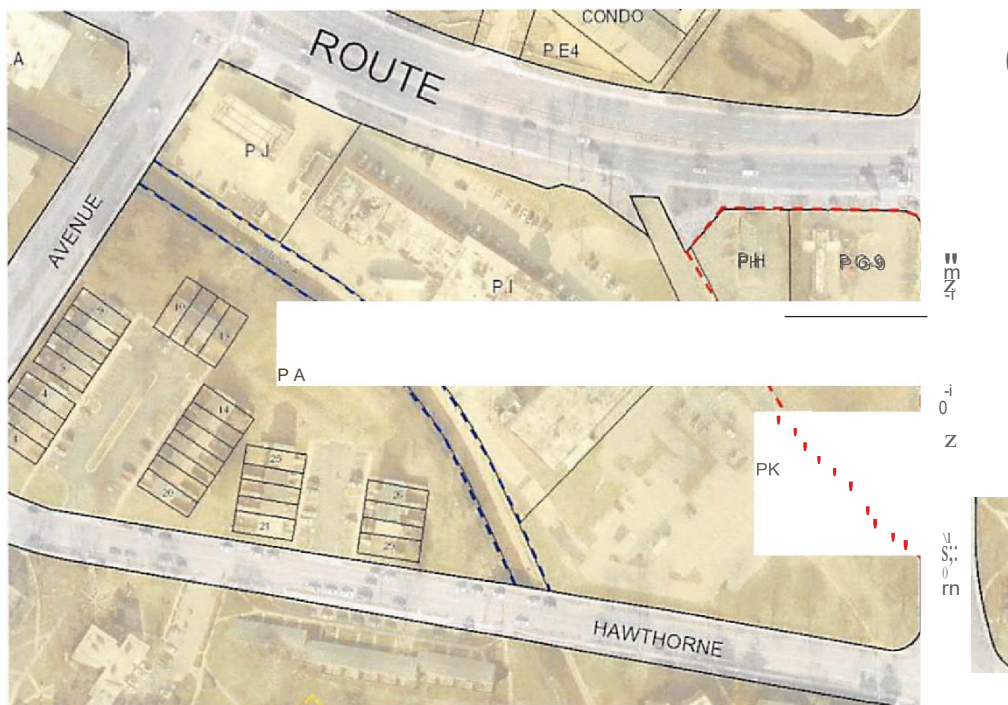
Unlike the subject property, which comprises the boundary of the special exception area - being made up of three different parcels, the other adjacent commercially zoned properties are traditionally shaped rectangles or squares - having been platted and developed decades ago. Conversely, the special exception area, which makes up the subject property, is oddly shaped due to extraordinary conditions resulting from right-of-way improvements consisting of MD 202, Kent Town Place and Kent Town Drive, which is now a private driveway as a result of it having been vacated from public use. Nevertheless these improvements create extraordinary situations and result in the unique shape of the special exception area.

Moreover the basis for the requested variance from the Section 27-358(a)(2) requirement is extraordinary; in that, the property for which the playground is located on is one - very large - block parcel consisting of 12.91 acres - comprising of an entire block, and but for the playground not being located on its own parcel, this variance would not otherwise be required, as the playground itself is more than 788 feet from the closest point of the special exception area. Indeed, the playground is not even visible from Hawthorne Street - let alone the proposed special exception area, as evidenced by the street-view photos provided above. Finally, the applicant has specifically designed the site to ensure that the gas pumps are located along MD 202 to the north side of the special exception area and separated by the convenience store at the south side of the site - creating an additional physical barrier between Block F. It is important to also note, as depicted in the aerial photograph below, that the playground is internal to Block F and is surrounded - on all sides - by the Kent Village Apartment Complex. In other words, as the proposed site is designed and as Block F has been developed, the playground is in no way impacted by the special exception use given the extraordinary situation of the developments and existing environs, which also include a very large stormwater facility that bisects Block F - the playground being on the west side of the said facility. This creates yet another barrier between the gas station use and the playground.





Indeed, the applicant contends that if Block F, which was platted in November, 1947, were to be subdivided and platted today, Block F would have been parceled out and the playground would likely be on its own parcel and/or the very large storm drain facility would have been an outparcel or out lot, as it was to the south and west of Parcels J, I, and K.



Had this occurred, a variance would not be needed, as there would be more than 300' between the subject property and a property that includes a playground. Said differently, the only reason why a variance is needed in this instance is due to the extraordinary situation that Block F was platted 73 years ago as one very large Block and was not parceled out for multi-family development, which is what would otherwise be expected today, and b/c of that extraordinary situation, the closest portion of Block F is only approximately 229 feet from the special exception area - despite the fact that the playground itself is more than 788 feet from the special exception area.

In totality, the subject property, which makes up the special exception boundary, is oddly shaped and other extraordinary situations or conditions exist.

(2) The strict application of this Subtitle will result in peculiar and unusual practical difficulties to, or exceptional or undue hardship upon, the owner of the property³•⁴ and

COMMENT: The applicant is requesting a variance of approximately 70 feet to accommodate a gas station on property that is not 300' from property that contains a playground. Given the previous points and facts articulated above, the applicant contends that the strict application of Section 27-358(a)(2) will result in practical difficulties.

In *Montgomery County v. Rotwein*, 169 Md. App. 716, the Court applied a three-pronged test to determine practical difficulty:

1) Whether compliance with the strict letter of the restrictions governing area, setbacks, frontage, height, bulk or density would unreasonably prevent the owner from using the property for a permitted purpose or would render conformity with such restrictions unnecessarily burdensome.

2) Whether a grant of the variance applied for would do substantial justice to the applicant as well as to other property owners in the district, or whether a lesser relaxation than that applied for would give substantial relief to the owner of the property involved and be more consistent with justice to other property owners.

3) Whether relief can be granted in such fashion that the spirit of the ordinance will be observed and public safety and welfare secured.

³ The variance requested in this matter is commonly referred to as a "dimensional" variance, distinguishable from a "use" variance. *See Easter v. Mayor of Baltimore*, 195 Md. 395, 401, 73 A.2d 491, 493 (1950) ("Use variances are doubtless more serious than dimensional changes.").

⁴ When the terms "practical difficulties" and "unwarranted hardship" are framed within the ordinance in the disjunctive, the proof required can be much greater with respect to use variances. *Friends of the Ridge v. Baltimore Gas and Electric Co.*, 352 Md. 645,651, 724 A.2d 34, 37 (1999); *see also Zengerle v. Board of County Commissioners*, 262 Md. 1, 21, 276 A.2d 646, 656 (1971) ("a use variance is customarily concerned with unusual [unwarranted] hardship where the land cannot yield a reasonable return without a variance whereas an area variance is primarily concerned with practical difficulties.").

Again, the basis for the requested variance from the Section 27-358(a)(2) requirement is premised upon the extraordinary circumstances outlined above - in which the playground is located on one - very large - block parcel consisting of 12.91 acres - comprising of an entire block, and but for the playground not being located on its own parcel, this variance would not otherwise be required, as the playground itself is more than 788 feet from the closest point of the special exception area. Indeed, the playground is not even visible from Hawthorne Street - let alone the proposed special exception area, as evidenced by the street-view photos provided above. Finally, the applicant has specifically designed the site to ensure that the gas pumps are located along MD 202 to the north side of the special exception area and separated by the convenience store at the south side of the site - creating an additional physical barrier between Block F. It is important to also note, as depicted in the aerial photograph below, that the playground is internal to Block F and is surrounded - on all sides - by the Kent Village Apartment Complex. In other words, as the proposed site is designed and as Block F has been developed, the playground is in no way impacted by the special exception use given the extraordinary situation of the developments and existing environs, which also include a very large stormwater facility that bisects Block F - the playground being on the west side of the said facility. This creates yet another barrier between the gas station use and the playground. Consequently, compliance to the strict letter of the regulation is unnecessarily burdensome, and the variance would give substantial relief to the applicant.

Finally, the variance can be granted in such fashion that the spirit of the ordinance will be observed and public safety and welfare secured. Indeed, the purpose of the ordinance to provide at least 300 feet of separation between playgrounds and gas station facilities is being met despite the variance since the playground is more than 788 feet away from the special exception area; is surrounded by existing multifamily development; is further separated from the proposed gas station by an internally large stormwater management facility that bisects Block F; and is not at all visible from the special exception boundary - let alone the gas pumps themselves. Thus, due to these facts, the spirit of the regulation is more than observed since the purpose of requiring the setback is actually being facilitated albeit not specifically met since the playground is located on a property that is over 12 acres in size. The public welfare is served due to these facts and circumstances

(3) The variance will not substantially impair the intent, purpose, or integrity of the General Plan or Master Plan.

COMMENT: In 2014, the County updated the 2002 General Plan with Plan Prince George's 2035 ("Plan 2035"). It recommends major developments be concentrated within Centers. The Property is in the Established Communities Growth Policy Area established in Plan 2035. Plan 2035:

classifies existing residential neighborhoods and commercial areas served by public water and sewer outside of the Regional Transit Districts and Local Centers, as Established Communities. Established Communities are most appropriate for context-sensitive infill and low-to medium-density development. Plan 2035 recommends maintaining and enhancing existing public services (police and fire/EMS), facilities (such as libraries, schools, parks, and open space), and infrastructure in these areas (such as sidewalks) to ensure that the needs of existing residents are met.

(Plan 2035 at p. 20). The proposed development is context sensitive and is infill development, as it proposes the redevelopment of existing development constructed circa 1964 and 1998, respectively.

Moreover, SE-4834 is located within the boundaries of the 2014 *Approved Landover Metro Area and MD 202 Corridor Sector Plan and Sectional Map Amendment* (Sector Plan). The property is located within the South Landover Road Focus Area. Short-Term recommendations for the area include improve

pedestrian crossings along Landover Road, improvements to streetscape on the south side of Landover Road, to include landscaping and bus shelters and retro fitting of both the Kent Village and Stadium Station shopping centers. The Sector Plan also recommends closing one of the driveways into the corner properties on the south side of Landover Road at the intersection of Kent Town Place, which would allow better realigned crosswalks. The site plan submitted in conjunction with this application closes the driveway on Landover Road closest to the intersection with Kent Town Place, and also includes improvements consisting of improved landscaping, sidewalks, a bus shelter located on Landover Road, and improved stormwater management facilities and practices.


Thus, this variance will not substantially impair the intent, purpose, or integrity of the General Plan or Sector Plan.

VI. CONCLUSION

Based on the foregoing, as well as the special exception site plan filed in conjunction with this application, the applicant respectfully requests the approval of SE-4834 and the accompanying variance in order to develop a food or beverage store in combination with a gas station.

Respectfully submitted,

MCN AMEE HOSEA

By: 

Matthew C. Tedesco, Esq.

Date: December 23, 2020
February 24, 2021
May 20, 2021



The Maryland-National Capital Park and Planning Commission
 Prince George's County Planning Department
 Development Review Division
 301-952-3530

Note: Staff reports can be accessed at <http://mncppc.iqm2.com/Citizens/Default.aspx>

Special Exception Royal Farms #411 (Kent Village)

SE-4834

| REQUEST | STAFF RECOMMENDATION |
|--|--------------------------|
| A special exception for a 4,649 square foot food and beverage store, in combination with eight fuel gas station pumps, with a variance from Section 27-358(a)(2) to allow the gas station to be less than 300 feet from an outdoor playground. | APPROVAL with conditions |

| | |
|--|---------------|
| Location: In the southwest quadrant of the intersection of MD 202 (Landover Road) and Kent Town Place. | |
| Gross Acreage: | 4.48 |
| Zone: | C-S-C |
| Dwelling Units: | 0 |
| Gross Floor Area: | 4,649 sq. ft. |
| Lots: | 0 |
| Parcels: | 0 |
| Planning Area: | 72 |
| Council District: | 05 |
| Election District: | 13 |
| Municipality: | N/A |
| 200-Scale Base Map: | 204NE06 |
| Applicant/Address: RF Landover, LLC 3611 Roland Ave Baltimore, MD 21211 | |
| Staff Reviewer: Sam Braden IV Phone Number: 301-952-3411 Email: Sam.BradenIV@ppd.mncppc.org | |



| | |
|------------------------------|------------|
| Planning Board Date: | 07/29/2021 |
| Planning Board Action Limit: | N/A |
| Staff Report Date: | 07/@/2021 |
| Date Accepted: | 04/16/2021 |
| Informational Mailing: | 03/26/2020 |
| Acceptance Mailing: | 03/30/2021 |
| Sign Posting Deadline: | N/A |

The Planning Board encourages all interested persons to request to become a person of record for this application. Requests to become a person of record may be made online at http://www.mncppcapps.org/planning/Person_of_Record/. Please call 301-952-3530 for additional information.

Table of Contents

| | |
|---|----|
| FINDINGS | 4 |
| 1. Location and Site Description..... | 4 |
| 2. History and Previous Approvals..... | 4 |
| 3. Neighborhood and Surrounding Uses | 4 |
| 4. Request..... | 4 |
| 5. Development Data Summary | 4 |
| 6. Required Findings | 5 |
| 7. Variance Request..... | 11 |
| 8. Parking Regulations..... | 12 |
| 9. 2010 Prince George’s County Landscape Manual Requirements | 12 |
| 10. Tree Canopy Coverage..... | 12 |
| 11. Prince George’s County Woodland and Wildlife Habitat Conservation Ordinance | 12 |
| 12. Signage..... | 12 |
| 13. Referral Comments | 13 |
| RECOMMENDATION..... | 13 |

THE MARYLAND-NATIONAL CAPITAL
PARK AND PLANNING COMMISSION

PRINCE GEORGE'S COUNTY PLANNING BOARD

TECHNICAL STAFF REPORT:

TO: The Prince George's County Planning Board
The Prince George's County District Council

VIA: Jeremy Hurlbutt, Supervisor, Zoning Review Section, Development Review Division

FROM: Sam Braden IV, Senior Planner, Zoning Review Section,
Development Review Division

SUBJECT: Special Exception SE-4834
Royal Farms #411 (Kent Village)

REQUEST: A special exception for a 4,649-square-foot food and beverage store in combination with eight fuel gas station pumps, with a variance from Section 27-358(a)(2) to allow the gas station to be less than 300 feet from an outdoor playground.

RECOMMENDATION: **APPROVAL with conditions**

NOTE:

The Planning Board has scheduled this application on the consent agenda for transmittal to the Zoning Hearing Examiner on the agenda date of July 29, 2021.

You are encouraged to become a person of record in this application. The request must be made in writing and addressed to the Prince George's County Office of the Zoning Hearing Examiner, County Administration Building, Room 2184, 14741 Governor Oden Bowie Drive, Upper Marlboro, MD 20772. Questions about becoming a person of record should be directed to the Hearing Examiner at 301-952-3644. All other questions should be directed to the Development Review Division at 301-952-3530.

FINDINGS:

1. **Location and Site Description:** The subject property is located in the southwest quadrant of the intersection of MD 202 (Landover Road) and Kent Town Place. The site has two businesses that exist on the property in the Commercial Shopping Center (C-S-C) Zone and consists of three parcels. All existing site features will be razed to construct a 4,649-square-foot food and beverage store in combination with a gas station.

2. **History and Previous Approvals:** The subject property is located on Tax Map 59 in Grids D-1 and D-2, consisting of Parcel G-9 and Parcel H, and part of Parcel K, containing a total of 4.48 acres of land in the C-S-C Zone. The subject property contains Kent Village Shopping Center in Parcel G-9, recorded by plat among the Prince George’s County Land Records in Plat Book 41 page 79, dated August 1961, and Parcel H, recorded in Plat Book 57 page 22, dated May 1965. Parcels G-9 and H, consisting of existing development, are part of Preliminary Plan of Subdivision 12-1626. Both parcels were recorded prior to 1970. All existing features for the proposed food and beverage store with gas station will be razed.

3. **Neighborhood and Surrounding Uses:** The general neighborhood is bounded to the north by Landover Road, Baltimore Avenue to the west, Kent Town Place to the east, and Hawthorne Street to the south. The neighborhood primarily includes residential and commercial uses. The immediate uses surrounding the subject property are as follows:
 - North—** Multifamily residential development at MD-202 in the C-S-C Zone.

 - East—** Shopping center and multifamily residential uses in the C-S-C and Multifamily Medium Density Residential (R-18) Zones.

 - South—** Multi-family residential development at Hawthorne Street in the R-18 Zone.

 - West—** Shopping center in the C-S-C Zone.

4. **Request:** The applicant requests approval of a special exception to construct a food and beverage store in combination with a gas station, with a variance from Section 27-358(a)(2) of the Zoning Ordinance to allow the gas station to be less than 300 feet from an outdoor playground.

5. **Development Data Summary:**

| | EXISTING | PROPOSED |
|------------------|----------------------------------|--|
| Zone(s) | C-S-C | C-S-C |
| Use(s) | Eating or Drinking Establishment | Food and Beverage Store Gas Station |
| Acreage | 1.87 | 4.84 |
| Lots | 0 | 0 |
| Gross Floor Area | 4,011 sq. ft. | 4,649 sq. ft. |
| Dwellings | 0 | 0 |

6. **Required Findings:** A special exception is subject to the general findings for approval of all special exceptions contained in Section 27-317(a) of the Prince George’s County Zoning Ordinance. Part 4 of the Zoning Ordinance also includes additional required findings for specific uses. A food and beverage store is subject to the additional findings of Section 27-355 of the Zoning Ordinance, and gas stations are subject to Section 27-358. The analysis of all the required findings for approval are provided below.

In support of the application, the applicant filed a statement of justification (SOJ) submitted April 16, 2021 incorporated by reference herein. This case was heard at the Subdivision and Development Review Committee (SDRC) meeting on April 30, 2021. The applicant submitted a revised site plan and landscape plans for the subject property, which were received on May 20, 2021, as requested by staff at the SDRC meeting.

General Special Exception Findings—Section 27-317(a) provides the following:

(a) A Special Exception may be approved if:

(1) The proposed use and site plan are in harmony with the purposes of this Subtitle.

Staff finds that the proposed use will provide jobs within the area. There will be an increase in commercial property taxes paid to the County’s coffers. Furthermore, economic redevelopment is stimulated by this proposed development. Also, there will be additional tax revenue being created by sales tax and gasoline tax, ensuring economic stability within all parts of the County.

(2) The proposed use is in conformance with all the applicable requirements and regulations of this Subtitle.

The proposed use is in conformance with the requirements and regulations set forth in Subtitle 27 of the Zoning Ordinance, except for Section 27-358(a)(2), for which a variance has been requested by the applicant, as discussed in Finding 7 below. Most notably, the food and beverage store in combination with a gas station are each uses that are permitted in the C-S-C Zone, upon approval of a special exception, including conformance with the requirements in Sections 27-355 and 27-358 of the Zoning Ordinance.

(3) The proposed use will not substantially impair the integrity of any validly approved Master Plan or Functional Master Plan, or in the absence of a Master Plan or Functional Map Plan, the General Plan.

The subject property is located in the C-S-C Zone, and each of the proposed use designations are permitted as special exceptions. The application includes a recommended streetscape from the 2014 *Approved Landover Metro Area and MD 202 Corridor Sector Plan and Sectional Map Amendment* (pages 52–54), on the south side of Landover Road. These frontage improvements will provide a more

pedestrian and bicycle friendly environment. Largely, the South Landover Road Focus Area is envisioned as a mixed-residential area, with the residential designation being dominant. However, the mixed-use designation allows for various use types, such as small-scale, neighborhood-serving commercial uses. In accordance with Subtitle 27, staff does not have any issues with the proposed circulation of the site, and an additional right-of-way will not be required. Therefore, the proposed use will not substantially impair the integrity of the applicable master plan.

(4) The proposed use will not adversely affect the health, safety or welfare of residents or workers in the area.

The proposed development provides a safe, internal circulation for vehicles and pedestrians, in addition to safe ingress and egress of vehicles from surrounding public rights-of-way and the internal road. Also, the number of access points along Landover Road will be reduced from four to one.

The special exception boundary of the subject property on which the special exception use is proposed to be conducted is nearly 230 feet from the Kent Village Apartment Complex, which sits on 12.91 acres, and is known as Block F. The outdoor playground is located in the center of the apartment complex, and is more than 700 feet from the special exception boundary. However, since distance is measured from lot line to lot line under Section 27-358(a)(2), a variance is required. Still, a variance is needed due to the lot, Block F, being within 300 feet of the proposed special exception.

The playground is located southwest of the proposed development site is completely screened from all public roads, and is not visible from Kent Town Place or Hawthorne Street. The physical location of the playground is more than 700 feet from the closest point of the special exception site boundary. Hawthorne Road and the Lower Beaverdam Creek separate the subject property from the playground.

The proposed use will not have adverse effects on the health, safety, or welfare of residents, due to the proposed layout location on the site, which will place the gas pumps on the north side of the site, facing MD 202 with the food and beverage store located on the southern part of the site (part of Parcel K). The store will screen the gas pumps which will be approximately 788 feet from the existing playground. Staff finds that the proposed use will not adversely affect the health, safety, or welfare of residents or workers in the area.

(5) The proposed use will not be detrimental to the use or development of adjacent properties or the general neighborhood.

Staff finds that the proposed use is compatible with the surrounding existing commercial development. The development shall be in compliance with required site design standards, physical features, and align with the harmony of the community. Ultimately, the proposed use will not be detrimental to the use or development of adjacent properties or the general neighborhood.

- (6) The proposed site plan is in conformance with an approved Tree Conservation Plan; and**
- (7) The proposed site plan demonstrates the preservation and/or restoration of the regulated environmental features in a natural state to the fullest extent possible in accordance with the requirement of Subtitle 24-130(b)(5).**

The site has an approved Natural Resources Inventory Equivalency Letter (NRI-046-2020). This site is not associated with any regulated environmental features such as streams, wetlands, 100-year floodplain, or associated buffers. In addition, the site is not within the primary management area. As a result, a Standard Letter of Exemption (S-036-2020) from the Prince George's County Woodland and Wildlife Habitat Conservation Ordinance (WCO) was approved.

Specific Special Exception Requirements:

Section 27-355—Food or Beverage Store.

- (a) A food and beverage store may be permitted, subject to the following:**
 - (1) The applicant shall show a reasonable need for the use in the neighborhood;**
 - (2) The size and location of, and access to, the establishment shall be oriented toward meeting the needs of the neighborhood;**

The applicant proposed that a food and beverage store is useful, appropriate, and convenient for use in the neighborhood. The applicant provided a market study from Valbridge Property Advisors, dated June 29, 2020. Staff finds that the proposed development meets the fueling station demands of the Hyattsville trade area. Also, the four access points adequately serve the site, reducing the impact of traffic congestions. Overall, the site accessibility and major connections to MD 202 will ensure adequate traffic flow on-site and within the surrounding neighborhood.

In addition, the proposed size of the building conforms to the requirements of the C-S-C Zone. The size and location of the proposed development, and access to the food and beverage store, are oriented toward meeting the needs of the neighborhood.

- (3) The proposed use shall not unduly restrict the availability of land, or upset the balance of land use, in the area for other allowed uses;**

The proposed use will not unduly restrict the availability of land, or upset the balance of land use, in the area for other allowed uses. The special exception is being developed on the sites of two existing take out and fast-food restaurants. The site's redevelopment should not pose an obstacle for other potential uses which might want to move into the area. It may also help to revitalize surrounding retail.

- (4) In the I-1 and I-2 Zones, the proposed use shall be located in an area which is (or will be) developed with a concentration of industrial or office uses;**

The subject property is located in the C-S-C Zone; therefore, this requirement does not apply.

- (5) The retail sale of alcoholic beverages from a food and beverage store approved in accordance with this Section is prohibited; except that the District Council may permit an existing use to be relocated from one C-M zoned lot to another within an urban renewal area established pursuant to the Federal Housing Act of 1949, where such use legally existed on the lot prior to its classification in the C-M Zone and is not inconsistent with the established urban renewal plan for the area in which its located.**

There will be no alcoholic beverages sold in the proposed food and beverage store.

Section 27-358—Gas Stations.

- (a) A gas station may be permitted, subject to the following:**

- (1) The subject property shall have at least one hundred and fifty (150) feet of frontage on and direct vehicular access to a street with a right-of-way width of at least seventy (70) feet;**

The subject property has 250 feet of frontage along Landover Road and 392 linear feet of frontage on Kent Town Place. The plan proposes an access point located on Landover Road, and two access points on Kent Town Place. Both rights-of-way have a width of at least 70 feet or greater.

- (2) The subject property shall be located at least three hundred (300) feet from any lot on which a school, outdoor playground, library, or hospital is located;**

The boundary of the subject property is located in the 300-foot radius of an outdoor playground. Specifically, the site is located approximately 230 feet from the 12-acre lot (Block F) that includes an outdoor playground, surrounded by multifamily residential dwellings.

The outdoor playground is physically located more than 700 feet away, and separated from the proposed development site by apartments, the Lower Beaverdam Creek, and Hawthorn Road. A variance of 70 feet has been requested for the requirement of 300 feet for SE-4834, and staff supports the variance as discussed in Finding 7 below.

- (3) The use shall not include the display and rental of cargo trailers, trucks, or similar uses, except as a Special Exception in accordance with the provisions of Section 27-417.**

This plan does not include the display and rental of cargo trailers, trucks, or similar uses.

- (4) The storage or junking wrecked motor vehicles (whether capable of movement or not) is prohibited:**

This plan does not include the storage or junking of wrecked vehicles.

- (5) Access driveways shall not be less than 30 feet wide unless width is allowed for a one-way driveway by the Maryland State Highway Administration or the County Department of Public Works and Transportation, whichever is applicable, and shall be constructed in accordance with the minimum standards required by the County Road Ordinance or the Maryland State Highway Administration regulations, whichever is applicable. In the case of a corner lot, a driveway may begin at a point not less than 20 feet from the point of curvature (pc) of the curb return or the point of curvature of the edge of paving at an intersection without curb and gutter. A driveway may begin or end at a point not less than 12 feet from the side or rear lot line of any adjoining lot.**

This proposal includes four access driveways: a 35-foot-wide access driveway at Landover Road; a 35-foot-wide access driveway at Kent Town Place; and two 35-foot-wide access driveways onto the internal road. Since the special exception is on a corner lot, each of the access driveways are more than 20 feet from the point of curvature. Furthermore, the rear lot line requirement does not apply to this property because there is not an adjoining lot. The remainder of Parcel K is separated from the subject site by an internal private road, Kent Town Drive.

(6) Access driveways shall be defined by curbing;

As shown on the special exception site plan, the access driveways are to be defined by curbing.

(7) A sidewalk at least five (5) feet wide shall be provided in the area between the building line and those areas serving pedestrian traffic;

The proposed development has the following sidewalks: an 8-foot-wide sidewalk on the west and south sides, a 6-foot-wide sidewalk on the east side, and a 12-foot-wide sidewalk on the north side of the property. The sidewalk from Kent Town Place will provide a pedestrian pathway to the store from the property frontage.

(8) Gasoline pumps and other service appliances shall be located at least twenty-five (25) feet behind the street line;

The gas station meets this requirement. All gas pumps are more than 25 feet behind street lines.

(9) Repair service shall be completed within forty-eight (48) hours after the vehicle for service. Discarded parts resulting from any work shall be removed promptly from the premises. Automotive replacement parts and accessories shall be stored either inside the main structure or in an accessory building used solely for the storage. The accessory building shall be wholly enclosed. The building shall either be constructed of brick (or another material similar in appearance to the main structure) and placed on a permanent foundation, or it shall be entirely surround with screening material. Screening shall consist of a wall, fence, or fence, or sight-tight landscape material, which shall be at least as high as the accessory building. The type of screening shall be shown on the landscape plan; and

There will be no vehicle repair at the site.

(10) Details on architectural elements such as elevation depictions of each façade, schedule or exterior finishes, and description of architectural character of proposed buildings shall demonstrate compatibility with existing and proposed surrounding development.

The special exception site plan includes architectural elevations in the submission. The architecture of the building incorporates a band of composite siding at the top portion, brick veneer in the middle, and stone veneer at the base of the building. The main entrance, with a high-profile roof, projects from the rest of the building. The front

elevation is accented with a pitched roof and a cupola over the main entrance, supported by stone veneer and painted steel columns. Oversized windows help break up the horizontal mass of the building. The rear elevation presents long, uninterrupted bands of the composite siding, in combination with red brick and stone veneer. The applicant has used durable quality materials including stone, brick, and composite siding. The gasoline pumps and canopy are designed to coordinate well with the architecture and materials of the main building. Based on the architectural elevations provided, the proposed buildings will be compatible with the current and proposed surrounding development.

7. **Variance Request:** The applicant seeks a variance to the strict interpretation of Section 27-358(a)(2), which requires that the subject property be located at least 300 feet from any lot of a school, outdoor playground, library, or hospital.

Section 27-230(a)(1) provides the following findings for approval of a variance:

(a) A variance may only be granted when the District Council, Zoning Hearing Examiner, Board of Appeals, or the Planning Board as applicable, finds that:

- (1) A specific parcel of land has exceptional narrowness, shallowness, or shape, exceptional topographic conditions, or other extraordinary situations or conditions;**

The proposed site is composed of Parcels G-9, H, and an oddly triangular shaped part of Parcel K. The special exception area is bounded by public and private rights-of-way. The odd shape is due to right-of-way improvements of MD 202, Kent Town Place, and Kent Town Drive, which is now a private road.

- (2) The strict application of this Subtitle will result in peculiar and unusual practical difficulties to, or exceptional or undue hardship upon, the owner of the property; and**

The strict application of this subtitle would result in peculiar and unusual practical difficulties, as it would be impossible for the applicant to construct gas pumps to operate an otherwise allowable special exception use at any location on the property, even though the pumps are significantly farther than 300 feet from the nearby playground.

- (3) The variance will not substantially impair the intent, purpose, or integrity of the General Plan or Master Plan.**

The variance will not substantially impair the intent, purpose, or integrity of the 2014 *Landover Metro Area and MD 202 Corridor Sector Plan and Sectional Map Amendment*. This plan recommends mixed-use residential land use, and the support of redeveloped retail uses along the corridor. The subject property for the special exception is located in the Established Communities policy area. The Plan Prince George's 2035 Approved General

Plan describes Established Communities as areas appropriate for context-sensitive infill and low- to medium-density development, and recommends maintaining and enhancing public services and infrastructure, to ensure that the needs of residents are met.

The proposed uses of the site are a permitted use by special exception in the C-S-C Zone. Therefore, the variance is compatible with the surrounding area and community.

8. **Parking Regulations:** In accordance with the parking and loading regulations contained in Section 27-568 of the Zoning Ordinance, there are 49 proposed parking spaces provided, which exceeds the minimum requirement of 46 spaces for the proposed uses. One loading space is provided, satisfying the requirement for the development. All parking and loading spaces are appropriately sized.
9. **2010 Prince George's County Landscape Manual Requirements:** The landscape plan displays landscaping, screening, and buffering that is in general conformance with the 2010 *Prince George's County Landscape Manual* requirements. The requirements are as follows: Section 4.2, Landscape Strips Along Streets; Section 4.3, Parking Lot Requirements; Section 4.4, Screening Requirements; Section 4.6, Buffering Development from Special Roadways (for frontage along Landover Road); and Section 4.9, Sustainable Landscape Requirements. However, the submitted landscape plans do not have a Section 4.6-2 Schedule. The applicant must provide a Section 4.6 schedule and show conformance with the requirements. Furthermore, the landscape plan also shows a landscape strip along public roadway Kent Town Drive. Section 4.10 is applicable to private streets only.
10. **Tree Canopy Coverage:** This application is subject to the requirements of the Tree Canopy Coverage Ordinance. The subject site is located within the C-S-C Zone and required to provide 10 percent of the site area in tree canopy coverage (TCC). In accordance with the Tree Canopy Coverage Ordinance, the proposed development is required to provide a minimum of 0.45 acre (19,602 square feet). The TCC schedule includes errors and takes credit for existing off-site tree canopy, adjacent to the property, to fulfill the TCC requirement for the subject site, which is not in conformance with Section 25-129(a) of the Tree Canopy Coverage Ordinance. The applicant should revise the plan and schedule to satisfy the requirements of Tree Canopy Coverage Ordinance.
11. **Prince George's County Woodland and Wildlife Habitat Conservation Ordinance:** The site is exempt from the provisions of the WCO because the property contains less than 10,000 square feet of woodland and has no previous tree conservation plan approvals. A Standard Letter of Exemption from the WCO was issued for this site (S-157-2020), which expires on October 7, 2022.
12. **Signage:** The signage chart, sign details, and sign location key map shown on Sheet 5 of the special exception plan requires revisions, due to numerous inconsistencies and errors. For example, the signage chart shows five canopy-mounted signs provided, but plans only show three. Plans show locations for signage types six and nine, for which no details are provided, and they are not accounted for in the signage chart. The chart notes two directional signs are provided, but plans show four. A new signage plan is needed with all required information for the proposed signage for this development.

Freestanding signage–The site plan shows six freestanding signs with advertising. There are two larger signs with gas station pricing and four smaller directional signs. The proposed signs on the signage plan should be revised, in accordance with Section 27-614(d)(2) of the Zoning Ordinance. The directional signs with advertising must be removed from the plan entirely, or can be retained, provided all advertising for the Royal Farms business is removed. Furthermore, site plans display the labeling of two pylon signs proposed, but details show monument signs instead.

Building and canopy-mounted signage–The series of building and canopy-mounted signage shown on the plans appear to be in general conformance with the applicable requirements of Section 27-613 of the Zoning Ordinance. However, as previously noted, the signage plan in general requires several corrections and clarifications to demonstrate conformance with Part 12, Signs.

13. Referral Comments: The following referrals were received and are incorporated herein by reference. All of the comments are addressed on the site plan, or as part of this technical staff report:

- a. Community Planning Division, dated May 28, 2021 (White to Braden)
- b. Transportation Planning Section, Traffic, dated May 27, 2021 (Burton to Braden)
- c. Transportation Planning Section, Pedestrian and Bicycle Facilities, dated May 24, 2021 (Smith to Braden)
- d. Environmental Planning Section, dated May 21, 2021 (Rea to Braden)
- e. Historic Preservation Section, dated April 26, 2021 (Stabler to Braden)
- f. Urban Design Section, dated May 25, 2021 (Bossi to Braden)
- g. Prince George’s County Department of Permitting, Inspections and Enforcement, dated May 20, 2021 (Giles to Braden)

RECOMMENDATION

A special exception use is considered compatible with uses permitted by right within the Commercial Shopping Center (C-S-C) Zone if specific special exception criteria are met. A special exception must be approved if the applicant satisfies the required criteria which are intended to address any distinctive adverse impacts associated with the use.

Based on the applicant’s statement of justification, the analysis contained in the technical staff report, associated referrals, and materials in the record, the applicant has demonstrated conformance with the required special exception findings, as set forth in Section 27-317 (in general), Section 27-355 (food and beverage store), and Section 27-358 (gas station) of the Prince George’s County Zoning Ordinance, except for Section 27-358(a)(2). Staff finds the proposed application satisfies the requirements for approving a variance and, therefore, finds the application will be in conformance with the Zoning Ordinance requirements if the variance is granted.

Therefore, staff recommends APPROVAL of Special Exception SE-4834, for Royal Farms #411 (Kent Village), and Variance to Section 27-358(a)(2), for the gas station to be less than 300 feet from an outdoor playground, subject to the following conditions:

1. Prior to certificate approval, the applicant shall revise the special exception plan and provide additional information as follows:
 - a. Provide a new signage plan, including clearly identifying the number and location of freestanding signs, to demonstrate conformance with the applicable requirements of Part 12, Signs, of the Prince George's County Zoning Ordinance.
 - b. Revise the plan and the tree canopy coverage schedule to demonstrate conformance with the Tree Canopy Coverage Ordinance.
2. Prior to certificate of approval, remove the Section 4.10 schedule and replace it with the Section 4.2 schedule and landscape planting on the landscape plan if Kent Town Drive is a public roadway.
3. Prior to certification of the special exception, revisions shall be made to the site and landscape plan by providing a schedule to demonstrate conformance with Section 4.6 of the 2010 *Prince George's County Landscape Manual*.

From: [Kwesi Woodroffe](#)
To: [Braden IV, Sam](#)
Cc: [PGCReferrals](#)
Subject: RE: ACCEPTANCE REFERRAL SE-4834 - Royal Farms #411 (Kent Village); SHA; KW
Date: Friday, April 30, 2021 9:09:54 AM
Attachments: [image009.png](#)
[image010.png](#)
[image011.png](#)
[image012.png](#)
[image013.png](#)
[image014.png](#)
[image015.png](#)
[image016.png](#)
[image017.png](#)
[image019.png](#)
[image020.png](#)
[image021.png](#)
[image022.png](#)
[image023.png](#)
[image024.png](#)
[image025.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)

[EXTERNAL EMAIL] Exercise caution when opening attachments, clicking links, or responding.

Sam,

I review the referral.

An Access Permit will be required for the proposed improvements along Landover Rd (MD 202). The Applicant should make a formal submittal of detailed engineering plans and supporting documents to SHA for review.

I will not be able to make the SDRC meeting today as I have a previously scheduled meeting that I need to attend.

Thanks, Kwesi

Kwesi Woodroffe
Regional Engineer
District 3 Access Management
MDOT State Highway Administration
KWoodroffe@mdot.maryland.gov

Office Hours

M-Thurs.: 6:30a-3:30p

Fr: 6:30a-10:30a

**9300 Kenilworth Avenue,
Greenbelt, MD 20770**

<http://www.roads.maryland.gov>





From: Braden IV, Sam [mailto:Sam.BradenIV@ppd.mncppc.org]
Sent: Friday, April 30, 2021 8:56 AM
To: Kwesi Woodroffe <KWoodroffe@mdot.maryland.gov>
Subject: FW: ACCEPTANCE REFERRAL SE-4834 - Royal Farms #411 (Kent Village)

Good Morning Kwesi,

Here is the case summary and dropbox for your review. Case is on SDRC agenda today.

Thanks,

Sam Braden IV

Senior Planner | Subdivision and Zoning Section

Development Review Division



14741 Governor Oden Bowie Drive, Upper Marlboro, MD 20772

301-952-3411 | Sam.BradenIV@ppd.mncppc.org



From: ePlan <ePlan@ppd.mncppc.org>
Sent: Friday, April 16, 2021 2:12 PM
To: Smith, Tyler <Tyler.Smith@ppd.mncppc.org>; Hall, Ashley <Ashley.Hall@ppd.mncppc.org>; Stabler, Jennifer <Jennifer.Stabler@ppd.mncppc.org>; Henderson, Tamika <Tamika.Henderson@ppd.mncppc.org>; Franklin, Judith <Judith.Franklin@ppd.mncppc.org>; Green, David A <davida.green@ppd.mncppc.org>; Gupta, Mridula <Mridula.Gupta@ppd.mncppc.org>; Conner, Sherri <sherri.conner@ppd.mncppc.org>; Masog, Tom <Tom.Masog@ppd.mncppc.org>; Barnett-Woods, Bryan <bryan.barnettwoods@ppd.mncppc.org>; Zhang, Henry <Henry.Zhang@ppd.mncppc.org>; Kosack, Jill <Jill.Kosack@ppd.mncppc.org>; Dixon, June <june.dixon@ppd.mncppc.org>; Chaconas, Sheila <Sheila.Chaconas@ppd.mncppc.org>; Holley, Edward <Edward.Holley@Pgparcs.com>; PPD-EnvDRDreferrals <[SE-4834_Backup 38 of 192](mailto:ppd-</p></div><div data-bbox=)

envdrdreferrals@ppd.mncppc.org>; Reilly, James V <JVReilly@co.pg.md.us>; slttoth@co.pg.md.us;
De Guzman, Reynaldo S. <rsdeguzman@co.pg.md.us>; Giles, Mary C. <mcgiles@co.pg.md.us>;
mtayyem@co.pg.md.us; Snyder, Steven G. <SGSnyder@co.pg.md.us>; Formukong, Nanji W.
<nwformukong@co.pg.md.us>; rlattivor@co.pg.md.us; mabdullah@co.pg.md.us;
SYuen@co.pg.md.us; tltolson@pg.co.md.us; swthweatt@co.pg.md.us; aoadepoju@co.pg.md.us;
#dsgintake@wsscwater.com; Wkynard@pepcoholdings.com; pmartinez@washgas.com;
mayor@cheverly-md.gov; townadministrator@cheverly-md.gov; eestes@cityofglenarden.org;
etobias@cityofglenarden.org; chollingsworth@hyattsville.org; Planning@hyattsville.org;
'Lndvrhills@aol.com' <Lndvrhills@aol.com>; j.schomisch@landoverhills.us

Cc: Braden IV, Sam <Sam.BradenIV@ppd.mncppc.org>; Spradley, DeAndrae
<DeAndrae.Spradley@ppd.mncppc.org>; Hurlbutt, Jeremy <Jeremy.Hurlbutt@ppd.mncppc.org>;
Kosack, Jill <Jill.Kosack@ppd.mncppc.org>; Summerlin, Cheryl
<Cheryl.Summerlin@ppd.mncppc.org>; Townsend, Donald <Donald.Townsend@ppd.mncppc.org>;
Fairley, Lillian <Lillian.Fairley@ppd.mncppc.org>; Davis, Lisa <Lisa.Davis@ppd.mncppc.org>;
Windsor, Theresa <Theresa.Windsor@ppd.mncppc.org>; Checkley, Andree
<andree.checkley@ppd.mncppc.org>; Hunt, James <James.Hunt@ppd.mncppc.org>; Staton,
Kenneth <Kenneth.Staton@ppd.mncppc.org>; Matthew C. Tedesco <mtedesco@mhlawyers.com>;
Lee, Randar <Randar.Lee@ppd.mncppc.org>

Subject: ACCEPTANCE REFERRAL SE-4834 - Royal Farms #411 (Kent Village)

This is an EPlan ACCEPTANCE of **SE-4834 - Royal Farms #411 (Kent Village)** to be reviewed at the **PLANNING BOARD** level.

This case was officially accepted as of today, **APRIL 16, 2021**. SDRC is scheduled for **April 30, 2021**

Major Issue Referral Deadline **5/20/2021**

Referral Due Date 5/24/2021

- All responses must be emailed to the assigned reviewer and to PGCReferrals@ppd.mncppc.org ;
- attach signed memo's on official letterhead
- attach a signed PDF and Word version of the document.
- The email subject must include: Case number + Case name + Dept + Reviewer initials.
- Please indicate in the body of your email if the attached response is the 1st, 2nd or 3rd

Please submit ALL comments to assigned reviewer **Sam.BradenIV@ppd.mncppc.org** and PGCReferrals@ppd.mncppc.org

Click on the hyperlink to view the Acceptance documents: https://www.dropbox.com/sh/tor86im8jup37kt/AACswJAfyi_Z6QIZ_LmvW2RAa?dl=0

If you need assistance please contact Cheryl.summerlin@ppd.mncppc.org.

Randa Lee

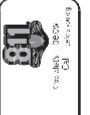
Senior Planning Technician, Development Review Division



14741 Governor Oden Bowie Drive, Upper Marlboro, MD 20772

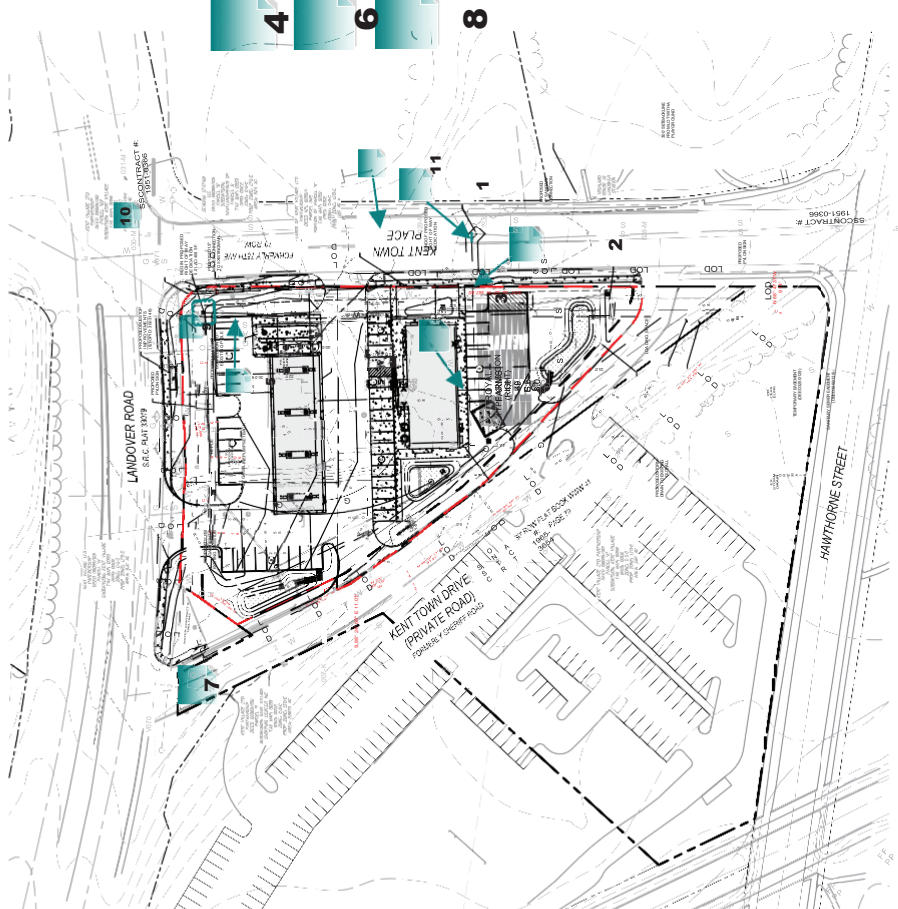
301-952-3867 | randar.lee@ppd.mncppc.org





SITE 31AN
SCALE: P = 50'

NO
H
T



12
13

| Item | Notes | Quantity | Unit |
|------|------------------------------------|----------|------|
| 1 | Normal Parking | 1 | 1 |
| 2 | Generation 2-10 (1st - 10th Floor) | 2 | 2 |
| 3 | Generation 1-10 (1st - 10th Floor) | 3 | 3 |
| 4 | Generation 1-10 (1st - 10th Floor) | 4 | 4 |
| 5 | Generation 1-10 (1st - 10th Floor) | 5 | 5 |
| 6 | Generation 1-10 (1st - 10th Floor) | 6 | 6 |
| 7 | Generation 1-10 (1st - 10th Floor) | 7 | 7 |
| 8 | Generation 1-10 (1st - 10th Floor) | 8 | 8 |
| 9 | Generation 1-10 (1st - 10th Floor) | 9 | 9 |
| 10 | Generation 1-10 (1st - 10th Floor) | 10 | 10 |
| 11 | Generation 1-10 (1st - 10th Floor) | 11 | 11 |

| 3 PARKING AND LOADING SC-ELEVA | | SC-ELEVA | REQUIRED | PROVIDED |
|---|--------------|----------|----------|----------|
| DESCRIPTION | RATE | | | |
| RETAIL OFFICE 4,000 SF AREA | 1 PER 200 SF | 20 | 20 | |
| OFFICE/RETAIL 4,000 SF AREA | 1 PER 200 SF | 20 | 20 | |
| RESIDENTIAL 11,000 SF SEATS | 1 PER 100 SF | 110 | 110 | |
| ACCESSIBLE SPACES (INCLUDES 1 PER 500 SF) | 1 PER 500 SF | 2 | 2 | |
| TOTAL ALL ACCESSIBLE SPACES | | 132 | 132 | |

SETBACK TABLE

SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

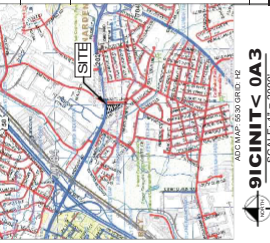
SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

SETBACK REQUIRED FROM LOT WITH A RAVINE 20 FT

- SITE LEGEND**
- RR LEASELINE
 - PROPERTY LINE
 - SPECIAL EXISTENCE LINE
 - EXISTENCE PROPERTY LINE
 - PROPOSED PROPERTY LINE
 - EX. CURB AND GUTTER
 - EX. CURB AND SIDEWALK
 - RR CURB FINISH
 - EX. MANHOLE COVER
 - EX. MANHOLE
 - RR MANHOLE COVER
 - RR MANHOLE
 - RR GAS
 - RR WATER
 - RR GAS
 - RR MANHOLE
 - RR MANHOLE
 - RR TEST PIT
 - RR CONCRETE
 - RR BUILDING



Kimley Horn

1000 N. 20th St., Suite 1000, Raleigh, NC 27601

PH: 919.286.1000 | FAX: 919.286.1001

WWW.KIMLEYHORN.COM

| | |
|-------------|------|
| PREPARED BY | DATE |
| DRAWN BY | DATE |
| CHECKED BY | DATE |
| APPROVED BY | DATE |

11 - KENT VILLAGE

REPAIRED ROYAL FARMS

SITE PLAN

CALL 48 HOURS
BEFORE YOU DG
IT'S HELANWI
DAL 811

1 - Horizontal Bends

Created by: Jessica Wright
On: 04/28/2021 02:17 PM

Horizontal bends not permitted on 24-inch and smaller diameter sewers. See Specifications and Standard Details S/6.0, S/6.1, S/6.2, S/6.3, S/6.3a, S/6.7, S/6.8.

.....0 Replies

2 - Cleanout at Property Line

Created by: Jessica Wright
On: 04/28/2021 02:29 PM

Show a cleanout (or a manhole) at the property line.

.....0 Replies

3 - Termination

Created by: Jessica Wright
On: 04/28/2021 02:33 PM

Terminate on-site sewer 5 feet from building.

.....0 Replies

4 - Water and SewerComments

Created by: Jessica Wright
On: 04/28/2021 04:24 PM

1. This site is currently being served by existing and active water and sewer connections.
2. Realign water and sewer service connection to avoid environmental, storm water management facilities, ESD Devices, other utilities, landscaping, tree boxes and structures or paving impacts for future maintenance.
3. Show and label easement limits on plan for all existing water/sewer mains.
4. Maintain the required horizontal clearances from other utilities, sediment traps, street lights, paving, etc. See WSSC 2017 Pipeline Design Manual Part Three, Section 3; Pipeline Crossings and Clearances.
5. There is a 12- inch diameter water main located on or near this property. WSSC records indicate that the pipe material is Cast Iron (CI). Prior to submittal of Phase 2 System Integrity review, it is the applicant’s responsibility to test pit the line and determine its exact horizontal and vertical location as well as to verify the type of pipe material. The applicant’s engineer is responsible for coordinating with WSSC for monitoring and inspecting test pits for this project.
6. Water and sewer pipelines 12-inch and smaller must have the greater of: a minimum of 15 feet horizontal separation from any building or dwelling or a 1:1 slope from the bottom of the foundation of the existing or proposed building to the bottom edge of the pipeline trench.

.....0 Replies

5 - Separation

Created by: Jessica Wright

On: 04/28/2021 04:44 PM

Maintain 5' separation between the water line and other utilities and structures.

.....0 Replies

6 - General

Created by: Jessica Wright

On: 04/28/2021 05:32 PM

1. Follow WSSC Demolition/Abandonment procedures to obtain a County Raze Permit. Note: Failure to obtain an SDC fixture credit permit inspection prior to the removal of existing fixtures will result in the issuance of Basic Credit Only. To obtain System Development Charge (SDC) credits for existing plumbing fixtures, an SDC Fixture Count Inspection MUST be completed by a WSSC Regulatory Inspector BEFORE REMOVAL OF FIXTURES OR DEMOLITION of the structure. The inspection requires a permit which can only be obtained through a WSSC Registered Master Plumber. SDC Fixture Credit Procedures are available at the WSSC Permit Services website.

2. Any grading change in pipe loading (including but not limited to proposed fill or excavation), adjustment to manhole rims, fire hydrant relocations, placement of access roads or temporary haul roads, temporary sediment control devices, paving construction or construction related activity of any kind over an existing WSSC water or sewer main or within an existing WSSC right-of-way requires advance approval by WSSC. Any proposed public street grade establishment plan (GEP) with an existing WSSC water or sewer main of any size located within the existing or proposed public street right-of-way requires WSSC approval directly on the original GEP prior to approval of the GEP by the County Department of Public Works and Transportation. Any work (design, inspection, repair, adjustment, relocation or abandonment of existing WSSC facilities) is done at the sole expense of the applicant/builder/developer. Contact WSSC Relocations Unit at (301) 206-8672 for review procedures and fee requirements. See WSSC 2017 Pipeline Design Manual, Part Three, Section 5 & Section 11.

3. Show and label all existing nearby water and/or sewer service connections that may be impacted by the proposed development.

.....0 Replies

7 - Show Easement on Private Road

Created by: Jessica Wright

On: 04/28/2021 05:36 PM

Show limits of the WSSC easement.

.....0 Replies

8 - Hydraulic Comments

Created by: Jessica Wright
On: 04/29/2021 08:48 AM

1. Site Utility System reviews are required for projects with proposed water connections greater than 2-inch or sewer connections greater than 4-inch. Contact the WSSC Permit Services Unit on (301) 206-8650 for submittal requirements or view our website.
2. A 12-inch water main is available to serve the proposed site. Contact the Permit Services Unit at (301) 206-8650 for details regarding applying for service connections or visit our website.
3. A 8-inch gravity sewer main is available to serve the proposed site. Contact the Permit Services Unit at (301) 206-8650 for details regarding applying for service connections or visit our website.

.....0 Replies

9 - Water Connection

Created by: Jessica Wright
On: 04/29/2021 08:52 AM

Are you connecting to an existing on-site water line?
Otherwise, connect to the WSSC water main (12-inch Cast Iron) located in Landover Road.

.....0 Replies

10 - Manhole Location

Created by: Jessica Wright
On: 04/29/2021 10:02 AM

Make sure the manhole location are clearly shown in addition to the label.

.....0 Replies

11 - Manhole 029M

Created by: Jessica Wright
On: 04/29/2021 10:05 AM

Clearly shown on plan.

.....0 Replies

12 - 1 - WSSC Plan Review Comments

Created by: Mary Mapes
On: 04/26/2021 03:00 PM

WSSC Plan Review Comments
SE-4834 - Royal Farms # 411 - Kent Village

.....0 Replies

13 - 2 - WSSC Standard Comments for All Plans

Created by: Mary Mapes
On: 04/26/2021 03:01 PM

1. WSSC comments are made exclusively for this plan review based on existing system conditions at this time. We will reevaluate the design and system conditions at the time of application for water/sewer service.
2. Coordination with other buried utilities:
 - a. Refer to WSSC Pipeline Design Manual pages G-1 and G-2 for utility coordination requirements.
 - b. No structures or utilities (manholes, vaults, pipelines, poles, conduits, etc.) are permitted in the WSSC right-of-way unless specifically approved by WSSC.
 - c. Longitudinal occupancy of WSSC rights-of-way (by other utilities) is not permitted.
 - d. Proposed utility crossings of WSSC pipelines or rights-of-way that do not adhere to WSSC pipeline crossing and clearance standards will be rejected at design plan review. Refer to WSSC Pipeline Design Manual Part Three, Section 3.
 - e. Failure to adhere to WSSC crossing and clearance standards may result in significant impacts to the development plan including, impacts to proposed street, building and utility layouts.
 - f. The applicant must provide a separate Utility Plan to ensure that all existing and proposed site utilities have been properly coordinated with existing and proposed WSSC facilities and rights-of-way.
 - g. Upon completion of the site construction, utilities that are found to be located within WSSC rights-of-way (or in conflict with WSSC pipelines) must be removed and relocated at the applicants expense.
3. Forest Conservation Easements are not permitted to overlap WSSC existing or proposed easements. Potential impacts to existing Forest Conservation Easements (due to proposed water and/or sewer systems) must be reviewed and approved by County staff.
4. Unless otherwise noted: ALL extensions of WSSCs system require a request for Hydraulic Planning Analysis and need to follow the System Extension Permit (SEP) process. Contact WSSC's Permit Services Section at (301-206-8650) or visit our website at <https://www.wsscwater.com/business--construction/developmentconstruction-services.html> for requirements. For information regarding connections or Site Utility (on-site) reviews, you may visit or contact WSSC's Permit Services Section at (301) 206-4003.

.....0 Replies



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20772
TTY: (301) 952-3796

Prince George's County Planning Department
Development Review Division

301-952-3530

URBAN DESIGN SECTION - SDRC MAJOR ISSUES

APPLICATION NUMBER & NAME: **SE-4834 – Royal Farms #411, Kent Village**
Proposed 4,649 sq. ft. food and beverage store/eating and drinking establishment and gas station.

SDRC DATE: April 30, 2021 URBAN DESIGN REVIEWER: Adam Bossi

ZONING: C-S-C PREVIOUS APPROVALS: SE-653, 4-86130

DSP REQUIRED: YES NO

REASON FOR DSP: N/A – Special Exception Required for proposed food or beverage store in combination with a gas station in the C-S-C Zone.

ZONING ORDINANCE CONFORMANCE:

Eating and drinking establishment is a permitted use in the zone.

Food or beverage store in combination with a gas station requires special exception approval.

Non-conformance with 300' required separation from playground per 27-358(a)(2). An associated variance request has been provided. The variance appears generally supportable, but expect it to be scrutinized by the Board and Council:

Sec. 27-358. - Gas station.

(a) A gas station may be permitted, subject to the following:

(1) The subject property shall have at least one hundred and fifty (150) feet of frontage on and direct vehicular access to a street with a right-of-way width of at least seventy (70) feet:

(2) The subject property shall be located at least three hundred (300) feet from any lot on which a school, outdoor playground, library, or hospital is located:

Page 7 SOJ discussion relative to conformance with 27-317(a)(5) does not offer a discussion of conformance. I do not agree with the applicant's highlighted assertion below. Utilizing the same logic, one could assert that b/c a determination was made that the use requires a special exception to be permitted, it is not considered compatible with the neighborhood. Additionally, the last line in the applicant's response essentially states that the proposed gas station/convenience store will not be any worse than any other similar development. The burden is on the applicant to demonstrate compatibility and the submitted response does not achieve this.

(5) The proposed use will not be detrimental to the use or development of adjacent properties or the general neighborhood; and

COMMENT: SE-4834 is to develop a food or beverage store in combination with a gas station. As provided on the site plan filed in conjunction with this application, the proposed use will not be detrimental to the development of the adjacent properties, but will enhance the existing uses by supplementing them with this co-located service. By making this use a permitted use in the C-S-C Zone, subject to the approval of a special exception, a determination has already been made that the use is prima facie compatible with the neighborhood, and, as provided in the additional studies and site plans filed in conjunction with the application, no adverse impacts associated with the proposed use will exceed those inherent to said use.

Parking and Loading – The bay of 20 parking spaces in front of the store is too many. Break up this row of parking with planted islands in conformance with the requirements of Section 4.3 of the Landscape Manual.

Lighting – photometric plan needs correction. See minor issues comments.

Signage – 2 pylons, 2 advertising freestanding – this is too many freestanding signs. See major issues comments.

Pedestrian circulation – Why no sidewalk proposed along Kent Town Drive?

Architecture – No major issues. Typical for the brand/use.

PREVIOUS APPROVALS CONFORMANCE: Not addressed by applicant.

LANDSCAPE MANUAL CONFORMANCE: Section 4.2 landscape strip along Landover Road needs to be replaced with a Section 4.6 buffer to the scenic/historic adjacent to the site. The existing landscape design in this frontage area appears it meets 4.6 design criteria. Update the landscape schedules accordingly.

Tree island needed in front of the Royal Farms store to conform with Section 4.3.

TREE CANOPY COVERAGE (TCC) CONFORMANCE: Section 25-128 requires projects in the C-S-C zone to provide 10 percent of the gross tract area in TCC. The 4.5-acre site is required to provide 0.45 acres in TCC coverage. The TCC schedule provided is incorrect and shows a site area of 1.86 acres. Conformance TCC criteria is not met. TCC calculations require updating. Landscape plan may require revision to accommodate sufficient TCC.

| Tree Canopy Coverage Schedule for Sec. 25-128 | | | |
|--|--------------|----------------------|-----------------------|
| Project Name: Royal Farms No. 411 - Kent Village | TCP2#: n/a | DRD Case #: | Area (acres) |
| Site Calculations: | Zone 1: | C-S-C | 1.86 |
| | Zone 2: | | |
| | Zone 3: | | |
| | Zone 4: | | |
| | Total Acres: | | 1.86 |
| | | TCC Required (Acres) | TCC Required in (SF) |
| Total Acres (gross acres) | 1.86 | 10.0% | 0.19 8,102 |
| A. TOTAL ON-SITE WC PROVIDED (acres) = | | 0.00 acres | 0 |
| B. TOTAL AREA EXISTING TREES (non-WC acres) = | | 0.00 acres | 0 |
| C. TOTAL SQUARE FOOTAGE IN LANDSCAPE TREES = | | | 8,800 |
| D. TOTAL TREE CANOPY COVERAGE PROVIDED = | | | 8,800 |
| E. TOTAL SQUARE FOOTAGE REQUIRED = | | | 8,102 |
| | | | Requirement Satisfied |

| Credit Categories for Landscape Trees | TCC Credit per Tree Based on Size at Planting (SF) | Number of Trees | TCC Credit (SF) |
|--|--|-----------------|-----------------|
| Deciduous - columnar shade tree (50' or less height) | 2-1/2 - 3" = 50 | | 0 |
| | 3 - 3 1/2" = 75 | | 0 |
| | 1-1/2 - 1-3/4" = 75 | | 0 |
| Deciduous - ornamental tree (20' or less height with equal spread). Minimum planting size 7-9' in height | 2 - 2 1/2" = 100 | | 0 |
| | 3-3 1/2" = 125 | | 0 |
| | 1-1 1/2" = 125 | | 0 |
| Deciduous - minor shade tree (25-50' height with equal spread or greater). Minimum planting size 8-10' in height | 2-2 1/2" = 150 | | 0 |
| | 3 - 3 1/2" = 175 | | 0 |
| | 2-2 1/2" = 200 | 44 | 8800 |
| Deciduous - major shade tree (50' and greater ht. with spread equal to or greater than ht) Minimum planting size 12 to 14' in height | 3 - 3 1/2" = 250 | | 0 |
| | 6 - 8" = 40 | | 0 |
| | 8 - 10" = 50 | | 0 |
| Evergreen - columnar tree (less than 30' height with spread less than 15') | 10 - 12" = 75 | | 0 |
| | 6 - 8" = 75 | | 0 |
| | 8 - 10" = 100 | | 0 |
| Evergreen - small tree (30-40' height with spread of 15-20') | 10 - 12" = 125 | | 0 |
| | 6 - 8" = 125 | | 0 |
| | 8 - 10" = 150 | | 0 |
| Evergreen - medium tree (40-50' height with spread of 20-30') | 10 - 12" = 175 | | 0 |
| | 6 - 8" = 150 | | 0 |
| | 8 - 10" = 200 | | 0 |
| Evergreen - large tree (50' height or greater with spread of over 30') | 10 - 12" = 250 | | 0 |
| | | | |
| TOTAL NUMBER OF TREES/TCC CREDIT (SF) | | 44 | 8800 |

MAJOR ISSUES:

- Variance request per 27-358(a)(2)**, for a 229-foot setback (in lieu of the 300 feet required) between the gas station and lot with a playground **must be highly scrutinized**. There has been a LOT of Planning

Board and Council cases involving this combination of proposed uses, and proximity to residential areas and playgrounds has been a major point of discussion. In both DSP and SDP cases, the Board and Council have referred to this 300-foot special exception requirement repeatedly.

| SETBACK TABLE | |
|---|----------|
| SETBACK REQUIRED FROM LOT WITH A PLAYGROUND | 300 FT |
| SETBACK PROVIDED FROM LOT WITH A PLAYGROUND | 229.7 FT |
| VARIANCE REQUESTED | 70.3 FT |
| DISTANCE TO PLAYGROUND | 788.4 FT |
| SETBACK REQUIREMENT PER SEC 27-358(A)(2) | |

2. **Signage:**
 - a. Provide a location key with the signage plan – show where all these signs are to be placed on the buildings and site.
 - b. Calculations in the Building and Canopy Sign Table are incorrect and do not account for all building mounted signage area proposed.
 - c. Address 27-613(c)(3)(D) – what is the area of building-mounted signage facing Kent Town Place?
 - d. Confirm the southern proposed pylon sign is located at least 10’ from the edge of the right-of-way of Kent Town Place.
 - e. There are four freestanding signs shown with advertising for this site, which does not conform with 27-613(d)(2). Remove advertising from the two small directional signs. Demonstrate there is sufficient street frontage to allow for two pylon signs.

3. **27-317(a)(5)** - Page 7 SOJ discussion on this requirement does not adequately address criteria. In general terms, this criteria has been of heightened interest to the Board, Council and opposition to proposed gas station/convenience store developments.

4. **Design problems - south side of Royal Farms building –**
 - a. Trash enclosure is poorly located from an operational standpoint and should be relocated.
 - b. Loading space is not practical for use in its current configuration.
 - c. Per a, b above, the rear parking area should be redesigned to relocate the dumpster and loading spaces to make them functional features. Their current placement makes them impractical from an operational standpoint.

5. **SOJ and site plans are not in harmony.** SOJ repeatedly references site plans with 5 access points to surrounding streets, but site plans show 4 access points. It appears plans were changed to remove the southern driveway to the rear of the building from Kent Town Place after the SOJ was written, and SOJ was not updated. The SOJ needs corrections throughout to address this issue. For example, the images below show the site plan on the left, and page 8 of the SOJ on the right, with access points highlighted in each:

Section 27-358

(a) A gas station may be permitted, subject to the following:

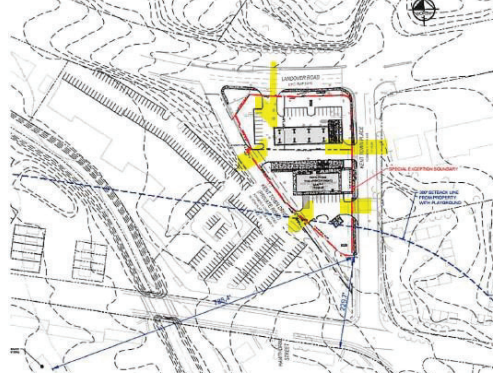
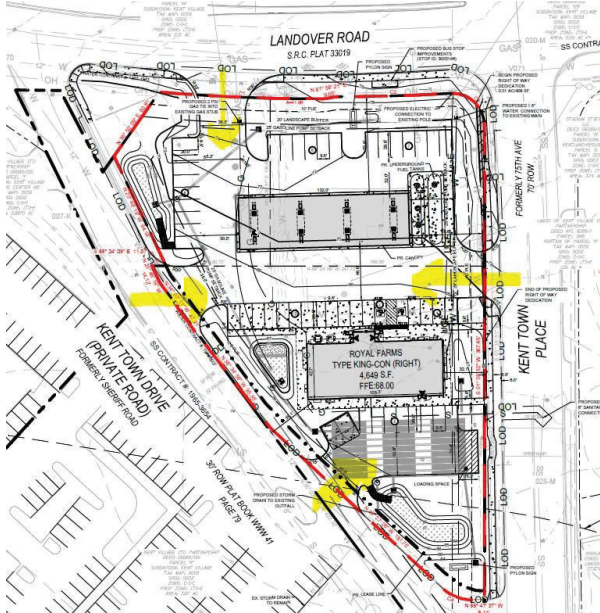
- (1) The subject property shall have at least one hundred and fifty (150) feet of frontage on and direct vehicular access to a street with a right-of-way width of at least seventy (70) feet;

COMMENT: The subject property is completely surrounded by roads, and has approximately 250 linear feet of frontage along MD 202 and 392 linear feet of frontage on Kent Town Place. SE-4834 proposes one access point on Landover Road (MD 202), which has a variable width right-of-way width that measures approximately 120 feet, and is designated as a master planned arterial (A-20). Two access points are proposed Kent Town Place, which has a platted right-of-way width of 70 feet.

- (2) The subject property shall be located at least three hundred (300) feet from any lot on which a school, outdoor playground, library, or hospital is located;

COMMENT: The subject property is located within the 300 feet radius of a lot with an outdoor playground. A variance to the 300 foot requirement is being requested with SE-4834. See Section V.

- (3) The use shall not include the display and rental of cargo trailers, trucks, or similar uses, except as a Special Exception in accordance with the provisions of Section 27-417.



6. **Application does not conform with Section 25-128, Tree Canopy Coverage requirements.** Site landscape plan may require modification for site to conform with TCC requirements.
7. **PGAtlas shows master planed bike/ped facilities** along Landover Road and Kent Town Place. The application is silent on this but should address associated requirements or recommendations (MPOT, Sector Plans, etc.). Transportation should comment.
8. **Landscape Manual – Section 4.3 conformance need** - Add 1-2 planted islands to break up the bay of parking in front (northside) of the building to demonstrate conformance with Section 4.3(2)(G) of the Landscape Manual.
9. **Provide information about prior approvals.** The submitted PPS resolution was incomplete and no discussion of the existing SE was provided. Are there any applicable conditions relevant to this application?
10. **Is a preliminary plan of subdivision required** to combine the lots?

MINOR ISSUES:

- A. Revise General Note 7 to be consistent with the uses defined by the Zoning Ordinance, in this case, a food and beverage store, eating and drinking establishment and a gas station. Three distinct uses are rolled into one convenience store/gas station.
- B. Revise the parking and loading schedule to remove “indoor and outdoor seating” label and replace with “eating and drinking establishment”.
- C. Adjust graphic for concrete paving – it blurs details and notes on the site plan, especially near the proposed building. Details such as bike racks and outdoor seating need to be readable.

- D. Label width of Landover Road on site plans.
- E. Photometric plan should be updated to use the correct site plan, consistent with the current proposal (it shows a different layout south of the building).
- F. Update the landscape plan and associated schedules to replace the Section 4.2 landscape strip along Landover Road with a buffer strip per the requirements of Section 4.6 of the Landscape Manual.
- G. Consider providing electric vehicle charging stations or infrastructure for future installation of charging stations.

NOTE: *Major revisions to the reviewed plans may result in additional comments.*

EPS SDRC REVIEW

CASE NUMBER: SE-4834

Reviewer: Mary Rea

PROJECT NAME: Royal Farms #411 Kent Village

SDRC Date: April 30, 2021

APPLICABLE MASTER PLANS:

GREEN INFRASTRUCTURE
AREAS:

REG EVAL GAP NONE

ALL ZONES: C-S-C

NRI: EL Full Intermed Limited CBCA N/A

WCO-EX: Standard Numbered N/A

EPS PLANS: TCP1 TCP2 CP N/A

Specimen Trees: Yes No

Variance Required: WCO CBCA N/A

REASON FOR VARIANCE:

PMA: Yes No

PMA LOJ REQUIRED: Yes No

ROADS ARTERIAL OR
HIGHER: Yes No

SPECIAL ROADWAYS: Scenic Historic Byway None

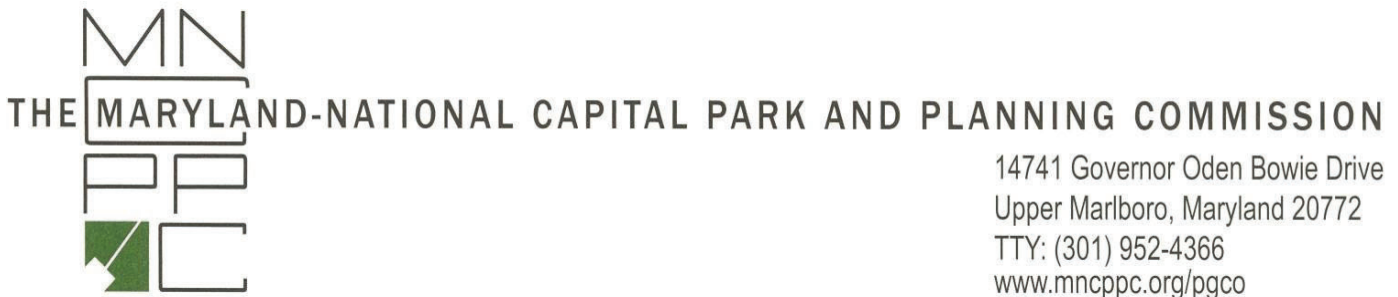
MARLBORO CLAY: Yes No

CHRISTIANA CLAY: Yes No

STORMWATER CONCEPT: Approved Approved Both N/A
Plan Letter

MAJOR ISSUES/REVISIONS:

- No Major Issues.
- Submit a copy of the approved SWM/Site Development concept letter and plan.



Countywide Planning Division
Historic Preservation Section

14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20772
TTY: (301) 952-4366
www.mncppc.org/pgco

301-952-3680

April 26, 2021

MEMORANDUM

TO: Sam Braden IV, Subdivision Section, Development Review Division

VIA: Howard Berger, Historic Preservation Section, Countywide Planning Division *HSB*

FROM: Jennifer Stabler, Historic Preservation Section, Countywide Planning Division *JAS*
Tyler Smith, Historic Preservation Section, Countywide Planning Division *TAS*

SUBJECT: **SE-4834 Royal Farms #411, Kent Village**

The subject property comprises 4.48 acres and is located in the southwest quadrant of the intersection of Landover Road (MD 202) and Kent Town Place. The subject application proposes a 4,649 square foot food and beverage store and eight multi-product fueling dispensers to accommodate a new Royal Farms. The subject property is Zoned C-S-C.

A search of current and historic photographs, topographic and historic maps, and locations of currently known archeological sites indicates the probability of archeological sites within the subject property is low. The subject property does not contain and is not adjacent to any Prince George's County Historic Sites or resources. This proposal will not impact any historic sites, historic resources or known archeological sites. Historic Preservation staff recommend approval of SE-4834 Royal Farms #411, Kent Village with no conditions.



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

Prince George’s County Planning Department
Countywide Planning Division, Transportation Planning Section

(301) 952-3680
www.mncppc.org

04/30/2021

MEMORANDUM

TO: Sam Braden IV, Development Review Division
FROM: Noelle Smith, Transportation Planning Section, Countywide Planning Division
SUBJECT: SDRC Major Issues – Pedestrian and Bicycle Transportation

Case Number: SE-4834 Case Name: Royal Farms

| Development Case Background | |
|--|---|
| Lot Size | 4.48 acres |
| Number of Units (residential) | n/a |
| Abutting Roadways | MD 202, Kent Town Place |
| Abutting or Nearby Master Plan Roadways | MD 202 |
| Abutting or Nearby Master Plan Trails | Bicycle lane along MD 202 (planned), shared use roadway along Kent Town Place (planned) |
| Proposed Use(s) | Gas, food, beverage |
| Zoning | CSC |
| Centers and/or Corridors | Landover Metro Center |
| Prior Approvals on Subject Site | n/a |
| Subject to 24-124.01: | n/a |
| Bicycle and Pedestrian Impact Statement Scope Meeting Date | n/a |

Development Proposal

The subject application proposes a 4, 649 gas station, food, and beverage store. The submitted plans include:

- Sidewalk along frontage of MD 202
- Sidewalk along frontage of Kent Town Place
- Sidewalk along small portion of Kent Town Drive near MD 202
- Five-foot sidewalk from building entrance to Kent Town Place
- Outdoor seating area

Comment: Staff recommend standard sidewalk be provided along the frontage of Kent Town Place. Staff also recommend a pedestrian connection from MD 202 to the building frontage. Please provide crosswalks and ADA curb ramps. Additionally, continental style crosswalks should be provided crossing all vehicular access points. Please provide widths of all sidewalks.

Smith, Noelle
2021-04-26 16:19:00 associated

Can we recommend sidewalk on private property? I don't think so, correct?

transportation related conditions.

Plan of Transportation

Prior Approvals

There are no prior approvals that include pedestrian or bicycle transportation.

Master Plan Recommendations

This development case is subject to 2009 Approved Countywide Master Plan.

(MPOT), which recommends the following facilities:

- Bicycle Lane along MD 202 Road (planned)
- Shared roadway along Kent Town Place (planned)

The MPOT provides policy guidance regarding multimodal transportation and the Complete Streets element of the MPOT recommends how to accommodate infrastructure for people walking and bicycling.

- Policy 2: All road frontage improvements and road capital improvement projects within the Developed and Developing Tiers shall be designed to accommodate all modes of transportation. Continuous sidewalks and on-road bicycle facilities should be included to the extent feasible and practical.
- Policy 4: Develop bicycle-friendly roadways in conformance with the latest standards and guidelines, including the 1999 AASHTO *Guide for the Development of Bicycle Facilities*.

Comment: The submitted plans do not reflect the recommended facilities. Staff recommend that the applicant provide a bicycle lane along the frontage of MD 202, unless modified by SHA. Staff also recommend shared road pavement markings, “sharrows”, and the appropriate signage be provided along the frontage of Kent Town Place unless modified by DPIE.

Details of bicycle racks have been provided within the submitted plans. However, the location and amount should be indicated on the plan sheets. Staff find that these facilities will enhance the overall connectivity to the adjacent community, and commercial uses, and fulfill the intent of the recommended facilities above and is in compliance with the master plan pursuant to Sec. 27-317(a)(2).

This development is also subject to 2014 *Approved Landover Metro Area and MD 202 Corridor Sector Plan* which includes the following recommendations for pedestrian and bicyclist facilities (pg. 71):

- Enhance overhead lighting along MD 202 to lessen conflicts between pedestrians, bicyclist, and vehicles.
- Enhance pedestrian connection to the Landover Metro Station.

Comment: The recommended improvements above fulfill the intent of connectivity within the area. However, staff recommend pedestrian scale lighting be provided on site. The recommended infrastructure fulfills the intent of improving pedestrian safety.

Major Issues and Preliminary Comments:

- The applicant shall revise the plans to provide:
 - Bicycle lane along frontage of MD 202, unless modified by SHA
 - Shared road pavement markings and signage along frontage of Kent Town Place, unless modified by DPIE
 - Standard five-foot-wide sidewalk along the entire frontage
 - Continental style crosswalks crossing all vehicular access
 - A pedestrian connection between MD 202 and the building
 - Minimum two Inverted-U style bicycle racks, or style similar to the building entrance convenient to the building entrance

Smith, Noelle
2021-04-26 16:21:00
corresponds with question above.

- Pedestrian scale lighting on site
- Indicate widths of all sidewalks on plan sheets



THE MARYLAND-NATIONAL CAPITAL PARK AND PLANNING COMMISSION

14741 Governor Oden Bowie Drive
Upper Marlboro, Maryland 20772
TTY: (301) 952-3796

Prince George's County Planning Department
Development Review Division

301-952-3530

SUBDIVISION SECTION - SDRC MAJOR ISSUES

APPLICATION NUMBER & NAME: SE-4834; Royal Farms #411 Kent Village

SDRC DATE: 4/30/2021 SUBDIVISION DESIGN REVIEWER: Mridula Gupta

PREVIOUS APPROVALS: 4-85014; 4-86130; 5-85040; 5-61202; 5-65197; 5-88283; V-85142; DSP-87027 (and its revisions); SE-3778; ROSP-3778A & B

SUBDIVISION REGULATIONS CONFORMANCE:

The applicant should clarify whether the PUE dedication is actually proposed with this application, or if the labeled area is simply that which would be dedicated once required.

PRELIMINARY PLAN OF SUBDIVISION CONFORMANCE:

Parcel "K" is subject to PPS 4-86130, approved by the Planning Board in September 1986. The PPS was approved subject to 3 conditions, which are listed below:

- 1. Approval of a site plan prior to building, grading or sediment control plan. The main purpose is to insure proper ingress/egress to this parcel and other parcels within the Kent Village Shopping Center.**
- 2. Approval of a conceptual stormwater management plan by the WSSC, prior to Final Plat of Subdivision; and**
- 3. Trails Coordinator memorandum of August 28, 1986.**

Condition 2 would have been satisfied prior to recordation of record plat 143-52 for Parcel K, and it thus no longer applicable. Condition 1 is applicable, and any development on Parcel K will require approval of a detailed site plan. Condition 3 referenced a memo which includes among other recommendations, sidewalk along east side and an asphalt shoulder along the west side of Kent Town Drive. This condition should be satisfied with development on any portion of Parcel K, if it has not been satisfied with prior development.

RECORD PLAT CONFORMANCE:

The property consists of Parcel G-9 and Parcel H in their entirety, and a triangular part of Parcel K totaling 4.48 acres of C-S-C zoned land. Parcel G-9 of Kent Village Shopping Center is recorded in Plat Book 41 page 79 in August 1961; Parcel "H" of Kent Village Shopping Center is recorded in Plat Book 57 page 22 in May 1965; and "K" of Kent Village Shopping Center is recorded in Plat Book NLP 143 page 52 dated December 1988.

No preliminary plans of subdivision were found for Parcels G-9 and H, and both these parcels were recorded prior to 1970. Section 24-111(c) of the Subdivision Regulations states that:

A final plat of subdivision approved prior to October 27, 1970, shall be resubdivided prior to the issuance of a building permit unless:

- (1) The proposed use is for a single-family detached dwelling(s) and uses accessory thereto; or**
- (2) The total development proposed for the final plat on a property that is not subject to a Regulating Plan approved in accordance with Subtitle 27A of the County Code and does not exceed five thousand (5,000) square feet of gross floor area; or**
- (3) The development proposed is in addition to a development in existence prior to January 1, 1990, and does not exceed five thousand (5,000) square feet of gross floor area; or**
- (4) The development of more than five thousand (5,000) square feet of gross floor area, which constitutes at least ten percent (10%) of the total area of a site that is not subject to a Regulating Plan approved in accordance with Subtitle 27A of the County Code, has been constructed pursuant to a building permit issued on or before December 31, 1991.**

In accordance with Section 24-111(c)(2), development on Parcels G-9 and H is exempt from resubdivision since no construction is proposed on them other than gas pumps.

A 4,649 square-foot royal farms store is proposed on Parcel K, construction of which will use a portion of development entitlement approved for this parcel under PPS 4-86130.

The boundary of part of Parcel K which included in this application, is marked by Kent Town Drive, which is a private street. The record plat for Parcel K shows 10'-wide PUEs, and rights-of-way for BGE and WSSC adjoining Kent Town Drive. The plat also includes 3 notes which are applicable, and are listed below:

- 1. Approval of this plat is predicated upon the water and sewer being available prior to construction.**
- 2. Site plan approval is required prior to building, grading or sediment control plans.**
- 3. Subject to approval by Public Works of a 6' wide concrete pedestrian/bikeway.**

Notes 2 and 3 are similar to Conditions 1 and 3 of 4-86130, and are applicable to this proposal. Note 1 will be satisfied with WSSC review & approval of any development plans.

MAJOR ISSUES/COMMENTS TO BE ADDRESSED:

1. The applicant needs to demonstrate how the proposed development on Parcel K will affect the entitlement approved under PPS 4-86130 for this parcel.
2. A detailed site plan is required, in accordance with Condition 1 of PPS 4-86130, which is applicable to Parcel K.
3. The plan shows existing utility easements for water and sewer adjacent to Kent Town Drive, but not the ROW for BGE, which is shown on the record plat as Liber 1117 folio 496. Please verify if this easement was vacated, otherwise it should be shown on the site plan.
4. A 10' PUE is shown along the eastern edge of Kent Town Drive. If the applicant is proposing a PUE dedication with this application, the applicant should file an application for a Final Plat following approval of the DSP in order to accomplish the dedication.
5. Site Plan shows a property line adjacent to Kent Town Drive. Applicant should clarify whether the intent is to submit a new preliminary plan of subdivision to create additional parcels or lots for development.

NOTE: *Major revisions to the reviewed plans may result in additional comments.*



Division of Environmental Health/Disease Control

Date: April 20, 2021

To: Sam Baden, Urban Design, M-NCPPC

From: Adebola Adepoju, Environmental Health Specialist, Environmental Engineering/ Policy Program

Re: SE-4834, Royal Farms # 411 (Kent Village)

The Environmental Engineering / Policy Program of the Prince George's County Health Department has completed a desktop health impact assessment review of the special exception plan submission for the Royal Farms located 7401-7415 Kent Town Place in Hyattsville and has the following comments / recommendations:

1. Health Department permit records indicate there are five existing carry-out/convenience store and two grocery food facilities within a ½ mile radius of this location. Research has found that people who live near an abundance of fast-food restaurants and convenience stores compared to grocery stores and fresh produce vendors, have a significantly higher prevalence of obesity and diabetes. ***The department acknowledges that Royal Farm stores do provide some healthy food options in their retail stores.***
2. Increased traffic volumes in the area can be expected as a result of this project. Published scientific reports have found that road traffic, considered a chronic environmental stressor, could impair cognitive development in children, such as reading comprehension, speech intelligibility, memory, motivation, attention, problem-solving, and performance on standardized tests.
3. ***The food facility is considered a prototype food service facility in which two or more facilities in the state having uniformed set of plans.*** The applicant must submit an application for plan review to the Maryland Department of Health's Environmental Health



Environmental Engineering/Policy Program
Largo Government Center
9201 Basil Court, Suite 318, Largo, MD 20774
Office 301-883-7681, Fax 301-883-7266, TTY/STS Dial 711
www.princegeorgescountymd.gov/health



Division of Environmental Health/Disease Control

Bureau's Food protection and Food Licensing program located at 6 St. Paul Street, Suite 1301, Baltimore, Maryland. 21202.

4. The applicant must submit plans to the Plan Review department at the Department of Permitting, Inspection Enforcement located at 9400 Peppercorn Place in Largo Maryland. 20774 for the proposed food facility and apply for a Health Department High HACCP priority, Food Service Facility permit.
5. The applicant should assure that all sources of air pollution have been registered with the Maryland Department of the Environment, Air and Radiation Management Administration. Such sources include gasoline underground storage tanks, degreasing tanks and paint spraying operations. Contact MDE – ARMA at 1 800-633-6101.
6. During the construction phases of this project, noise should not be allowed to adversely impact activities on the adjacent properties. Indicate intent to conform to construction activity noise control requirements as specified in Subtitle 19 of the Prince George's County Code.
7. During the construction phases of this project, no dust should be allowed to cross over property lines and impact adjacent properties. Indicate intent to conform to construction activity dust control requirements as specified in the 2011 Maryland Standards and Specifications for Soil Erosion and Sediment Control.

If you have any questions or need additional information, please contact me at 301-883-7677 or aoadepoju@co.pg.md.us.



Environmental Engineering/Policy Program
Largo Government Center
9201 Basil Court, Suite 318, Largo, MD 20774
Office 301-883-7681, Fax 301-883-7266, TTY/STS Dial 711
www.princegeorgescountymd.gov/health

ITEM:

CASE: SE-4834

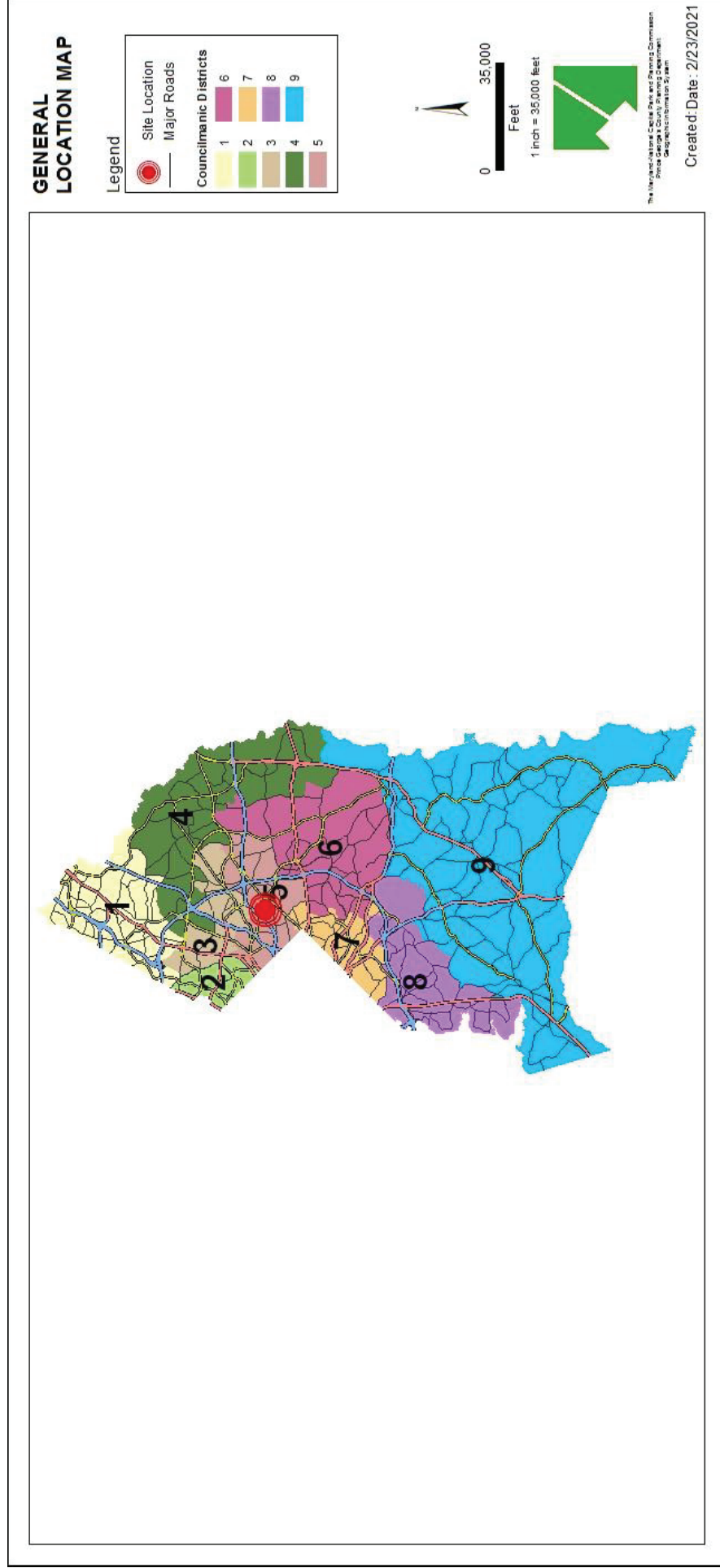
ROYAL FARMS #411, KENT VILLAGE

THE PRINCE GEORGE'S COUNTY PLANNING DEPARTMENT

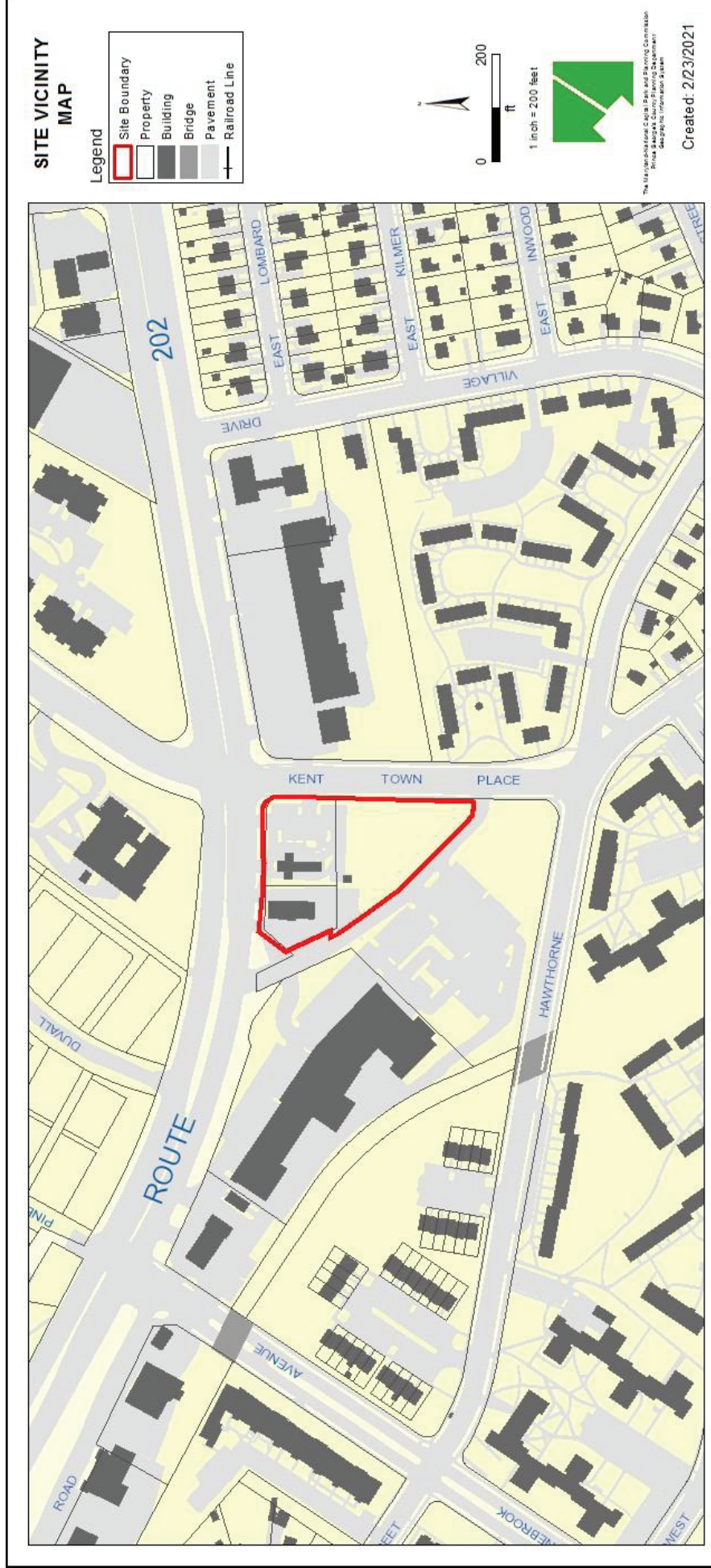


SE-4834_Backup 6/27/19

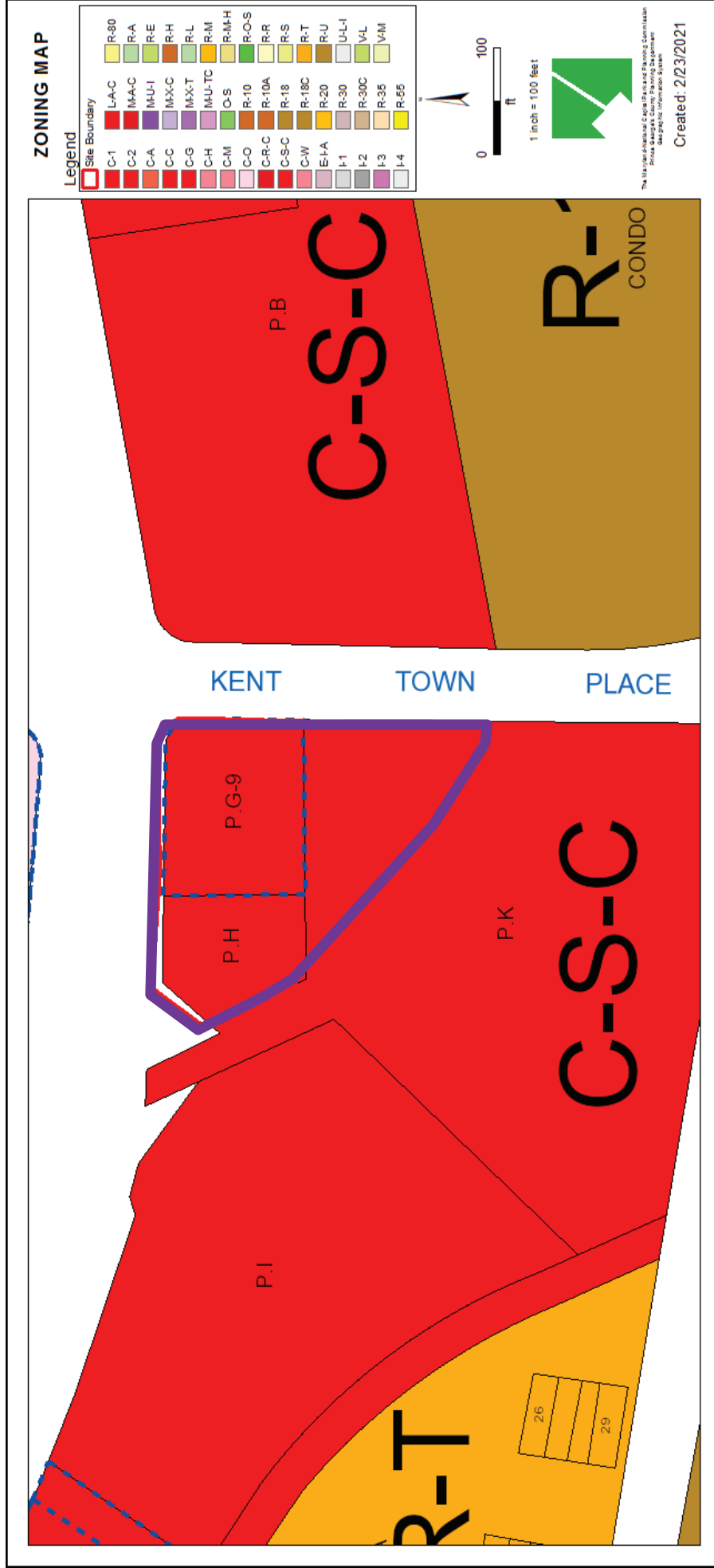
GENERAL LOCATION MAP



SITE VICINITY



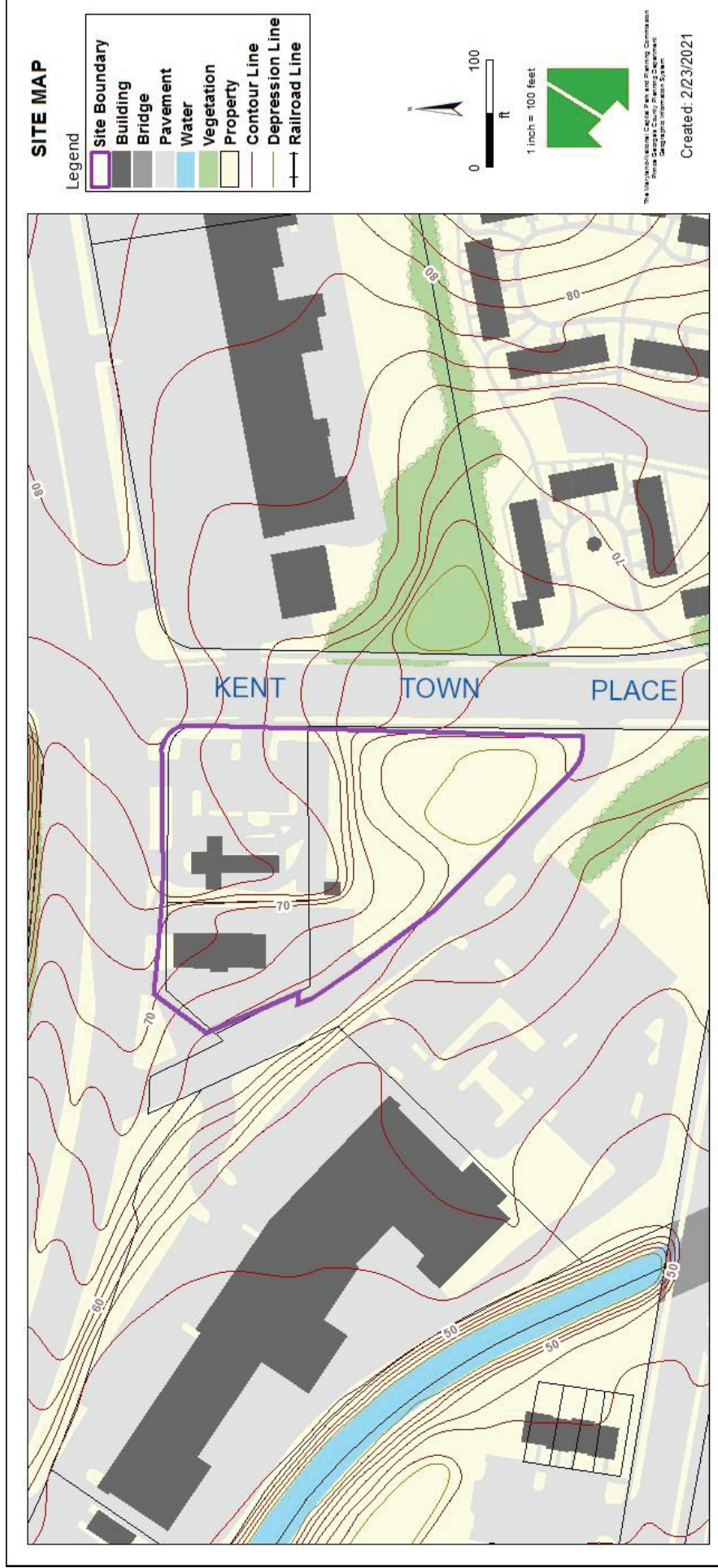
ZONING MAP



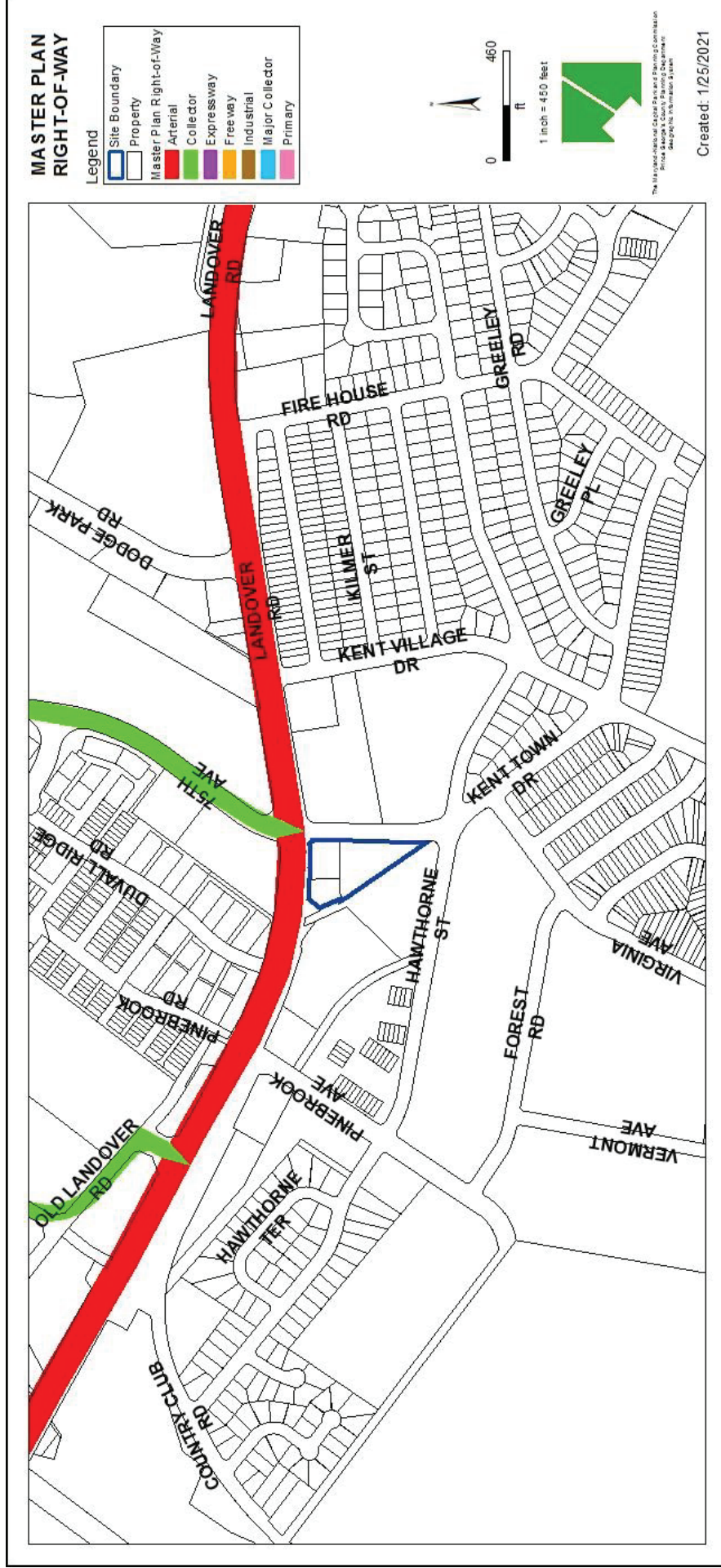
AERIAL MAP



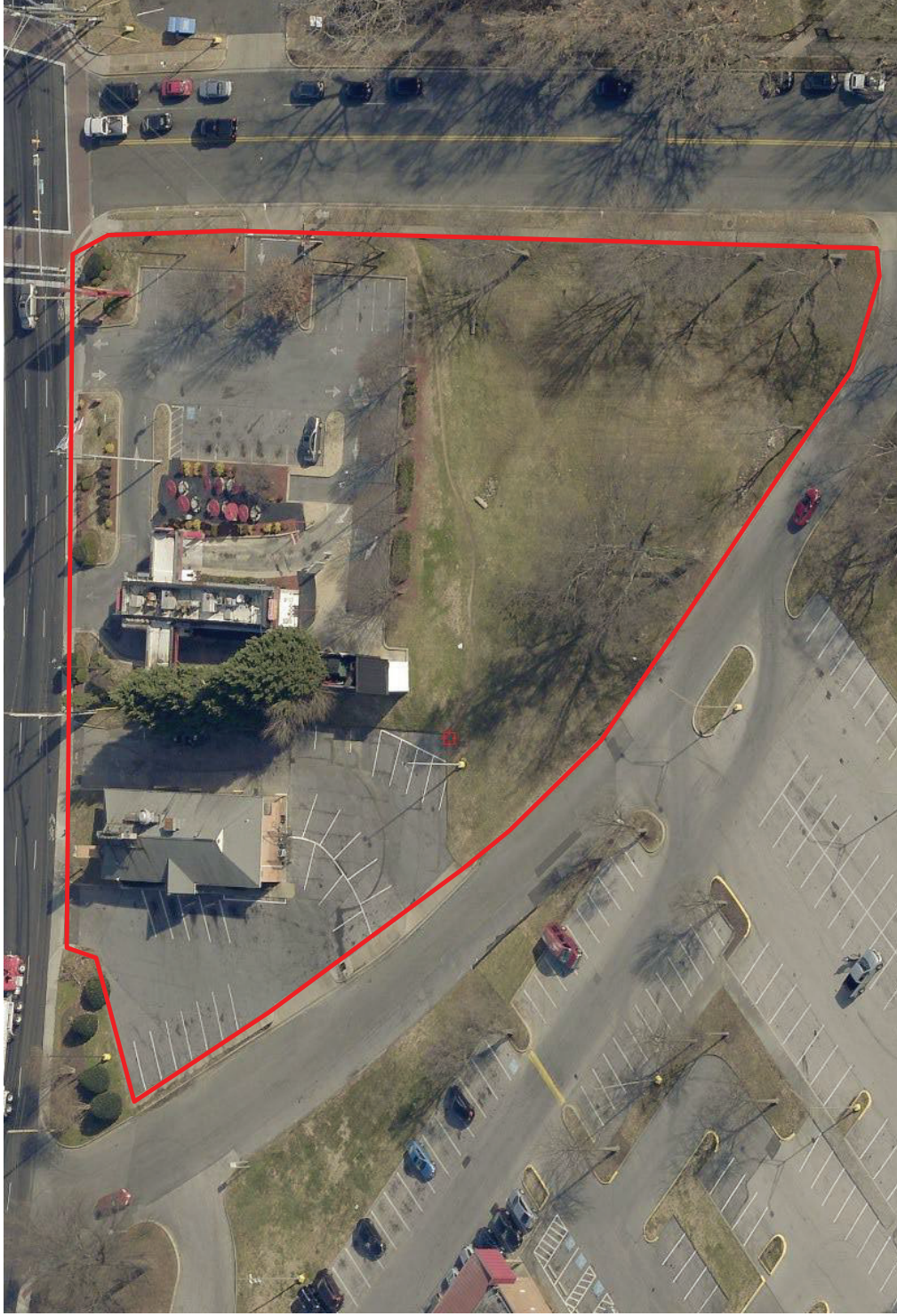
SITE MAP



MASTER PLAN RIGHT-OF-WAY MAP



BIRD'S-EYE VIEW WITH APPROXIMATE SITE BOUNDARY OUTLINED



6/24/2021

Slide 8 of 14

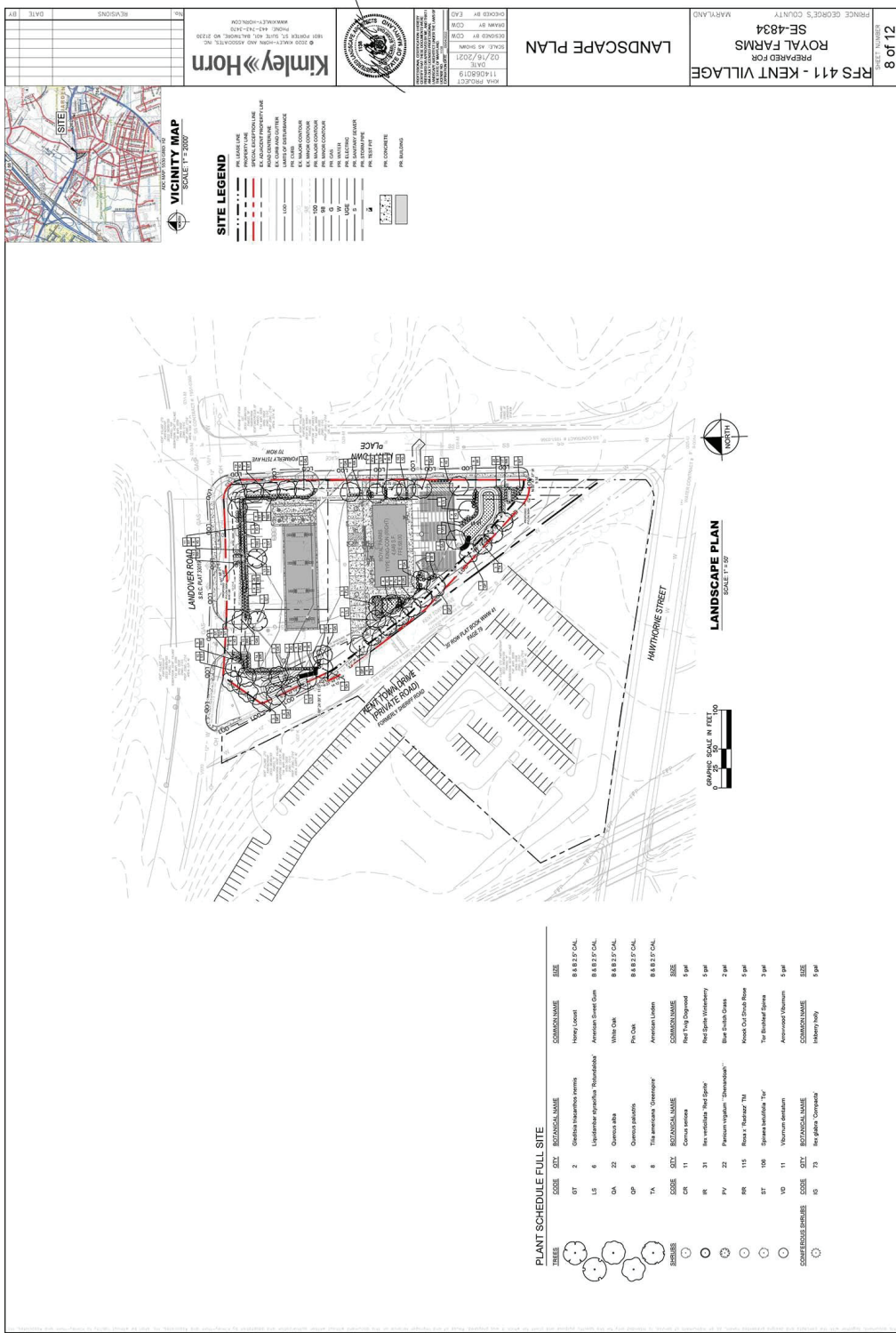
SITE PLAN



6/24/2021

Slide 9 of 14

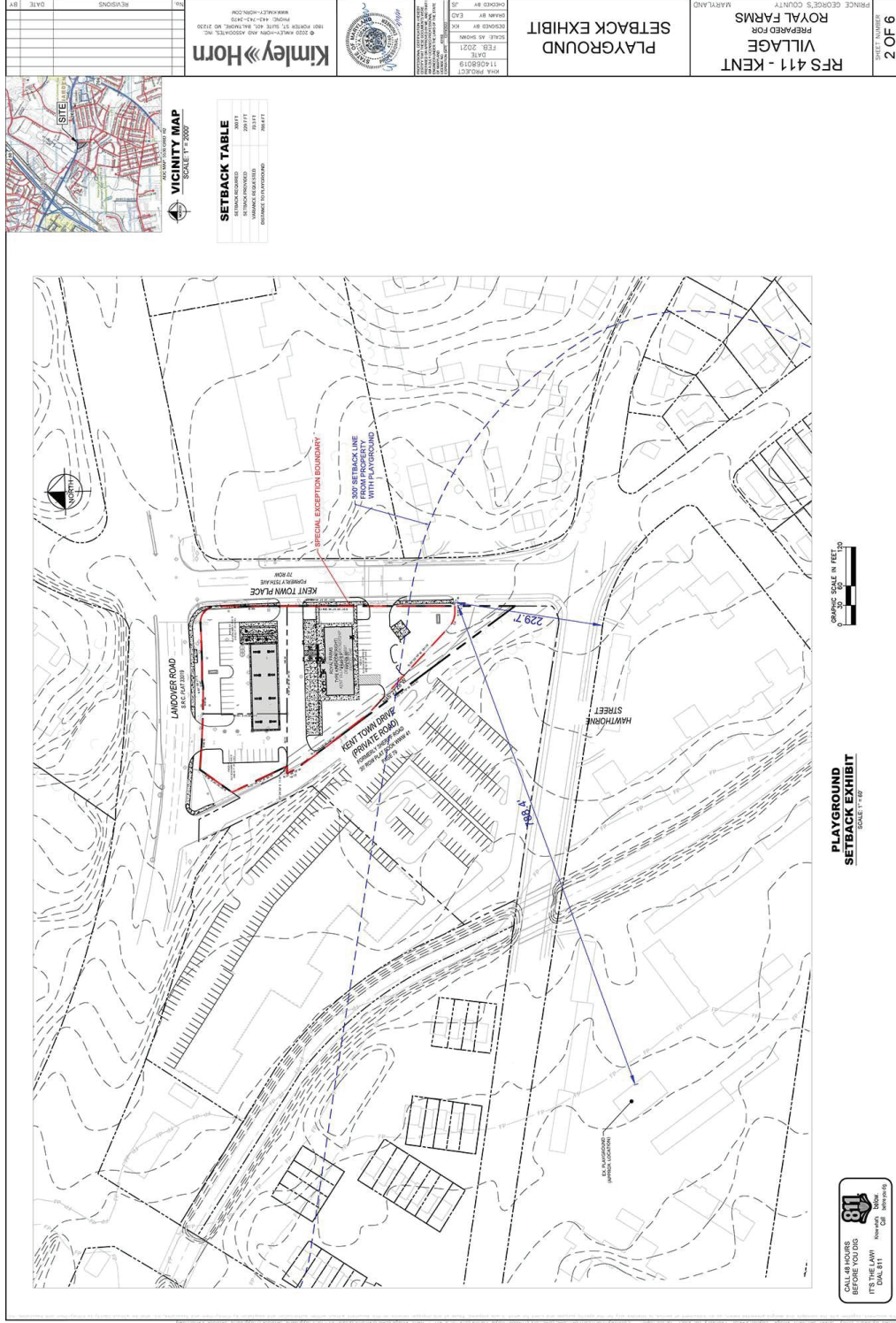
LANDSCAPE PLAN



PROJECT NUMBER: 8 of 12
 RFS 411 - KENT VILLAGE
 PREPARED FOR: ROYAL FARMS SE 4834
 PREPARED BY: KIMLEY-HORN AND ASSOCIATES, INC.
 DATE: 02/18/2021
 SCALE: AS SHOWN
 DRAWN BY: CSM
 CHECKED BY: CSM
 PROJECT NO: 11458019
 SHEET NO: 10/14

Kimley-Horn & Associates, Inc.
 2008 KENT VILLAGE AVENUE
 SUITE 200
 KENT, OHIO 44205
 PHONE: +1-419-243-7178
 FAX: +1-419-243-7179
 WWW.KIMLEY-HORN.COM

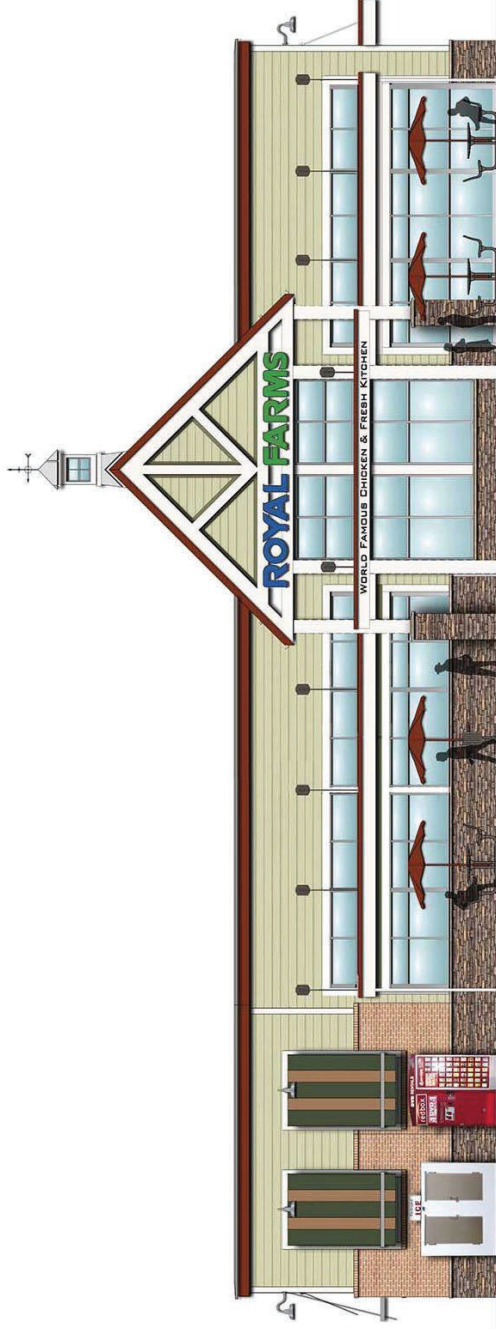
PLAYGROUND SETBACK EXHIBIT



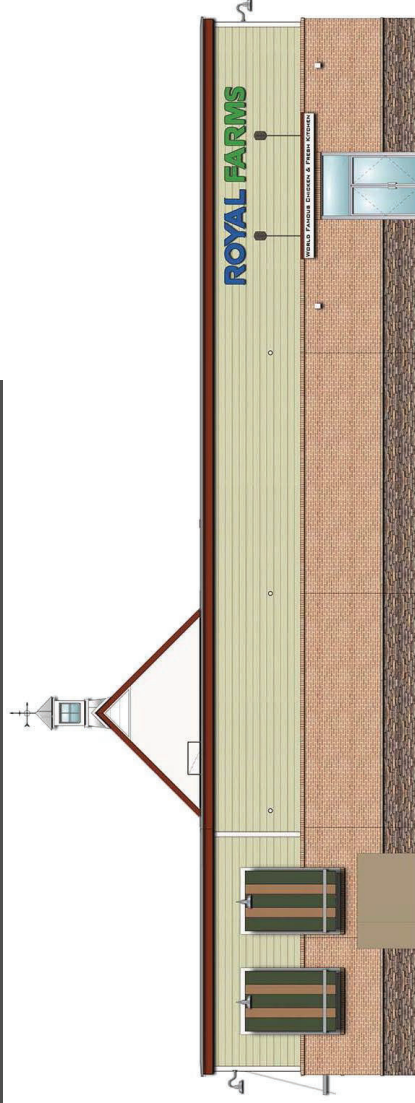
6/24/2021

Slide 11 of 14

FRONT AND REAR ELEVATIONS



Front Elevation
1/4" = 1'-0"

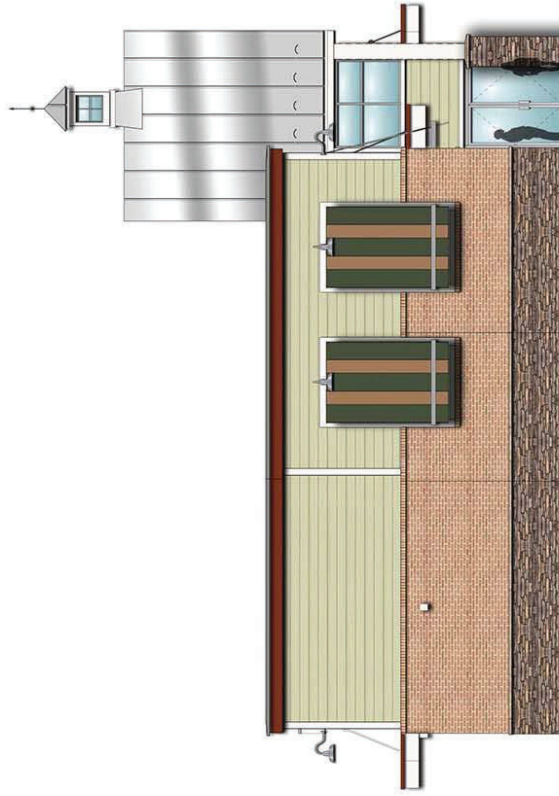


Rear Elevation
1/4" = 1'-0"

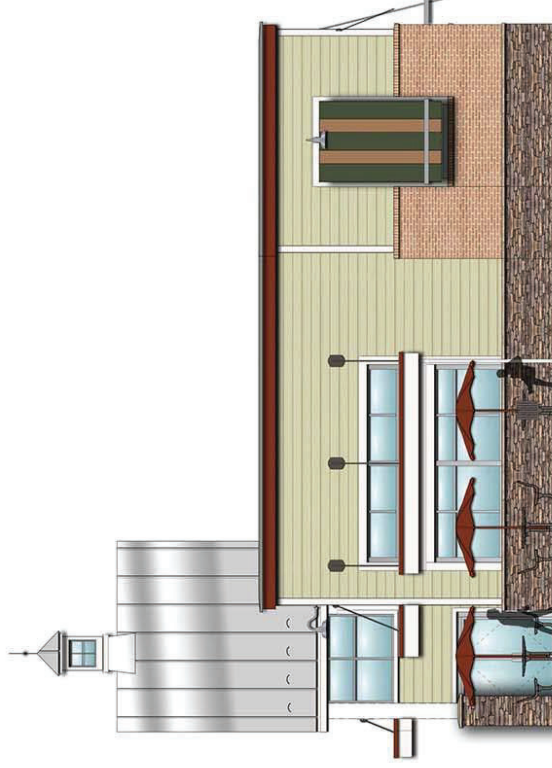
6/24/2021

Slide 12 of 14

RIGHT AND LEFT ELEVATIONS



Right Elevation
1/4" = 1'-0"



Left Elevation
1/4" = 1'-0"

ROYAL FARMS

Royal Farms #411
7415 Landover Road, Hyattsville MD 20785
Proposed Elevations
July 10, 2020



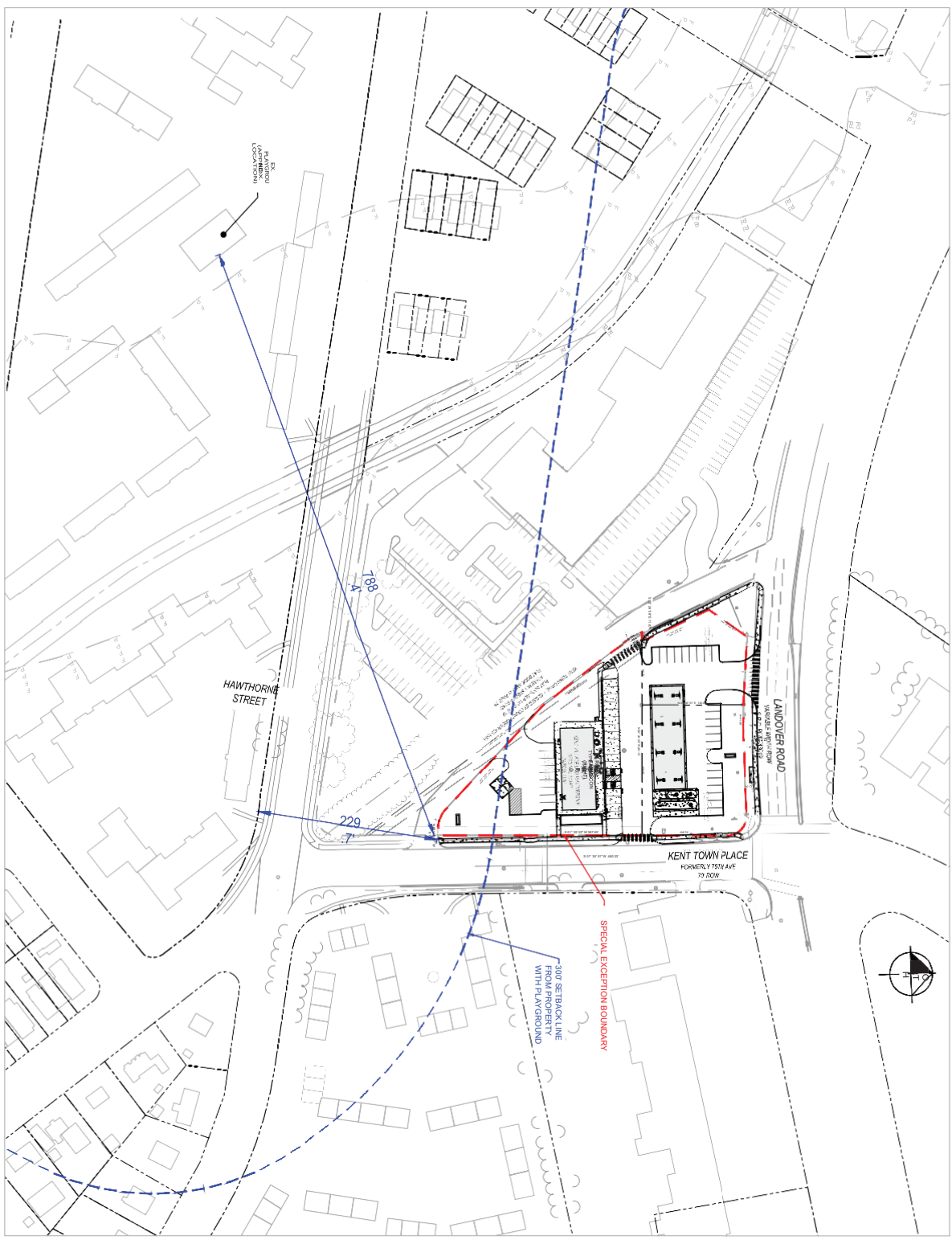
10403 Stevenson Road
Plover, MD 21150-5000 • Tel: 410-464-8819 • pratt@ratcliffearchitects.com

Stevenson, Maryland 21153
Professional Seal

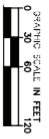


SE-4834_Backup

CALL 24 HOURS
BEFORE YOU DIG
IT'S THE LAW!
DIAL 811

**PLAYGROUND
SETBACK EXHIBIT**
SCALE: 1" = 60'



| SETBACK TABLE | |
|--------------------------|----------|
| SETBACK REQUIRED | 300' |
| SETBACK PROVIDED | 220-717' |
| VIOLATION (REQUIRED) | 78-117' |
| VIOLATION (TOTAL AROUND) | 78-117' |

VICINITY MAP
SCALE: 1" = 200'



**RFS 411 - KENT
VILLAGE**
PREPARED FOR
ROYAL FARMS MARYLAND

**PLAYGROUND
SETBACK EXHIBIT**

| | |
|-------------|--------------|
| KHA PROJECT | TH-14-0319-9 |
| DATE | MAY 2021 |
| SCALE | AS SHOWN |
| DESIGNED BY | KK |
| DRAWN BY | EAD |
| CHECKED BY | JS |



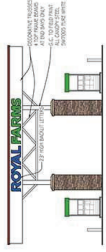
Kimley»Horn
2020 N. HALL STREET, ANNAPOLIS, MD, 21403
871 PORTER ST., SUITE 401, BALTIMORE, MD 21202
PHONE: 443-742-5470
WWW.KIMLEY-HORN.COM

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |

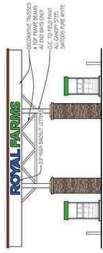
GAS CANOPIES, SIGNAGE AND SCREENING ENCLOSURES



5 FUEL CANOPY REAR ELEVATION
1/8" = 1'-0"



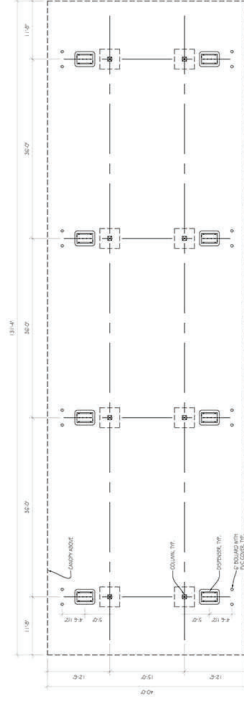
3 FUEL CANOPY SIDE ELEVATION
1/8" = 1'-0"



4 FUEL CANOPY SIDE ELEVATION
1/8" = 1'-0"



2 FUEL CANOPY FRONT ELEVATION
1/8" = 1'-0"



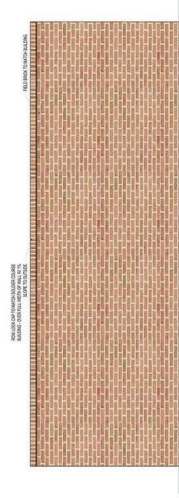
1 FUEL CANOPY PLAN
1/8" = 1'-0"



Dumpster Enclosure - Front Elevation
1/2" = 1'-0"



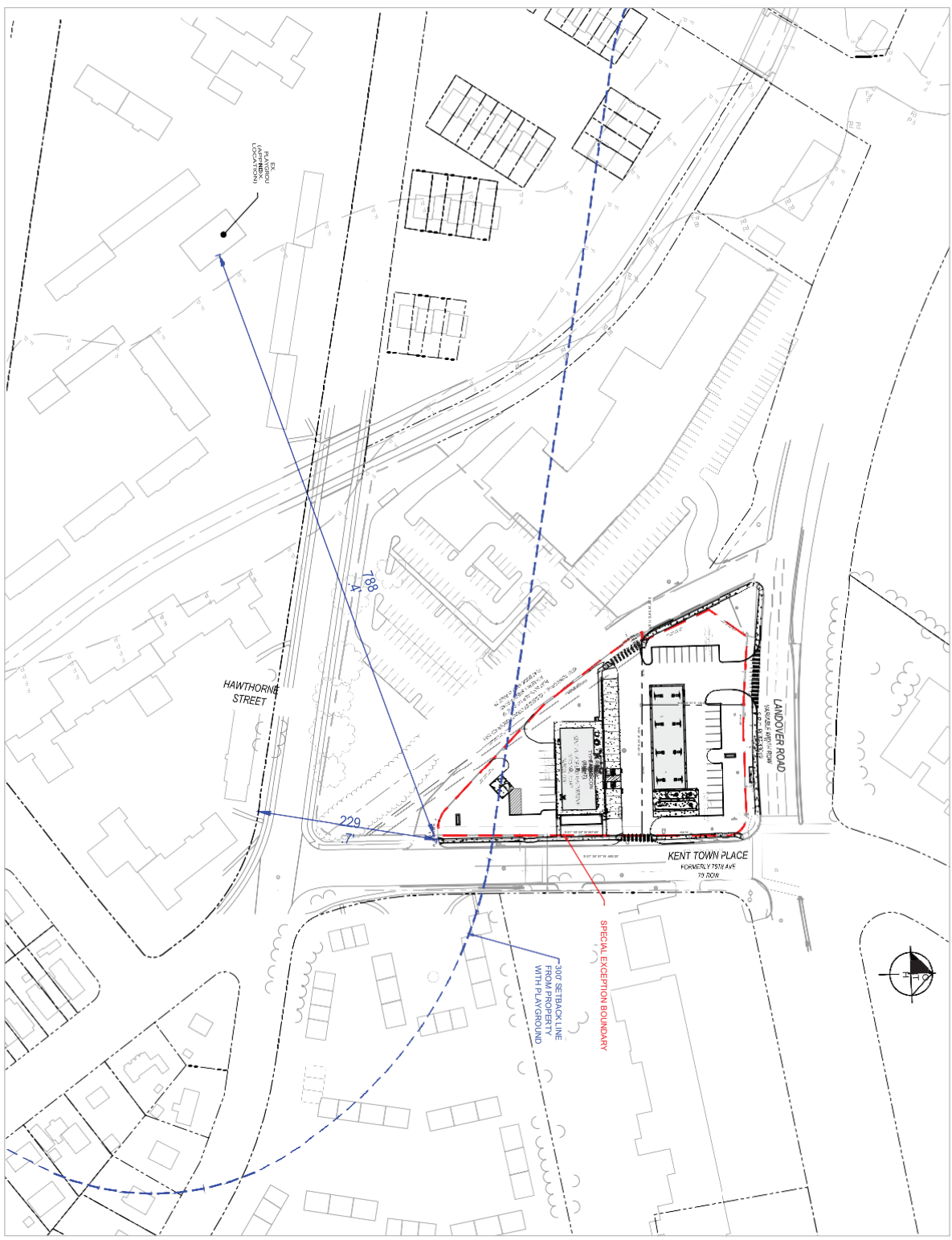
Fuel Sign Elevation
1/2" = 1'-0"



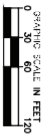
Dumpster Enclosure - Rear Elevation
1/2" = 1'-0"



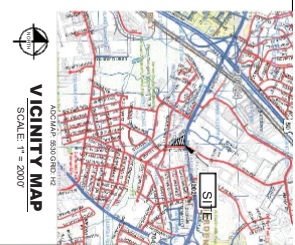
CALL 88 HOURS
BEFORE YOU DIS
IT'S THE LAW!
DIAL 811

**PLAYGROUND
SETBACK EXHIBIT**
SCALE: 1" = 60'



| SETBACK TABLE | |
|--------------------------|--------|
| SETBACK REQUIRED | 300 FT |
| SETBACK PROVIDED | 220 FT |
| VARVANT REQUESTED | 203 FT |
| GRANTING TOTAL VARIATION | 788 FT |



RFS 411 - KENT
VILLAGE
PREPARED FOR
ROYAL FARMS MARYLAND

**PLAYGROUND
SETBACK EXHIBIT**

KHA PROJECT
TITLE: RFS 411 - 9
DATE: MAY 2021
SCALE: AS SHOWN
DESIGNED BY: KK
DRAWN BY: EAD
CHECKED BY: JS

Kimley»Horn
2020 N. HALL STREET, ANNAPOLIS, MD, 21403
821 PORTER ST., SUITE 401, BALTIMORE, MD 21202
PHONE: 443-742-5470
WWW.KIMLEY-HORN.COM

| NO. | REVISIONS | DATE | BY |
|-----|-----------|------|----|
| | | | |
| | | | |
| | | | |

July 21, 2020

Mr. Nick Driban
Lenhart Traffic Consulting, Inc.
645 Baltimore Annapolis Blvd., Suite 214
Severna Park, MD 21146

Dear Mr. Driban:

Thank you for the opportunity to review the *revised Traffic Impact Study (TIS)* prepared by **Lenhart Traffic Consulting, Inc.** dated **May 08, 2020** for the proposed **Royal Farms 411 – Kent Village** development – **20APPG009XX** located at Landover Road (**MD 202**) (Mile Point: **11.60**) in **Prince George’s County**, Maryland. The State Highway Administration (SHA) review is complete and we are pleased to respond.

- The proposed development consists of a 4650 sq. ft (super) Convenience Market with 16 filling stations.
- Access is proposed via a right-in/right-out along eastbound MD 202, two full movement driveways along Kent Town Drive and two full movement driveways along Kent Town Place.

Based on the information provided, please address the following comments in a point-by-point response:

District 3 Engineering Systems Team (EST) Comments by (Ms. Dorey Uong):

1. Upon our review we have no further comments.

District 3 Traffic Comments by (Ms. Haixia Hu):


1. We do not have any further comments.

Mr. Nick Driban
SHA Tracking No.: 20APPG009XX
Page 2 of 2
July 21, 2020

The SHA concurs with the report findings for this project as currently proposed and will not require the submission of any additional traffic analyses. However, an access permit will be required for all construction within the SHA right of way. Please submit one (1) set of the proposed improvement plans (including a set of hydraulic plans and computations) and a CD containing the plans and all supporting documentation to the Access Management Division at 9300 Kenilworth Avenue, Greenbelt, MD 20770, attention of Mr. Kwesi Woodroffe. For electronic submissions create an account with our new online system <https://mdotsha.force.com/accesspermit>. Please reference the SHA tracking number on any future submissions.

Please keep in mind that you can view the reviewer and project status via SHA Access Management Division web page at <https://www.roads.maryland.gov/mdotsha/pages/amd.aspx>. Please note, if this project has not obtained an SHA access permit and begun construction of the required improvements within five (5) years of this approval, extension of the permit shall be subject to the submission of an updated traffic impact analysis in order for SHA to determine whether the proposed improvements remain valid or if additional improvements will be required of the development. If you have any questions, or require additional information, please contact Mr. Kwesi Woodroffe at 301-513-7347, by using our toll free number (in Maryland only) at 1-800-749-0737 (x7347), or via email at kwoodroffe@mdot.maryland.gov or shaamdpermits@mdot.maryland.gov.

Sincerely,


Andre Futrell,
District Engineer, District 3, SHA

AF/jwm

cc: Ms. Danielle Black, SHA District 3 EST
Mr. Peter Campanides, SHA District 3 Traffic
Ms. Patrice Emezie, SHA District 3 Traffic
Ms. Haixia Hu, SHA District 3 Traffic
Ms. Jennifer Leonard, Kimley-Horn
Mr. Tom Masog, Prince George's M-NCPPC
Ms. Claudine Myers, SHA District 3 EST
Ms. Dorey Uong, SHA District 3 EST
Mr. Jack Whisted, Royal Farms
Mr. Kwesi Woodroffe, SHA District 3 Regional Engineer

TRAFFIC IMPACT ANALYSIS

FOR

ROYAL FARMS #411 – KENT VILLAGE

Prepared by:

LENHART TRAFFIC CONSULTING, INC.

TRAFFIC ENGINEERING & TRANSPORTATION PLANNING

March 2, 2020

Revised: May 8, 2020



| Table of Contents | | Page |
|--------------------------|--|-------------|
| Section 1 | Introduction..... | 4 |
| | 1.1 Project Description | |
| | 1.2 Scope of Study | |
| Section 2 | Existing Conditions..... | 6 |
| | 2.1 Description of Road Network | |
| | 2.2 Lane Configurations | |
| | 2.3 Existing Traffic Counts | |
| Section 3 | Background Conditions..... | 12 |
| | 3.1 Annual Growth | |
| | 3.2 Approved Background Developments | |
| | 3.3 Background Peak Hour Volumes | |
| Section 4 | Total Conditions..... | 16 |
| | 4.1 Site Trip Generation | |
| | 4.2 Site Trip Distribution & Trip Assignment | |
| | 4.3 Total Peak Hour Volumes | |
| | 4.4 Projected Level of Service | |
| Section 5 | Conclusions / Recommendations..... | 23 |
| | 5.1 Results of Analysis | |

Appendices

- A Supplemental Info, Turning Movement Counts
- B Level of Service (CLV & Synchro) Worksheets
- C Background Developments

| List of Exhibits | | Page |
|-------------------------|---|-------------|
| Exhibit 1 | Site Location Map | 5 |
| Exhibit 2 | Lane Use & Traffic Control Devices | 7 |
| Exhibit 3a | Ex. Site Trip Assignment – Inbound Trips | 8 |
| Exhibit 3b | Ex. Site Trip Assignment – Outbound Trips | 9 |
| Exhibit 3c | Ex. Site Trip Assignment – Pass-by Trips | 10 |
| Exhibit 3d | Existing Peak Hour Volumes | 11 |
| Exhibit 4a | Base Peak Hour Volumes | 13 |
| Exhibit 4b | Trip from Background Developments | 14 |
| Exhibit 5 | Background Peak Hour Volumes | 15 |
| Exhibit 6 | Trip Generation for Site | 17 |
| Exhibit 7a | Pr. Site Trip Assignment – Inbound Trips | 18 |
| Exhibit 7b | Pr. Site Trip Assignment – Outbound Trips | 19 |
| Exhibit 7c | Pr. Site Trip Assignment – Pass-by Trips | 20 |
| Exhibit 8 | Total Peak Hour Volumes | 21 |
| Exhibit 9 | Results of Level of Service Analyses | 22 |

Section 1 Introduction

1.1 Project Description

This Traffic Impact Analysis was prepared for the proposed Royal Farms #411 – Kent Village in Landover, MD. The property is currently developed with two restaurants and is proposed to be redeveloped with a 4,649 square foot (Super) Convenience Market with 16 fueling positions. A location map showing the subject property is included as **Exhibit 1**.

The property will be accessed via a right-in/right-out along eastbound MD 202, two full movement driveways along Kent Town Drive and two full movement driveways along Kent Town Place. A concept plan is contained in Appendix A.

The purpose of this Traffic Impact Analysis is to evaluate the impacts of the proposed development on traffic operations within the study area.

1.2 Scope of Study

A Scoping agreement was coordinated with MNCPPC and is included in Appendix A. The study intersections are shown in Exhibit 1.

M-NCPPC Guidelines require that signalized intersections operate with a CLV of less than 1,600 in the Developed Tier where the site is located.

M-NCPPC Guidelines require that unsignalized intersections be evaluated using the Highway Capacity Manual (HCM) unsignalized methodology based on a three-tier test of adequacy. All intersections operating with an average of less than 50 seconds of delay per vehicle for the minor street movements are considered adequate (tier one). If a minor street movement exceeds 50 seconds of delay, additional analyses are required including a consideration of the volume of traffic on the minor street approach. If volumes along a minor street approach with greater than 50 seconds of delay are less than 100 vehicles per hour, then the intersection is considered adequate (tier two). If average delays exceed 50 seconds per vehicle for any movements with more than 100 vehicles per hour, a CLV analysis is conducted and if the CLV of the unsignalized intersection is 1,150 or better (tier three) the intersection is deemed adequate.



- Study Intersections:**
1. MD 202 & Old Landover Road
 2. MD 202 & Pinebrook Avenue
 3. MD 202 & Kent Town Drive
 4. MD 202 & Site Access
 5. MD 202 & Kent Town Drive / 75th Avenue
 6. MD 202 & Kent Village Drive
 7. MD 202 & Dodge Park Rod
 8. MD 202 & Fire House Road / Shopping Center
 9. Kent Town Place & Site Access
 10. Kent Town Place & Site Access
 11. Kent Town Drive & Kent Town Place
 12. Kent Village Drive & Kent Town Drive
 13. Kent Town Drive & Site Access
 14. Kent Town Drive & Site Access

Traffic Impact Analysis

Site Location Map

Traffic Impact Analysis

LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
 www.lenharttraffic.com

Exhibit 1

Section 2 Existing Conditions

2.1 Description of Road Network

The key road in the study area is:

- MD 202, a six-lane divided arterial road (A-20) with a posted speed limit of 35 mph.

2.2 Lane Configurations

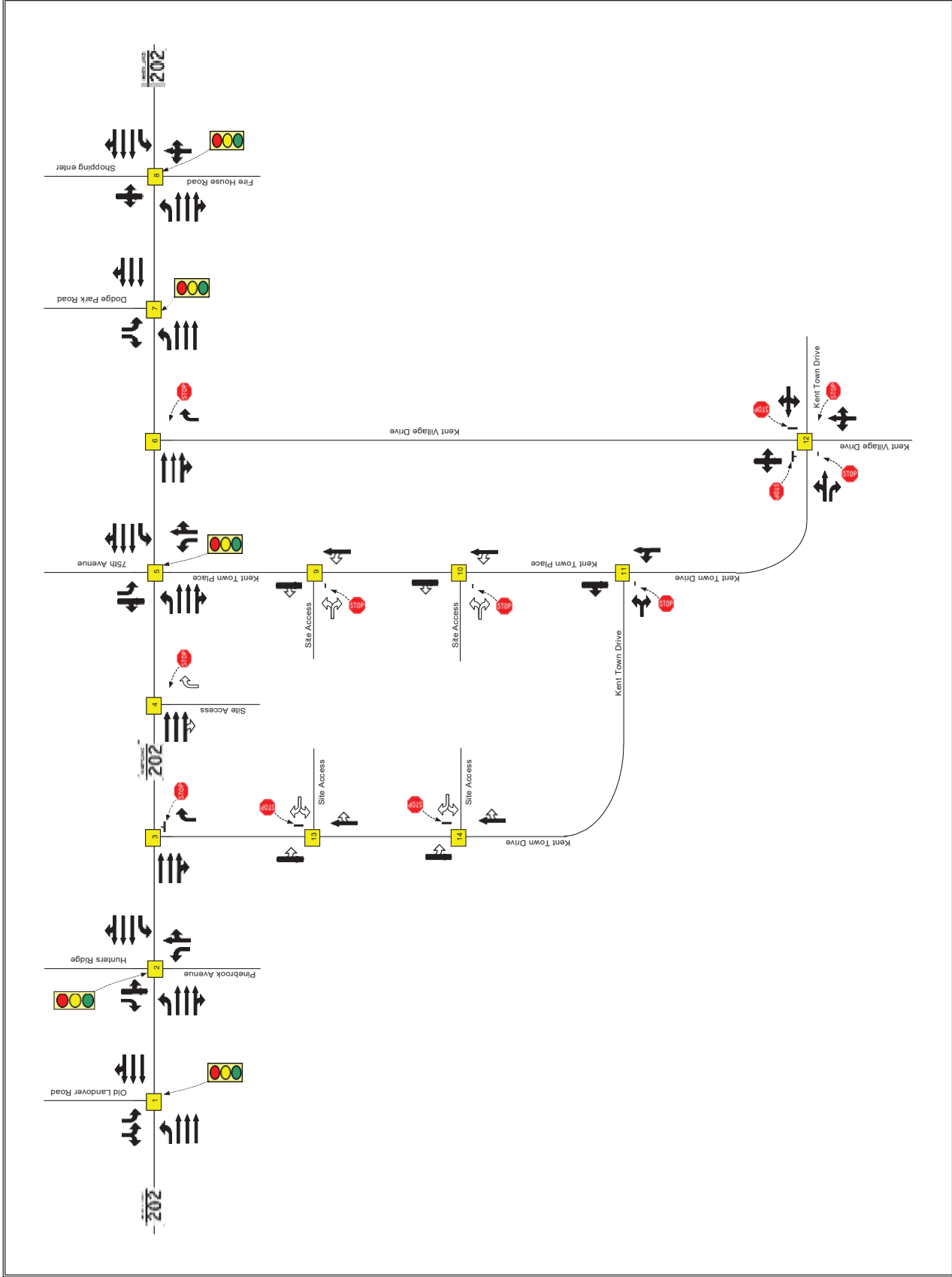
The Lane Use & Traffic Control Devices are shown on **Exhibit 2**.

2.3 Existing Traffic Counts

The turning movement counts for the existing site access points were assumed based on the trip generation for the existing uses detailed on Exhibit 6. As stated on Exhibit 6, the existing businesses do not operate during the morning peak hours so no trips were assigned for the morning peak hour. The existing trip generation for the PM peak hour was assigned as shown on **Exhibits 3a and 3b** (primary trips) and **Exhibit 3c** (pass-by trips) to the site driveways.

Peak hour turning movement counts were conducted and the resulting turning movement counts are included in Appendix A. The resulting existing peak hour volumes including the existing trips to/from the site are summarized on **Exhibit 3d**.

The existing intersections were evaluated using the HCM and CLV methodologies, as required under M-NCPPC guidelines. The results are shown on Exhibit 9. HCM and CLV worksheets are included in Appendix B.



| | |
|--|----------------------|
| <p>Traffic Impact Analysis</p> <p>LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21156 www.lenharttraffic.com</p> | <p>Exhibit 2</p> |
| <p>Lane Use & Traffic Control Devices</p> <p>  Existing Lane Use  Proposed Lane Use </p> | |

Traffic Impact Analysis

Existing Site Driveway Trip Assignment - Inbound Trips

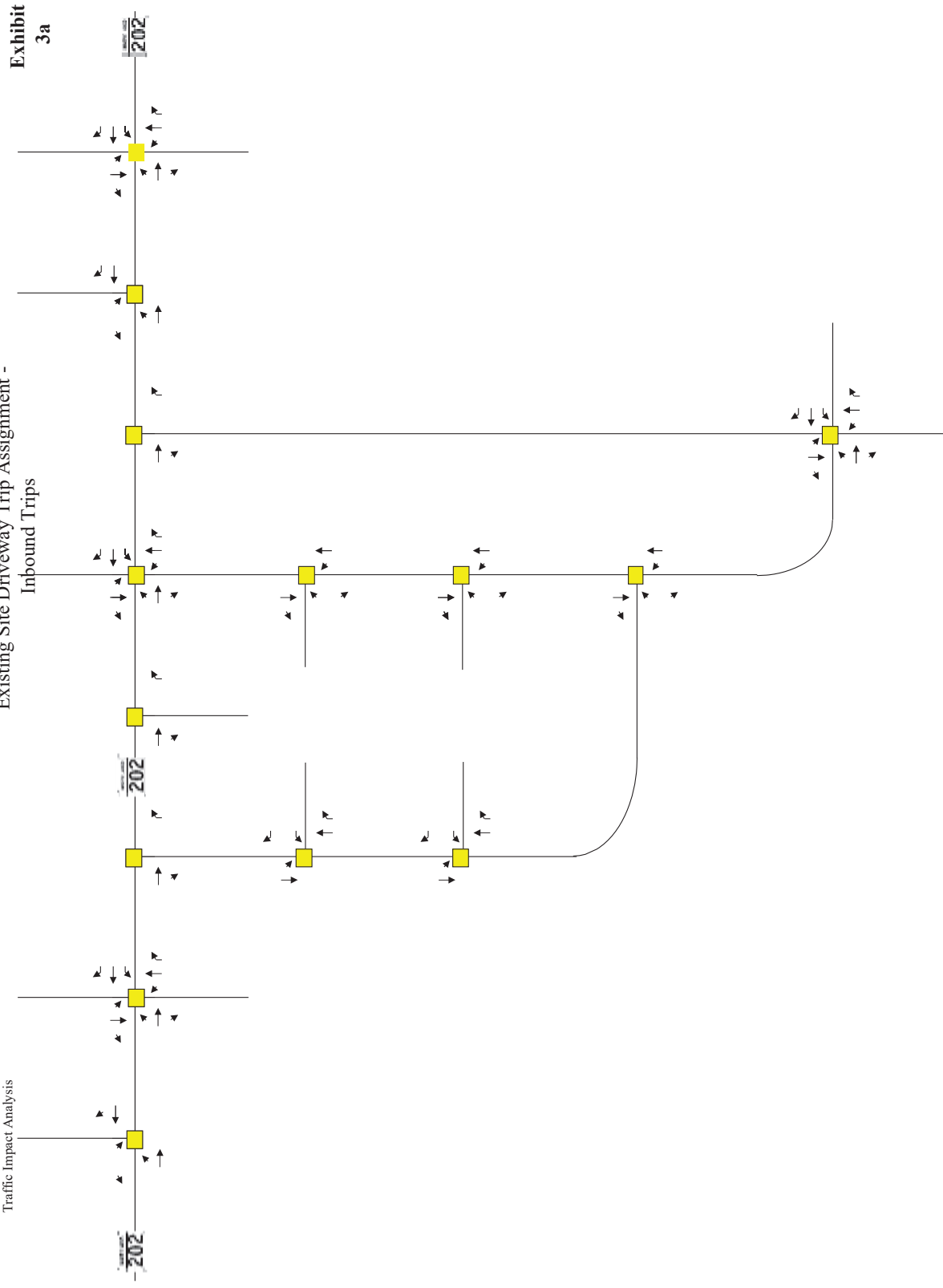


Exhibit
3a

| | | | | | | |
|-------------------|-------|---|---|---|---|---|
| Old Landover Road | 0 | 0 | 0 | 1 | 0 | 0 |
| Hunters Ridge | 0 | 0 | 0 | 0 | 0 | 0 |
| Firebrook Avenue | 0 | 0 | 0 | 1 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access | (7) 0 | 0 | 0 | 0 | 0 | 0 |
| Kent Town Place | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| 75th Avenue | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| Dodge Park Road | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| Shopping enter | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| Fire House Road | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |
| | 0 | 0 | 0 | 0 | 0 | 0 |

13 Site Access
0
(8) 0
0
(4) 0

14 Site Access
0
0
0
0
0
0

Kent Village Drive

10 Site Access
0
0
0
0
0
0

Kent Town Drive
0
0
0
0
0
0

11 Site Access
0
0
0
0
0
0

Kent Town Drive
0
0
0
0
0
0

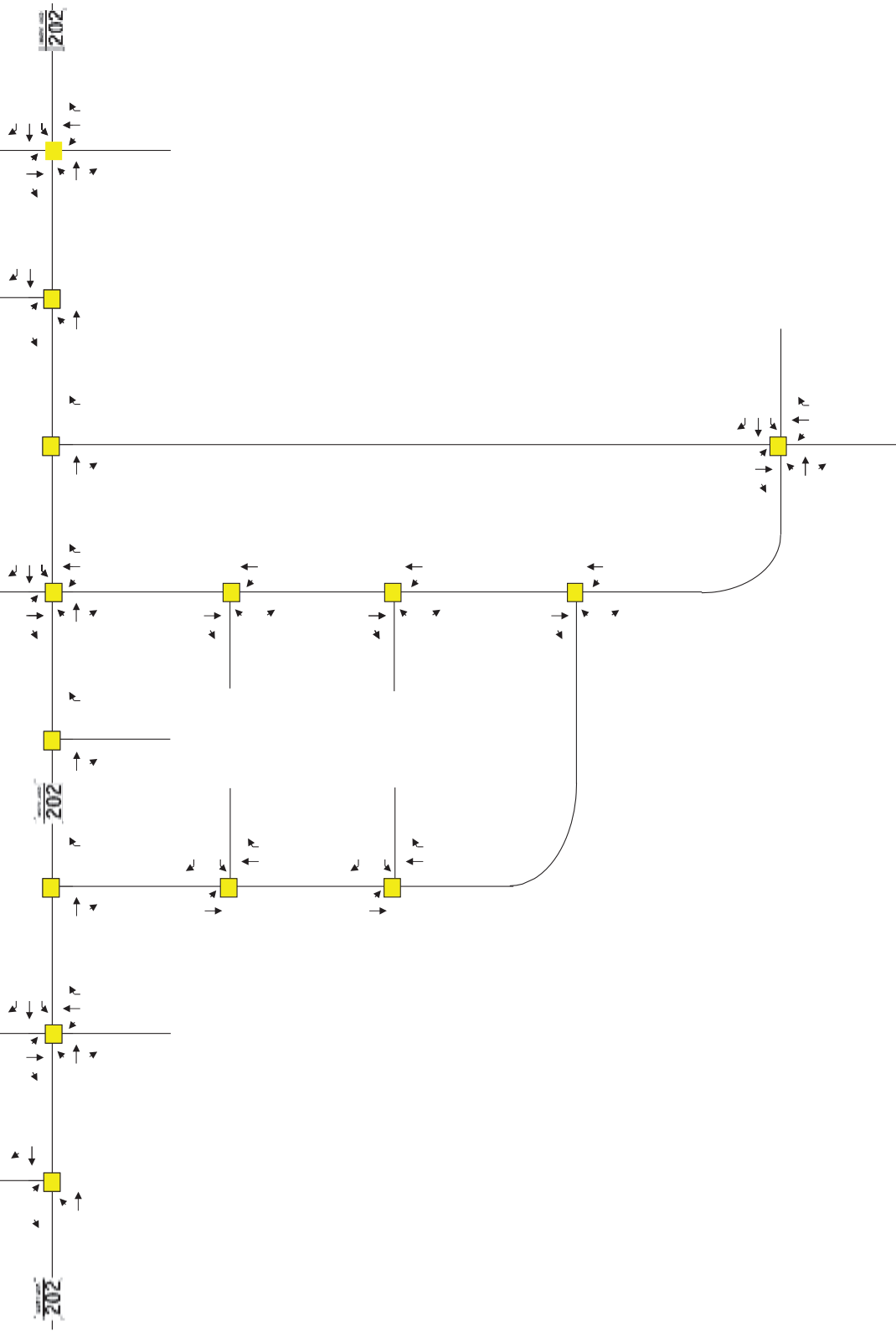
12 Site Access
0
0
0
0
0
0

Key: xx = AM Peak Vols (xx) = PM Peak Vols

Traffic Impact Analysis

Existing Site Driveway Trip Assignment - Outbound Trips

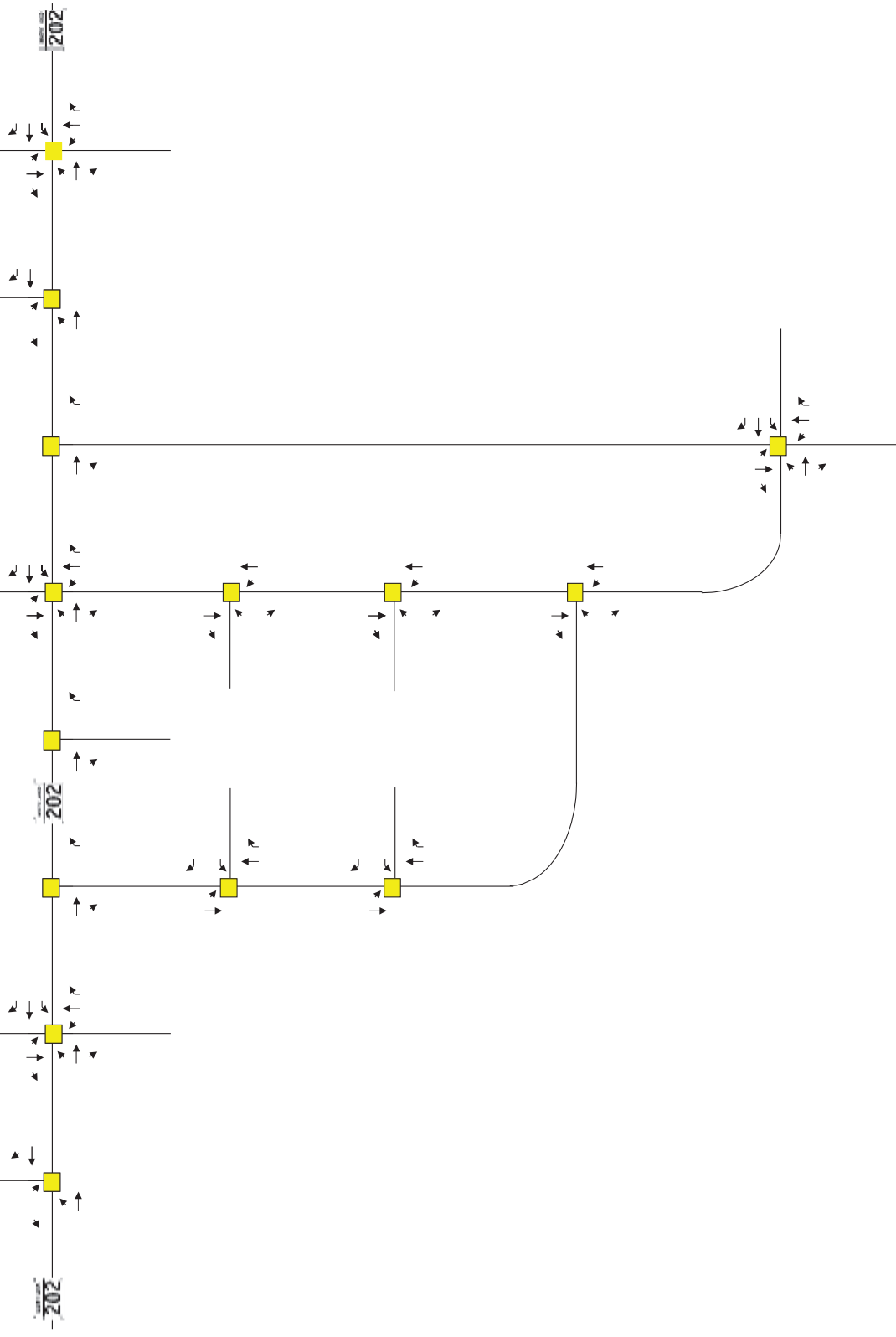
Exhibit
3b

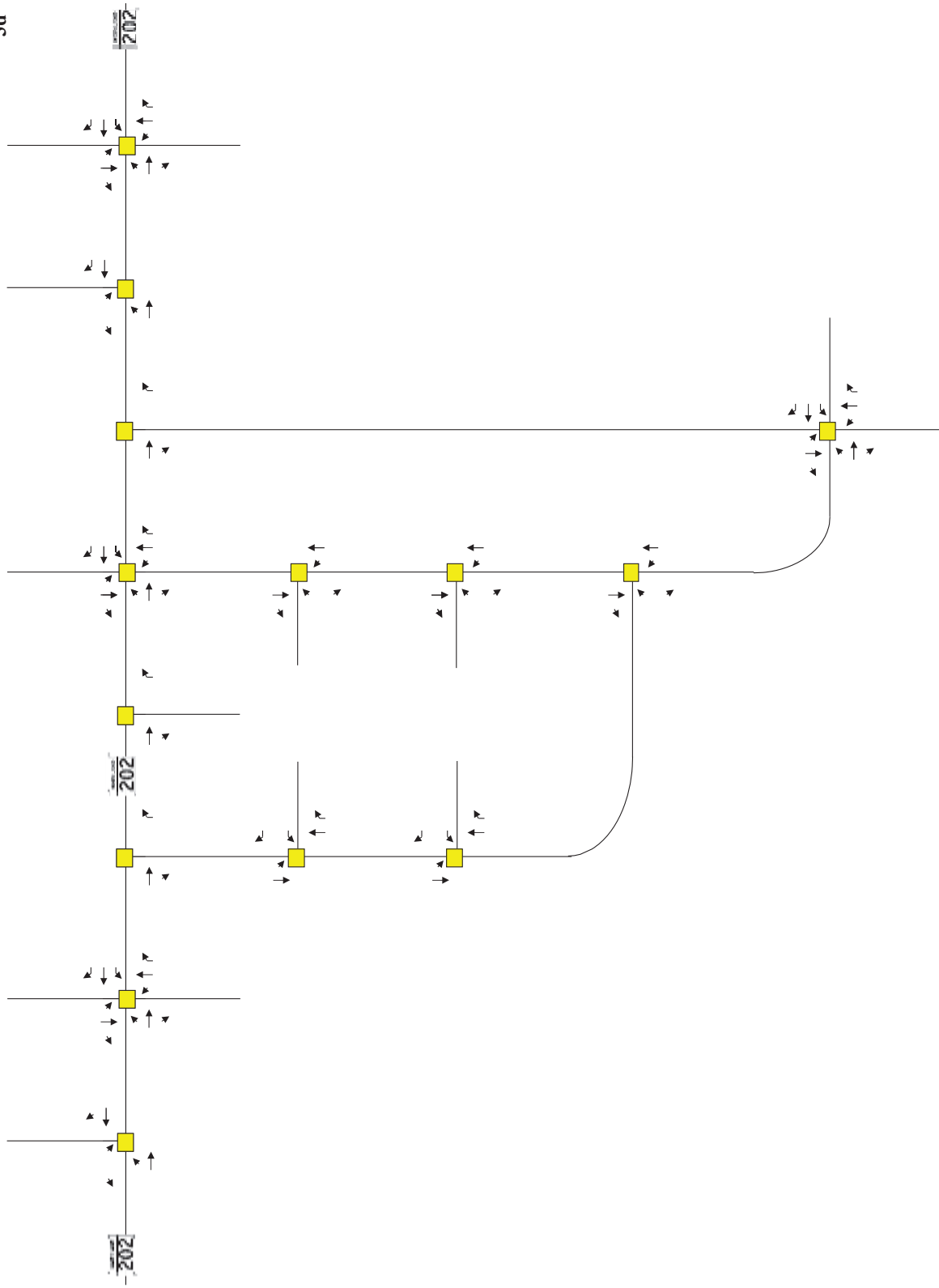


Traffic Impact Analysis

Existing Site Driveway Trip Assignment - Pass-by Trips

Exhibit
3c





Section 3 **Background Conditions**

3.1 Annual Growth

An annual growth rate of one-percent was applied for six years, per the approved scoping agreement and Prince George's County guidelines. The 1% growth rate was determined as part of the approved scoping correspondence contained in Appendix A and is based on historical ADT volumes along MD 202 in the vicinity of the site. The resulting Base Peak Hour Volumes are shown on **Exhibit 4a**.

3.2 Approved Background Developments

Background developments were identified in the scoping agreement and approved and confirmed by M-NCPPC. The study includes a two year buildout as required by M-NCPPC guidelines and all background developments are treated as fully built in that two year buildout. Only the Hunter's Ridge development was identified as part of this process. The relevant information for the Hunters Ridge development including trip assignment at the study intersections is shown in Appendix C.

3.3 Background Peak Hour Volumes

The background peak hour volumes are shown on **Exhibit 5** and consist of the increase in volumes due to growth as well as the addition of the background development.

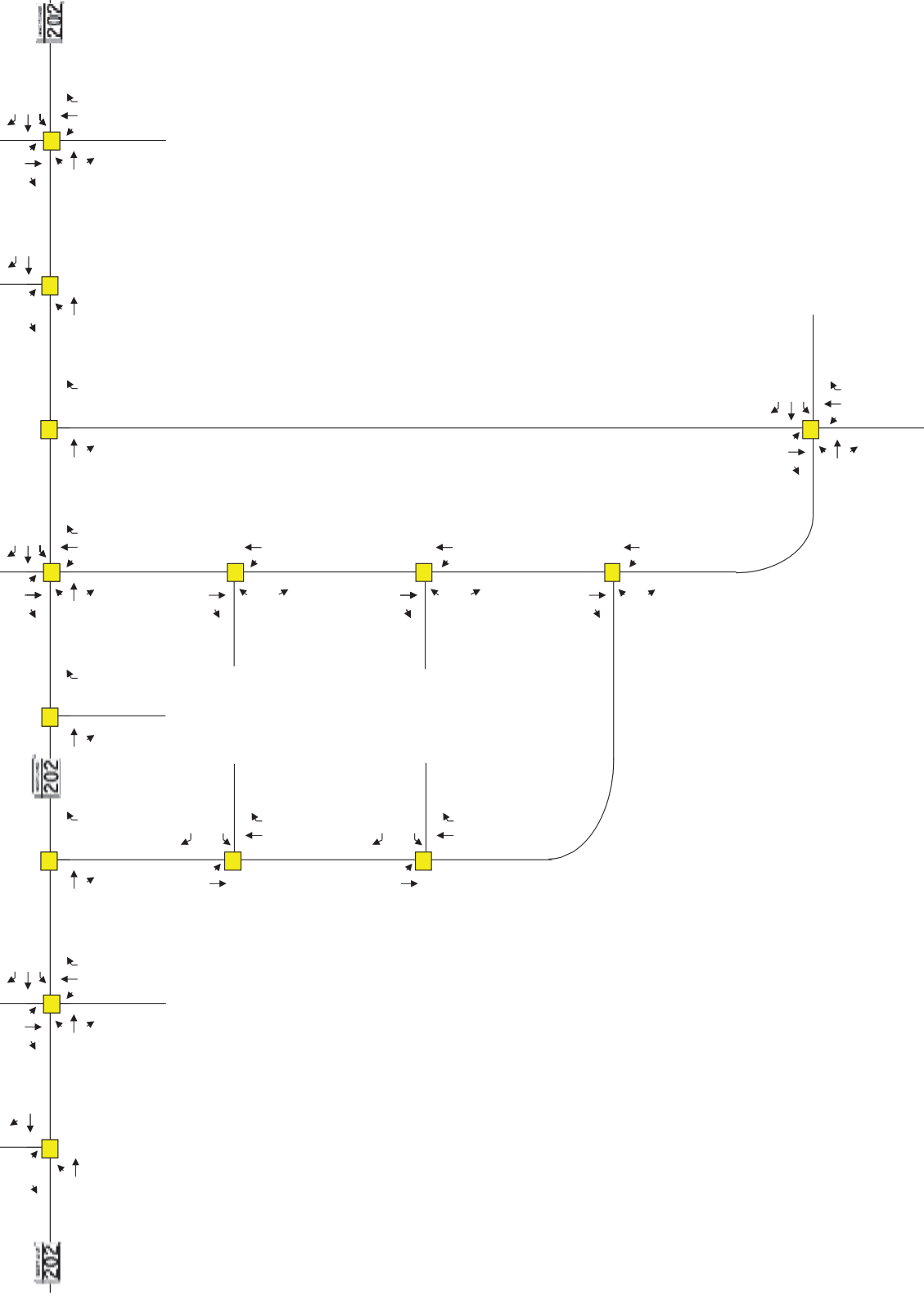
Results of the CLV and HCM analyses for the background peak hour volumes are shown on Exhibit 9. HCM and CLV worksheets are included in Appendix B.

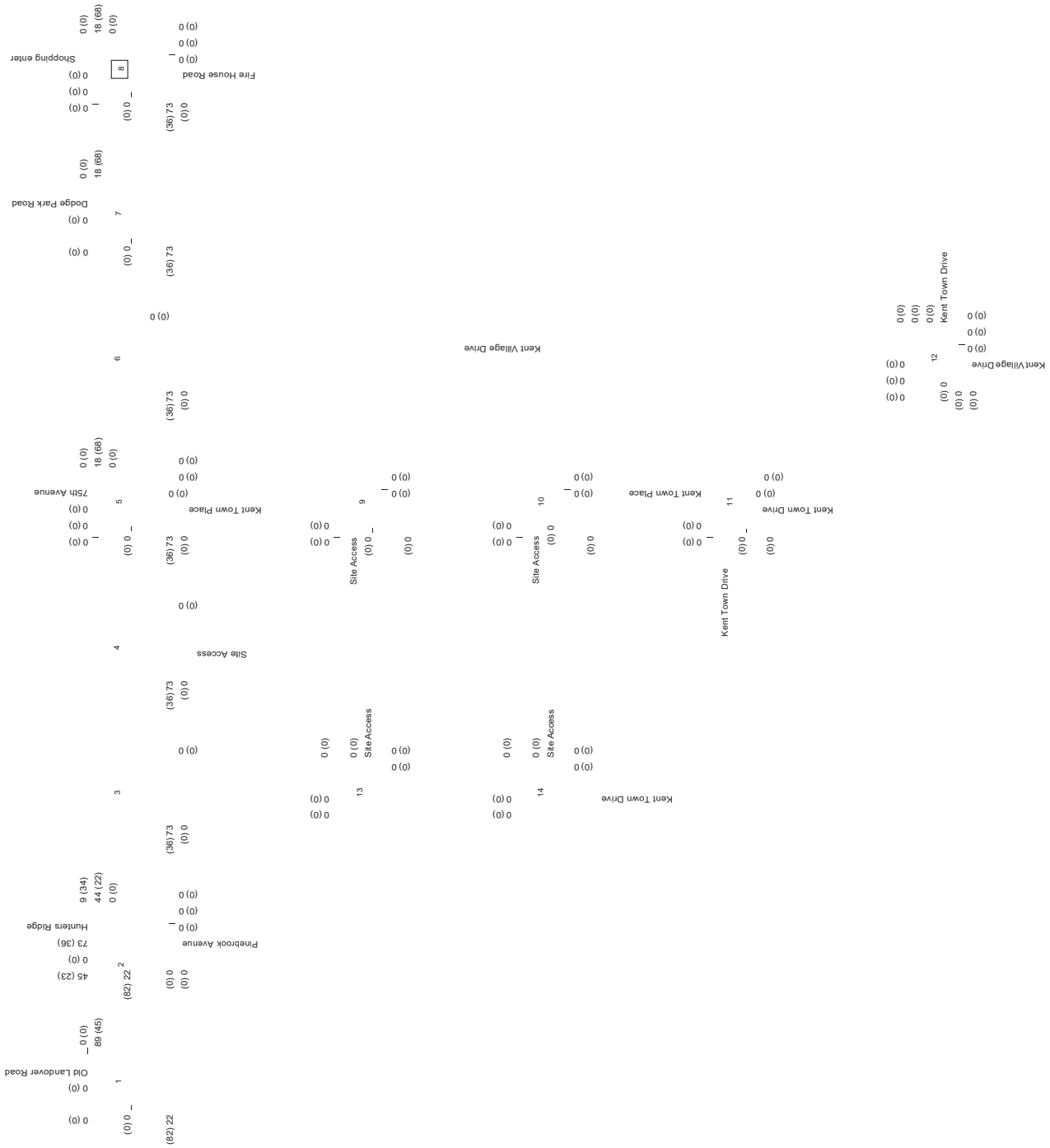
Traffic Impact Analysis

Base

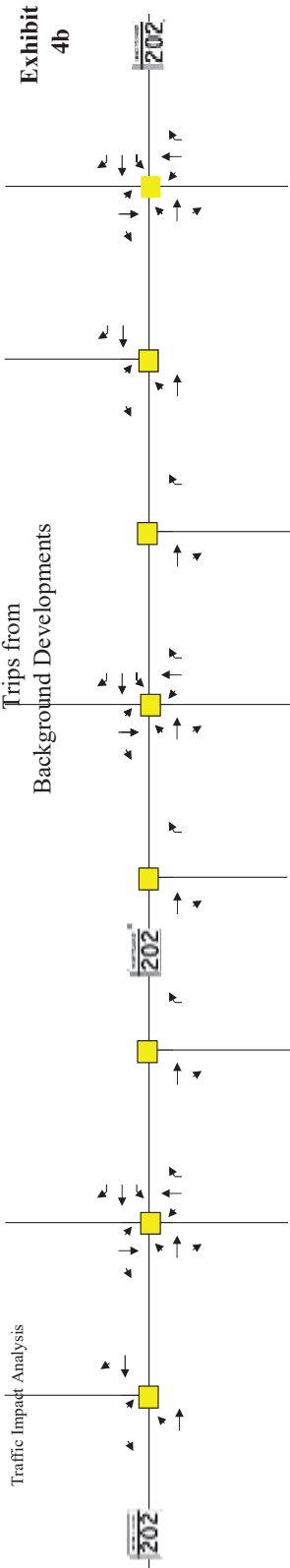
Peak Hour Volumes

Exhibit
4a





Key: xx = AM Peak Vols (xx) = PM Peak Vols



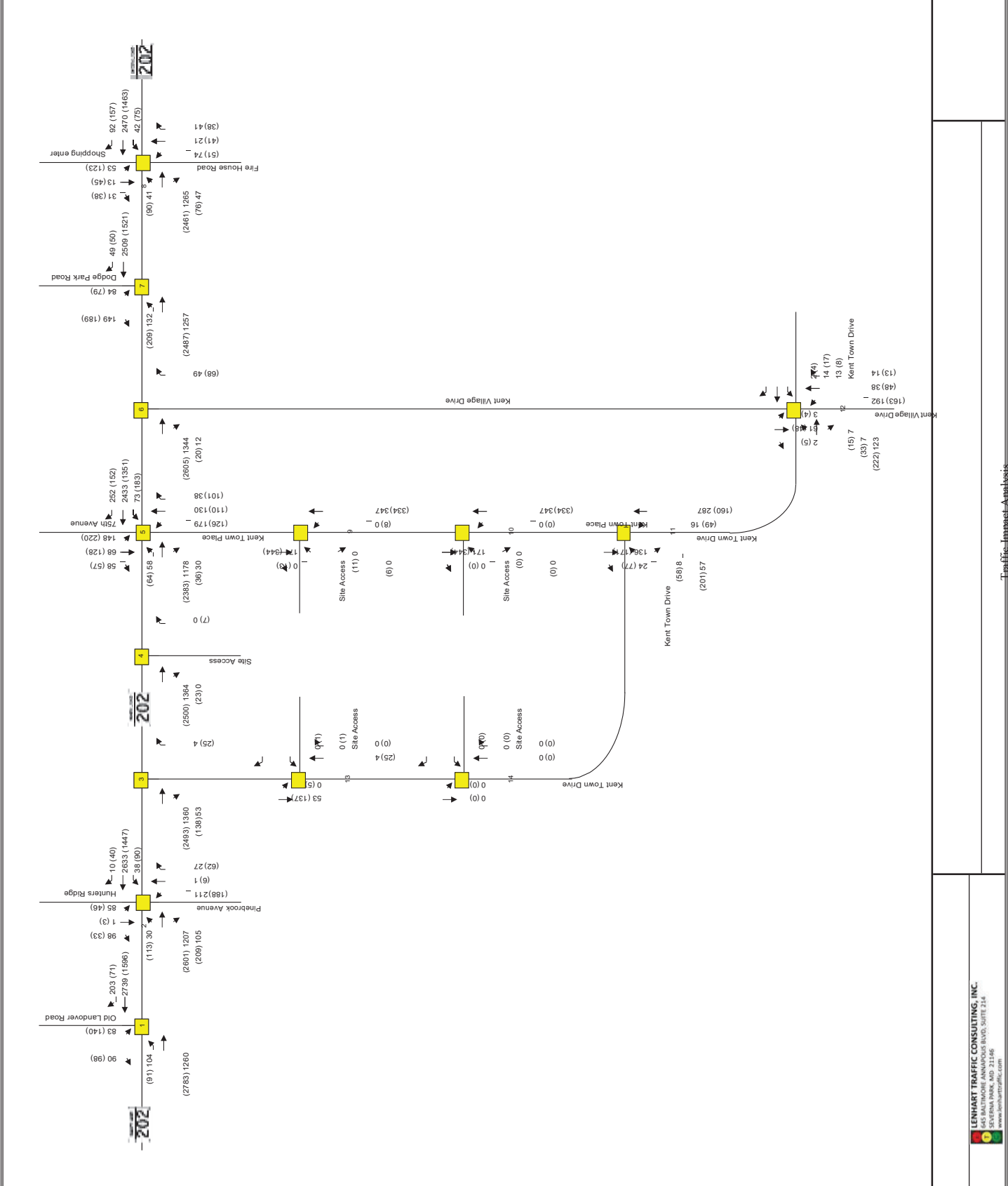
Traffic Impact Analysis

Trips from Background Developments

Exhibit 4b

LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 ANNAPOLIS, MD 21403
 www.lenharttraffic.com

Key: xx = AM Peak Vols (xx) = PM Peak Vols



Backgro
und Peak
Hour
Volumes

Key: A = AM Peak Vols (x3) =
PH Peak Vols

Exhibit 5

Section 4 Total Conditions

4.1 Site Trip Generation

The trip generation for the site is detailed on **Exhibit 6**. Trip generation rates and totals are based on applicable rates from the ITE Trip Generation Manual, 10th Edition. As shown on Exhibit 6, the existing restaurants both open after the morning peak hours (after 9:30 AM) and therefore no trip credits for the existing uses were used for the AM peak hour. However, for the PM peak hour, the existing trip generation was credited from the proposed development in order to account for existing trips to/from the site. Trip generation (include rates and pass-by percentages) were determined as part of the approved scoping correspondence contained in Appendix A.

4.2 Site Trip Distribution & Trip Assignment

Exhibits 7a and 7b detail the inbound and outbound primary trip assignment for the site. **Exhibit 7c** details the pass-by trips for the site.

4.3 Total Peak Hour Volumes

The Total Peak Hour Volumes are shown on **Exhibit 8**.

4.4 Projected Level of Service

The results of the HCM & CLV analysis for the total peak hour volumes are shown on **Exhibit 9**.

Trip Generation Rates

| | |
|---|--|
| Convenience (Super) Market/Gas Station (Fueling Positions/Square Footage, ITE-960) | <u>Trip Distribution (In/Out)</u> |
| Morning Trips = 16.1 x Fueling Positions + 135 x ksf - 483 | 50/50 |
| Evening Trips = 11.5 x Fueling Positions + 82.9 x ksf - 226 | 50/50 |
| Fast Food Rest. w/Drive-Thru (General Urban/Suburban, ksf, ITE-934) | <u>Trip Distribution (In/Out)</u> |
| Morning Trips = 40.19 x ksf | 51/49 |
| Evening Trips = 32.67 x ksf | 52/48 |
| Fast Casual Restaurant (ksf, ITE-930) | <u>Trip Distribution (In/Out)</u> |
| Morning Trips = 2.07 x ksf | 67/33 |
| Evening Trips = 14.13 x ksf | 55/45 |


Existing Trip Generation Totals

| | | AM Peak | | | PM Peak | | |
|---|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | | In | Out | Total | In | Out | Total |
| Existing | Fast Food Rest. w/Drive-Thru (ksf, ITE-934) 1715 sq.ft. | 35 | 34 | 69 | 29 | 27 | 56 |
| | <i>Pass-by Trip Percentage (49% AM, 50% PM)</i> | -17 | -17 | -34 | -14 | -14 | -28 |
| | Fast Casual Restaurant (ksf, ITE-930) 2296 sq.ft. | 3 | 2 | 5 | 18 | 14 | 32 |
| | <i>Pass-by Trip Percentage (60% for both AM and PM)</i> | -2 | -1 | -3 | -11 | -8 | -19 |
| Total Existing Primary Trips: | | 19 | 18 | 37 | 22 | 19 | 41 |
| Effective Existing Primary Trips (See Note): | | 0 | 0 | 0 | 22 | 19 | 41 |

Proposed Trip Generation Totals

| | | AM Peak | | | PM Peak | | |
|--------------------------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | | In | Out | Total | In | Out | Total |
| Proposed | Convenience (Super) Market/Gas Station (Fueling Positions/Square Footage, ITE-960) 16 Fueling Positions 4649 sq.ft. | 201 | 201 | 402 | 171 | 172 | 343 |
| | <i>Pass-by Trip Percentage (76% for both AM and PM)</i> | -153 | -153 | -306 | -130 | -131 | -261 |
| Total Proposed Primary Trips: | | 48 | 48 | 96 | 41 | 41 | 82 |
| Proposed Primary Trips: | | 48 | 48 | 96 | 41 | 41 | 82 |
| Proposed Existing Trips: | | 0 | 0 | 0 | 22 | 19 | 41 |
| Net New Primary Trips: | | 48 | 48 | 96 | 19 | 22 | 41 |

NOTES: 1. Trip Generation Rates obtained from the ITE Trip Generation Manual, 10th Edition
 2. The existing businesses at the site do not open during the AM peak hour. Therefore, no credit was assumed for the AM peak hour.

| | | |
|--|--------------------------|------------------|
| Traffic Impact Analysis | Trip Generation for Site | Exhibit 6 |
|  LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | | |

15%

| | | | | | | | |
|-------------------|--------|-------|---|--------|-------|---|---|
| Old Landover Road | 0 | (3) 7 | 0 | - | 7 (2) | 0 | 0 |
| Hunters Ridge | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pinebrook Avenue | (5) 14 | 0 | 0 | (4) 10 | 0 | 0 | 0 |
| Site Access | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kent Town Place | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75th Avenue | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dodge Park Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shopping center | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

15%

| | | | | | | | |
|-------------------|--------|-------|---|--------|-------|---|---|
| Old Landover Road | 0 | (3) 7 | 0 | - | 7 (2) | 0 | 0 |
| Hunters Ridge | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pinebrook Avenue | (5) 14 | 0 | 0 | (4) 10 | 0 | 0 | 0 |
| Site Access | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kent Town Place | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75th Avenue | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dodge Park Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shopping center | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

15%

| | | | | | | | |
|-------------------|--------|-------|---|--------|-------|---|---|
| Old Landover Road | 0 | (3) 7 | 0 | - | 7 (2) | 0 | 0 |
| Hunters Ridge | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pinebrook Avenue | (5) 14 | 0 | 0 | (4) 10 | 0 | 0 | 0 |
| Site Access | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kent Town Place | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75th Avenue | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dodge Park Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shopping center | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Notes:

- Refer to the proposed concept plan in Appendix A. Given that Intersections 10 and 14 provide access to only the convenience market portion of the site (not the fueling positions) the following was assumed:
 - 80 % of traffic from south of the site will bypass Intersections 9 and 13.
 - 100 % of traffic from north of the site will utilize Intersections 9 and 13 to access the site since it allows access to both the fueling positions and convenience market
- In addition to the above, the following assumption was used regarding inbound vehicles from eastbound MD 202
 - 60 % of traffic from west of the site will utilize Intersection 4 to access the site.
 - 40 % of traffic from west of the site will turn right at Intersection 3 and then access the site via Intersection 13.

5%

| | | | | | | | |
|-------------------|--------|-------|---|--------|-------|---|---|
| Old Landover Road | 0 | (3) 7 | 0 | - | 7 (2) | 0 | 0 |
| Hunters Ridge | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pinebrook Avenue | (5) 14 | 0 | 0 | (4) 10 | 0 | 0 | 0 |
| Site Access | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kent Town Drive | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75th Avenue | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Dodge Park Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shopping center | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

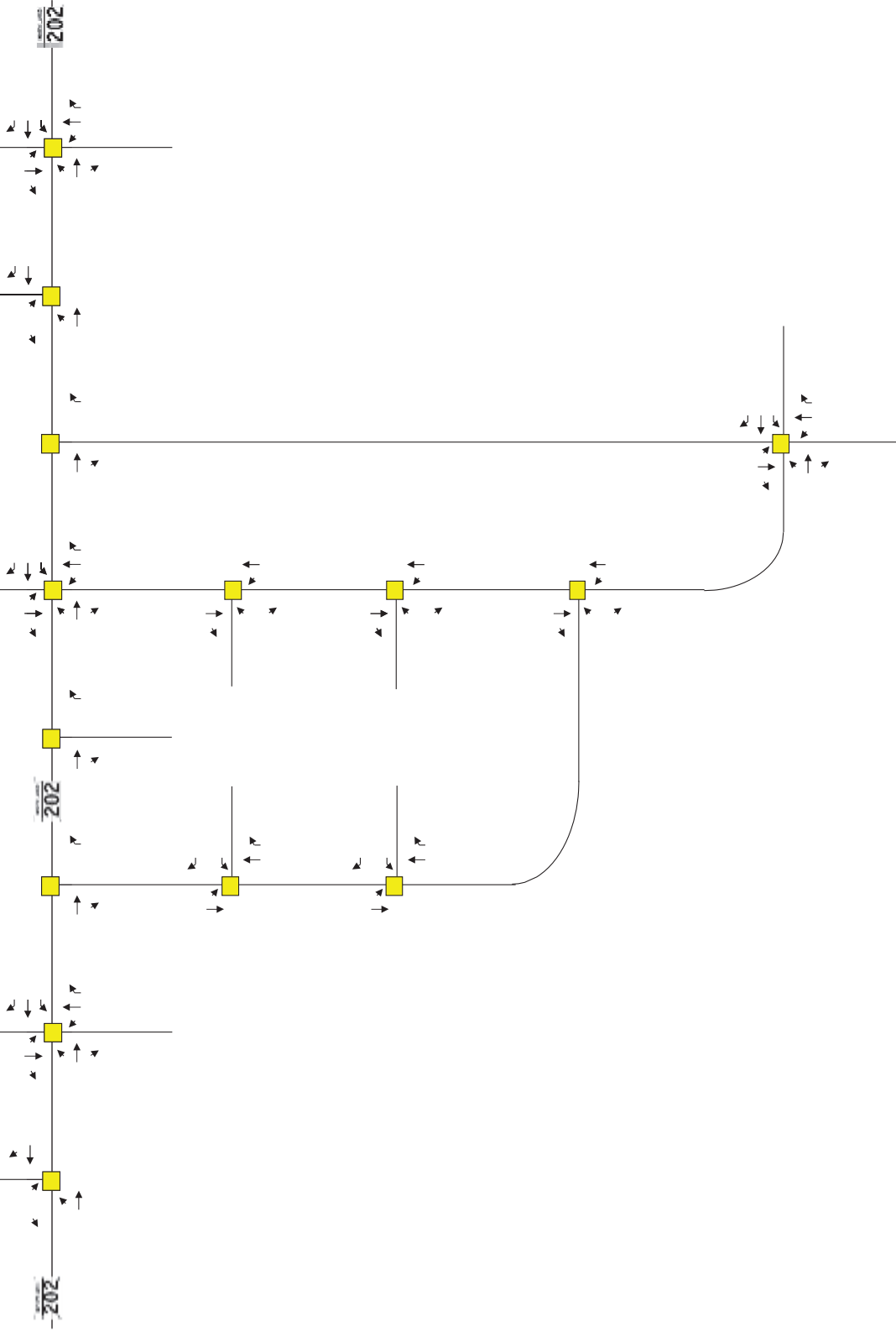
Key: 'x' = AM Peak Vol's (kx) = PM Peak Vol's

15%

Proposed Site Trip Assignment - Inbound Trips

Traffic Impact Analysis

Exhibit
7a



LENHART TRAFFIC CONSULTING, INC.
10315 SHILOH LANE
SEVERNA PARK, MD 21146
www.lenharttraffic.com

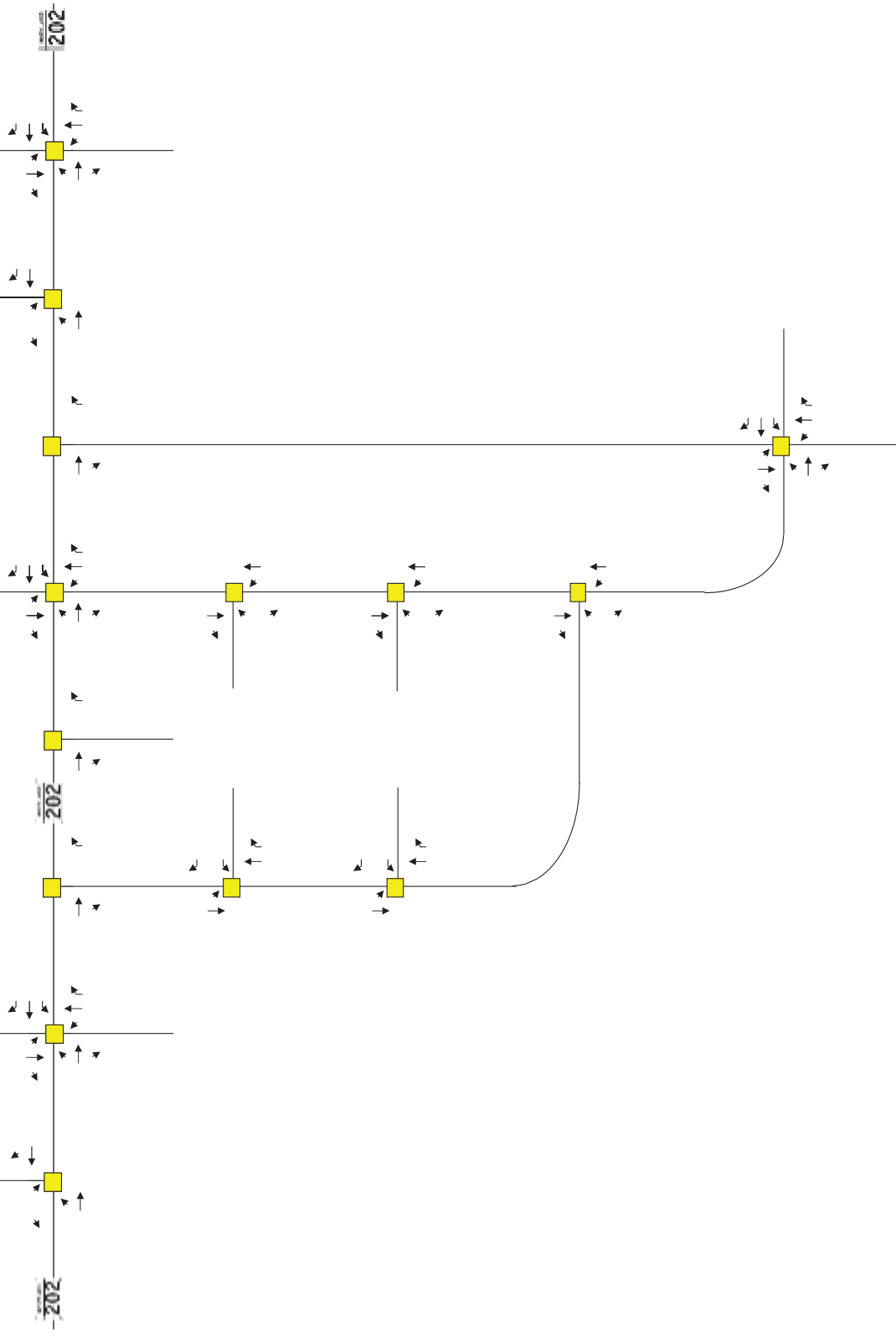
Key: 'x' = AM Peak Vol's (x) = PM Peak Vol's

15%

Proposed Site Trip Assignment - Outbound Trips

Traffic Impact Analysis

Exhibit
7b



LENHART TRAFFIC CONSULTING, INC.
10000 WOODBURN DRIVE, SUITE 110
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Key: 'a' = AM Peak Vol's (K) = PM Peak Vol's

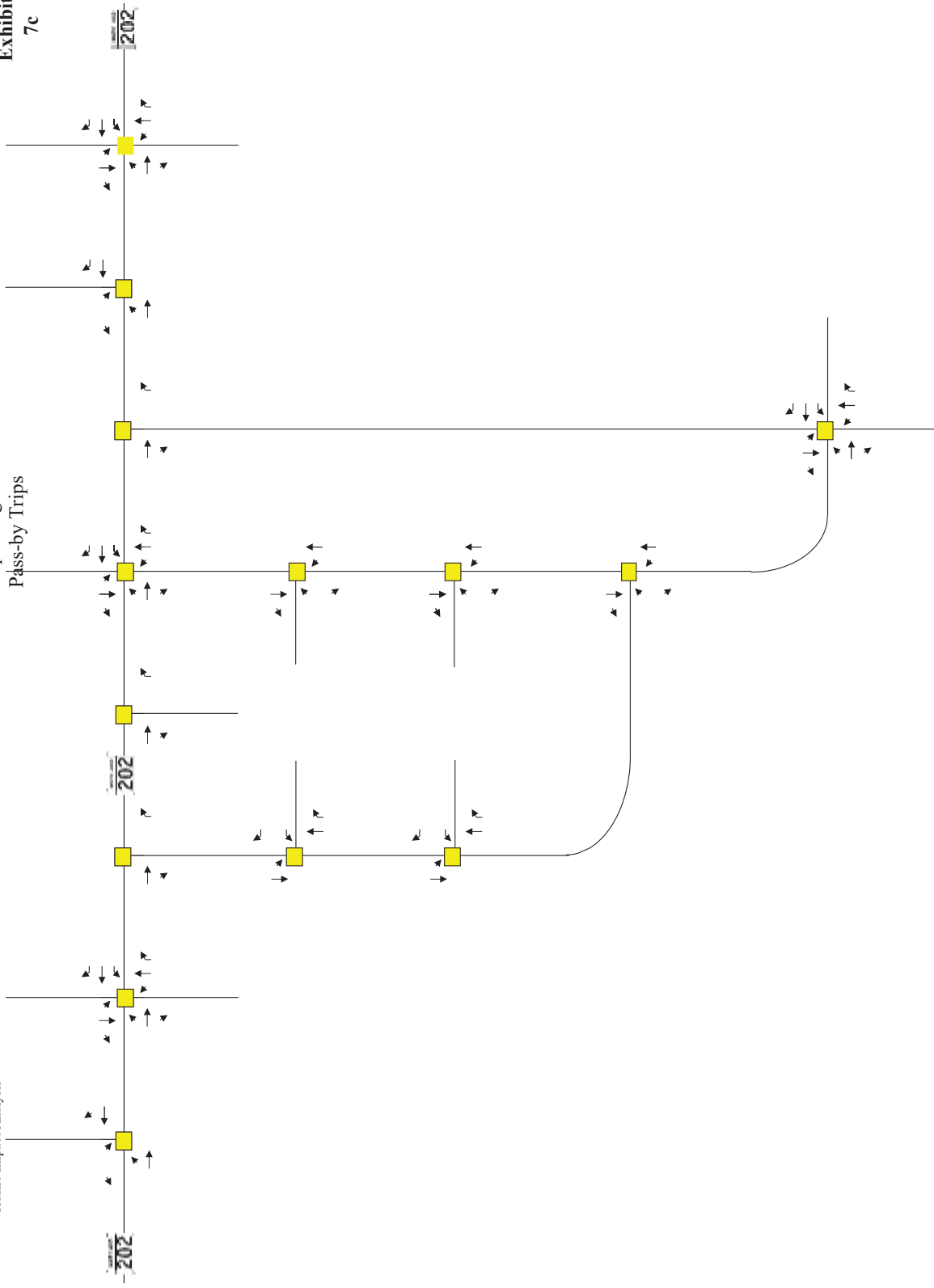
| Location | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---------------------------------|---|---|---|---|---|---|---|---|
| Old Landover Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Hunters Ridge | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pinbrook Avenue | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access (-97) -106 (97) 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access (98) 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kent Town Place | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access (13) 29 (-13) -29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access (14) 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kent Village Drive | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Site Access 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fire House Road | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Shopping center | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Key: xx = AM Peak Vol's (xx) = PM Peak Vol's

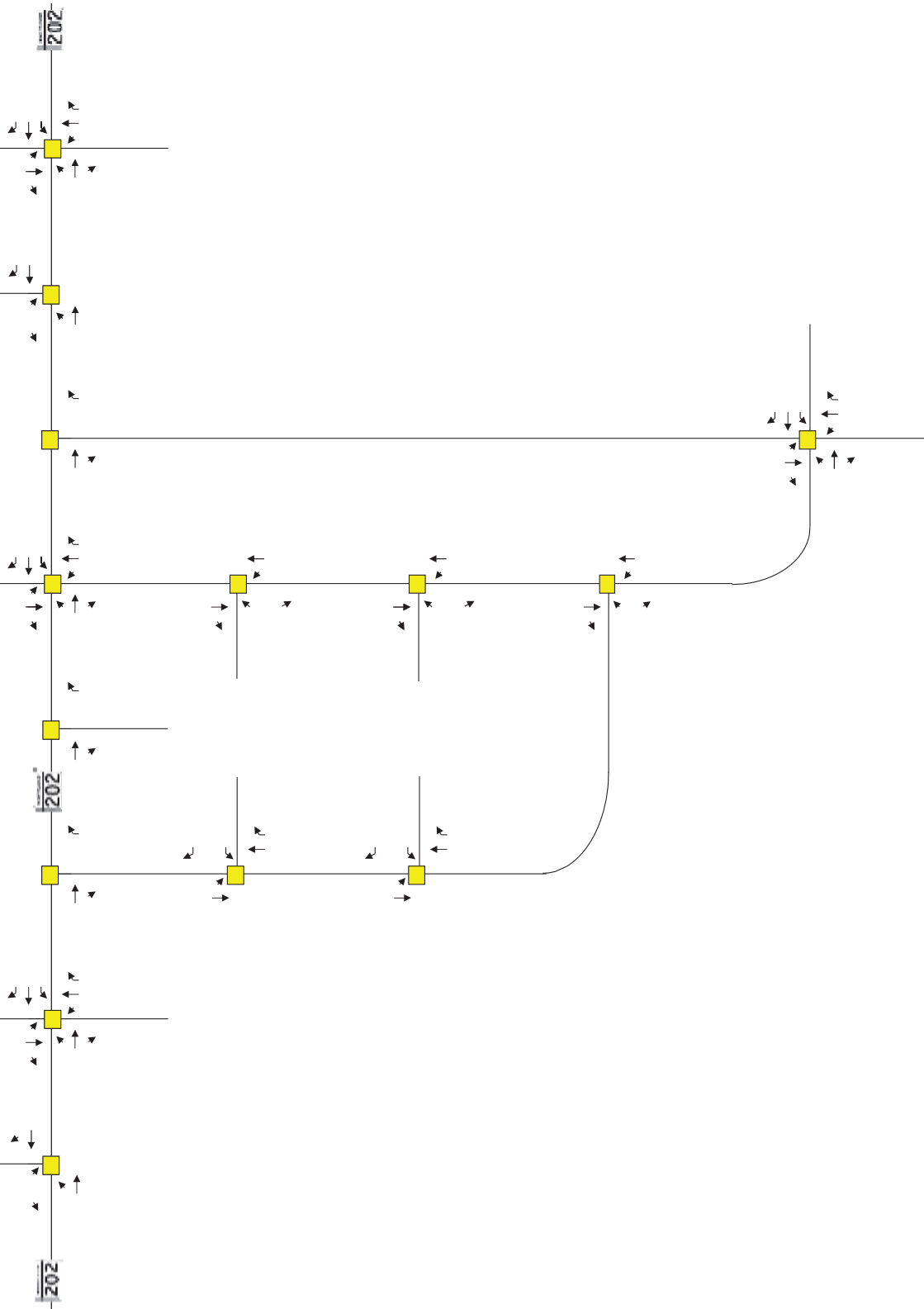
Traffic Impact Analysis

Site Trip Assignment -
Pass-by Trips

Exhibit
7c



Key: xx = AM Peak Vol's (xx) - PM Peak Vol's



Level of Service Results

| Morning Peak Hour | Existing LOS | Background LOS | Total LOS | Meets Standard? |
|---|--|--|--|------------------|
| 1). MD 202 & Old Landover Road | C / 1182 | C / 1288 | C / 1297 | Y |
| 2). MD 202 & Pinebrook Avenue | C / 1152 | D / 1314 | D / 1323 | Y |
| 3). MD 202 & Kent Town Drive <i>Tier 1 - HCM Delay Test</i> Northbound Approach | B / 11.7 | B / 12.3 | B / 12.3 | Y |
| 4). MD 202 & Site Access <i>Tier 1 - HCM Delay Test</i> Northbound Approach (Site Access) | n/a | n/a | B / 14.8 | Y |
| 5). MD 202 & Kent Town Drive / 75th Avenue | C / 1281 | D / 1367 | D / 1385 | Y |
| 6). MD 202 & Kent Village Drive <i>Tier 1 - HCM Delay Test</i> Northbound Approach | A / 9.1 | A / 9.3 | A / 9.3 | Y |
| 7). MD 202 & Dodge Park Road | B / 1088 | C / 1162 | C / 1175 | Y |
| 8). MD 202 & Fire House Road / Shopping Center | B / 1112 | C / 1185 | C / 1195 | Y |
| 9). Kent Town Place & Site Access <i>Tier 1 - HCM Delay Test</i> Eastbound Approach (Site Access) Northbound Approach | n/a n/a | n/a n/a | B / 13.1 A / 1.1 | Y Y |
| 10). Kent Town Place & Site Access <i>Tier 1 - HCM Delay Test</i> Eastbound Approach (Site Access) Northbound Approach | n/a n/a | n/a n/a | A / 9.3 A / 0.1 | Y Y |
| 11). Kent Town Drive & Kent Town Place <i>Tier 1 - HCM Delay Test</i> Eastbound Approach Northbound Approach | A / 9.8 A / 0.5 | A / 9.9 A / 0.5 | A / 10.0 A / 0.5 | Y Y |
| 12). Kent Village Drive & Kent Town Drive <i>Tier 1 - HCM Delay Test</i> Eastbound Approach Westbound Approach Northbound Approach Southbound Approach | A / 7.9 A / 7.9 A / 9.0 A / 7.7 | A / 7.9 A / 8.0 A / 9.2 A / 7.7 | A / 8.0 A / 8.0 A / 9.3 A / 7.7 | Y Y Y Y |
| 13). Kent Town Drive & Site Access <i>Tier 1 - HCM Delay Test</i> Westbound Approach (Site Access) Northbound Approach | n/a n/a | n/a n/a | A / 9.0 A / 1.4 | Y Y |
| 14). Kent Town Drive & Site Access <i>Tier 1 - HCM Delay Test</i> Westbound Approach (Site Access) Northbound Approach | n/a n/a | n/a n/a | A / 0.0 A / 0.0 | Y Y |
| Evening Peak Hour | Existing LOS | Background LOS | Total LOS | Meets Standard? |
| 1). MD 202 & Old Landover Road | B / 1064 | C / 1161 | C / 1163 | Y |
| 2). MD 202 & Pinebrook Avenue | C / 1254 | D / 1372 | D / 1375 | Y |
| 3). MD 202 & Kent Town Drive <i>Tier 1 - HCM Delay Test</i> Northbound Approach | C / 19.3 | C / 21.2 | C / 21.2 | Y |
| 4). MD 202 & Site Access <i>Tier 1 - HCM Delay Test</i> Northbound Approach (Site Access) | C / 17.2 | C / 18.5 | D / 29.6 | Y |
| 5). MD 202 & Kent Town Drive / 75th Avenue | D / 1409 | E / 1509 | E / 1525 | Y |
| 6). MD 202 & Kent Village Drive <i>Tier 1 - HCM Delay Test</i> Northbound Approach | B / 10.9 | B / 10.9 | B / 10.9 | Y |
| 7). MD 202 & Dodge Park Road | A / 928 | A / 999 | B / 1001 | Y |
| 8). MD 202 & Fire House Road / Shopping Center | C / 1197 | C / 1283 | C / 1287 | Y |
| 9). Kent Town Place & Site Access <i>Tier 1 - HCM Delay Test</i> Eastbound Approach (Site Access) Northbound Approach | B / 12.8 A / 0.3 | B / 13.3 A / 0.3 | B / 14.3 A / 0.8 | Y Y |
| 10). Kent Town Place & Site Access <i>Tier 1 - HCM Delay Test</i> Eastbound Approach (Site Access) Northbound Approach | A / 0.0 A / 0.0 | A / 0.0 A / 0.0 | B / 10.2 A / 0.0 | Y Y |
| 11). Kent Town Drive & Kent Town Place <i>Tier 1 - HCM Delay Test</i> Eastbound Approach Northbound Approach | B / 12.7 A / 2.1 | B / 13.3 A / 2.1 | B / 13.4 A / 2.1 | Y Y |
| 12). Kent Village Drive & Kent Town Drive <i>Tier 1 - HCM Delay Test</i> Eastbound Approach Westbound Approach Northbound Approach Southbound Approach | A / 8.0 A / 7.8 A / 8.9 A / 7.7 | A / 8.1 A / 7.9 A / 9.1 A / 7.7 | A / 8.1 A / 7.9 A / 9.1 A / 7.7 | Y Y Y Y |
| 13). Kent Town Drive & Site Access <i>Tier 1 - HCM Delay Test</i> Westbound Approach (Site Access) Northbound Approach | A / 8.9 A / 0.3 | A / 9.0 A / 0.3 | A / 9.4 A / 0.7 | Y Y |
| 14). Kent Town Drive & Site Access <i>Tier 1 - HCM Delay Test</i> Westbound Approach (Site Access) Northbound Approach | A / 0.0 A / 0.0 | A / 0.0 A / 0.0 | A / 0.0 A / 0.0 | Y Y |

Traffic Impact Analysis

Results of
Level of Service Analyses

**Exhibit
9**



Section 5 Conclusions / Recommendations

5.1 Results of Analysis

This Traffic Impact Analysis was prepared for the proposed Royal Farms #411 – Kent Village in Landover, MD. The property is currently developed with two restaurants and is proposed to be redeveloped with a 4,649 square foot (Super) Convenience Market with 16 fueling positions.

Based on the analyses contained in this report:

- All signalized intersections operate within the CLV threshold of 1,600 for locations within the Developed Tier..
- All the unsignalized intersections meet the first-tier requirement of the three-tiered test under all conditions with no approach delays exceeding 50 seconds.

In light of the results of this study, this project will satisfy the APFO requirements of Prince George’s County and should be approved.

Appendix A

Supplemental Information
Turning Movement Counts

Table 1: Traffic Impact Study Scoping Agreement

The Maryland-National Capital Park and Planning Commission

Prince George's County Planning Department
Transportation Planning Section Countywide Planning Commission

This form must be completed prior to commencing a traffic impact study (TIS). The completed and signed scoping agreement should be submitted to the Transportation Planning Section (TPS) by the traffic consultant for concurrence and signature. TPS will return a signed copy with any comments to the traffic consultant for inclusion in the TIS. Failure to conduct the study in accordance with the guidelines and the signed Scoping agreement may be grounds for rejection of the study, thereby necessitating an addendum or a new study prior to the start of staff review.

| | |
|---|--|
| Project Name: | Royal Farms 411- Kent Village |
| Policy Tier (Developed, Developing, or Rural): Please note if in center or corridor: | Developed |
| Type of Application (see Table 3): | PPS |
| Project Location: | south of MD 202 and west of Kent Town Drive |
| Traffic Consultant Name: Contact Number(s): | Mike Lenhart (P): 410.216.3333 (F): 443.782.2288 |

| | | | |
|---|--|------------|--|
| Describe the Proposal Under Study: Residential-Number & Type of Units: Commercial-Amount & Type of Space: Other Uses and Quantity: | Proposed: 4,649 SF (Super) Convenience Market w/ 16 Fueling Positions Existing: 1,715 sq. ft. Fast Food Restaurant w/ Drive Thru & 2,296 sq. ft. Fast Casual Restaurant | | |
| Are pass-by trip rates in accordance with the guidelines? (circle one) | 8 | No | If No, please provide explanation on separate sheet. |
| Are there (reversed trips? (circle one) | Yes | (R) | If Yes, please provide explanation on separate sheet. |
| Will a TOD credit be used? (Section 4 of the Guidelines) (circle one) | Yes | (R) | Note that all development in centers and corridors will be evaluated for TOD. |
| Will a transit facilities credit be used? (Section 5 of the Guidelines) (circle one) | Yes | (R) | Need/nexus must be justified in study, and it must be supported by operating agency. |
| Will a bike/ped facilities credit be used? (Section 6 of the Guidelines) (circle one) | Yes | e | Need/nexus must be justified in study, and it must be supported by operating agency. |
| Are additional trip reductions (internal trips, transit trips etc.) proposed? (circle one) | Yes | @ | If Yes, please provide explanation on separate sheet. (Internal Trips) |


Attach a map (or maps) showing the study area network with included intersections and links, estimated site trip distribution, and growth factors for through traffic.

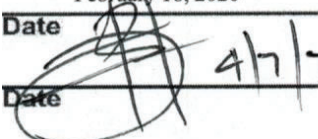
| | | |
|---|--------------------------------------|---|
| SHA/DPW&T capital program improvements assumed: | N/A | |
| Other improvements assumed: | N/A | |
| is Mitigation (Section 8 of the Guidelines) to be proffered? (circle one) | No | Note the locati onal criteria in Section 8, and please note the clarifications regarding mitigation included in Section 3, Subsection E. |
| Is a cooperative funding arrangement (such as a | *If Needed | If Yes, please pmvide |
| SCRIP, PFFIP, or some other pro rata) to be used? (circle one) | Yes <input checked="" type="radio"/> | explanation on separate sheet and no t e limftations in Section 3, Subsection E. |
| Will summer counts be used? | | The use of summer counts must |
| (circle one) | Yes <input checked="" type="radio"/> | have specific concurrence of TPS staff. |
| Have there been discussions with the permftting agency (DPW&T and/or SHA) regarding access to this site and the analysis requirements? (circle one) | Yes <input checked="" type="radio"/> | Section 1, Subsection E, strongly advises that these discussions occur early in the development review process. Note that driveway access onto arterial facilities must be justified and approved by the Planning Board as a part of the subdivision process. |
| Has a listing of background development been develo d? (circle one) | @ No | If Yes, please provide the list so that TPS staff may either concur with it or provide changes. |

• if_tached. . + 1% Growt,

Have the costs and feasibility of potential off-site transportation Improvements been evaluated? (circle one) Yes

If N o, bear in mind that Section 3, Subsection D, requires that any recommended physical off-site improvements include an evaluation of feasibility.

SIGNED: 
Traffic Consultant
 APPROVED: TPS Coordinator (or Supervisor)

February 18, 2020
 Date 
 Date 4/7/2020

This form is not required for sites that do not require a TIS.

SbEE, Pn, L, m, & L, In8, F2, M, X, M, ZUIIA, M, AI, JUZIMUUIaUWAA&&ZE L, 5 ZM, 6 M, SilJa, 4, W, t8, W, UK&A I AMU, 3, 6, 1, M, L, A

Transportation Submittal Checklist for Development Applications

Project Name: Royal Farms 411 -Kent Village Date: 2-18-2020

Applicant Name: Royal Farms, Inc Contact/Agent: Mike Lenhart

Phone Number 410-987-3888 Fax Number 443-782-2288

Acreage: _____ E-mail Address mlehart@lenharttraffic.com

Type of Application: PPS

Associated/Previous Project Numbers _____

Please provide a conceptual plan on letter-sized paper. The conceptual plan must show a general layout of the proposed uses, proposed points of access, and sufficient detail of nearby public streets, properties, and/or environmental features to allow the property to be located and assessed by staff.

Please describe the current development proposal in terms of size:

Market Residential:
 _____ Single family residences (number) _____ Townhouse residences (number)
 _____ Apartment or Condominium residences (number)

Market Non-Residential:
 _____ Square feet office (describe) _____
 _____ Square feet retail (describe) _____
 _____ Square feet industrial (describe) _____

Other Uses:
 This includes places of worship, day care facilities, private schools, hotels, housing for elderly citizens or other special groups, and other types of proposals. Please describe the size of the proposal, and include square feet, number of units, number of students, or any other appropriate measure.
 4,649 SF (Super) Convenience Market w/ 16 Fueling Positions

Please submit this information to the Transportation Planning Section for review. Note: Both sides of this page, with the required conceptual plan, must be submitted. If submitted by e-mail, please send to trafficinfo@ppd.mncppc.org. If submitted by fax, please send to (301) 952-3799, with attention to the Transportation Planning Section. A hardcopy may also be mailed or brought into our office.

The rear side of this page shall be completed by the Transportation Planning Section and returned to the applicant within five (5) working days.

DO NOT COMPLETE – For Staff Use Only

To be completed by Transportation Planning Section staffperson:

| | | | |
|---------------------------|-----|-----|--------|
| Estimated Trip Generation | AM: | PM: | Other: |
|---------------------------|-----|-----|--------|

| Data Need | Yes | No | Requirement for this Application |
|---|-----|----|---|
| Traffic Study | | | If Yes, please have a traffic consultant scope the needed study using the attached Scoping Agreement. Scoping Agreements must be sent to trafficinfo@ppd.mncppc.org . The traffic study must be submitted with the application. |
| Traffic Count | | | If Yes, counts in lieu of a full study are required at the intersection(s) identified on the comment line below. Counts must be taken in accordance with the procedures outlined on the attached sheet, and submitted with the application. |
| Other Transportation Study | | | If Yes, please see comment line below. |
| Transportation Adequacy Finding Not Required by Application or De Minimus | | | None, unless other information is requested by comments above. |
| Insufficient information to make determination | | | If Yes, please see comment line below and resubmit with sufficient information. |

Comments: _____

 Transportation Staffperson Signature Date

 Transportation Staffperson’s Name (printed)

 Transportation Staffperson’s Phone and E-mail

Based on the information provided within this Checklist, an initial assessment of the data required to complete review of the application is provided. However, if the development proposal changes or if new information is determined during a detailed review of the application after its formal acceptance, the transportation staff shall reserve the right to request additional information in accordance with the findings required for the application.

For assistance with general questions regarding transportation submittal requirements, contact the Transportation Planning Section at 301-952-3084. Please identify the area in which your development is located, or ask for the appropriate transportation planner.



Traffic Impact Analysis

Site Location Map

Traffic Impact Analysis

LENHART TRAFFIC CONSULTING, INC.
 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
 SEVERNA PARK, MD 21146
 www.lenharttraffic.com

Exhibit 1

Trip Generation Rates

| | |
|---|--|
| Convenience (Super) Market/Gas Station (Fueling Positions/Square Footage, ITE-960) | <u>Trip Distribution (In/Out)</u> |
| Morning Trips = 16.1 x Fueling Positions + 135 x ksf - 483 | 25/75 |
| Evening Trips = 11.5 x Fueling Positions + 82.9 x ksf - 226 | 63/37 |
| Fast Food Rest. w/Drive-Thru (General Urban/Suburban, ksf, ITE-934) | <u>Trip Distribution (In/Out)</u> |
| Morning Trips = 40.19 x ksf | 25/75 |
| Evening Trips = 32.67 x ksf | 63/37 |
| Fast Casual Restaurant (ksf, ITE-930) | <u>Trip Distribution (In/Out)</u> |
| Morning Trips = 2.07 x ksf | 25/75 |
| Evening Trips = 14.13 x ksf | 63/37 |

Existing Trip Generation Totals


| | | AM Peak | | | PM Peak | | |
|--------------------------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | | In | Out | Total | In | Out | Total |
| Existing | Fast Food Rest. w/Drive-Thru (ksf, ITE-934) 1715 sq.ft. | 35 | 34 | 69 | 29 | 27 | 56 |
| | <i>Pass-by Trip Percentage (49% AM, 50% PM)</i> | -17 | -17 | -34 | -14 | -14 | -28 |
| | Fast Casual Restaurant (ksf, ITE-930) 2296 sq.ft. | 3 | 2 | 5 | 18 | 14 | 32 |
| | <i>Pass-by Trip Percentage (60% for both AM and PM)</i> | -2 | -1 | -3 | -11 | -8 | -19 |
| Total Existing Primary Trips: | | 19 | 18 | 37 | 22 | 19 | 41 |

Proposed Trip Generation Totals

| | | AM Peak | | | PM Peak | | |
|--------------------------------------|---|-----------|-----------|-----------|-----------|-----------|-----------|
| | | In | Out | Total | In | Out | Total |
| Proposed | Convenience (Super) Market/Gas Station (Fueling Positions/Square Footage, ITE-960) 16 Fueling Positions | 201 | 201 | 402 | 171 | 172 | 343 |
| | 4649 sq. ft. | | | | | | |
| | <i>Pass-by Trip Percentage (76% for both AM and PM)</i> | -153 | -153 | -306 | -130 | -131 | -261 |
| Total Proposed Primary Trips: | | 48 | 48 | 96 | 41 | 41 | 82 |

| | | | | | | |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Proposed Primary Trips: | 48 | 48 | 96 | 41 | 41 | 82 |
| Proposed Existing Trips: | 19 | 18 | 37 | 22 | 19 | 41 |
| Net New Primary Trips: | 29 | 30 | 59 | 19 | 22 | 41 |

NOTES: 1. Trip Generation Rates obtained from the ITE Trip Generation Manual, 10th Edition

| | | |
|--|--------------------------|----------------------|
| Traffic Impact Analysis | Trip Generation for Site | Exhibit 2 |
|  LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | | |

$$\frac{d}{dt} \left(\frac{1}{2} m v^2 \right) = \mathbf{F} \cdot \mathbf{v}$$

$$= \frac{d}{dt} \left(\frac{1}{2} m v^2 \right) = \mathbf{F} \cdot \mathbf{v}$$

manuscript

CALL 48 HOURS
BEFORE YOU DIG
IT'S THE LAW!
DIAL 811
Know what's below.
Call 800mydig



11

11

11

11

..... ■ ■

.....

.....

.....

— — — — —

— — — — —

— — — — —

SHOPPING CENTER
(C=60,000 SF)
IMPACT CATEGORY: H

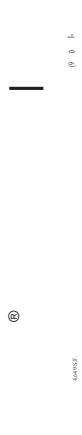
-----4-----

1



| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

RFS 411 - KENT
VILLAGE
PREPARED FOR
BY YALFAR 9



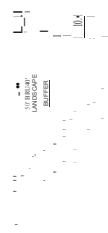
SHOPPING CENTER

(>60,000 SF)

IMPACT CATEGORY: H

PROPOSED

PROPERTY LINE



Z

<

J

0.

W

I-

C9

d.

1

W
Y
O
U

MAY 2014

CONCEPT SKETCH PLAN 1

GRAPHIC SCALE IN FEET

S

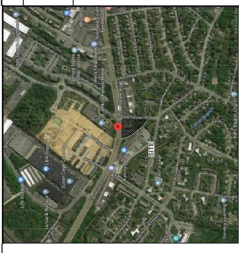
0
0
1

0
0

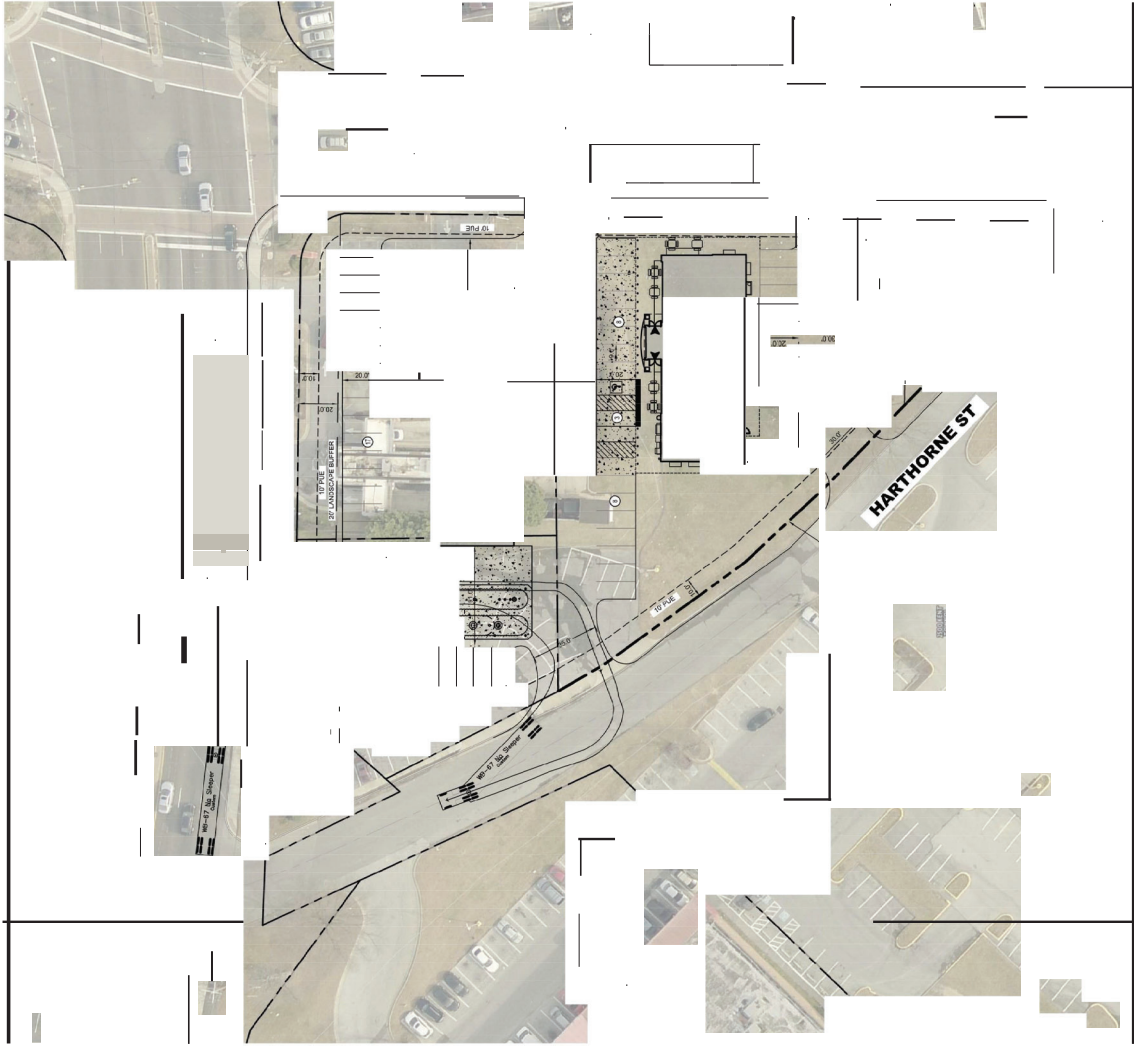
SHEET
NUMBER

CSP

-1



KHA PROJECT
11408019
DATE
10/07/2019
SCALE



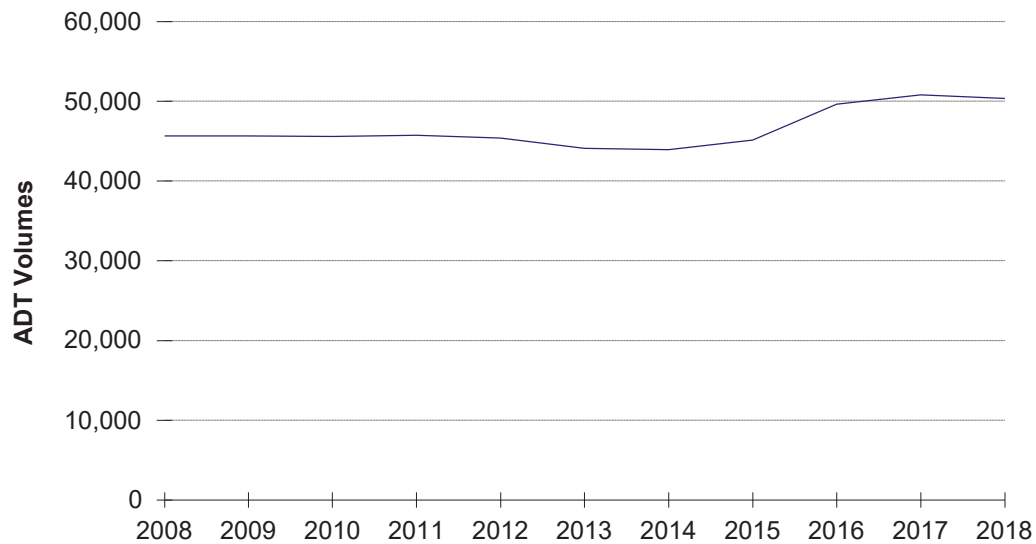
TRAFFIC GROWTH PROJECTION

LOCATION: MD 202 west of Old Landover Road

REPORT DATE: 18-Feb-20

| | |
|-----------------------------|-------|
| AVERAGE GROWTH: | 1.04% |
| MATHEMATICAL GROWTH: | 0.98% |

| Year | ADT Volume | Vol. increase | % increase | Average % |
|------|------------|---------------|------------|-----------|
| 2008 | 45,681 | | | |
| 2009 | 45,682 | 1 | 0.00% | 0.00% |
| 2010 | 45,580 | -102 | -0.22% | -0.11% |
| 2011 | 45,761 | 181 | 0.40% | 0.06% |
| 2012 | 45,402 | -359 | -0.78% | -0.15% |
| 2013 | 44,110 | -1,292 | -2.85% | -0.69% |
| 2014 | 43,981 | -129 | -0.29% | -0.62% |
| 2015 | 45,132 | 1,151 | 2.62% | -0.16% |
| 2016 | 49,640 | 4,508 | 9.99% | 1.11% |
| 2017 | 50,831 | 1,191 | 2.40% | 1.25% |
| 2018 | 50,372 | -459 | -0.90% | 1.04% |




TRAFFIC GROWTH
MD 202 west of Old Landover Road

| Weekday Morning Peak Hour (6:30 am - 9:30 am) | | | | | | | | | | | | | | | | | | | | | |
|---|----------------|------|------|-------|------------------------------|--------|------|------|-------|------------------|--------|------|------|-------|------------------|--------|------|------|-------|-------|------|
| Time: | N/A Northbound | | | | Old Landover Road Southbound | | | | | MD 202 Eastbound | | | | | MD 202 Westbound | | | | Total | | |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | | Right | Peds |
| 6:30-6:45 | | | | | | 0 | 11 | 18 | 1 | | 0 | 22 | 175 | 0 | | 0 | | 423 | 42 | 0 | 691 |
| 6:45-7:00 | | | | | | 0 | 12 | 10 | 0 | | 0 | 27 | 205 | 0 | | 0 | | 517 | 35 | 0 | 806 |
| 7:00-7:15 | | | | | | 0 | 17 | 16 | 0 | | 0 | 24 | 207 | 0 | | 0 | | 602 | 55 | 0 | 921 |
| 7:15-7:30 | | | | | | 0 | 20 | 13 | 0 | | 0 | 23 | 265 | 0 | | 0 | | 656 | 44 | 0 | 1021 |
| 7:30-7:45 | | | | | | 0 | 16 | 21 | 0 | | 0 | 16 | 258 | 0 | | 0 | | 638 | 49 | 0 | 998 |
| 7:45-8:00 | | | | | | 0 | 21 | 27 | 0 | | 0 | 27 | 337 | 0 | | 0 | | 618 | 46 | 0 | 1076 |
| 8:00-8:15 | | | | | | 0 | 21 | 24 | 0 | 1 | 31 | 306 | 0 | 0 | 0 | | | 584 | 52 | 0 | 1019 |
| 8:15-8:30 | | | | | | 0 | 8 | 25 | 0 | 1 | 25 | 342 | 0 | 0 | 0 | | | 542 | 49 | 0 | 992 |
| 8:30-8:45 | | | | | | 0 | 12 | 13 | 0 | 0 | 17 | 332 | 0 | 0 | 0 | | | 470 | 27 | 0 | 871 |
| 8:45-9:00 | | | | | | 0 | 13 | 14 | 0 | 1 | 27 | 306 | 0 | 0 | 0 | | | 434 | 29 | 0 | 824 |
| 9:00-9:15 | | | | | | 0 | 7 | 11 | 1 | 0 | 14 | 320 | 0 | 0 | 0 | | | 398 | 25 | 0 | 775 |
| 9:15-9:30 | | | | | | 0 | 8 | 11 | 0 | 0 | 15 | 325 | 0 | 0 | 0 | | | 394 | 26 | 0 | 779 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|-------------------|-------------|-------------|--------------|-------------------|---------------|-------------|-------------|--------------|------------------|---------------|-------------|-------------|--------------|------------------|---------------|-------------|-------------|--------------|--------------|-------------|
| 6:30-7:30 | | | | | | 0 | 60 | 57 | 1 | | 0 | 96 | 852 | 0 | | 0 | | 2198 | 176 | 0 | 3440 |
| 6:45-7:45 | | | | | | 0 | 65 | 60 | 0 | | 0 | 90 | 935 | 0 | | 0 | | 2413 | 183 | 0 | 3746 |
| 7:00-8:00 | | | | | | 0 | 74 | 77 | 0 | | 0 | 90 | 1067 | 0 | | 0 | | 2514 | 194 | 0 | 4016 |
| 7:15-8:15 | | | | | | 0 | 78 | 85 | 0 | 1 | 97 | 1166 | 0 | 0 | 0 | | | 2496 | 191 | 0 | 4114 |
| 7:30-8:30 | | | | | | 0 | 66 | 97 | 0 | 2 | 99 | 1243 | 0 | 0 | 0 | | | 2382 | 196 | 0 | 4085 |
| 7:45-8:45 | | | | | | 0 | 62 | 89 | 0 | 2 | 100 | 1317 | 0 | 0 | 0 | | | 2214 | 174 | 0 | 3958 |
| 8:00-9:00 | | | | | | 0 | 54 | 76 | 0 | 3 | 100 | 1286 | 0 | 0 | 0 | | | 2030 | 157 | 0 | 3706 |
| 8:15-9:15 | | | | | | 0 | 40 | 63 | 1 | 2 | 83 | 1300 | 0 | 0 | 0 | | | 1844 | 130 | 0 | 3463 |
| 8:30-9:30 | | | | | | 0 | 40 | 49 | 1 | 1 | 73 | 1283 | 0 | 0 | 0 | | | 1696 | 107 | 0 | 3250 |
| AM Peak Hour 7:15-8:15 | Northbound | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | Total | | |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | | Right | Peds |
| | 0 | 78 | | 85 | 0 | 1 | 97 | 1166 | 0 | 0 | 0 | 2496 | 191 | 0 | 4114 | | | | | | |

| Weekday Evening Peak Hour (4 pm - 7 pm) | | | | | | | | | | | | | | | | | | | | | |
|---|----------------|------|------|-------|------------------------------|--------|------|------|-------|------------------|--------|------|------|-------|------------------|--------|------|------|-------|-------|------|
| Time: | N/A Northbound | | | | Old Landover Road Southbound | | | | | MD 202 Eastbound | | | | | MD 202 Westbound | | | | Total | | |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | | Right | Peds |
| 4:00-4:15 | | | | | | 0 | 24 | 34 | 0 | | 0 | 17 | 597 | 0 | | 0 | | 349 | 21 | 0 | 1042 |
| 4:15-4:30 | | | | | | 0 | 25 | 30 | 0 | | 0 | 17 | 582 | 0 | | 0 | | 377 | 18 | 0 | 1049 |
| 4:30-4:45 | | | | | | 0 | 30 | 23 | 0 | 3 | 21 | 626 | 0 | 0 | 0 | | | 382 | 23 | 0 | 1108 |
| 4:45-5:00 | | | | | | 0 | 35 | 19 | 1 | 1 | 18 | 651 | 0 | 0 | 0 | | | 376 | 14 | 0 | 1114 |
| 5:00-5:15 | | | | | | 0 | 31 | 24 | 0 | 0 | 17 | 637 | 0 | 0 | 0 | | | 356 | 15 | 0 | 1080 |
| 5:15-5:30 | | | | | | 0 | 36 | 26 | 0 | 4 | 22 | 630 | 0 | 0 | 0 | | | 347 | 15 | 0 | 1080 |
| 5:30-5:45 | | | | | | 0 | 38 | 28 | 0 | 3 | 26 | 628 | 0 | 0 | 0 | | | 354 | 17 | 0 | 1094 |
| 5:45-6:00 | | | | | | 0 | 36 | 22 | 0 | 1 | 17 | 602 | 0 | 0 | 0 | | | 387 | 18 | 1 | 1083 |
| 6:00-6:15 | | | | | | 0 | 39 | 32 | 0 | 1 | 18 | 540 | 0 | 0 | 0 | | | 371 | 24 | 0 | 1025 |
| 6:15-6:30 | | | | | | 0 | 31 | 20 | 1 | 3 | 16 | 571 | 0 | 0 | 0 | | | 307 | 10 | 0 | 958 |
| 6:30-6:45 | | | | | | 0 | 26 | 18 | 0 | 1 | 24 | 457 | 0 | 0 | 0 | | | 344 | 19 | 0 | 889 |
| 6:45-7:00 | | | | | | 0 | 31 | 12 | 0 | 3 | 11 | 435 | 0 | 0 | 0 | | | 291 | 14 | 0 | 797 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|-------------------|-------------|-------------|--------------|-------------------|---------------|-------------|-------------|--------------|------------------|---------------|-------------|-------------|--------------|------------------|---------------|-------------|-------------|--------------|--------------|-------------|
| 4:00-5:00 | | | | | | 0 | 114 | 106 | 1 | | 4 | 73 | 2456 | 0 | | 0 | | 1484 | 76 | 0 | 4314 |
| 4:15-5:15 | | | | | | 0 | 121 | 96 | 1 | | 4 | 73 | 2496 | 0 | | 0 | | 1491 | 70 | 0 | 4352 |
| 4:30-5:30 | | | | | | 0 | 132 | 92 | 1 | 8 | 78 | 2544 | 0 | 0 | 0 | | | 1461 | 67 | 0 | 4383 |
| 4:45-5:45 | | | | | | 0 | 140 | 97 | 1 | 8 | 83 | 2546 | 0 | 0 | 0 | | | 1433 | 61 | 0 | 4369 |
| 5:00-6:00 | | | | | | 0 | 141 | 100 | 0 | 8 | 82 | 2497 | 0 | 0 | 0 | | | 1444 | 65 | 1 | 4338 |
| 5:15-6:15 | | | | | | 0 | 149 | 108 | 0 | 9 | 83 | 2400 | 0 | 0 | 0 | | | 1459 | 74 | 1 | 4283 |
| 5:30-6:30 | | | | | | 0 | 144 | 102 | 1 | 8 | 77 | 2341 | 0 | 0 | 0 | | | 1419 | 69 | 1 | 4162 |
| 5:45-6:45 | | | | | | 0 | 132 | 92 | 1 | 6 | 75 | 2170 | 0 | 0 | 0 | | | 1409 | 71 | 1 | 3957 |
| 6:00-7:00 | | | | | | 0 | 127 | 82 | 1 | 8 | 69 | 2003 | 0 | 0 | 0 | | | 1313 | 67 | 0 | 3670 |
| PM Peak Hour 4:30-5:30 | Northbound | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | Total | | |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | | Right | Peds |
| | 0 | 132 | | 92 | 1 | 8 | 78 | 2544 | 0 | 0 | 0 | 1461 | 67 | 0 | 4383 | | | | | | |

| | |
|--|--|
| Peak Hour Turning Movement Count | Intersection: MD 202 & Old Landover Road Weather: Clear Count by: ZW Count Day/Date: Thursday, February 13, 2020 County: Prince George's |
|  LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | |

| Weekday Morning Peak Hour (6:30 am - 9:30 am) | | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------|------|------|-------|------|----------------|------|------|-------|------|------------------|------|------|-------|------|------------------|------|------|-------|------|-------|
| Time: | Kent Town Drive Northbound | | | | | N/A Southbound | | | | | MD 202 Eastbound | | | | | MD 202 Westbound | | | | | Total |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | |
| 6:30-6:45 | | | | 0 | 1 | | | | | 0 | | | 174 | 13 | 0 | | | 387 | | 0 | 574 |
| 6:45-7:00 | | | | 0 | 0 | | | | | 0 | | | 209 | 17 | 0 | | | 476 | | 0 | 702 |
| 7:00-7:15 | | | | 0 | 1 | | | | | 1 | | | 201 | 7 | 0 | | | 566 | | 0 | 774 |
| 7:15-7:30 | | | | 0 | 0 | | | | | 0 | | | 251 | 18 | 0 | | | 572 | | 0 | 841 |
| 7:30-7:45 | | | | 1 | 0 | | | | | 0 | | | 259 | 15 | 0 | | | 582 | | 0 | 857 |
| 7:45-8:00 | | | | 2 | 1 | | | | | 0 | | | 313 | 16 | 0 | | | 570 | | 0 | 901 |
| 8:00-8:15 | | | | 1 | 1 | | | | | 0 | | | 322 | 10 | 0 | | | 555 | | 0 | 888 |
| 8:15-8:30 | | | | 0 | 0 | | | | | 0 | | | 318 | 9 | 0 | | | 530 | | 0 | 857 |
| 8:30-8:45 | | | | 1 | 0 | | | | | 0 | | | 304 | 11 | 0 | | | 456 | | 0 | 772 |
| 8:45-9:00 | | | | 1 | 1 | | | | | 0 | | | 289 | 8 | 0 | | | 422 | | 0 | 720 |
| 9:00-9:15 | | | | 3 | 2 | | | | | 0 | | | 326 | 13 | 0 | | | 367 | | 1 | 709 |
| 9:15-9:30 | | | | 2 | 0 | | | | | 1 | | | 300 | 17 | 0 | | | 388 | | 0 | 707 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|-------------------|------|------|-------|------|-------------------|------|------|-------|------|------------------|------|------|-------|------|------------------|------|------|-------|------|--------------|
| 6:30-7:30 | | | | 0 | 2 | | | | | 1 | | | 835 | 55 | 0 | | | 2001 | | 0 | 2894 |
| 6:45-7:45 | | | | 1 | 1 | | | | | 1 | | | 920 | 57 | 0 | | | 2196 | | 0 | 3176 |
| 7:00-8:00 | | | | 3 | 2 | | | | | 1 | | | 1024 | 56 | 0 | | | 2290 | | 0 | 3376 |
| 7:15-8:15 | | | | 4 | 2 | | | | | 0 | | | 1145 | 59 | 0 | | | 2279 | | 0 | 3489 |
| 7:30-8:30 | | | | 4 | 2 | | | | | 0 | | | 1212 | 50 | 0 | | | 2237 | | 0 | 3505 |
| 7:45-8:45 | | | | 4 | 2 | | | | | 0 | | | 1257 | 46 | 0 | | | 2111 | | 0 | 3420 |
| 8:00-9:00 | | | | 3 | 2 | | | | | 0 | | | 1233 | 38 | 0 | | | 1963 | | 0 | 3239 |
| 8:15-9:15 | | | | 5 | 3 | | | | | 0 | | | 1237 | 41 | 0 | | | 1775 | | 1 | 3062 |
| 8:30-9:30 | | | | 7 | 3 | | | | | 1 | | | 1219 | 49 | 0 | | | 1633 | | 1 | 2913 |
| AM Peak Hour 7:30-8:30 | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | Total |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | |
| | | | | 4 | 2 | | | | | 0 | | | 1212 | 50 | 0 | | | 2237 | | 0 | 3505 |

| Weekday Evening Peak Hour (4 pm - 7 pm) | | | | | | | | | | | | | | | | | | | | | |
|---|----------------------------|------|------|-------|------|----------------|------|------|-------|------|------------------|------|------|-------|------|------------------|------|------|-------|------|-------|
| Time: | Kent Town Drive Northbound | | | | | N/A Southbound | | | | | MD 202 Eastbound | | | | | MD 202 Westbound | | | | | Total |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | |
| 4:00-4:15 | | | | 5 | 2 | | | | | 2 | | | 548 | 36 | 1 | | | 319 | | 0 | 908 |
| 4:15-4:30 | | | | 9 | 1 | | | | | 1 | | | 547 | 35 | 0 | | | 331 | | 0 | 922 |
| 4:30-4:45 | | | | 7 | 2 | | | | | 0 | | | 569 | 30 | 0 | | | 336 | | 0 | 942 |
| 4:45-5:00 | | | | 5 | 0 | | | | | 7 | | | 577 | 36 | 0 | | | 358 | | 0 | 976 |
| 5:00-5:15 | | | | 5 | 2 | | | | | 0 | | | 581 | 27 | 0 | | | 319 | | 0 | 932 |
| 5:15-5:30 | | | | 7 | 1 | | | | | 2 | | | 588 | 37 | 0 | | | 317 | | 0 | 949 |
| 5:30-5:45 | | | | 5 | 1 | | | | | 0 | | | 564 | 36 | 0 | | | 309 | | 0 | 914 |
| 5:45-6:00 | | | | 8 | 1 | | | | | 0 | | | 554 | 32 | 0 | | | 341 | | 0 | 935 |
| 6:00-6:15 | | | | 5 | 0 | | | | | 0 | | | 546 | 36 | 0 | | | 324 | | 0 | 911 |
| 6:15-6:30 | | | | 10 | 4 | | | | | 1 | | | 527 | 39 | 0 | | | 274 | | 0 | 850 |
| 6:30-6:45 | | | | 6 | 0 | | | | | 0 | | | 429 | 23 | 0 | | | 287 | | 0 | 745 |
| 6:45-7:00 | | | | 11 | 0 | | | | | 0 | | | 392 | 31 | 0 | | | 241 | | 0 | 675 |

| Hourly Totals | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------|-------------------|------|------|-------|------|-------------------|------|------|-------|------|------------------|------|------|-------|------|------------------|------|------|-------|------|--------------|
| 4:00-5:00 | | | | 26 | 5 | | | | | 10 | | | 2241 | 137 | 1 | | | 1344 | | 0 | 3764 |
| 4:15-5:15 | | | | 26 | 5 | | | | | 8 | | | 2274 | 128 | 0 | | | 1344 | | 0 | 3785 |
| 4:30-5:30 | | | | 24 | 5 | | | | | 9 | | | 2315 | 130 | 0 | | | 1330 | | 0 | 3813 |
| 4:45-5:45 | | | | 22 | 4 | | | | | 9 | | | 2310 | 136 | 0 | | | 1303 | | 0 | 3784 |
| 5:00-6:00 | | | | 25 | 5 | | | | | 2 | | | 2287 | 132 | 0 | | | 1286 | | 0 | 3737 |
| 5:15-6:15 | | | | 25 | 3 | | | | | 2 | | | 2252 | 141 | 0 | | | 1291 | | 0 | 3714 |
| 5:30-6:30 | | | | 28 | 6 | | | | | 1 | | | 2191 | 143 | 0 | | | 1248 | | 0 | 3617 |
| 5:45-6:45 | | | | 29 | 5 | | | | | 1 | | | 2056 | 130 | 0 | | | 1226 | | 0 | 3447 |
| 6:00-7:00 | | | | 32 | 4 | | | | | 1 | | | 1894 | 129 | 0 | | | 1126 | | 0 | 3186 |
| PM Peak Hour 4:30-5:30 | Northbound | | | | | Southbound | | | | | Eastbound | | | | | Westbound | | | | | Total |
| | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | U-Turn | Left | Thru | Right | Peds | |
| | | | | 24 | 5 | | | | | 9 | | | 2315 | 130 | 0 | | | 1330 | | 0 | 3813 |

Peak Hour
Turning Movement Count

Intersection: MD 202 & Kent Town Drive

Weather: Clear

Count by: DSS

Count Day/Date: Thursday, February 13, 2020

County: Prince George's



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Appendix B

Level of Service (CLV & Synchro) Worksheets

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

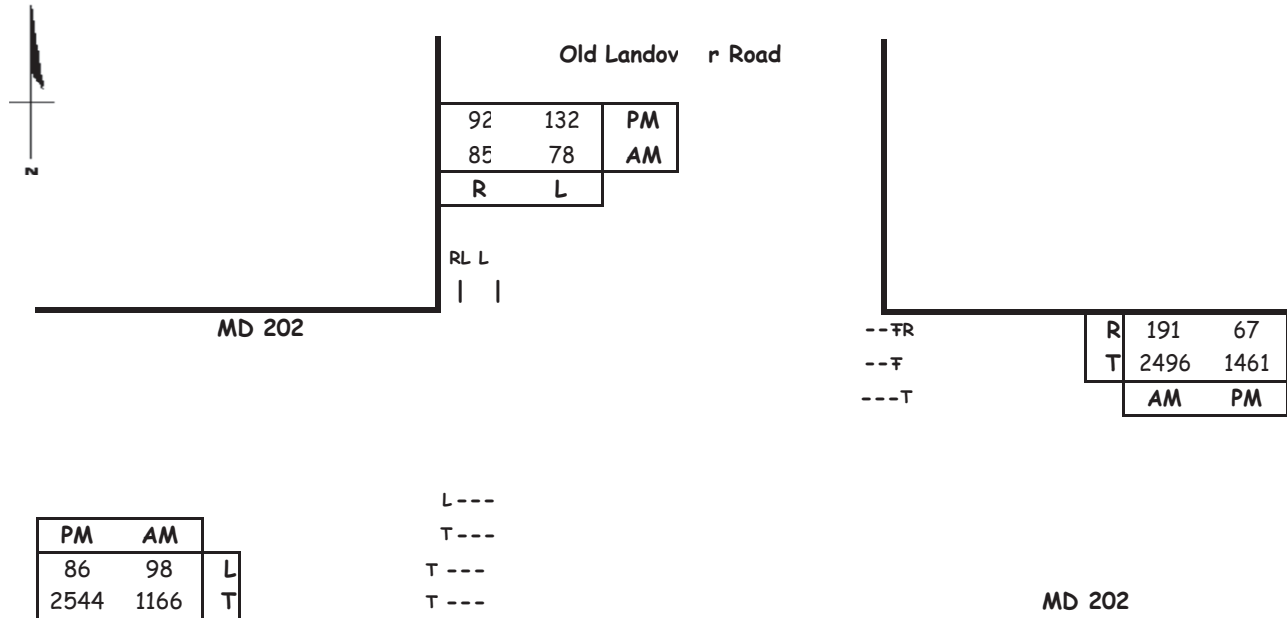
Intersection of: MD 202

Analyst: Lenhart Traffic Consulting

and: Old Landover Road

Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

| Morning Peak Hour | | | | | | |
|-------------------------|--------------|-------|---------|------------------|---------------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF = Total | |
| SB | 163 | 0.55 | 90 | | | 90 |
| EB | 1166 | 0.37 | 431 | | | 1092 |
| WB | 2687 | 0.37 | 994 | 98 | 1.00 98 | |
| CLV TOTAL= | | | | | | 1182 |
| Level of Service (LOS)= | | | | | | C |

| Evening Peak Hour | | | | | | |
|-------------------------|--------------|-------|---------|------------------|---------------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF = Total | |
| SB | 224 | 0.55 | 123 | | | 123 |
| EB | 2544 | 0.37 | 941 | | | 941 |
| WB | 1528 | 0.37 | 565 | 86 | 1.00 86 | |
| CLV TOTAL= | | | | | | 1064 |
| Level of Service (LOS)= | | | | | | B |

| | | |
|--|---|---------------------------|
| Critical Lane Volume Analysis | MD 202 & Old Landover Road (Existing Traffic) | Intersection 1 |
| LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | | |

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

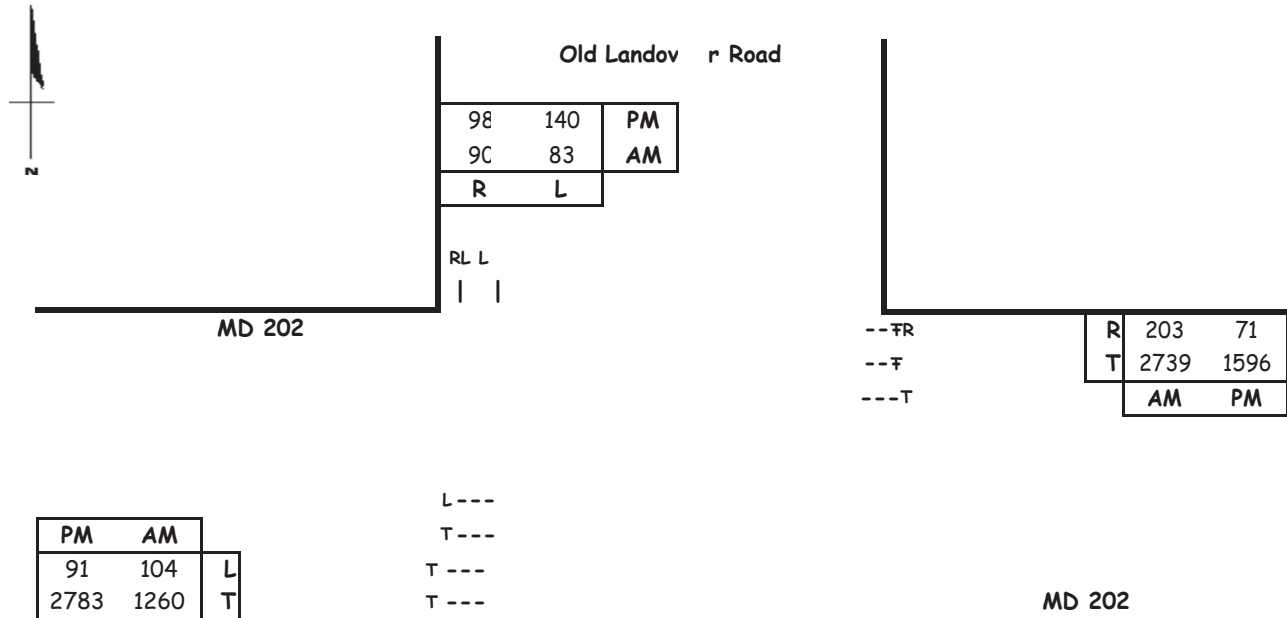
Intersection of: MD 202

Analyst: Lenhart Traffic Consulting

and: Old Landover Road

Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| SB | 173 | 0.55 | 95 | | | | 95 |
| EB | 1260 | 0.37 | 466 | | | | 1193 |
| WB | 2942 | 0.37 | 1089 | 104 | 1.00 | 104 | |
| CLV TOTAL= | | | | | | | 1288 |
| Level of Service (LOS)= | | | | | | | C |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| SB | 238 | 0.55 | 131 | | | | 131 |
| EB | 2783 | 0.37 | 1030 | | | | 1030 |
| WB | 1667 | 0.37 | 617 | 91 | 1.00 | 91 | |
| CLV TOTAL= | | | | | | | 1161 |
| Level of Service (LOS)= | | | | | | | C |

| | | |
|--|---|---------------------------|
| Critical Lane Volume Analysis | MD 202 & Old Landover Road (Existing Traffic) | Intersection 1 |
| LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | | |

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

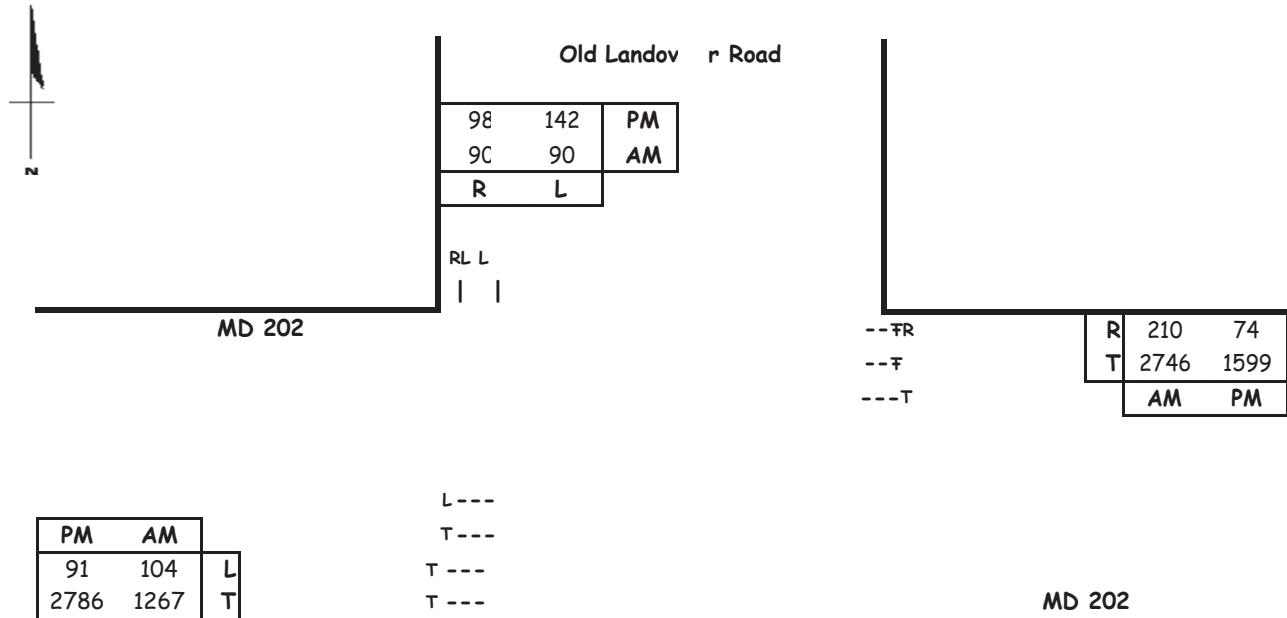
Intersection of: MD 202

Analyst: Lenhart Traffic Consulting

and: Old Landover Road

Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| SB | 180 | 0.55 | 99 | | | | 99 |
| EB | 1267 | 0.37 | 469 | | | | 1198 |
| WB | 2956 | 0.37 | 1094 | 104 | 1.00 | 104 | |
| CLV TOTAL= | | | | | | | 1297 |
| Level of Service (LOS)= | | | | | | | C |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| SB | 240 | 0.55 | 132 | | | | 132 |
| EB | 2786 | 0.37 | 1031 | | | | 1031 |
| WB | 1673 | 0.37 | 619 | 91 | 1.00 | 91 | |
| CLV TOTAL= | | | | | | | 1163 |
| Level of Service (LOS)= | | | | | | | C |

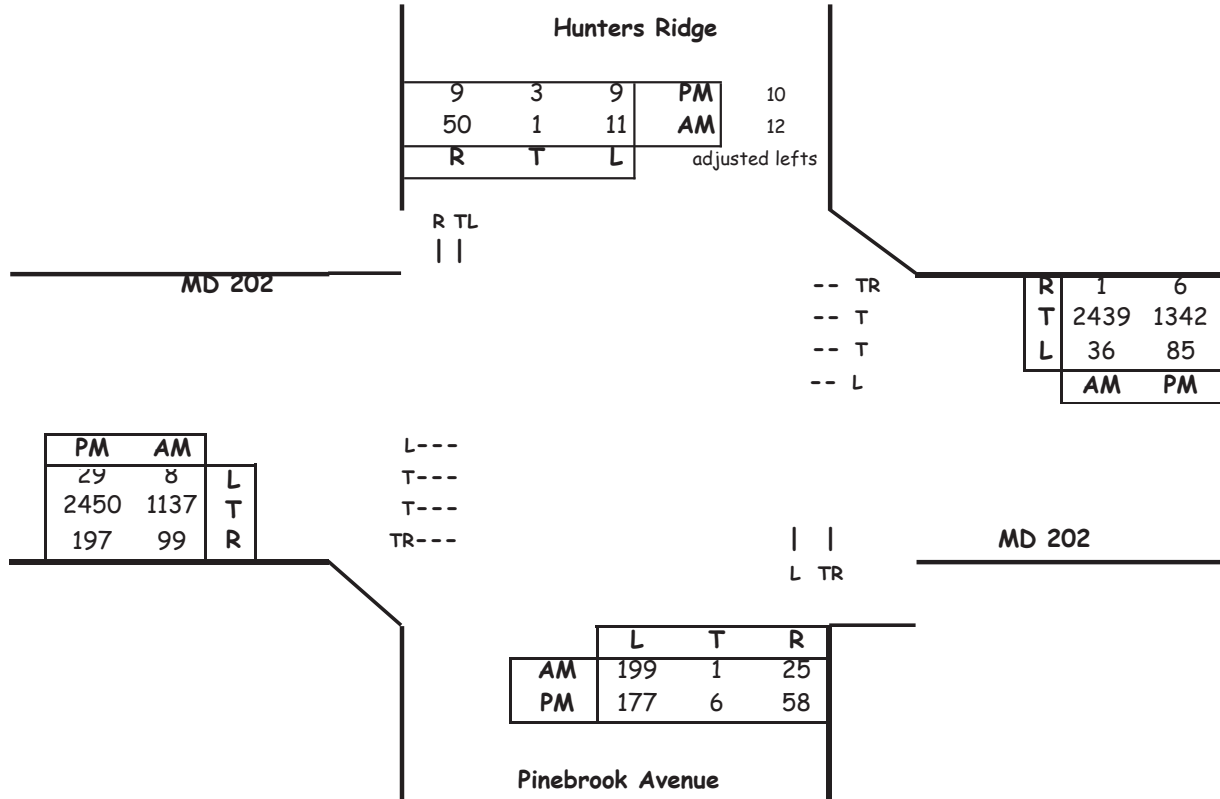
| | | |
|--|---|---------------------------|
| Critical Lane Volume Analysis | MD 202 & Old Landover Road (Existing Traffic) | Intersection 1 |
| LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | | |

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Pinebrook Avenue
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 26 | 1.00 | 26 | 11 | 1 | 11 | 241 |
| SB | 42 | 1.00 | 42 | 199 | 1 | 199 | |
| EB | 1236 | 0.37 | 457 | 36 | 1 | 36 | 911 |
| WB | 2440 | 0.37 | 903 | 8 | 1 | 8 | |
| CLV TOTAL= | | | | | | | 1152 |
| Level of Service (LOS)= | | | | | | | C |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 64 | 1.00 | 64 | 9 | 1 | 9 | 190 |
| SB | 13 | 1.00 | 13 | 177 | 1 | 177 | |
| EB | 2647 | 0.37 | 979 | 85 | 1 | 85 | 1064 |
| WB | 1348 | 0.37 | 499 | 29 | 1 | 29 | |
| CLV TOTAL= | | | | | | | 1254 |
| Level of Service (LOS)= | | | | | | | C |

Critical Lane Volume Analysis



LENHART TRAFFIC CONSULTING, INC.
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

**MD 202 &
Pinebrook Avenue**
(Existing Traffic)

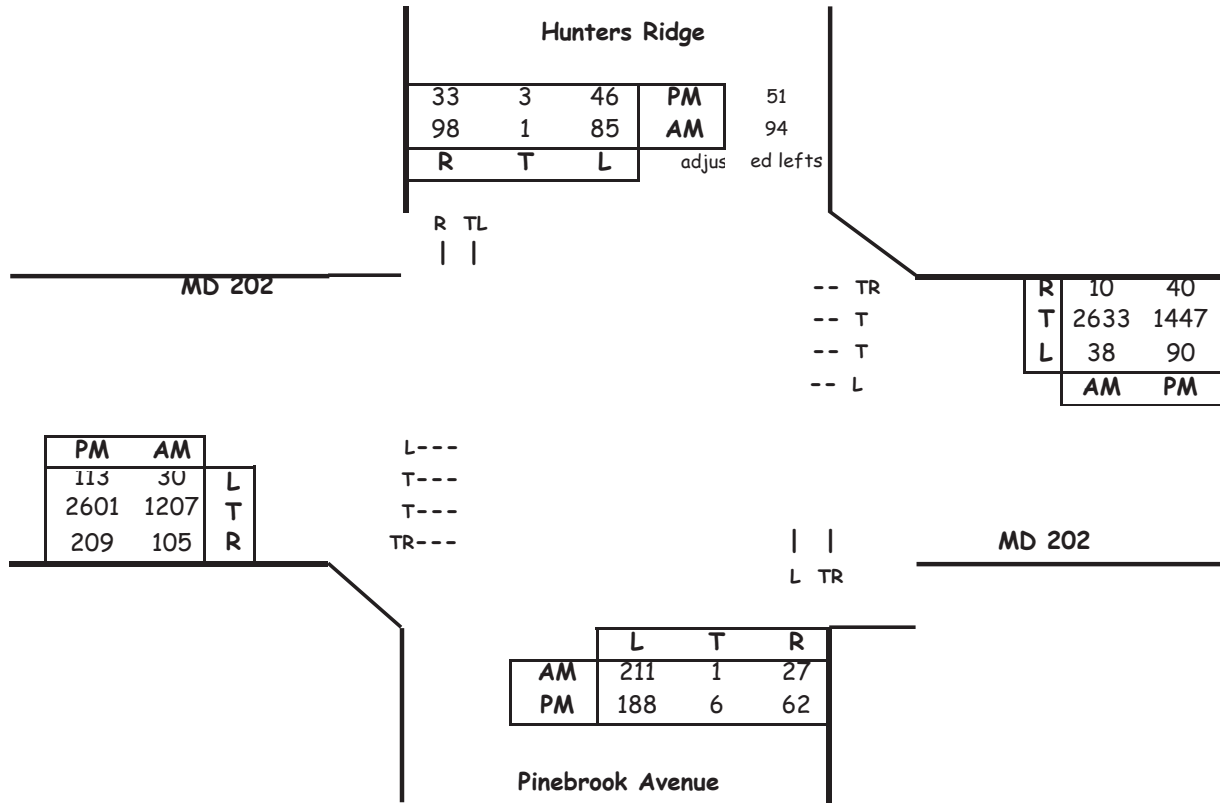
**Intersection
2**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Pinebrook Avenue
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 28 | 1.00 | 28 | 85 | 1 | 85 | 306 |
| SB | 95 | 1.00 | 95 | 211 | 1 | 211 | |
| EB | 1312 | 0.37 | 485 | 38 | 1 | 38 | 1008 |
| WB | 2643 | 0.37 | 978 | 30 | 1 | 30 | |
| CLV TOTAL= | | | | | | | 1314 |
| Level of Service (LOS)= | | | | | | | D |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 68 | 1.00 | 68 | 46 | 1 | 46 | 242 |
| SB | 54 | 1.00 | 54 | 188 | 1 | 188 | |
| EB | 2810 | 0.37 | 1040 | 90 | 1 | 90 | 1130 |
| WB | 1487 | 0.37 | 550 | 113 | 1 | 113 | |
| CLV TOTAL= | | | | | | | 1372 |
| Level of Service (LOS)= | | | | | | | D |

Critical Lane Volume Analysis



**MD 202 &
Pinebrook Avenue**
(Existing Traffic)

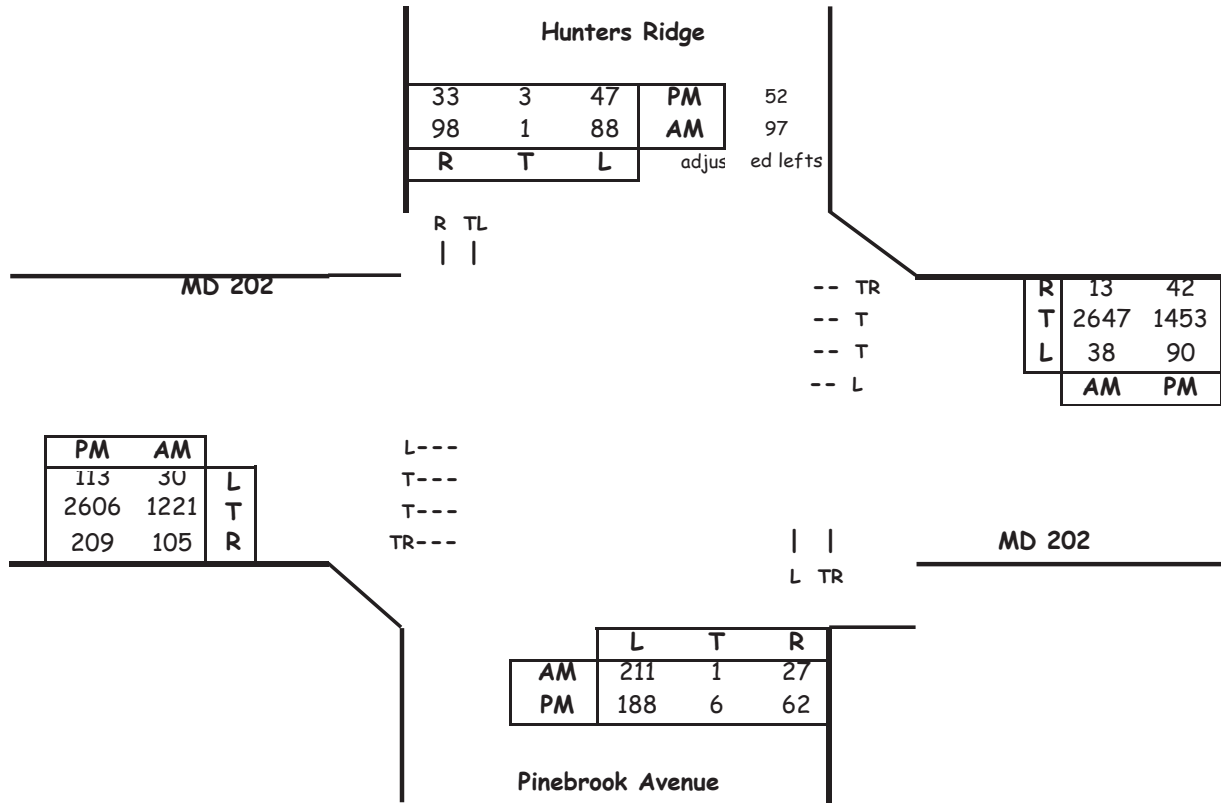
**Intersection
2**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Pinebrook Avenue
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|--------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 28 | 1.00 | 28 | 88 | 1 | 88 | 309 |
| SB | 98 | 1.00 | 98 | 211 | 1 | 211 | |
| EB | 1326 | 0.37 | 491 | 38 | 1 | 38 | 1014 |
| WB | 2660 | 0.37 | 984 | 30 | 1 | 30 | |
| CLV TOTAL= | | | | | | | 1323 |
| Level of Service (LOS)=- | | | | | | | D |

| Evening Peak Hour | | | | | | | |
|--------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 68 | 1.00 | 68 | 47 | 1 | 47 | 243 |
| SB | 55 | 1.00 | 55 | 188 | 1 | 188 | |
| EB | 2815 | 0.37 | 1042 | 90 | 1 | 90 | 1132 |
| WB | 1495 | 0.37 | 553 | 113 | 1 | 113 | |
| CLV TOTAL= | | | | | | | 1375 |
| Level of Service (LOS)=- | | | | | | | D |

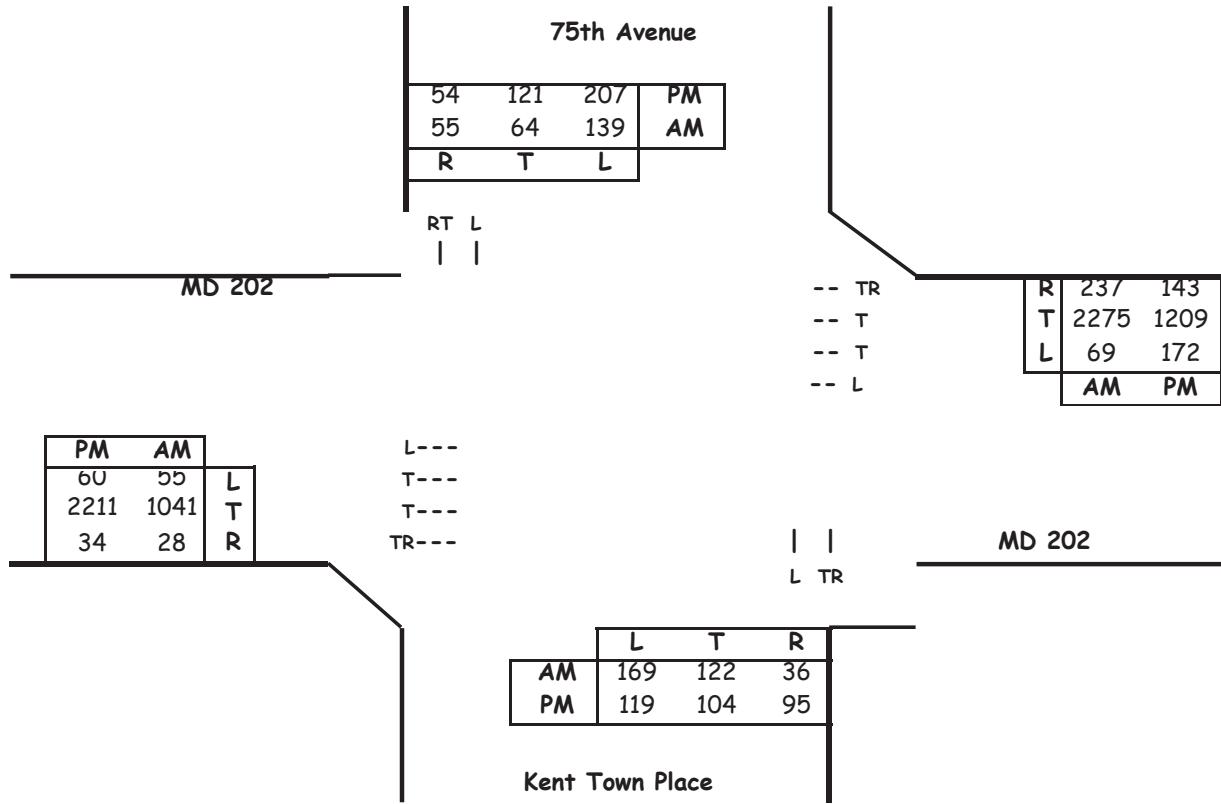
| | | |
|---|--|---------------------------|
| Critical Lane Volume Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | MD 202 & Pinebrook Avenue (Existing Traffic) | Intersection 2 |
|---|--|---------------------------|

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Kent Town Place
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 158 | 1.00 | 158 | 139 | 1 | 139 | 297 |
| SB | 119 | 1.00 | 119 | 169 | 1 | 169 | |
| EB | 1069 | 0.37 | 396 | 69 | 1 | 69 | 984 |
| WB | 2512 | 0.37 | 929 | 55 | 1 | 55 | |
| CLV TOTAL= | | | | | | | 1281 |
| Level of Service (LOS)= | | | | | | | C |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 199 | 1.00 | 199 | 207 | 1 | 207 | 406 |
| SB | 175 | 1.00 | 175 | 119 | 1 | 119 | |
| EB | 2245 | 0.37 | 831 | 172 | 1 | 172 | 1003 |
| WB | 1352 | 0.37 | 500 | 60 | 1 | 60 | |
| CLV TOTAL= | | | | | | | 1409 |
| Level of Service (LOS)= | | | | | | | D |

Critical Lane Volume Analysis



**MD 202 &
Kent Town Place**
(Existing Traffic)

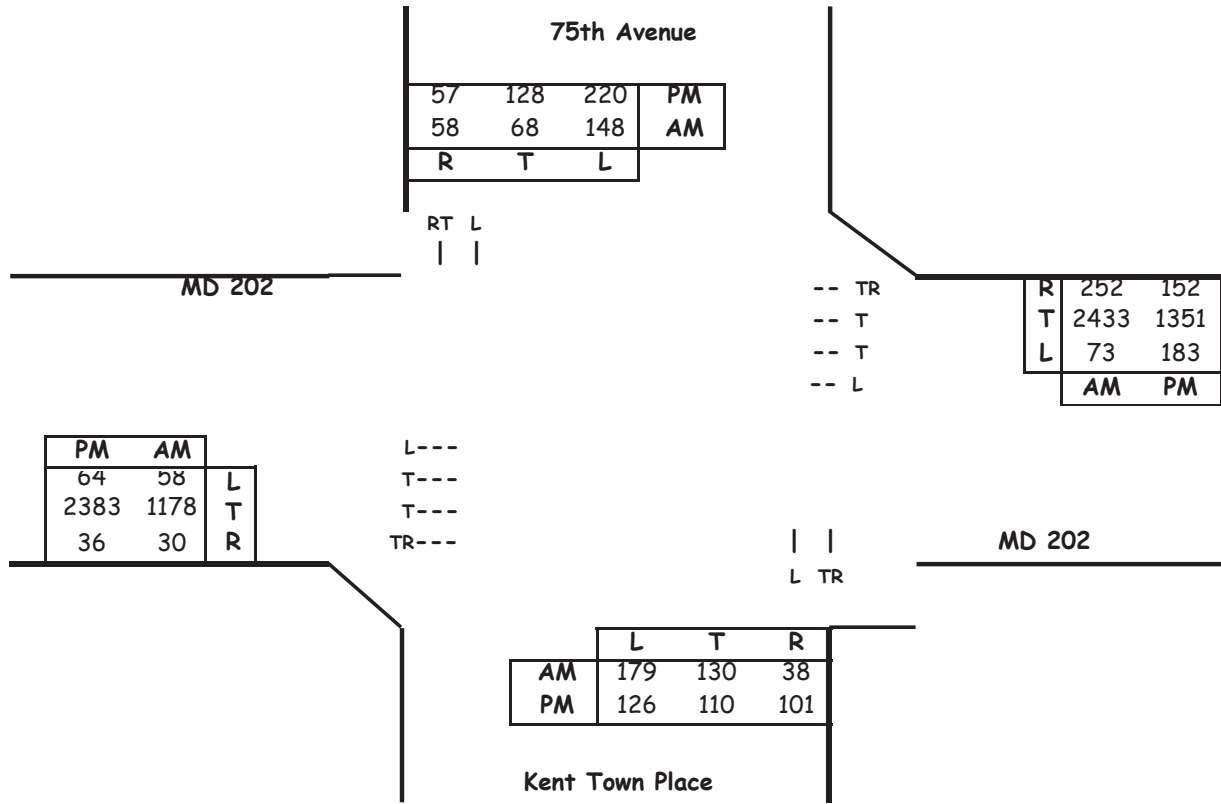
**Intersection
5**

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Kent Town Place
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 168 | 1.00 | 168 | 148 | 1 | 148 | 316 |
| SB | 126 | 1.00 | 126 | 179 | 1 | 179 | |
| EB | 1208 | 0.37 | 447 | 73 | 1 | 73 | 1051 |
| WB | 2685 | 0.37 | 993 | 58 | 1 | 58 | |
| CLV TOTAL= | | | | | | | 1367 |
| Level of Service (LOS)= | | | | | | | D |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 211 | 1.00 | 211 | 220 | 1 | 220 | 431 |
| SB | 185 | 1.00 | 185 | 126 | 1 | 126 | |
| EB | 2419 | 0.37 | 895 | 183 | 1 | 183 | 1078 |
| WB | 1503 | 0.37 | 556 | 64 | 1 | 64 | |
| CLV TOTAL= | | | | | | | 1509 |
| Level of Service (LOS)= | | | | | | | E |

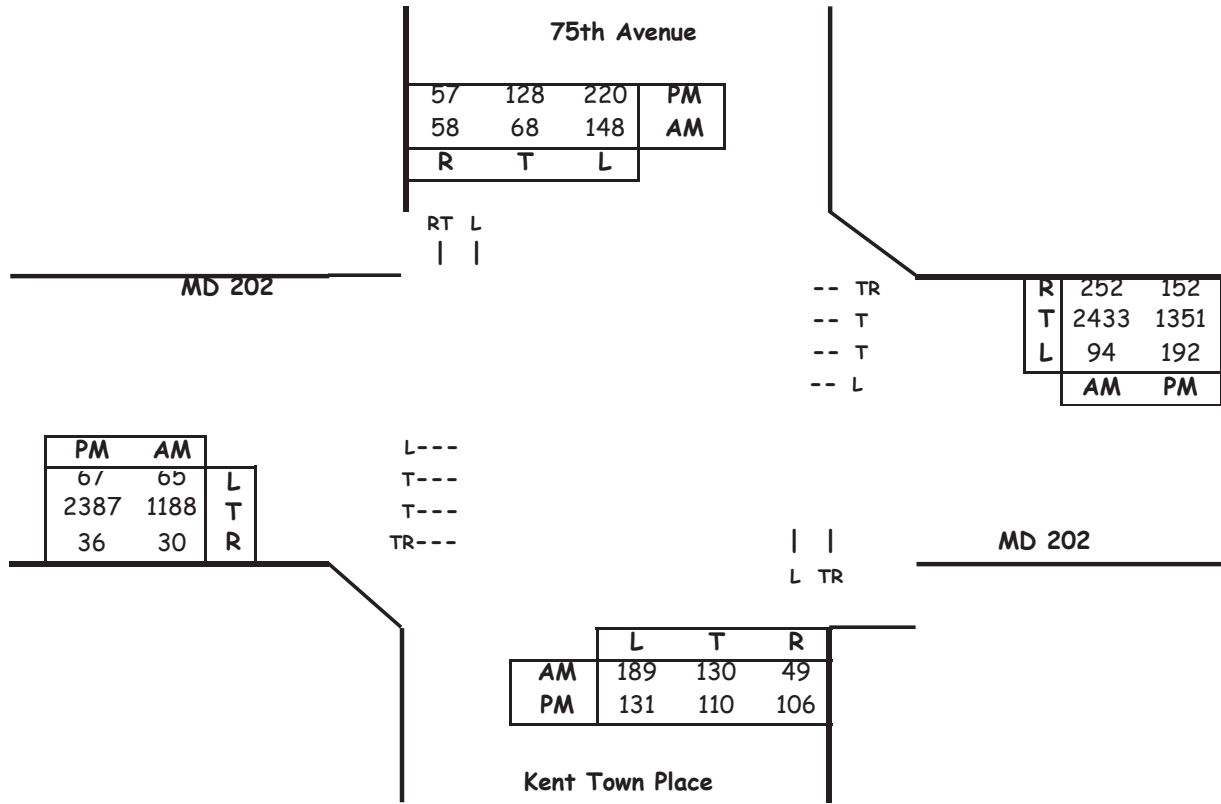
| | | |
|---|---|---------------------------|
| Critical Lane Volume Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | MD 202 & Kent Town Place (Existing Traffic) | Intersection 5 |
|---|---|---------------------------|

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Kent Town Place
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 179 | 1.00 | 179 | 148 | 1 | 148 | 327 |
| SB | 126 | 1.00 | 126 | 189 | 1 | 189 | |
| EB | 1218 | 0.37 | 451 | 94 | 1 | 94 | 1058 |
| WB | 2685 | 0.37 | 993 | 65 | 1 | 65 | |
| CLV TOTAL= | | | | | | | 1385 |
| Level of Service (LOS)= | | | | | | | D |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 216 | 1.00 | 216 | 220 | 1 | 220 | 436 |
| SB | 185 | 1.00 | 185 | 131 | 1 | 131 | |
| EB | 2423 | 0.37 | 897 | 192 | 1 | 192 | 1089 |
| WB | 1503 | 0.37 | 556 | 67 | 1 | 67 | |
| CLV TOTAL= | | | | | | | 1525 |
| Level of Service (LOS)= | | | | | | | E |

Critical Lane Volume Analysis



**MD 202 &
Kent Town Place
(Existing Traffic)**

**Intersection
5**

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

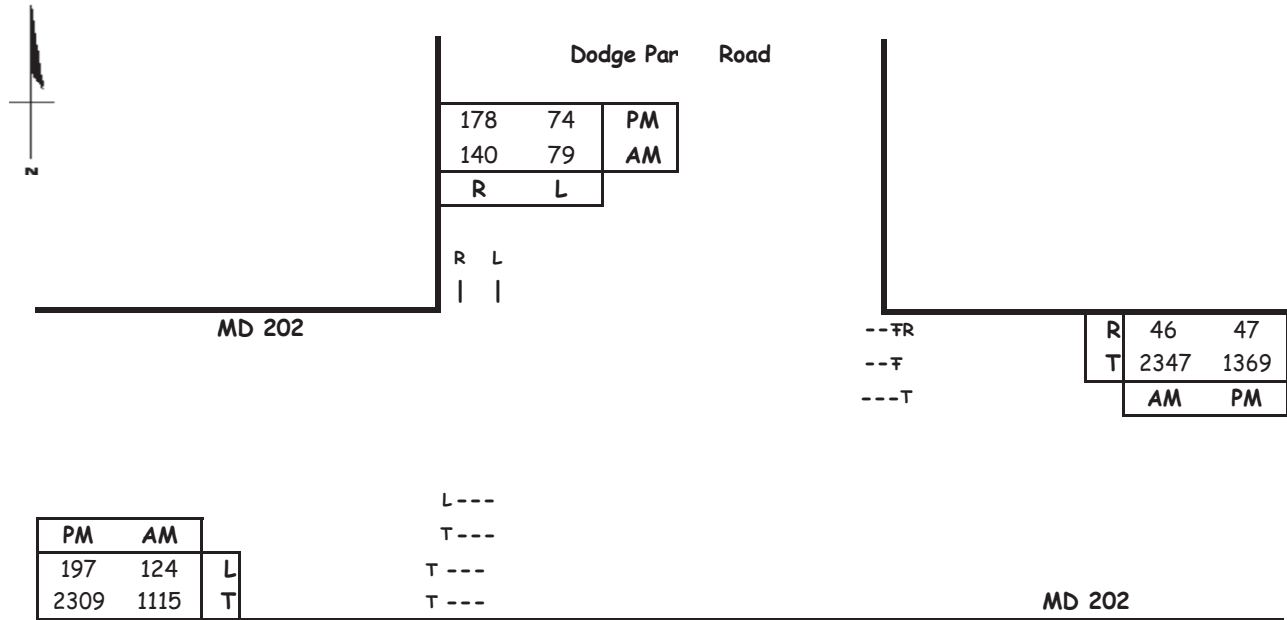
Intersection of: MD 202

Analyst: Lenhart Traffic Consulting

and: Dodge Park Road

Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

| Morning Peak Hour | | | | | | |
|-------------------------|--------------|-------|---------|------------------|---------------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF = Total | |
| SB | 79 | 1.00 | 79 | | | 79 |
| EB | 1115 | 0.37 | 413 | | | 1009 |
| WB | 2393 | 0.37 | 885 | 124 | 1.00 124 | |
| CLV TOTAL= | | | | | | 1088 |
| Level of Service (LOS)= | | | | | | B |

| Evening Peak Hour | | | | | | |
|-------------------------|--------------|-------|---------|------------------|---------------|------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF = Total | |
| SB | 74 | 1.00 | 74 | | | 74 |
| EB | 2309 | 0.37 | 854 | | | 854 |
| WB | 1416 | 0.37 | 524 | 197 | 1.00 197 | |
| CLV TOTAL= | | | | | | 928 |
| Level of Service (LOS)= | | | | | | A |

| | | |
|---|--|---------------------------|
| Critical Lane Volume Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | MD 202 & Dodge Park Road (Existing Traffic) | Intersection 1 |
|---|--|---------------------------|

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

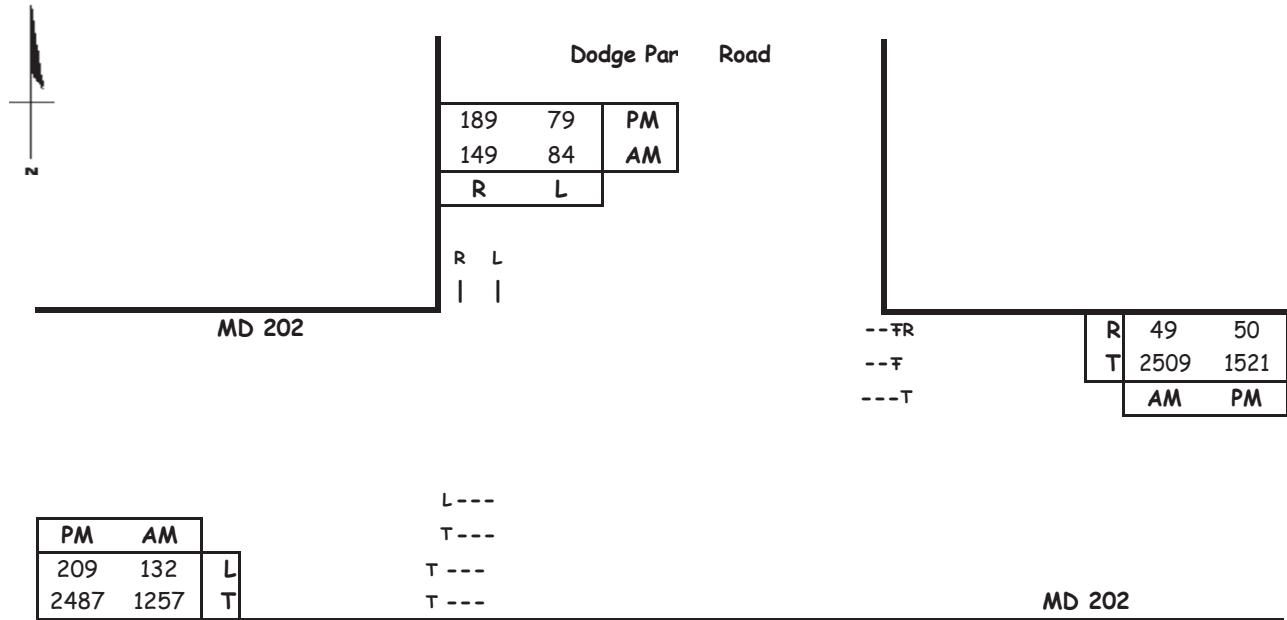
Intersection of: MD 202

Analyst: Lenhart Traffic Consulting

and: Dodge Park Road

Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

| Morning Peak Hour | | | | | | |
|-------------------------|--------------|-------|---------|------------------|---------------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF = Total | |
| SB | 84 | 1.00 | 84 | | | 84 |
| EB | 1257 | 0.37 | 465 | | | 1078 |
| WB | 2558 | 0.37 | 946 | 132 | 1.00 132 | |
| CLV TOTAL= | | | | | | 1162 |
| Level of Service (LOS)= | | | | | | C |

| Evening Peak Hour | | | | | | |
|-------------------------|--------------|-------|---------|------------------|---------------|------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF = Total | |
| SB | 79 | 1.00 | 79 | | | 79 |
| EB | 2487 | 0.37 | 920 | | | 920 |
| WB | 1571 | 0.37 | 581 | 209 | 1.00 209 | |
| CLV TOTAL= | | | | | | 999 |
| Level of Service (LOS)= | | | | | | A |

| | | |
|--|---|---------------------------|
| Critical Lane Volume Analysis | MD 202 & Dodge Park Road (Existing Traffic) | Intersection 1 |
| LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | | |

CRITICAL LANE VOLUME (CLV) METHODOLOGY

for Prince Georges County

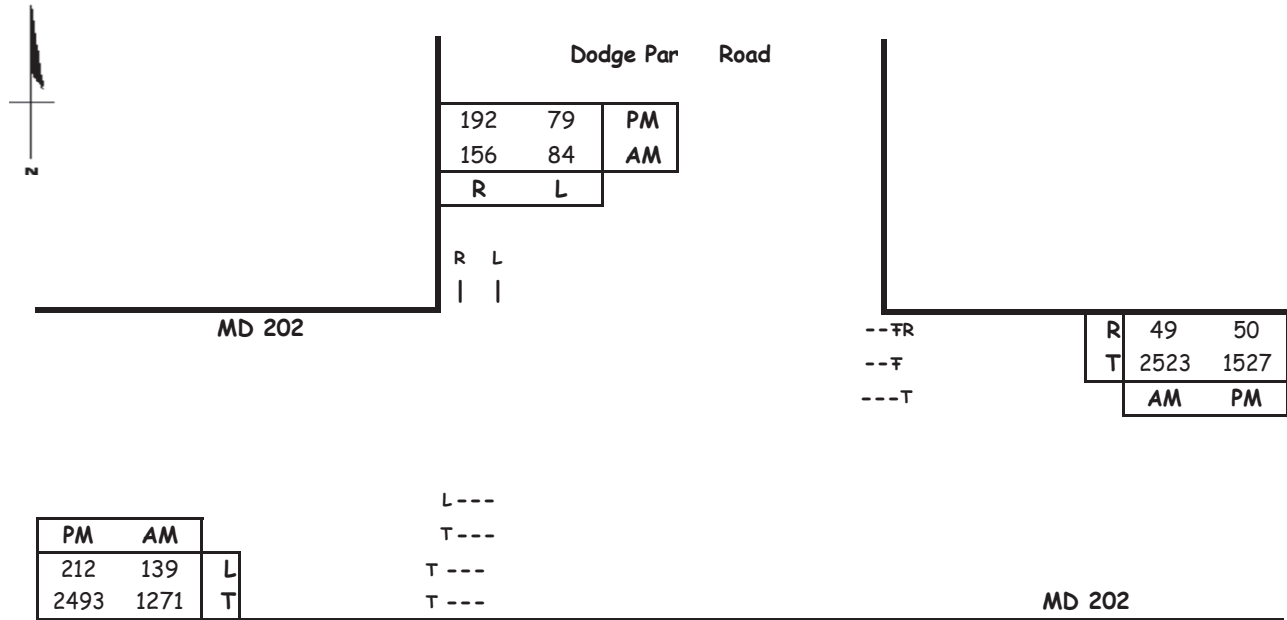
Intersection of: MD 202

Analyst: Lenhart Traffic Consulting

and: Dodge Park Road

Conditions: Existing Traffic

Lane Use + Traffic Volumes



Capacity Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| SB | 84 | 1.00 | 84 | | | | 84 |
| EB | 1271 | 0.37 | 470 | | | | 1091 |
| WB | 2572 | 0.37 | 952 | 139 | 1.00 | 139 | |
| CLV TOTAL= | | | | | | | 1175 |
| Level of Service (LOS)= | | | | | | | C |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| SB | 79 | 1.00 | 79 | | | | 79 |
| EB | 2493 | 0.37 | 922 | | | | 922 |
| WB | 1577 | 0.37 | 583 | 212 | 1.00 | 212 | |
| CLV TOTAL= | | | | | | | 1001 |
| Level of Service (LOS)= | | | | | | | B |

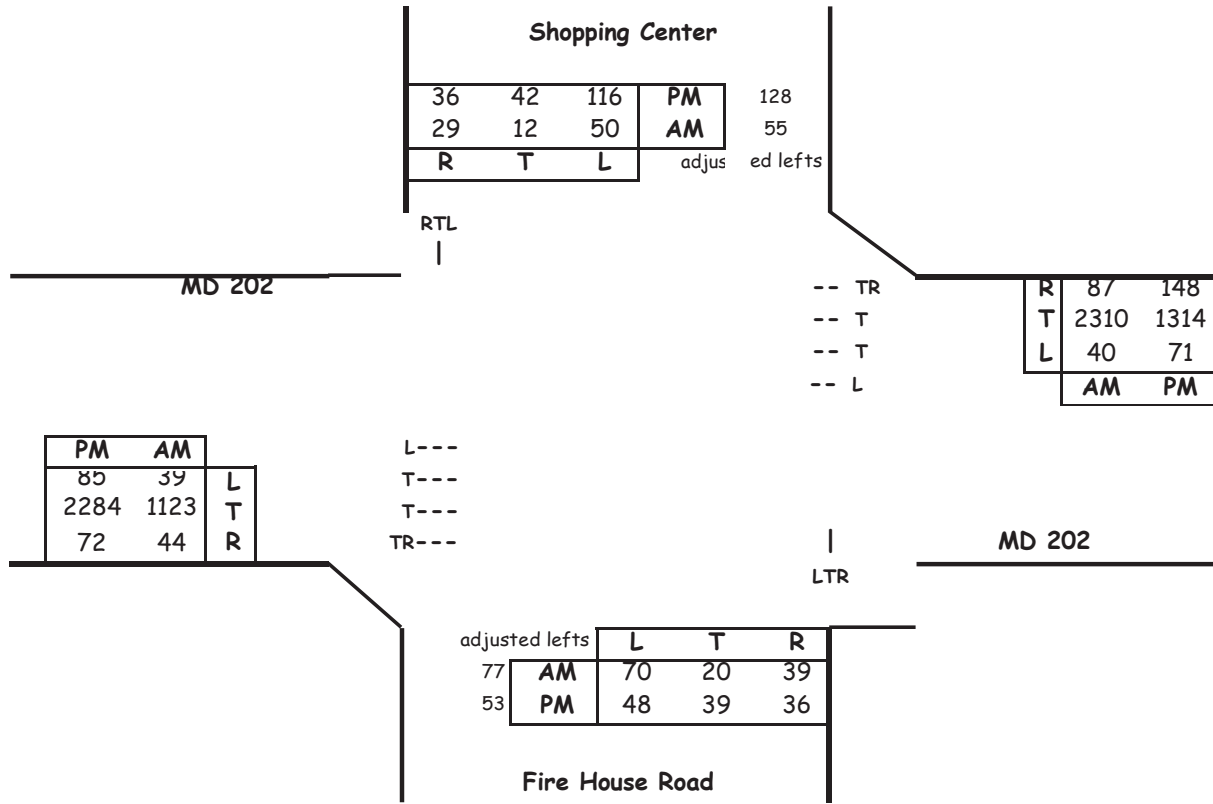
| | | |
|---|--|---------------------------|
| Critical Lane Volume Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | MD 202 & Dodge Park Road (Existing Traffic) | Intersection 1 |
|---|--|---------------------------|

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Fire House Road
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 136 | 1.00 | 136 | 50 | 1 | 50 | 186 |
| SB | 96 | 1.00 | 96 | 70 | 1 | 70 | |
| EB | 1167 | 0.37 | 432 | 40 | 1 | 40 | 926 |
| WB | 2397 | 0.37 | 887 | 39 | 1 | 39 | |
| CLV TOTAL= | | | | | | | 1112 |
| Level of Service (LOS)= | | | | | | | B |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 128 | 1.00 | 128 | 116 | 1 | 116 | 254 |
| SB | 206 | 1.00 | 206 | 48 | 1 | 48 | |
| EB | 2356 | 0.37 | 872 | 71 | 1 | 71 | 943 |
| WB | 1462 | 0.37 | 541 | 85 | 1 | 85 | |
| CLV TOTAL= | | | | | | | 1197 |
| Level of Service (LOS)= | | | | | | | C |

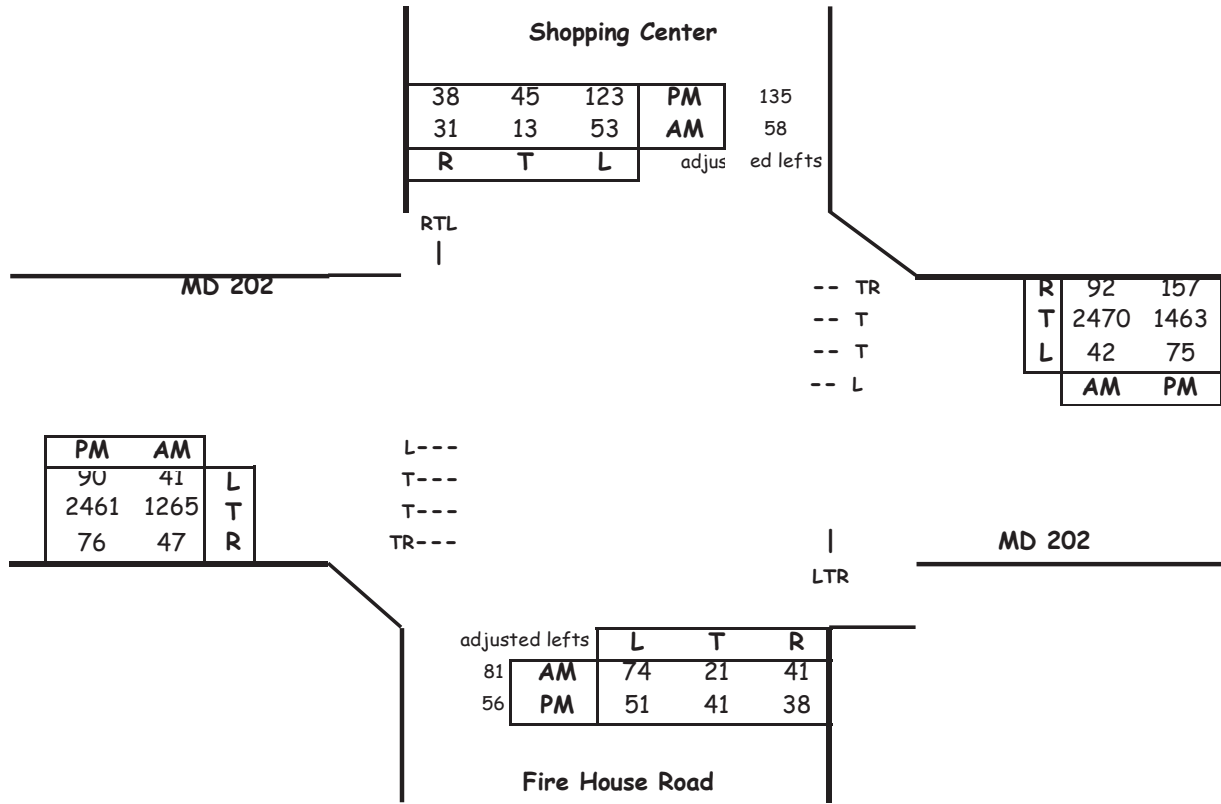
| | | |
|---|---|---------------------------|
| Critical Lane Volume Analysis LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com | MD 202 & Fire House Road (Existing Traffic) | Intersection 5 |
|---|---|---------------------------|

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Fire House Road
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 143 | 1.00 | 143 | 53 | 1 | 53 | 196 |
| SB | 102 | 1.00 | 102 | 74 | 1 | 74 | |
| EB | 1312 | 0.37 | 485 | 42 | 1 | 42 | 989 |
| WB | 2562 | 0.37 | 948 | 41 | 1 | 41 | |
| CLV TOTAL= | | | | | | | 1185 |
| Level of Service (LOS)= | | | | | | | C |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 135 | 1.00 | 135 | 123 | 1 | 123 | 269 |
| SB | 218 | 1.00 | 218 | 51 | 1 | 51 | |
| EB | 2537 | 0.37 | 939 | 75 | 1 | 75 | 1014 |
| WB | 1620 | 0.37 | 599 | 90 | 1 | 90 | |
| CLV TOTAL= | | | | | | | 1283 |
| Level of Service (LOS)= | | | | | | | C |

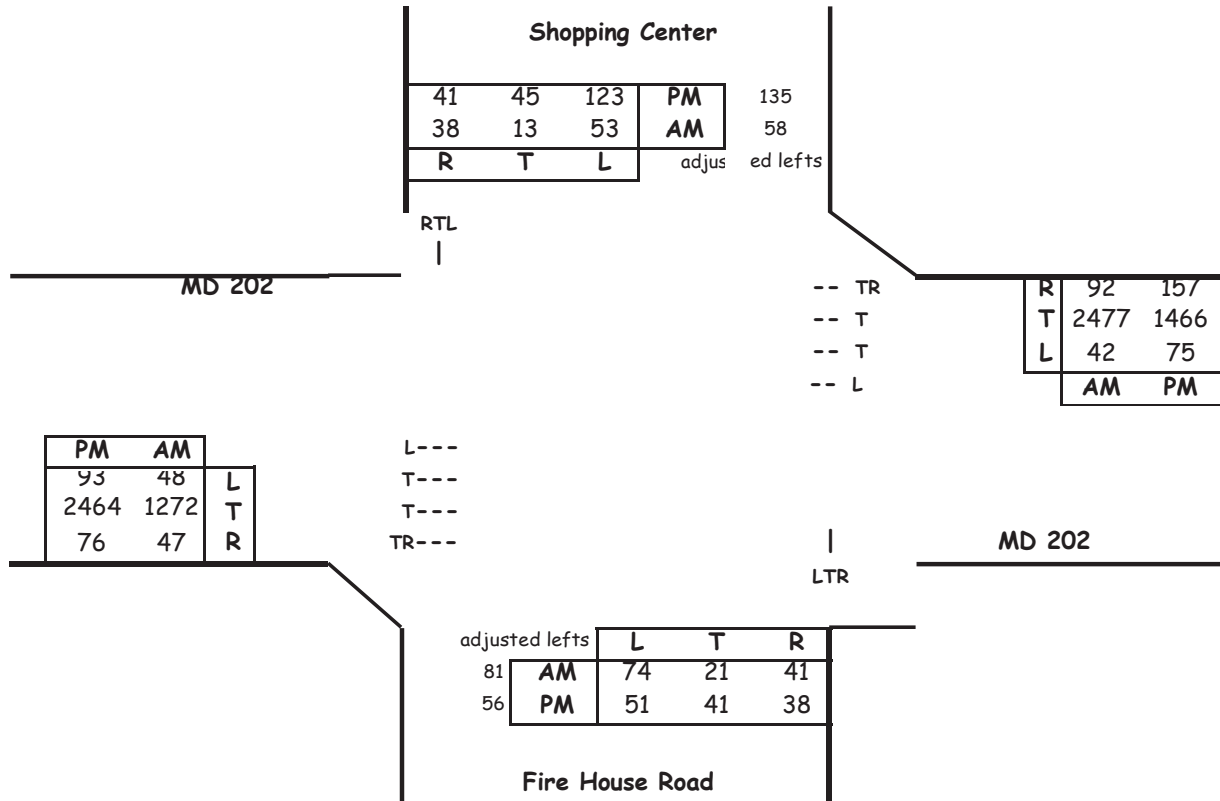
| | | |
|---|---|--|
| <p style="text-align: center;">Critical Lane Volume Analysis</p> <p>LENHART TRAFFIC CONSULTING, INC. 645 BALTIMORE ANNAPOLIS BLVD, SUITE 214 SEVERNA PARK, MD 21146 www.lenharttraffic.com</p> | <h2 style="margin: 0;">MD 202 & Fire House Road</h2> <p style="margin: 0;">(Existing Traffic)</p> | <h2 style="margin: 0;">Intersection 5</h2> |
|---|---|--|

CRITICAL LANE VOLUME (CLV) METHODOLOGY for Prince Georges County

Main Line: MD 202
Minor Street: Fire House Road
Study Period: Existing Traffic

Analyst: Lenhart Traffic

Lane Use + Traffic Volumes



Critical Lane Volume Analysis

| Morning Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | AM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 143 | 1.00 | 143 | 53 | 1 | 53 | 196 |
| SB | 109 | 1.00 | 109 | 74 | 1 | 74 | |
| EB | 1319 | 0.37 | 488 | 42 | 1 | 42 | 999 |
| WB | 2569 | 0.37 | 951 | 48 | 1 | 48 | |
| CLV TOTAL= | | | | | | | 1195 |
| Level of Service (LOS)= | | | | | | | C |

| Evening Peak Hour | | | | | | | |
|-------------------------|--------------|-------|---------|------------------|-------|---------|-------------|
| Dir | Thru Volumes | | | + Opposing Lefts | | | PM CLV |
| | VOL | x LUF | = Total | VOL | x LUF | = Total | |
| NB | 135 | 1.00 | 135 | 123 | 1 | 123 | 272 |
| SB | 221 | 1.00 | 221 | 51 | 1 | 51 | |
| EB | 2540 | 0.37 | 940 | 75 | 1 | 75 | 1015 |
| WB | 1623 | 0.37 | 601 | 93 | 1 | 93 | |
| CLV TOTAL= | | | | | | | 1287 |
| Level of Service (LOS)= | | | | | | | C |

Critical Lane Volume Analysis



**MD 202 &
Fire House Road
(Existing Traffic)**

**Intersection
5**

HCM Unsignalized Intersection Capacity Analysis
 3: Kent Town Drive & MD 202

Royal Farms 411 - Kent Village
 AM Existing

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 1212 | 50 | 0 | 2237 | 0 | 4 | |
| Future Volume (Veh/h) | 1212 | 50 | 0 | 2237 | 0 | 4 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 1317 | 54 | 0 | 2432 | 0 | 4 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 367 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 1371 | | | 2155 | 466 |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1371 | | | 2155 | 466 |
| tC, single (s) | | | 4.1 | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | | 100 | 99 |
| cM capacity (veh/h) | | | 497 | | | 41 | 543 |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 527 | 527 | 317 | 811 | 811 | 811 | 4 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 54 | 0 | 0 | 0 | 4 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 543 |
| Volume to Capacity | 0.31 | 0.31 | 0.19 | 0.48 | 0.48 | 0.48 | 0.01 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 11.7 |
| Lane LOS | B | | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | 11.7 | | |
| Approach LOS | B | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.0 | | | | |
| Intersection Capacity Utilization | | | 46.6% | | ICU Level of Service | | A |
| Analysis Period (min) | 15 | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
4: Site Access & MD 202










Royal Farms 411 - Kent Village
AM Existing

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 1216 | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 1216 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 1322 | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 189 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 1322 | | 1322 | 441 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1322 | | 1322 | 441 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 100 | |
| cM capacity (veh/h) | | | 519 | | 148 | 564 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 529 | 529 | 264 | 0 | 0 | 0 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.31 | 0.31 | 0.16 | 0.00 | 0.00 | 0.00 | 0.27 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | A | | | | | | |
| Approach Delay (s) | 0.0 | | | 0.0 | | | |
| Approach LOS | A | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.0 | | | | |
| Intersection Capacity Utilization | | | 26.8% | ICU Level of Service | | A | |
| Analysis Period (min) | | | 15 | | | | |

| | → | ↘ | ↙ | ← | ↖ | ↗ | | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|-----|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | ↗ | | |
| Traffic Volume (veh/h) | 1197 | 11 | 0 | 2355 | 0 | 46 | | |
| Future Volume (Veh/h) | 1197 | 11 | 0 | 2355 | 0 | 46 | | |
| Sign Control | Free | | | Free | Stop | | | |
| Grade | 0% | | | 0% | 0% | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Hourly flow rate (vph) | 1301 | 12 | 0 | 2560 | 0 | 50 | | |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | None | | | None | | | | |
| Median storage (veh) | | | | | | | | |
| Upstream signal (ft) | 639 | | | 473 | | | | |
| pX, platoon unblocked | | | 0.85 | | 0.85 | 0.85 | | |
| vC, conflicting volume | | | 1313 | | 2160 | 440 | | |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | | | 771 | | 1763 | 0 | | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | | |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | | |
| p0 queue free % | | | 100 | | 100 | 95 | | |
| cM capacity (veh/h) | | | 717 | | 64 | 927 | | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | |
| Volume Total | 520 | 520 | 272 | 853 | 853 | 853 | 50 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 12 | 0 | 0 | 0 | 50 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 927 | |
| Volume to Capacity | 0.31 | 0.31 | 0.16 | 0.50 | 0.50 | 0.50 | 0.05 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 4 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.1 | |
| Lane LOS | | | | | | | A | |
| Approach Delay (s) | 0.0 | | | | 0.0 | | | 9.1 |
| Approach LOS | | | | | | | A | |
| Intersection Summary | | | | | | | | |
| Average Delay | | | 0.1 | | | | | |
| Intersection Capacity Utilization | | | 48.8% | ICU Level of Service | | A | | |
| Analysis Period (min) | | | 15 | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 9: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 AM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 327 | 161 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 327 | 161 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 355 | 175 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 105 | | |
| pX, platoon unblocked | 0.99 | 0.99 | 0.99 | | | |
| vC, conflicting volume | 530 | 175 | 175 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 520 | 162 | 162 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 511 | 874 | 1403 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 355 | 175 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1403 | 1700 | | | |
| Volume to Capacity | 0.06 | 0.00 | 0.10 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 0.0 | | |
| Intersection Capacity Utilization | | | 20.5% | ICU Level of Service | A | |
| Analysis Period (min) | | | | 15 | | |










HCM Unsignalized Intersection Capacity Analysis
 10: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 AM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 327 | 161 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 327 | 161 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 355 | 175 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | 215 | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 530 | 175 | 175 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 530 | 175 | 175 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 510 | 868 | 1401 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 355 | 175 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1401 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.10 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | 0.0 | | | | | |
| Intersection Capacity Utilization | 20.5% | | ICU Level of Service | A | | |
| Analysis Period (min) | 15 | | | | | |



















HCM Unsignalized Intersection Capacity Analysis
 11: Kent Town Drive & Kent Town Place

Royal Farms 411 - Kent Village
 AM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 8 | 54 | 15 | 270 | 128 | 23 |
| Future Volume (Veh/h) | 8 | 54 | 15 | 270 | 128 | 23 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 9 | 59 | 16 | 293 | 139 | 25 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | 568 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 476 | 152 | 164 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 476 | 152 | 164 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 93 | 99 | | | |
| cM capacity (veh/h) | 541 | 895 | 1414 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 68 | 309 | 164 | | | |
| Volume Left | 9 | 16 | 0 | | | |
| Volume Right | 59 | 0 | 25 | | | |
| cSH | 824 | 1414 | 1700 | | | |
| Volume to Capacity | 0.08 | 0.01 | 0.10 | | | |
| Queue Length 95th (ft) | 7 | 1 | 0 | | | |
| Control Delay (s) | 9.8 | 0.5 | 0.0 | | | |
| Lane LOS | A | A | | | | |
| Approach Delay (s) | 9.8 | 0.5 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.5 | | | |
| Intersection Capacity Utilization | | | 36.9% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 12: Kent Village Drive & Kent Town Drive

Royal Farms 411 - Kent Village
 AM Existing

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | | |  | | |  |  |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 7 | 7 | 116 | 12 | 13 | 2 | 181 | 36 | 13 | 3 | 57 | 2 |
| Future Volume (vph) | 7 | 7 | 116 | 12 | 13 | 2 | 181 | 36 | 13 | 3 | 57 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 8 | 8 | 126 | 13 | 14 | 2 | 197 | 39 | 14 | 3 | 62 | 2 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 | | | | | | | |
| Volume Total (vph) | 16 | 126 | 29 | 250 | 67 | | | | | | | |
| Volume Left (vph) | 8 | 0 | 13 | 197 | 3 | | | | | | | |
| Volume Right (vph) | 0 | 126 | 2 | 14 | 2 | | | | | | | |
| Hadj (s) | 0.13 | -0.57 | 0.08 | 0.16 | 0.03 | | | | | | | |
| Departure Headway (s) | 4.8 | 3.2 | 4.7 | 4.2 | 4.3 | | | | | | | |
| Degree Utilization, x | 0.02 | 0.11 | 0.04 | 0.29 | 0.08 | | | | | | | |
| Capacity (veh/h) | 693 | 1121 | 710 | 833 | 819 | | | | | | | |
| Control Delay (s) | 7.9 | 6.6 | 7.9 | 9.0 | 7.7 | | | | | | | |
| Approach Delay (s) | 6.7 | | 7.9 | 9.0 | 7.7 | | | | | | | |
| Approach LOS | A | | A | A | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 8.1 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 34.2% | ICU Level of Service | A | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 13: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 AM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 4 | 0 | 0 | 50 |
| Future Volume (Veh/h) | 0 | 0 | 4 | 0 | 0 | 50 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 4 | 0 | 0 | 54 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 58 | 4 | | | 4 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 58 | 4 | | | 4 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 949 | 1080 | | | 1618 | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 4 | 54 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1618 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 6.7% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 14: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 AM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | | 0 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | 0 | | | | 0 |
| tC, single (s) | 6.4 | 6.2 | | | | 4.1 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | | 2.2 |
| p0 queue free % | 100 | 100 | | | | 100 |
| cM capacity (veh/h) | 1023 | 1085 | | | | 1623 |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 0 | 0 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 3: Kent Town Drive & MD 202

Royal Farms 411 - Kent Village
 PM Existing

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 2315 | 130 | 0 | 1330 | 0 | 24 | |
| Future Volume (Veh/h) | 2315 | 130 | 0 | 1330 | 0 | 24 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 2516 | 141 | 0 | 1446 | 0 | 26 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 367 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 2657 | | 3068 | 909 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 2657 | | 3068 | 909 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 91 | |
| cM capacity (veh/h) | | | 155 | | 9 | 278 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 1006 | 1006 | 644 | 482 | 482 | 482 | 26 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 141 | 0 | 0 | 0 | 26 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 278 |
| Volume to Capacity | 0.59 | 0.59 | 0.38 | 0.28 | 0.28 | 0.28 | 0.09 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 19.3 |
| Lane LOS | C | | | | | | |
| Approach Delay (s) | 0.0 | | | | 0.0 | | |
| Approach LOS | C | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.1 | | | | |
| Intersection Capacity Utilization | | | 57.6% | ICU Level of Service | B | | |
| Analysis Period (min) | | | 15 | | | | |

HCM Unsignalized Intersection Capacity Analysis
 4: Site Access & MD 202

Royal Farms 411 - Kent Village
 PM Existing

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 2321 | 22 | 0 | 0 | 0 | 0 | 7 |
| Future Volume (Veh/h) | 2321 | 22 | 0 | 0 | 0 | 0 | 7 |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 2523 | 24 | 0 | 0 | 0 | 0 | 8 |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 189 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 2547 | | | 2535 | 853 |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 2547 | | | 2535 | 853 |
| tC, single (s) | | | 4.1 | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | | 100 | 97 |
| cM capacity (veh/h) | | | 172 | | | 22 | 302 |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 1009 | 1009 | 529 | 0 | 0 | 0 | 8 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 24 | 0 | 0 | 0 | 8 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 302 |
| Volume to Capacity | 0.59 | 0.59 | 0.31 | 0.00 | 0.00 | 0.00 | 0.03 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 17.2 |
| Lane LOS | C | | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | 17.2 | | |
| Approach LOS | C | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.1 | | | | |
| Intersection Capacity Utilization | | | 55.3% | | ICU Level of Service | | B |
| Analysis Period (min) | 15 | | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 6: Kent Village Drive & MD 202

Royal Farms 411 - Kent Village
 PM Existing

| | → | ↘ | ↙ | ← | ↖ | ↗ | | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | ↗ | | |
| Traffic Volume (veh/h) | 2420 | 19 | 0 | 1470 | 0 | 64 | | |
| Future Volume (Veh/h) | 2420 | 19 | 0 | 1470 | 0 | 64 | | |
| Sign Control | Free | | | Free | Stop | | | |
| Grade | 0% | | | 0% | 0% | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Hourly flow rate (vph) | 2630 | 21 | 0 | 1598 | 0 | 70 | | |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | None | | | None | | | | |
| Median storage (veh) | | | | | | | | |
| Upstream signal (ft) | 639 | | | 473 | | | | |
| pX, platoon unblocked | | | 0.63 | | 0.63 | 0.63 | | |
| vC, conflicting volume | | | 2651 | | 3173 | 887 | | |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | | | 1569 | | 2397 | 0 | | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | | |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | | |
| p0 queue free % | | | 100 | | 100 | 90 | | |
| cM capacity (veh/h) | | | 263 | | 18 | 684 | | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | |
| Volume Total | 1052 | 1052 | 547 | 533 | 533 | 533 | 70 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 21 | 0 | 0 | 0 | 70 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 684 | |
| Volume to Capacity | 0.62 | 0.62 | 0.32 | 0.31 | 0.31 | 0.31 | 0.10 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 9 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.9 | |
| Lane LOS | | | | | | | B | |
| Approach Delay (s) | 0.0 | | | | 0.0 | | | 10.9 |
| Approach LOS | | | | | | | B | |
| Intersection Summary | | | | | | | | |
| Average Delay | | | 0.2 | | | | | |
| Intersection Capacity Utilization | | | 57.8% | ICU Level of Service | B | | | |
| Analysis Period (min) | | | 15 | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 9: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 PM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 10 | 6 | 8 | 315 | 324 | 12 |
| Future Volume (Veh/h) | 10 | 6 | 8 | 315 | 324 | 12 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 11 | 7 | 9 | 342 | 352 | 13 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | 105 | |
| pX, platoon unblocked | 0.90 | 0.90 | 0.90 | | | |
| vC, conflicting volume | 718 | 358 | 365 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 632 | 232 | 239 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 99 | 99 | | | |
| cM capacity (veh/h) | 397 | 727 | 1195 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 18 | 351 | 365 | | | |
| Volume Left | 11 | 9 | 0 | | | |
| Volume Right | 7 | 0 | 13 | | | |
| cSH | 482 | 1195 | 1700 | | | |
| Volume to Capacity | 0.04 | 0.01 | 0.21 | | | |
| Queue Length 95th (ft) | 3 | 1 | 0 | | | |
| Control Delay (s) | 12.8 | 0.3 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 12.8 | 0.3 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.4 | | | |
| Intersection Capacity Utilization | | | 33.0% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 10: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 PM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 315 | 324 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 315 | 324 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 342 | 352 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 215 | | |
| pX, platoon unblocked | 0.95 | 0.95 | 0.95 | | | |
| vC, conflicting volume | 694 | 352 | 352 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 653 | 293 | 293 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 411 | 710 | 1207 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 342 | 352 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1207 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.21 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 0.0 | | |
| Intersection Capacity Utilization | 20.4% | | | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | | | |



















HCM Unsignalized Intersection Capacity Analysis
 11: Kent Town Drive & Kent Town Place

Royal Farms 411 - Kent Village
 PM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 55 | 189 | 46 | 151 | 161 | 73 |
| Future Volume (Veh/h) | 55 | 189 | 46 | 151 | 161 | 73 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 60 | 205 | 50 | 164 | 175 | 79 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | 568 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 478 | 214 | 254 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 478 | 214 | 254 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 89 | 75 | 96 | | | |
| cM capacity (veh/h) | 525 | 825 | 1311 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 265 | 214 | 254 | | | |
| Volume Left | 60 | 50 | 0 | | | |
| Volume Right | 205 | 0 | 79 | | | |
| cSH | 731 | 1311 | 1700 | | | |
| Volume to Capacity | 0.36 | 0.04 | 0.15 | | | |
| Queue Length 95th (ft) | 41 | 3 | 0 | | | |
| Control Delay (s) | 12.7 | 2.1 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 12.7 | 2.1 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 5.2 | | | |
| Intersection Capacity Utilization | | | 48.1% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 12: Kent Village Drive & Kent Town Drive

Royal Farms 411 - Kent Village
 PM Existing

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | | |  | | |  |  |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 14 | 31 | 209 | 8 | 16 | 4 | 154 | 45 | 12 | 4 | 45 | 5 |
| Future Volume (vph) | 14 | 31 | 209 | 8 | 16 | 4 | 154 | 45 | 12 | 4 | 45 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 15 | 34 | 227 | 9 | 17 | 4 | 167 | 49 | 13 | 4 | 49 | 5 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 | | | | | | | |
| Volume Total (vph) | 49 | 227 | 30 | 229 | 58 | | | | | | | |
| Volume Left (vph) | 15 | 0 | 9 | 167 | 4 | | | | | | | |
| Volume Right (vph) | 0 | 227 | 4 | 13 | 5 | | | | | | | |
| Hadj (s) | 0.10 | -0.57 | 0.01 | 0.15 | 0.00 | | | | | | | |
| Departure Headway (s) | 4.7 | 3.2 | 4.6 | 4.3 | 4.3 | | | | | | | |
| Degree Utilization, x | 0.06 | 0.20 | 0.04 | 0.27 | 0.07 | | | | | | | |
| Capacity (veh/h) | 712 | 1121 | 724 | 816 | 794 | | | | | | | |
| Control Delay (s) | 8.0 | 7.0 | 7.8 | 8.9 | 7.7 | | | | | | | |
| Approach Delay (s) | 7.2 | | 7.8 | 8.9 | 7.7 | | | | | | | |
| Approach LOS | A | | A | A | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 7.9 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 33.2% | ICU Level of Service | | A | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 13: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 PM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 1 | 1 | 24 | 0 | 5 | 129 |
| Future Volume (Veh/h) | 1 | 1 | 24 | 0 | 5 | 129 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 1 | 1 | 26 | 0 | 5 | 140 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 176 | 26 | | | 26 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 176 | 26 | | | 26 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 811 | 1050 | | | 1588 | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 2 | 26 | 145 | | | |
| Volume Left | 1 | 0 | 5 | | | |
| Volume Right | 1 | 0 | 0 | | | |
| cSH | 915 | 1700 | 1588 | | | |
| Volume to Capacity | 0.00 | 0.02 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 8.9 | 0.0 | 0.3 | | | |
| Lane LOS | A | | A | | | |
| Approach Delay (s) | 8.9 | 0.0 | 0.3 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.3 | | | |
| Intersection Capacity Utilization | | | 20.8% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 14: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 PM Existing

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | | 0 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | 0 | | | | 0 |
| tC, single (s) | 6.4 | 6.2 | | | | 4.1 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | | 2.2 |
| p0 queue free % | 100 | 100 | | | | 100 |
| cM capacity (veh/h) | 1023 | 1085 | | | | 1623 |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 0 | 0 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service A | |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 3: Kent Town Drive & MD 202

Royal Farms 411 - Kent Village
 AM Background

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 1360 | 53 | 0 | 2393 | 0 | 4 | |
| Future Volume (Veh/h) | 1360 | 53 | 0 | 2393 | 0 | 4 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 1478 | 58 | 0 | 2601 | 0 | 4 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 367 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 1536 | 2374 | | 522 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1536 | 2374 | | 522 | |
| tC, single (s) | | | 4.1 | 6.8 | | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | 3.5 | | 3.3 | |
| p0 queue free % | | | 100 | 100 | | 99 | |
| cM capacity (veh/h) | | | 429 | 29 | | 500 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 591 | 591 | 354 | 867 | 867 | 867 | 4 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 58 | 0 | 0 | 0 | 4 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 500 |
| Volume to Capacity | 0.35 | 0.35 | 0.21 | 0.51 | 0.51 | 0.51 | 0.01 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12.3 |
| Lane LOS | B | | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | | | 12.3 |
| Approach LOS | B | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | 0.0 | | | | | | |
| Intersection Capacity Utilization | | | 49.6% | ICU Level of Service | | A | |
| Analysis Period (min) | 15 | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 4: Site Access & MD 202










Royal Farms 411 - Kent Village
 AM Background

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 1364 | 0 | 0 | 18 | 0 | 0 | |
| Future Volume (Veh/h) | 1364 | 0 | 0 | 18 | 0 | 0 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 1483 | 0 | 0 | 20 | 0 | 0 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 189 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 1483 | | 1490 | 494 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1483 | | 1490 | 494 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 100 | |
| cM capacity (veh/h) | | | 450 | | 115 | 521 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 593 | 593 | 297 | 7 | 7 | 7 | 0 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 |
| Volume to Capacity | 0.35 | 0.35 | 0.17 | 0.00 | 0.00 | 0.00 | 0.00 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Lane LOS | | | | | | | A |
| Approach Delay (s) | 0.0 | | | 0.0 | | | 0.0 |
| Approach LOS | | | | | | | A |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.0 | | | | |
| Intersection Capacity Utilization | | | 29.7% | ICU Level of Service | | A | |
| Analysis Period (min) | | | 15 | | | | |

| | → | ↘ | ↙ | ← | ↖ | ↗ | | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|-----|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ | |
| Traffic Volume (veh/h) | 1344 | 12 | 0 | 2518 | 0 | 49 | | |
| Future Volume (Veh/h) | 1344 | 12 | 0 | 2518 | 0 | 49 | | |
| Sign Control | Free | | | Free | Stop | | | |
| Grade | 0% | | | 0% | 0% | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Hourly flow rate (vph) | 1461 | 13 | 0 | 2737 | 0 | 53 | | |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | None | | | None | | | | |
| Median storage (veh) | | | | | | | | |
| Upstream signal (ft) | 639 | | | 473 | | | | |
| pX, platoon unblocked | | | 0.82 | | 0.82 | 0.82 | | |
| vC, conflicting volume | | | 1474 | | 2380 | 494 | | |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | | | 789 | | 1900 | 0 | | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | | |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | | |
| p0 queue free % | | | 100 | | 100 | 94 | | |
| cM capacity (veh/h) | | | 674 | | 50 | 884 | | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | |
| Volume Total | 584 | 584 | 305 | 912 | 912 | 912 | 53 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 13 | 0 | 0 | 0 | 53 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 884 | |
| Volume to Capacity | 0.34 | 0.34 | 0.18 | 0.54 | 0.54 | 0.54 | 0.06 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.3 | |
| Lane LOS | | | | | | | A | |
| Approach Delay (s) | 0.0 | | | | 0.0 | | | 9.3 |
| Approach LOS | | | | | | | A | |
| Intersection Summary | | | | | | | | |
| Average Delay | | | 0.1 | | | | | |
| Intersection Capacity Utilization | | | 52.0% | ICU Level of Service | | | | A |
| Analysis Period (min) | | | 15 | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 9: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 AM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 347 | 171 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 347 | 171 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 377 | 186 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | 105 |
| pX, platoon unblocked | 0.99 | 0.99 | 0.99 | | | |
| vC, conflicting volume | 563 | 186 | 186 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 551 | 170 | 170 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 489 | 864 | 1390 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 377 | 186 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1390 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.11 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 21.6% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 10: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 AM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 347 | 171 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 347 | 171 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 377 | 186 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | 215 | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 563 | 186 | 186 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 563 | 186 | 186 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 487 | 856 | 1388 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 377 | 186 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1388 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.11 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 0.0 | | |
| Intersection Capacity Utilization | | | | 21.6% | ICU Level of Service | A |
| Analysis Period (min) | | | | 15 | | |



















HCM Unsignalized Intersection Capacity Analysis
 11: Kent Town Drive & Kent Town Place

Royal Farms 411 - Kent Village
 AM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 8 | 57 | 16 | 287 | 136 | 24 |
| Future Volume (Veh/h) | 8 | 57 | 16 | 287 | 136 | 24 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 9 | 62 | 17 | 312 | 148 | 26 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | 568 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 507 | 161 | 174 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 507 | 161 | 174 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 93 | 99 | | | |
| cM capacity (veh/h) | 519 | 884 | 1403 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 71 | 329 | 174 | | | |
| Volume Left | 9 | 17 | 0 | | | |
| Volume Right | 62 | 0 | 26 | | | |
| cSH | 812 | 1403 | 1700 | | | |
| Volume to Capacity | 0.09 | 0.01 | 0.10 | | | |
| Queue Length 95th (ft) | 7 | 1 | 0 | | | |
| Control Delay (s) | 9.9 | 0.5 | 0.0 | | | |
| Lane LOS | A | A | | | | |
| Approach Delay (s) | 9.9 | 0.5 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.5 | | | |
| Intersection Capacity Utilization | | | 38.6% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 12: Kent Village Drive & Kent Town Drive

Royal Farms 411 - Kent Village
 AM Background

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | | |  | | |  |  |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 7 | 7 | 123 | 13 | 14 | 2 | 192 | 38 | 14 | 3 | 61 | 2 |
| Future Volume (vph) | 7 | 7 | 123 | 13 | 14 | 2 | 192 | 38 | 14 | 3 | 61 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 8 | 8 | 134 | 14 | 15 | 2 | 209 | 41 | 15 | 3 | 66 | 2 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 | | | | | | | |
| Volume Total (vph) | 16 | 134 | 31 | 265 | 71 | | | | | | | |
| Volume Left (vph) | 8 | 0 | 14 | 209 | 3 | | | | | | | |
| Volume Right (vph) | 0 | 134 | 2 | 15 | 2 | | | | | | | |
| Hadj (s) | 0.13 | -0.57 | 0.09 | 0.16 | 0.03 | | | | | | | |
| Departure Headway (s) | 4.8 | 3.2 | 4.8 | 4.3 | 4.3 | | | | | | | |
| Degree Utilization, x | 0.02 | 0.12 | 0.04 | 0.31 | 0.09 | | | | | | | |
| Capacity (veh/h) | 684 | 1121 | 701 | 831 | 804 | | | | | | | |
| Control Delay (s) | 7.9 | 6.6 | 8.0 | 9.2 | 7.7 | | | | | | | |
| Approach Delay (s) | 6.8 | | 8.0 | 9.2 | 7.7 | | | | | | | |
| Approach LOS | A | | A | A | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 8.2 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 35.1% | ICU Level of Service | A | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 13: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 AM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 4 | 0 | 0 | 53 |
| Future Volume (Veh/h) | 0 | 0 | 4 | 0 | 0 | 53 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 4 | 0 | 0 | 58 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 62 | 4 | | | 4 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 62 | 4 | | | 4 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 944 | 1080 | | | 1618 | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 4 | 58 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1618 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 6.7% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 14: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 AM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | 0 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | 0 | | | 0 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 1023 | 1085 | | | 1623 | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 0 | 0 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 3: Kent Town Drive & MD 202

Royal Farms 411 - Kent Village
 PM Background

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 2493 | 138 | 0 | 1480 | 0 | 25 | |
| Future Volume (Veh/h) | 2493 | 138 | 0 | 1480 | 0 | 25 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 2710 | 150 | 0 | 1609 | 0 | 27 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 367 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 2860 | | | 3321 | 978 |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 2860 | | | 3321 | 978 |
| tC, single (s) | | | 4.1 | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | | 100 | 89 |
| cM capacity (veh/h) | | | 129 | | | 6 | 250 |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 1084 | 1084 | 692 | 536 | 536 | 536 | 27 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 150 | 0 | 0 | 0 | 27 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 250 |
| Volume to Capacity | 0.64 | 0.64 | 0.41 | 0.32 | 0.32 | 0.32 | 0.11 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.2 |
| Lane LOS | C | | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | 21.2 | | |
| Approach LOS | C | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.1 | | | | |
| Intersection Capacity Utilization | | | 61.2% | | ICU Level of Service | | B |
| Analysis Period (min) | | | 15 | | | | |










HCM Unsignalized Intersection Capacity Analysis
 4: Site Access & MD 202

Royal Farms 411 - Kent Village
 PM Background

| | → | ↘ | ↙ | ← | ↖ | ↗ | | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ | |
| Traffic Volume (veh/h) | 2500 | 23 | 0 | 68 | 0 | 7 | | |
| Future Volume (Veh/h) | 2500 | 23 | 0 | 68 | 0 | 7 | | |
| Sign Control | Free | | | Free | Stop | | | |
| Grade | 0% | | | 0% | 0% | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Hourly flow rate (vph) | 2717 | 25 | 0 | 74 | 0 | 8 | | |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | None | | | None | | | | |
| Median storage (veh) | | | | | | | | |
| Upstream signal (ft) | 189 | | | | | | | |
| pX, platoon unblocked | | | | | | | | |
| vC, conflicting volume | | | 2742 | | 2754 | 918 | | |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | | | 2742 | | 2754 | 918 | | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | | |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | | |
| p0 queue free % | | | 100 | | 100 | 97 | | |
| cM capacity (veh/h) | | | 144 | | 16 | 274 | | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | |
| Volume Total | 1087 | 1087 | 568 | 25 | 25 | 25 | 8 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 25 | 0 | 0 | 0 | 8 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 274 | |
| Volume to Capacity | 0.64 | 0.64 | 0.33 | 0.01 | 0.01 | 0.01 | 0.03 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 2 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 18.5 | |
| Lane LOS | C | | | | | | | |
| Approach Delay (s) | 0.0 | | | | 0.0 | | | 18.5 |
| Approach LOS | C | | | | | | | |
| Intersection Summary | | | | | | | | |
| Average Delay | | | 0.1 | | | | | |
| Intersection Capacity Utilization | | | 58.8% | ICU Level of Service | | | | B |
| Analysis Period (min) | | | 15 | | | | | |










| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 2605 | 20 | 0 | 1628 | 0 | 68 | |
| Future Volume (Veh/h) | 2605 | 20 | 0 | 1628 | 0 | 68 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 2832 | 22 | 0 | 1770 | 0 | 74 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 639 | | | 473 | | | |
| pX, platoon unblocked | | | 0.63 | | 0.63 | 0.63 | |
| vC, conflicting volume | | | 2854 | | 3433 | 955 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1891 | | 2809 | 0 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 89 | |
| cM capacity (veh/h) | | | 197 | | 9 | 684 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 1133 | 1133 | 588 | 590 | 590 | 590 | 74 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 22 | 0 | 0 | 0 | 74 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 684 |
| Volume to Capacity | 0.67 | 0.67 | 0.35 | 0.35 | 0.35 | 0.35 | 0.11 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.9 |
| Lane LOS | | | | | | | B |
| Approach Delay (s) | 0.0 | | | 0.0 | | 10.9 | |
| Approach LOS | | | | | | | B |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.2 | | | | |
| Intersection Capacity Utilization | | | 61.7% | | ICU Level of Service | | B |
| Analysis Period (min) | 15 | | | | | | |

HCM Unsignalized Intersection Capacity Analysis
 9: Kent Town Place & Site Access

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 11 | 6 | 8 | 334 | 344 | 13 |
| Future Volume (Veh/h) | 11 | 6 | 8 | 334 | 344 | 13 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 12 | 7 | 9 | 363 | 374 | 14 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 105 | | |
| pX, platoon unblocked | 0.89 | 0.89 | 0.89 | | | |
| vC, conflicting volume | 762 | 381 | 388 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 671 | 242 | 250 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 97 | 99 | 99 | | | |
| cM capacity (veh/h) | 373 | 709 | 1170 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 19 | 372 | 388 | | | |
| Volume Left | 12 | 9 | 0 | | | |
| Volume Right | 7 | 0 | 14 | | | |
| cSH | 451 | 1170 | 1700 | | | |
| Volume to Capacity | 0.04 | 0.01 | 0.23 | | | |
| Queue Length 95th (ft) | 3 | 1 | 0 | | | |
| Control Delay (s) | 13.3 | 0.3 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 13.3 | 0.3 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.5 | | | |
| Intersection Capacity Utilization | | | 34.0% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 10: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 PM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 334 | 344 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 334 | 344 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 363 | 374 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 215 | | |
| pX, platoon unblocked | 0.94 | 0.94 | 0.94 | | | |
| vC, conflicting volume | 737 | 374 | 374 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 692 | 308 | 308 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 387 | 691 | 1183 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 363 | 374 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1183 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.22 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 0.0 | | |
| Intersection Capacity Utilization | | | 21.4% | ICU Level of Service | A | |
| Analysis Period (min) | | | | 15 | | |


















HCM Unsignalized Intersection Capacity Analysis
 11: Kent Town Drive & Kent Town Place










Royal Farms 411 - Kent Village
 PM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 58 | 201 | 49 | 160 | 171 | 77 |
| Future Volume (Veh/h) | 58 | 201 | 49 | 160 | 171 | 77 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 63 | 218 | 53 | 174 | 186 | 84 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | 568 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 508 | 228 | 270 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 508 | 228 | 270 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 87 | 73 | 96 | | | |
| cM capacity (veh/h) | 503 | 811 | 1293 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 281 | 227 | 270 | | | |
| Volume Left | 63 | 53 | 0 | | | |
| Volume Right | 218 | 0 | 84 | | | |
| cSH | 713 | 1293 | 1700 | | | |
| Volume to Capacity | 0.39 | 0.04 | 0.16 | | | |
| Queue Length 95th (ft) | 47 | 3 | 0 | | | |
| Control Delay (s) | 13.3 | 2.1 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 13.3 | 2.1 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 5.4 | | | |
| Intersection Capacity Utilization | | | 50.4% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 12: Kent Village Drive & Kent Town Drive










Royal Farms 411 - Kent Village
 PM Background

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | | |  | | |  | |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 15 | 33 | 222 | 8 | 17 | 4 | 163 | 48 | 13 | 4 | 48 | 5 |
| Future Volume (vph) | 15 | 33 | 222 | 8 | 17 | 4 | 163 | 48 | 13 | 4 | 48 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 16 | 36 | 241 | 9 | 18 | 4 | 177 | 52 | 14 | 4 | 52 | 5 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 | | | | | | | |
| Volume Total (vph) | 52 | 241 | 31 | 243 | 61 | | | | | | | |
| Volume Left (vph) | 16 | 0 | 9 | 177 | 4 | | | | | | | |
| Volume Right (vph) | 0 | 241 | 4 | 14 | 5 | | | | | | | |
| Hadj (s) | 0.10 | -0.57 | 0.01 | 0.15 | 0.00 | | | | | | | |
| Departure Headway (s) | 4.7 | 3.2 | 4.7 | 4.3 | 4.4 | | | | | | | |
| Degree Utilization, x | 0.07 | 0.21 | 0.04 | 0.29 | 0.07 | | | | | | | |
| Capacity (veh/h) | 704 | 1122 | 715 | 813 | 788 | | | | | | | |
| Control Delay (s) | 8.1 | 7.1 | 7.9 | 9.1 | 7.7 | | | | | | | |
| Approach Delay (s) | 7.2 | | 7.9 | 9.1 | 7.7 | | | | | | | |
| Approach LOS | A | | A | A | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 8.0 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 33.9% | | ICU Level of Service | A | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 1 | 1 | 25 | 0 | 5 | 137 |
| Future Volume (Veh/h) | 1 | 1 | 25 | 0 | 5 | 137 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 1 | 1 | 27 | 0 | 5 | 149 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 186 | 27 | | | 27 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 186 | 27 | | | 27 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 100 | |
| cM capacity (veh/h) | 801 | 1048 | | | 1587 | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 2 | 27 | 154 | | | |
| Volume Left | 1 | 0 | 5 | | | |
| Volume Right | 1 | 0 | 0 | | | |
| cSH | 908 | 1700 | 1587 | | | |
| Volume to Capacity | 0.00 | 0.02 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 9.0 | 0.0 | 0.3 | | | |
| Lane LOS | A | | A | | | |
| Approach Delay (s) | 9.0 | 0.0 | 0.3 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.3 | | | |
| Intersection Capacity Utilization | | | 21.3% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 14: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 PM Background

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | | 0 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | 0 | | | | 0 |
| tC, single (s) | 6.4 | 6.2 | | | | 4.1 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | | 2.2 |
| p0 queue free % | 100 | 100 | | | | 100 |
| cM capacity (veh/h) | 1023 | 1085 | | | | 1623 |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 0 | 0 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | ICU Level of Service | | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 3: Kent Town Drive & MD 202

Royal Farms 411 - Kent Village
 AM Total

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 1370 | 60 | 0 | 2393 | 0 | 4 | |
| Future Volume (Veh/h) | 1370 | 60 | 0 | 2393 | 0 | 4 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 1489 | 65 | 0 | 2601 | 0 | 4 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 367 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 1554 | | 2388 | 529 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1554 | | 2388 | 529 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 99 | |
| cM capacity (veh/h) | | | 422 | | 28 | 494 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 596 | 596 | 363 | 867 | 867 | 867 | 4 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 65 | 0 | 0 | 0 | 4 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 494 |
| Volume to Capacity | 0.35 | 0.35 | 0.21 | 0.51 | 0.51 | 0.51 | 0.01 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 12.3 |
| Lane LOS | B | | | | | | |
| Approach Delay (s) | 0.0 | | | 0.0 | | | 12.3 |
| Approach LOS | B | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.0 | | | | |
| Intersection Capacity Utilization | | | 49.6% | ICU Level of Service | | A | |
| Analysis Period (min) | | | 15 | | | | |

HCM Unsignalized Intersection Capacity Analysis
4: Site Access & MD 202

Royal Farms 411 - Kent Village
AM Total

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | ↗ | |
| Traffic Volume (veh/h) | 1258 | 116 | 0 | 18 | 0 | 123 | |
| Future Volume (Veh/h) | 1258 | 116 | 0 | 18 | 0 | 123 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 1367 | 126 | 0 | 20 | 0 | 134 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 189 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 1493 | | 1437 | 519 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1493 | | 1437 | 519 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 73 | |
| cM capacity (veh/h) | | | 446 | | 124 | 502 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 547 | 547 | 399 | 7 | 7 | 7 | 134 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 126 | 0 | 0 | 0 | 134 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 502 |
| Volume to Capacity | 0.32 | 0.32 | 0.23 | 0.00 | 0.00 | 0.00 | 0.27 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 27 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 14.8 |
| Lane LOS | | | | | | | B |
| Approach Delay (s) | 0.0 | | | 0.0 | | | 14.8 |
| Approach LOS | | | | | | | B |
| Intersection Summary | | | | | | | |
| Average Delay | | | 1.2 | | | | |
| Intersection Capacity Utilization | | | 41.2% | ICU Level of Service | A | | |
| Analysis Period (min) | | | 15 | | | | |










HCM Unsignalized Intersection Capacity Analysis
 6: Kent Village Drive & MD 202

Royal Farms 411 - Kent Village
 AM Total

| | → | ↘ | ↙ | ← | ↖ | ↗ | | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|-----|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | ↗ | | |
| Traffic Volume (veh/h) | 1365 | 12 | 0 | 2539 | 0 | 49 | | |
| Future Volume (Veh/h) | 1365 | 12 | 0 | 2539 | 0 | 49 | | |
| Sign Control | Free | | | Free | Stop | | | |
| Grade | 0% | | | 0% | 0% | | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | | |
| Hourly flow rate (vph) | 1484 | 13 | 0 | 2760 | 0 | 53 | | |
| Pedestrians | | | | | | | | |
| Lane Width (ft) | | | | | | | | |
| Walking Speed (ft/s) | | | | | | | | |
| Percent Blockage | | | | | | | | |
| Right turn flare (veh) | | | | | | | | |
| Median type | None | | | None | | | | |
| Median storage (veh) | | | | | | | | |
| Upstream signal (ft) | 639 | | | 473 | | | | |
| pX, platoon unblocked | | | 0.81 | | 0.81 | 0.81 | | |
| vC, conflicting volume | | | 1497 | | 2410 | 501 | | |
| vC1, stage 1 conf vol | | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | | |
| vCu, unblocked vol | | | 804 | | 1928 | 0 | | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | | |
| tC, 2 stage (s) | | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | | |
| p0 queue free % | | | 100 | | 100 | 94 | | |
| cM capacity (veh/h) | | | 663 | | 47 | 881 | | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 | |
| Volume Total | 594 | 594 | 310 | 920 | 920 | 920 | 53 | |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Volume Right | 0 | 0 | 13 | 0 | 0 | 0 | 53 | |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 881 | |
| Volume to Capacity | 0.35 | 0.35 | 0.18 | 0.54 | 0.54 | 0.54 | 0.06 | |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 5 | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 9.3 | |
| Lane LOS | | | | | | | A | |
| Approach Delay (s) | 0.0 | | | | 0.0 | | | 9.3 |
| Approach LOS | | | | | | | A | |
| Intersection Summary | | | | | | | | |
| Average Delay | | | 0.1 | | | | | |
| Intersection Capacity Utilization | | | 52.4% | ICU Level of Service | | | | A |
| Analysis Period (min) | | | 15 | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 9: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 AM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 50 | 22 | 37 | 318 | 157 | 35 |
| Future Volume (Veh/h) | 50 | 22 | 37 | 318 | 157 | 35 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 54 | 24 | 40 | 346 | 171 | 38 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 105 | | |
| pX, platoon unblocked | 0.98 | 0.98 | 0.98 | | | |
| vC, conflicting volume | 616 | 190 | 209 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 594 | 157 | 176 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 88 | 97 | 97 | | | |
| cM capacity (veh/h) | 443 | 867 | 1365 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 78 | 386 | 209 | | | |
| Volume Left | 54 | 40 | 0 | | | |
| Volume Right | 24 | 0 | 38 | | | |
| cSH | 521 | 1365 | 1700 | | | |
| Volume to Capacity | 0.15 | 0.03 | 0.12 | | | |
| Queue Length 95th (ft) | 13 | 2 | 0 | | | |
| Control Delay (s) | 13.1 | 1.1 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 13.1 | 1.1 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 2.1 | | | |
| Intersection Capacity Utilization | | | 43.3% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 10: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 AM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 2 | 2 | 355 | 179 | 0 |
| Future Volume (Veh/h) | 0 | 2 | 2 | 355 | 179 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 2 | 2 | 386 | 195 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | 215 | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 585 | 195 | 195 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 585 | 195 | 195 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 473 | 846 | 1378 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 2 | 388 | 195 | | | |
| Volume Left | 0 | 2 | 0 | | | |
| Volume Right | 2 | 0 | 0 | | | |
| cSH | 846 | 1378 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.11 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 9.3 | 0.1 | 0.0 | | | |
| Lane LOS | A | A | | | | |
| Approach Delay (s) | 9.3 | 0.1 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 0.1 | | |
| Intersection Capacity Utilization | | | | 30.3% | ICU Level of Service | A |
| Analysis Period (min) | | | | 15 | | |



















HCM Unsignalized Intersection Capacity Analysis
 11: Kent Town Drive & Kent Town Place

Royal Farms 411 - Kent Village
 AM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 8 | 57 | 16 | 297 | 146 | 24 |
| Future Volume (Veh/h) | 8 | 57 | 16 | 297 | 146 | 24 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 9 | 62 | 17 | 323 | 159 | 26 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | 568 |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 529 | 172 | 185 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 529 | 172 | 185 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 98 | 93 | 99 | | | |
| cM capacity (veh/h) | 504 | 872 | 1390 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 71 | 340 | 185 | | | |
| Volume Left | 9 | 17 | 0 | | | |
| Volume Right | 62 | 0 | 26 | | | |
| cSH | 798 | 1390 | 1700 | | | |
| Volume to Capacity | 0.09 | 0.01 | 0.11 | | | |
| Queue Length 95th (ft) | 7 | 1 | 0 | | | |
| Control Delay (s) | 10.0 | 0.5 | 0.0 | | | |
| Lane LOS | A | A | | | | |
| Approach Delay (s) | 10.0 | 0.5 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.5 | | | |
| Intersection Capacity Utilization | | | 39.3% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 12: Kent Village Drive & Kent Town Drive

Royal Farms 411 - Kent Village
 AM Total

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | | |  | | |  |  |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 7 | 10 | 130 | 13 | 17 | 2 | 199 | 38 | 14 | 3 | 61 | 2 |
| Future Volume (vph) | 7 | 10 | 130 | 13 | 17 | 2 | 199 | 38 | 14 | 3 | 61 | 2 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 8 | 11 | 141 | 14 | 18 | 2 | 216 | 41 | 15 | 3 | 66 | 2 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 | | | | | | | |
| Volume Total (vph) | 19 | 141 | 34 | 272 | 71 | | | | | | | |
| Volume Left (vph) | 8 | 0 | 14 | 216 | 3 | | | | | | | |
| Volume Right (vph) | 0 | 141 | 2 | 15 | 2 | | | | | | | |
| Hadj (s) | 0.12 | -0.57 | 0.08 | 0.16 | 0.03 | | | | | | | |
| Departure Headway (s) | 4.8 | 3.2 | 4.8 | 4.3 | 4.3 | | | | | | | |
| Degree Utilization, x | 0.03 | 0.13 | 0.05 | 0.32 | 0.09 | | | | | | | |
| Capacity (veh/h) | 682 | 1121 | 698 | 827 | 797 | | | | | | | |
| Control Delay (s) | 8.0 | 6.7 | 8.0 | 9.3 | 7.7 | | | | | | | |
| Approach Delay (s) | 6.8 | | 8.0 | 9.3 | 7.7 | | | | | | | |
| Approach LOS | A | | A | A | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 8.3 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 35.6% | | ICU Level of Service | A | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 13: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 AM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 4 | 0 | 4 | 0 | 11 | 49 |
| Future Volume (Veh/h) | 4 | 0 | 4 | 0 | 11 | 49 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 4 | 0 | 4 | 0 | 12 | 53 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 81 | 4 | | | 4 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 81 | 4 | | | 4 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 100 | 100 | | | 99 | |
| cM capacity (veh/h) | 914 | 1080 | | | 1618 | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 4 | 4 | 65 | | | |
| Volume Left | 4 | 0 | 12 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 914 | 1700 | 1618 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.01 | | | |
| Queue Length 95th (ft) | 0 | 0 | 1 | | | |
| Control Delay (s) | 9.0 | 0.0 | 1.4 | | | |
| Lane LOS | A | | A | | | |
| Approach Delay (s) | 9.0 | 0.0 | 1.4 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.7 | | | |
| Intersection Capacity Utilization | | | 19.9% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 14: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 AM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | | | | 0 |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | 0 | | | | 0 |
| tC, single (s) | 6.4 | 6.2 | | | | 4.1 |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | | 2.2 |
| p0 queue free % | 100 | 100 | | | | 100 |
| cM capacity (veh/h) | 1023 | 1085 | | | | 1623 |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 0 | 0 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service A | |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 3: Kent Town Drive & MD 202

Royal Farms 411 - Kent Village
 PM Total

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | ↗ | |
| Traffic Volume (veh/h) | 2497 | 140 | 0 | 1480 | 0 | 25 | |
| Future Volume (Veh/h) | 2497 | 140 | 0 | 1480 | 0 | 25 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 2714 | 152 | 0 | 1609 | 0 | 27 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 367 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 2866 | | | 3326 | 981 |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 2866 | | | 3326 | 981 |
| tC, single (s) | | | 4.1 | | | 6.8 | 6.9 |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | | 3.5 | 3.3 |
| p0 queue free % | | | 100 | | | 100 | 89 |
| cM capacity (veh/h) | | | 128 | | | 6 | 249 |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 1086 | 1086 | 695 | 536 | 536 | 536 | 27 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 152 | 0 | 0 | 0 | 27 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 249 |
| Volume to Capacity | 0.64 | 0.64 | 0.41 | 0.32 | 0.32 | 0.32 | 0.11 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 21.2 |
| Lane LOS | C | | | | | | |
| Approach Delay (s) | 0.0 | | 0.0 | | 21.2 | | |
| Approach LOS | C | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.1 | | | | |
| Intersection Capacity Utilization | | | 61.4% | | ICU Level of Service | | B |
| Analysis Period (min) | | | 15 | | | | |

HCM Unsignalized Intersection Capacity Analysis
4: Site Access & MD 202

Royal Farms 411 - Kent Village
PM Total

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|----------------------|-------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | ↗ | |
| Traffic Volume (veh/h) | 2403 | 124 | 0 | 68 | 0 | 112 | |
| Future Volume (Veh/h) | 2403 | 124 | 0 | 68 | 0 | 112 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 2612 | 135 | 0 | 74 | 0 | 122 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 189 | | | | | | |
| pX, platoon unblocked | | | | | | | |
| vC, conflicting volume | | | 2747 | | 2704 | 938 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 2747 | | 2704 | 938 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 54 | |
| cM capacity (veh/h) | | | 143 | | 17 | 266 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 1045 | 1045 | 657 | 25 | 25 | 25 | 122 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 135 | 0 | 0 | 0 | 122 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 266 |
| Volume to Capacity | 0.61 | 0.61 | 0.39 | 0.01 | 0.01 | 0.01 | 0.46 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 57 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 29.6 |
| Lane LOS | D | | | | | | |
| Approach Delay (s) | 0.0 | | | 0.0 | | | 29.6 |
| Approach LOS | D | | | | | | |
| Intersection Summary | | | | | | | |
| Average Delay | | | 1.2 | | | | |
| Intersection Capacity Utilization | | | 62.8% | ICU Level of Service | B | | |
| Analysis Period (min) | | | 15 | | | | |










HCM Unsignalized Intersection Capacity Analysis
 6: Kent Village Drive & MD 202

Royal Farms 411 - Kent Village
 PM Total

| | → | ↘ | ↙ | ← | ↖ | ↗ | |
|-----------------------------------|-------------|-------------|-------------|-------------|----------------------|-------------|-------------|
| Movement | EBT | EBR | WBL | WBT | NBL | NBR | |
| Lane Configurations | ↑↑↑ | | | ↑↑↑ | | | ↗ |
| Traffic Volume (veh/h) | 2614 | 20 | 0 | 1637 | 0 | 68 | |
| Future Volume (Veh/h) | 2614 | 20 | 0 | 1637 | 0 | 68 | |
| Sign Control | Free | | | Free | Stop | | |
| Grade | 0% | | | 0% | 0% | | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | |
| Hourly flow rate (vph) | 2841 | 22 | 0 | 1779 | 0 | 74 | |
| Pedestrians | | | | | | | |
| Lane Width (ft) | | | | | | | |
| Walking Speed (ft/s) | | | | | | | |
| Percent Blockage | | | | | | | |
| Right turn flare (veh) | | | | | | | |
| Median type | None | | | None | | | |
| Median storage (veh) | | | | | | | |
| Upstream signal (ft) | 639 | | | 473 | | | |
| pX, platoon unblocked | | | 0.63 | | 0.63 | 0.63 | |
| vC, conflicting volume | | | 2863 | | 3445 | 958 | |
| vC1, stage 1 conf vol | | | | | | | |
| vC2, stage 2 conf vol | | | | | | | |
| vCu, unblocked vol | | | 1905 | | 2828 | 0 | |
| tC, single (s) | | | 4.1 | | 6.8 | 6.9 | |
| tC, 2 stage (s) | | | | | | | |
| tF (s) | | | 2.2 | | 3.5 | 3.3 | |
| p0 queue free % | | | 100 | | 100 | 89 | |
| cM capacity (veh/h) | | | 194 | | 9 | 684 | |
| Direction, Lane # | EB 1 | EB 2 | EB 3 | WB 1 | WB 2 | WB 3 | NB 1 |
| Volume Total | 1136 | 1136 | 590 | 593 | 593 | 593 | 74 |
| Volume Left | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Volume Right | 0 | 0 | 22 | 0 | 0 | 0 | 74 |
| cSH | 1700 | 1700 | 1700 | 1700 | 1700 | 1700 | 684 |
| Volume to Capacity | 0.67 | 0.67 | 0.35 | 0.35 | 0.35 | 0.35 | 0.11 |
| Queue Length 95th (ft) | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 10.9 |
| Lane LOS | | | | | | | B |
| Approach Delay (s) | 0.0 | | | | | | 10.9 |
| Approach LOS | | | | | | | B |
| Intersection Summary | | | | | | | |
| Average Delay | | | 0.2 | | | | |
| Intersection Capacity Utilization | | | 61.8% | | ICU Level of Service | | B |
| Analysis Period (min) | | | 15 | | | | |










HCM Unsignalized Intersection Capacity Analysis
 9: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 PM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 34 | 24 | 24 | 321 | 330 | 36 |
| Future Volume (Veh/h) | 34 | 24 | 24 | 321 | 330 | 36 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 37 | 26 | 26 | 349 | 359 | 39 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | 105 |
| pX, platoon unblocked | 0.88 | 0.88 | 0.88 | | | |
| vC, conflicting volume | 780 | 378 | 398 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 686 | 233 | 255 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 90 | 96 | 98 | | | |
| cM capacity (veh/h) | 358 | 714 | 1160 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 63 | 375 | 398 | | | |
| Volume Left | 37 | 26 | 0 | | | |
| Volume Right | 26 | 0 | 39 | | | |
| cSH | 450 | 1160 | 1700 | | | |
| Volume to Capacity | 0.14 | 0.02 | 0.23 | | | |
| Queue Length 95th (ft) | 12 | 2 | 0 | | | |
| Control Delay (s) | 14.3 | 0.8 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 14.3 | 0.8 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.4 | | | |
| Intersection Capacity Utilization | | | 46.7% | ICU Level of Service | A | |
| Analysis Period (min) | | | 15 | | | |










HCM Unsignalized Intersection Capacity Analysis
 10: Kent Town Place & Site Access

Royal Farms 411 - Kent Village
 PM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 0 | 1 | 1 | 337 | 348 | 0 |
| Future Volume (Veh/h) | 0 | 1 | 1 | 337 | 348 | 0 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 1 | 1 | 366 | 378 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | 215 | | |
| pX, platoon unblocked | 0.95 | 0.95 | 0.95 | | | |
| vC, conflicting volume | 746 | 378 | 378 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 704 | 315 | 315 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 382 | 687 | 1179 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 1 | 367 | 378 | | | |
| Volume Left | 0 | 1 | 0 | | | |
| Volume Right | 1 | 0 | 0 | | | |
| cSH | 687 | 1179 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.22 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 10.2 | 0.0 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 10.2 | 0.0 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | | 0.0 | | |
| Intersection Capacity Utilization | | | | 28.5% | ICU Level of Service | A |
| Analysis Period (min) | | | | 15 | | |



















HCM Unsignalized Intersection Capacity Analysis
 11: Kent Town Drive & Kent Town Place

Royal Farms 411 - Kent Village
 PM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | EBL | EBR | NBL | NBT | SBT | SBR |
| Lane Configurations |  | | |  |  | |
| Traffic Volume (veh/h) | 58 | 201 | 49 | 164 | 176 | 77 |
| Future Volume (Veh/h) | 58 | 201 | 49 | 164 | 176 | 77 |
| Sign Control | Stop | | | Free | Free | |
| Grade | 0% | | | 0% | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 63 | 218 | 53 | 178 | 191 | 84 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | | | | None | None | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | 568 | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 517 | 233 | 275 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 517 | 233 | 275 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 87 | 73 | 96 | | | |
| cM capacity (veh/h) | 497 | 806 | 1288 | | | |
| Direction, Lane # | EB 1 | NB 1 | SB 1 | | | |
| Volume Total | 281 | 231 | 275 | | | |
| Volume Left | 63 | 53 | 0 | | | |
| Volume Right | 218 | 0 | 84 | | | |
| cSH | 708 | 1288 | 1700 | | | |
| Volume to Capacity | 0.40 | 0.04 | 0.16 | | | |
| Queue Length 95th (ft) | 48 | 3 | 0 | | | |
| Control Delay (s) | 13.4 | 2.1 | 0.0 | | | |
| Lane LOS | B | A | | | | |
| Approach Delay (s) | 13.4 | 2.1 | 0.0 | | | |
| Approach LOS | B | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | 5.4 | | | | | |
| Intersection Capacity Utilization | 50.9% | | | ICU Level of Service | A | |
| Analysis Period (min) | 15 | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 12: Kent Village Drive & Kent Town Drive

Royal Farms 411 - Kent Village
 PM Total

| |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|--|---|---|---|---|---|
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | |  |  | |  | | |  | | |  |  |
| Sign Control | | Stop | | | Stop | | | Stop | | | Stop | |
| Traffic Volume (vph) | 15 | 35 | 225 | 8 | 18 | 4 | 166 | 48 | 13 | 4 | 48 | 5 |
| Future Volume (vph) | 15 | 35 | 225 | 8 | 18 | 4 | 166 | 48 | 13 | 4 | 48 | 5 |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 16 | 38 | 245 | 9 | 20 | 4 | 180 | 52 | 14 | 4 | 52 | 5 |
| Direction, Lane # | EB 1 | EB 2 | WB 1 | NB 1 | SB 1 | | | | | | | |
| Volume Total (vph) | 54 | 245 | 33 | 246 | 61 | | | | | | | |
| Volume Left (vph) | 16 | 0 | 9 | 180 | 4 | | | | | | | |
| Volume Right (vph) | 0 | 245 | 4 | 14 | 5 | | | | | | | |
| Hadj (s) | 0.09 | -0.57 | 0.02 | 0.15 | 0.00 | | | | | | | |
| Departure Headway (s) | 4.7 | 3.2 | 4.7 | 4.3 | 4.4 | | | | | | | |
| Degree Utilization, x | 0.07 | 0.22 | 0.04 | 0.30 | 0.07 | | | | | | | |
| Capacity (veh/h) | 702 | 1122 | 712 | 811 | 785 | | | | | | | |
| Control Delay (s) | 8.1 | 7.1 | 7.9 | 9.1 | 7.7 | | | | | | | |
| Approach Delay (s) | 7.3 | | 7.9 | 9.1 | 7.7 | | | | | | | |
| Approach LOS | A | | A | A | A | | | | | | | |
| Intersection Summary | | | | | | | | | | | | |
| Delay | | | 8.1 | | | | | | | | | |
| Level of Service | | | A | | | | | | | | | |
| Intersection Capacity Utilization | | | 34.1% | ICU Level of Service | A | | | | | | | |
| Analysis Period (min) | | | 15 | | | | | | | | | |










HCM Unsignalized Intersection Capacity Analysis
 13: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 PM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 6 | 2 | 24 | 1 | 12 | 132 |
| Future Volume (Veh/h) | 6 | 2 | 24 | 1 | 12 | 132 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 7 | 2 | 26 | 1 | 13 | 143 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 196 | 26 | | | 27 | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 196 | 26 | | | 27 | |
| tC, single (s) | 6.4 | 6.2 | | | 4.1 | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | | | 2.2 | |
| p0 queue free % | 99 | 100 | | | 99 | |
| cM capacity (veh/h) | 787 | 1049 | | | 1587 | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 9 | 27 | 156 | | | |
| Volume Left | 7 | 0 | 13 | | | |
| Volume Right | 2 | 1 | 0 | | | |
| cSH | 833 | 1700 | 1587 | | | |
| Volume to Capacity | 0.01 | 0.02 | 0.01 | | | |
| Queue Length 95th (ft) | 1 | 0 | 1 | | | |
| Control Delay (s) | 9.4 | 0.0 | 0.7 | | | |
| Lane LOS | A | | A | | | |
| Approach Delay (s) | 9.4 | 0.0 | 0.7 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 1.0 | | | |
| Intersection Capacity Utilization | | | 24.3% | | ICU Level of Service | A |
| Analysis Period (min) | | | 15 | | | |

HCM Unsignalized Intersection Capacity Analysis
 14: Kent Town Drive & Site Access

Royal Farms 411 - Kent Village
 PM Total

| |  |  |  |  |  |  |
|-----------------------------------|---|---|---|---|---|---|
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Volume (veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Future Volume (Veh/h) | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | | Free | | Free | |
| Grade | 0% | | 0% | | 0% | |
| Peak Hour Factor | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 | 0.92 |
| Hourly flow rate (vph) | 0 | 0 | 0 | 0 | 0 | 0 |
| Pedestrians | | | | | | |
| Lane Width (ft) | | | | | | |
| Walking Speed (ft/s) | | | | | | |
| Percent Blockage | | | | | | |
| Right turn flare (veh) | | | | | | |
| Median type | None | | | None | | |
| Median storage (veh) | | | | | | |
| Upstream signal (ft) | | | | | | |
| pX, platoon unblocked | | | | | | |
| vC, conflicting volume | 0 | 0 | 0 | | | |
| vC1, stage 1 conf vol | | | | | | |
| vC2, stage 2 conf vol | | | | | | |
| vCu, unblocked vol | 0 | 0 | 0 | | | |
| tC, single (s) | 6.4 | 6.2 | 4.1 | | | |
| tC, 2 stage (s) | | | | | | |
| tF (s) | 3.5 | 3.3 | 2.2 | | | |
| p0 queue free % | 100 | 100 | 100 | | | |
| cM capacity (veh/h) | 1023 | 1085 | 1623 | | | |
| Direction, Lane # | WB 1 | NB 1 | SB 1 | | | |
| Volume Total | 0 | 0 | 0 | | | |
| Volume Left | 0 | 0 | 0 | | | |
| Volume Right | 0 | 0 | 0 | | | |
| cSH | 1700 | 1700 | 1700 | | | |
| Volume to Capacity | 0.00 | 0.00 | 0.00 | | | |
| Queue Length 95th (ft) | 0 | 0 | 0 | | | |
| Control Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Lane LOS | A | | | | | |
| Approach Delay (s) | 0.0 | 0.0 | 0.0 | | | |
| Approach LOS | A | | | | | |
| Intersection Summary | | | | | | |
| Average Delay | | | 0.0 | | | |
| Intersection Capacity Utilization | | | 0.0% | | ICU Level of Service A | |
| Analysis Period (min) | | | 15 | | | |

Appendix C

Background Developments



Background Developments:
1. Hunters Ridge

Maryland
202

**Background Development
Location Map**

**Exhibit
C-1**

Traffic Impact Analysis

 **LENHART TRAFFIC CONSULTING, INC.**
645 BALTIMORE ANNAPOLIS BLVD, SUITE 214
SEVERNA PARK, MD 21146
www.lenharttraffic.com

Trip Generation Rates

Townhouse (Prince Georges County Rates)

Morning Trips = 0.70 x Units
 Evening Trips = 0.80 x Units
 Daily Trips = 8 x Units

Trip Distribution (In/Out)

20/80
 65/35

Trip Generation Totals

| | Townhouse (Prince Georges County Rates) | AM Peak | | | PM Peak | | | Daily Total |
|----------------|---|---------|-----|-------|---------|-----|-------|-------------|
| | | In | Out | Total | In | Out | Total | |
| Hunter's Ridge | 360 units | 50 | 202 | 252 | 187 | 101 | 288 | 2880 |
| Total Trips: | | 50 | 202 | 252 | 187 | 101 | 288 | 2880 |

360 Total Units
 73 Completed
 20 % Complete

Net Total Trips: 40 162 201 150 81 230 2296

NOTE: Trip Generation Rates obtained from the Prince George's County Guidelines

Traffic Impact Analysis
 Lenhart Traffic Consulting, Inc.
 Traffic Engineering & Transportation Planning

Trip Generation for
 Background Developments

**Exhibit
 C-2**

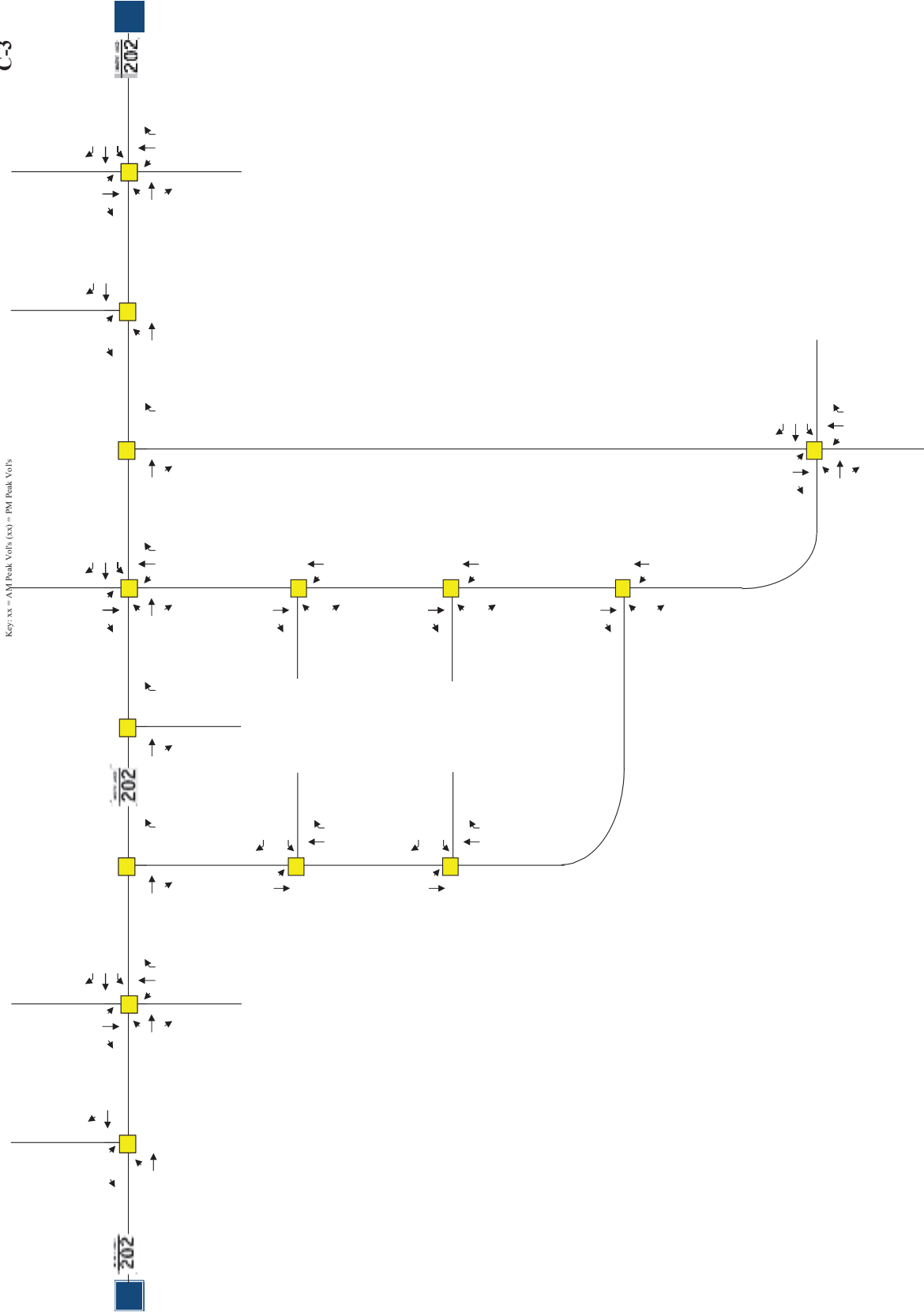
Background Development Trip Assignment -

Traffic Impact Analysis

Exhibit C-3

Hunters Ridge

Key: xx = AM Peak Vols (cs) - PM Peak Vols



 LENHART TRAFFIC CONSULTING, INC.
643 MIDDLE ANNAPOLIS ROAD, SUITE 214
SEVERNA PARK, MD 21156
www.lenharttraffic.com