PLANNING AND ZONING COMMISSION

AGENDA FOR REGULAR MEETING

July 14, 2025

PLANNING AND ZONING COMMISSION:

Shawn Luesse, Chair
Julie Bartch, Vice-Chair
Missy Palitzsch, Secretary
Dan Borgmeyer, Mayor
Michael Galba, City Council Liaison
John Morgan
Chris DeGuentz
Tyson King
Adriana Perrone
Keith Liston

Commission Members:

A regular meeting of the St. Charles Planning and Zoning Commission will be held on **Monday, July 14, 2025**, beginning at 6:00 p.m. on the fourth floor of City Hall Chambers, 200 North Second Street, St. Charles, Missouri.

1. Call to order and the roll.
2. The Pledge of Allegiance.
3. Approve the minutes of the June 9, 2025 Planning and Zoning Commission meeting.

CONSENT AGENDA

4. Case No. SP-2025-06. (S.J. Hollander Architect – Steve Hollander) A site plan application for elevation modifications to an existing restaurant building located at 3000 W. Clay Street within the C-2 General Business District. The subject property is located in Ward 9.

PUBLIC HEARING: Conditional Use

5. Case No. CU-2025-14. (Jason Taylor) An application for a Conditional Use Permit per §400.220(C)(1)(a) for liquor sales associated with a permitted coffee shop use within the "C-2/FSC-HD/T4-NMX" General Commercial District, within the Fifth Street Corridor – Hospital District, and within the T4 – Neighborhood Mixed Use District located at 519 S. 5th Street. The subject property is located in Ward 2.

PUBLIC HEARING: Conditional Use

6. Case No. CU-2025-15. (Ices Plain & Fancy – Darla Crask) An application for a Conditional Use Permit per §400.290(C)(2) for liquor sales associated with a permitted ice cream shop use within the "FD/FPD" Frenchtown District and within the Frenchtown Preservation District located at 824 N. 2nd Street. The subject property is located in Ward 1.

PUBLIC HEARING: Conditional Use

7. Case No. CU-2025-16. (Katy Trail Development, LLC – Chris Pike) An application for a Conditional Use Permit from §400.200(C)(1)(d) for a multifamily dwelling with more than eighteen (18) units per acre, specifically requesting nineteen point seven (19.7) units per acre (or fourteen (14) units on a 0.71 acre lot), within the "HCD/SMPD" Historic Commercial District, within the South Main Preservation District. The subject property is located at 1028-1038 S. Main Street and located in Ward 2.

PRELIMINARY PLAT

8. Case No. SUB-2025-01. An application for a Preliminary Plat for fourteen (14) residential lots within the "HCD/SMPD" Historic Commercial District, within the South Main Preservation District. The property is 0.71 acres located at 1028-1038 S Main and is located in Ward 2.

PUBLIC HEARING: Conditional Use

9. Case No. CU-2025-10. (CRG Cumulus, LLC) An application for a Conditional Use Permit per §400.320(C) for the production/use/handling/storage of any hazardous substance including liquid petroleum products and electrical power generators/substations accessory to a planned industrial project within the "I-1/WHP" Light Industrial District and within the Wellhead Protection District. The subject property is approximately 440 –acres (more or less), generally located on the north and south sides of Highway 370 and between Huster Road and Harry S Truman Boulevard. The subject properties will be located in Wards 6 and 8. ***This item was tabled at the June 9, 2025 Planning and Zoning Commission meeting.***

SITE PLAN

10. Case No. SP-2025-05. (CRG Cumulus, LLC) A site plan application for the development of a planned industrial office and warehouse project (data center) generally located on the north and south sides of Highway 370 and between Huster Road and Harry S Truman Boulevard. The subject property is within the "I-1/WHP" Light Industrial District and the Wellhead Protection District, located in Wards 6 and 8.

ADMINISTRATIVE ITEMS:

11. Comprehensive Plan Update

Adjourn

The City of St. Charles offers all interested citizens the opportunity to attend public meetings. If you wish to attend this public meeting and require an accommodation due to a disability, please contact the Office of the City Clerk to coordinate an accommodation at least two (2) business days in advance of the scheduled meeting at 636-949-3282 or 636-949-3289 (TTY - for the hearing impaired). The City of St. Charles, Missouri fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. For more information or to obtain a Title VI Complaint Form, please call the City Clerk's Office at 636-949-3282 or visit City Hall located at 200 North Second Street, St. Charles, Missouri, 63301.

INCLEMENT WEATHER: In case of inclement weather, please call 636-949-3222 after 4:00 p.m. on the day of the meeting to be informed of the status of the meeting.

Posted on 07/09/2025 at 5:15 PM LB

PLANNING AND ZONING COMMISSION - MINUTES
June 9, 2025
City Hall – Council Chambers
200 N Second Street, 4th Floor
St. Charles, MO 63301

MEMBERS PRESENT:
Shawn Luesse, Chairperson
Julie Bartch, Vice-Chair
Michael Galba, City Council Liaison
Keith Liston
Tyson King
Lindsey Devereux

MEMBERS ABSENT
Adriana Perrone
Mayor Dan Borgmeyer
Missy Palitzsch, Secretary

STAFF PRESENT:
John Boyer, Assist. Director of C.D./Planning Manager
Lara Berry, Planner
Madelyn Brown, Planner
Taylor Moore, Preservation Planner

A regular meeting of the St. Charles Planning and Zoning Commission was held on **Monday, June 9, 2025**, beginning at 6:00 p.m. on the fourth floor of City Hall Chambers, 200 North Second Street, St. Charles, Missouri.

The meeting was called to order by Chairperson, Shawn Luesse, at 6:00 p.m. Vice-Chair, Julie Bartch, took roll. Those in attendance are noted above.

1. Call to order and the roll.

2. The Pledge of Allegiance.

3. Approve the minutes of the May 12, 2025 Planning and Zoning Commission meeting.

   Julie Bartch made a motion to approve the minutes. Lindsey Devereux seconded the motion. All were in favor. The minutes were approved.

PUBLIC HEARING: Conditional Use

4. Case No. CU-2025-10. (CRG Cumulus, LLC) An application for a Conditional Use Permit per §400.320(C) for the production/use/handling/storage of any hazardous substance including liquid petroleum products and electrical power generators/substations accessory to a planned industrial project within the "I-1/WHP" Light Industrial District and within the Wellhead Protection District. The subject property is approximately 440 –acres (more or less), generally located on the north and south sides of Highway 370 and between Huster Road and Harry S Truman Boulevard. The subject properties will be located in Wards 6 and 8.

   Councilmember Galba made a motion to table this application. Commissioner Devereux seconded the motion. All were in favor. Staff did not provide or present any information on this application. While this application was tabled, the advertised public hearing for the application opened with three (3) speakers from the public. Generally, the speakers had noise concerns, creating a buffer between the development and residential, the wetlands, flooding/stormwater runoff, and impacts to the Wellhead. The public hearing will remain open until the July 14, 2025 Planning & Zoning Commission meeting.

PUBLIC HEARING: Rezoning/Annexation

5. Case No. Z-2025-06. (Adam & Jennifer Solomon) An application to annex and establish the zoning for 0.5-acres (more or less) located at 5 Hardwood Dr, from St. Charles County "R1E" Single Family Residence to the City of St. Charles "R-1E" Single Family Residential District. The subject property is located on the east side of Hardwood Drive and south of Shady Lane. The subject property will be located in Ward 3 upon annexation.

   Planner Brown provided the Commission with an overview of the Annexation and Establishment of Zoning requests. The public hearing for the application opened with no speakers from the public. Vice-Chair Bartch

made a motion to close the public hearing. Commissioner Devereux seconded the motion. All were in favor and the public hearing closed. Two (2) separate motions were made: 1) Commissioner King made a motion to forward the Petition for Annexation, as submitted. Commissioner Devereux seconded the motion. The Annexation application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed) and 2) Commissioner King made a motion to forward the Establishment of Zoning application, as submitted. Vice-Chair Bartch seconded the motion. The Zoning application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed). These applications will be considered at the July 1, 2025 City Council meeting.

PUBLIC HEARING: Rezoning/Annexation

6. Case No. Z-2025-05. (Paul Mertz) An application to annex and establish the zoning for a 15,730 square feet (more or less) tract of land from St. Charles County "R1E" Single Family Residence to the City of St. Charles "R-1D" Single Family Residential District. The subject property is located adjacent to 424 and 430 Blanche Drive. The subject property will be located in Ward 4 upon annexation.

   Planner Berry provided the Commission with an overview of the Annexation and Establishment of Zoning requests. The public hearing for the application opened with no speakers from the public. Commissioner Devereux made a motion to close the public hearing. Vice-Chair Bartch seconded the motion. All were in favor and the public hearing closed. Two (2) separate motions were made: 1) Vice-Chair Bartch made a motion to forward the Petition for Annexation, as submitted. Councilmember Galba seconded the motion. The Annexation application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed) and 2) Vice-Chair Bartch made a motion to forward the Establishment of Zoning application, as submitted. Councilmember Galba seconded the motion. The Zoning application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed). These applications will be considered at the July 1, 2025 City Council meeting.

PUBLIC HEARING: Conditional Use

7. Case No. CU-2025-07. (Kyle Reuther) An application for a Conditional Use Permit per §400.220(C)(1)(a) for liquor sales associated with an indoor/outdoor recreational use (mini-golf, batting cages and arcade) within "C-2" General Business District located at 3541 Veterans Memorial Parkway. The subject property is located in Ward 6.

   Planner Berry provided the Commission with an overview of the Conditional Use Permit request. The public hearing for the application opened with no speakers from the public. Vice-Chair Bartch made a motion to close the public hearing. Commissioner Devereux seconded the motion. All were in favor and the public hearing closed. Councilmember Galba made a motion to forward the Conditional Use application, with the following conditions:

   1. **This conditional use permit for liquor sales associated with an Indoor/Outdoor Recreational Use is issued to the applicant (Kyle Reuther & Shannon Reuther) and business (Swing-A-Round Fun Town) only for the property located at 3541 Veterans Memorial Parkway and is not transferable to another location and/or tenant/business.**
   2. **Approval of this Conditional Use is not approval of a liquor license. A liquor license shall be approved by the City Council prior to any liquor sales.**
   3. **Liquor sales shall not occur independent of the primary business use and shall only be accessory to the Outdoor Recreational Use.**
   4. **Non-compliance with any building codes, property maintenance codes, fire codes, noise control codes, liquor license codes, ordinances concerning disturbances, or conditions of this approval is grounds for revocation of the conditional use approval.**
   5. **Violations of Chapter 600 dealing with Liquor/Alcoholic Beverages may be grounds for revocation of this Conditional Use.**

   Commissioner Devereux seconded the motion. The Conditional Use application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed) at their July 1, 2025 meeting.

PUBLIC HEARING: Conditional Use

8. Case No. CU-2025-11. (Jackson Cox) An application for a Conditional Use Permit per §400.250(C)(1) for a Tattooing Establishment use within the "I-2/WHP" Heavy Industrial District and within the Wellhead Protection District located at 3755 New Town Boulevard. The subject property is located in Ward 8.

   Planner Brown provided the Commission with an overview of the Conditional Use Permit request. The applicant addressed the Commission. The public hearing for the application opened with no speakers from the public. Vice-Chair Bartch made a motion to close the public hearing. Commissioner Devereux seconded the motion. All were in favor and the public hearing closed. Councilmember Galba made a motion to forward the Conditional Use application, with the following conditions:

   1. **This conditional use permit for a tattoo establishment use is issued to the applicant (Jackson Cox) and business (Rooster Ink) only for the property located at 3755 New Town Boulevard and is not transferable to another location and/or tenant/business.**
   2. **Non-compliance with any building codes, property maintenance codes, fire codes, noise control codes, ordinances concerning disturbances or conditions of this approval is grounds for revocation of the conditional use approval.**

   Commissioner Devereux seconded the motion. The Conditional Use application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed) at their July 1, 2025 meeting.

PUBLIC HEARING: Conditional Use

9. Case No. CU-2025-12. (Natacha Douglas) An application for a Conditional Use Permit from §400.330(C)(3) for outdoor music associated with a permitted restaurant/cafe use within the HCD/SMPD Historic Commercial District within the South Main Preservation District located at 524 South Main Street. The subject property is located in Ward 2.

   Preservation Planner Moore provided the Commission with an overview of the Conditional Use Permit request. The applicant addressed the Commission. The public hearing for the application opened with no speakers from the public. Vice-Chair Bartch made a motion to close the public hearing. Commissioner Devereux seconded the motion. All were in favor and the public hearing closed. Councilmember Galba made a motion to forward the Conditional Use application, with the following conditions:

   1. **This conditional use permit for Non-Amplified Live Music associated with permitted use is issued to the applicant (Natacha Douglas) only for 524 South Main Street and is not transferable to another location, owner and/or tenant/business.**
   2. **The use of non-amplified live music shall only be during business hours (10:00am to 6:00pm daily).**
   3. **Musicians shall not amplify instruments in any way. Any violation of this condition will make this Conditional Use permit null and void.**
   4. **Non-compliance with any building codes, property maintenance codes, fire codes or conditions of this approval is grounds for revocation of the conditional use approval.**

   Vice-Chair Bartch seconded the motion. The Conditional Use application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed) at their July 1, 2025 meeting.

PUBLIC HEARING: Text Amendment

10. Case No. TA-2025-05. (City of St. Charles) An application to amend Chapter 400 Zoning Code of the Code of Ordinances specifically to repeal and replace the Sign Code (Article XVI) as well as update other sections to the Zoning Ordinance concerning a new Sign Code.

    Assistant Director Boyer provided the Commission with an overview of the Text Amendment request. The public hearing for the application opened with no speakers from the public. Vice-Chair Bartch made a motion to close

the public hearing. Commissioner Devereux seconded the motion. All were in favor and the public hearing closed. Commissioner Devereux made a motion to forward the Text Amendment, as submitted. Vice-Chair Bartch seconded the motion. The Text Amendment application will be forwarded to the City Council with a favorable recommendation (6 In Favor, 0 Opposed).

Adjournment

Staff introduced Alanna Bilyeu, the Planning Division's summer intern. Alanna addressed the Commission, speaking about her background and career plans.

The next regular meeting of the Planning and Zoning Commission is scheduled for ***July 14, 2025.***

Vice-Chair Bartch made a motion to adjourn the meeting. Commissioner Devereux seconded the motion. All were in favor. The meeting adjourned at 6:56 p.m.

_____ _____

SECRETARY DATE

AGENDA ITEM #4

STAFF REPORT
CASE NO. SP-2025-06
ELEVATION MODIFICATION
3000 W. CLAY STREET

JULY 14, 2025
BY LARA BERRY

APPLICANT:	Steve Hollander S.J. Hollander Architects 519 1st Capitol Drive St. Charles, Missouri 63301
OWNER:	Sushi AI Bridgeton, Missouri 63044
ADDRESS/LOCATION:	3000 W. Clay Street Ward 9
ACREAGE:	1.53 Acres
CURRENT ZONING:	C-2 General Business District
PROPOSED USE:	Elevation Modification

SUMMARY

The applicant is requesting approval of an elevation modification at 3000 W. Clay Street, specifically for the installation of a manufactured stone accent on portions of the south (front entrance) and east (side) elevations. The proposed modifications are intended to enhance the appearance of the existing commercial structure, which has historically operated as a restaurant (previous location of Culpepper's) and is proposed to continue in that use. The property is zoned C-2 General Business District.

ANALYSIS

The existing building is clad entirely in wood siding and does not comply with the masonry material standards currently required under the Zoning Code. While nonconforming materials may remain in place, any new exterior modifications must either comply with the current standards or be reviewed by the Planning & Zoning Commission when the proposed materials do not meet those standards.

In this case, the applicant is proposing the use of a manufactured thin stone veneer product that does not strictly meet the Zoning Code's definition of masonry, which requires natural building stone (e.g., granite, limestone, sandstone) with a minimum thickness of one inch and appropriate finishing. However, the proposed material meets the "spirit and intent" of the standard by providing a durable and visually compatible finish similar in character to natural stone. The

installation will span from grade to parapet on key portions of the front and side elevations, enhancing the building's overall appearance and improving street presence along the I-70 frontage, a highly visible corridor.

The applicant has also identified EIFS (Exterior Insulation Finish System) as an additional accent material. EIFS is not permitted as a primary wall finish and may only be used as an accent with Planning & Zoning Commission approval. The proposed location for EIFS is limited to the area above the front entry doors and as backing for the building signage.



Figure 1: Proposed Elevations.



Figure 2: Versetta Stone – Ledgestone Style Stone Siding (Northern Ash)

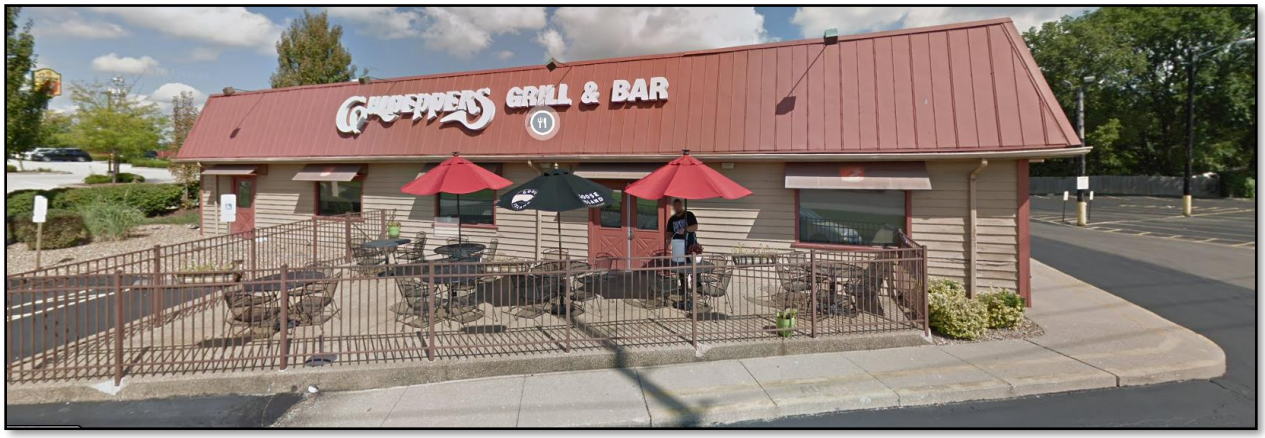


Figure 3: Existing Elevation (South)



Figure 4: Existing Elevation (East)

STAFF RECOMMENDATION

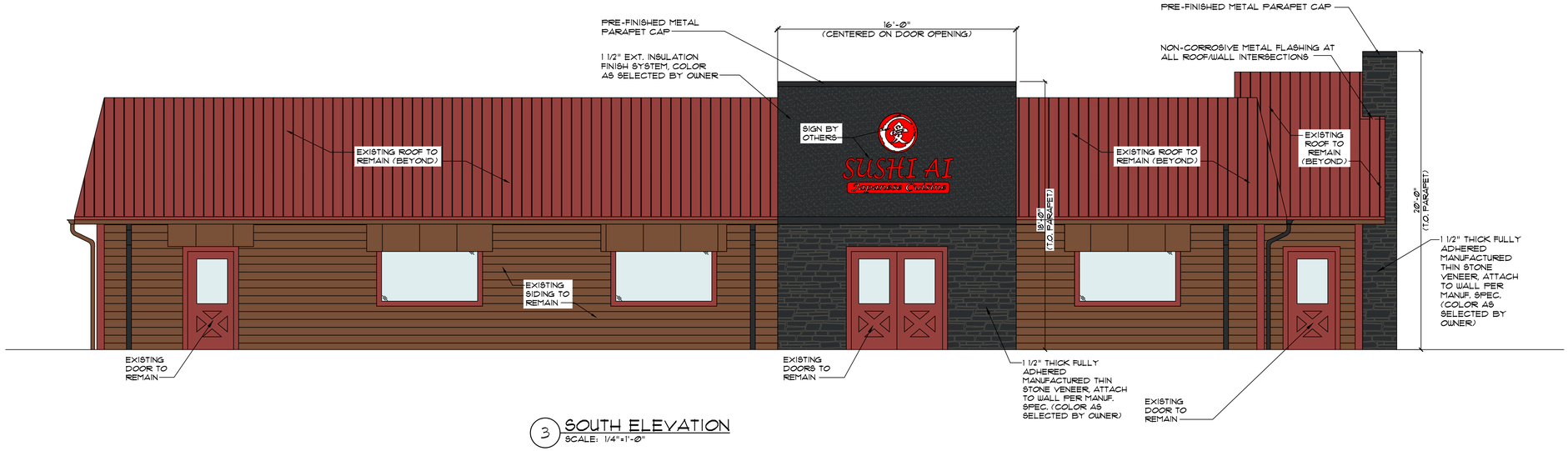
Due to the limited scope of the proposed modifications, staff is supportive of the request. The modifications are consistent with the design objectives of the Code, even if not fully compliant from a materials standpoint. Additionally, because of the modest nature of the changes and their potential to enhance visual quality along a prominent corridor, staff recommends **approval** of this elevation modification, as submitted.

Recommended Motion:

Motion to approve application SP-2025-06 for an elevation modification, as submitted.



2 EAST ELEVATION
SCALE: 1/4"=1'-0"



3 SOUTH ELEVATION
SCALE: 1/4"=1'-0"

STATE OF MISSOURI
STEPHEN J HOLLANDER
NUMBER A-6126
REGISTERED ARCHITECT
5-22-2025

STEPHEN J. HOLLANDER
MO Architect No. A-6126

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Exterior Elevation Renovation for:
Sushi AI
3000 W. Clay St.
St. Charles, MO 63301

PROJECT NO.
224086

REVISIONS

NO.	DATE	ITEM

S.J. Hollander Architect
Stephen J. Hollander, AIA
519 First Capitol Drive
St. Charles, Missouri 63301
Phone (636) 947-4140
Missouri Architectural Corporation #000801

DATE
May 22, 2025

SHEET TITLE
Elevations and Roof Plan

SHEET NO.
A4


GULDEPPERS GRILL & BAR




GULDEPPERS GRILL & BAR












CULPEPPERS


CULPEPPERS




CULPEPPERS

AGENDA ITEM #5

STAFF REPORT
CONDITIONAL USE NO. CU-2025-14
LIQUOR SALES
519 S. 5TH STREET

JULY 14, 2025
BY LARA BERRY

APPLICANT:	Jason Taylor Grounded and Free 519 S. 5th Street St. Charles, MO 63301
OWNER:	TGL Properties LLC c/o Corporate Group Property Management 2500 S. Old Highway 94, Ste. 200 St. Charles, MO 63303
ADDRESS/LOCATION:	519 S. 5th Street Ward 2
LOT SIZE:	6,532 square feet
CURRENT ZONING:	C-2/FSC-HD/T4-NMX General Commercial District, within the Fifth Street Corridor – Hospital District, and within the T4 – Neighborhood Mixed Use District
PROPOSED USE:	Liquor Sales associated with a permitted Retail & Coffee Shop use

SUMMARY/ANALYSIS

This request is for a Conditional Use Permit to allow liquor sales accessory to a permitted retail, coffee shop, and personal services (massage) use at the existing business, Grounded and Free, located at 519 S. 5th Street. The applicant is seeking a liquor license primarily to support the operation of a coffee trailer at special events under a City-issued catering license. City regulations require that a catering liquor license be tied to a permanent business location with an active liquor license. In-shop liquor sales would be limited and supplemental to the main business operations. City Ordinance requires approval of a Conditional Use Permit for establishments that apply for a Liquor License. This request is specific to liquor sales only and is not applicable to the other uses permitted by right at this location.

Liquor service onsite is proposed in two formats:

- Complimentary wine or champagne provided to customers after massage services as a relaxation amenity. This is proposed to be non-sale, staff-served, and limited to one glass.
- Limited alcohol offerings, such as champagne mimosas, wine, and bottled beer, served during private gatherings in a reserved second-floor lounge area. These gatherings may include events such as baby showers, book clubs, or bridal groups. The second-floor lounge has a maximum capacity of 12 people and currently hosts no more than one private event per month.

During private events, the main floor (retail and coffee shop) would remain open to the public, while the private lounge space upstairs would be closed off. Although a traditional full bar is **not** proposed for the building; the applicant has applied for a full by-the-drink and Sunday liquor license, which allows for a broad range of beverage service during both on-site and off-site events.

The applicant also operates a mobile coffee trailer, which has been used at farmers markets, community festivals, and other special events. Photos of the trailer have been provided for illustrative purposes (see Figures 1 & 2 below). With the required Catering License, the trailer may also be used to serve alcoholic beverages—including wine, beer, and cocktails—at private events, both at the business location and off-site. This flexibility allows the applicant to offer mobile bar service tailored to a variety of event types.





Figures 1& 2: Pictures of the coffee trailer.

Consistency with Comprehensive Plan

The St. Charles Comprehensive Plan adopted in 2002, and updated in 2012, recommends that land use decisions be based on a project's location and compatibility with surrounding development. The Comprehensive Plan identifies 15 activity centers in the city, locations characterized by elevated levels of development, density and activity. The activity centers are the most prominent, visible and intensely developed locations in the city. The plan recommends that development should gradually decrease in density as distance from an activity center increases. The activity centers should be surrounded by land uses that gradually decrease in levels of activity, traffic and density. Proposed new uses should be judged based upon its distance from the nearest activity center, its compatibility with what surrounds it, and whether the level of development it will generate contributes to a gradual decline in density or acts counter to that goal. This property is located Activity Center #6 (Historic Downtown). The subject site is located along a commercial corridor within a transitional zoning area between residential neighborhoods and larger medical and civic uses. The proposed accessory liquor use, associated with a boutique-style coffee and retail business, is consistent with the surrounding land use pattern and reflects an appropriately scaled commercial activity for this district.

Consistency with the Fifth Street Corridor – Hospital District Smart Code

The purpose of the "FSC-HD" Fifth Street Corridor/Hospital District is to promote and facilitate redevelopment, reinvestment and rejuvenation in the Fifth Street Corridor and in the neighborhood surrounding the SSM St. Joseph Medical Center and to achieve the goals and objectives of the master plan for these areas, Sustainable Gateways to the Heart of St. Charles. The regulations governing development and land use within the FSC-HD is the St. Charles Gateways SmartCode, which is intended to support implementation of several key policies such as promoting mixed-use development along street frontages at a pedestrian-friendly scale that allows residents to meet a variety of daily needs within walking distance (Section 1.2.2)..

The subject site is also located within the T4 – Neighborhood Mixed Use transect, which envisions a mix of building types in an urban neighborhood setting, with both residential and commercial uses. While Table 3.1 (Permitted Uses) of the SmartCode does not specifically list "Liquor Sales" as a use permitted by right, it does include similar land uses such as "Alcoholic Beverage Sales Stores." The proposed accessory liquor use, as part of an established retail, coffee shop, and personal service business, is consistent with the intent of the transect and supports a walkable, mixed-use development pattern envisioned for this district.

Consistency with Conditional Use standards

Section 400.980 of the City Code outlines standards of review for the conditional use application. The standards are as follows:

a) How the proposed conditional use (the use in general) is in harmony with the purposes, goals, objectives, policies and standards of the Comprehensive Plan, and any other plan, program, or ordinance adopted, or under consideration pursuant to official notice by the city.

b) Whether the proposed conditional use (in its proposed location) is in harmony with the purposes, goals, objectives, policies and standards of the Comprehensive Plan, and any other plan, program, or ordinance adopted, or under consideration pursuant to official

notice by the city.

Regarding a) and b), Conditional Uses are not allowed by-right as they can be problematic if not located and/or conditioned properly. In this case, the proposed accessory liquor use aligns with the goals and policies of the Comprehensive Plan by promoting neighborhood-scale commercial activity, diversifying business offerings, and enhancing the customer experience. It is complementary to the current retail and service uses onsite and within this corridor.

c) Whether the proposed conditional use, in its proposed location and as depicted on the required site plan, results in a substantial or undue adverse impact on the adjacent property, the character of the neighborhood, environmental factors, traffic factors, parking, public improvements, public property or rights-of-way, or other matters affecting the public health, safety, or general welfare, either as they now exist or as they may in the future be developed as a result of the implementation of the provisions and policies of the Zoning Ordinance, Comprehensive Plan, or any other plan, program, or ordinance adopted or under consideration pursuant to official notice by the city.

Based upon a review of the proposed land uses, if conditioned properly and operated in compliance with the Zoning Ordinance, the limited scale and nature of the proposed liquor use (non-bar, customer amenity-focused) is not anticipated to create any adverse impacts on adjacent properties or public welfare. With conditions, the proposal can operate in harmony with the surrounding neighborhood. Any expansion of the business plan beyond the current proposed scope would require additional review by the City.

d) Whether the proposed conditional use maintains the desired consistency of land uses, land use intensities, and land use impacts as related to the environs of the subject property as directed by the Comprehensive Plan.

Staff believes the accessory liquor sales use, as proposed, is consistent with the land use character of the area, offering a modest intensification that remains within the expected commercial use range and should not produce negative effects to neighboring properties or the neighborhood, if conditioned appropriately.

e) Whether the proposed conditional use is located in an area that will be adequately served by, and will not impose an undue burden on, any of the improvements, facilities, utilities or services provided by public agencies serving the subject property.

Staff believes the proposed conditional use in this location will not have an undue burden on public services as this proposal has been reviewed by Community Development, Finance, and Fire Departments with no outstanding comments.

f) Whether the public benefits of the proposed conditional use outweigh the potential adverse impacts of the proposed conditional use as identified above, after taking into consideration any proposal by the petitioner and any requirements recommended by the petitioner and/or City Staff to ameliorate such impacts.

After review of the proposal, and the above standards for evaluating Conditional Uses, staff believes the proposed use, if conditioned properly, would prevent any potential adverse impacts and the public benefits would outweigh any potential adverse impacts.

Furthermore, the City Code allows the Planning and Zoning Commission to recommend conditions of approval to protect surrounding properties, as well as to give consideration with respect to location in the recommendations. The proposed use complies with the above standards.

STAFF RECOMMENDATION

This conditional use can operate in conformance with City requirements, is compatible with surrounding land uses and complies with the Comprehensive Plan of the City of St. Charles. Staff recommends **approval** of the proposed conditional use for a liquor sales accessory to the permitted Outdoor Recreational use, subject to the following conditions:

1. This conditional use permit for liquor sales associated with retail, coffee shop, and personal service business uses is issued to the applicant (Jason Taylor) and business (Grounded and Free) only for the property located at 519 S. 5th Street and is not transferable to another location and/or tenant/business.

2. Approval of this Conditional Use is not approval of a liquor license. A liquor license shall be approved by the City Council prior to any liquor sales.

3. Liquor sales shall be accessory to the primary business operations and may include: (a) on-site service as part of a customer amenity (e.g., after massage services or during private events in designated areas), and (b) off-site sales conducted under a City-issued catering license in compliance with applicable liquor licensing regulations. Liquor sales shall not occur as a standalone bar or independent primary use at the subject property.

4. Private events involving alcohol service shall occur only in the designated second-floor lounge, which shall remain separate from publicly accessible spaces during such events.

5. Non-compliance with any building codes, property maintenance codes, fire codes, noise control codes, liquor license codes, ordinances concerning disturbances, or conditions of this approval is grounds for revocation of the conditional use approval.

6. Violations of Chapter 600 dealing with Liquor/Alcoholic Beverages may be grounds for revocation of this Conditional Use.

Recommended Motion:

Motion to forward the Conditional Use Permit application CU-2025-14 to City Council with a favorable recommendation, subject to the conditions recommended by staff.

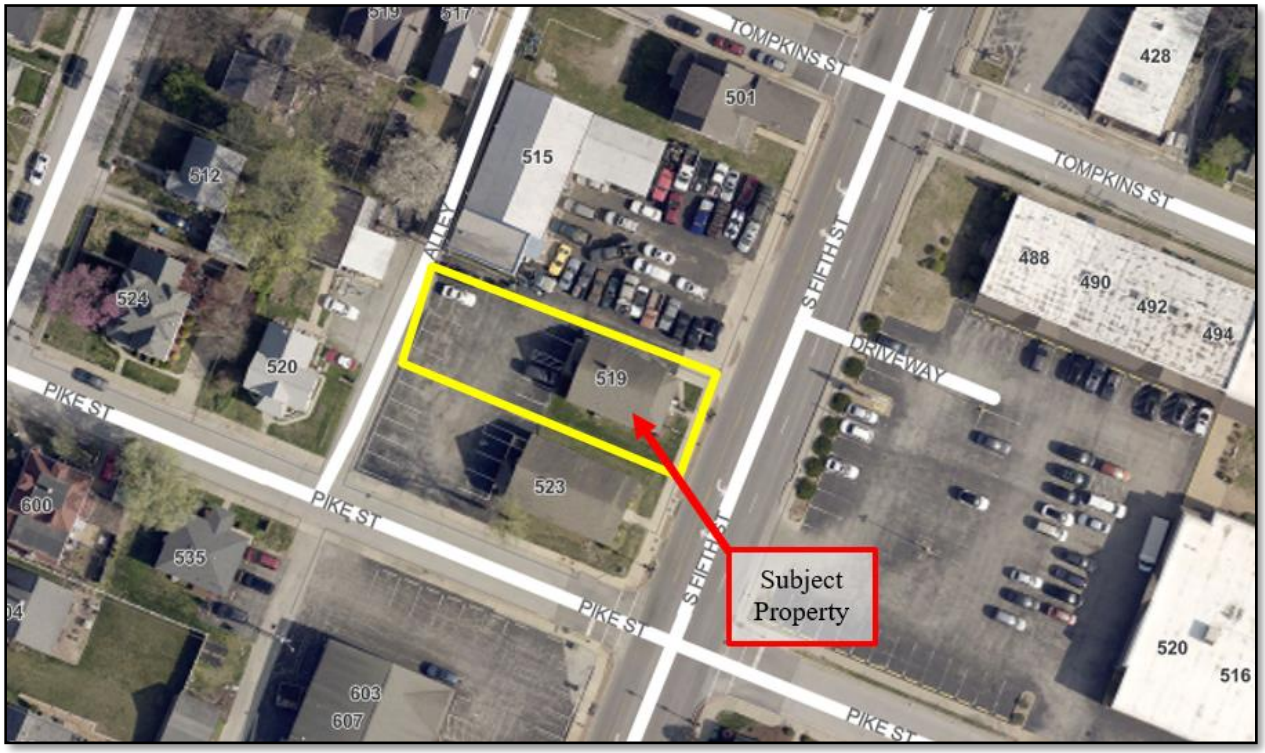


Figure 3: Aerial View of the Subject Site.



Figure 4: Street View of the Subject Site.

The intended use is solely for the coffee trailer. We do not plan to sell products at our shop, but we would like to be able to offer complimentary glasses of champagne and wine for private gatherings at our facility and after massage services.

We currently attend events such as the farmers markets, taco fest, Riverfest and Oktoberfest. We are trying to make our trailer more for privately hired events such as weddings, etc. This license will help us with that. We plan to attend over 20 events for the course of the year between private and public events.

Currently our proposed menu would look more like champagne mimosas, bloody mary's, wine, wine slushies, canned/bottled beer, and mixed cocktails (these will be minimal and change per event)

1. It was stated that you "would like to be able to offer complimentary glasses of champagne and wine for private gatherings at our facility and after massage services." Please provide further information on this.
    - A complimentary glass of champagne or wine is similar to what some salons do. Staff is likely to support this request. A complimentary glass of wine or champagne would be offered after any massage service for the customers to relax. This would not be a sellable option. This would be provided by our staff.

2. Please expand on what you mean by "private gatherings at our facility". Is there space within the building that can be rented for party-type events (like bridal showers, business events, etc.)? Would it be, for instance, the entire building or just the 2nd floor? How often do these events occur?
    - We have a second floor lounge that can be rented for private party groups such as baby showers, book clubs, etc. The lounge holds a max of 12 people. We currently have a private event once a month at the most.

3. During the "private gatherings at the facility", would this be a full bar as indicated with champagne mimosas, bloody mary's, wine, wine slushies, canned/bottled beer, and mixed cocktails?
    - We would only offer champagne mimosas or wine with the possibility of bottled beer. No hard alcohol.

4. During the private events mentioned above, would the business still be open to the public?
    - Only the downstairs area which holds the coffee shop and boutique would be open for the public. The private event would be secluded.

5. Can you please provide a picture of the coffee trailer? Or any pictures of the trailer at events/festivals you have been to? (This will be used just for a visual representation within the report.)
    - I have attached a couple of pictures from the St. Charles Farmers Market this year.

AGENDA ITEM #6

STAFF REPORT
CASE NO. CU-2025-15
LIQUOR SALES
824 N 2ND STREET

BY ALANNA BILYEU

APPLICANT:	Darla Crask Ices Plain & Fancy 4945 Miami St St. Louis, MO 63139
PROPERTY OWNER:	Deloris Barton The Barton Family Trust 826A N 2nd Street St. Charles, Missouri 63301
ADDRESS/LOCATION:	824 N 2nd Street Ward 1
ACREAGE:	0.27 Acres (overall)
EXISTING ZONING:	**"**FD/FPD" Frenchtown District within the Frenchtown Preservation District
PROPOSED USE:	Accessory Liquor Sales Associated with a Permitted Ice Cream Shop Use

SUMMARY/ANALYSIS

This Conditional Use request is for liquor sales use for a new business, Ices Plain & Fancy, located at 824 N 2nd Street. The property is zoned "FD/FPD" Frenchtown District within the Frenchtown Preservation District, which requires a conditional use approval for any liquor sales. The applicant has provided a business plan which details the operations of the proposed business. Per the business plan, Ices Plain & Fancy will craft ice cream on site, including three (3) distinct menus:

1. Classic Nitro Ice Creams
2. Boozy Nitro Ice Creams, and
3. Fancy, Non-Dairy, and Seasonal.

The business proposes to use liquid nitrogen to freeze alcohol for the infused Boozy Nitro Ice Creams; thus the requirement for a CUP for liquor sales. This proposal does not include standalone liquor sales (by the drink); only the liquor used in the ice cream inclusions. A condition has been added to this approval stating the exclusion of standalone liquor sales. In addition to ice cream, Ices Plain & Fancy will sell non-alcoholic beverages (bottled soda, etc.),

and other merchandise such as branded t-shirts or hats. The proposed hours of operations are 11:00 a.m. to 10:00 p.m. daily during peak season, which the applicant defines as May through August.

The site will also include a renovation of the existing first floor of the building to include the dining room, service area, and office/storage. The dining room and restroom are to be located in the southern half of the building, while the service area and office/storage are to be located in the northern half of the building (previously 826 N 2nd St). The patio to the south of the building is not included in the business space.

Consistency with Comprehensive Plan

The St. Charles Comprehensive Plan adopted in 2002, and updated in 2012, recommends that land use decisions be based on a project's location and compatibility with surrounding development. The Comprehensive Plan identifies 15 activity centers in the city, locations characterized by elevated levels of development, density and activity. The activity centers are the most prominent, visible and intensely developed locations in the city. The plan recommends that development should gradually decrease in density as distance from an activity center increases. The activity centers should be surrounded by land uses that gradually decrease in levels of activity, traffic and density. Proposed new uses should be judged based upon its distance from the nearest activity center, its compatibility with what surrounds it, and whether the level of development it will generate contributes to a gradual decline in density or acts counter to that goal. This property is located adjacent to Activity Center #6 (Historic Downtown). The proposed uses at this location can be compatible with its broader surroundings and neighboring uses along the corridor and overall is consistent with the City's Comprehensive Plan.

Consistency with the Frenchtown Great Streets Plan

On July 21, 2020, the City Council formally accepted and approved the findings and the plan for the Frenchtown Great Streets Plan. This plan was a local effort with support from area residents, the City, St. Charles County and East-West Gateway Council of Governments to provide a framework for the revitalization effort of Frenchtown. The approved Great Street Plan outlines its own set of goals, including four (4) sub-districts, aimed at fulfilling the mission of the plan. After review, the proposed land use is consistent with the goals and objectives of the Frenchtown Great Streets Plan, as outlined below.

Development Assets

- **Goal 2: Determine Potential Development Products**
  Four (4) types of development are defined under Goal 2 of Development Assets. Real estate strategies and market analysis are used to support a projected development program of diverse uses.
    DA 02.02 Introduce New Retail Development – This goal incentives establishing new retail/businesses within existing first floor retail spaces. The first floor of the subject property will be open to the public, with one space for service and another space for seating. The plan also calls for more "destination" type uses such as restaurants and local shops to help attract tourists as well as local residents to the corridor.
- **Goal 3: Establish sub-districts within Frenchtown**
  Six (6) districts are defined under Goal 3 of Development Assets. These districts identify

and group unique characteristics within Frenchtown to better guide development. The subject property is located in the area identified as the "Old Frenchtown."

DA 03.02 Establish the Old Frenchtown District – The plan identifies a strategic vision for the Old Frenchtown District that focuses on the small-scale redevelopment of existing historic spaces to attract local businesses and entrepreneurs with craft/boutique companies. A mix of adaptive reuse and progressive infill will create an eclectic and hip energy to transition the Sawtooth District and New Frenchtown Districts.

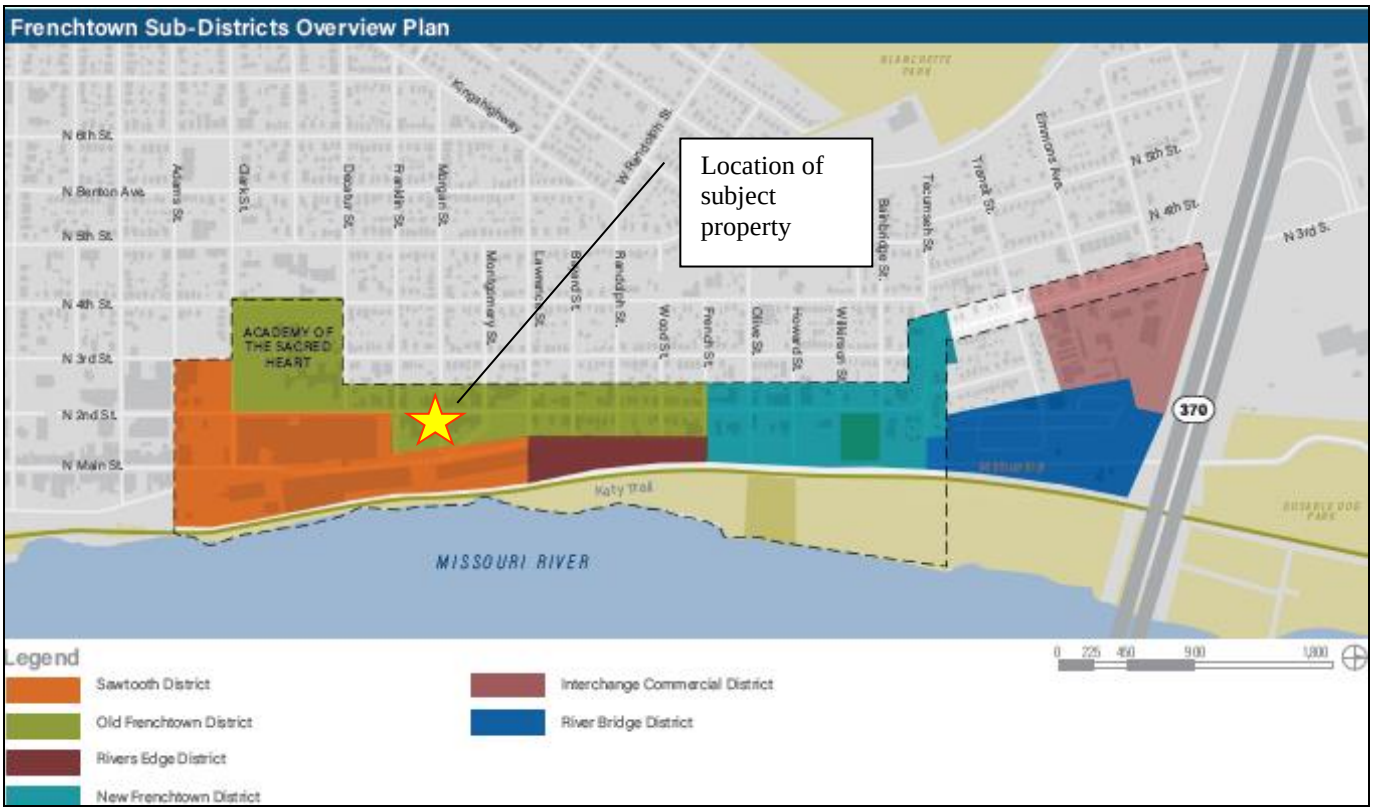


Figure 1: Frenchtown Sub-districts map.

- **Goal 4: Encourage New Development**
  Encouraging New Development in Frenchtown is aided by concurrent efforts such as flood protection and a more walkable streetscape. Further guidance provides insight to bringing in establishments for new infill and adaptive reuse developments.

  DA 04.07 Encourage a Diverse Tenant Mix – A broad mix of ground floor and destination uses are encouraged within the district to also help differentiate the corridor from Main Street. Destination types uses are identified as attracting visitors and encouraging additional spending while in the district. There are currently no other establishments similar to the proposed business in the district, which will help to diversify the mix of tenants along the corridor.

Consistency with Conditional Use standards

Section 400.980 of the City Code outlines standards of review for the conditional use application. The standards are as follows:

a) How the proposed conditional use (the use in general) is in harmony with the purposes, goals, objectives, policies and standards of the Comprehensive Plan, and any other plan, program, or ordinance adopted, or under consideration pursuant to official notice by the city.

b) Whether the proposed conditional use (in its proposed location) is in harmony with the purposes, goals, objectives, policies and standards of the Comprehensive Plan, and any other plan, program, or ordinance adopted, or under consideration pursuant to official notice by the city.

Regarding a) and b), Conditional Uses are not allowed by-right as they can be problematic if not located and/or conditioned properly. In this case, the proposal is located on N 2nd Street nearest to Activity Center #6. This intensity pattern is consistent with the goals of the Comprehensive Plan, and the proposed use at this location could operate in conformance with the density, intensity, and activity guidelines provided above.

c) Whether the proposed conditional use, in its proposed location and as depicted on the required site plan, results in a substantial or undue adverse impact on the adjacent property, the character of the neighborhood, environmental factors, traffic factors, parking, public improvements, public property or rights-of-way, or other matters affecting the public health, safety, or general welfare, either as they now exist or as they may in the future be developed as a result of the implementation of the provisions and policies of the Zoning Ordinance, Comprehensive Plan, or any other plan, program, or ordinance adopted or under consideration pursuant to official notice by the city.

Based upon a review of the proposed liquor sales use, if conditioned properly and operated in compliance with the Zoning Ordinance, the proposal should not have an adverse impact on the character of the neighborhood, public safety and general welfare of the city.

d) Whether the proposed conditional use maintains the desired consistency of land uses, land use intensities, and land use impacts as related to the environs of the subject property as directed by the Comprehensive Plan.

Staff believes the proposed liquor sales use can be compatible within its commercial/residential surroundings. Staff believes this use, if conditioned properly, can operate in a manner that is consistent with the area and as directed by the Comprehensive Plan

e) Whether the proposed conditional use is located in an area that will be adequately served by, and will not impose an undue burden on, any of the improvements, facilities, utilities or services provided by public agencies serving the subject property.

Staff believes the proposed liquor sales use in this location will not have an undue burden on public services as this proposal has been reviewed by Community Development, Finance, Engineering and Fire Departments with no outstanding comments.

f) Whether the public benefits of the proposed conditional use outweigh the potential adverse impacts of the proposed conditional use as identified above, after taking into consideration any proposal by the petitioner and any requirements recommended by the petitioner and/or City Staff to ameliorate such impacts.

After review of the proposal, and the above standards for evaluating Conditional Uses, staff believes the proposed liquor sale use if conditioned properly would prevent any potential adverse impacts and the public benefits would outweigh any potential adverse impacts.

Furthermore, the City Code allows the Planning and Zoning Commission to recommend conditions of approval to protect surrounding properties, as well as to give consideration with respect to location in the recommendations. The proposed use complies with the above standards.

STAFF RECOMMENDATION

After review of this application against the City's Zoning Code, the Department of Community Development recommends approval of the conditional use permit for accessory liquor sales associated with a permitted ice cream shop use, subject to the following conditions:

1. This conditional use permit for a liquor sales associated with a permitted ice cream shop use is issued to the applicant (Darla Crask) and business (Ices Plain & Fancy) only for the property located at 824 N 2nd Street and is not transferable to another location and/or tenant/business.

2. The liquor sales shall be limited to inclusion within the crafted ice cream only and shall not be sold independently.

3. Approval of this Conditional Use Permit is not approval of a liquor license. A liquor license shall be approved by the City Council prior to any liquor sales.

4. This establishment shall maintain the occupancy limitation as established by the Fire Marshal.

5. Any change to the submitted proposal, including but not limited to hours of operation, expansion of use, etc. may require additional City approval.

6. Non-compliance with any of the building codes, property maintenance codes, fire codes, noise control regulations or conditions of this approval is grounds for revocation of the conditional use approval.

7. Violations of Chapter 600 dealing with Liquor/Alcoholic Beverages may be grounds for revocation of this Conditional Use.

Recommended Motion:

Motion to forward the Conditional Use Permit application for a Liquor Sales use at 824 N 2nd Street to the City Council with a favorable recommendation, subject to the conditions recommended by staff.



Figure 2: Aerial View of Subject Property.



Figure 3: Street View of Subject Property.

2256 South 39th Street, St. Louis MO 63110
www.icesplainandfancy.com

Contact: Darla Crask
314.496.6068
darla@icesstl.com

Proposed 2nd location:
824-826 North 2nd Street
St. Charles MO 63301

Our Inspiration

Agnes B. Marshall was a 19th century chef and entrepreneur who was famous for her ices, creams, and sorbets. In 1885 she published our namesake cookbook, Ices Plain & Fancy. She lectured and taught with a staunch emphasis on using quality ingredients in the most informed, modern, and scientific manner. Mrs. Marshall also first suggested the use of "Liquid Air" to make ice cream, and with her as our inspiration, we make ice creams to order in full view of the customer using Liquid Nitrogen. It's dessert with a show, and sometimes even a science lesson!



Yours sincerely
Agnes B Marshall

We offer an experience unlike any other frozen dessert parlor in the region, creating countless memories for families & friends to enjoy...along with some really great ice creams!

Offerings



Ices Plain & Fancy offers a large variety of ice creams, sorbets and non-dairy options. We use the finest ingredients, sourcing locally where possible. At Ices, each flavor is chef-designed and many come with a fun surprise garnish; for example our Butter Pecan comes topped with house-made pralines and our Butterscotch with bits of honeycomb candy. We have a Classic menu that is available year-round, and a rotating Seasonal menu which includes Fancy ice creams. Our most popular Fancy winter item is the Campfire S'mores, a toasted marshmallow ice cream topped with hot fudge, graham and Hershey Squares - then smoked under a dome lid, so that it tastes like it was made over a campfire.





Additionally, we have a Boozy Ice Cream Menu. Using liquid nitrogen allows us to freeze alcohol, creating creamy cocktail ice creams such as Mrs. Marshall's Old Fashioned or our version of the Sazerac. We would be applying for a liquor license in order to run this menu. All Boozy menu items are presented in a dessert form; we don't sell single beers, shots, or normal drinks. This menu currently makes up an average of 13% of our sales.

Sample Menu

Classic Nitro Ice Creams
Regular $8 Large $12

Vanilla
Chocolate
Mint Chip
Rocky Road
Butter Pecan
Butterscotch
Cherry Cordial
Sump Coffee
Salted Dulce de Leche

Boozy Nitro Ice Creams
$13, ages 21+

Mrs. Marshall's Old Fashioned
Johnny Jump Up
Sazerac
Frozen Dude
Dark & Fancy
Cherry NotSo Cordial
Ancho & Lefty

Fancy, Non-Dairy and Seasonal
Pricing Varies $8 - $13

German Chocolate
OJ Sorbet
Pineapple Sorbet
Strawberry Celebration
Campfire S'Mores
Key Lime Cheesecake
Lemon Meringue
Cinnamon Blueberry Crumble









Company History

Ices Plain & Fancy was established in 2014 in St. Louis MO. Immediately becoming a beloved part of the Shaw neighborhood, it anchored the corner of 39th and Shenandoah and maintains successful operations today.

We employ two full-time managers year-round, as well as up to 12 part-time employees. These are mostly mix of area college-age and high school students. We are a first job for many neighborhood teens, and take pride in training them to be successful in their future endeavors.



Proposed 2nd Location:
824-826 North 2nd Street
Frenchtown, St. Charles

At our current location in south St. Louis, we are asked several times a week if we have plans to expand - particularly to St. Charles. Ten years ago, customers from St. Charles would visit us in conjunction with trips to nearby attractions such as the Zoo or the Missouri Botanical Garden. These days, we have a large group of St. Charles regulars who make the drive just for our ice cream! So when scouting for a second location, St. Charles is the first place we looked. We fell in love with Frenchtown and would love to be a part of the growth that is planned for that area.

The first floor unit at 824-826 North Second Street would be a perfect fit. We would need to build our ice cream line, which would involve adding plumbing and moving electric to accommodate the necessary refrigeration on the back half of the 826 side. The 824 side would be something we've always dreamed of - a larger dining room, for those inclement weather days! We would also like to add sidewalk cafe tables under the front balcony of the building.

Operating Hours

We are open year-round, but due to the nature of the ice cream business, we change our operating hours seasonally. At the height of the season proposed hours would be 11am-10pm daily.

Parking

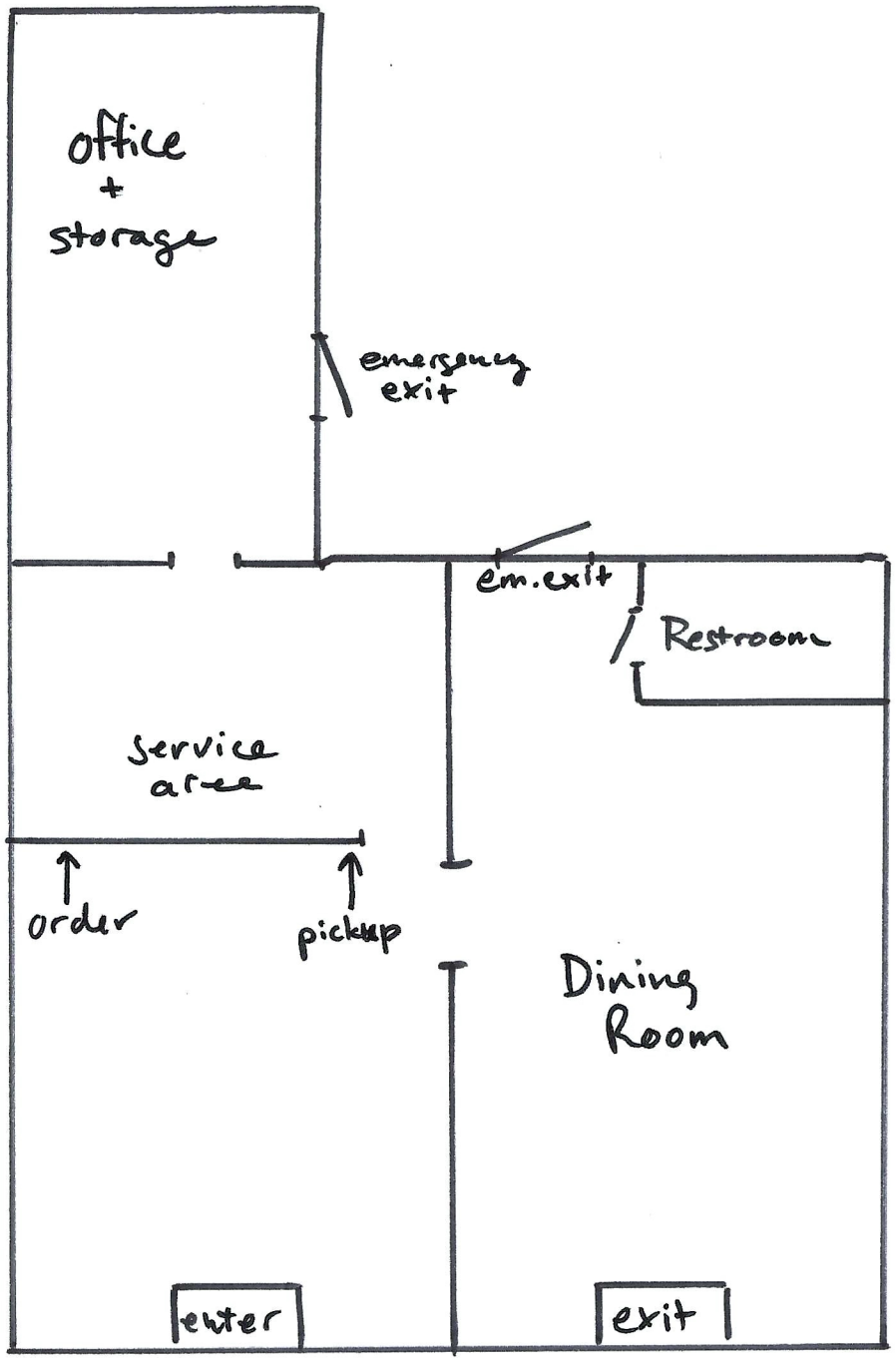
We love to be in a walkable neighborhood, as people enjoy grabbing an ice cream on their walks around town. But we are also a destination location, so do have many people drive to us. We currently only have on-street parking, but it has never been an issue. Most of our customers spend 20 mins or less on site, so spots rotate frequently.










office
+
storage
emergency
exit
em. exit
Restroom
service
area
order
pickup
Dining
Room
enter
exit

824 N 2nd St

AGENDA ITEM #7 & 8

STAFF REPORT
CASE NO. CU-2025-16 &
SUB-2025-01

JULY 14, 2025
BY MADELYN P. BROWN

APPLICANT:	Christopher Pike Thomas Alan Group Architects 23 North Gore Avenue, Suite 302 Webster Groves, MO 63119
OWNER:	Katy Trail Development, LLC 556 Leffingwell Avenue Kirkwood, MO 63122
ADDRESS/LOCATION:	1028-1038 S Main Street Ward 2
ACREAGE:	Approximately 0.71 Acres
ZONING:	HCD/SMPD Historic Commercial District within the South Main Preservation District
PROPOSAL:	Development of a Fourteen (14) Unit Attached Townhomes Development

REQUEST

The applicant has submitted two (2) applications for conditional use and preliminary plat review, specifically for fourteen (14) unit attached townhomes within the City of St. Charles:

1. A conditional use permit for a multifamily dwelling with more than eighteen (18) units per acre, specifically requesting nineteen point seven (19.7) units per acre (or fourteen (14) units on a 0.71 acre lot), within the "HCD/SMPD" Historic Commercial District, within the South Main Preservation District.
2. A preliminary plat application for Katy Trail Place, to include fourteen (14) residential lots and common ground on a 0.71 acre property.

This report will address/analyze both applications. The property is located at 1028-1038 S Main Street within Ward 2 and represents the last undeveloped property within the SMPD District of S Main Street. An associated site plan is slated for review/approval at the July 21, 2025 Landmarks meeting, as the Landmarks Board has specific purview due to the location within a historic district.

CONDITIONAL USE ANALYSIS

This conditional use request is specifically to increase the density from eighteen (18) units per acre to nineteen point seven (19.7) units per acre, or fourteen (14) units over the permitted by-right unit

of 12 on a 0.71 acre lot. The requested increase in dwelling units per acre requires the approval of a Conditional Use Permit as outlined within the Zoning Ordinance.

As outlined above, the proposed development includes fourteen (14) new attached townhomes. With 14 units on a 0.71 acre lot, the resulting density is approximately 19.7 units per acre. Per the applicant, the proposed development was designed to "allow for a more efficient use of land, promote walkability, and provide a wider range of housing options in a desirable and growing area". Therefore, an increase in density is needed to meet these development goals.

Additionally, this proposal is only an approximately 9% increase compared to the permitted density, which would be considered by staff a "non-substantial" increase because it is less than 25%. This 25% metric is based upon the criteria utilized for analyzing and granting variances during Board of Adjustment review. Anything is excess of 25% in considered substantial and conversely anything under 25% is considered minor. The reason this 25% metric is also provided, is this request is similar in effect to variance requests reviewed by the Board of Adjustment (increases over identified zoning standards). In addition to being a non-substantial increase in denstiy, the proposal displays good design that fits into the fabric of the surrounding area and is fully compliant with the City's Design Guidelines for the SMPD historic district. Traditional multi-family zoning allows a maximum of eighteen (18) units per acre. However, the project is located within the downtown of the City, the most centralized area of the city, where higher density should and can be appropriate.

After review by staff, there are other multi-family developments within the general vicinity which have a density that exceeds 18 units per acre. This includes existing developments and recently approved developments, which have yet to be constructed (see Table 1 below, Figure 1 and Figure 2 on page 2).

Development	**Units**	**Size (acres)**	**Density**	**Zoning**
Streets of St. Charles	579 approved (309 built)	26	22.27 units/acre	PD-MU
Metro on 5th Street	572 built	28.93	19.77 units/acre	PD-C
Crestview Apartments	256 built	9.63	26.58 units/acre	PD-RF
Heart of St. Charles	120 proposed	5.01	23.95 units/acre	PD-MU
5th Street & 1st Capitol	130 proposed	1.38	94.20 units/acre	CBD/EHP-FSC/HD
1119-1127 S Main	34 proposed	0.77	44.16	PD-RF

Table 1: Table of nearby developments with densities exceeding 18.0 units per acre.

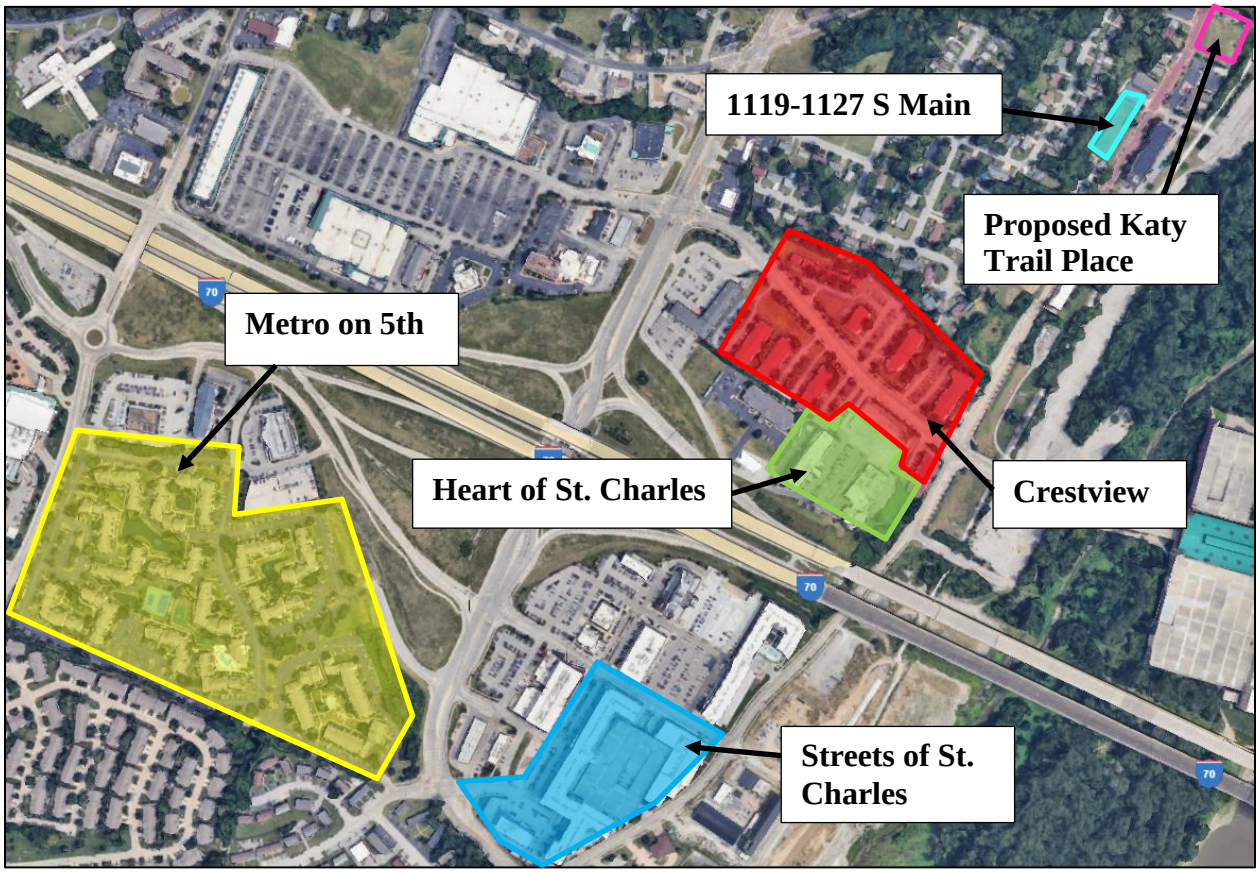


Figure 1: Aerial of nearby developments with densities exceeding 18.0 units per acre, also including subject property.

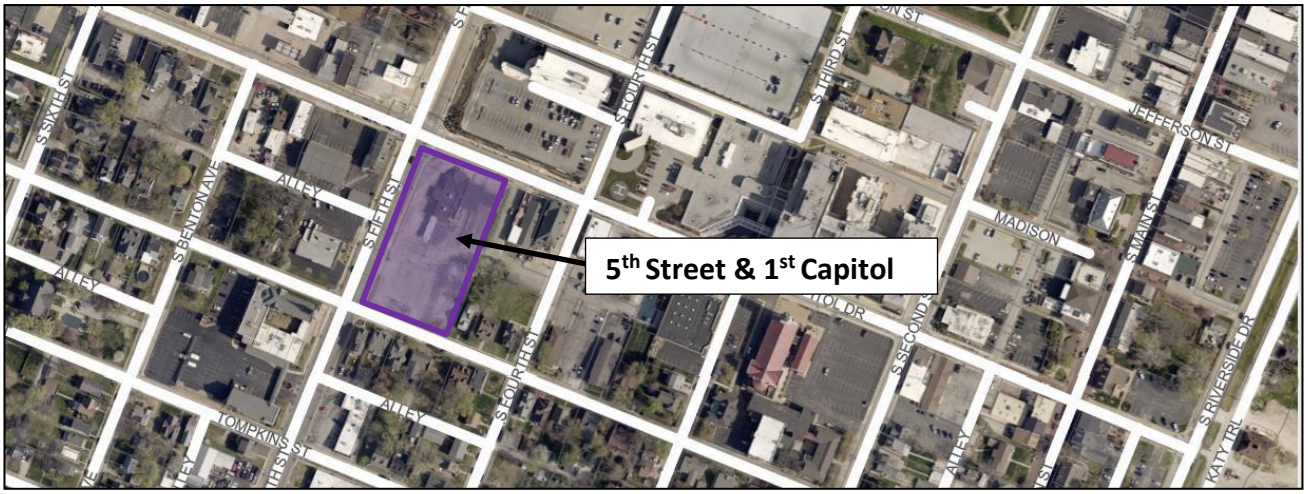


Figure 2: Aerial of approved development at 5th Street and 1st Capitol north of the subject property.

As stated above, the centralized downtown area generally should be the densest portion of any City and should achieve a higher density compared to other locations. The nearby developments reflect this with densities that exceed the 18 units per acre standard.

Consistency with Comprehensive Plan

The St. Charles Comprehensive Plan adopted in 2002, and updated in 2012, recommends that land

use decisions be based on a project's location and compatibility with surrounding development. The Comprehensive Plan identifies 15 activity centers in the city, locations characterized by elevated levels of development, density and activity. The activity centers are the most prominent, visible and intensely developed locations in the city. The plan recommends that development should gradually decrease in density as distance from an activity center increases. The activity centers should be surrounded by land uses that gradually decrease in levels of activity, traffic and density. Proposed new uses should be judged based upon its distance from the nearest activity center, its compatibility with what surrounds it, and whether the level of development it will generate contributes to a gradual decline in density or acts counter to that goal. This property is located nearest and within Activity Center #6 (Historic Downtown). The proposed density increase at this location is in conformance activity guidelines provided above and would be supported/consistent overall by the Comprehensive Plan.

Consistency with Conditional Use standards

Section 400.980 of the City Code outlines standards of review for the conditional use application. The standards are as follows:

a) How the proposed conditional use (the use in general) is in harmony with the purposes, goals, objectives, policies and standards of the Comprehensive Plan, and any other plan, program, or ordinance adopted, or under consideration pursuant to official notice by the city.

b) Whether the proposed conditional use (in its proposed location) is in harmony with the purposes, goals, objectives, policies and standards of the Comprehensive Plan, and any other plan, program, or ordinance adopted, or under consideration pursuant to official notice by the city.

Regarding a) and b), Conditional Uses are not allowed by-right as they can be problematic if not located and/or conditioned properly. In this case, the proposal is located at 1028-1038 S Main Street adjacent and within Activity Center #6. The proposal is consistent with the goals of the Comprehensive Plan, and would be in conformance with the density, intensity, and activity guidelines provided above.

c) Whether the proposed conditional use, in its proposed location and as depicted on the required site plan, results in a substantial or undue adverse impact on the adjacent property, the character of the neighborhood, environmental factors, traffic factors, parking, public improvements, public property or rights-of-way, or other matters affecting the public health, safety, or general welfare, either as they now exist or as they may in the future be developed as a result of the implementation of the provisions and policies of the Zoning Ordinance, Comprehensive Plan, or any other plan, program, or ordinance adopted or under consideration pursuant to official notice by the city.

Based upon a review of the proposal and the increase in density, staff believes this development can operate in compliance with the Zoning Ordinance and Comprehensive Plan. The use should not have an adverse impact on the adjacent property, the character of the neighborhood, environmental factors, traffic factors, parking, public improvements, public property or rights-of-way. The proposed design is in line with the Design Guidelines of the SMPD, which fits into the historic fabric of this historic neighborhood. Adequate utilities services (transportation, water, sewer, and emergency services) are also present

and plans will abide by City Building & Fire Code. Additionally, the traffic impact is minimal, with parking located at the interior of the site; therefore, additional right-of-way improvements are not triggered by this development. In addition to parking being interior to the site and compliant with code, the impact of this development does not require any street improvement to Barbour and South Main Street.

d) Whether the proposed conditional use maintains the desired consistency of land uses, land use intensities, and land use impacts as related to the environs of the subject property as directed by the Comprehensive Plan.

Staff believes a proposed increase in density can be compatible within this residential/commercial corridor from a land use perspective. Additionally, the proposal would be consistent with the other high density uses in this area. As indicated above, the increase to 19.7 units per acre (or 14 units in total) represents a minimal increase over the permitted by right density of 18 units per acre.

e) Whether the proposed conditional use is located in an area that will be adequately served by, and will not impose an undue burden on, any of the improvements, facilities, utilities or services provided by public agencies serving the subject property.

Staff believes the proposed increase in density at this location would not have an undue burden on public services. Adequate utilities services (transportation, water, sewer, and emergency services) are present and plans will abide by City Building & Fire Code.

f) Whether the public benefits of the proposed conditional use outweigh the potential adverse impacts of the proposed conditional use as identified above, after taking into consideration any proposal by the petitioner and any requirements recommended by the petitioner and/or City Staff to ameliorate such impacts.

After review of the proposal, and the above standards for evaluating Conditional Uses, staff believes the proposed increase in density would not have negative impacts that would outweigh any benefits of the use.

PRELIMINARY PLAT ANALYSIS

The applicant is proposing a Preliminary Plat containing fourteen (14) lots at this location for attached townhomes with common ground. Seven (7) townhomes will have frontage at South Main Street, while the remaining seven (7) units will have frontage of the Katy Trail to the rear of the lot. The proposal is compliant with the design standards of the HCD Historic Commercial District and the SMPD South Main Preservation District overlay.

Transportation/Access
The development proposes access via one (1) driveway off the north side of Barbour Street (a public street), that will provide access for planned garages interior and attached to the planned structures to the site.

Common Ground
A total of 0.31 acres of common ground is proposed (43.6% of the development), with this space designated as drive aisles for vehicle navigation at the center of the site and landscaped areas at the perimeter of the site. Per Engineering Dept. review, detention is not required at this site, thus common ground has not been dedicated for such purpose.

Floodplain
The subject property is located and effected by the 1% (100-year) floodplain. As a part of the floodplain requirements, future residential structures are required to be elevated to meet City floodplain standards. Per the submitted preliminary plat and review of the proposal, the proposed is projected to be compliant with City floodplain standards.

STAFF RECOMMENDATION

After review of the request against the City's Zoning Ordinance, Subdivision Ordinance, Comprehensive Plan and area development patterns, staff has documented:

- The requested density increase is compliant with the goals of the downtown area;
- Is compatible with the land use patterns and zoning of the surrounding area;
- The proposed subdivision is fully compliant with City Subdivision Ordinances.

Generally conditional uses are often accompanied with specific conditions recommended by staff to ensure compliance with city standards and other development goals of the city. This development represents overall good design, compliance with the historic standards and represents a minimal increase in densities over zoning standards which staff has documented should not have any negative effect on the surrounding community/neighborhood; therefore, no conditions are being proposed by staff. The Department of Community Development recommends that the Conditional Use and Preliminary Plat request be forwarded to the City Council with a **favorable** recommendation as submitted.

Recommended Motions:

CU-2025-16
Motion to forward a recommendation of approval to the City Council for application CU-2025-16 as submitted.

SUB-2025-01
Motion to forward a recommendation of approval to the City Council for the Preliminary Plat for Katy Trail Place as submitted.

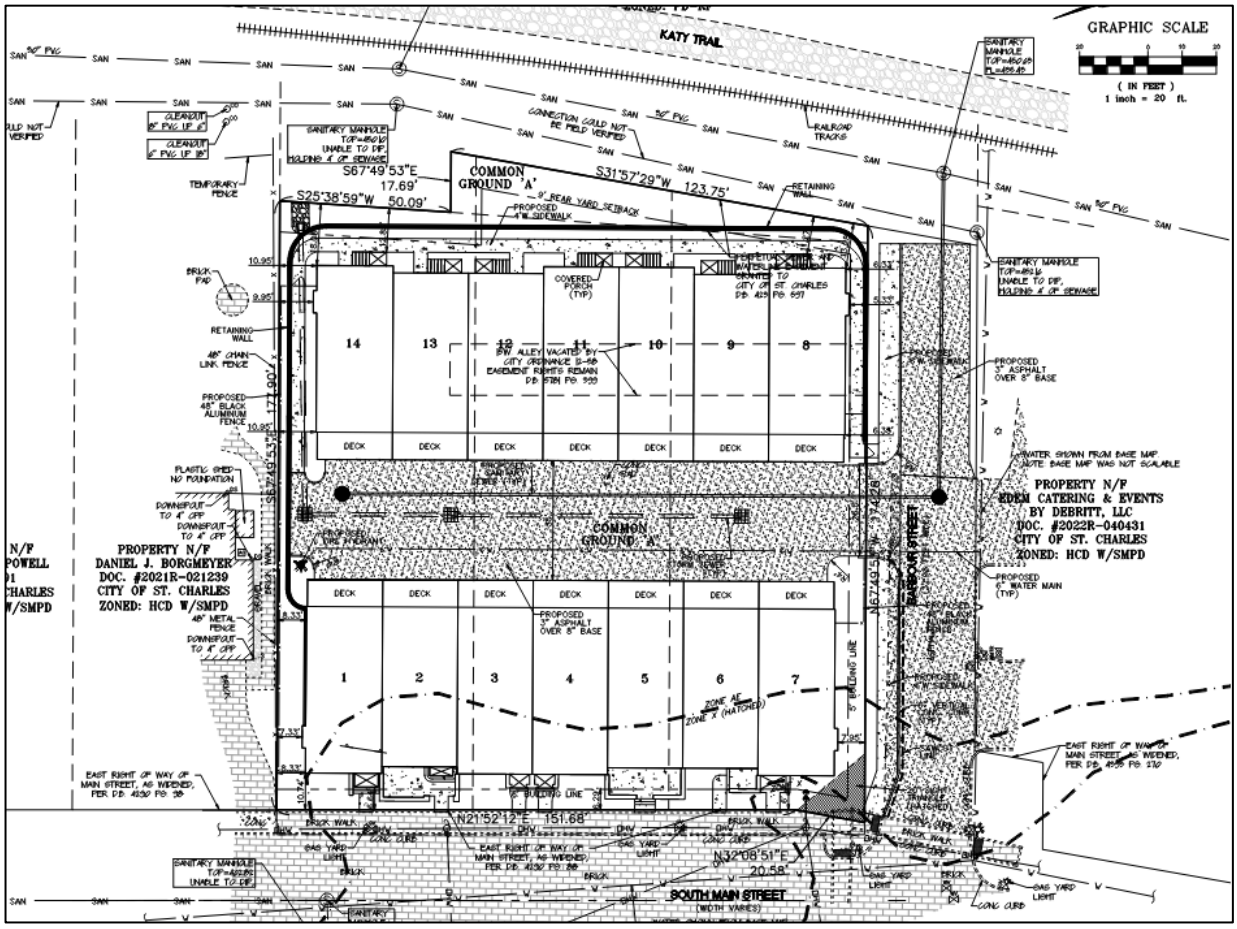


Figure 3: Proposed Preliminary Plat



Figure 4: Aerial of Subject Property



VIEW FROM THE SOUTHEAST NEAR SOUTH MAIN STREET AND BARBOUR STREET

THOMAS ALAN GROUP

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No.	Description	Date
	PERMIT SET	6-1-2025

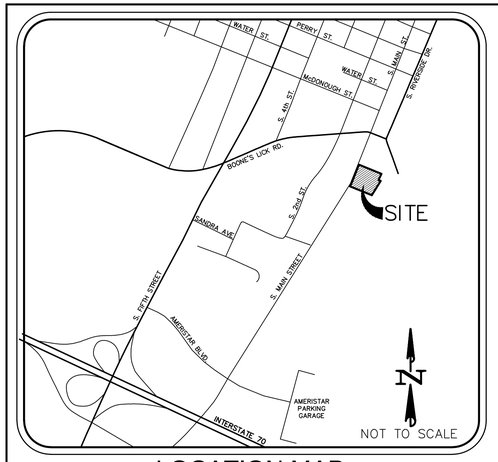
New Townhomes at:
KATY TRAIL PLACE
1028, 1030, 1034 &1038 South Main Street
St. Charles, MO 63301

THOMAS ALAN GROUP
ARCHITECTURE | DESIGN | INTERIORS
23 North Gore Avenue• Suite 303
Webster Groves, MO 63119
(314) 301-5975 • ThomasAlanGroup.com

COLOR RENDERING

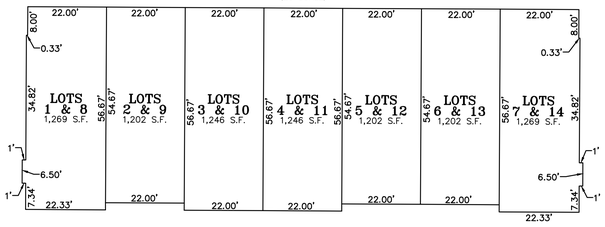
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of 8

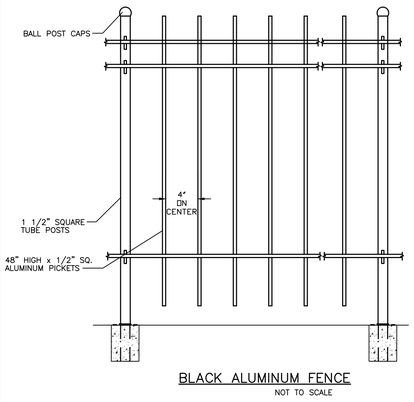
A PRELIMINARY PLAT FOR
KATY TRAIL PLACE
TRACTS OF LAND BEING ALL OF
LOTS 1-3 OF "NEW STONE"
PER DOC#2021R-101107
TOWNSHIP 46 NORTH, RANGE 5 EAST
OF THE FIFTH PRINCIPAL MERIDIAN
CITY OF ST. CHARLES
ST. CHARLES COUNTY, MISSOURI



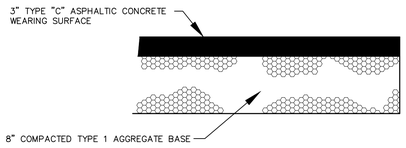
LOCATION MAP

TYPICAL LOTS
(20 SCALE)

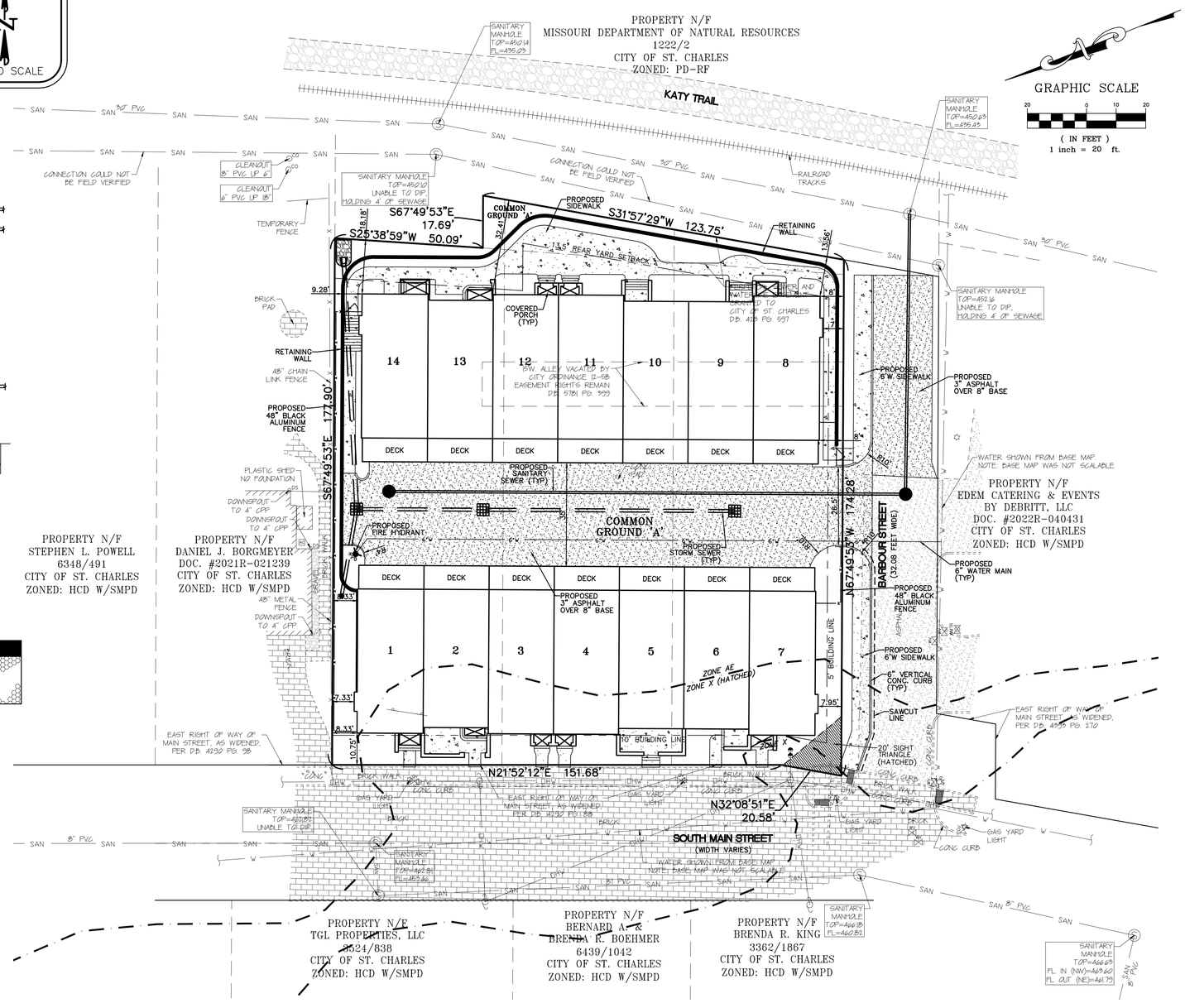




BLACK ALUMINUM FENCE
NOT TO SCALE



ASPHALT PAVEMENT DETAIL
NOT TO SCALE



GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 ft.

DEVELOPMENT NOTES:

1. TOTAL GROSS AREA OF TRACT: 0.71 ACRES
2. EXISTING ZONING: HCD – HISTORIC COMMERCIAL DISTRICT W/SOUTH MAIN PRESERVATION DISTRICT OVERLAY
3. PROPOSED UNITS: 14 UNITS
4. CURRENT OWNER/DEVELOPER:
   KATY TRAIL DEVELOPMENT, LLC
   556 LEFFINGWELL AVENUE
   ST. LOUIS, MO 63122
5. THIS PROPERTY IS SERVED BY THE FOLLOWING UTILITY COMPANIES:

AMEREN UE ELECTRIC	636-925-3206
SPIRE GAS COMPANY	800-887-4173
CITY OF ST CHARLES WATER	888-715-0162
CITY OF ST CHARLES SANITARY	888-715-0162
AT&T TELEPHONE	636-255-2108
CITY OF ST CHARLES FIRE PROTECTION	636-949-3387
ST. CHARLES SCHOOL DISTRICT	636-443-4000

6. ZONING SETBACK REQUIREMENTS REQUESTED:
   FRONT YARD (SOUTH MAIN STREET): 10'
   FRONT YARD (BARBOUR STREET): 5'
   SIDE YARD: 0'
   REAR YARD: 13.5'
7. ACCORDING TO THE FLOOD INSURANCE RATE MAP OF ST. CHARLES COUNTY, MISSOURI AND INCORPORATED AREAS (COMMUNITY – PANEL NUMBER 29183C0286G, DATED JANUARY 20, 2016, THIS TRACT LIES PARTIALLY WITHIN ZONE 'X' (HATCHED) DEFINED AS AREAS OF 0.2% ANNUAL CHANCE FLOOD; AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD, AND PARTIALLY WITHIN ZONE "AE" DEFINED AS SPECIAL FLOOD HAZARD AREAS SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD, WITH BASE FLOOD ELEVATIONS DETERMINED.
8. UNDERGROUND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION AND THEREFORE LOCATIONS SHALL BE CONSIDERED APPROXIMATE ONLY. THE VERIFICATIONS OF THE LOCATION OF ALL UNDERGROUND UTILITIES, EITHER SHOWN OR NOT SHOWN ON THESE PLANS, SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE LOCATED PRIOR TO ANY GRADING OR CONSTRUCTION IMPROVEMENTS.
9. ALL PROPOSED UTILITIES SHALL BE LOCATED UNDERGROUND.
10. EASEMENTS WILL BE PROVIDED ON RECORD PLAT.
11. BOUNDARY AND TOPOGRAPHIC SURVEY AS COMPILED BY BAX ENGINEERING IN MAY, 2025.
12. MINIMUM LOT AREA PROPOSED = 1,202 S.F. OR 0.027 ACRES
13. AVERAGE LOT AREA = 1,234 S.F. OR 0.028 ACRES
14. COMMON GROUND AREA = 13,695 S.F. OR 0.31 ACRES
15. DENSITY CALCS:
    14 UNITS / 0.71 ACRES = 19.72 UNITS/ACRE
16. NO DETENTION REQUIRED.

A PRELIMINARY PLAT FOR
KATY TRAIL PLACE
#1028-1038 S. MAIN STREET
CITY OF ST. CHARLES, ST. CHARLES COUNTY, MO 63301

PREPARED FOR:
KATY TRAIL DEVELOPMENT, LLC
556 LEFFINGWELL AVENUE
KIRKWOOD, MO 63122
314-575-7481

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636-928-5552
FAX 928-1718

Box Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

REVISIONS

06/23/25	CLIENT COMMENTS
07/02/25	CITY COMMENTS

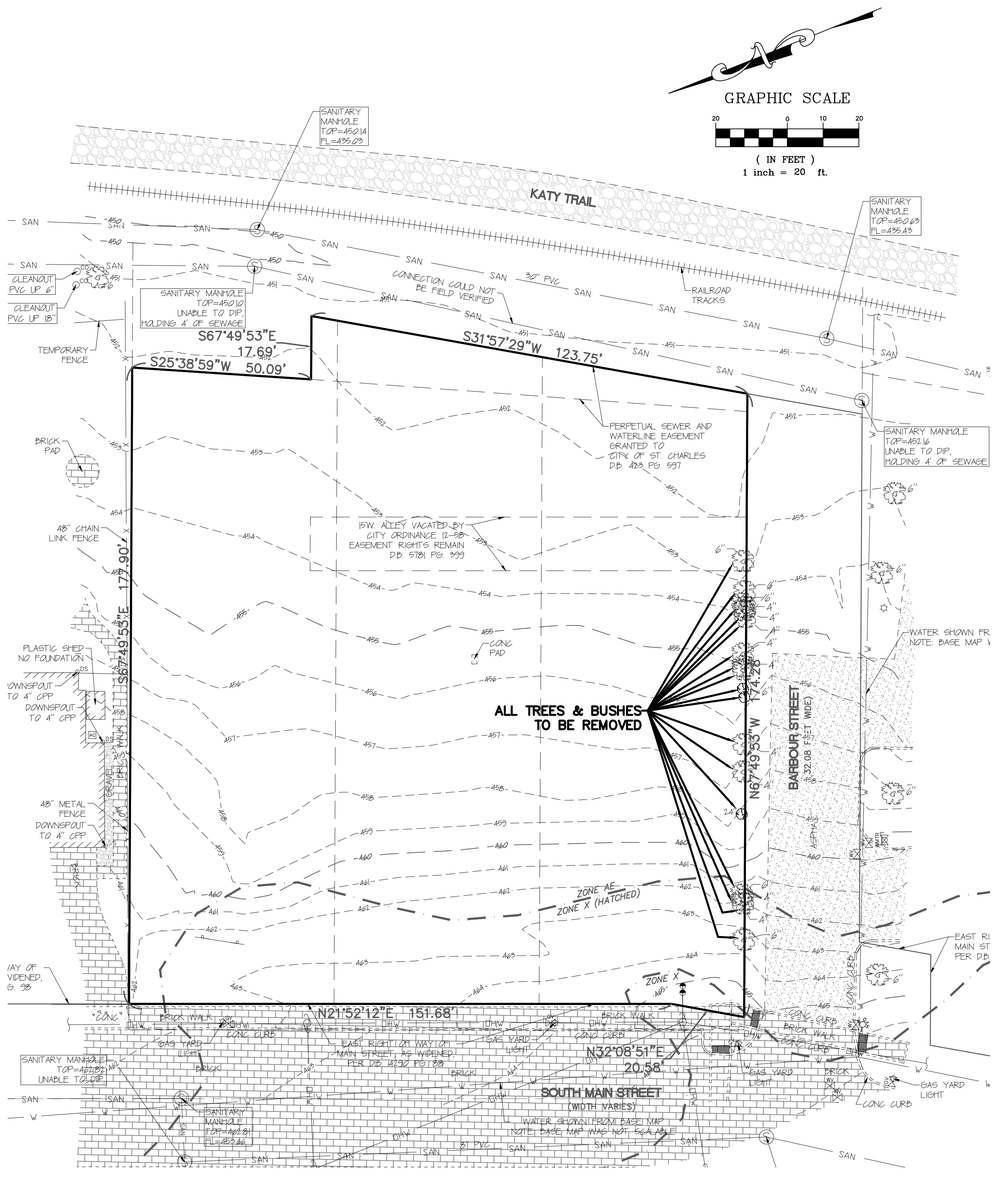
DISCLAIMER OF RESPONSIBILITY
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STATE OF MISSOURI
JEFFREY B SIMMONS
NUMBER PE-2007030831
PROFESSIONAL ENGINEER
7/2/25

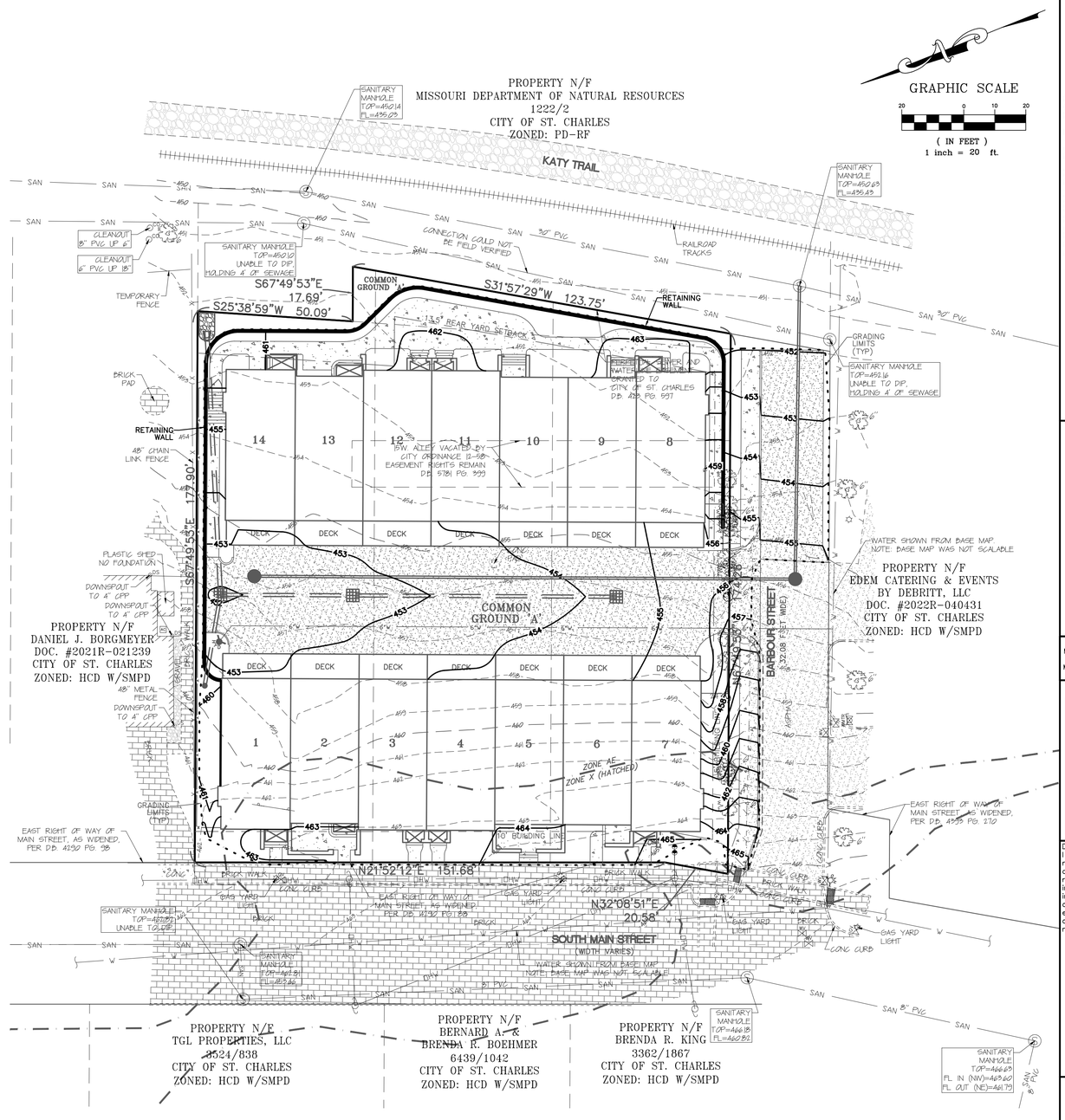
Jeffrey B. Simmons
Civil Engineer
2007030831

06/09/2025 *DATE*
23-18949B *PROJECT NUMBER*
18949Bpre.dwg *FILE NAME*
CLM *DRAWN*
JBS JBS *DESIGNED CHECKED*

COVER SHEET/
SITE PLAN



EXISTING SITE CONDITIONS



GRADING PLAN

A PRELIMINARY PLAT FOR

KATY TRAIL PLACE

#1028-1038 S. MAIN STREET

CITY OF ST. CHARLES, ST. CHARLES COUNTY, MO 63301

PREPARED FOR:
KATY TRAIL DEVELOPMENT, LLC
536 EFFINGHEIL AVENUE
KIRKWOOD, MO 63122
314-575-7481

ENGINEERING PLANNING SURVEYING

221 Point West Blvd.
St. Charles, MO 63301
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STATE OF MISSOURI JEFFREY B SIMMONS NUMBER PE-2007030831 PROFESSIONAL ENGINEER

Jeffrey B. Simmons
Civil Engineer
2007030831

06/09/2025
DATE

23-18949B
PROJECT NUMBER

18949Bpre.dwg
FILE NAME

CLM
DRAWN

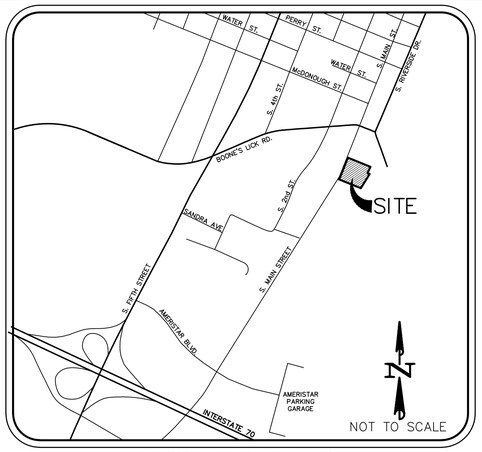
JBS JBS
DESIGNED CHECKED

GRADING PLAN / EXISTING CONDITIONS PLAN

2 of 2

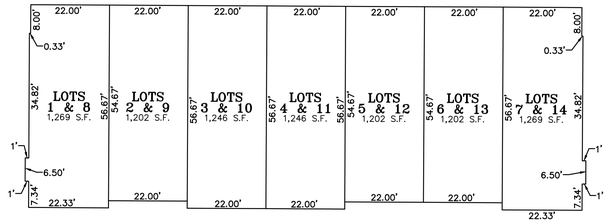
A CONDITIONAL USE PLAN FOR
#1028–1038 S. MAIN STREET

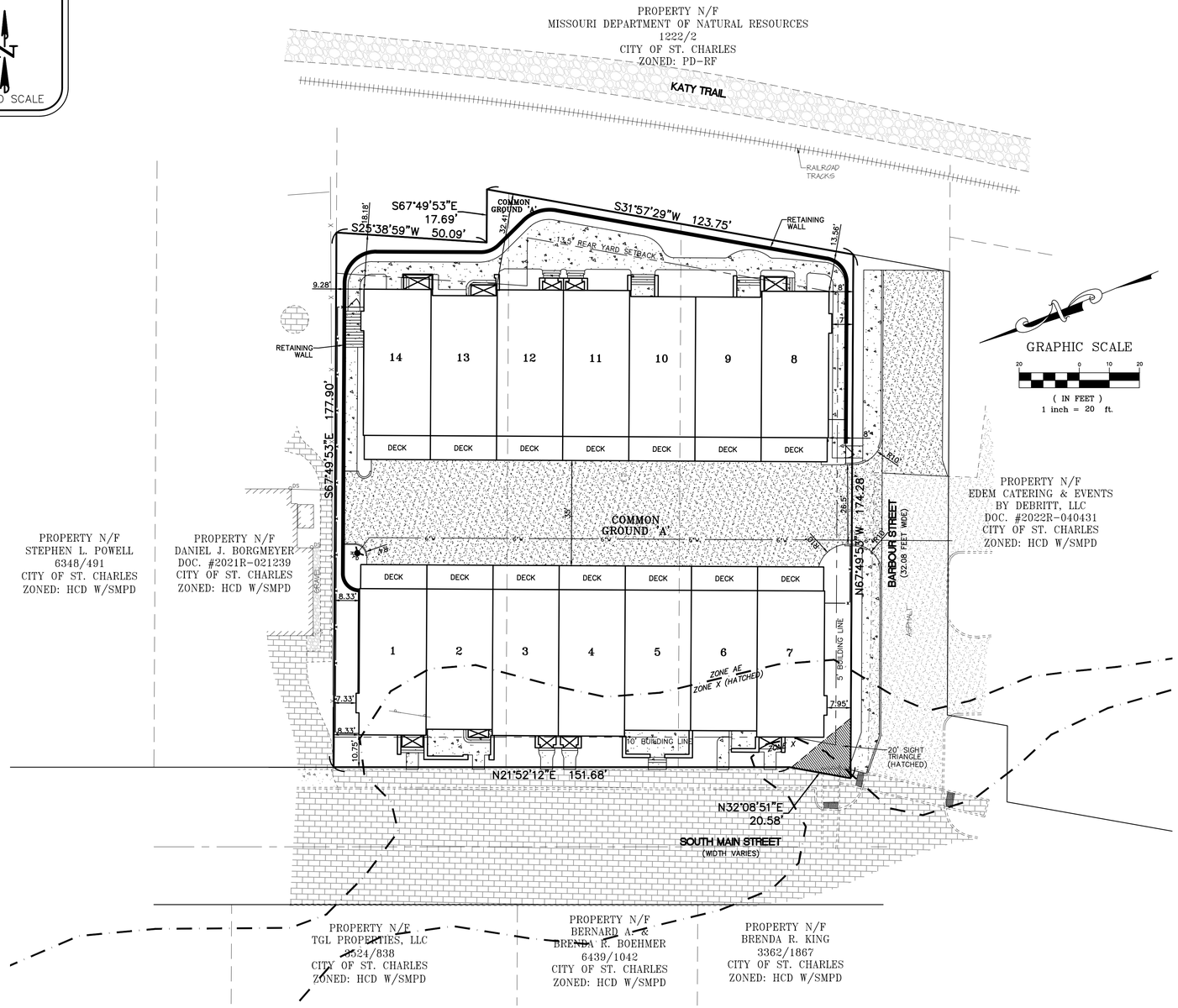
TRACTS OF LAND BEING ALL OF
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PER DOC#2021R–101107
TOWNSHIP 46 NORTH, RANGE 5 EAST
OF THE FIFTH PRINCIPAL MERIDIAN
CITY OF ST. CHARLES
ST. CHARLES COUNTY, MISSOURI



LOCATION MAP

TYPICAL LOTS
(20 SCALE)





GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 ft.

DEVELOPMENT NOTES:

1. Area of Tract: 0.71 ACRES
2. Parcel Numbers: #6–014A–D177–00–0001.0000000
   #6–014A–D177–00–0002.0000000
   #6–014A–D177–00–0003.0000000
3. Property Owner/Developer:
   Katy Trail Development, LLC
   556 Letfingwell Avenue
   St. Louis, MO 63122
4. Existing Zoning: HCD – Historic Commercial District
   W/South Main Preservation District Overlay
5. Proposed Units: 14 Units
6. Site served by the following:
   Sanitary Sewer: City of St. Charles
   Water: City of St. Charles
   Telephone: AT&T
   Electric: Ameren UE
   Gas: Spire Missouri
   Fire: City of St. Charles Fire
   School: St. Charles School District
7. Per Flood Insurance Rate Map No. 29183C0286G, dated January 20, 2016. This tract lies partially within Zone "X" (Hatched) defined as areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood, and partially within Zone "AE" defined as Special Flood Hazard areas subject to inundation by the 1% annual chance flood, with Base Flood Elevations determined.
8. All proposed utilities must be located underground.
9. Easements will be provided on the record plat.
10. Utilities for this site will be placed within easements for Public use, and will be shown and dedicated with the Record Plat, to the City of St. Charles and the respective utility companies as necessary to serve this site.
11. This exhibit is not for Record.

A CONDITIONAL USE PLAN FOR
#1028–1038 S. MAIN STREET
#1028–1038 S. MAIN STREET
CITY OF ST. CHARLES, ST. CHARLES COUNTY, MO 63301

PREPARED FOR:
KATY TRAIL DEVELOPMENT, LLC
556 LETFINGWELL AVENUE
ST. LOUIS, MO 63122
314–575–7481

ENGINEERING
PLANNING
SURVEYING
221 Point West Blvd.
St. Charles, MO 63301
636–928–5552
FAX 928–1718

Box Engineering Company, Inc.
Missouri State Certificate of Authority
Engineering #000655
Missouri State Certificate of Authority
Surveying #000144

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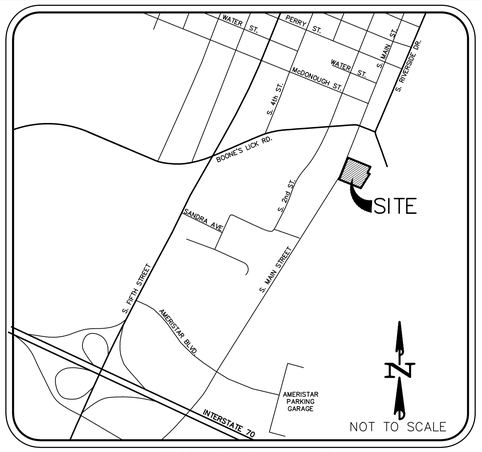
07/02/25	CITY COMMENTS

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06/09/2025 DATE
23–18949B PROJECT NUMBER
18949Bpre.dwg FILE NAME
CLM DRAWN
JBS JBS DESIGNED CHECKED

CONDITIONAL USE PLAN

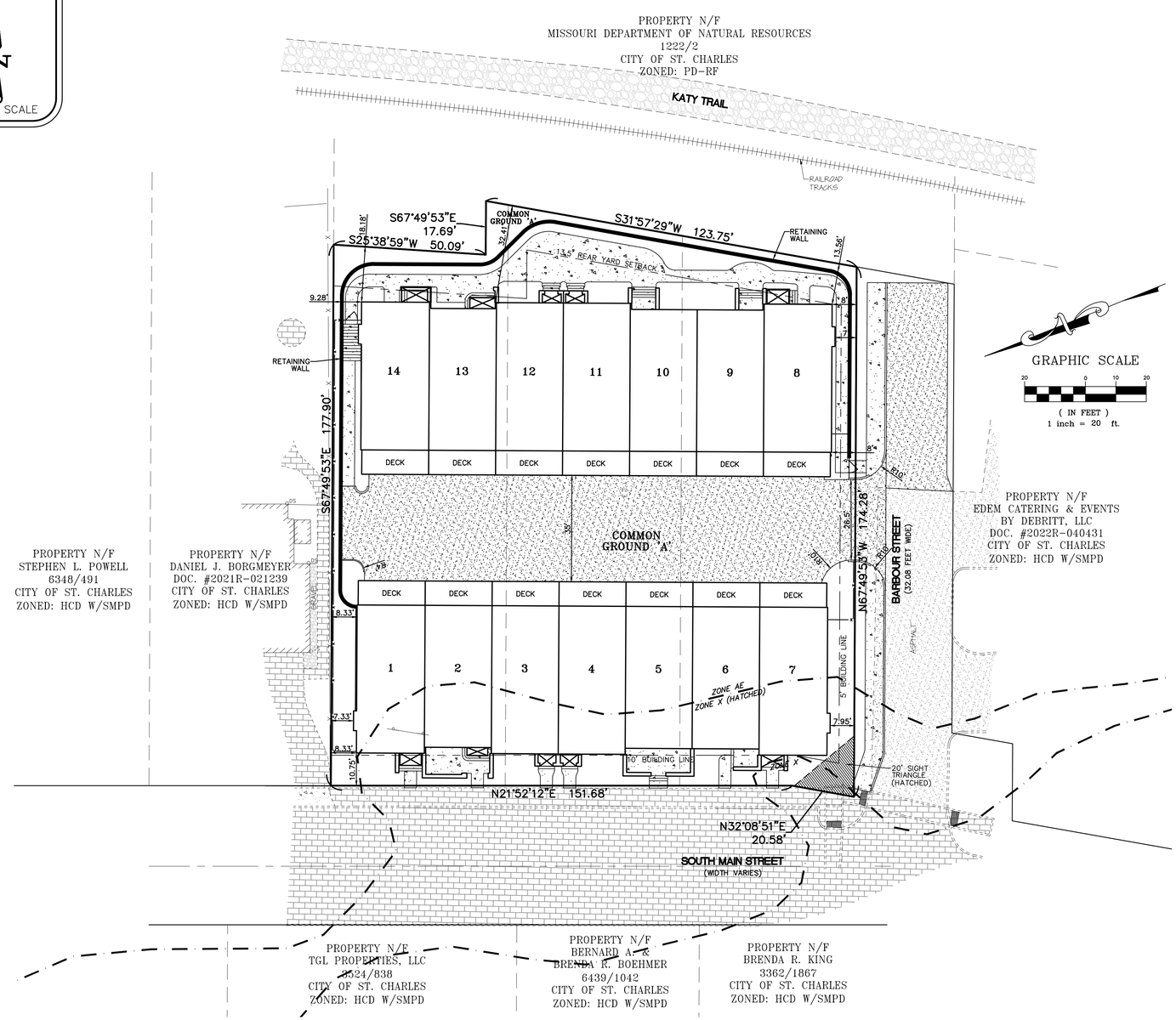
1 of 1



LOCATION MAP

A VARIANCE EXHIBIT FOR
#1028-1038 S. MAIN STREET

TRACTS OF LAND BEING ALL OF
LOTS 1-3 OF "NEW STONE"
PER DOC#2021R-101107
TOWNSHIP 46 NORTH, RANGE 5 EAST
OF THE FIFTH PRINCIPAL MERIDIAN
CITY OF ST. CHARLES
ST. CHARLES COUNTY, MISSOURI



GRAPHIC SCALE
20 0 10 20
(IN FEET)
1 inch = 20 ft.

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#1028-1038 S. MAIN STREET
#1028-1038 S. MAIN STREET
CITY OF ST. CHARLES, ST. CHARLES COUNTY, MO 63301

PREPARED FOR:
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556 LETFINGWELL AVENUE
ST. LOUIS, MO 63122
314-575-7481

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STATE OF MISSOURI
JEFFREY B SIMMONS
NUMBER PE-2007030831
PROFESSIONAL ENGINEER

Jeffrey B. Simmons
Civil Engineer
2007030831

05/30/2025
DATE
23-18949B
PROJECT NUMBER
18949Bpre.dwg
FILE NAME
CLM
DRAWN
JBS JBS
DESIGNED CHECKED

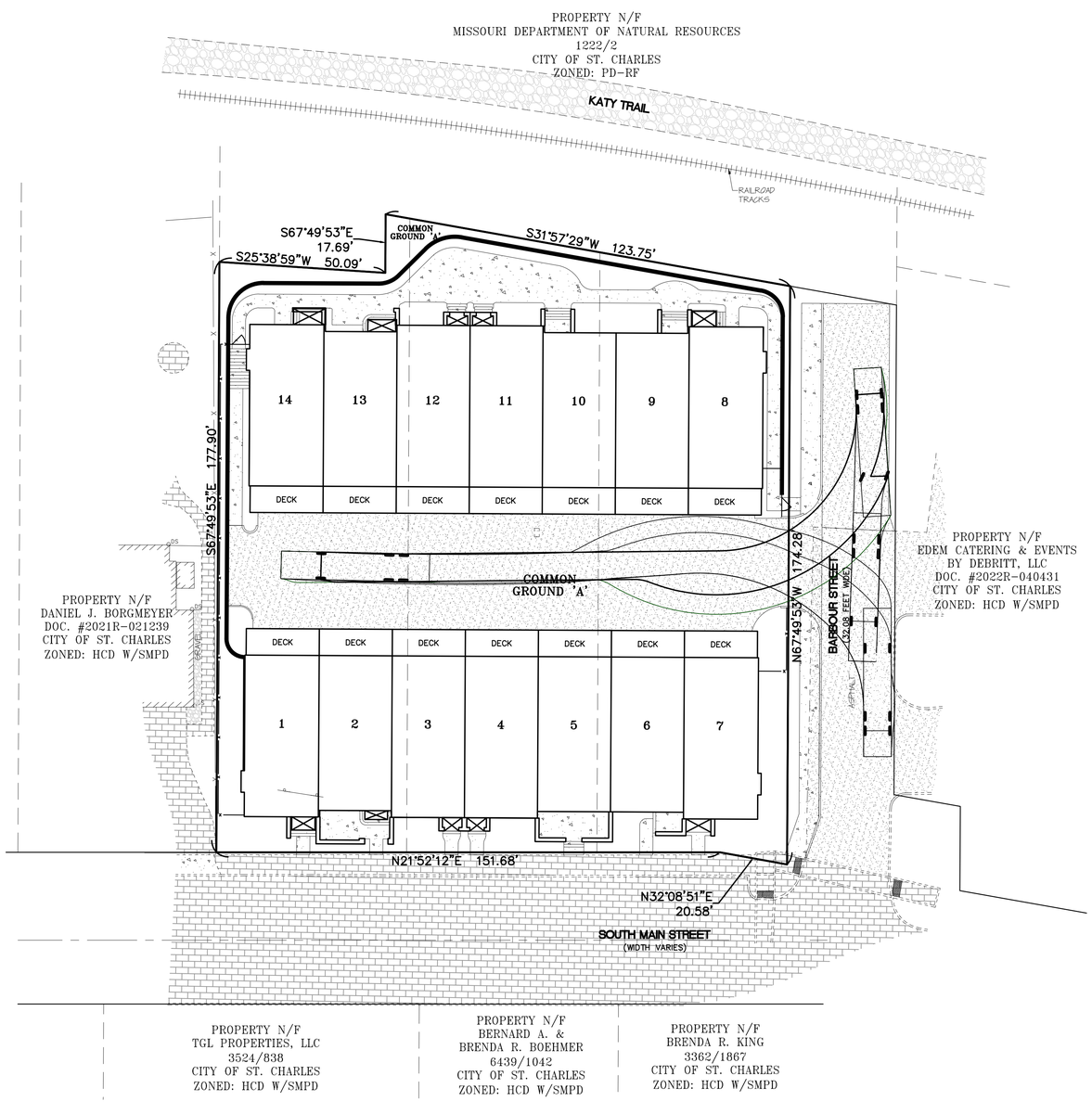
SITE LAYOUT

1 of 1

A FIRE APPARATUS MANEUVERABILITY EXHIBIT FOR

KATY TRAIL PLACE

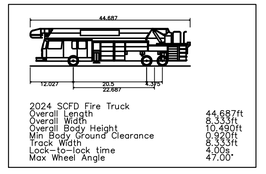
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ST. CHARLES COUNTY, MISSOURI



GRAPHIC SCALE

20 0 10 20

(IN FEET)
1 inch = 20 ft.



2024 SCFD Fire Truck	
Overall Length	44.687ft
Overall Width	8.333ft
Overall Body Height	10.490ft
Min Body Ground Clearance	0.920ft
Track Width	8.333ft
Lock-to-lock time	4.00s
Max Wheel Angle	47.00°

A FIRE APPARATUS MANEUVERABILITY EXHIBIT FOR
KATY TRAIL PLACE
#1028-1038 S. MAIN STREET
CITY OF ST. CHARLES, ST. CHARLES COUNTY, MO 63301

PREPARED FOR:
KATY TRAIL DEVELOPMENT, LLC
536 JEFFERSON AVENUE
ROCHESTER, NY 14611
314-575-7481

ENGINEERING
PLANNING
SURVEYING

221 Point West Blvd.
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FILE NAME
CLM
DRAWN
JBS JBS
DESIGNED CHECKED

FIRE APPARATUS MANEUVERABILITY EXHIBIT

Narrative Justifying Proposed Increase in Density

The proposed increase in density for the Katy Trail Place development is consistent with the intent and character of the surrounding area and aligns with the City's goals for infill development and sustainable land use. This site, located along South Main Street, is uniquely situated to support a higher density residential development due to its proximity to key amenities such as the Katy Trail, historic downtown St. Charles, and existing mixed-use developments. Increasing the density from the standard zoning allowance will allow for a more efficient use of land, promote walkability, and provide a wider range of housing options in a desirable and growing area.

Furthermore, the proposed design maintains a thoughtful approach to scale and compatibility with the adjacent neighborhood, ensuring that building heights and architectural elements are in harmony with existing structures. The increased density will not negatively impact the character or infrastructure of the surrounding area, and all utilities, access, and fire safety requirements will be met or exceeded.

This request reflects an effort to thoughtfully respond to market demand for well-located housing while supporting the City's broader goals for responsible urban growth.

AGENDA ITEMS #9 & #10

STAFF REPORT
CONDITIONAL USE CASE NO. CU-2025-10 &
SITE PLAN CASE NO. SP-2025-05

JULY 14, 2025
BY LARA BERRY

APPLICANT:	CRG Cumulus, LLC 8640 Evans Avenue St. Louis, Missouri 63134
OWNERS:	RLG Industries LLC 16 Windcastle Drive St. Charles, Missouri 63304 Ostmann Family Partnership LP 8025 Maryland Avenue, Unit 5C Clayton, Missouri 63105 HLRH LLC Gerald & Clarice Hollrah 16 Boenker Court St. Charles, Missouri 63301
ADDRESS/LOCATION:	Generally located on the north and south sides of Highway 370 and between Huster Road and Harry S Truman Boulevard. Wards 6 & 8
ACREAGE:	Approximately 440 acres (more or less)
PROPOSED USE:	The production/use/handling/storage of any hazardous substance including liquid petroleum products and electrical power generators/substations associated with a permitted Warehouse Use.
ZONING:	I-1 Light Industrial District and I-1/WHP Light Industrial within Wellhead Protection District

REQUEST

The applicant has submitted two (2) applications for a proposed multi-building data warehouse development within the City of St. Charles, generally located on the north and south sides of Highway 370 and between Huster Road and Harry S Truman Boulevard. For reference, Figure 1 on the next page depicts the subject property boundaries and the proposed development area.

The first application (CU-2025-10) is a request for a Conditional Use Permit for the production/use/handling/storage of any hazardous substance, including liquid petroleum products and electrical power generators/substations accessory to a data warehouse use. The second application (SP-2025-05) is a Site Plan request for the approximately 440-acre development site. This report will analyze the appropriateness of these applications in relation to the Comprehensive Plan, the Zoning Districts in which it is to be located, and the surrounding development.

The applicant is pursuing land use and site development entitlements, via these applications, in coordination with a future user that has not yet been identified. While the applicant is not the anticipated long-term operator of the facility, they are facilitating the entitlement process in advance of a potential property transaction. This approach is not uncommon for projects of this scale and nature, where site readiness and permitting are necessary precursors to final investment decisions and end-user commitments. While past staff reports which discuss both a Conditional Use and Site Plan component generally discuss the Conditional Use first, due to the size of the development, staff will discuss the Site Plan first in an effort to better orient the reader and the Conditional Use review will be provided second (bottom of page 12 of this report).



Figure 1: Aerial image of the subject property's general location.

SITE PLAN ANALYSIS (SP-2025-05)

According to the purpose statement of the I-1 Light Industrial District Regulations (the subject properties base zoning), the "the I-1 Light Industrial District is to provide sufficient space in appropriate locations for certain types of business and manufacturing, relatively free from offense, on modern landscaped buildings sites, and to make available more attractive locations for these businesses and industries".

The submitted Site Plan (Exhibit A, attached to this report) proposes the development of five (5) concrete tilt-up buildings for data warehouse use and three (3) insulated metal panel (IMP) buildings for office use across the 440 acre site. Each data warehouse building includes outdoor support equipment areas on both sides. The overall site layout also incorporates a "Switching Station Pad", three (3) large retention ponds for stormwater collection, and enhanced landscaping and perimeter fencing provided for both visual screening and site security.

While a detailed phasing schedule has not been provided at this time, the full buildout of the project is anticipated to occur over a 10-year period per the applicant.

Land Use Evaluation

I-1 Light Industrial District allows for a variety of low- to moderate-intensity industrial and employment-based uses, including warehousing, distribution, and limited manufacturing. Data storage facilities (commonly referred to as data centers) are classified as a warehousing use for zoning purposes. Although they store digital rather than physical goods, the use functions similarly to traditional warehouses in terms of building form, limited customer traffic, low on-site employment, and general site operations.

This type of use is well suited to the I-1 District, given its need for secure facilities, significant utility demands, and separation from residential and commercial areas. The proposed data center aligns with the intent of the zoning district and is therefore considered a permitted use by right under current zoning regulations.

Elevations & Building Materials

Data Center Structures

The proposed warehouse buildings (each approx. 285,000 square feet) feature concrete tilt-up construction, which does not qualify as masonry under the City's architectural standards. However, due to the property's industrial zoning designation, the Building Use Code classification ('S' Storage), and their footprints exceeding 14,000 square feet, the project is eligible for exemption from the requirement that all exterior walls consist of 100% masonry. Staff finds this construction type to be appropriate for the intended use and surrounding area; however, the Planning & Zoning Commission retains the discretion to evaluate the suitability of the proposed building materials. Figure 2 on the next page, illustrates a similar style building, and Exhibit B (attached to this report) provides full elevations of a typical proposed warehouse building for this development.



Figure 2: Amazon Fulfillment Center STL8 at 4000 Premier Pkwy, St Peters, MO 63376.

Office Structures

While specific building materials for the office buildings (each approximately 34,500 square feet) have not yet been finalized, the applicant has indicated that they will likely consist of insulated metal panels (IMP) for the exterior walls with a metal roof system. These materials are commonly used in industrial park settings and may be appropriate given the context of the overall development. Renderings and examples of the proposed standalone office buildings are provided in Figure 3 below and Figures 4 & 5 on Page 5, to illustrate the general design intent. Additionally, due to the site layout, berms, enhanced landscaping, and the internal orientation of the buildings, it is unlikely that these structures will be visible from adjacent public rights-of-way or surrounding properties.

As part of this submittal, the associated materials are subject to review and approval by the Planning & Zoning Commission. Should any significant changes to the proposed exterior design or material composition occur following Commission approval, the revised elevations may be required to return to the Commission for further consideration.



Figure 3: Proposed office building rendering provided by the applicant.



Figure 4: IMP Construction Example, via internet image search.



Figure 5: IMP Construction Example, via internet image search.

Support Infrastructure and Equipment Yards

Along with the aforementioned "Utility Pads" with individual on-site electrical substations, dedicated "Equipment Yards" will be adjacent to each warehouse building. These areas will be paved with concrete and configured to allow full access by emergency vehicles. Equipment within the utility yards will include facility support systems such as generators, site power distribution centers, chillers, and tanks. Smaller equipment will be housed in pre-fabricated centralized utility structures located within the yards themselves.

The larger of the two yards, with approximately 175,000 square feet of impervious surface, will include infrastructure related to the building's cooling and water systems. This includes water tanks, pump houses, booster stations, chemical treatment buildings, and other water-related

equipment. The second yard, approximately 78,000 square feet, will house the primary electrical infrastructure for the building, including backup generators and fuel tanks to ensure continued operation during power outages.

In addition, the Site Plan identifies a designated "Switching Station Pad", which the applicant indicates will be developed as an Ameren Utility Substation. While specific design details for the substation are not yet available, the applicant is actively coordinating with the utility provider to determine the final configuration and infrastructure needs. The substation is located outside of the City's designated Wellhead Protection District (see Figure 6 below and Figure 7 on the next page); however, any future development of this area will be expected to comply with City standards for equipment access, parking, and vehicle maneuvering to meet applicable site design. Despite the pending design, the applicant has requested that the substation pad be included as part of the current Site Plan application to ensure timely integration with overall site development.

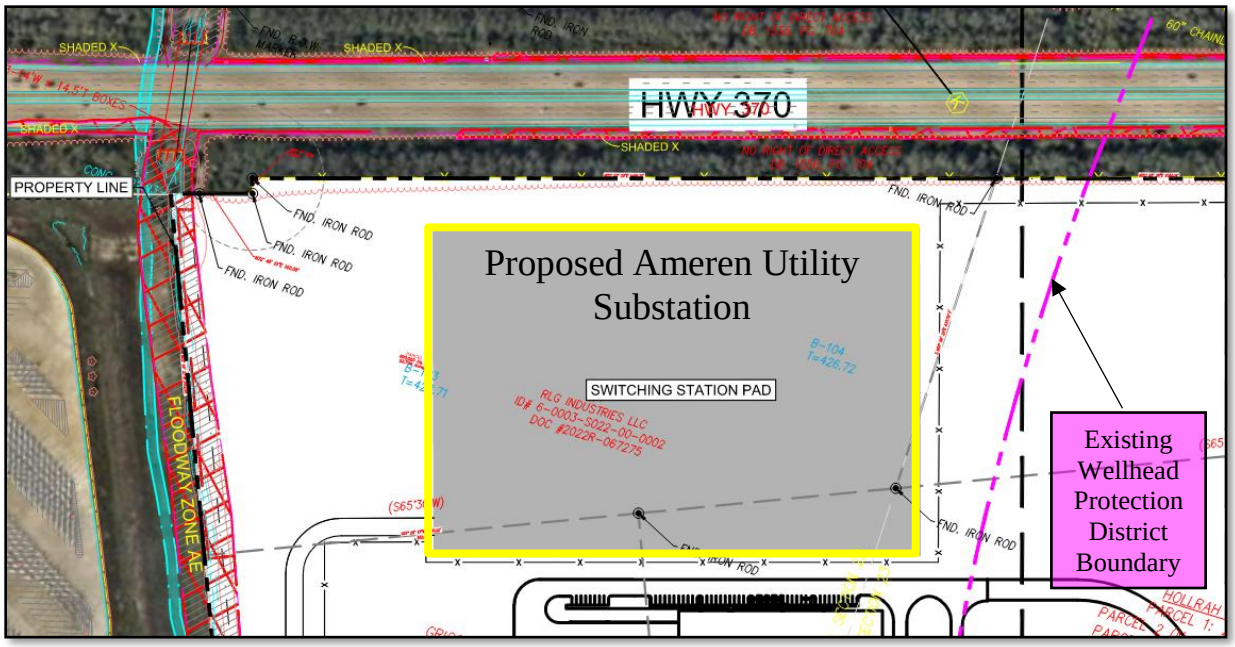


Figure 6: Proposed location of the Ameren Utility Substation.

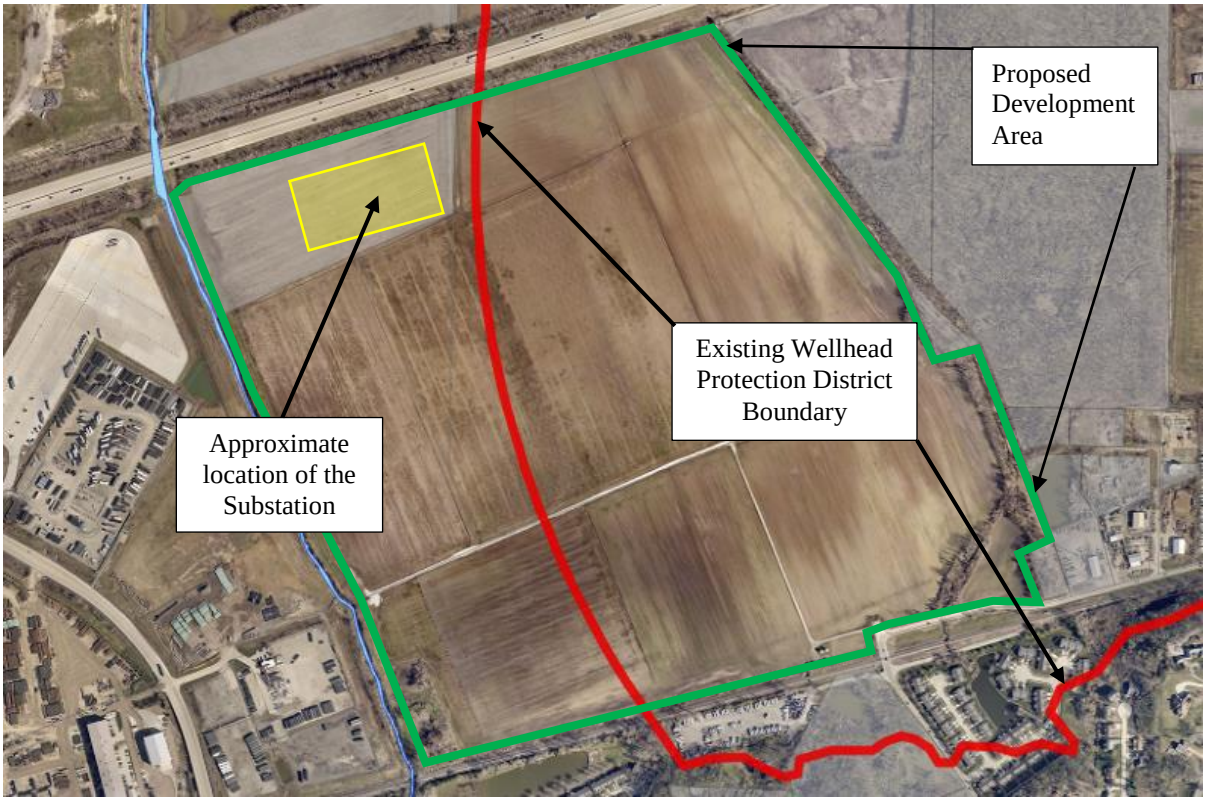


Figure 7: Approximate location of the proposed Ameren Utility Substation.

Water & Sewer

The proposed development site is served by the City of Saint Charles water and City of Saint Charles sanitary sewer systems. Developer connections would be made to both systems on the south part of the property. The water system has a ten-inch water main stub onto the property on Zumbehl Road west of Elm Point Road and a sixteen-inch water main on Elm Point Road. The City of Saint Charles currently has an engineering consultant reviewing the City's water system to determine any upgrades to meet the water demands of the developer. Those upgrades may include treatment expansion, pumping, distribution, resiliency, etc. The sanitary sewer system improvement requirements may include pre-treatment, collection and conveyance, pumping, treatment expansion, etc.

The site, while zoned industrial, is currently used for agricultural purposes and is currently in the floodplain, but will be elevated above the base flood level. Detention and water quality will be required. Stormwater discharges may be split between Sandfort Creek to the west and Hayford Road Creek to the east. The developer has committed to analyzing and coordinating with the Elm Point Levee District, lot located within the district, to ensure their flood control operations will be able to handle the additional runoff flows, and work to provide necessary modifications, if any, to the District's operations and infrastructure. There will be increased stormwater runoff, but there should not be an increase in the peak stormwater runoff. While the applicant has indicated they will comply with City Engineering Design Standards, full analysis will be accomplished via a required Improvement Plan submittal after zoning entitlement review (site plan and conditional use review).

Landscaping/Screening/Fencing

The proposed site plan includes landscaping and screening measures that are consistent with the design standards of the I-1 Light Industrial zoning district, particularly where the site adjoins or lies across from a residential zoning district. In accordance with applicable zoning regulations, a landscaped greenbelt at least fifty (50) feet in width is provided along the southern property boundary to serve as a buffer between industrial and residential uses. This area is free of any parking or loading facilities, as required.

Within the greenbelt, the applicant has incorporated a berm ranging in height from twelve (12) to fourteen (14) feet above proposed final grade of the site to further reduce views into the site and enhance the separation between land uses. While the primary purpose of the berm is visual screening, its size, placement and landscaping may also help reduce noise from general site operations. Enhanced landscaping is proposed throughout the perimeter of the site, including within the berm greenbelt/berm, to establish and maintain year-round visual screening. The proposed plantings include a mix of coniferous and deciduous trees and shrubs, providing seasonal variety and consistent screening coverage. (Figure 8 below.)

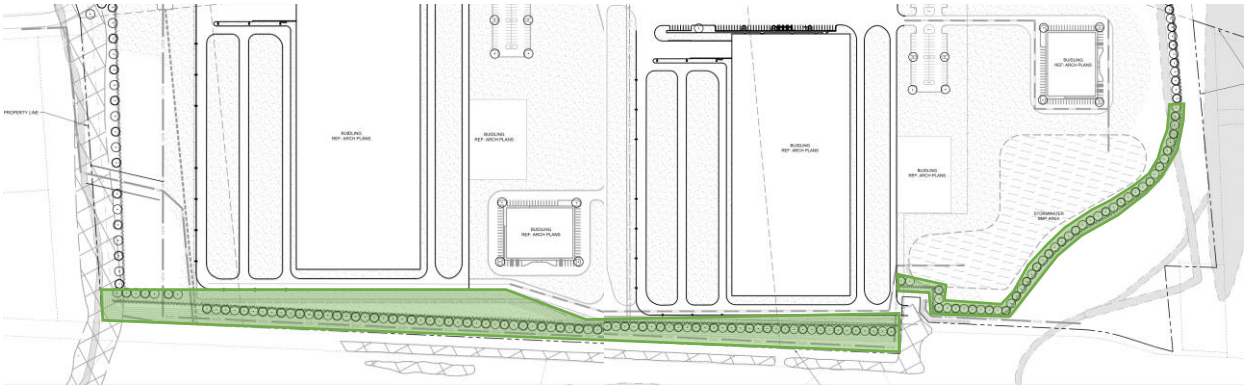


Figure 8: Southern boundary with berm and landscaping.

In addition to the proposed landscaping improvements, the applicant has incorporated existing mature tree coverage along the eastern boundary as part of the project's Tree Preservation Plan. This area, which falls within a designated wetland protection zone (see Figure 9 on the next page), will remain undisturbed. Preserving this natural buffer helps maintain long-term screening and supports the protection of the site's natural features.



Figure 9: Wetland Area illustrated in green. Proposed Development Area illustrated in yellow. Extensive Tree Mass is outlined in black dashed line.

To delineate the perimeter and provide site security, three (3) distinct fencing types are proposed. A 4-foot split rail fence will be installed define the property boundary in a visually pleasing manner. An 8-foot decorative metal anti-climb fence is proposed to protect secure areas, such as the equipment/utility yards. These fencing elements are not intended to serve as sight-proof screening but are complementary to overall site development in promoting both security and compatibility with adjacent residential areas. Lastly, there will be an internal perimeter fence installed in phases as the campus expands and adds more operational buildings. This fencing around the internal areas behind the planned berm and will also be a minimum 8' high anti-climb fence but will also provide screening with metal mesh fence. The phased installation of this fencing aligns with the anticipated 10-year build-out timeline for the overall project. Examples of these fencing types are shown on the next page in Figures 10-12.

Staff finds that the proposed combination of a berm, enhanced landscaping, and perimeter fencing meets the intent of the zoning ordinance and provides a buffer that helps soften the transition between the industrial site and any adjacent properties, particularly the residential ones.

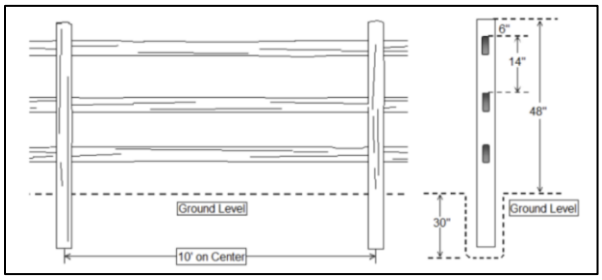


Figure 10: Proposed Split Rail Fence.



Figure 11: Proposed 8-foot Decorative Metal Anti-Climb Fence

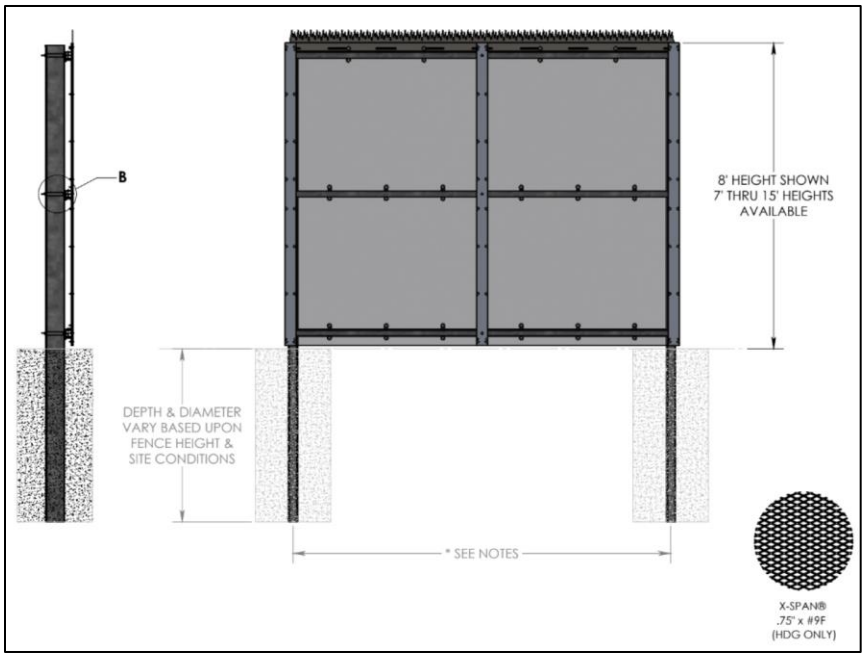


Figure 12: Proposed 8-foot Anti-Climb Fence with Screening.

Industrial Performance & Design Standards – Noise/Lighting

Within both the I-1 and I-2 Industrial District regulations, the Zoning Code outlines a series of Industrial Performance Standards that all industrial developments must comply with. These standards are intended to mitigate potential impacts on surrounding properties and include requirements related to Outdoor Storage, Noise, Smoke and Particulate Matter, Odors, Noxious Gases, Glare and Heat, and Vibration. Two areas of specific focus for this project based upon the proposal, Noise and Lighting, are discussed below.

<u>Noise</u>

Pursuant to Section 400.230(E)(3) of the Zoning Code and Chapter 230 (Noise Control) of the Municipal Code, sound emissions from industrial operations must not exceed the allowable decibel levels at the boundary of any residential or business zoning district. This standard applies to all operational noise sources, excluding motor vehicles and transportation facilities. Given the scale of the proposed data warehouse and the presence of mechanical equipment within designated Equipment Yards, staff has advised the applicant that, should the Site Plan be approved, a Noise

Study will be required prior to issuance of any building permit (noise study based on the proposed use and per the improvement and building plans) and prior to final occupancy to insure full compliance with City Noise standards. These studies must be prepared by a qualified professional and submitted to the City to verify compliance with applicable noise thresholds. A condition of approval has been included to ensure adherence to noise regulations and to limit generator testing to daytime hours (7:00 am – 10:00 pm).

Lighting

The applicant has provided a preliminary Photometric Plan with the Site Plan submittal; however, the plan is general in nature and does not provide the level of detail necessary to confirm full compliance with lighting standards. All site lighting must be designed to minimize glare and light trespass, with fixtures fully shielded and directed downward, consistent with the City's Design Standards. Final photometric details will be reviewed at the time of building permit submittal, and a condition of approval will be included to require a revised, detailed Photometric Plan demonstrating compliance prior to issuance of building permits.

Floodplain/Stormwater Management/Levee District

A portion of the subject site lies within the jurisdiction of the Elm Point Levee System, which manages levee infrastructure that provides flood protection to the area. In addition, the site is located within the FEMA-designated 1% annual chance (a.k.a. 100-year) floodplain (see Exhibit C, attached to this report), and development within this area is subject to all applicable floodplain management regulations at the local, state, and federal levels.

To accommodate site grading and drainage needs, the applicant plans to bring in approximately fifteen (15) feet of fill above the existing grade to elevate the development area. As such, any submittal for a Building Permit will require a Floodplain Development Permit. Along with this permit, the applicant must provide a pre-construction elevation certificate for each building to insure proper finished elevations of structures out of the floodplain. Upon completion of construction and/or prior to occupancy, a post-construction elevation certificate shall also be submitted to the City to verify compliance with the City's flood protection standards.

Alternatively, the applicant may pursue a Letter of Map Revision Based on Fill (LOMR-F) through FEMA, which would formally amend the floodplain boundaries based on the final elevation changes. This process, if chosen, may be completed and approved prior to issuance of a certificate of occupancy for any building in lieu of a post elevation certificate for each structure.

The site plan also includes three (3) stormwater retention basins, designed to manage runoff through detention and pretreatment, in accordance with the City's stormwater management standards. Final review of stormwater improvements will occur at the time of Improvement Plan submittal and Engineering permit review.

Finally, the applicant is coordinating with the Elm Point Levee District to ensure the proposed grading, utilities, and site development activities do not conflict with existing levee structures, drainage systems, or access easements. A condition of approval (SP-2025-05 Condition #3) has been included requiring documentation of coordination with the Levee District and any necessary permits, prior to issuance of grading or building permits.

Access/Transportation
The Plan depicts proposed transportation improvements both within the site and at key external access points. The primary access will be located at the intersection of Harry S Truman Boulevard and Truman Industrial Boulevard. A secondary, emergency-only access is proposed near Zumbehl Road and Elm Point Road. Per the applicant, access gates and their installation timing will be fully coordinated with City emergency services to ensure immediate emergency access is maintained at all times.

Regarding traffic management, the submitted traffic analysis uses conservative volume estimates, which staff agrees is a reasonable approach at this stage. The applicant proposes to monitor traffic conditions over time and install a traffic signal at the Truman/Truman Industrial intersection if traffic volumes meet applicable MUTCD warrants. Signal installation would occur at no cost to the City, and future cost-sharing may be considered if other developments benefit from the improvement.

To support ongoing coordination, the applicant has agreed to hold biannual meetings with City staff to review traffic volumes and safety data. Signal installation would be expected if:

- Warrant 3 (Peak Hour) is met based on actual traffic counts following full build-out;
- Warrant 2 (Four-Hour) or other conditions are met during construction and delays persist; or
- Warrant 7 (Crash Experience) is met due to construction impacts or long-term volumes.

These coordinated efforts are intended to ensure that traffic impacts are addressed proactively and in a manner that aligns with actual site conditions as development progresses.

CONDITIONAL USE ANALYSIS (CU-2025-10)

The subject property is located within the I-1 Light Industrial District and portions of the property are also within the WHP Wellhead Protection District Overlay (see Figure 13 on the next page). The purpose of the Wellhead Protection District is to safeguard the public health, safety, and general welfare through the protection of groundwater used as a public water supply; therefore, there may be some land uses that are permitted "by right" in the underlying zoning district but because of certain activities of that business, the land use needs a Conditional Use Permit. For example, this development specializing in the storage and maintenance of data, is permitted by right within the I-1 Light Industrial District; however, due to the storage and utilization of regulated substances and liquid petroleum products, back-up generators, and the installation of substations for the individual buildings, they require a **Conditional Use** within the Wellhead Protection District. The following sections will evaluate the separate components of the Conditional Use review.

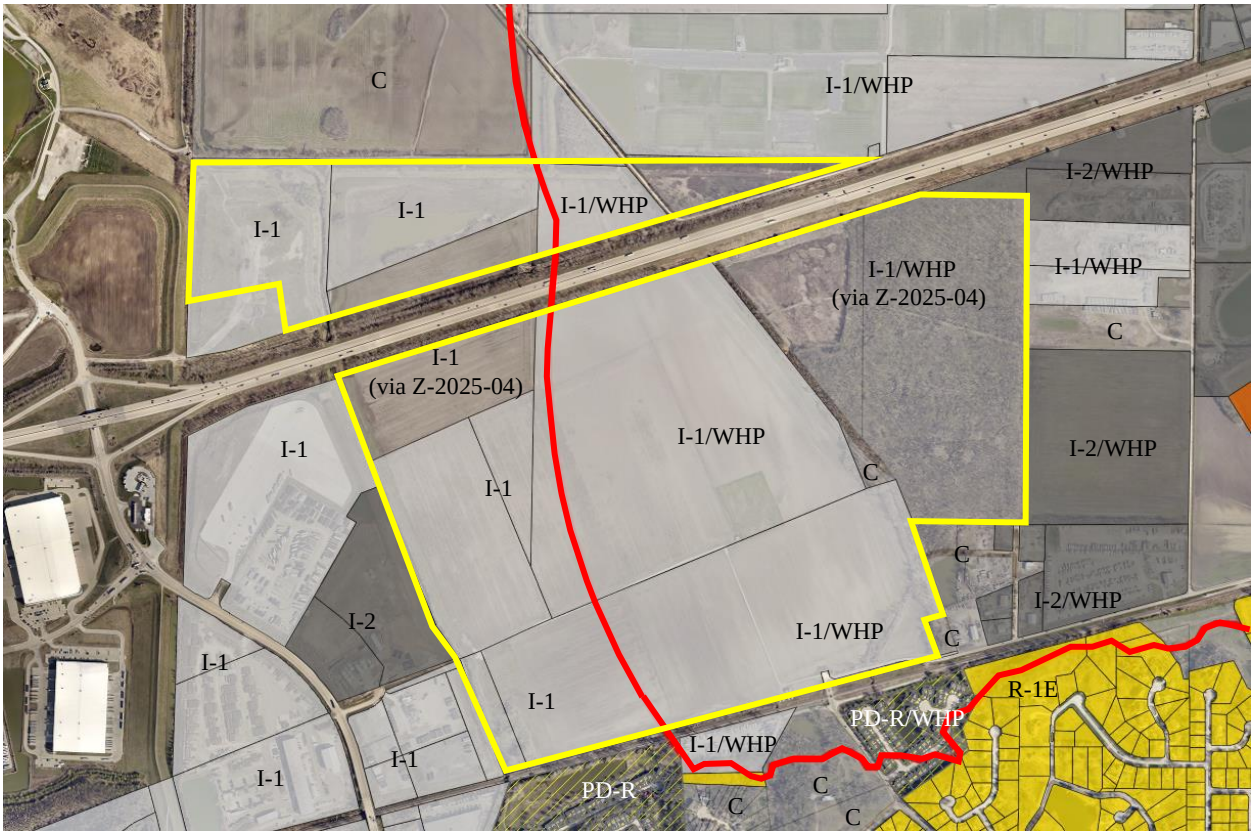


Figure 13: Area Zoning of the Subject Property. (Unincorporated County Parcels = "C") Approximate footprint of this application outlined in yellow. WHP boundary outlined in red.

Regulated Substances

Under the City's Wellhead Protection District (WHP) regulations, certain types of chemicals, referred to as ***regulated substances***, are subject to additional review and safeguards to help protect the community's groundwater resources. These include **hazardous substances**, **extremely hazardous substances**, **and liquid petroleum products**. The full definition is provided in the Zoning Code and is based on federal standards established by the U.S. Environmental Protection Agency (EPA). Regulated substances are categorized as follows:

1. **Extremely Hazardous Substance.** Any substance so designated by the U.S. Environmental Protection Agency on their official "List of Extremely Hazardous Substances," 40 CFR 355 Appendix A, as last amended, and which is either a solid (including granular and gel) or liquid at room temperature.

2. **Hazardous Substance.** Any substance so designated by the U.S. Environmental Protection Agency on their official "List of Hazardous Substances," 40 CFR 302.4, as last amended, and which is either a solid (including granular and gel) or liquid at room temperature.

3. **Liquid Petroleum Product.** Any flammable liquid hydrocarbon product refined from bituminous materials, including, but not limited to, gasoline, diesel fuel, benzene, toluene, lubricants for internal combustion engines, home heating oil, kerosene, creosote, coal oil and naphtha.

These regulations are intended to safeguard the City's drinking water supply by minimizing the risk of contamination from these types of substances. As such, any proposed use or storage of regulated substances within the WHP district must comply with all applicable zoning, environmental, and safety requirements. The following is an analysis of this proposal which is documented/proposed to contain both Hazardous Substances and Liquid Petroleum Products which are regulated within the WHP.

Within the WHP overlay district, hazardous substances may be considered as part of a conditional use, subject to appropriate safeguards and review. However, the use or storage of extremely hazardous substances is generally prohibited, due to their heightened risk to groundwater and public health. *It is important to note, this proposal does not include the use or storage of any extremely hazardous substances*.

This facility is expected to utilize a "limited number of hazardous substances (hydrochloric acid, sodium hypochlorite, and sodium hydroxide) associated with cooling and water treatment processes". No ***production*** of hazardous substances is planned, and only those necessary for facility operations will be used or stored on site. Any changes to the proposed chemical use or storage would be subject to further City review.

Per the applicant, "the storage of chemicals and treatment processes will take place on impervious surfaces within dedicated treatment buildings. Within the treatment buildings, the tanks are double-lined, and the pumps have spill containment. All chemical deliveries to the area are made within a depressed area to catch any spills that may happen during delivery."

While the applicant has identified the potential chemicals for the treatment process, the applicant has not yet submitted specific details on storage volumes or comprehensive emergency response plans; *however*, this is not unusual prior to the building permit stage, when detailed construction documents and final building configurations are prepared. Until full construction plans are finalized, including the layout of treatment systems, tank specifications, and mechanical systems, it would be premature to develop finalized response and spill prevention plans.

In similar past projects, applicants have submitted only generalized plans during the land use approval stage. In most cases, those early plans have undergone substantial revision by the time of actual permit submittal to reflect final equipment selections, building design, and regulatory coordination. For this reason, the City's standard practice is to require these documents, such as a Facility Response Plan and a Spill Prevention, Control, and Countermeasure (SPCC) Plan, at the time of building permit review, when they can be accurately tailored to the final site design and evaluated accordingly.

City staff, in coordination with the City's environmental consultant, has conducted an extensive review of the applicant's preliminary information related to chemical storage and handling. While some details remain to be finalized, staff, through consultation with our environmental consultant, have determined that these items are within the scope of what can be addressed through the building permit process. As such, specific conditions of approval (Conditions #3-5 for CU-2025-10) have been included requiring the applicant to submit detailed documentation for storage and emergency response plans at the time of building permit application. These materials will be subject to full staff review to ensure compliance with all applicable local, state, and federal

environmental protection standards, including those related to secondary containment, monitoring, and hazard mitigation.

Liquid Petroleum Products

As proposed, this project will include above-ground diesel fuel storage to support backup power generators. The double-walled steel tanks designed and constructed in accordance with safety and environmental standards, including those from NFPA (National Fire Protection Association), as well as all other applicable federal, state and local regulations. These standards address both fire safety and environmental protection.

To limit risk, diesel fuel will be stored in smaller tanks located directly next to each generator, rather than in one large tank. At full buildout, the entire site will store no more than 1 million gallons of diesel fuel across no more than 150 separate tanks.

According to the applicant, "Each tank will be equipped with redundant remote monitoring instrumentation and interstitial leak detection which will be fully integrated into the site power monitoring system to alert the site team in the event of any leak. Tanks must be surrounded by a secondary containment dike pad that contains an isolation valve."

For added environmental protection, and according to the WHP standards, every tank is required to have a secondary containment system that is sized to hold more than the full volume of the tank, in case of a spill. Together, these layers of containment and monitoring are intended to protect both public safety and the surrounding environment.

As with the other regulated substances, specific conditions of approval (Conditions #3-5 for CU-2025-10) have been included requiring the applicant to submit detailed documentation for storage and emergency response plans at the time of building permit review.

Power Infrastructure (Substations)

Each building will include an on-site electrical substation, located on the designated "Utility Pad" and operated by the end user. These substations will connect to incoming high-voltage, above-grade power lines and step the voltage down to serve the facility's operational needs. The installation of electrical substations is permitted as a **Conditional Use** within the Wellhead Protection District and is subject to compliance with Section 400.320(C)(2) of the City's Wellhead Protection Ordinance.

Transformer areas will be "constructed on impervious surfaces and include perimeter trenching for secondary containment. Stormwater runoff from the substation pads will be tied into the site's stormwater collection system and controlled via isolation valves to prevent discharge in the event of a spill." Compliance with applicable provisions (required pretreatment of stormwater runoff, as approved by the City) will be addressed through final design submittals and permit review (i.e., Improvement Plans through the Engineering Department) to ensure appropriate environmental safeguards are in place. Condition #7 (for CU-2025-10) has been included to ensure compliance with the Wellhead Standards, upon submittal of construction drawings for a building permit.

COMPLIANCE WITH THE WELLHEAD PROTECTION DISTRICT

In order for the applicant to receive approval from the City Council for this proposal, there are four (4) additional requirements to fulfill, as required by the WHP (with staff analysis in *italics*):

1. **Provide for the installation and maintenance of devices for secondary containment in case of inadvertent discharge from primary containers. Ensure the proper storage of regulated substances to ensure the integrity and proper functionality of impervious floor surface.**
    - *The applicant has acknowledged this requirement with staff during the review process for this application and indicates they will comply with the applicable regulations. As previously mentioned, these will be reviewed upon submittal of construction documents for a building permit and continually via regular auditing inspections (CU-2025-10 Conditions #3 & 4), if approved.*
2. **Submission of an emergency contingency plan for each facility to respond to unauthorized discharges.**
    - *The applicant has acknowledged this requirement with staff during the review process for this application and indicates they will comply with the applicable regulations. As previously mentioned, these will be reviewed upon submittal of construction documents for a building permit and continually via regular auditing inspections (CU-2025-10 Condition #5), if approved.*
3. **Carrying of insurance which would pay for the cost of cleanup incurred as the result of an inadvertent discharge.**
    - *At the time of this report, the applicant has not provided staff with a copy of a Certificate of Insurance since they are not the end-user; however, the applicant has indicated the project will provide a Certificate of Insurance, consistent with the City's coverage requirements, upon submittal of construction documents for a building permit (CU-2025-10 Condition #6), if approved.*
4. **The three (3) previous requirements must be approved in writing by both the Fire Chief and the Community Development Director or their designees.**
    - *All of the above documents shall be approved by staff and documented for compliance upon submittal of Improvement Plans and/or construction documents for a building permit.*

As previously discussed in this report, in collaboration with the City's environmental consultant, staff has determined that the remaining details related to chemical storage and emergency response planning can be appropriately addressed through the building permit and improvement plan review process. Conditions of approval have been included to ensure that these items are submitted, reviewed, and found compliant with all applicable environmental regulations prior to the issuance of a development permits. If these items cannot be address, the conditions will allow the Conditional Use Permit to be revoked by the City. If the Planning & Zoning Commission agrees with staff's recommendation for approval, these conditions will help ensure that all necessary safeguards are in place before construction proceeds.

COMPLIANCE WITH THE COMPREHENSIVE PLAN

The St. Charles Comprehensive Plan adopted in 2002, and updated in 2012, recommends that land use decisions be based on a project's location and compatibility with surrounding development. The Comprehensive Plan identifies 15 activity centers in the city, locations characterized by elevated levels of development, density and activity. The activity centers are the most prominent, visible and intensely developed locations in the city. The plan recommends that development should gradually decrease in density as distance from an activity center increases. The activity centers should be surrounded by land uses that gradually decrease in levels of activity, traffic and density. Proposed new uses should be judged based upon its distance from the nearest activity center, its compatibility with what surrounds it, and whether the level of development it will generate contributes to a gradual decline in density or acts counter to that goal. This land use is permitted by right in the I-1 Light Industrial District outside of the Wellhead Protection Overlay District and would not require a Conditional Use Permit in a straight I-1 zoning district. Given the site's proximity to Activity Center #15 (370 Corridor–West) and its compatibility with the surrounding industrial and commercial context, staff finds the proposed use appropriate for this location.

STAFF RECOMMENDATIONS

After a detailed review of the two requests, the City's Zoning Ordinance, the Wellhead Protection District Ordinance, the City's Comprehensive Plan, and area development patterns, staff believes the requests are appropriate, if conditioned properly.

CU-2025-10

The Department of Community Development recommends that the Conditional Use request be forwarded to the City Council with a ***favorable*** recommendation, with the following conditions:

1. This conditional use permit for the production/use/handling/storage of any hazardous substance including liquid petroleum products and electrical power generators/substations accessory to a data warehouse facility use is only for the subject property (approximately 440 acres) as described and shown on the associated Site Plan (SP-2025-05) and is not transferable to another location.
2. Should the planned use materially change or expand from the attached submittal documents (including additional regulated materials/liquids not reviewed associated with this submittal and the Wellhead Protection District), additional approvals may be required by the City.
3. Before the issuance of any building permit for the construction of this facility, the applicant shall provide details (engineered drawings) for generators, above-ground storage tanks, and devices for secondary containment in case of inadvertent discharge from primary containers. The applicant shall provide documentation of the installation and maintenance of secondary containment prior to the issuance of the building permit.
4. Before the issuance of any building permit for the construction of this facility, the applicant shall provide details of the chemical storage buildings(s) and the maintenance plan(s) of such storage facilities to ensure the integrity and proper functionality of impervious floor surfaces.

5. Before the issuance of any building permit for the construction of this facility, the applicant shall provide an emergency contingency plan for the facility to respond to unauthorized discharges, to include a Spill Prevention, Control, and Countermeasure (SPCC) Plan.
6. Before the issuance of a building permit for the construction of the facility, the applicant shall provide a Certificate of Insurance (and maintain such insurance) which would pay for the cost of cleanup incurred as the result of inadvertent discharge also naming the City as additionally insured.
7. Upon submittal of each building permit necessary for the construction of this facility, the applicant shall provide site drawings (and detail sheets) showing the location of all critical infrastructure, including chemical storage areas, generators, above-ground diesel storage tanks, substations, and building-specific transformers.
8. Before the issuance of each building permit necessary for the construction of this facility, the applicant shall provide specifications for any leak detection systems and equipment, including drawings and manuals.
9. Upon submittal of Improvement Plans for the construction of this facility, the applicant shall provide a Stormwater Pollution Prevention Plan (SWPPP) in accordance with City permitting requirements
10. The facility shall comply with any requirements of the Missouri Department of Natural Resources (MoDNR) which may include Title V air permits. If required, the applicant shall submit said permits upon the timing dictated by the MoDNR process.
11. The City and/or its environmental auditing designee shall be authorized to conduct an inspection of the facility for compliance with Section 400.320 (WHP), upon 24-hour advance notice to the site manager.
12. Non-compliance with any building code, property maintenance codes, fire codes, zoning codes, any other local, state, or federal regulations or laws, or conditions of this approval is grounds for revocation of the conditional use approval.

SP-2025-05

The Department of Community Development recommends the ***approval*** of the Site Plan request, with the following conditions:

1. Except as noted for construction-related traffic in the submitted traffic report or when Harry S Truman Boulevard is flooded, the secondary access point at the Zumbehl Road/Elm Point Road intersection shall be limited to emergency vehicle use only. If a gate is installed at this location, a Knox Box or equivalent emergency access system shall be required to ensure access by authorized emergency services.
2. Before the issuance of any building permit for the construction of this facility, the applicant shall provide cut sheets for all site lighting fixtures and a photometric plan (iso- foot-candle diagram) that documents compliance with City Standards located in Sections 400.570 and 400.700(F).
3. Prior to the issuance of a Grading Permit or Improvement Plans, the applicant shall submit documentation demonstrating coordination with the applicable Levee District. If required,

all applicable approvals or permits from the Levee District shall be obtained and provided to the City.

4. A fully executed Boundary Adjustment Plat will be required to consolidate the lots, prior to issuing a building permit. If the applicant's intent is to have more than 1 lot within this development, a record plat will also be needed.
5. Parcel #6-0002-S023-00-0007.10, a 1.26 acre lot owned by Darris G. & Robin L. Curry, shall be annexed, establish zoning and consolidated with this development, prior to issuing a building permit for this parcel.
6. The applicant shall comply with all findings and recommendations associated with the Traffic Impact Study, as reviewed by the Engineering Department, including but not limited to, the installation of warranted turn lanes and traffic signals.
7. A Noise Study (to include the generators and any other mechanical equipment) shall be conducted by the applicant and provided to the City prior to the issuance of a building permit. Upon installation of all equipment on the site, the application shall submit documentation to verify compliance with the Noise Study, Chapter 230 (Noise Control), and Section 400.230(E)(3) (Industrial Performance Standards for Noise) of the City of St. Charles Municipal Code.
8. The testing of generators shall not occur before 7:00 am or after 10:00 pm.
9. This Site Plan shall be null and void if the Conditional Use Permit (CU-2025-10) is not approved by the City Council.

Recommended Motion (Two Separate Motions):

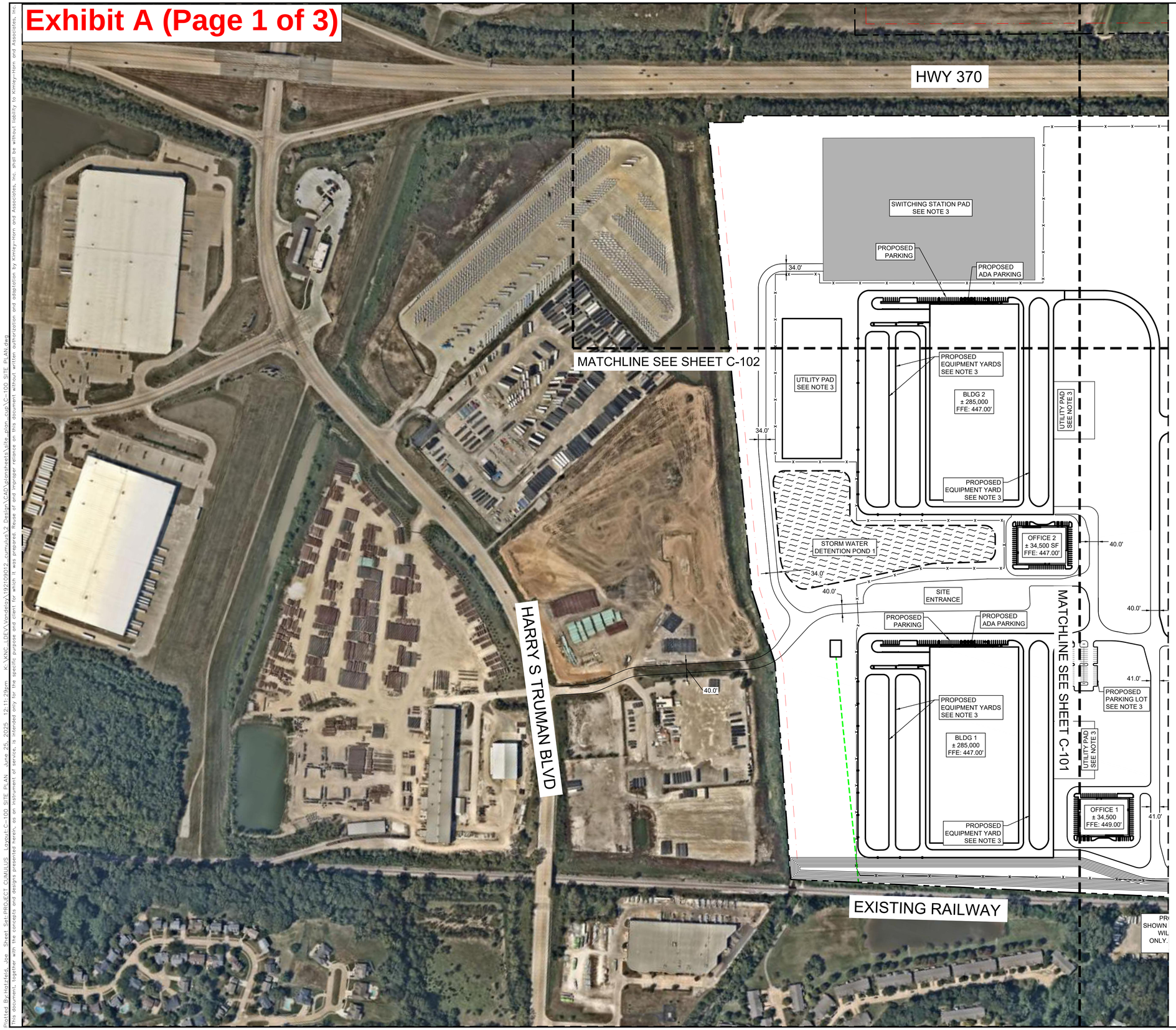
1. *Motion to forward a recommendation of approval to the City Council for the Conditional Use Permit application CU-2025-10, subject to the conditions recommended by staff.*

2. *Motion to approve Site Plan application SP-2025-05, subject to the conditions recommended by staff.*



Figure 14: Aerial Photo of the Subject Properties.

Exhibit A (Page 1 of 3)



GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

PROPERTY BOUNDARY	
PROPERTY SETBACKS	
EXISTING PARCEL LINES	
PROPOSED STORMWATER POND	
EXISTING FEMA ZONE AE	
EXISTING WETLANDS	
EXISTING EASEMENT	
PROPOSED FENCE LINE	
EXISTING WELLHEAD PROTECTION BOUNDARY	
MATCHLINE	

*NOTE:
1. FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
2. WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
3. ALL PARKING LOTS, DRIVE AISLES, AND ANY OTHER SURFACE USED FOR VEHICULAR MOVEMENT OR STORAGE TO BE PAVED IN ACCORDANCE TO THE GEOTECHNICAL RECOMMENDATIONS AND IN COMPLIANCE WITH THE CITY OF ST. CHARLES CODE FOR PAVEMENT. NO GRAVEL LOTS WILL BE PERMITTED IN THE WELLHEAD PROTECTION DISTRICT OF THE CITY OF SAINT CHARLES

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY

	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:

1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

TOTAL PROPERTY	AREA (ACRES)
TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

Kimley»Horn
805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

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STATE OF MISSOURI
ANDREW W. GRIMES, IV
NUMBER 2024038773
PROFESSIONAL ENGINEER

KHA PROJECT:

DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

SITE PLAN

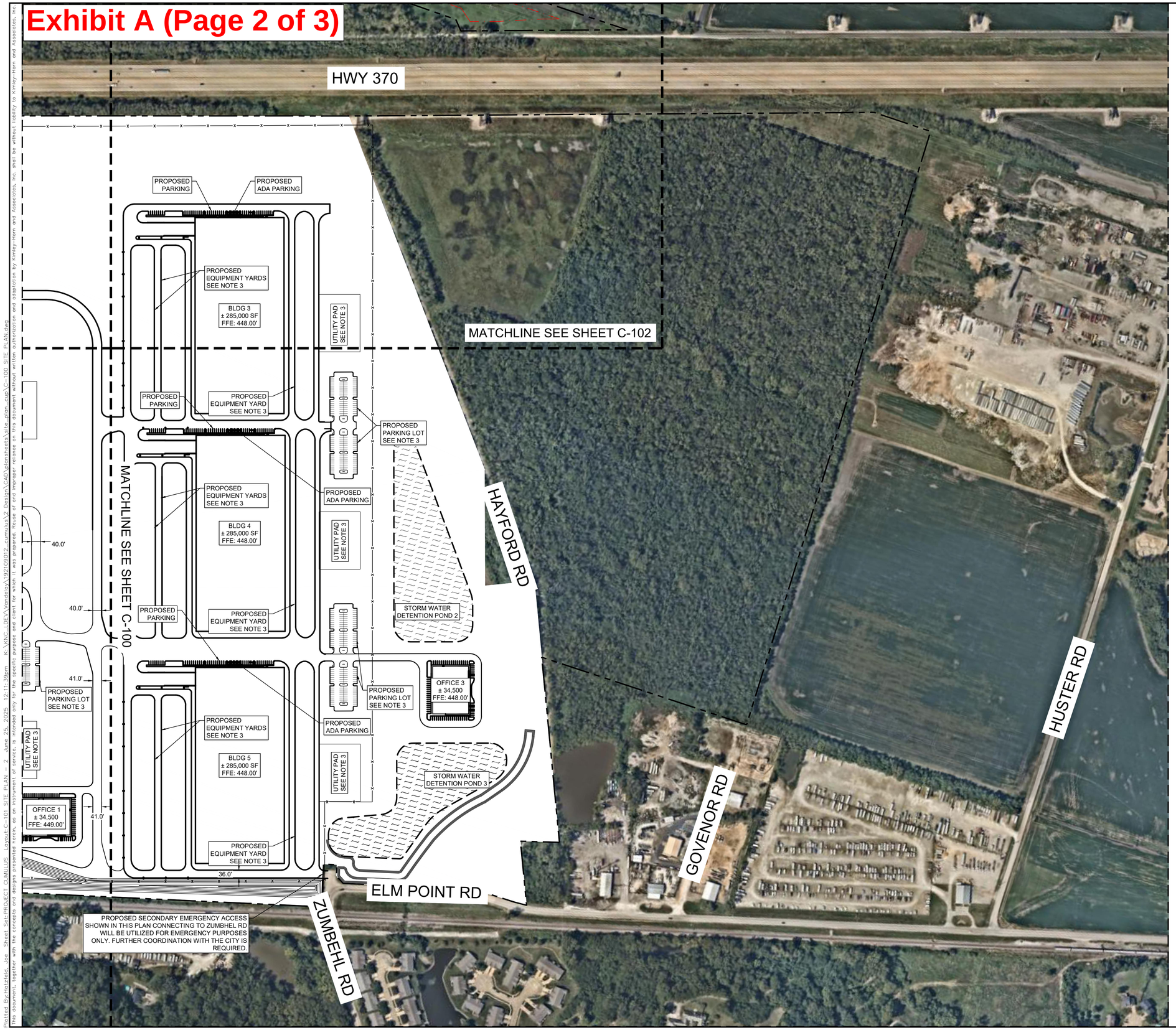
INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-100

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Exhibit A (Page 2 of 3)



GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
1. FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
2. WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
3. ALL PARKING LOTS, DRIVE AISLES, AND ANY OTHER SURFACE USED FOR VEHICULAR MOVEMENT OR STORAGE TO BE PAVED IN ACCORDANCE TO THE GEOTECHNICAL RECOMMENDATIONS AND IN COMPLIANCE WITH THE CITY OF ST. CHARLES CODE FOR PAVEMENT. NO GRAVEL LOTS WILL BE PERMITTED IN THE WELLHEAD PROTECTION DISTRICT OF THE CITY OF SAINT CHARLES

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY

	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:

1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

TOTAL PROPERTY	AREA (ACRES)
TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIMES IV
NUMBER 2024037713
PROFESSIONAL ENGINEER

KHA PROJECT
DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JCH
DRAWN BY BPM
CHECKED BY AWG

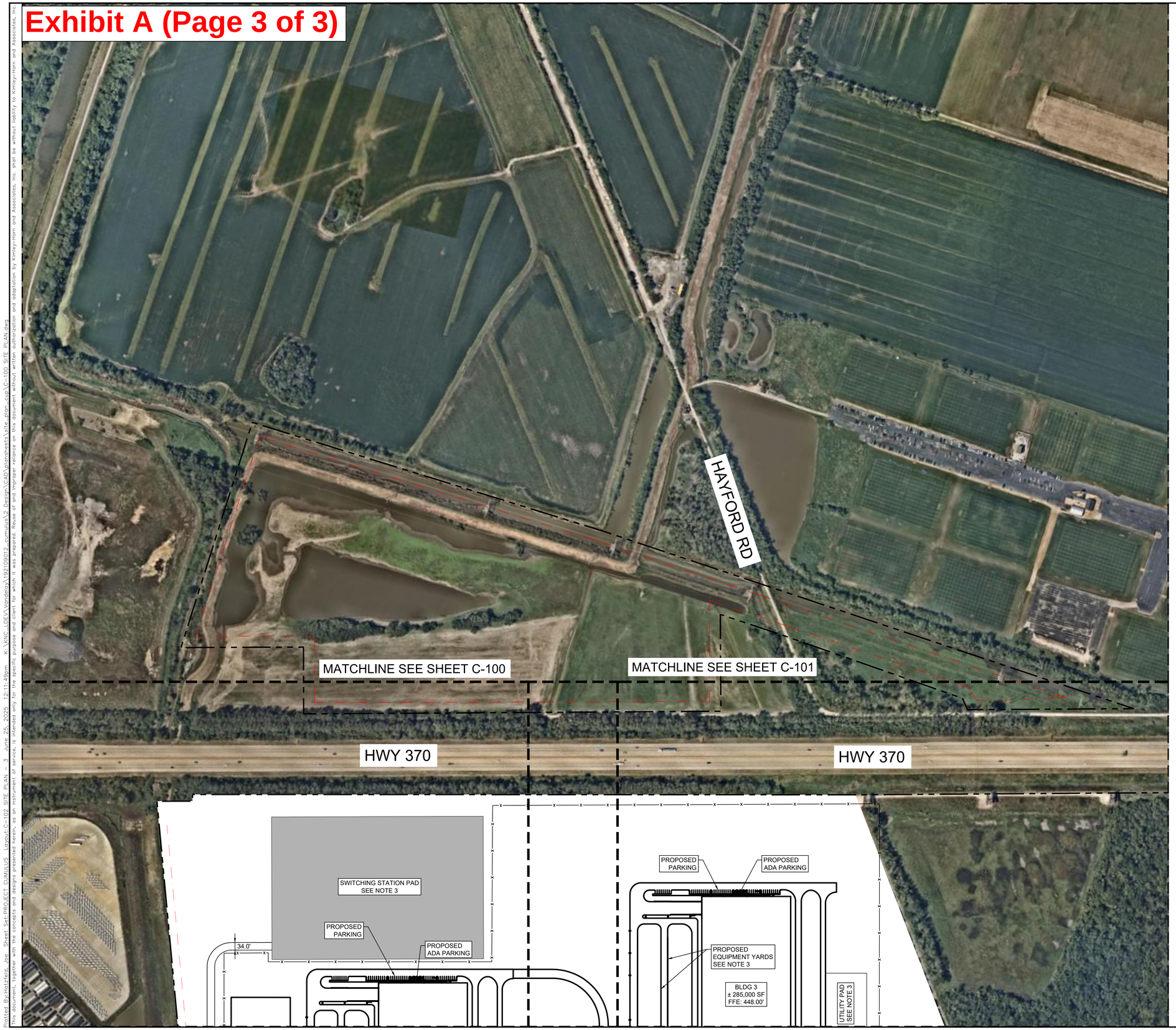
SITE PLAN - 2

INDUSTRIAL PARK
ST CHARLES MO

SHEET NUMBER
C-101

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Exhibit A (Page 3 of 3)



GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
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SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:

1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

TOTAL PROPERTY	AREA (ACRES)
TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIMES, IV
NUMBER 2024038973
PROFESSIONAL ENGINEER

KHA PROJECT

DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JDH
DRAWN BY BPM
CHECKED BY AWG

SITE PLAN - 3

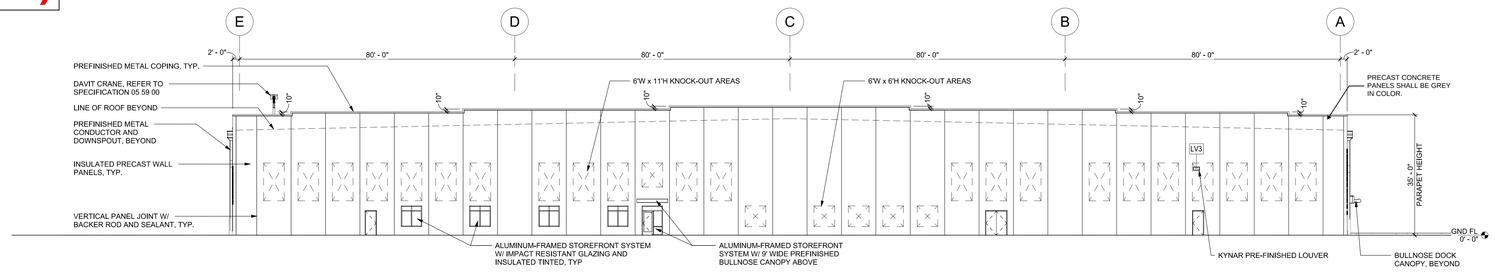
INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-102

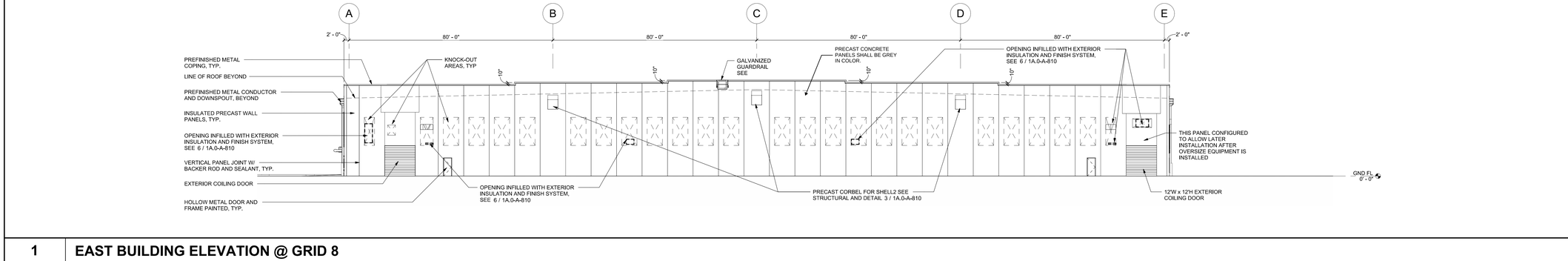
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Exhibit B (Page 1 of 2)



4 — **WEST BUILDING ELEVATION @ GRID 1**

1/16" = 1'-0"



3 — **SOUTH BUILDING ELEVATION @ GRID A**

1/16" = 1'-0"

2 — **NORTH BUILDING ELEVATION @ GRID E**

1/16" = 1'-0"

1 — **EAST BUILDING ELEVATION @ GRID 8**

1/16" = 1'-0"

REVISIONS		
NO.	DATE	DESCRIPTION

DRAWN: Author

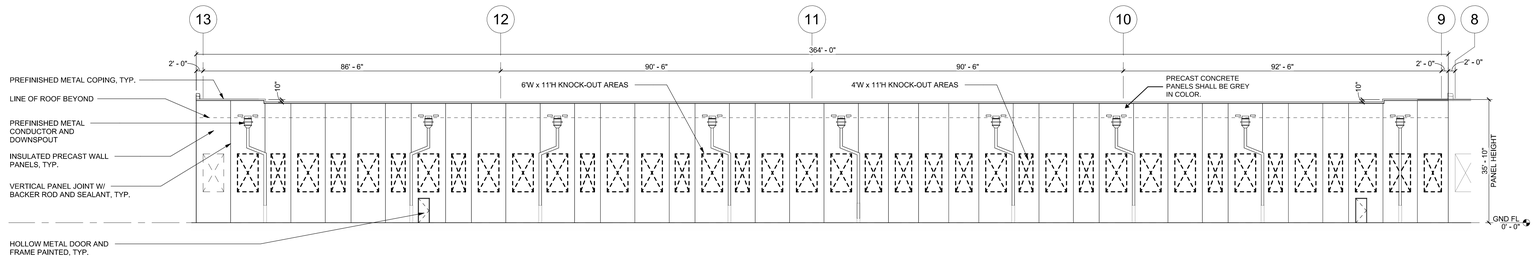
APPR'VD: Approver

BUILDING SECTIONS

SCALE: As indicated

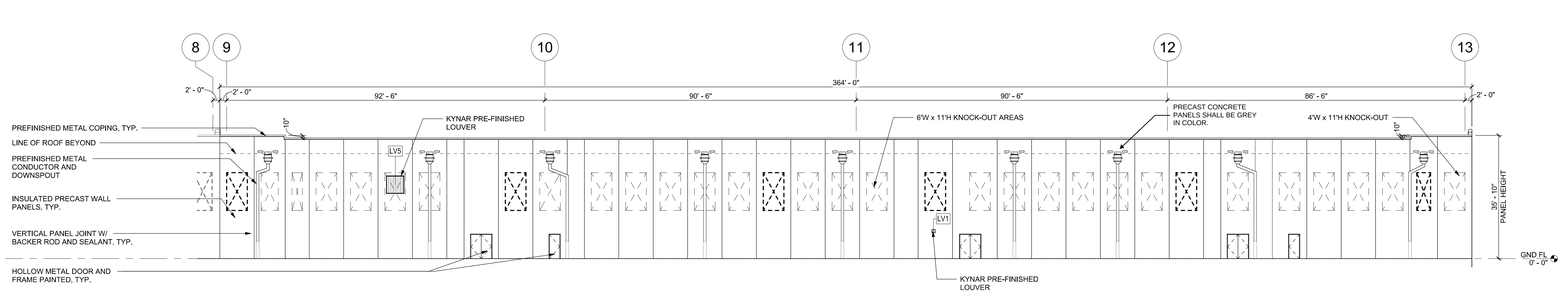
SHEET NUMBER:

Exhibit B (Page 2 of 2)



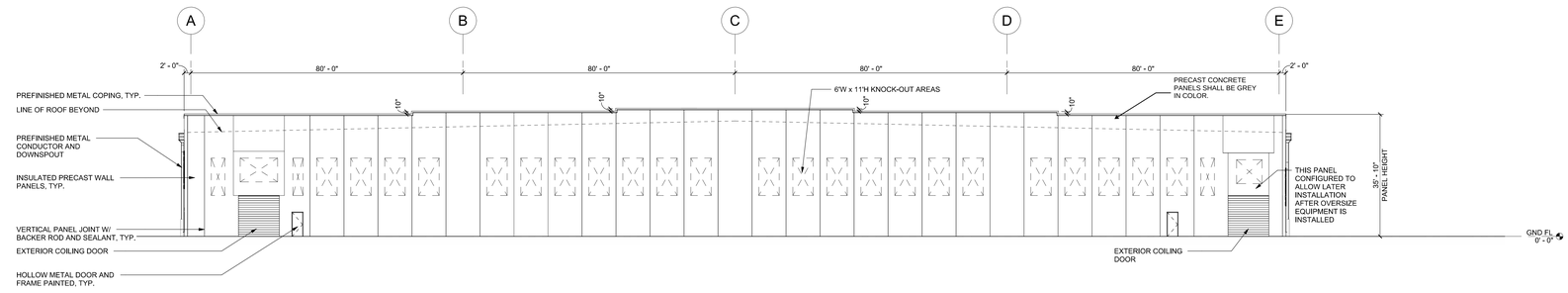
3 NORTH BUILDING ELEVATION

1/16" = 1'-0"



2 SOUTH BUILDING ELEVATION

1/16" = 1'-0"



1 EAST BUILDING ELEVATION

1/16" = 1'-0"

REVISIONS		
NO.	DATE	DESCRIPTION

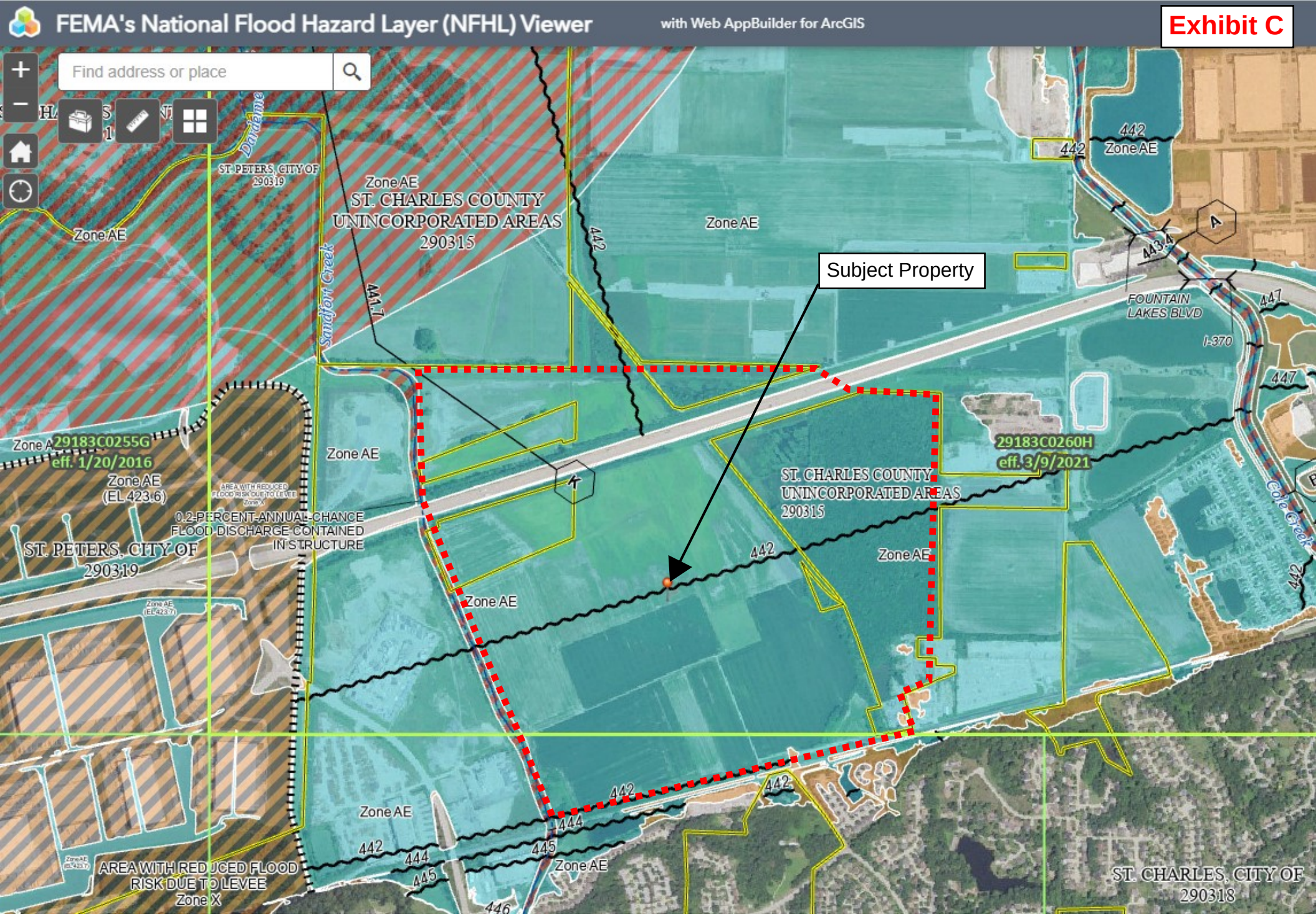
DRAWN: Author

APPRV'D: Approver

BUILDING SECTIONS

SCALE: As indicated

SHEET NUMBER:


FEMA's National Flood Hazard Layer (NFHL) Viewer
with Web AppBuilder for ArcGIS
Exhibit C
Find address or place
Subject Property
Zone AE
ST. CHARLES COUNTY
UNINCORPORATED AREAS
290315
ST. PETERS, CITY OF
290319
ST. CHARLES, CITY OF
290318
29183C0255G
eff. 1/20/2016
29183C0260H
eff. 3/9/2021
Zone AE
(EL 423.6)
0.2-PERCENT-ANNUAL-CHANCE
FLOOD DISCHARGE CONTAINED
IN STRUCTURE
AREA WITH REDUCED FLOOD
RISK DUE TO LEVEE
Zone X
Sandjon Creek
FOUNTAIN
LAKES BLVD
I-370
Cole Creek
442
441.7
443.4
444
445
446
447

SITE PLANS

FOR

INDUSTRIAL PARK

LOCATED AT

HWY 370 & HARRY S TRUMAN BLVD.
ST. CHARLES, MO 63301

UTILITY AND GOVERNING AGENCY CONTACTS

PLANNING DEPARTMENT
JOHN BOYER
ST CHARLES, MO
200 N 2ND ST
ST CHARLES, MO 63301
(636) 949 3221

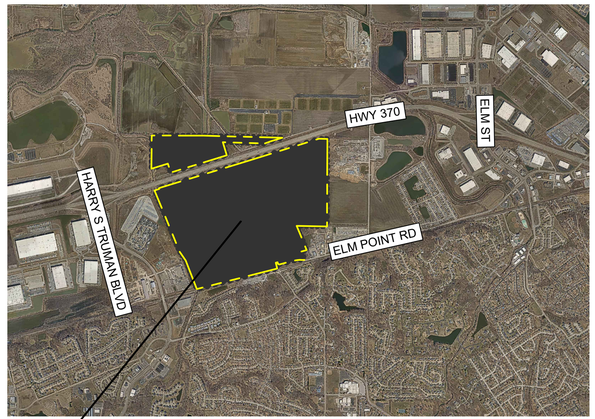
ELECTRIC SERVICE
AMEREN
(866) 992 6619
CONSTRUCTIONHOTLINE@AMEREN.COM

SANITARY SEWER SERVICE
JIM WRIGHT
CITY OF ST CHARLES
2871 ELM POINT INDUSTRIAL DRIVE
ST CHARLES, MO 63301
(636) 255 6115

WATER SERVICE
JIM WRIGHT
CITY OF ST CHARLES
2871 ELM POINT INDUSTRIAL DRIVE
ST CHARLES, MO 63301
(636) 255 6115

PROJECT TEAM

CIVIL ENGINEER
ANDREW GRIBBLE
KIMLEY-HORN & ASSOCIATES, INC.
805 PENNSYLVANIA AVE., SUITE 150
KANSAS CITY, MO 64105
(816) 652 2333
ANDREW.GRIBBLE@KIMLEY-HORN.COM



PROJECT LOCATION

VICINITY MAP
N.T.S.

ST. CHARLES GENERAL NOTES

1. ALL IMPROVEMENTS CONSTRUCTED HEREIN SHALL COMPLY WITH THE CODE OF ORDINANCES OF THE CITY OF ST. CHARLES.
2. IF PROPERTY IS GREATER THAN 1 ACRE, A LAND DISTURBANCE PERMIT FROM THE MISSOURI DEPARTMENT OF NATURAL RESOURCES IS REQUIRED PRIOR TO COMMENCING ANY DEMOLITION, CLEARING OR CONSTRUCTION ONSITE. PROVIDE COPY OF APPROVAL FROM THE DEPARTMENT OF NATURAL RESOURCES TO THE ENGINEERING DEPARTMENT. (PERMIT #_____)
3. SILTATION CONTROL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE IN ACCORDANCE WITH THE SWPPP PLAN. ADDITIONAL SILTATION CONTROL MAY BE REQUIRED AS DIRECTED BY THE CITY ENGINEER. (CODE SECTION 510.090.A.2.)
4. WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, PERMANENT GRASS MUST BE ESTABLISHED TO CONTROL EROSION. (CODE SECTION 510.090.A.4.A)
5. ALL MUD AND DEBRIS FROM CONSTRUCTION SITE TO BE KEPT OFF OF CITY MAINTAINED STREETS. STREETS SHALL BE SWEPT TWICE DAILY. (CODE SECTION 510.090.A.5)
6. ADA ACCESSIBLE SPACES CANNOT HAVE A GRADE IN EXCESS OF 2% IN ANY DIRECTION. (CODE SECTION 350.397.B.4)
7. ADA ACCESSIBLE ROUTES AND RAMPS CANNOT HAVE A CROSS SLOPE IN EXCESS OF 2%.(CODE SECTION 350.397.B.4)
8. ALL WATER MAIN CONSTRUCTION INCLUDING VALVES, SLEEVES, METERS, HYDRANTS AND FITTINGS MUST CONFORM TO CITY OF ST. CHARLES WATER SPECIFICATIONS.
9. THE MINIMUM WATER MAIN SIZE IS EIGHT INCHES. (CODE SECTION 205.070.A.23.)
10. EACH WATER SERVICE CONNECTION SHALL BE INDIVIDUALLY METERED. (MINIMUM DESIGN STANDARDS FOR MISSOURI COMMUNITY WATER SYSTEMS)
11. MINIMUM SANITARY SEWER LATERAL SIZE IS SIX INCHES. (MSD RULES AND REGULATION AND ENGINEERING DESIGN REQUIREMENTS FOR SANITARY SEWER AND STORMWATER DRAINAGE FACILITIES)
12. SANITARY SEWER LATERALS SHALL NOT CROSS A PROPERTY LINE AND MUST BE CONNECTED TO THE PUBLIC SANITARY SEWER SYSTEM IN CITY EASEMENT OR PUBLIC RIGHT-OF-WAY. (CODE SECTION 705.110.A.1.A.(2))
13. ALL NEW SEWER LATERALS MUST HAVE CONDUCTIVE TYPE PIPE LOCATOR/TRACER WIRE SHALL BE INSTALLED TO LOCATE ALL SEWER LATERALS. THE COLOR OF THE TRACER WIRE SHALL BE GREEN. ALL WORK SHALL CONFORM TO CITY STANDARDS. (MISSOURI STATE STATUTE 319.033)
14. WHEN A SANITARY SEWER LATERAL CROSSES OVER A WATER LINE, A MINIMUM VERTICAL CLEARANCE OF 18" SHALL BE PROVIDED. IF THIS CLEARANCE IS NOT POSSIBLE, THEN EITHER THE WATER LINE OR THE SEWER LINE SHALL BE CONSTRUCTED OF MECHANICAL JOINT PIPE OR CASED IN CONTINUOUS CASING UNTIL THERE IS A 10' HORIZONTAL CLEARANCE BETWEEN THE TWO LINES.
15. ALL SANITARY SEWER CONSTRUCTION MUST CONFORM TO THE LATEST VERSION OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT'S STANDARDS AND SPECIFICATIONS.
16. ALL STREETS SHALL BE A MINIMUM SEVEN (7) INCHES CONCRETE (NON-REINFORCED) ON FIVE (5) INCHES MODIFIED TYPE 5 AGGREGATE BASE ON PREPARED SUBGRADE. (CODE SECTION 405.240.A.3.)
17. SIDEWALKS, NOT PART OF AN APPROACH, SHALL BE FIVE (5) FEET WIDE, FOUR (4) INCHES CONCRETE (NONREINFORCED) ON FOUR (4) INCHES MODIFIED TYPE 5 AGGREGATE BASE ON PREPARED SUBGRADE. (CODE SECTION 505.280, ST. LOUIS COUNTY DEPARTMENT OF TRANSPORTATION DRAWING C608.43)
18. FLOWABLE FILL BACKFILL SHALL BE USED FOR ALL BACKFILL ON SEWER TRENCHES THAT ARE UNDER CITY STREETS, FROM THE TOP OF THE BEDDING MATERIAL (6 INCHES ABOVE THE PIPE) TO THE SURFACE, OR TO WITHIN ONE FOOT OF GRADE IN LANDSCAPED AREAS. (CODE SECTION 510.280.4.A.(1))
19. GRANULAR BACKFILL SHALL BE USED FOR BACKFILL ON SEWER TRENCHES UNDER PROPOSED PAVED AREAS AND TWO FEET OUTSIDE PROPOSED PAVED AREAS, FROM THE TOP OF THE BEDDING MATERIAL (SIX INCHES ABOVE THE PIPE) TO THE SURFACE OR WITHIN ONE FOOT OF GRADE IN LANDSCAPED AREAS. (CODE SECTION 510.280.A.4.B.(3))
20. FLOWABLE FILL IS REQUIRED FOR ALL BACKFILL WITHIN WATER LINE TRENCH UNDER PAVED AREAS.
21. EARTH BACKFILL (MEETING MSD STANDARDS) MAY BE USED OUTSIDE OF PAVED AREAS, FROM THE TOP OF THE BEDDING MATERIAL TO THE SURFACE. EARTH BACKFILL SHOULD BE PLACED IN A MAXIMUM 8-INCH LOOSE LIFTS AND SHALL BE MECHANICALLY COMPACTED TO A MINIMUM DENSITY OF 85% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 90% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99.
22. ALL STORM SEWER DESIGN IS TO CONFORM TO THE CITY OF ST. CHARLES DESIGN REQUIREMENTS. (CODE SECTION 510.290)
23. ALL STORM SEWER CONSTRUCTION IS TO BE PER THE LATEST EDITION OF THE METROPOLITAN ST. LOUIS SEWER DISTRICT (MSD) STANDARD CONSTRUCTION SPECIFICATIONS FOR SEWERS AND DRAINAGE FACILITIES. (CODE SECTION 510.280)
24. FOR NEW SUBDIVISIONS ONLY:
    ALL JETTING SHALL BE PERFORMED WITH A PROBE ROUTE ON NOT GREATER THAN 7.5-FOOT CENTERS WITH THE JETTING PROBE CENTERED OVER AND PARALLEL WITH THE DIRECTION OF THE PIPE. TRENCH WIDTHS GREATER THAN 10 FEET WILL REQUIRE MULTIPLE PROBES EVERY 7.5- FOOT CENTERS. TRENCH BACKFILL DEPTHS LESS THAN 8 FEET IN DEPTH SHALL BE PROBED TO A DEPTH EXTENDING TO HALF OF THE TRENCH BACKFILL, BUT NOT LESS THAN 3 FEET. TRENCH BACKFILL GREATER THAN 8 FEET IN DEPTH SHALL BE PROBED TO HALF THE DEPTH OF THE TRENCH BACKFILL BUT NOT GREATER THAN 8 FEET. JETTING SHALL BE PERFORMED FROM THE LOW SURFACE TOPOGRAPHIC POINT AND PROCEED TOWARD THE HIGH POINT, AND FROM THE BOTTOM OF THE TRENCH BACKFILL TOWARDS THE SURFACE. THE FLOODING OF EACH JETTING PROBE SHALL BE STARTED SLOWLY ALLOWING SLOW SATURATION OF THE SOIL. WATER IS NOT TO BE ALLOWED TO FLOW AWAY FROM THE DITCH WITHOUT FIRST SATURATING THE TRENCH. CONTRACTOR SHALL IDENTIFY THE LOCATIONS OF SURFACE BRIDGING (THE TENDENCY FOR THE UPPER BACKFILL CRUST TO ARCH OVER THE TRENCH RATHER THAN COLLAPSE AND CONSOLIDATE DURING THE JETTING PROCESS). THE CONTRACTOR SHALL BREAK DOWN THE BRIDGED AREAS USING AN APPROPRIATE METHOD SUCH AS THE WHEELS OR BUCKET OF A BACKHOE. WHEN THE SURFACE CRUST IS COLLAPSED, THE VOID SHALL BE BACKFILLED WITH THE SAME MATERIAL WITHIN THE SUNKEN/JETTED AREA SHALL BE COMPACTED SUCH THAT NO FURTHER SURFACE SUBSIDENCE OCCURS. (CODE SECTION 510.280)
25. ALL SANITARY AND STORM PIPE JOINTS AND JOINTS ON NEW STRUCTURES SHALL USE CITY APPROVED RUBBER COMPRESSION TYPE JOINTS. WATER STOPS ARE REQUIRED AT ALL POINTS OF CONNECTION NOT USING RUBBER COMPRESSION TYPE JOINTS SUCH AS CONNECTIONS TO EXISTING STRUCTURES. (CODE SECTION 510.280.6)
26. ALL SANITARY AND STORMWATER SEWER STRUCTURE JOINTS WILL BE WRAPPED WITH CRETEX MANHOLE JOINT WRAP, MAR MAC SEAL WRAP OR APPROVED EQUAL.
27. CONCRETE COVERS ON STRUCTURES WILL NOT BE ALLOWED. ONLY CAST IRON COVERS ARE PERMITTED. (CODE SECTION 510.280.5)
28. BRICK STORM AND SANITARY STRUCTURES WILL NOT BE ALLOWED.
29. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR/DEVELOPER TO PROVIDE TRAFFIC CONTROL PER THE LATEST EDITION OF THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
30. ALL UTILITIES SHALL BE LOCATED UNDERGROUND.
31. ALL FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER AND/OR PAVED AREAS SHALL BE COMPACTED TO 90% OF MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99.
32. ALL FILLED PLACES IN PROPOSED ROADS SHALL BE COMPACTED FROM THE BOTTOM OF THE FILL UP TO 90% MAXIMUM DENSITY AS DETERMINED BY THE MODIFIED AASHTO T-180 COMPACTION TEST OR 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AASHTO T-99. ALL TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
33. GRADES CANNOT EXCEED A 3:1 SLOPE. (CODE SECTION 510.090.A.1.)
34. ALL COMMERCIAL PROPERTIES ARE TO HAVE IRRIGATION SYSTEMS OR SUBMIT A LANDSCAPE PLAN SIGNED AND SEALED BY A MISSOURI-REGISTERED LANDSCAPE ARCHITECT OR CERTIFIED ARBORIST THAT THE LANDSCAPE IS DROUGHT TOLERANT. (CODE SECTION 400.965)
35. CONSTRUCTION ACTIVITIES SHALL ABIDE BY THE NOISE RESTRICTIONS AS OUTLINED IN CODE CHAPTER 230.
36. FOR ALL SANITARY SEWERS WITHIN THE RIGHT OF WAY, A CLEAN OUT SHALL BE PROVIDED, IN THE RIGHT OF WAY, WITHIN ONE (1) FOOT OF THE PROPERTY SERVED, AND IN ADDITION TO ANY REQUIRED FOR ADHERENCE TO THE PLUMBING CODE. ALL WORK TO CONFORM TO CITY STANDARDS.
37. LIGHTING SHALL PROVIDE 0.25 FOOT-CANDLES IN PARKING LOTS AND 0.50 FOOT-CANDLES AT ENTRANCES AND APPROACHES. (CODE SECTION 400.700.F.2.)
38. THE MINIMUM REQUIREMENT FOR STREET LIGHTING FACILITIES SHALL BE ONE (1) LIGHT EMITTING DIODES LIGHT AT EACH STREET INTERSECTION, BUT NOT FURTHER APART THAN ONE HUNDRED FORTY-FIVE (145) FEET WITHIN OR ABUTTING THE SUBDIVISION TO MAINTAIN A MINIMUM OF FOUR TENTHS (0.4) FOOT-CANDLE LIGHTING PATTERN THROUGHOUT. (CODE SECTION 405.240.E.)
39. STREET LIGHTS, SIGN POSTS, ETC. SHALL BE LOCATED AT LEAST FIVE FEET FROM DRIVEWAYS AND TEN FEET FROM FIRE HYDRANTS.
40. WHENEVER POSSIBLE, "NO PARKING" ZONES ARE TO BE LOCATED ON THE SAME SIDE OF THE ROADWAY AS FIRE HYDRANTS.

SHEET LIST TABLE	
SHEET NUMBER	SHEET TITLE
C-000	COVER SHEET
1 OF 4	ALTA SURVEY
2 OF 4	ALTA SURVEY
3 OF 4	ALTA SURVEY
4 OF 4	ALTA SURVEY
C-100	SITE PLAN
C-101	SITE PLAN - 2
C-102	SITE PLAN - 3
C-103	FINISHED GRADE PLAN
C-104	FINISHED GRADE PLAN
C-105	FINISHED GRADE PLAN
C-200	TYP. BUILDING ENLARGEMENT
C-300	UTILITY PLAN
C-301	UTILITY PLAN - 2
C-302	UTILITY PLAN - 3
C-400	PHOTOMETRIC PLAN
C-401	PHOTOMETRIC PLAN
C-402	PHOTOMETRIC PLAN
C-403	PHOTOMETRIC PLAN
C-404	PHOTOMETRIC PLAN
C-405	PHOTOMETRIC PLAN
C-406	PHOTOMETRIC PLAN
C-407	PHOTOMETRIC PLAN
L-000	TREE PRESERVATION PLAN
L-100	LANDSCAPE KEY PLAN
L-101	LANDSCAPE PLAN
L-102	LANDSCAPE PLAN
L-103	LANDSCAPE PLAN
L-104	LANDSCAPE PLAN

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

PARKING SUMMARY	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:

1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIBBLE IV
NUMBER 2024038974
PROFESSIONAL ENGINEER

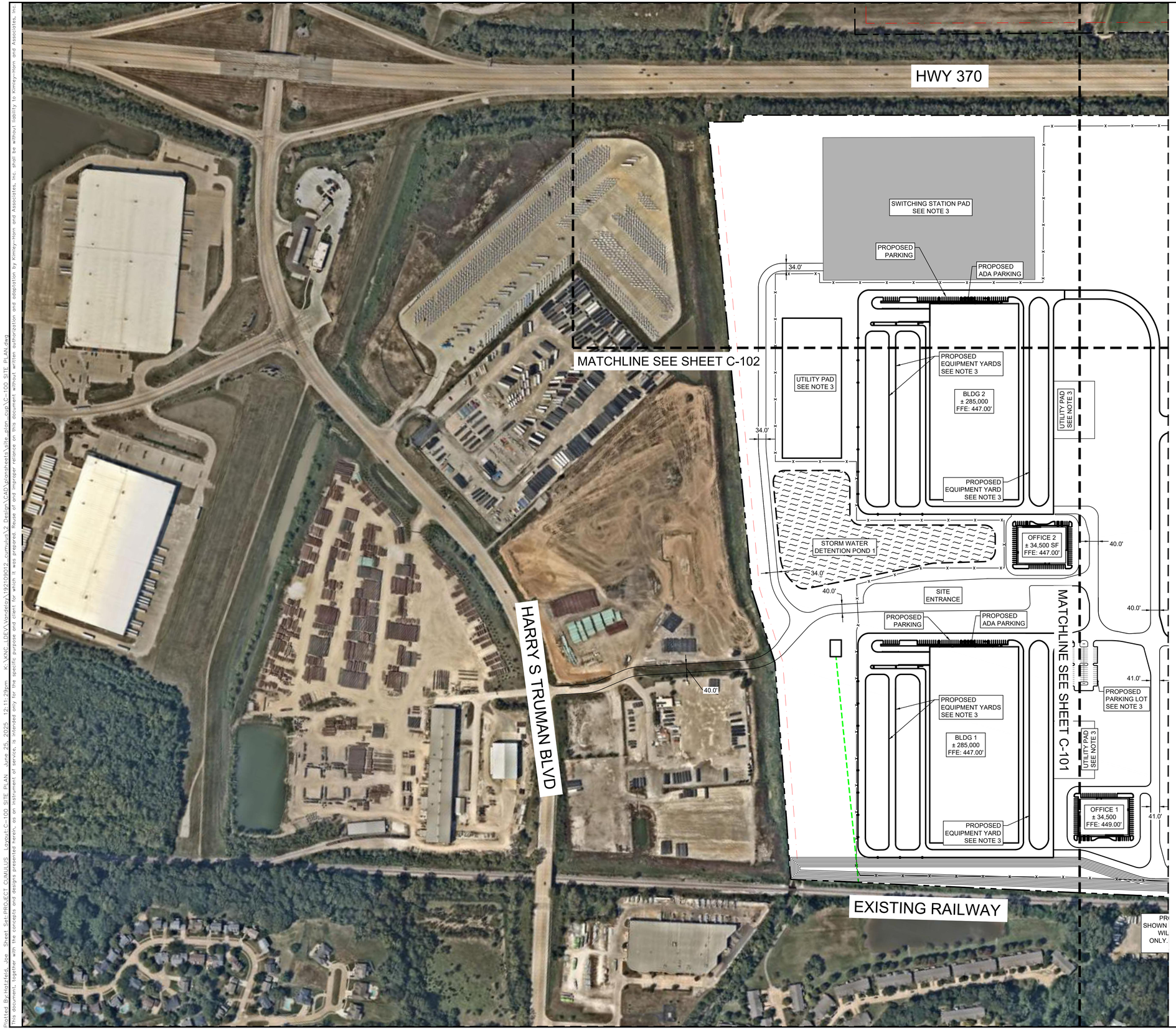
KHA PROJECT
DATE 2025-06-25
SCALE AS SHOWN
DESIGNED BY JCH
DRAWN BY BPM
CHECKED BY AWG

COVER SHEET

INDUSTRIAL PARK
ST CHARLES MO

SHEET NUMBER
C-000

Plotted By:Hatfield, Joe Sheet Set:PROJECT CUMULUS Layout:C-000 COVER SHEET June 25, 2025 12:11:15pm K:\KNC_LDEV\Vondelay\19210912_cumulus\2 Design\CAD\plansheets\site_plan_sup\C-000 COVER SHEET.dwg
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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
1. FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
2. WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
3. ALL PARKING LOTS, DRIVE AISLES, AND ANY OTHER SURFACE USED FOR VEHICULAR MOVEMENT OR STORAGE TO BE PAVED IN ACCORDANCE TO THE GEOTECHNICAL RECOMMENDATIONS AND IN COMPLIANCE WITH THE CITY OF ST. CHARLES CODE FOR PAVEMENT. NO GRAVEL LOTS WILL BE PERMITTED IN THE WELLHEAD PROTECTION DISTRICT OF THE CITY OF SAINT CHARLES

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY

	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:

1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

TOTAL PROPERTY	AREA (ACRES)
TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

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STATE OF MISSOURI
ANDREW W. GRIMES, IV
NUMBER 2024038773
PROFESSIONAL ENGINEER

KHA PROJECT:
DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JCH
DRAWN BY BPM
CHECKED BY AWG

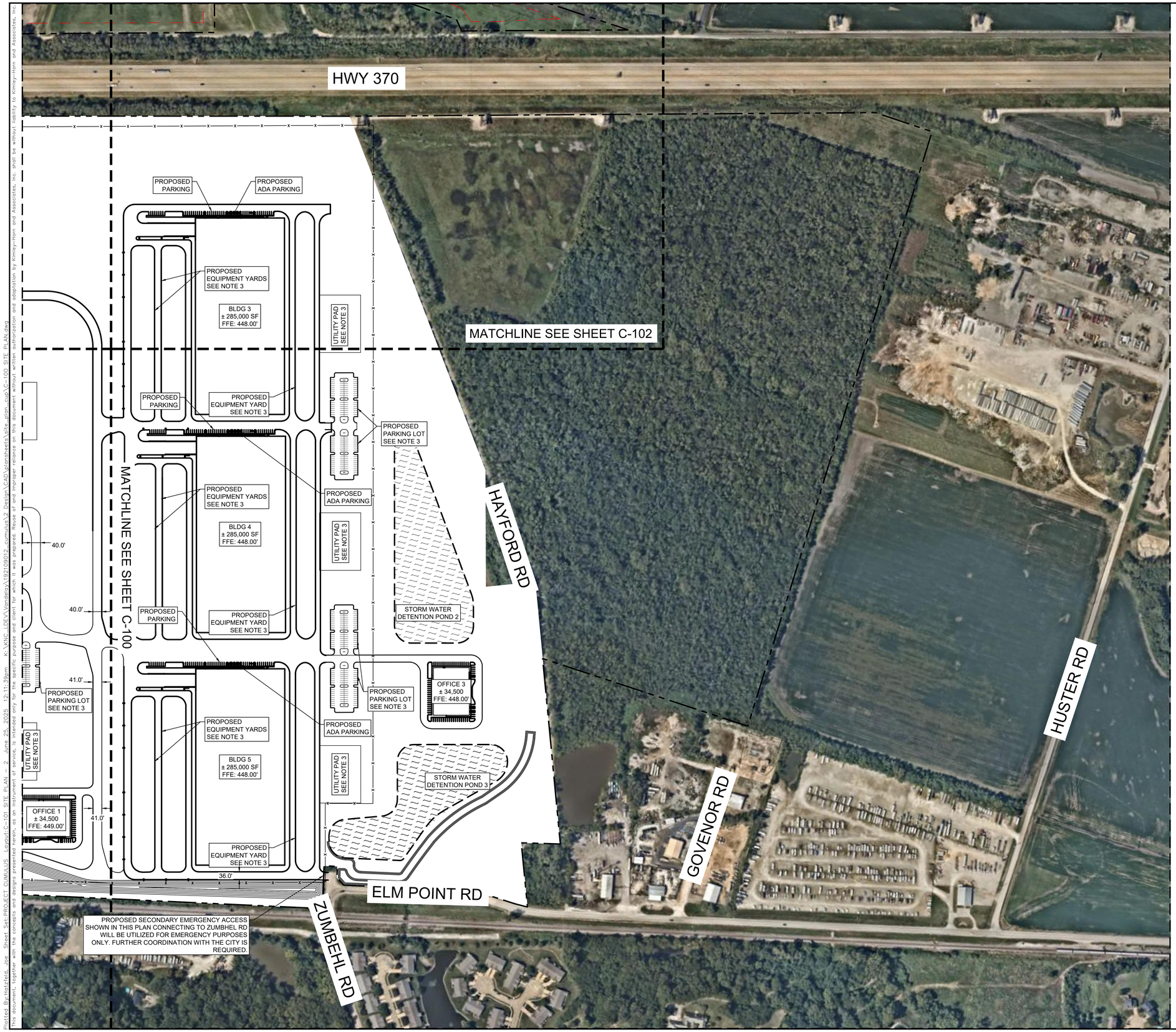
SITE PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-100

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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
1. FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
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SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY

	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:

1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

TOTAL PROPERTY	AREA (ACRES)
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DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

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WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIMES IV
NUMBER 2024038973
PROFESSIONAL ENGINEER

KHA PROJECT

DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

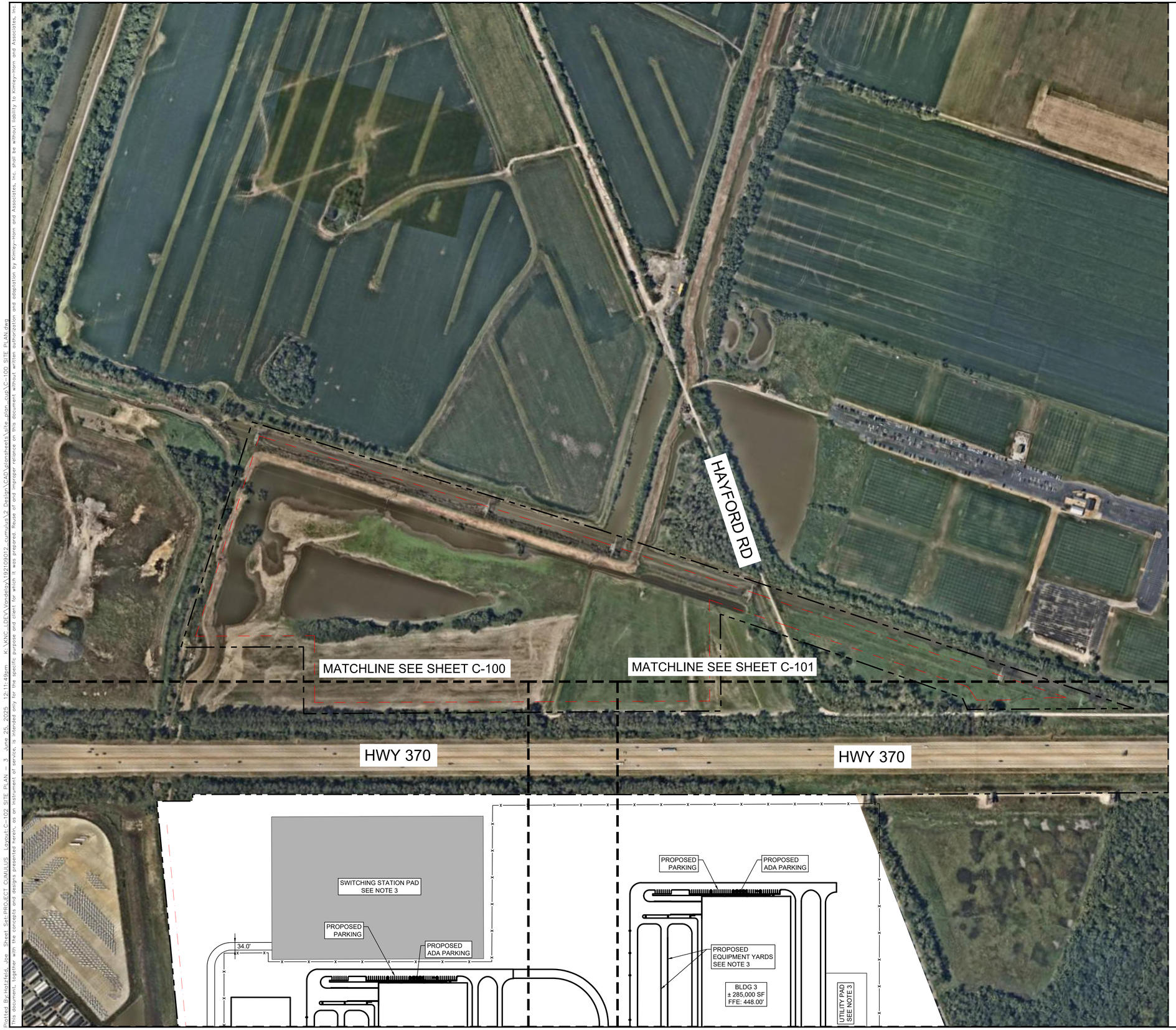
SITE PLAN - 2

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-101

Plotted By:Hatzfeld, Joe Sheet Set:PROJECT CUMULUS Layout:C-101 SITE PLAN - 2 June 25, 2025 12:11:39pm K:\KNS_LDEV\Vandelay\192109012_cumulus\2 Design\CAD\Visionstreet\site_plan_sup\C-100 SITE PLAN.dwg
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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
1. FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
2. WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
3. ALL PARKING LOTS, DRIVE AISLES, AND ANY OTHER SURFACE USED FOR VEHICULAR MOVEMENT OR STORAGE TO BE PAVED IN ACCORDANCE TO THE GEOTECHNICAL RECOMMENDATIONS AND IN COMPLIANCE WITH THE CITY OF ST. CHARLES CODE FOR PAVEMENT. NO GRAVEL LOTS WILL BE PERMITTED IN THE WELLHEAD PROTECTION DISTRICT OF THE CITY OF SAINT CHARLES

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:

1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

TOTAL PROPERTY	AREA (ACRES)
TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

Kimley»Horn
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WWW.KIMLEY-HORN.COM

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STATE OF MISSOURI
ANDREW W. GRIMES IV
NUMBER 2024038973
PROFESSIONAL ENGINEER

KHA PROJECT			
DATE	2025-05-19	DESIGNED BY	JDH
SCALE	AS SHOWN	DRAWN BY	BPM
		CHECKED BY	AWG

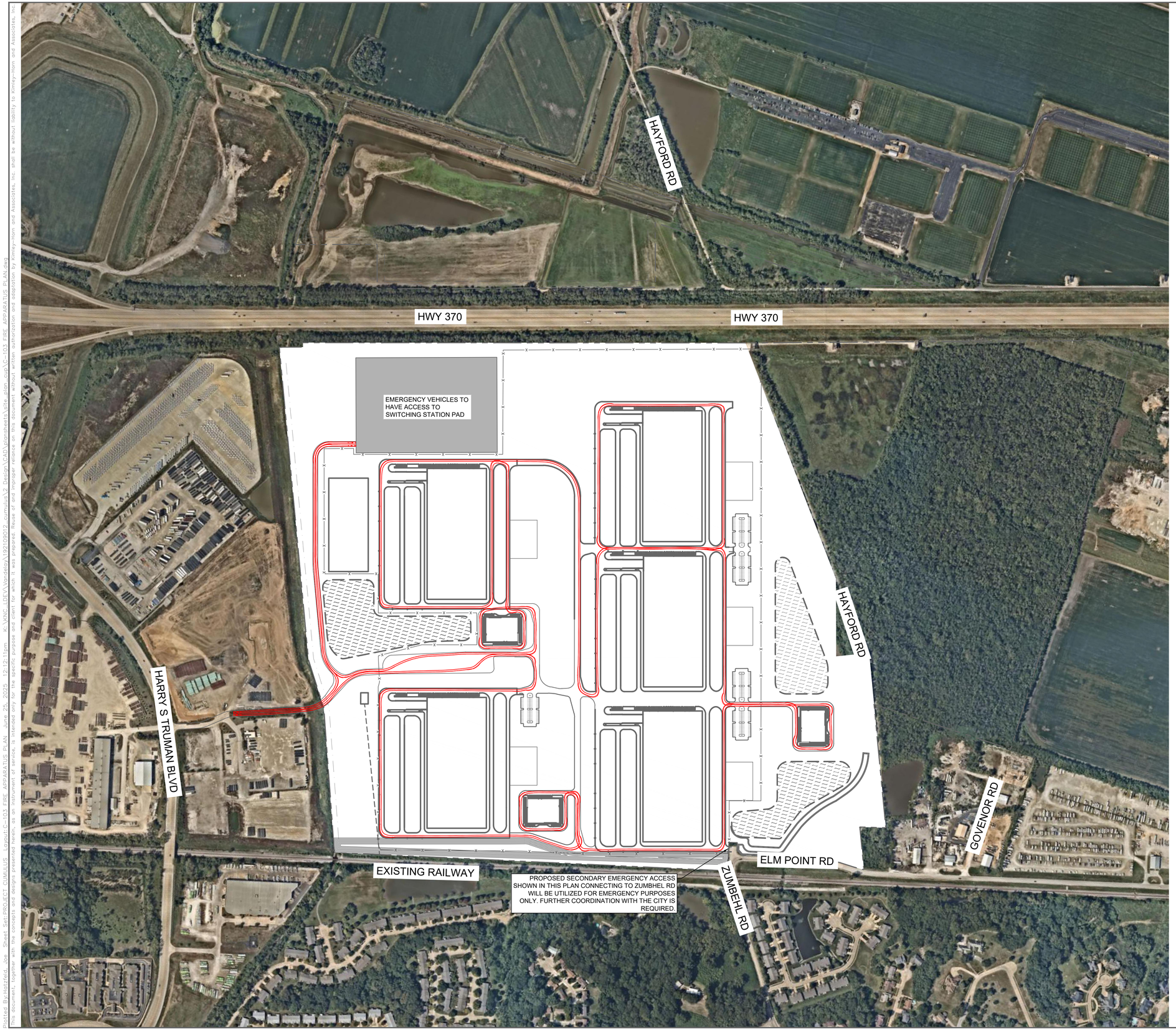
SITE PLAN - 3

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-102

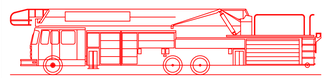
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GRAPHIC SCALE IN FEET
0 150 300 600

NORTH

SITE LEGEND



100' St. Charles Fire Truck (300 Gallon Tank)

*NOTE:
- FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
- WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
- ALL PARKING LOTS TO BE PAVED IN ACCORDANCE TO THE GEOTECHNICAL RECOMMENDATIONS. NO GRAVEL LOTS WILL BE PERMITTED IN THE WELLHEAD PROTECTION DISTRICT OF THE CITY OF SAINT CHARLES

TOTAL PROPERTY	AREA (ACRES)
TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

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805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIBBLE IV
NUMBER 2019037973
PROFESSIONAL ENGINEER

KHA PROJECT

DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

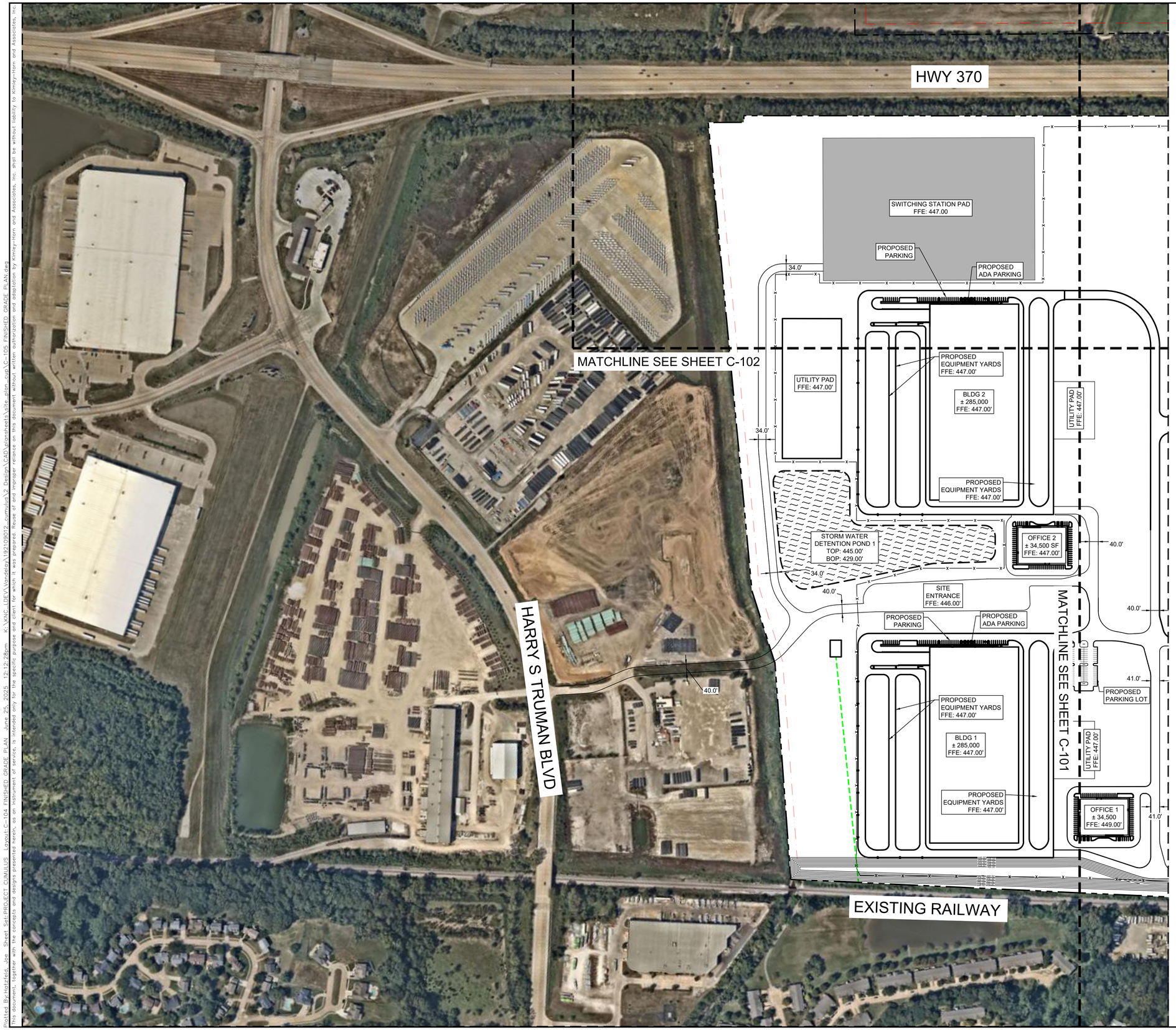
FIRE APPARATUS PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-103

Plotted By:stefield, Joe Sheet Set:PROJECT DUMULUS Layout:C-103 FIRE APPARATUS PLAN June 25, 2025 12:12:11pm K:\KNC_DEV\Vandelay\192109012_dumulus\2_Design\CAD\plansheets\site plan_cup\C-103 FIRE APPARATUS PLAN.dwg
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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
- FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
- WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:
1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

TOTAL PROPERTY	AREA (ACRES)
TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

Kimley»Horn
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PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIGGS IV
NUMBER 2024039772
PROFESSIONAL ENGINEER

KHA PROJECT

DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

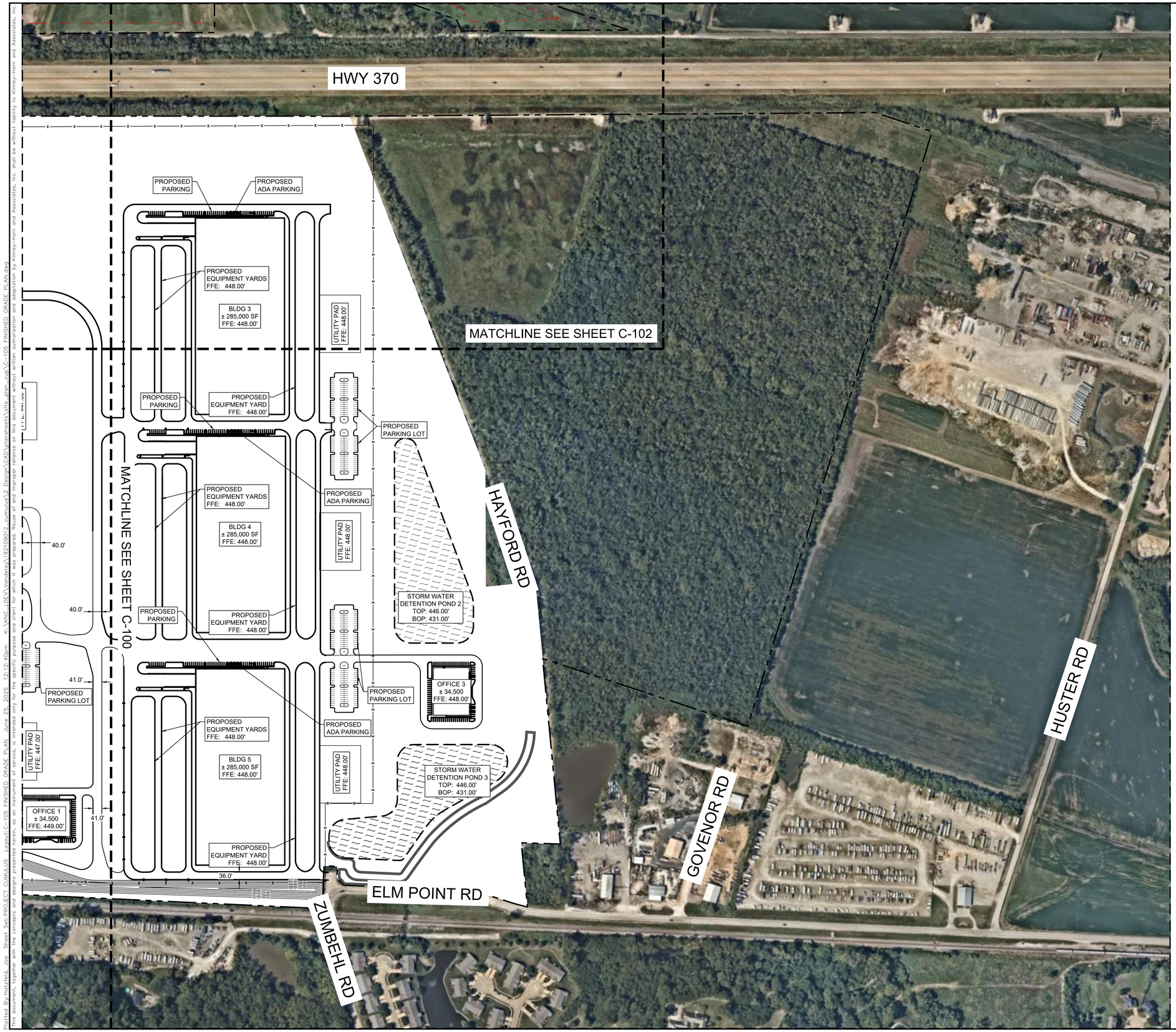
FINISHED GRADE PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-104

Plotted By:Hatfield, Joe Sheet Set:PROJECT CUMULUS Layout:C-104 FINISHED GRADE PLAN June 25, 2025 12:12:28pm K:\KNS_LDEV\Vandeley\192109012_cumulus\2 Design\CAD\planSheets\site_plan_sub\C-105 FINISHED GRADE PLAN.dwg
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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
- FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
- WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY	REQUIRED	PROVIDED
STANDARD	735	721
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1 PER 2000 SF OF WAREHOUSE AREA,
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FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

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PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIGGS IV
NUMBER 2024038772
PROFESSIONAL ENGINEER

KHA PROJECT

DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JGH
DRAWN BY BPM
CHECKED BY AWG

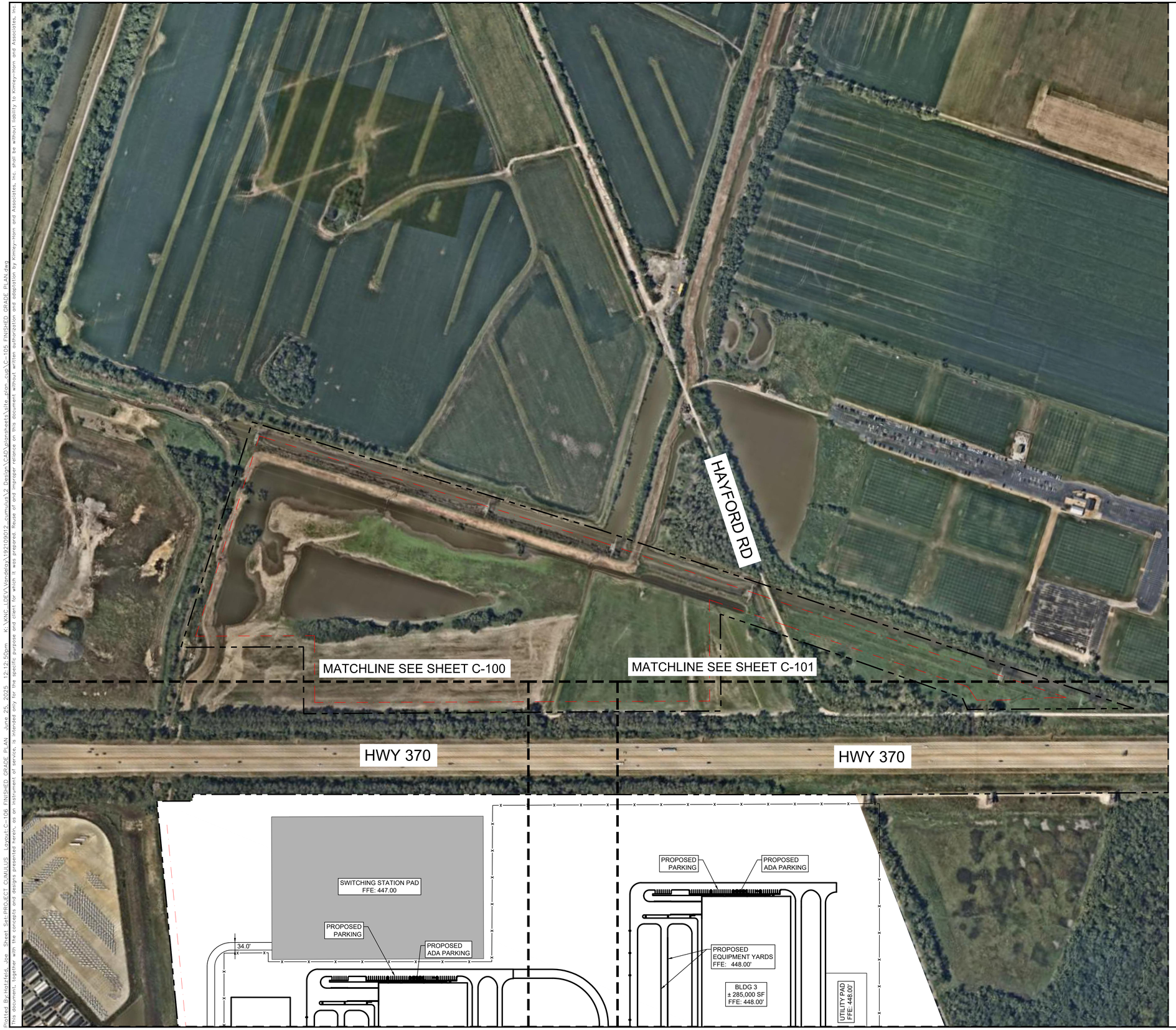
FINISHED GRADE PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-105

Plotted By:hatzfeld, Joe Sheet Set:PROJECT CUMULUS Layout:C-105 FINISHED GRADE PLAN June 25, 2025 12:12:40pm K:\VNC_LOE\V\Vandelay\19210902_cumulus\2 Design\CAD\plansheets\site_plan_sub\C-105 FINISHED GRADE PLAN.dwg
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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

SITE LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- MATCHLINE

*NOTE:
- FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #29183C0260H
- WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY

SITE DATA:

TOTAL PARCEL AREA:	454 AC
CURRENT ZONING:	I-1
PROPOSED ZONING:	I-1
PROPOSED USE:	INDUSTRIAL

BUILDING COVERAGE:

PROPOSED FLOOR AREA	± 1,500,000 SF
F.A.R. (1,500,000 SF/19,776,240 SF)	7.58%

PARKING SUMMARY	REQUIRED	PROVIDED
STANDARD	735	721
ACCESSIBLE	15	35
TOTAL	750	756

PARKING CALCULATION:
1 PER 2000 SF OF WAREHOUSE AREA,
PLUS SPACE FOR STORAGE OF VEHICLES

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TOTAL PARCEL AREA	454 AC
DEVELOPABLE AREA (TOTAL AREA LESS WETLANDS, FLOOD ZONES, AND SETBACKS) SOUTH OF 370	254 AC
WETLANDS IN PARCEL	87 AC
FLOOD ZONES IN PARCEL	2 AC

No.	REVISIONS	DATE	BY

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ANDREW W. GRIMES IV
NUMBER 2013173
PROFESSIONAL ENGINEER
STATE OF MISSOURI

KHA PROJECT

DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

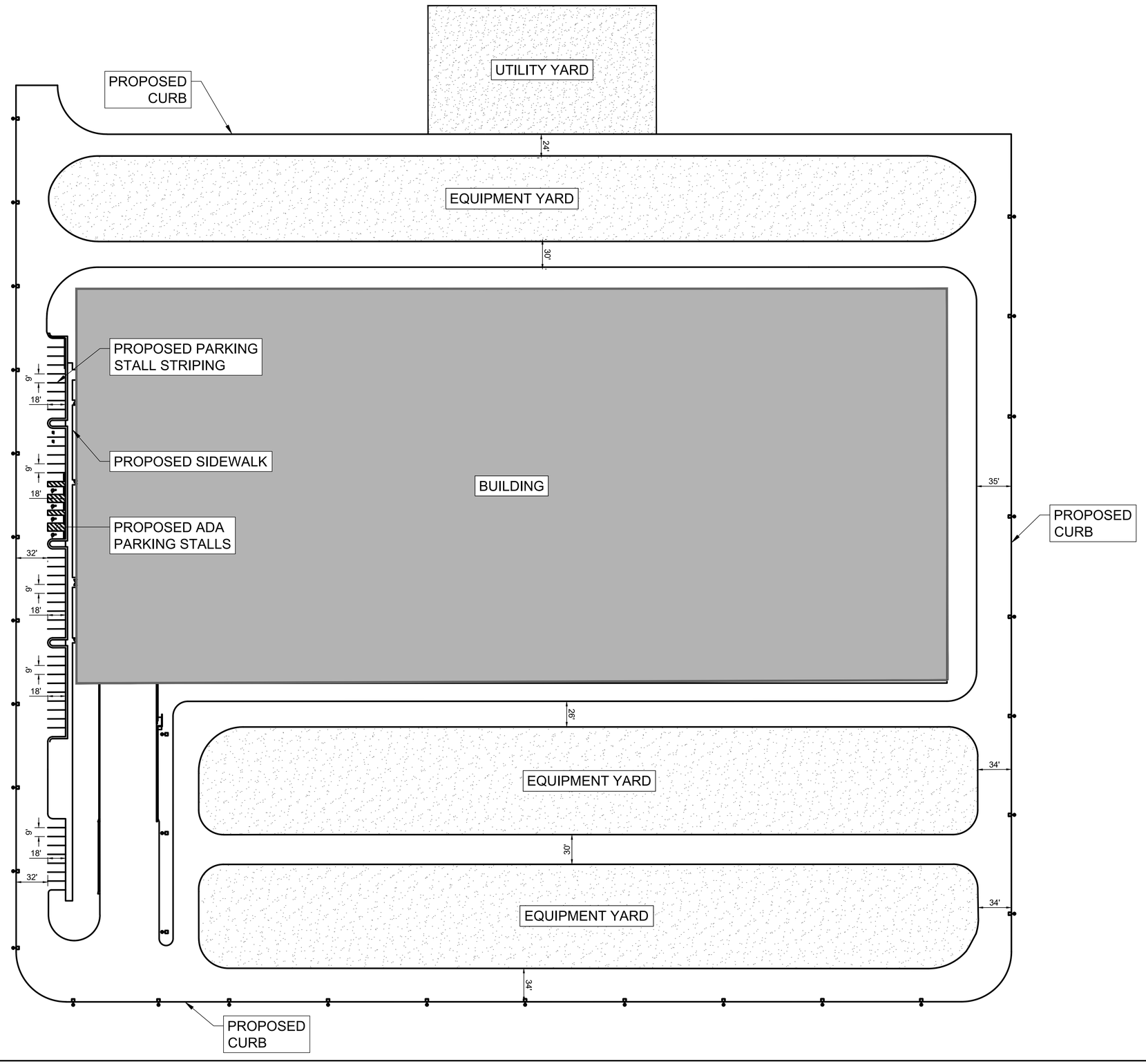
FINISHED GRADE PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-106

Plotted By:Hatzfeld, Joe Sheet Set:PROJECT CUMULUS Layout:C-106 FINISHED GRADE PLAN June 25, 2025 12:12:50pm K:\KNC_LDEV\Vandalyn\192109012_cumulus\2 Design\CAD\planSheets\site_plan_sup\C-105 FINISHED GRADE PLAN.dwg
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805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIBBLE IV.
NUMBER 2024038975
PROFESSIONAL ENGINEER

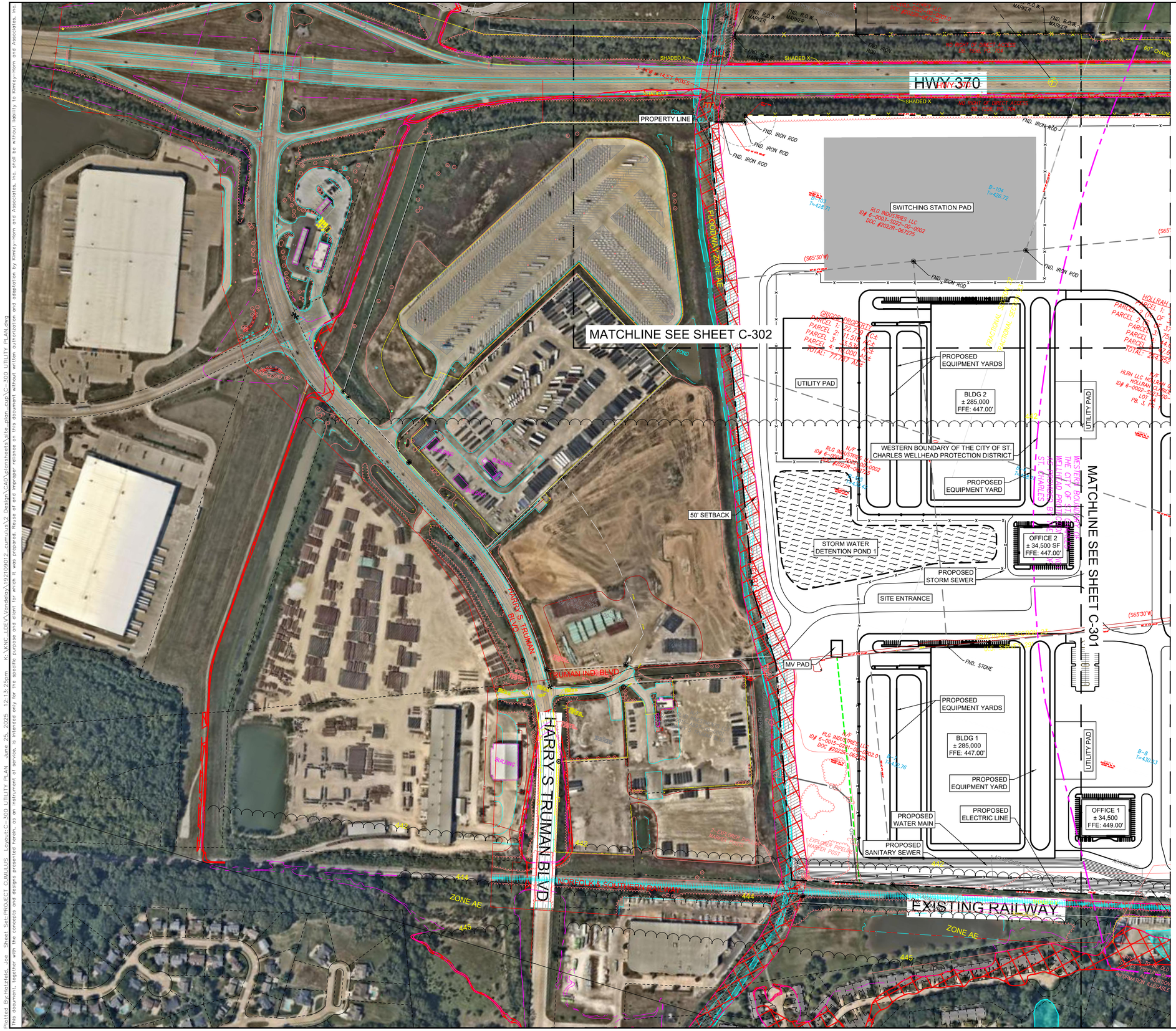
KHA PROJECT	----
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

TYP. BUILDING ENLARGEMENT

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-200



GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

UTILITY LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- PROPOSED SANITARY SEWER (SAN)
- PROPOSED WATER MAIN (W)
- PROPOSED STORM SEWER
- PROPOSED ELECTRIC LINE (ELEC)
- MATCHLINE

*NOTE:
- FEMA FLOODZONE INFORMATION SHOWN PER FEMA FLOOD MAP #27070800010B
- WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
- FIRE HYDRANTS TO BE SPACED EVERY 300' THROUGHOUT THE SITE
- PROPOSED WATER MAIN TO BE SIZED MINIMUM 8 INCHES
- MINIMUM SANITARY SEWER LATERALS TO BE 6 INCHES

No.	REVISIONS	DATE	BY

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STATE OF MISSOURI
ANDREW W. GRIGGS IV
NUMBER 2024038772
PROFESSIONAL ENGINEER

KHA PROJECT	———
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

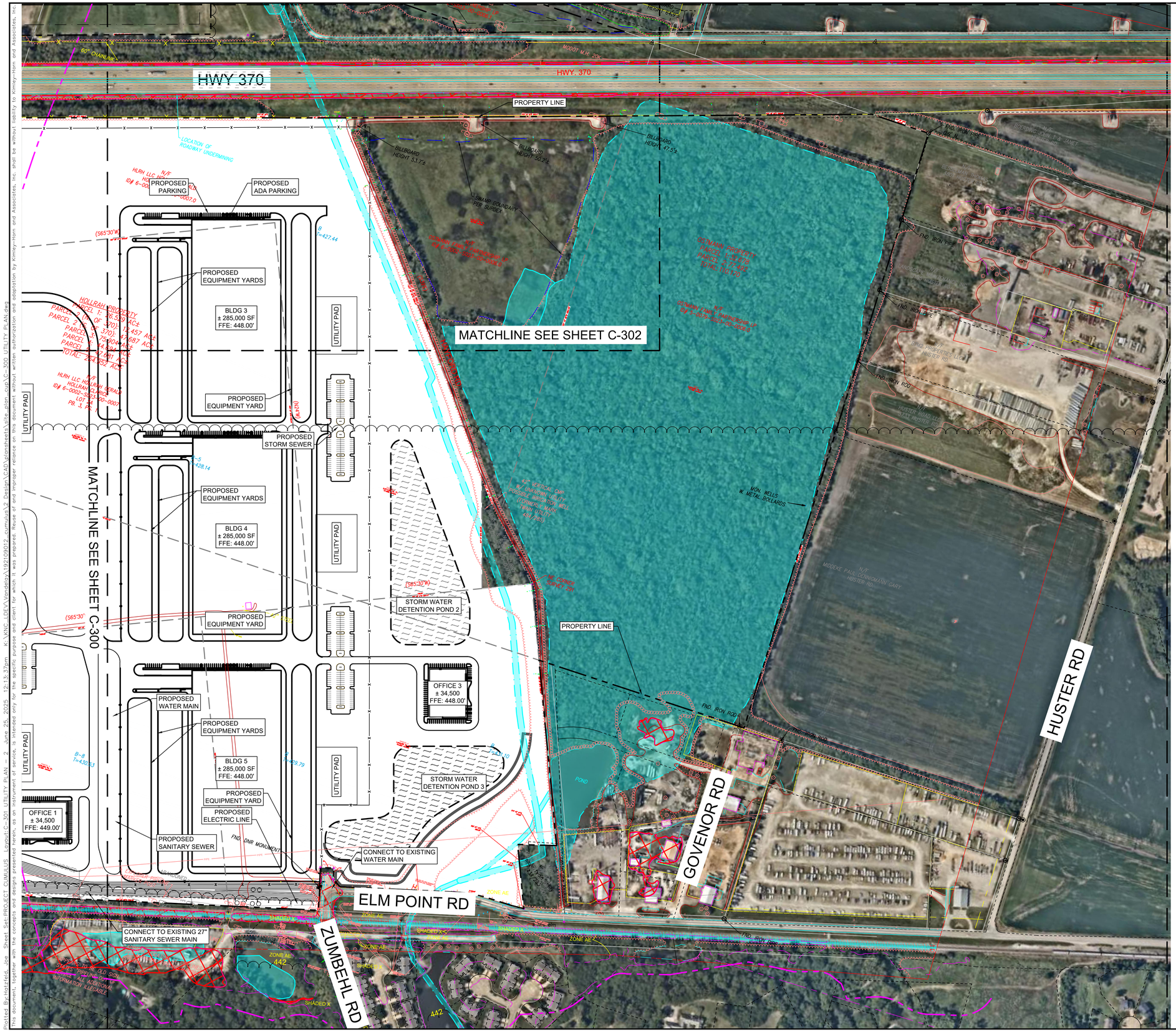
UTILITY PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-300

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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

UTILITY LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- PROPOSED SANITARY SEWER (SAN)
- PROPOSED WATER MAIN (W)
- PROPOSED STORM SEWER
- PROPOSED ELECTRIC LINE (ELEC)
- MATCHLINE

*NOTE:
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- WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
- FIRE HYDRANTS TO BE SPACED EVERY 300' THROUGHOUT THE SITE
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- MINIMUM SANITARY SEWER LATERALS TO BE 6 INCHES

No.	REVISIONS	DATE	BY

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STATE OF MISSOURI
ANDREW W. GRIGG, IV
NUMBER 2021038772
PROFESSIONAL ENGINEER

KHA PROJECT
DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JCH
DRAWN BY BPM
CHECKED BY AWG

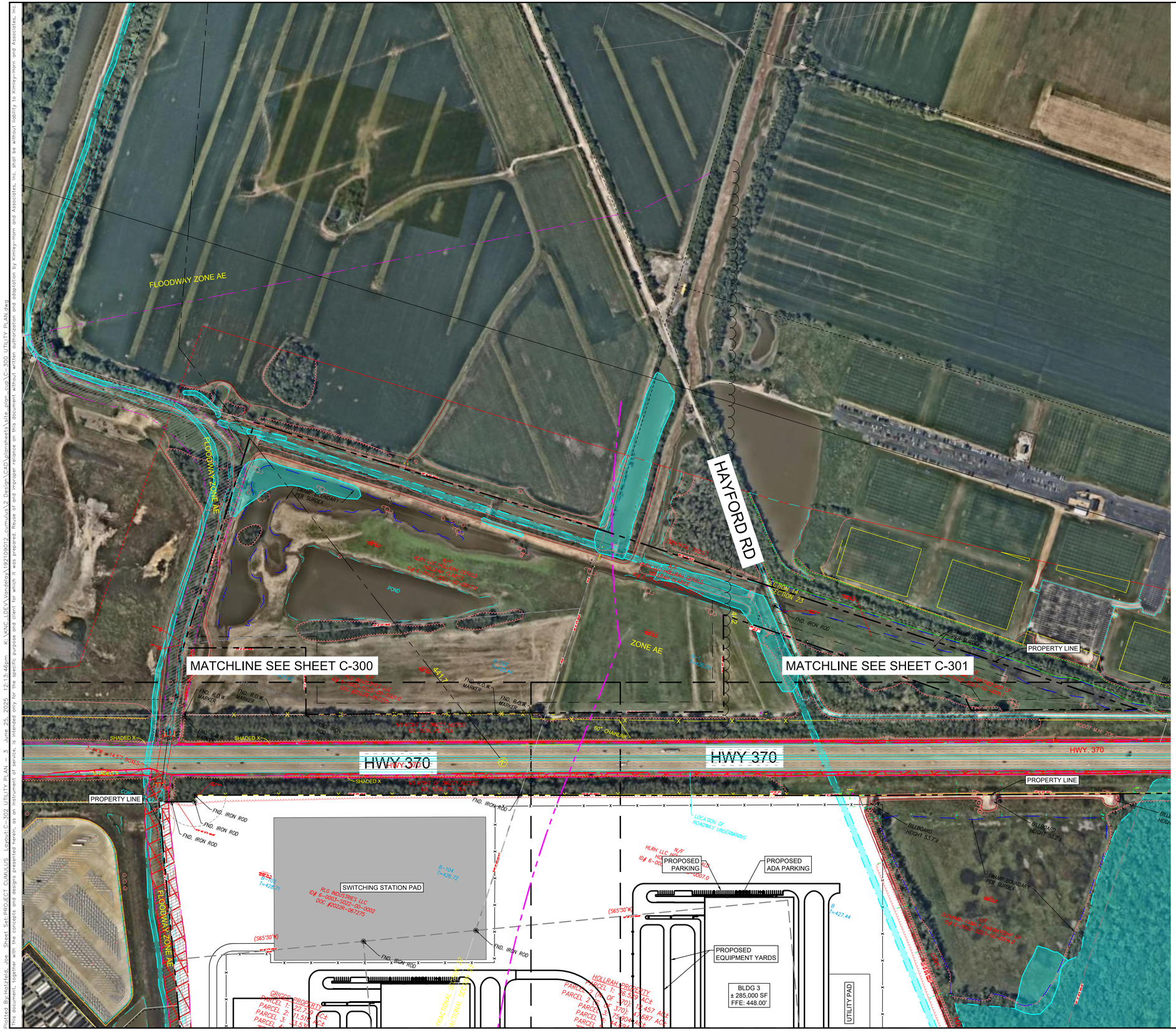
UTILITY PLAN - 2

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-301

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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

UTILITY LEGEND

- PROPERTY BOUNDARY
- PROPERTY SETBACKS
- EXISTING PARCEL LINES
- PROPOSED STORMWATER POND
- EXISTING FEMA ZONE AE
- EXISTING WETLANDS
- EXISTING EASEMENT
- PROPOSED FENCE LINE
- EXISTING WELLHEAD PROTECTION BOUNDARY
- PROPOSED SANITARY SEWER (SAN)
- PROPOSED WATER MAIN (W)
- PROPOSED STORM SEWER
- PROPOSED ELECTRIC LINE (ELEC)
- MATCHLINE

*NOTE:
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- WETLAND AND WATERWAY INFORMATION SHOWN PER U.S. FISH & WILDLIFE SERVICE NATIONAL WETLANDS INVENTORY
- FIRE HYDRANTS TO BE SPACED EVERY 300' THROUGHOUT THE SITE
- PROPOSED WATER MAIN TO BE SIZED MINIMUM 8 INCHES
- MINIMUM SANITARY SEWER LATERALS TO BE 6 INCHES

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STATE OF MISSOURI
ANDREW W. GRIGGS IV
NUMBER 2024013173
PROFESSIONAL ENGINEER

KHA PROJECT
DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JCH
DRAWN BY BPM
CHECKED BY AWG

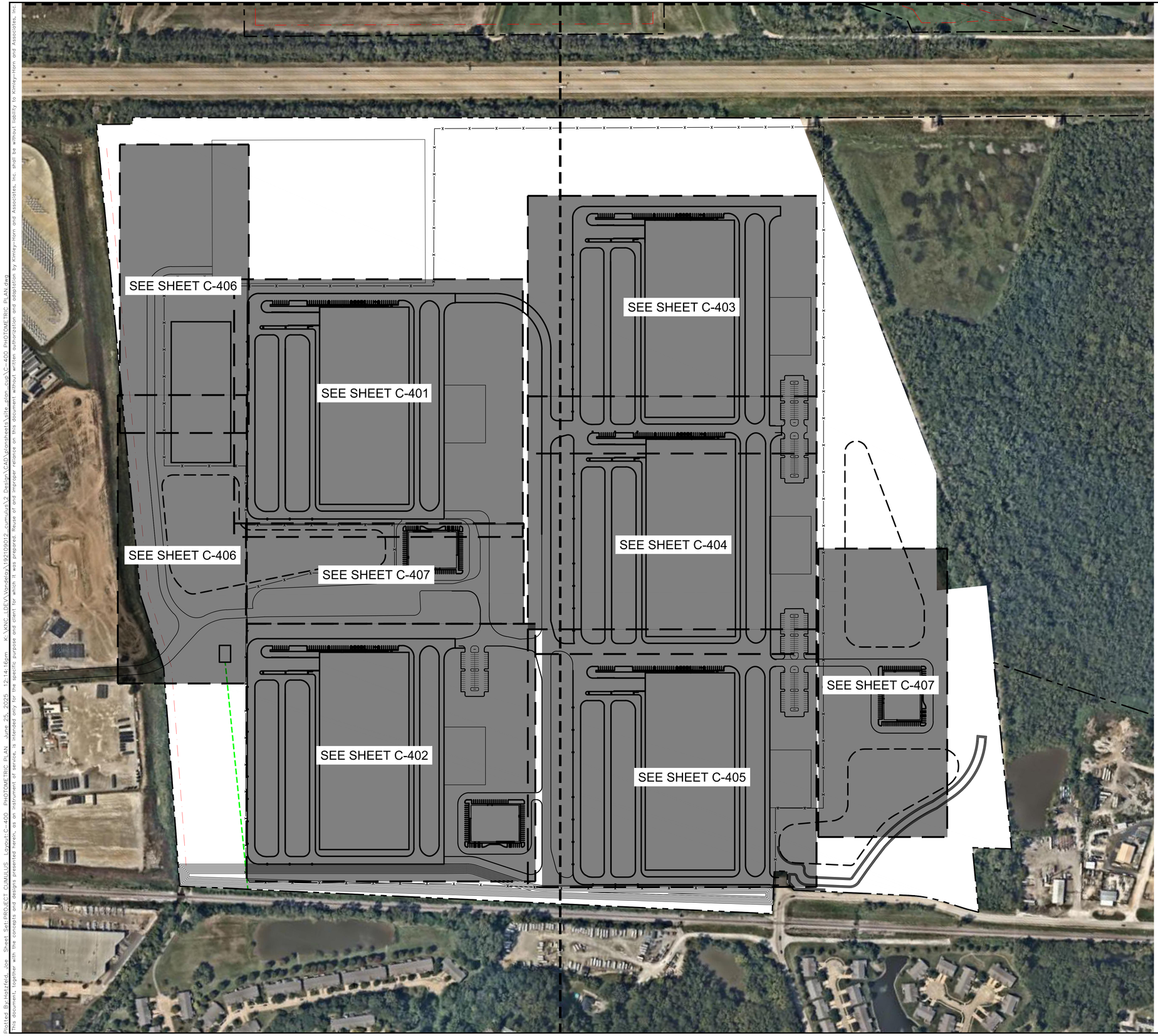
UTILITY PLAN - 3

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-302

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GRAPHIC SCALE IN FEET
0 100 200 400

NORTH

LIGHTING NOTES

1. ILLUMINANCE VALUES LISTED IN THE TABLES ARE IN FOOTCANDLES. (1FC = 10.7639 LUX).
2. CALCULATED VALUES ARE DERIVED THROUGH A COMPUTER BASED MODEL WITH LIGHT FIXTURE DATA AS SUPPLIED BY MANUFACTURERS THROUGH IES FILES.
3. ANY DEVIATION FROM SPECIFIED FIXTURE MODELS AND MOUNTING HEIGHTS IN THIS PLAN WILL DISCOUNT THE VALIDITY OF THE CALCULATIONS.
4. THE PHOTOMETRIC ANALYSIS EXCLUDES ALL EXISTING AND PROPOSED OFF SITE STREET LIGHTING AND LANDSCAPE LIGHTING.
5. THE PHOTOMETRIC ANALYSIS EXCLUDES ALL PROPOSED BUILDING MOUNTED LIGHTING. COORDINATE WITH ARCHITECT FOR ANY BUILDING MOUNTED FIXTURES.
6. PHOTOMETRICS ARE CALCULATED BASED ON 4000K COLOR OUTPUT. CONTRACTOR SHALL CONFIRM EXACT OUTPUT COLOR WITH OWNER PRIOR TO PURCHASING.
7. NO LIGHT SPILLAGE WILL BE PERMITTED AT THE PROPERTY LINES.

No.	REVISIONS	DATE	BY

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STATE OF MISSOURI
ANDREW W. GRIMES IV
NUMBER 2019038974
PROFESSIONAL ENGINEER

KHA PROJECT

DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

PHOTOMETRIC PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-400

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GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

BLDG 2
± 285,000
FFE: 447.00'

UTILITY PAD

L1 LUMINAIRE

Catalog #: Project: Type:
Prepared By: Date:

Slice Medium (SLM)
Outdoor LED Area Light

IP66 IK08



OVERVIEW	
Lumen Package	8,000 - 55,000
Wattage Range	67 - 496
Efficacy Range (LPW)	114 - 162
Weight(lbs(kg))	27 (12.2)
Control Options	IMSBT, ALB, ALS, 7-Pin, PD

QUICK LINKS
Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 33 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3, 4, 5W, FT, FTA, AM, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377. Also Available in Phosphs Converted Amber with Peak intensity at 610nm.
- 70 or 80CRI Minimum.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features overvoltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart).
- Total harmonic distortion <20%
- Operating temperature -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. 55L lumen package rate to +35°C.
- Power factor >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth™ motion sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 8.3 drill pattern. (See drawing in poles section)

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- Dark Sky compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applicationsapplicationsare qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)

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SPEC 1902.B 0322

Slice Medium Outdoor LED Area Light

Have questions? Call us at (800) 436-7800

Type:

ORDERING GUIDE Back to Quick Links

TYPICAL ORDER EXAMPLE: SLM LED 36L SL FTA UNV DIM 50 70CRI ALSCSOA BRZ IL

Prefix	Light Source	Lumen Package	Lens	Distribution	Orientation[1]	Voltage
SLM - Slice Medium	LED	9L - 9,000 lms 12L - 12,000 lms 18L - 18,000 lms 24L - 24,000 lms 30L - 30,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms 55L - 55,000 lms Custom Lumen Package[2]	SL - Silicone	2 - Type 2 3 - Type 3 4 - Type 4 5W - Type 5 Wide FT - Forward Throw FTA - Forward Throw Automotive AM - Automotive Mreclaimbe LC - Left Corner RC - Right Corner	(blank) - standard (no rotation) L - Option rotated left 90° R - Option rotated right 90°	UNV - (Universal Voltage (120-277V) HV - High Voltage (347-480V)

Driver	Color Temperature	Color Rendering	Controls	Finish	Options
DIM - 0-10v Dimming (10-100%)	5K - 5,000 CCT 4K - 4,000 CCT 3K - 3,500 CCT (80 CRI only) 3K - 3,000 CCT 27 - 2,700 CCT (80 CRI only) AMB - Phosphor Converted Amber	70CRI - 70 CRI 80CRI - 80 CRI	(Blank) - None Wireless Systems ACS - AirLink Sensaphore Control System[3] ALSCSC - AirLink Sensaphore Control System with (1) 2-20' Motion Sensor[3] ALSCSOA - AirLink Sensaphore Control System with (3)-40' Motion Sensor[3] ALSMCSD - AirLink Blue Loop Lamp+ Wireless Motion & Photo Sensor Controller (5-14' mounting height)[3] ALSMCSD - AirLink Blue Loop Lamp+ Wireless Motion & Photo Sensor Controller (15-40' mounting height)[3] Stand-Alone Controls DT - 0-10V Dimming leads extended to housing exterior CSTP - 7 Pin Control Receptacle 480V (3,5&7) IMSBT1 - Integral Bluetooth® Motion and Photocell Sensor (9-20' MH)[4] IMSBT2 - Integral Bluetooth® Motion and Photocell Sensor (21-40' MH)[4] Button Type Photocells PCSD - 120V PCDD-277 - 208 -277V PCHD - 347V	BLK - Black BRZ - Dark Bronze GMG - Gun Metal Gray GPT - Graphite MSP - Metallic Silver PWT - Platinum Plus SMG - Satin Verde Green WHT - White	(Blank) - None IH - Integral Half Louver (Moderate Spill Light Cutoff)[5] IL - Integral Louver (Sharp Spill Light Cutoff)[5]

Need more information? Click here for our glossary.
Have additional questions? Call us at (800) 436-7800

ACCESSORY ORDERING INFORMATION[6]

CONTROLS ACCESSORIES	
Description	Order Number
Twist Lock Photocell (120V) for use with CSTP	52354
Twist Lock Photocell (208-277) for use with CSTP	52355
Twist Lock Photocell (347V) for use with CSTP	52356
Twist Lock Photocell (480V) for use with CSTP	52358B
AirLink 3 Pin Twist Lock Controller	60989
AirLink 7 Pin Twist Lock Controller	60990
Shorting Cap for use with CSTP	54923

MOUNTING ACCESSORIES[7]	
Description	Order Number
Round Pole Adapter (3" Round/Tapered Poles)	46827DGB
Round Pole Adapter (4" Round Poles)	37967DGB
Round Pole Adapter (5" Round Poles)	37968DGB
4"to 2G Adapter	59906MBA

FUSING OPTIONS[8]	
Single Fusing (120V)	Slice Fusing Accessories Guide
Single Fusing (277V)	
Double Fusing (120V, 208V)	
Double Fusing (480V)	
Double Fusing (347V)	

EXTERNAL SHIELDING OPTIONS	
3" External Shield	Slice Accessories Guide
6" External Shield	

1. Custom lumens and wattages/voltages available, consult factory. Values are reference industry standard luminaires but not SKU level.
2. Not available on "Sub 100" SKU formats. It is available with LSI DC distributions.
3. Motion sensors are field configurable via an app that can be downloaded from your smartphone's native app store. See control section for more details.
4. Motion sensors are field configurable via the Accessories Ordering Information.
5. Not to be used with Square Luminaires with Pole Drilled.
6. Custom color matches available upon request. Consult factory for more information.
7. "SUB" denotes Shoe, See Finish options.
8. Fuse must be ordered at least 4 weeks ahead of order. See Fusing Accessory Guide for compatibility.
9. Not available in FT, 5W, RC, & LRC Lumen Packages. Consult factory for lead time and availability.
10. Not available with IMS Sensor Package above 14' MH for operation.

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SPEC 1902.B 0322

L1 POLE

LITHONIA LIGHTING

Catalog Number:
Notes:
Type:

FEATURES & SPECIFICATIONS

INTENDED USE — **These specifications are for USA standards only.** Square Straight Steel is a general purpose light pole for up to 30-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION —

Pole Shaft: Tapered shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 55 KSI (3 ¼ gauge, 0.120"), or 50 KSI (7 gauge, 0.179"). Shafts are one piece with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: Options include 3" tenon top, drilled for side-mount fixture, tenon with 4 slip fit holes (includes extra handhole) and open top. Side drilled and open top poles include a removable top cap.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support-Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handholes has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F3154 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE — All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc plated carbon steel or stainless steel.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets SAE and GE classifications of ASTM D3359. Powder-coat finishes include: Dark Bronze, White, Black, and Natural aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

GOVERNMENT PROCUREMENT —

BAA – Buy American Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/buy-american for additional information.

INSTALLATION — **Do not** erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

BAA BABA

KHA PROJECT	
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

No.	REVISIONS	DATE	BY

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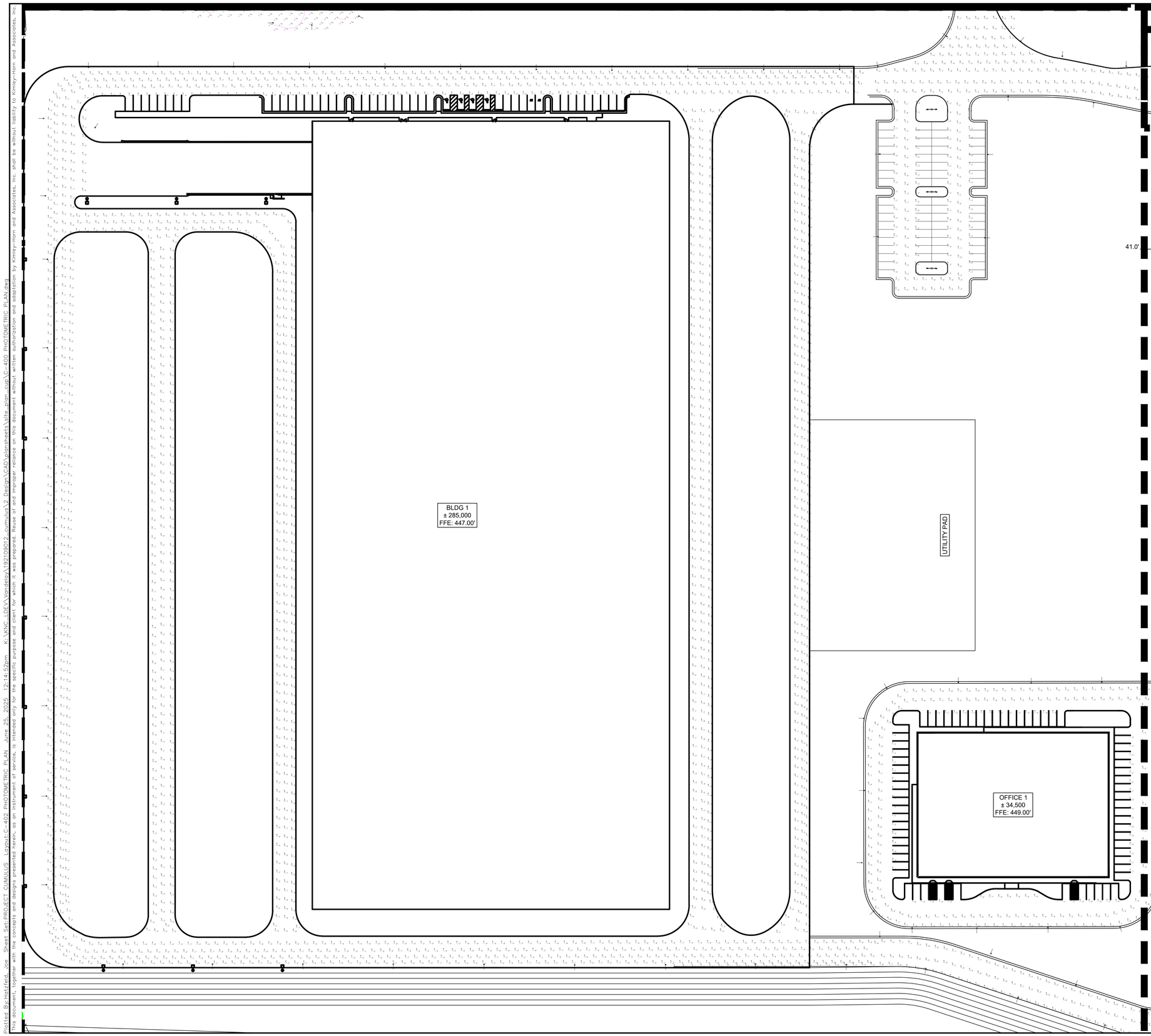
STATE OF MISSOURI
ANDREW W. GRIBBLE, IV
NUMBER 2024038744
PROFESSIONAL ENGINEER

PHOTOMETRIC PLAN

INDUSTRIAL PARK MO
ST CHARLES

SHEET NUMBER
C-401

Plotted By:hatfield, Joe Sheet Set:PROJECT CUMULUS Layout:C-402 PHOTOMETRIC PLAN June 25, 2025 12:14:52pm K:\KNC_LDEV\Vandeya\192109\2 cumulus\2 Design\CAD\plansheets\site plan.dwg
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GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

Catalog #: Project: Type:
Prepared By: Date:

Slice Medium (SLM)

Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	8,000 - 55,000
Wattage Range	62 - 436
Efficacy Range (LPW)	114 - 162
Weight(lbs(kg))	27 (12.2)
Control Options	IMSBT, ALB, ALS, 7-Pin, PD

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 33 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3,4, 5W, FT, FTA, AM, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377. Also Available in Phosphs Converted Amber with Peak intensity at 610nm.
- 70 or 80CRI Minimum.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features overvoltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion <20%
- Operating temperature -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. 55L lumen package rate to +35°C.
- Power factor > 90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation.
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth™ motion sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 8.3 drill pattern. (See drawing in poles section)

Warranty
- L36 luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- Dark Sky compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applicationsapplicationsare qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)

Slice Medium Outdoor LED Area Light

Type:

Have questions? Call us at (800) 456-7800

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: SLM LED 36L SL FTA UNV DIM 50 70CRI ALSCSOX BRZ IL

Prefix	Light Source	Lumen Package	Lens	Distribution	Orientation[1]	Voltage
SLM - Slice Medium	LED	9L - 9,000 lms 12L - 12,000 lms 18L - 18,000 lms 24L - 24,000 lms 30L - 30,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms 55L - 55,000 lms Custom Lumen Packages[2]	SL - Silicone	2 - Type 2 3 - Type 3 4 - Type 4 5W - Type 5 Wide FT - Forward Throw FTA - Forward Throw Automotive AM - Automotive Mreclaimbe LC - Left Corner RC - Right Corner	(Blank) - standard (no rotation) L - Option rotated left 90° R - Option rotated right 90°	UNV - (Universal Voltage (120-277V) HV - High Voltage (347-480V)

Driver	Color Temperature	Color Rendering	Controls	Finish	Options
DIM - 0-10v Dimming (10-100%)	5K - 5,000 CCT 4K - 4,000 CCT 3K - 3,500 CCT (40-70 only) 2K - 2,700 CCT (40-70 only) AMB - Phosphor Converted Amber*	70CRI - 70 CRI 80CRI - 80 CRI	(Blank) - None Wireless Controls Options ACSC - AirLink Sensepoint Control System* ACSCSO - AirLink Sensepoint Control System with 0.1-20' Motion Sensor* ACSCSH - AirLink Sensepoint Control System with 25-40' Motion Sensor* ALSMCSO - AirLink Blue Loop Bluetooth Wireless Motion & Photo Sensor Controller (5-24' mounting height)** ALSMCSH - AirLink Blue Loop Bluetooth Wireless Motion & Photo Sensor Controller (25-40' mounting height)** Stand Alone Controls EXT - 0-10V Dimming leads extended to housing exterior CETP - 7 Pin Control Receptacle, NEMA C13, ALC* IMSBTSL - Integral Bluetooth® Motion and Photocell Sensor (9-24' Mtg)* IMSBTLS - Integral Bluetooth® Motion and Photocell Sensor (25-40' Mtg)* Button Type Photocells PCSCB - 120V PCSDB-277 - 208-277V PCSHZ - 347V	BLK - Black BRZ - Dark Bronze GNG - Gun Metal Gray GPT - Graphite MSL - Metallic Silver PUP - Platinum Plus SVG - Satin Verde Green WHT - White	(Blank) - None IH - Integral half Louver (Moderate Spill Light Cutoff)* IL - Integral Louver (Sharp Spill Light Cutoff)*

Need more information? Click here for our glossary.

Have additional questions? Call us at (800) 456-7800.

ACCESSORY ORDERING INFORMATION[3]

CONTROLS ACCESSORIES	
Description	Order Number
Twist Lock Photocell (120V) for use with CBTP	52354
Twist Lock Photocell (208-277) for use with CBTP	52355
Twist Lock Photocell (347V) for use with CBTP	52356
Twist Lock Photocell (480V) for use with CBTP	0220348
AirLink 5 Pin Twist Lock Controller	602469
AirLink 7 Pin Twist Lock Controller	602470
Shorting Cap for use with CBTP	141020

MOUNTING ACCESSORIES[4]	
Description	Order Number
Round Pole Adapter (3" Round/Tapered Poles)	4067751B
Round Pole Adapter (4" Round Poles)	3799671B
Round Pole Adapter (5" Round Poles)	3799681B
3G to 3E Adapter	999050858

FIXING OPTIONS[5]
Single Fusing (120V)
Single Fusing (277V)
Double Fusing (208V, 240V)
Double Fusing (480V)
Double Fusing (347V)

Fuse Fusing Replacement Guide

EXTERNAL SHIELDING OPTIONS	
2' External Shield	Side Shield Kit, Double
4' External Shield	

1. Custom lumens and wattages are also available, consult factory. Values are within industry standard tolerances but not ISO listed.
2. Not available on "Type 5W" distribution. IL not available with CCRI distributions.
3. Accessories are ordered and shipped separately. Consult factory for other accessories not listed.
4. Universal mount or drilling is standard on all poles. Not necessary when ordering a shoebox pole.
5. Accessories are shipped separately and field installed.
6. Type 5 Wide is not available in two fusion of pole. See Fusing Accessory Guide for compatibility.
7. Not available with 55L, 5K, 5L, 5W, FT, FTA, AM, LC, RC, IL, IH, ALSMCSO, ALSMCSH, or Dual Level Switching.
8. Not available with 5G Custom Package, select 5K-480V is applicable.

L1 LUMINAIRE

LITHONIA LIGHTING

Catalog Number:
Notes:
Type:

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION —

Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot rolled, commercial-quality steel tubing with a minimum yield of 51 ksi (35 opsig). 0.120" L in 10 ft (3.7 opsig). 0.179" L. Shafts come given with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: Options include 4" coupling, drilled for tubenoused fixture, tenon with 4 Bing Set holes extra handhole) and open top. Side drilled and open top poles include a removable top cap.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support Gardner for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE — All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

FINISH — Extra durable quarter finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets SAE 10 classifications of ASTM D3359. Powder-coat finishes include Dark Bronze, White, Black, and Natural aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

GOVERNMENT PROCUREMENT —

BAA – Buy American Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/buy-american for additional information.

INSTALLATION — Do not erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application. Specifications subject to change without notice.

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

BAA BABA

L1 POLE

KHA PROJECT	
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JGH
DRAWN BY	BPM
CHECKED BY	AWG

No.	REVISIONS	DATE	BY

Kimley»Horn
805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

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STATE OF MISSOURI
ANDREW W. GRIBBLE IV
NUMBER 2024038974
PROFESSIONAL ENGINEER

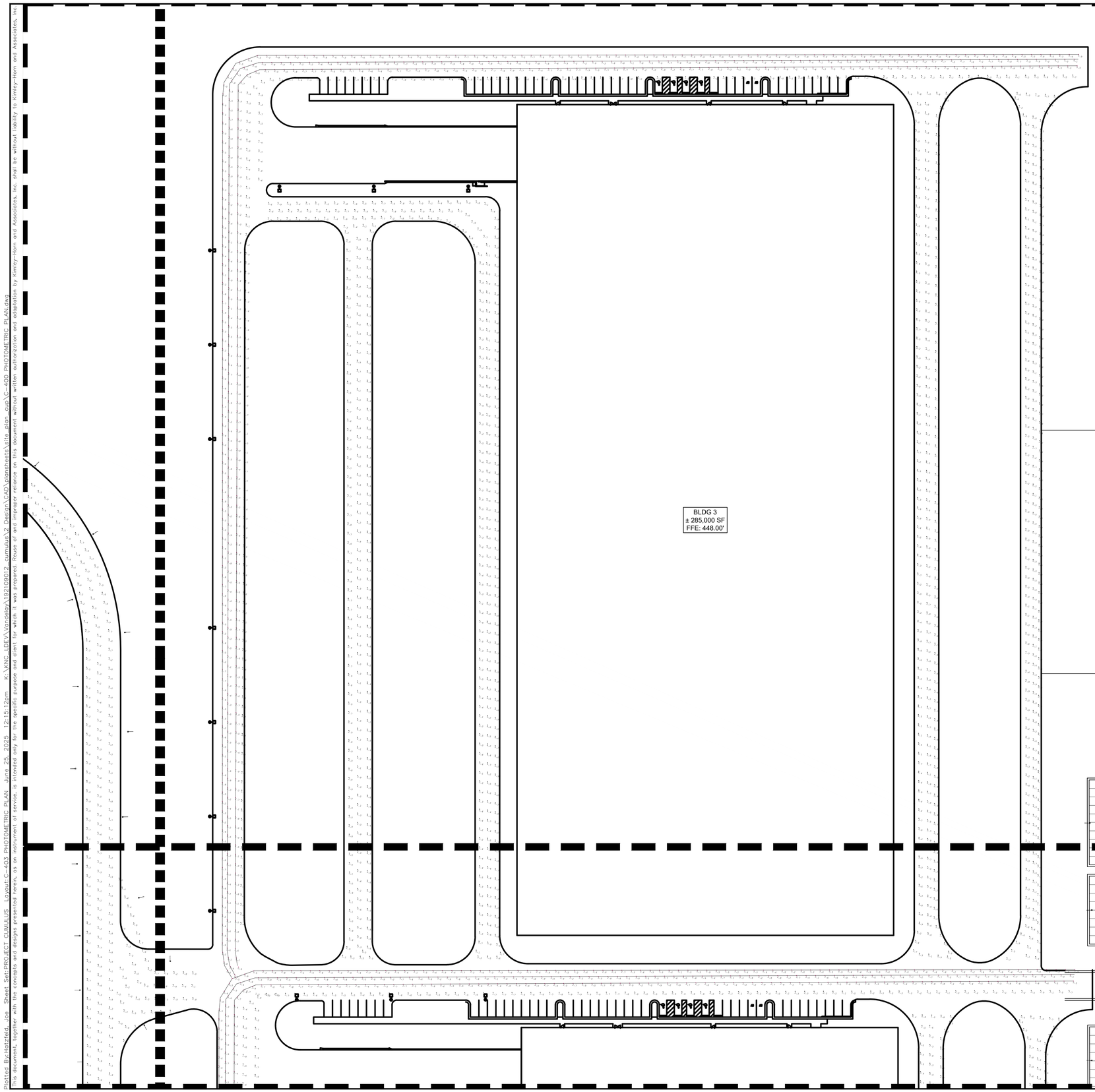
PHOTOMETRIC PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-402

Plotted By:Hatfield, Joe Sheet Set:PROJECT CUMULUS Layout:C-403 PHOTOMETRIC PLAN June 25, 2025 12:15:12pm K:\KAC-LDEV\Kimley\19219012 cumulus\2 Design\CAD\sprinsheets\site plan sup\C-403 PHOTOMETRIC PLAN.dwg
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GRAPHIC SCALE IN FEET
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NORTH

L1 LUMINAIRE

L1 POLE

Catalog #: Project: Type:
Prepared By: Date:

Slice Medium (SLM)

Outdoor LED Area Light

IP66 IK08



OVERVIEW	
Lumen Package	8,000 - 55,000
Wattage Range	62 - 436
Efficacy Range (LPW)	114 - 162
Weight lbs(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, 7-Pin, PD

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 33 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3,4, SW, FT, FTA, AM, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377. Also Available in Phosphs Converted Amber with Peak intensity at 590nm.
- 70 or 80CRI Minimum.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features overvoltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion <20%
- Operating temperature -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. 55L lumen package rate to +35°C.
- Power factor > 90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation.
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth™ motion sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 8.3 drill pattern. (See drawing in poles section)

Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- Dark Sky compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applicationsapplicationsare qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)

Slice Medium Outdoor LED Area Light

Type:

Have questions? Call us at (800) 436-7800

Back to Quick Links

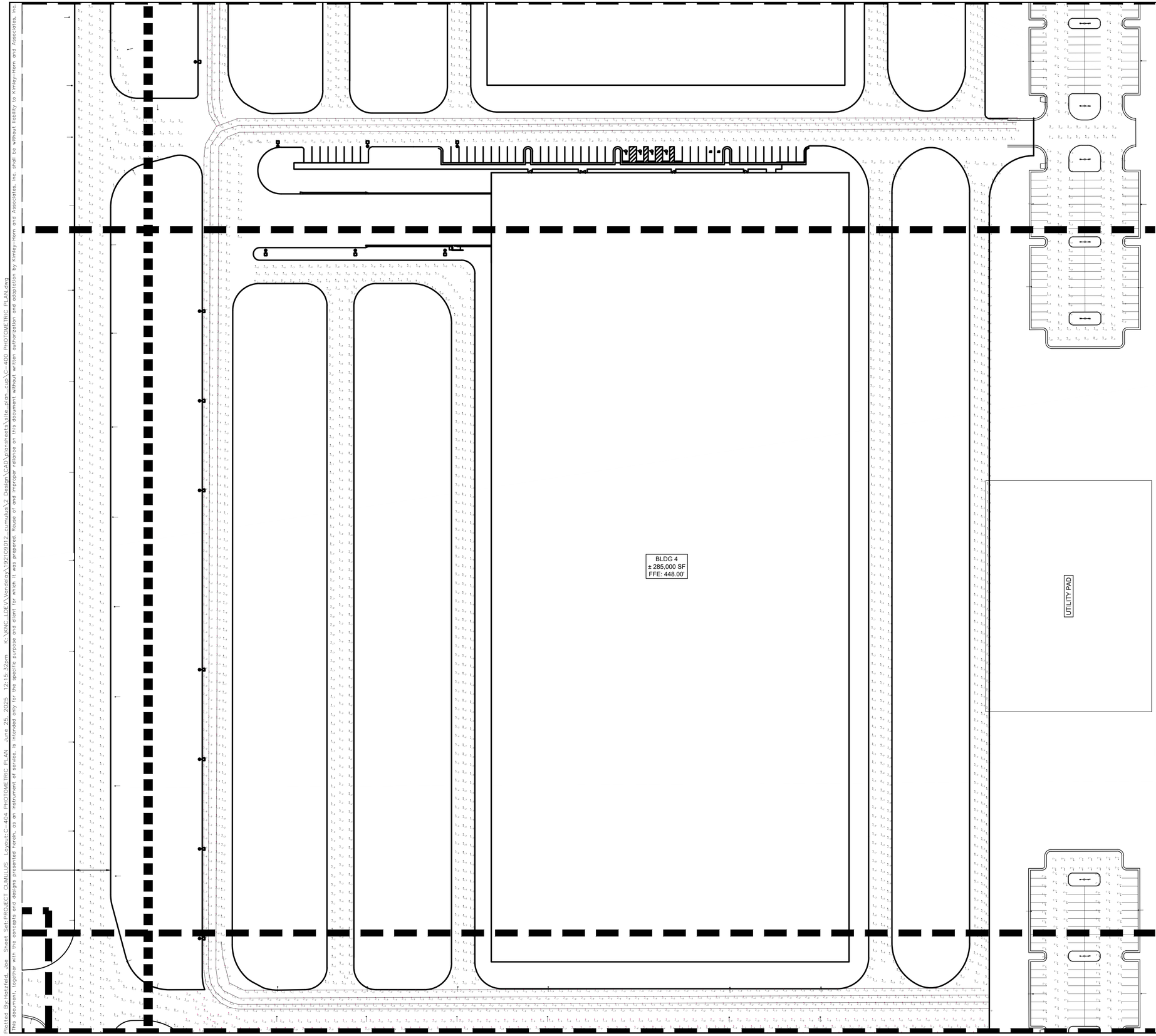
ORDERING GUIDE

TYPICAL ORDER EXAMPLE: SLM LED 36L SL F3A UNV DIM 50 70CRI ALSCSOX BRZ IL

Prefix	Light Source	Lumen Package	Lens	Distribution	Orientation[1]	Voltage
SLM - Slice Medium	LED	9L - 9,000 lms 12L - 12,000 lms 18L - 18,000 lms 24L - 24,000 lms 30L - 30,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms 55L - 55,000 lms Custom Lumen Packages[2]	SL - Silicone	2 - Type 2 3 - Type 3 4 - Type 4 5W - Type 5 Wide FT - Forward Throw FTA - Forward Throw Automotive AM - Automotive Merchandise LC - Left Corner RC - Right Corner	(blank) - standard (no rotation) L - Option rotated left 90° R - Option rotated right 90°	UNV - Universal Voltage (120-277V) HV - High Voltage (347-480V)

Driver	Color Temperature	Color Rendering	Controls	Finish	Options
DIM - 0-10v Dimming (10-100%)	50 - 5,000 CCT 40 - 4,000 CCT 35 - 3,500 CCT (80 CRI only) 30 - 3,000 CCT 27 - 2,700 CCT (80 CRI only) AMB - Phosphor Converted Amber*	70CRI - 70 CRI 80CRI - 80 CRI	(Blank) - None Wireless Controls Options ALC - AirLink Sensorless Control Systems* ALSCSO - AirLink Sensgrow Control System with (1) 2-20' Motion Sensor* ALSCSOX - AirLink Sensgrow Control System with (1) 30-40' Motion Sensor* ALSMCSO - AirLink Blue Long Range Wireless Motion & Photo Sensor Controller (5-20' mounting height)** ALSMCSOX - AirLink Blue Long Range Wireless Motion & Photo Sensor Controller (25-40' mounting height)** Stand-Alone Controls SDT - 5-7/8 Dimming track extended to housing exterior CSTP - 7 Pin Control Receptacle 480V (1.5A,4)* IMSBT1 - Integral Bluetooth® Motion and Photocell Sensor (5-20' MH)** IMSBT2 - Integral Bluetooth® Motion and Photocell Sensor (25-40' MH)** Button Type Photocells PCSB - 120V PCSB-277 - 208-277V PCSD - 347V	BLK - Black BRZ - Dark Bronze GPG - Gun Metal Gray GPT - Graphite MSV - Metallic Silver PGP - Platinum Plus<

Plotted By:Hatfield, Joe Sheet Set:PROJECT CUMULUS Layout:C-404 PHOTOMETRIC PLAN June 25, 2025 12:15:32pm K:\KNC_LIEV\Vandeley\192109012-cumulus\2 Design\CAD\xrefsheets\site plan cup\C-404 PHOTOMETRIC PLAN.dwg
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GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

Catalog #: Project: Type:
Prepared By: Date:

Slice Medium (SLM)

Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	8,000 - 55,000
Wattage Range	67 - 496
Efficacy Range (LPW)	114 - 162
Weight lb(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, 7-Pin, PD

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

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- Zero uplight.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377. Also Available in Phosphs Converted Amber with Peak intensity at 610nm.
- 70 or 80CRI Minimum.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features overvoltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion <20%
- Operating temperature -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. See lumen package rate to +35°C.
- Power factor: > 90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

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- Optional integral passive infrared Bluetooth® motion sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
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- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
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Warranty
- LSI luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

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- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
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- 3G rated for ANSI C136.31 high vibration applicationsapplicationsare qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)

Slice Medium Outdoor LED Area Light

Type:

Have questions? Call us at (866) 914-7651

ORDERING GUIDE — Back to Quick Links

TYPICAL ORDER EXAMPLE: SLM LED 36L SL F3A UNV DIM 50 70CRI ALSCSOA BRZ IL

Prefix	Light Source	Lumen Package	Lens	Distribution	Orientation[1]	Voltage
SLM - Slice Medium	LED	9L - 9,000 lms 12L - 12,000 lms 18L - 18,000 lms 24L - 24,000 lms 30L - 30,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms 55L - 55,000 lms Custom Lumen Packages[2]	SL - Silicone	2 - Type 2 3 - Type 3 4 - Type 4 5W - Type 5 Wide FT - Forward Throw FTA - Forward Throw Automotive AM - Automotive Merchandise LC - Left Corner RC - Right Corner	(Blank) - standard (no rotation) L - Option rotated left 90° R - Option rotated right 90°	UNV - (Universal Voltage (120-277V) HV - High Voltage (347-480V)

Driver	Color Temperature	Color Rendering	Controls	Finish	Options
DIM - 0-10v Dimming (10-100%)	50 - 5,000 CCT 40 - 4,000 CCT 35 - 3,500 CCT (60 CRI only) 30 - 3,000 CCT 27 - 2,700 CCT (90 CRI only) AMB - (Phosphor Converted Amber)*	70CRI - 70 CRI 80CRI - 80 CRI	(Blank) - None Wireless Controls Options ACE - Acuity Sensepoint Control System* ALSCSOC - AirLink Sensepoint Control System with (1) 2-20' Motion Sensor* ALSCSOA - AirLink Sensepoint Control System with (3) 40' Motion Sensor* ALSMSOB - AirLink Blue Loop Laptop Wireless Motion & Photo Sensor Controller (5-29' mounting height)** ALSMSOD - AirLink Blue Loop Ramp Wireless Motion & Photo Sensor Controller (25-40' mounting height)** Stand-Alone Controls SDD - 0-10V Dimming leads extended to housing exterior CSTP - 7 Pin Control Receptacle 480 (2.5A, 4)* IMSBT1 - Integral Bluetooth® Motion and Photocell Sensor (9-20' MH)* IMSBT2 - Integral Bluetooth® Motion and Photocell Sensor (25-40' MH)* Button Type Photocells PCCLD - 120V PCUNV-277 - 208 -277V PCHV - 347V	BLK - Black BRZ - Dark Bronze GPHL - Gen Petrol Grey GPT - Graphite MSV - Metallic Silver PLP - Platinum Plus SVG - Satin Verde Green WHT - White	(Blank) - None IH - Integral half Louver (Moderate Spill Light Cutoff)* IL - Integral Louver (Sharp Spill Light Cutoff)*

Need more information? Click here for our glossary.

Have additional questions? Call us at (800) 436-7800

ACCESSORY ORDERING INFORMATION[4]

CONTROLS ACCESSORIES

Description	Order Number
Twist Lock Photocell (120V) for use with CSTP	72354
Twist Lock Photocell (208-277) for use with CSTP	72355
Twist Lock Photocell (347V) for use with CSTP	72356
Twist Lock Photocell (480V) for use with CSTP	72358
Astrid 7 Pin Twist Lock Controller	460489
Astrid 7 Pin Twist Lock Controller	460490
Shorting Cap for use with CSTP	141529

MOUNTING ACCESSORIES[3]

Description	Order Number
Round Pole Adapter (3" Round/Tapered Poles)	466270CB
Round Pole Adapter (4" Round Poles)	729967CB
Round Pole Adapter (5" Round Poles)	729968CB
4" to 3.5 Adapter	599068BK4

FUSING OPTIONS[5]

Single Fusing (120V)	
Single Fusing (277V)	
Double Fusing (120V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

Base Fusing Accessories Guide

EXTERNAL SHIELDING OPTIONS

3" External Shield	Lens Accessories Guide
6" External Shield	

1. Custom lumens and wattages packages available, consult factory. Values are reference only to standard luminaires but not SSL listed.
2. Not available on "Type IV" distributions. It is not available with CLDR, DA Dimmers.
3. Pole or tenon arm field configurable as per style but can be downloaded from "your local pole" / select any style. See control section for more details.
4. Accessories are not factory installed and must be ordered separately. See Accessories Ordering Information.
5. Fusing for Low Voltage is standard, no Hi Pot is offered.

6. "CSA" denotes finish, See Finish options.
7. Poles must be ordered in multiples of 4 units. See Pole Drilling Accessory Guide for compatibility.
8. Only available in 4, 5S, 5W, 7, & 8R Lumen Packages. Consult factory for lead Time and Availability.
9. Not available with Silicone Package above 4K or 48SSL Lumen Max.

L1 LUMINAIRE

LITHONIA LIGHTING

FEATURES & SPECIFICATIONS

INTENDED USE — **These specifications are for USA standards only.** Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION —

Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 55 KSI (35-gauge, 0.120"), or 50 KSI (37-gauge, 0.179"). Shafts are given a weld-all-around longitudinal high-frequency seam for maximum weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: Options include 3" tenon top, drilled for a slip-over mast fixture, tenon with 4 tilt keys (includes extra handhole) and open top. Side drilled and open top poles include a removable top cap.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support Hotline for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F3154 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE — All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc plated carbon steel or stainless steel.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets SAE and GE classifications of AS738 D1070. Powder-coat finishes include Dark Bronze, White, Black, and Natural aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

GOVERNMENT PROCUREMENT —

BAA – Buy America's Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under BUY America regulations.

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/buy-american for additional information.

INSTALLATION — **Do not** erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Catalog Number	
Notes	
Type	

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

BAA BABA

L1 POLE

Drawing Number	
Notes	
Type	

KHA PROJECT	
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

No.	REVISIONS	DATE	BY

Kimley»Horn
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STATE OF MISSOURI
ANDREW W. GRIBBLE IV
NUMBER 2021038974
PROFESSIONAL ENGINEER

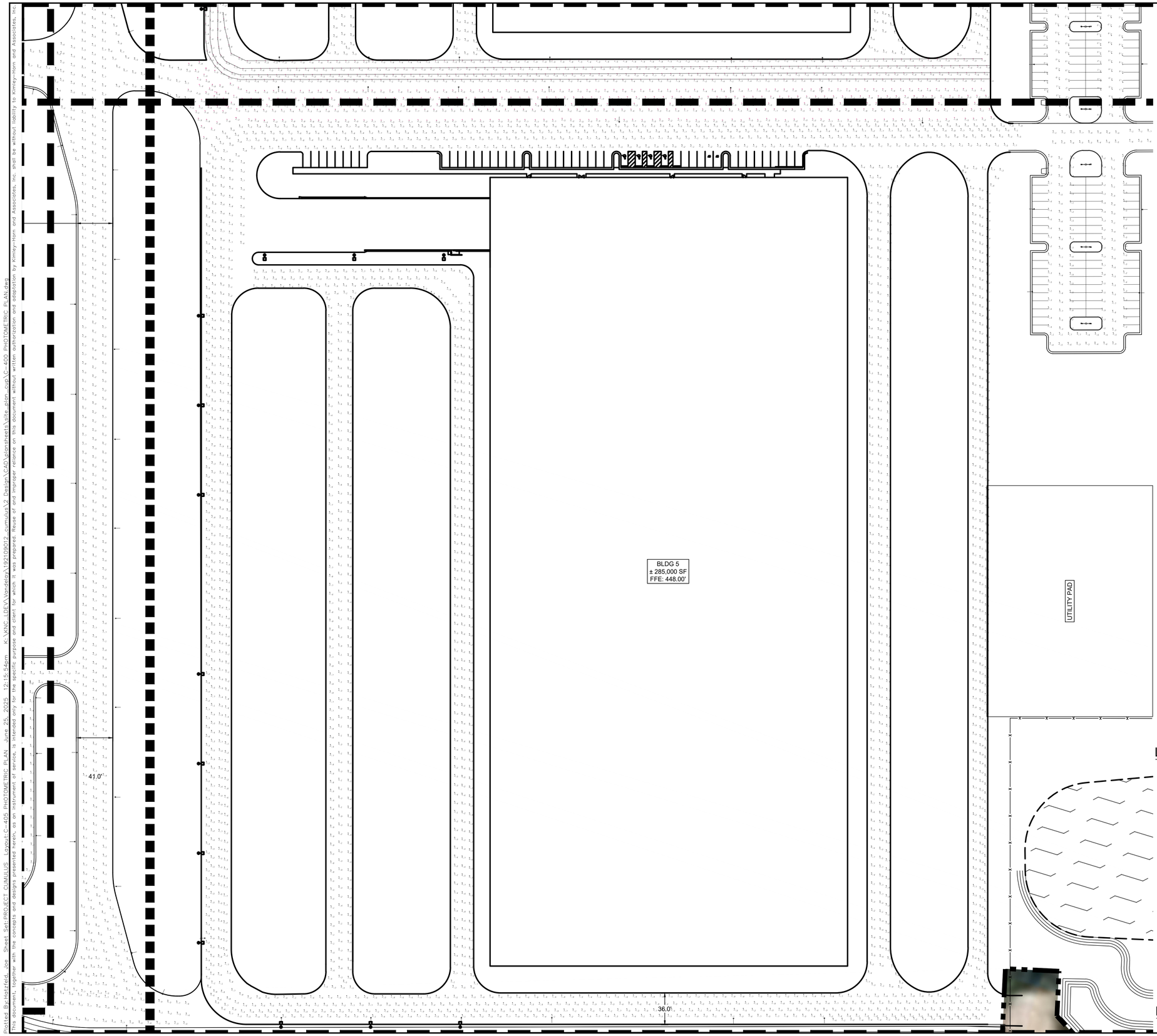
PHOTOMETRIC PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-404

Plotted By:hatzfeld, Joe Sheet Set:PROJECT CUMULUS Layout:C-405 PHOTOMETRIC PLAN June 25, 2025 12:15:54pm K:\KNC_LDEV\Vandeloo\1921090\2 cumulus\X2 Design\CAD\plansheets\site plan cup\C-405 PHOTOMETRIC PLAN.dwg
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GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

L1 LUMINAIRE

Catalog #: Project: Type:
Prepared By: Date:

Slice Medium (SLM)
Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	8,000 - 55,000
Wattage Range	62 - 496
Efficacy Range (LPW)	114 - 162
Weight (lbs(kg))	27 (12.2)
Control Options	PIRBT, ALB, ALS, 7-Pin, PD

QUICK LINKS
Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 33 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3, 4, 5W, FT, FTA, AM, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377. Also Available in Phosphs Converted Amber with Peak intensity at 610nm.
- 70 or 80CRI Minimum.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features overvoltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion <20%
- Operating temperature -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. SSL lumen package rate to +35°C.
- Power factor >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth™ motion sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 8.3 drill pattern. (See drawing in poles section)

Warranty
- L36 luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- Dark Sky compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applicationsapplicationsare qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)

Slice Medium Outdoor LED Area Light

Type:

Have questions? Call us at (888) 355-7301

ORDERING GUIDE Back to Quick Links

TYPICAL ORDER EXAMPLE: SLM LED 36L SL F3A UNV DIM 50 70CRI ALSCSOX BRZ IL

Prefix	Light Source	Lumen Package	Lens	Distribution	Orientation[1]	Voltage
SLM - Slice Medium	LED	9L - 9,000 lms 12L - 12,000 lms 18L - 18,000 lms 24L - 24,000 lms 30L - 30,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms 55L - 55,000 lms Custom Lumen Packages[2]	SL - Silicone	2 - Type 2 3 - Type 3 4 - Type 4 5W - Type 5 Wide FT - Forward Throw F3A - Forward Throw Automotive AM - Automotive Merchandise LC - Left Corner RC - Right Corner	(Blank) - standard (no rotation) L - Option rotated left 90° R - Option rotated right 90°	UNV - (Universal Voltage (120-277V) HV - High Voltage (347-480V)

Driver	Color Temperature	Color Rendering	Controls	Finish	Options
DIM - 0-10v Dimming (10-100%)	5K - 5,000 CCT 4K - 4,000 CCT 3.5K - 3,500 CCT (4K CRI only) 3K - 3,000 CCT 2.7K - 2,700 CCT (80 CRI only) AMB - Phosphor Converted Amber[3]	70CRI - 70 CRI 80CRI - 80 CRI	(Blank) - None Wireless Controls Factory: ACSC - AirLink Sensepoint Control System[4] ACSCSO - AirLink Sensepoint Control System with 0.1-20' Motion Sensor[4] ACSCSOX - AirLink Sensepoint Control System with 15-40' Motion Sensor[4] ALSMCSO - AirLink Blue Loop Range Wireless Motion & Photo Sensor Controller (5-24' mounting height)[4] ALSMCSOX - AirLink Blue Loop Range Wireless Motion & Photo Sensor Controller (25-40' mounting height)[4] Tyco/Visonic Controls: EXT - 0-10V Dimming leads extended to mounting strainer CSTP - 7-Pin Control Receptacle, NEMA C13L-BLR[5] PIRBTL - Integral Bluetooth® Motion and Photocell Sensor (9-24' Mtg)[6] PIRBTLX - Integral Bluetooth® Motion and Photocell Sensor (25-40' Mtg)[6] Button Type Photocells: PCSD - 120V PCDD-277 - 208-277V PCHV - 347V	BLK - Black BRZ - Dark Bronze GPM - Gun Metal Gray GPT - Graphite MSP - Metallic Silver PAP - Platinum Plus SVG - Satin Verde Green WHT - White	(Blank) - None IH - Integral Half Louver (Moderate Split Light Cutoff)[7] IL - Integral Louver (Sharp Split Light Cutoff)[7]

Need more information? Click here for our glossary.

Have additional questions? Call us at: (800) 436-7800

ACCESSORY ORDERING INFORMATION[8]

CONTROLS ACCESSORIES	
Description	Order Number
Twist Lock Photocell (120V) for use with CBTP	52354
Twist Lock Photocell (208-277) for use with CBTP	52355
Twist Lock Photocell (347V) for use with CBTP	52356
Twist Lock Photocell (480V) for use with CBTP	0220346
Astrid 5 Pin Twist Lock Controller	602469
Astrid 7 Pin Twist Lock Controller	602470
Shorting Cap for use with CBTP	141828

MOUNTING ACCESSORIES[9]	
Description	Order Number
Round Pole Adapter (3" Round/Tapered Poles)	4062751B
Round Pole Adapter (4" Round Poles)	3790712B
Round Pole Adapter (5" Round Poles)	3790662B
90 to 80 Adapter	0000260BK

FUSING OPTIONS[10]	
Single Fusing (120V)	Fuse Fusing Requirements Guide
Single Fusing (277V)	
Double Fusing (208V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

EXTERNAL SHIELDING OPTIONS	
2" External Shield	Side Shield Kit, Double
4" External Shield	

1. Custom lumens and wattages are available, consult factory. Values are +/-10% in accuracy. Standard tolerances to be +/-5% limit.
2. Not available on "Type 5W" distribution. IL not available with CSTP, EXT distributions.
3. Not available with 5000K CCT. Not available with 80CRI. Not available with 0-10V dimming or wireless/visonic controls.
4. Control devices are factory set, must be ordered as loose part for field programming. See Accessories Ordering Information.
5. Receptacle only. Control device must be ordered separately. See Accessories Ordering Information.
6. Not available with PCSD, PCDD, PCHV, or PCSD photocell options.
7. Not available with 90 CRI, 3.5K, 2.7K, or AMB color temperature options.
8. Not available with ALS, ALB, 7-Pin, or PD control options.
9. Not available with ALSMCSO or ALSMCSOX options.
10. Not available with PCSD, PCDD, PCHV, or PCSD photocell options.

L1 POLE

LITHONIA LIGHTING

Catalog Number:
Notes:
Type:

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area lights and floodlights.

CONSTRUCTION —

Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot-rolled, commercial-quality steel tubing with a minimum yield of 51 ksi (35 ksi per ASTM A500 Gr. B / 345 MPa). Shafts come standard with a full-length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent transmit qualities. Available shaft widths are 4", 5" and 6".

Pole Top: Options include 4" coupon top, drilled for tubing mount fixture, tenon with 4 Bling (includes extra handhole) and open top. Side drilled and open top poles include a removable top cap.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support Hotline for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 2.5" x 5".

Base Cover: A durable ABS plastic two-piece full base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75-95 KSI). Tag threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE — All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc-plated carbon steel or stainless steel.

FINISH — Extra durable quarter finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets SAE and GE classifications of AS7104 D0370. Powder-coat finishes include Dark Bronze, White, Black, and Natural aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

GOVERNMENT PROCUREMENT —
BAA – Buy American Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/buy-american for additional information.

INSTALLATION — Do not erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent finish damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions.

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

BAA BABA

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No.	REVISIONS	DATE	BY

STATE OF MISSOURI
ANDREW W. GRIBBLE IV
NUMBER 2021038772
PROFESSIONAL ENGINEER

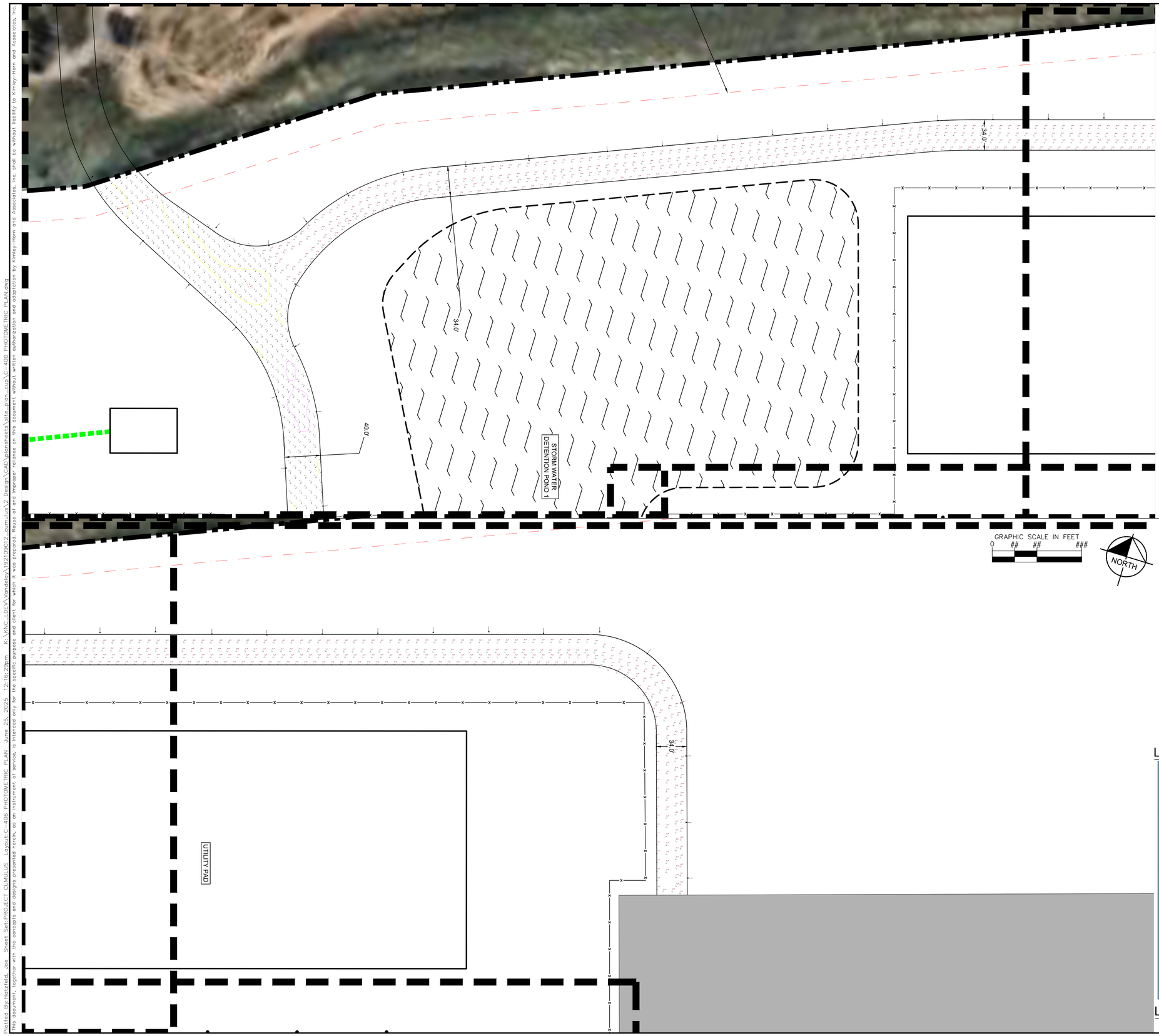
KHA PROJECT

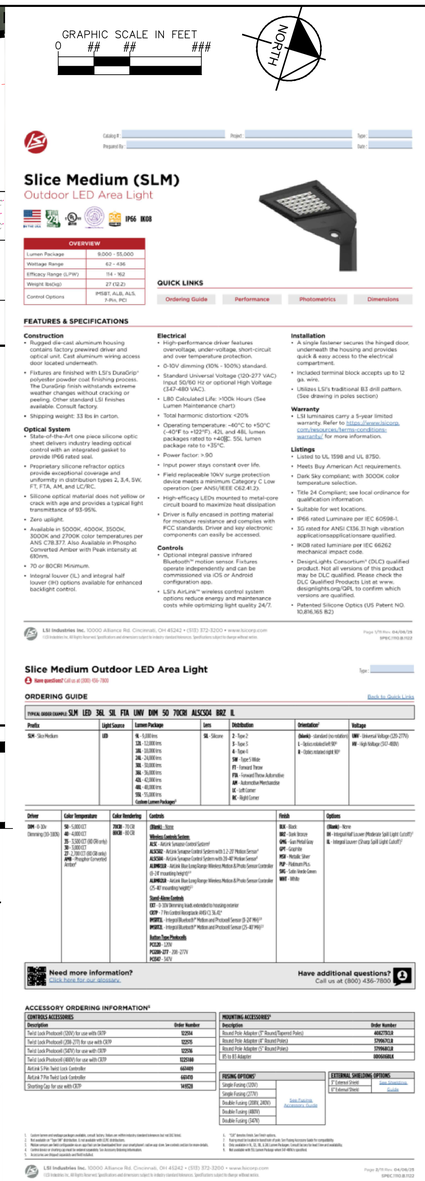
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SCALE	AS SHOWN
DESIGNED BY	JGH
DRAWN BY	BPM
CHECKED BY	AWG

PHOTOMETRIC PLAN

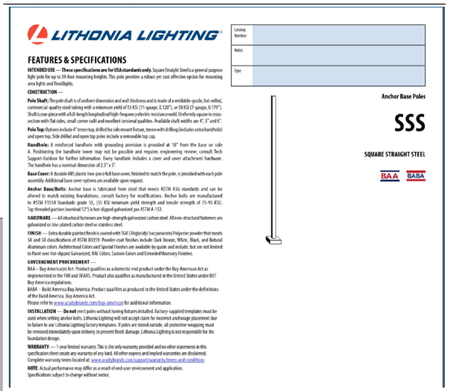
INDUSTRIAL PARK
ST CHARLES MO

SHEET NUMBER
C-405





L1 LUMINAIRE



L1 POLE

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PHONE: 816-652-0350
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ANDREW W. GRIBBLE IV
NUMBER 2021038744
STATE OF MISSOURI
PROFESSIONAL ENGINEER

No.	REVISIONS	DATE	BY

KHA PROJECT

DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JCH
DRAWN BY BPM
CHECKED BY AWG

PHOTOMETRIC PLAN

INDUSTRIAL PARK
ST CHARLES MO

SHEET NUMBER
C-406

Plotted By:Hatfield, Joe Sheet Set:PROJECT CUMULUS Layout:C-406 PHOTOMETRIC PLAN June 25, 2025 12:16:29pm K:\KNG_LDEV\Vandelay\192109012-cumulus\2 Design\CAD\plansheets\site plan cup\C-406 PHOTOMETRIC PLAN.dwg
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STORM WATER DETENTION POND 3

OFFICE 3
± 34,500 SF
FFE: 448.00'

STORM WATER DETENTION POND 2

GRAPHIC SCALE IN FEET
0 25 50 100

NORTH

SEE SHEET C-401

SEE SHEET C-405

OFFICE 2
± 34,500 SF
FFE: 447.00'

40.0'

SITE ENTRANCE

L1 LUMINAIRE

L1 POLE

Slice Medium (SLM)

Outdoor LED Area Light

IP66 IK08

OVERVIEW	
Lumen Package	8,000 - 55,000
Wattage Range	62 - 496
Efficacy Range (LPW)	114 - 162
Weight lbs(kg)	27 (12.2)
Control Options	IMSBT, ALB, ALS, 7-Pin, PE5

QUICK LINKS

Ordering Guide | Performance | Photometrics | Dimensions

FEATURES & SPECIFICATIONS

Construction
- Rugged die-cast aluminum housing contains factory prewired driver and optical unit. Cast aluminum wiring access door located underneath.
- Fixtures are finished with LSI's DuraGrip® polyester powder coat finishing process. The DuraGrip finish withstands extreme weather changes without cracking or peeling. Other standard LSI finishes available. Consult factory.
- Shipping weight: 33 lbs in carton.

Optical System
- State-of-the-Art one piece silicone optic sheet delivers industry leading optical control with an integrated gasket to provide IP66 rated seal.
- Proprietary silicone refractor optics provide exceptional coverage and uniformity in distribution types 2, 3, 4, SW, FT, FTA, AM, and LC/RC.
- Silicone optical material does not yellow or crack with age and provides a typical light transmittance of 93-95%.
- Zero uplight.
- Available in 5000K, 4000K, 3500K, 3000K and 2700K color temperatures per ANSI C78.377. Also Available in Phosphs Converted Amber with Peak intensity at 610nm.
- 70 or 80CRI Minimum.
- Integral louver (IL) and integral half louver (IH) options available for enhanced backlight control.

Electrical
- High-performance driver features overvoltage, under-voltage, short-circuit and over temperature protection.
- 0-10V dimming (10% - 100%) standard.
- Standard Universal Voltage (120-277 VAC) Input 50/60 Hz or optional High Voltage (347-480 VAC).
- L80 Calculated Life: >100k Hours (See Lumen Maintenance chart)
- Total harmonic distortion <20%
- Operating temperature -40°C to +50°C (-40°F to +122°F). 42L and 48L lumen packages rated to +40°C. 55L lumen package rate to +35°C.
- Power factor >.90
- Input power stays constant over life.
- Field replaceable 10kV surge protection device meets a minimum Category C Low operation (per ANSI/IEEE C62.41.2).
- High-efficacy LEDs mounted to metal-core circuit board to maximize heat dissipation.
- Driver is fully encased in potting material for moisture resistance and complies with FCC standards. Driver and key electronic components can easily be accessed.

Controls
- Optional integral passive infrared Bluetooth® motion sensor. Fixtures operate independently and can be commissioned via iOS or Android configuration app.
- LSI's AirLink™ wireless control system options reduce energy and maintenance costs while optimizing light quality 24/7.

Installation
- A single fastener secures the hinged door, underneath the housing and provides quick & easy access to the electrical compartment.
- Included terminal block accepts up to 12 ga. wire.
- Utilizes LSI's traditional 8.3 drill pattern. (See drawing in poles section)

Warranty
- L3A luminaires carry a 5-year limited warranty. Refer to https://www.lsicorp.com/resources/terms-conditions-warranty/ for more information.

Listings
- Listed to UL 1598 and UL 8750.
- Meets Buy American Act requirements.
- Dark Sky compliant; with 3000K color temperature selection.
- Title 24 Compliant; see local ordinance for qualification information.
- Suitable for wet locations.
- IP66 rated Luminaire per IEC 60598-1.
- 3G rated for ANSI C136.31 high vibration applicationsapplicationsare qualified.
- IK08 rated luminaire per IEC 66262 mechanical impact code.
- DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.
- Patented Silicone Optics (US Patent NO. 10,816,165 B2)

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Page 5 Printed: 04/08/25
SPEC-TRD-B-0122

Slice Medium Outdoor LED Area Light

Have questions? Call us at (866) 436-7600

ORDERING GUIDE

Back to Quick Links

TYPICAL ORDER EXAMPLE: SLM LED 36L SL FTA UNV DIM 50 70CRI ALSCSCH BRZ IL

Prefix	Light Source	Lumen Package	Lens	Distribution	Orientation[1]	Voltage
SLM - Slice Medium	LED	9L - 9,000 lms 12L - 12,000 lms 18L - 18,000 lms 24L - 24,000 lms 30L - 30,000 lms 36L - 36,000 lms 42L - 42,000 lms 48L - 48,000 lms 55L - 55,000 lms Custom Lumen Package[2]	SL - Silicone	2 - Type 2 3 - Type 3 4 - Type 4 5W - Type 5 Wide FT - Forward Throw FTA - Forward Throw Automotive AM - Automotive Mediumtone LC - Left Corner RC - Right Corner	(Blank) - standard (no rotation) L - Option rotated left 90° R - Option rotated right 90°	UNV - Universal Voltage (120-277V) HV - High Voltage (347-480V)

Driver	Color Temperature	Color Rendering	Controls	Finish	Options
DIM - 0-10v Dimming (10-100%)	5K - 5,000 CCT 4K - 4,000 CCT 3.5K - 3,500 CCT (80 CRI only) 3K - 3,000 CCT 2.7K - 2,700 CCT (80 CRI only) PHW - Phosphor Converted Amber*	70CRI - 70 CRI 80CRI - 80 CRI	(Blank) - None Wireless Controls Options ALSC - AirLink Sensaphore Control System ALSCSC - AirLink Sensaphore Control System with 0.1-20' Motion Sensor* ALSCSH - AirLink Sensaphore Control System with 20-40' Motion Sensor* ALSMBSB - AirLink Blue Loop Bluetooth® Wireless Motion & Photo Sensor Controller (8-15' mounting height)*[3] ALSMBSH - AirLink Blue Loop Bluetooth® Wireless Motion & Photo Sensor Controller (15-40' mounting height)*[3] Button Type Photocells PCS120 - 120V PCS208-277 - 208-277V PCS347 - 347V	BLK - Black BRZ - Dark Bronze GPM - Gun Metal Gray GPT - Graphite MSL - Metallic Silver PLP - Platinum Plus SVG - Satin Verde Green WHT - White	(Blank) - None IH - Integral Half Louver (Moderate Spill Light Control)* IL - Integral Louver (Sharp Spill Light Control)*

Need more information? Check these first: User Manuals

Have additional questions? Call us at (866) 436-7600

ACCESSORY ORDERING INFORMATION[4]

CONTROLS ACCESSORIES	
Description	Order Number
Twist Lock Photocell (120V) for use with CBTP	52304
Twist Lock Photocell (208-277) for use with CBTP	52305
Twist Lock Photocell (347V) for use with CBTP	52306
Twist Lock Photocell (480V) for use with CBTP	52354B
Astrid 4 Pin Twist Lock Controller	46949
Astrid 7 Pin Twist Lock Controller	46947
Shorting Cap for use with CBTP	54852

MOUNTING ACCESSORIES[5]	
Description	Order Number
Round Pole Adapter (3" Round/Tapered Poles)	46827SSB
Round Pole Adapter (4" Round Poles)	57906718
Round Pole Adapter (5" Round Poles)	57906818
3ft to 8ft Adapter	80969MBA

FUSING OPTIONS[6]	
Simple Fusing (120V)	See Fusing Recommendations Guide
Simple Fusing (277V)	
Double Fusing (208V, 240V)	
Double Fusing (480V)	
Double Fusing (347V)	

EXTERNAL SHIELDING OPTIONS	
1 - Exterior Shield	See Dimensions Guide
2 - External Shield	

1. Custom lumens and wattage package available, consult factory. Values are within industry standard tolerance but not DLC listed.
2. Not available on "Type SW" distribution. Is not available with CLTP distributions.
3. Control distance or shielding may need to be adjusted in programming. Consult user manual/datasheet. Lens cap sizes 2 are standard, contact for more details.
4. Control distance or shielding may need to be adjusted in programming. Use Accessory Ordering Information.
5. Accessories are shipped separately and field installed.
6. "120" denotes Dual, Low Fuse options.
   Fuse must be installed in both the Hot Fuse (Fuse Tap) Accessory Guide for compatibility.
   Fuse Tap Kit (FTK) - 120V, 208-277V, 347V, 480V must be ordered for fuse set availability.
   Not available with DLL Lumen Package when 347-480V is specified.

LSI Industries Inc. 10000 Alliance Rd. Cincinnati, OH 45242 • (513) 372-3200 • www.lsicorp.com
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Page 6 Printed: 04/08/25
SPEC-TRD-B-0122

LITHONIA LIGHTING

FEATURES & SPECIFICATIONS

INTENDED USE — These specifications are for USA standards only. Square Straight Steel is a general purpose light pole for up to 39-foot mounting heights. This pole provides a robust yet cost effective option for mounting area light and floodlights.

CONSTRUCTION —

Pole Shaft: The pole shaft is of uniform dimension and wall thickness and is made of a weldable-grade, hot rolled, commercial-quality steel tubing with a minimum yield of 51 KSI (71 typical, 3.125", or 50 KSI (7 typical, 0.179"). Shafts come pierce with a 6.0-in length longitudinal high-frequency electric resistance weld. Uniformly square in cross-section with flat sides, small corner radii and excellent torsional qualities. Available shaft widths are 4", 5" and 6".

Pole Top: Options include 4" coupling, drilled for tenon mount fixture, tenon with 4-Bolt Slipfitter (includes extra handhole) and open top. Side-drilled and open top poles include a removable top cap.

Handhole: A reinforced handhole with grounding provision is provided at 18" from the base on side A. Positioning the handhole lower may not be possible and requires engineering review; consult Tech Support Outdoor for further information. Every handhole includes a cover and cover attachment hardware. The handhole has a nominal dimension of 3.5" x 5".

Base Cover: A durable ABS plastic two-piece bolt base cover, finished to match the pole, is provided with each pole assembly. Additional base cover options are available upon request.

Anchor Base/Bolts: Anchor base is fabricated from steel that meets ASTM A36 standards and can be altered to match existing foundations; consult factory for modifications. Anchor bolts are manufactured to ASTM F1554 Standards grade 55, (55 KSI minimum yield strength and tensile strength of 75 KSI KSI). Top threaded portion (nominal 12") is hot-dipped galvanized per ASTM A-153.

HARDWARE — All structural fasteners are high-strength galvanized carbon steel. All non-structural fasteners are galvanized or zinc plated carbon steel or stainless steel.

FINISH — Extra durable painted finish is coated with TGIC (Triglycidyl Isocyanurate) Polyester powder that meets SAE and GE classifications of ASTM D1379. Powder-coat finishes include Dark Bronze, White, Black, and Natural Aluminum colors. Architectural Colors and Special Finishes are available by quote and include, but are not limited to Paint over Hot-dipped Galvanized, RAL Colors, Custom Colors and Extended Warranty Finishes.

CONFORMANCE/PROCUREMENT —

BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.

BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.

Please refer to www.acuitybrands.com/buy-american for additional information.

INSTALLATION — Do not erect poles without having fixtures installed. Factory-supplied templates must be used when setting anchor bolts. Lithonia Lighting will not accept claim for incorrect anchorage placement due to failure to use Lithonia Lighting factory templates. If poles are stored outside, all protective wrapping must be removed immediately upon delivery to prevent Finish Damage. Lithonia Lighting is not responsible for the foundation design.

WARRANTY — 1-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
Specifications subject to change without notice.

Catalog Number
Notes
Type

Anchor Base Poles

SSS

SQUARE STRAIGHT STEEL

BAA BABA

KHA PROJECT	
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2025 KIMLEY-HORN AND ASSOCIATES, INC.
805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

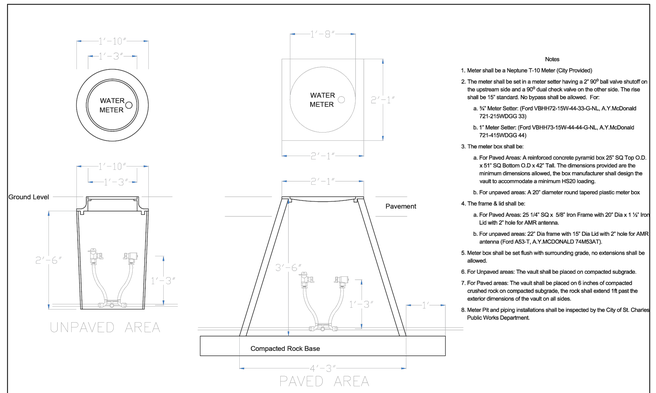
STATE OF MISSOURI
ANDREW W. GRIBBLE IV
NUMBER 2024038972
PROFESSIONAL ENGINEER

PHOTOMETRIC PLAN

INDUSTRIAL PARK

ST CHARLES MO

SHEET NUMBER
C-407



Notes

1. Meter shall be a Neptune T-10 Meter (City Provided)
2. The meter shall be set in a meter setter having a 2" 90º ball valve shutoff on the upstream side and a 90º dual check valve on the other side. The rise shall be 15" standard. No bypass shall be allowed. For:
   a. ¾" Meter Setter: (Ford VBHH72-15W-44-33-G-NL, A.Y.McDonald 721-215WDGG 33)
   b. 1" Meter Setter: (Ford VBHH73-15W-44-44-G-NL, A.Y.McDonald 721-415WDGG 44)
3. The meter box shall be:
   a. For Paved Areas: A reinforced concrete pyramid box 25" SQ Top O.D. x 51" SQ Bottom O.D x 42" Tall. The dimensions provided are the minimum dimensions allowed, the box manufacturer shall design the vault to accommodate a minimum HS20 loading.
   b. For unpaved areas: A 20" diameter round tapered plastic meter box
4. The frame & lid shall be:
   a. For Paved Areas: 25 1/4" SQ x 5/8" Iron Frame with 20" Dia x 1 ½" Iron Lid with 2" hole for AMR antenna.
   b. For unpaved areas: 22" Dia frame with 15" Dia Lid with 2" hole for AMR antenna (Ford AS3-T, A.Y.MCDONALD 74M53AT).
5. Meter box shall be set flush with surrounding grade, no extensions shall be allowed.
6. For Unpaved areas: The vault shall be placed on compacted subgrade.
7. For Paved areas: The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
8. Meter Pit and piping installations shall be inspected by the City of St. Charles Public Works Department.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

WATER METER DETAIL
¾" & 1" METER
UNPAVED & PAVED AREAS

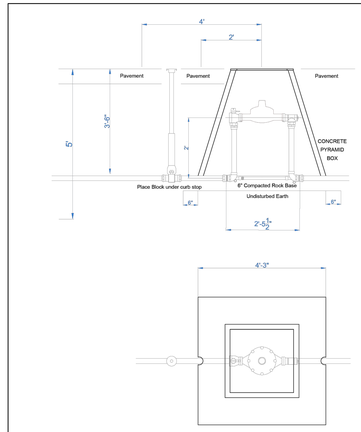
	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WM1 | Index No. XXX

N.T.S.



Notes

1. Meter shall be a Neptune T-10 Meter (City Provided)
2. A ball valve curb stop and box shall be installed no more than 4ft and no less than 2ft from the edge of the meter pit. The box shall be set flush with the pavement.
3. The meter shall be set in a meter setter having a 2" 90º ball valve shutoff on the upstream side and a 90º dual check valve on the other side. The rise shall be 24" standard. No bypass shall be allowed.
   3.1. For:
   1 ½" Service: (Ford VBHH76-24-44-66-NL-G, A.Y.McDonald 721-624-WD-GG--66-0)
   2" Service: (Ford VBHH77-24-44-77-NL-G, A.Y.McDonald 721-724-WD-GG--77-0)
4. The meter box shall be:
   a. For Paved Areas: A reinforced concrete pyramid box 25" SQ Top O.D. x 51" SQ Bottom O.D x 42" Tall. The dimensions provided are the minimum dimensions allowed, the box manufacturer shall design the vault to accommodate a minimum HS20 loading.
5. The frame & lid shall be:
   a. For Paved Areas: 25 1/4" SQ x 5/8" Iron Frame with 20" Dia x 1 ½" Iron Lid with 2" hole for AMR antenna, frame and lid shall be for HS20 loading.
6. For Paved areas: The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
7. Meter Pit and piping installations shall be inspected by the City of St. Charles Public Works Department.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

WATER METER DETAIL
1 ½" & 2" METERS
PAVED AREAS

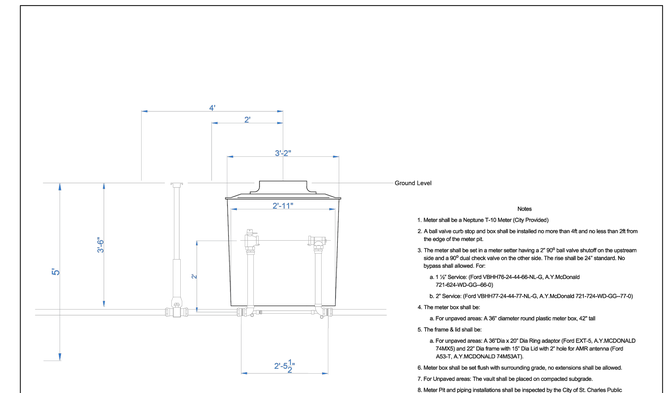
	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WM2 | Index No. XXX

N.T.S.



Notes

1. Meter shall be a Neptune T-10 Meter (City Provided)
2. A ball valve curb stop and box shall be installed no more than 4ft and no less than 2ft from the edge of the meter pit.
3. The meter shall be set in a meter setter having a 2" 90º ball valve shutoff on the upstream side and a 90º dual check valve on the other side. The rise shall be 24" standard. No bypass shall allowed. For:
   a. 1 ½" Service: (Ford VBHH76-24-44-66-NL-G, A.Y.McDonald 721-624-WD-GG--66-0)
   b. 2" Service: (Ford VBHH77-24-44-77-NL-G, A.Y.McDonald 721-724-WD-GG--77-0)
4. The meter box shall be:
   a. For unpaved areas: A 36" diameter round plastic meter box, 42" tall
5. The frame & lid shall be:
   a. For unpaved areas: A 36"Dia x 20" Dia Ring adaptor (Ford EXT-5, A.Y.MCDONALD 74M05) and 22" Dia frame with 15" Dia Lid with 2" hole for AMR antenna (Ford AS3-T, A.Y.MCDONALD 74M53AT).
6. Meter box shall be set flush with surrounding grade, no extensions shall be allowed.
7. For Unpaved areas: The vault shall be placed on compacted subgrade.
8. Meter Pit and piping installations shall be inspected by the City of St. Charles Public Works Department.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

WATER METER DETAIL
1 ½" & 2" METERS
UNPAVED AREAS

	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WM3 | Index No. XXX

N.T.S.

Notes:

1. Vault access hatch shall be 36" x 30" aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 350 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Meter shall be Neptune 3" TruFlow Compound Meter (City Provided),
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
7. Meter Vault shall be set flush with surrounding grade, no extensions shall be allowed.
8. Free drainage (to daylight or storm sewer) for the vault shall be provided; no French drains or drainage fields shall be allowed. Drains shall be screened or grated to prevent vermin infiltration. Minimum drain line size shall be 6in SDR35. Destination of drainage must be shown.
   a. If necessary, to allow drainage, the vault shall be elevated by means of an earthen berm.
9. By-pass piping shall be the same size as the main meter line.
10. Flange support stands or stand pipe cradles shall be provided and constructed of stainless steel, securely bolted to the vault floor. Two stands shall support the main line adjacent to the water meter at the wheel gate valves; one stand shall support the by-pass line at the approximate midpoint of the by-pass line.
11. Exterior gate valves shall be placed no more than 10ft and no less than 2ft from the vault exterior wall
12. A two-inch ball corporation valve (corp) shall be installed between the by-pass check valve and the gate valve to allow for future meter testing. The corp shall have IP connection threads and be capped. In lieu of the corp, it is allowed to substitute a 3x3x2 flanged tee with an Flange x IP thread ball valve. The ball valve shall be capped.
13. The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
14. Penetrations through the vault wall shall have waterseals and be water-tight.
15. Provide ladder steps in the interior vault wall centered on the hatch opening. An aluminum or stainless steel ladder safety post shall be required
16. Vault dimensions provided are the minimum interior dimensions allowed, the manufacturer shall design the vault to accommodate a minimum HS20 loading.
17. Vault and piping installations shall be inspected by the City of St. Charles Public Works Department.
18. All meters 3" and larger require a restrained dismantling joint, as depicted, after the first meter isolation valve. The dismantling joint shall be Romac Industries DJ405 or equal.
19. All meters 3" and larger shall have single swing check valves installed on both the main line and the bypass line. The check valves shall be Mueller A-2600-06BB Style, or equal.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

WATER METER DETAIL
3" METER

	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WM4 | Index No. XXX

N.T.S.

Notes:

1. Vault access hatch shall be 36" x 36" aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 350 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Meter shall be Neptune 4" TruFlow Compound Meter (City Provided),
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
7. Meter Vault shall be set flush with surrounding grade, no extensions shall be allowed.
8. Free drainage (to daylight or storm sewer) for the vault shall be provided; no French drains or drainage fields shall be allowed. Drains shall be screened or grated to prevent vermin infiltration. Minimum drain line size shall be 6in SDR35. Destination of drainage must be shown.
   a. If necessary, to allow drainage, the vault shall be elevated by means of an earthen berm.
9. By-pass piping shall be the same size as the main meter line.
10. Flange support stands or stand pipe cradles shall be provided and constructed of stainless steel, securely bolted to the vault floor. Two stands shall support the main line adjacent to the water meter at the wheel gate valves; one stand shall support the by-pass line at the approximate midpoint of the by-pass line.
11. Exterior gate valves shall be placed no more than 10ft and no less than 2ft from the vault exterior wall
12. A two-inch ball corporation valve (corp) shall be installed between the by-pass check valve and the gate valve to allow for future meter testing. The corp shall have IP connection threads and be capped. In lieu of the corp, it is allowed to substitute a 4x4x2 flanged tee with an Flange x IP thread ball valve. The ball valve shall be capped.
13. The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
14. Penetrations through the vault wall shall have waterseals and be water-tight.
15. Provide ladder steps in the interior vault wall centered on the hatch opening. An aluminum or stainless steel ladder safety post shall be required
16. Vault dimensions provided are the minimum interior dimensions allowed, the manufacturer shall design the vault to accommodate a minimum HS20 loading.
17. Vault and piping installations shall be inspected by the City of St. Charles Public Works Department.
18. All meters 3" and larger require a restrained dismantling joint, as depicted, after the first meter isolation valve. The dismantling joint shall be Romac Industries DJ405 or equal.
19. All meters 3" and larger shall have single swing check valves installed on both the main line and the bypass line. The check valves shall be Mueller A-2600-06BB Style, or equal.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

WATER METER DETAIL
4" METER

	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WM5 | Index No. XXX

N.T.S.

Notes:

1. Vault access hatch shall be 48" x 36" aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 350 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Meter shall be Neptune 6" TruFlow Compound Meter (City Provided),
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
7. Meter Vault shall be set flush with surrounding grade, no extensions shall be allowed.
8. Free drainage (to daylight or storm sewer) for the vault shall be provided; no French drains or drainage fields shall be allowed. Drains shall be screened or grated to prevent vermin infiltration. Minimum drain line size shall be 6in SDR35. Destination of drainage must be shown.
   a. If necessary, to allow drainage, the vault shall be elevated by means of an earthen berm.
9. By-pass piping shall be the same size as the main meter line.
10. Flange support stands or stand pipe cradles shall be provided and constructed of stainless steel, securely bolted to the vault floor. Two stands shall support the main line adjacent to the RPZA at the wheel gate valves; two stands likewise shall support the by-pass line.
11. Exterior gate valves shall be placed no more than 10ft and no less than 2ft from the vault exterior wall
12. A two-inch ball corporation valve (corp) shall be installed between the by-pass check valve and the gate valve to allow for future meter testing. The corp shall have IP connection threads and be capped. In lieu of the corp, it is allowed to substitute a 6x6x2 flanged tee with an Flange x IP thread ball valve. The ball valve shall be capped.
13. The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
14. Penetrations through the vault wall shall have waterseals and be water-tight.
15. Provide ladder steps in the interior vault wall centered on the manway hatch opening. An aluminum or stainless steel ladder safety post shall be required.
16. Vault dimensions provided are the minimum interior dimensions allowed, the manufacturer shall design the vault to accommodate a minimum HS20 loading.
17. Vault and piping installations shall be inspected by the City of St. Charles Public Works Department.
18. All meters 3" and larger require a restrained dismantling joint, as depicted, after the first meter isolation valve. The dismantling joint shall be Romac Industries DJ405 or equal.
19. All meters 3" and larger shall have single swing check valves installed on both the main line and the bypass line. The check valves shall be Mueller A-2600-06BB Style, or equal.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

WATER METER DETAIL
6" METER

	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WM6 | Index No. XXX

N.T.S.

Notes:

1. Vault access hatch shall be 60" x 48" aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 350 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Meter shall be Neptune 8" HP Protectus Water Meter (City Provided),
   a. Note: Order lead time for new installations is a minimum 2 months.
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
7. Meter Vault shall be set flush with surrounding grade, no extensions shall be allowed.
8. Free drainage (to daylight or storm sewer) for the vault shall be provided; no French drains or drainage fields shall be allowed. Drains shall be screened or grated to prevent vermin infiltration. Minimum drain line size shall be 6in SDR35. Destination of drainage must be shown.
   a. If necessary, to allow drainage, the vault shall be elevated by means of an earthen berm.
9. By-pass piping shall be the same size as the main meter line.
10. Flange support stands or stand pipe cradles shall be provided and constructed of stainless steel, securely bolted to the vault floor. Two stands shall support the main line adjacent to the water meter at the wheel gate valves; one stand shall support the by-pass line at the approximate midpoint of the by-pass line.
11. Exterior gate valves shall be placed no more than 10ft and no less than 2ft from the vault exterior wall
12. A two-inch ball corporation valve (corp) shall be installed between the by-pass check valve and the gate valve to allow for future meter testing. The corp shall have IP connection threads and be capped. In lieu of the corp, it is allowed to substitute a 8x8x2 flanged tee with an Flange x IP thread ball valve. The ball valve shall be capped.
13. The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
14. Penetrations through the vault wall shall have waterseals and be water-tight.
15. Provide ladder steps in the interior vault wall centered on the hatch opening. An aluminum or stainless steel ladder safety post shall be required
16. Vault dimensions provided are the minimum interior dimensions allowed, the manufacturer shall design the vault to accommodate a minimum HS20 loading.
17. Vault and piping installations shall be inspected by the City of St. Charles Public Works Department.
18. All meters 3" and larger require a restrained dismantling joint, as depicted, after the first meter isolation valve. The dismantling joint shall be Romac Industries DJ405 or equal.
19. All meters 3" and larger shall have single swing check valves installed on both the main line and the bypass line. The check valves shall be Mueller A-2600-06BB Style, or equal.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

WATER METER DETAIL
8" METER

	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WM7 | Index No. XXX

N.T.S.

Notes:

1. Vault access hatches shall be 24" x 24" manway and a 60"x 42" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 350 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Design is based upon Watts 8" LF909 RPZA with a discharge rate of Q=600GPM.
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
7. Vault shall be set flush with surrounding grade, no extensions shall be allowed.
8. Free drainage (to daylight or storm sewer) for the vault shall be provided; no French drains or drainage fields shall be allowed. Drains shall be screened or grated to prevent vermin infiltration. Minimum drain line size shall be 6in SDR35. Destination of drainage must be shown. Contractor to provide submittal showing max discharge rate of RPZA relief valve and drainage piping, sump, and grate sized to prevent the HGL at max discharge rate from being within the vault. Drain shall have a minimum 1% slope.
   a. If necessary, to allow drainage, the vault shall be elevated by means of an earthen berm.
9. By-pass piping shall be the same size as the main line.
10. Flange support stands or stand pipe cradles shall be provided and constructed of stainless steel, securely bolted to the vault floor. Two stands shall support the main line adjacent to the RPZA at the wheel gate valves; two stands likewise shall support the by-pass line.
11. Exterior gate valves shall be placed no more than 10ft and no less than 2ft from the vault exterior wall
12. The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
13. Penetrations through the vault wall shall have waterseals and be water-tight.
14. Provide ladder steps in the interior vault wall centered on the manway hatch opening. An aluminum or stainless steel ladder safety post shall be required.
15. Vault dimensions provided are the minimum interior dimensions allowed, the manufacturer shall design the vault to accommodate a minimum HS20 loading.
16. Vault and piping installations shall be inspected by the City of St. Charles Public Works Department.
17. All backflow devices shall be equipped with a strainer designed for use with the specified backflow device.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

8" RPZA BACKFLOW
PREVENTER DETAIL

	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WSP1 | Index No. XXX

N.T.S.

Notes:

1. Vault access hatches shall be 24" x 24" manway and a 60"x 42" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 350 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Design is based upon Watts 8" LF909 RPZA with a discharge rate of Q=600GPM.
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
7. Vault shall be set flush with surrounding grade, no extensions shall be allowed.
8. Free drainage (to daylight or storm sewer) for the vault shall be provided; no French drains or drainage fields shall be allowed. Drains shall be screened or grated to prevent vermin infiltration. Minimum drain line size shall be 6in SDR35. Destination of drainage must be shown. Contractor to provide submittal showing max discharge rate of RPZA relief valve and drainage piping, sump, and grate sized to prevent the HGL at max discharge rate from being within the vault. Drain shall have a minimum 1% slope.
   a. If necessary, to allow drainage, the vault shall be elevated by means of an earthen berm.
9. By-pass piping shall be the same size as the main line.
10. Flange support stands or stand pipe cradles shall be provided and constructed of stainless steel, securely bolted to the vault floor. Two stands shall support the main line adjacent to the RPZA at the wheel gate valves; two stands likewise shall support the by-pass line.
11. Exterior gate valves shall be placed no more than 10ft and no less than 2ft from the vault exterior wall
12. The vault shall be placed on 6 inches of compacted crushed rock on compacted subgrade, the rock shall extend 1ft past the exterior dimensions of the vault on all sides.
13. Penetrations through the vault wall shall have waterseals and be water-tight.
14. Provide ladder steps in the interior vault wall centered on the manway hatch opening. An aluminum or stainless steel ladder safety post shall be required.
15. Vault dimensions provided are the minimum interior dimensions allowed, the manufacturer shall design the vault to accommodate a minimum HS20 loading.
16. Vault and piping installations shall be inspected by the City of St. Charles Public Works Department.
17. All backflow devices shall be equipped with a strainer designed for use with the specified backflow device.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

8" RPZA BACKFLOW
PREVENTER W/BYPASS DETAIL

	Name	Date
Designed By	JMP	06/15
Drawn By	JMP	06/15
Checked By	JMP	06/15

Approved By

City Engineer

Revision | Sheet No. WSP1B | Index No. XXX

N.T.S.

No.	REVISIONS	DATE	BY

Kimley»Horn

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805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIBBLE, IV
NUMBER 2019038923
PROFESSIONAL ENGINEER

KHA PROJECT ---

DATE 2025-05-19

SCALE AS SHOWN

DESIGNED BY JCH

DRAWN BY BPM

CHECKED BY AWG

UTILITY DETAILS

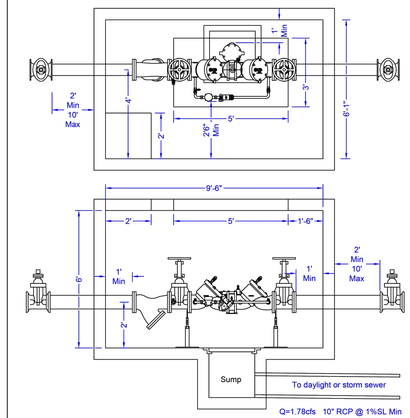
INDUSTRIAL PARK

PREPARED FOR

ST CHARLES MO

SHEET NUMBER
C-900

Plotted By:Hatfield, Joe Sheet Set:PROJECT CUMULUS Layout:C-900 UTILITY DETAILS June 25, 2025 12:17:32pm K:\KNC_LDT\VA\Vondrejs\V2\19038\2_cumulus\2 Design\CAD\plansheets\site_plan_cus\C-900 UTILITY DETAILS.dwg
This document, together with the concepts and designs presented herein, as an instrument of service, is intended only for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization and adoption by Kimley-Horn and Associates, Inc. shall be without liability to Kimley-Horn and Associates, Inc.



Notes:

1. Vault access hatches shall be 24" x 24" manway and a 60"x 36" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 300 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Design is based upon Watts 6" LF909 RPZA with a discharge rate of Q=600GPM.
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
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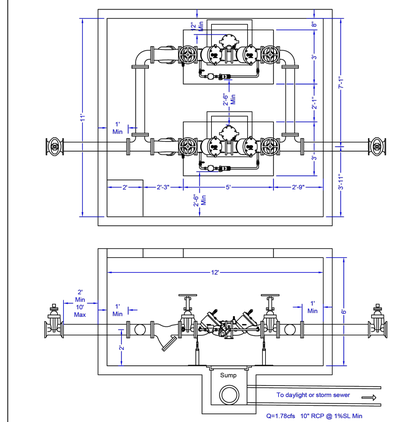
CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

6" RPZA BACKFLOW PREVENTER DETAIL

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WRP-2A | Index No. XXX

N.T.S.



Notes:

1. Vault access hatches shall be 24" x 24" manway and a 60"x 36" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
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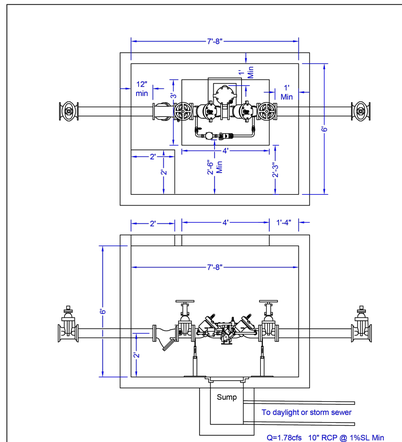
CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

6" RPZA BACKFLOW PREVENTER W/BYPASS DETAIL

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WRP-2B | Index No. XXX

N.T.S.



Notes:

1. Vault access hatches shall be 24" x 24" manway and a 48"x 36" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 300 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Design is based upon Watts 4" LF909 RPZA with a discharge rate of Q=400GPM.
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
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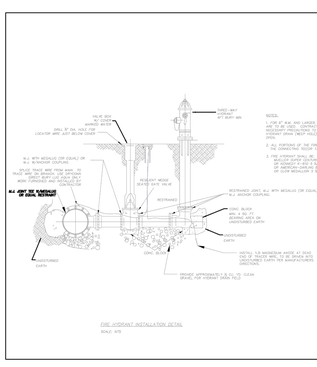
CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

4" RPZA BACKFLOW PREVENTER DETAIL

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WRP-3A | Index No. XXX

N.T.S.



Notes:

1. Vault access hatches shall be 24" x 24" manway and a 60"x 36" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
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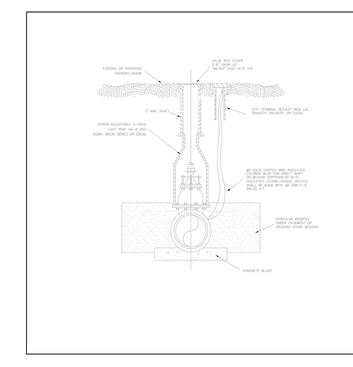
CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

4" RPZA BACKFLOW PREVENTER W/BYPASS DETAIL

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WRP-4A | Index No. XXX

N.T.S.



Notes:

1. Vault access hatches shall be 24" x 24" manway and a 36"x 30" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
2. Vault shall be constructed out of 4000psi reinforced concrete.
3. All piping shall be 350 class ductile iron pipe with all interior piping having flanged ends. All appurtenances shall be pressure rated to 250psi minimum.
4. Design is based upon Watts 3" LF909 RPZA with a discharge rate of Q=450GPM.
5. Interior Gate Valves shall be flanged, non-rising stem resilient wedge gate valves left-opening with hand wheel operators.
6. Exterior Gate Valves shall be the same as required by City of St. Charles Water Specifications; MJ joint (with mega-lug) resilient wedge gate valve left-opening with 2" square operating nut.
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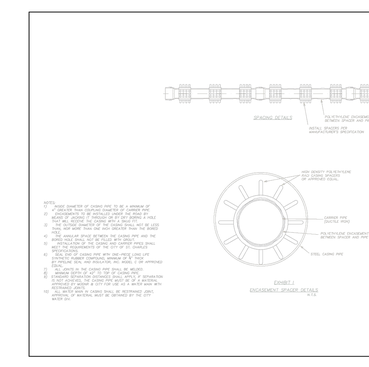
CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

3" RPZA BACKFLOW PREVENTER DETAIL

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WRP-4B | Index No. XXX

N.T.S.



Notes:

1. Vault access hatches shall be 24" x 24" manway and a 60"x 36" service hatch for each RPZA respectively, aluminum spring assisted locking doors, HS20 loading and water tight. Hatch doors must be able to lock in the "open" position.
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CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

3" RPZA BACKFLOW PREVENTER W/BYPASS DETAIL

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WRP-4B | Index No. XXX

N.T.S.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

TYPICAL VALVE BOX INSTALLATION

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WBX | Index No. XXX

N.T.S.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

FIRE HYDRANT DETAILS

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WHY | Index No. XXX

N.T.S.

NOTES:
1) INSIDE DIAMETER OF CASING PIPE TO BE 4 GREATER OF THAN THE OUTSIDE DIAMETER OF THE CARRIER PIPE.
2) ALL CASINGS TO BE INSTALLED UNDER THE ROAD BY JACKING AND BORING METHOD. NO OPEN CUTTING OF ROAD WILL BE ALLOWED FOR CASING WITH A DIAMETER
3) THE ANNULAR SPACE BETWEEN THE CASING PIPE AND THE BORED HOLE SHALL NOT BE FILLED WITH GROUT.
4) ALL CASING INSTALLATIONS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE CITY OF ST. CHARLES STANDARD SPECIFICATIONS.
5) SEAL END OF CASING PIPE WITH 2ND HAND CONCRETE BLOCK AND MORTAR OR WITH CLOSURE SEAL (CALPICO OR APPROVE SEAL AND INSULATOR, PVC RISER, 1" OR APPROVED EQUAL).
6) ALL JOINTS IN THE CASING PIPE SHALL BE WELDED.
7) CASING PIPE SHALL BE SET TO GRADE AND ALIGNMENT.
8) A MINIMUM DEPTH FOR ENCASEMENT SHALL APPLY IF SPECIFICATION IS NOT MET, THE CASING PIPE SHALL BE INSTALLED AT A MINIMUM DEPTH OF 4 FEET BELOW THE TOP OF THE BORE WITH APPROVAL OF THE CITY.
9) ALL WATER MAIN IN CASING SHALL BE RESTRAINED JOINT. APPROVAL OF MATERIAL MUST BE OBTAINED BY THE CITY.

CITY OF ST. CHARLES, MISSOURI
DEPARTMENT OF PUBLIC WORKS

JACK AND BORING DETAIL

	Names	Dates	Approved By
Designed By	JMF	06/19	
Drawn By	JMF	06/19	City Engineer
Checked By	JMF	06/19	

Revision | Sheet No. WBJ | Index No. XXX

N.T.S.

No.	REVISIONS	DATE	BY

Kimley»Horn
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805 PENNSYLVANIA AVE., SUITE 7150, KANSAS CITY, MO 64105
PHONE: 816-652-0350
WWW.KIMLEY-HORN.COM

STATE OF MISSOURI
ANDREW W. GRIGGS, IV
NUMBER 2019038772
PROFESSIONAL ENGINEER

KHA PROJECT	---
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JCH
DRAWN BY	BPM
CHECKED BY	AWG

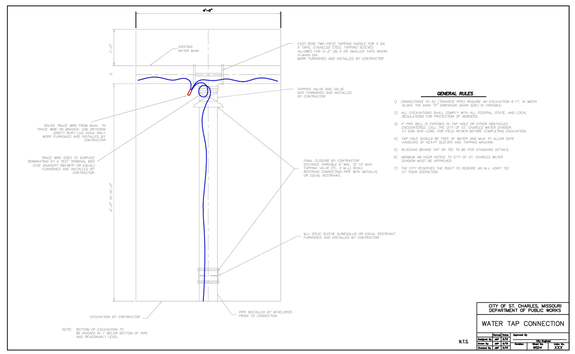
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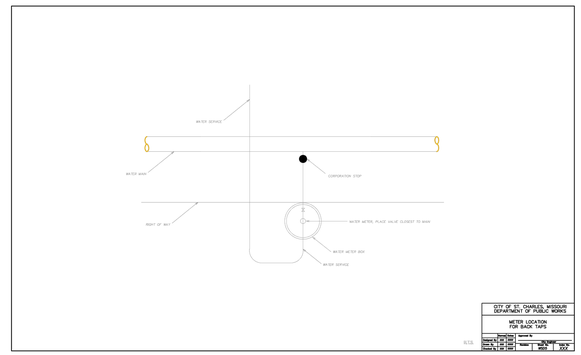
INDUSTRIAL PARK
PREPARED FOR

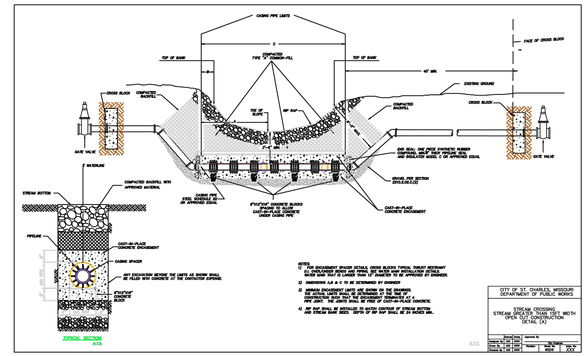
ST CHARLES MO

SHEET NUMBER
C-901

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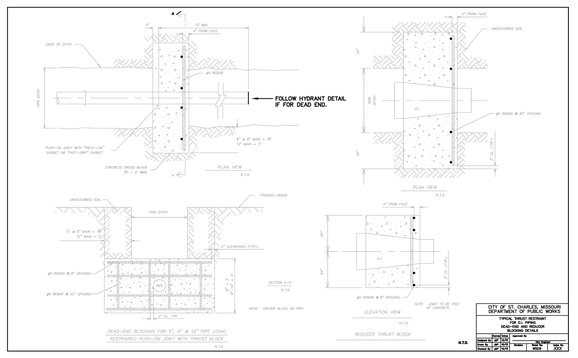


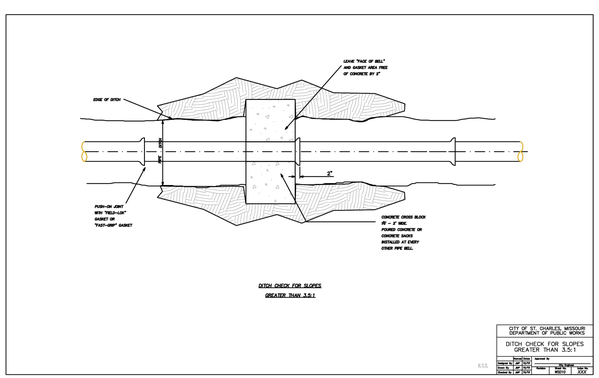


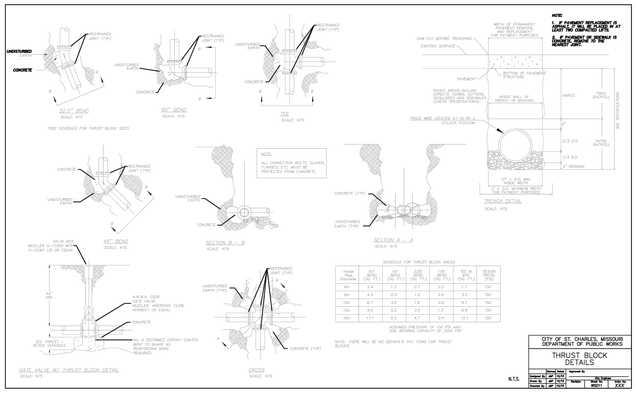












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STATE OF MISSOURI
ANDREW W. GRIBBLE, IV
NUMBER 2024038772
PROFESSIONAL ENGINEER

KHA PROJECT ----
DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JCH
DRAWN BY BPM
CHECKED BY AWG

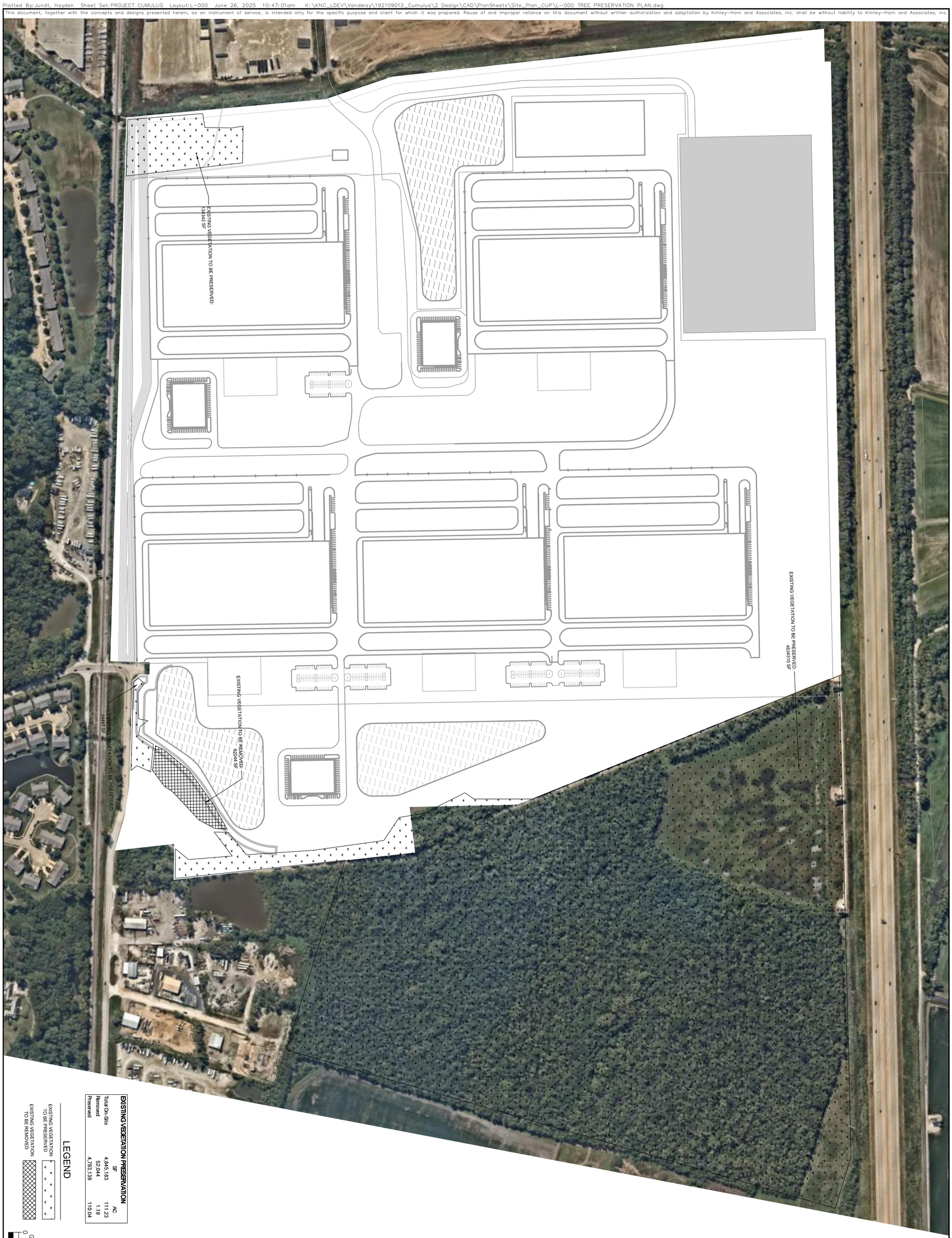
UTILITY DETAILS - 3

INDUSTRIAL PARK
PREPARED FOR

ST CHARLES MO

SHEET NUMBER
C-902

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EXISTING VEGETATION PRESERVATION

	SF	AC
Total On Site	4,845,183	111.23
Removed	52,044	1.19
Preserved	4,793,139	110.04

LEGEND

EXISTING VEGETATION TO BE REMOVED

EXISTING VEGETATION TO BE PRESERVED

0 100 200 400
GRAPHIC SCALE IN FEET

NORTH

L-000
SHEET NUMBER

INDUSTRIAL PARK
PREPARED FOR

ST CHARLES MO

TREE PRESERVATION PLAN

KHA PROJECT

DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JGH
DRAWN BY BPM
CHECKED BY AWG

ASHLEY M. SERR NUMBER PROFESSIONAL ENGINEER STATE OF MISSOURI

Kimley»Horn

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PLANT SCHEDULE

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	CALIPER	HEIGHT	REMARKS
TREES							
	CT	148	-- / CONIFEROUS TREE	B & B	2.5" CAL. MIN.	12' - 14' HT.	
	DT	184	-- / DECIDUOUS TREE	B & B	2.5" CAL. MIN.	12' - 14' HT.	
	MT	15	-- / MEDIUM TREE	B & B	2.5" CAL. MIN.	12' - 14' HT.	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT	SIZE	SPACING	REMARKS
SHRUBS							
	DES	1,241	-- / DECIDUOUS SHRUB	CONT.	5' HT. MIN.	72" O.C.	
	EVS	799	-- / EVERGREEN SHRUB	CONT.	6" HT. MIN	72" O.C.	

SYMBOL	CODE	QTY	BOTANICAL / COMMON NAME	CONT.	SIZE	SPACING	REMARKS
GROUND COVERS							
	SEED	6,156,918 SF	FESTUCA ARUNDINACEA / TALL FESCUE	SEED			

NO PROPOSED LANDSCAPE THIS AREA

HWY 30

HWY 30

L-101

L-102

L-103

L-104

NO PROPOSED LANDSCAPE THIS AREA

I-1 Zoning District Adjacent to Residential *Sec. 400.240.D.10*

50 foot landscape area
A continuous visual screen with minimum height of six (6) feet, such as evergreen hedge
1 tree / 30 LF frontage

Trees	LF	Required	Provided
South Buffer	3,569	119	119 Trees

Interior Landscape - Area *Sec. 400.700.J4*

5% of each parking space equates required interior landscape area

	SF	Required	Proposed
Parking Spaces	129,171	6,459	32,635

Interior Landscape - Trees *Sec. 400.700.J4*

1 shade tree per 15 parking spaces

	QTY	Required	Proposed
Parking Spaces	776	52	52

NORTH

GRAPHIC SCALE IN FEET
0 125 250 500

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STATE OF MISSOURI
ASHLEY M. SERR
NUMBER 2016
REGISTERED LANDSCAPE ARCHITECT

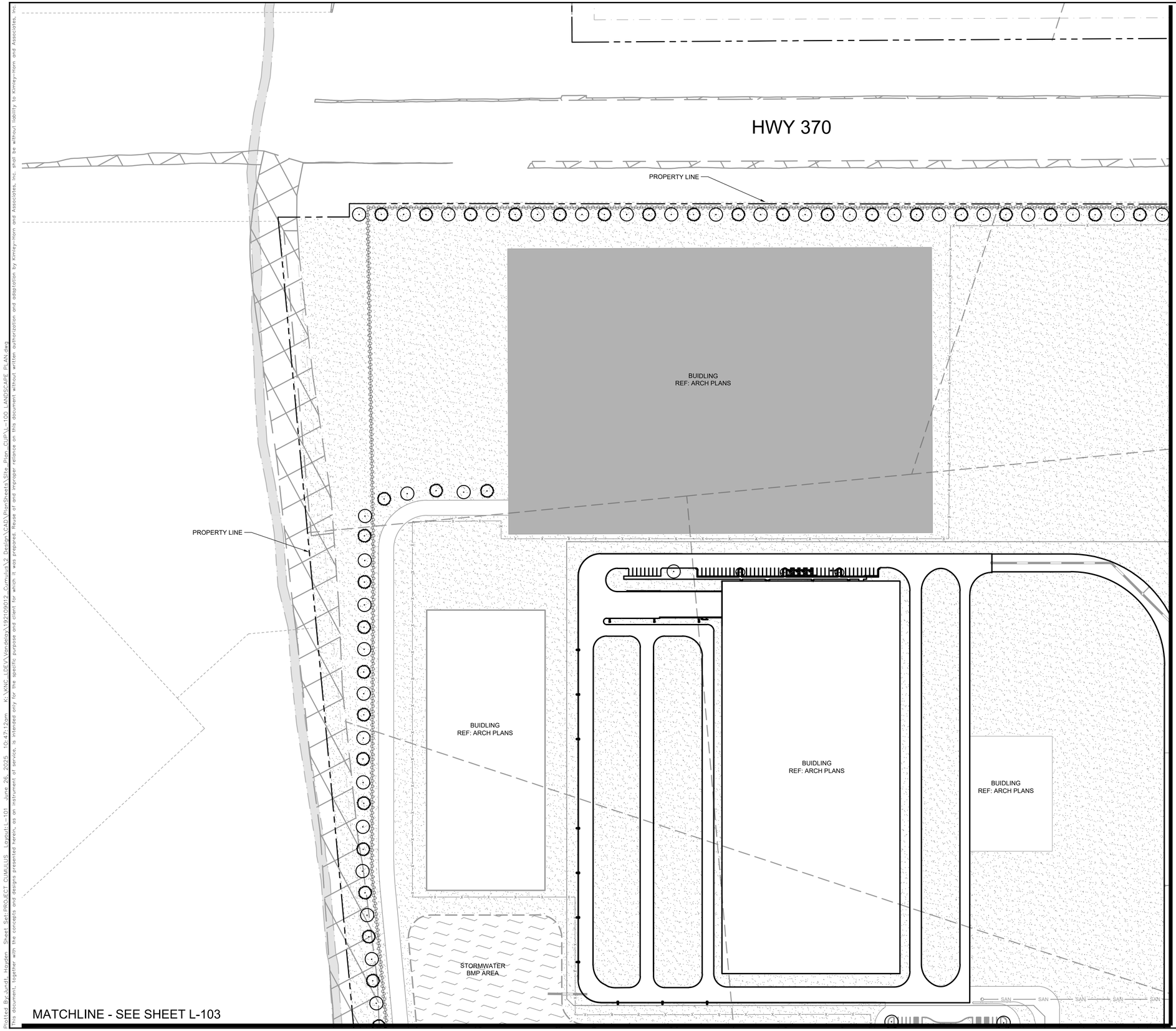
KHA PROJECT	
DATE	2025-05-19
SCALE	AS SHOWN
DESIGNED BY	JH
DRAWN BY	JH
CHECKED BY	AMS

LANDSCAPE KEY PLAN

INDUSTRIAL PARK
PREPARED FOR

ST CHARLES MO

SHEET NUMBER
L-100



PLANT SCHEDULE

SYMBOL	COMMON NAME
TREES	
	CONIFEROUS TREE
	DECIDUOUS TREE
	MEDIUM TREE
SHRUBS	
	DECIDUOUS SHRUB
	EVERGREEN SHRUB
GROUND COVERS	
	TALL FESCUE

GRAPHIC SCALE IN FEET
0 50 100 200

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STATE OF MISSOURI
ASHLEY M. SERR
NUMBER
REGISTERED LANDSCAPE ARCHITECT

KHA PROJECT

DATE
2025-05-19
SCALE AS SHOWN
DESIGNED BY JH
DRAWN BY JH
CHECKED BY AMS

LANDSCAPE PLAN

INDUSTRIAL PARK
PREPARED FOR

ST CHARLES MO

SHEET NUMBER
L-101

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MATCHLINE - SEE SHEET L-101

HWY 370

PROPERTY LINE

BUIDLING
REF: ARCH PLANS

BUIDLING
REF: ARCH PLANS

BUIDLING
REF: ARCH PLANS

BUIDLING
REF: ARCH PLANS

EXISTING
PRESERVATION
AREA

STORMWATER
BMP AREA

MATCHLINE - SEE SHEET L-104

PLANT SCHEDULE

SYMBOL	COMMON NAME
TREES	
	CONIFEROUS TREE
	DECIDUOUS TREE
	MEDIUM TREE
SHRUBS	
	DECIDUOUS SHRUB
	EVERGREEN SHRUB
GROUND COVERS	
	TALL FESCUE

GRAPHIC SCALE IN FEET
0 50 100 200

NORTH

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STATE OF MISSOURI
ASHLEY M. SERR
NUMBER
LANDSCAPE ARCHITECT

KHA PROJECT

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SCALE	AS SHOWN
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DRAWN BY	JH
CHECKED BY	AMS

LANDSCAPE PLAN

INDUSTRIAL PARK

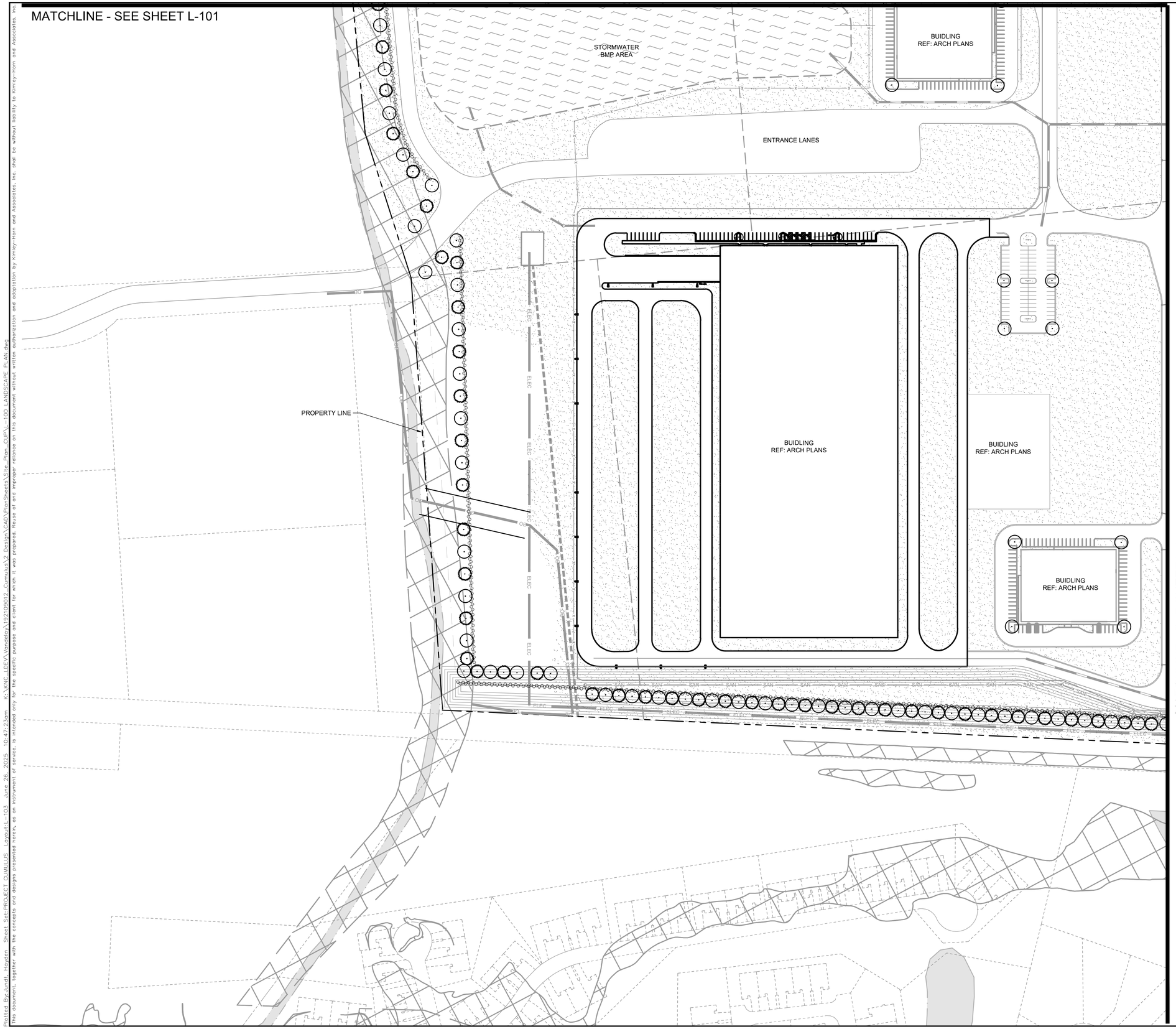
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MATCHLINE - SEE SHEET L-101



MATCHLINE - SEE SHEET L-104

PLANT SCHEDULE

SYMBOL	COMMON NAME
TREES	
	CONIFEROUS TREE
	DECIDUOUS TREE
	MEDIUM TREE
SHRUBS	
	DECIDUOUS SHRUB
	EVERGREEN SHRUB
GROUND COVERS	
	TALL FESCUE

NORTH

GRAPHIC SCALE IN FEET
0 50 100 200

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STATE OF MISSOURI
ASHLEY M. SERR
NUMBER
LANDSCAPE ARCHITECT

KHA PROJECT	---
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DESIGNED BY	JH
DRAWN BY	JH
CHECKED BY	AMS

LANDSCAPE PLAN

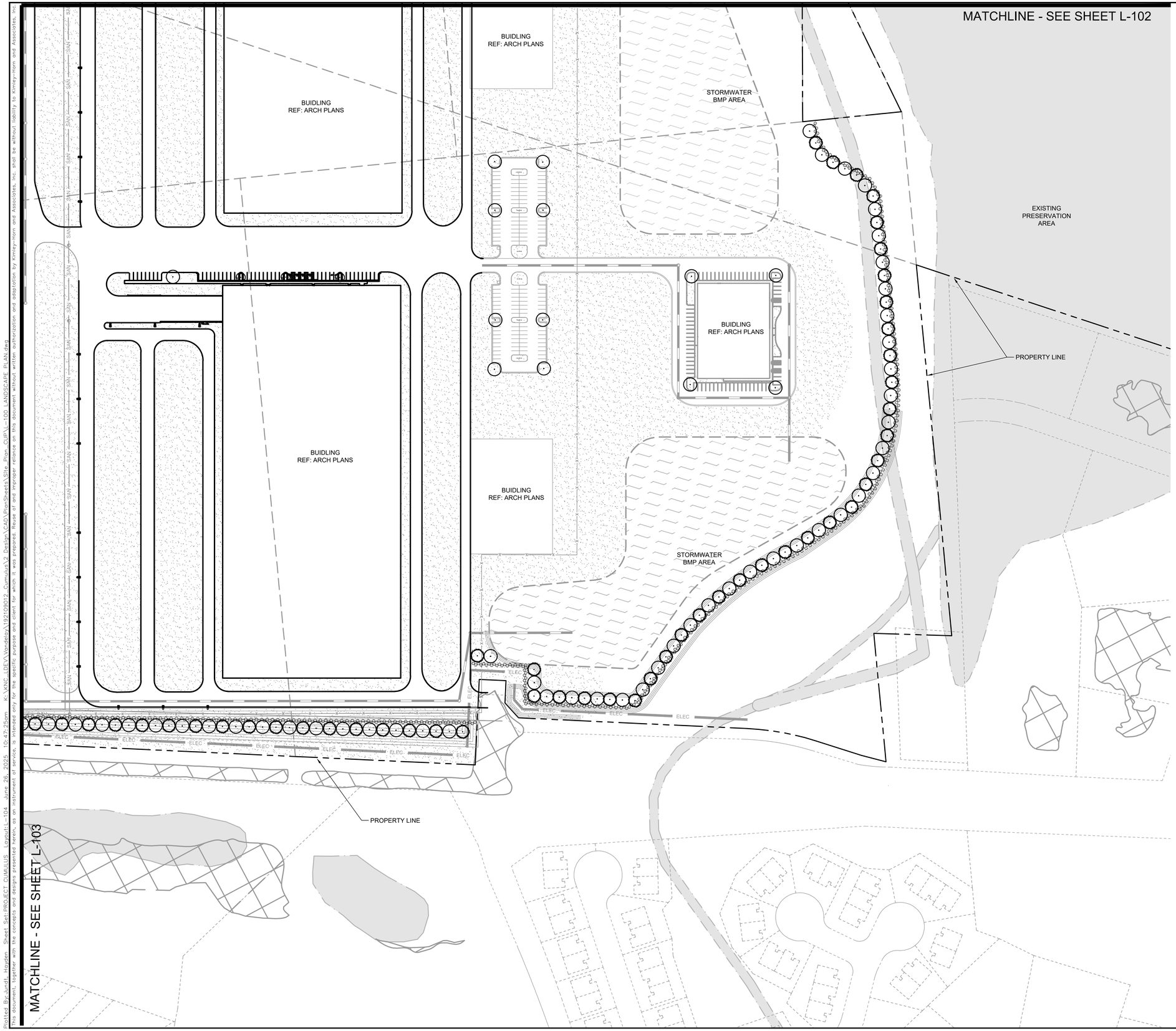
INDUSTRIAL PARK

PREPARED FOR

ST CHARLES MO

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L-103

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PLANT SCHEDULE

SYMBOL	COMMON NAME
TREES	
	CONIFEROUS TREE
	DECIDUOUS TREE
	MEDIUM TREE
SHRUBS	
	DECIDUOUS SHRUB
	EVERGREEN SHRUB
GROUND COVERS	
	TALL FESCUE

No.	REVISIONS	DATE	BY

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STATE OF MISSOURI
ASHLEY M. SERR
NUMBER
LANDSCAPE ARCHITECT

KHA PROJECT

DATE 2025-05-19
SCALE AS SHOWN
DESIGNED BY JH
DRAWN BY JH
CHECKED BY AMS

LANDSCAPE PLAN

INDUSTRIAL PARK

PREPARED FOR

ST CHARLES MO

SHEET NUMBER
L-104

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PROJECT CUMULUS

Traffic Impact Study

Saint Charles, Missouri

June 2025





Kimley»Horn

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EXECUTIVE SUMMARY

Kimley-Horn and Associates, Inc. (Kimley-Horn) prepared a traffic impact study for the proposed Project Cumulus development located near the southeast quadrant of Route 370/Harry S. Truman Boulevard. The development would include five (5) light industrial buildings and ancillary uses.

Access to the site would be provided via two full-movement driveways. Access A, located east of the Truman Industrial Boulevard/Truman Industrial Boulevard intersection, would be the main entrance for operational traffic and temporary construction traffic. Access B, located on the north leg of the Zumbehl Road/Elm Point Industrial Drive intersection, would be a secondary access for construction and emergency vehicles.

As part of this study, the existing roadway network was analyzed to determine the current operations at the study intersections. In order to assess the potential impact on the area roadway network, site-generated trips were established and added to future background volumes. For purposes of this analysis, traffic conditions were evaluated for Construction Peak (2030) to evaluate the highest anticipated site-generated traffic. Construction Peak assumes four (4) buildings are operational while one (1) remains under construction. The site is expected to be fully constructed and operational in 2031. Therefore, per City of Saint Charles requirements the Short-Term scenario evaluated Year 2032 (opening year plus one year) traffic conditions, and the Horizon Year scenario evaluated Year 2050 traffic conditions.

Based on a review of future traffic conditions and Missouri Department of Transportation (MoDOT) *Engineering Policy Guide* criteria for turn lanes, turn lanes were identified for the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A. A northbound right-turn lane should be provided with a total length of 140 feet which includes 50 feet of full width storage and a 90-foot taper. A southbound left-turn lane should also be provided with a total length of 445 feet which includes 355 feet of full width (deceleration and storage) and a 90-foot taper. The east leg of the intersection should provide two outbound lanes, including a dedicated left-turn lane and one shared through/right-turn lane. To accommodate both operational and construction traffic under Construction Peak conditions, a temporary bypass lane should be provided at Access A on site.

At the intersection of Elm Point Industrial Drive/Zumbehl Road-Access B, one inbound and one outbound lane should be provided. Minor-leg stop control should be provided for outbound traffic at Access B. Additional discussion of the analysis and recommendations is presented in *Section 4* Future Conditions of this report.

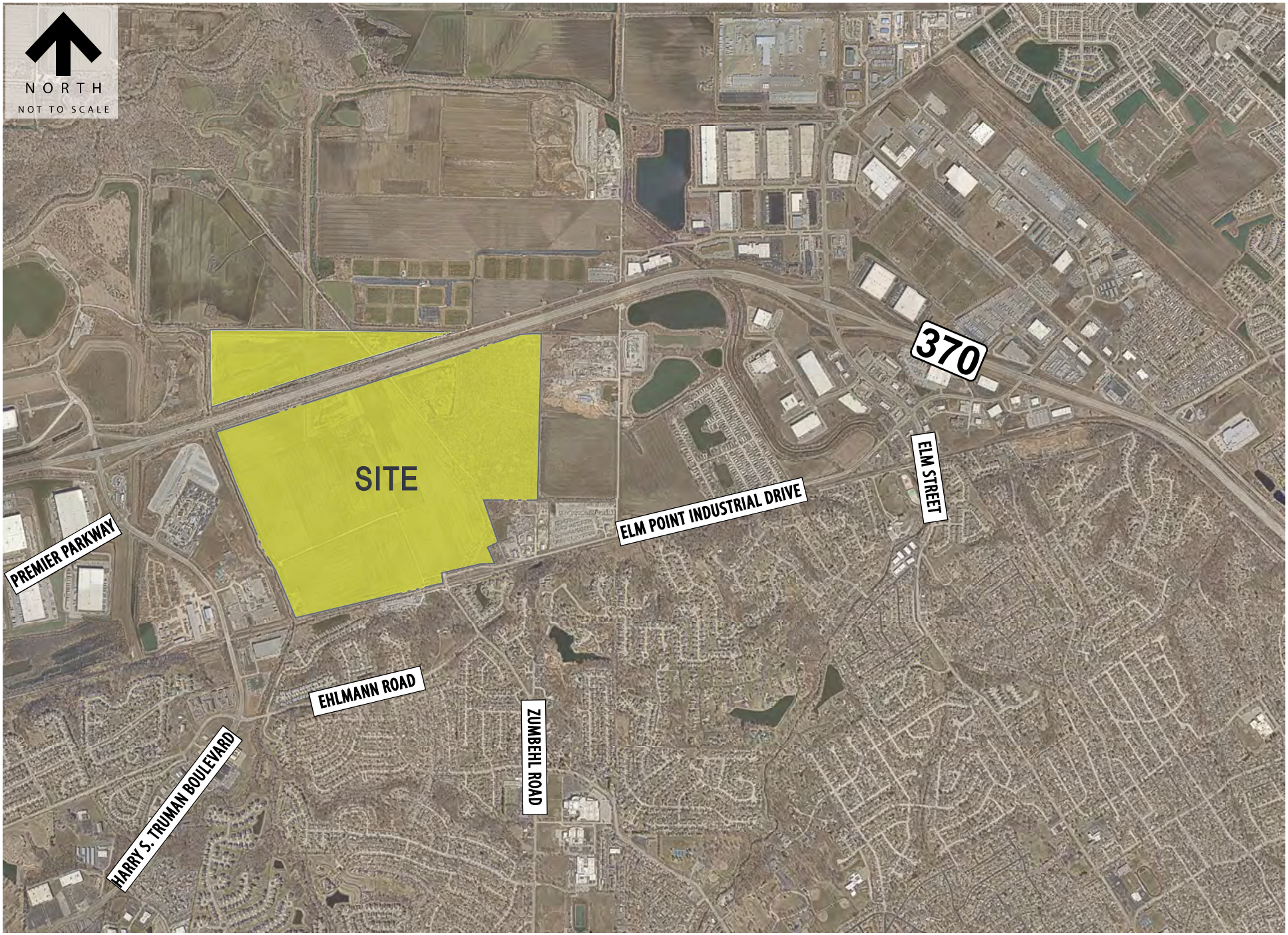
1. INTRODUCTION

Kimley-Horn prepared a traffic impact study for the proposed Project Cumulus development located near the southeast quadrant of Route 370/Harry S. Truman Boulevard in Saint Charles, Missouri. The subject site is highlighted in **Exhibit 1**.

The development includes five (5) light industrial buildings and ancillary uses including a substation, equipment yard, and three (3) single-story office buildings for operations and support staff. Access to the site would be provided via two driveways, as summarized below. The access driveways would be gated for authorized vehicles only.

- Access A would be the main entrance for operational traffic and temporary access for construction traffic. To accommodate Access A, Truman Industrial Boulevard would be extended east.
- Access B would be a secondary access for construction and emergency vehicles only. Access B would be aligned opposite Zumbehl Road at its intersection with Elm Point Industrial Drive.
  - As construction traffic volumes are expected to be variable with the peak condition represented in this analysis, all site-generated traffic was assumed to utilize Access A.

This report presents and documents the study methodology, summarizes data collection and development traffic characteristics, highlights the evaluation of traffic conditions on the study intersections and roadways, and identifies recommendations to address operational impacts and integrate the proposed development into the surrounding transportation system.



Kimley»Horn

EXHIBIT 1

SITE LOCATION MAP

2. EXISTING CONDITIONS

Kimley-Horn reviewed the subject site and surrounding area to collect relevant information pertaining to site context, surrounding land uses, the adjacent street system, current traffic volumes and operating conditions, lane configurations and traffic control at nearby intersections, and other key transportation characteristics. This section of the report details information on the existing conditions.

Area Land Uses & Connectivity

The subject site is primarily undeveloped agricultural land, which serves as the Saint Charles Saints R/C Flying Field. Undeveloped agricultural land is located immediately east and north of the site. Industrial development is located to the west and east of the site. Residential development is located south of the site.

In the site vicinity, local north-south access is provided via Harry S. Truman Boulevard, Zumbehl Road and Elm Street. Local east-west access is provided via Premier Parkway, Elm Point Industrial Drive and Ehlmann Road. Route 370, located north of the site, provides regional east-west connectivity to Saint Charles County and Saint Louis County. A full interchange with Route 370 is provided at Harry S. Truman Boulevard approximately one-half mile northwest of the site. Additional regional east-west connectivity is provided via Interstate 70 (I-70). Route 370, Harry S. Truman Boulevard and Zumbehl Road provide full interchanges with I-70 approximately 1.5 to 2.5 miles south of the site.

Existing Transportation Network Characteristics

Harry S. Truman Boulevard is a north-south road located approximately one-quarter mile west of the site. Through the study area, two travel lanes are provided in each direction. South of Ehlmann Road, Harry S. Truman Boulevard provides two travel lanes in each direction with a center two-way-left-turn lane (TWLTL). At its signalized intersection with Ehlmann Road, Harry S. Truman Boulevard provides a left-turn lane, one through lane, and one shared through/right-turn lane in each direction. Striped crosswalks with pedestrian signals are provided on the north and south legs of Harry S. Truman Boulevard at Ehlmann Road. At its intersection with Truman Industrial Boulevard, Harry S. Truman Boulevard operates under free-flow conditions and provides one shared through/left-turn lane and one shared through/right-turn lane on each leg. At its signalized intersection with Premier Parkway, Harry S. Truman Boulevard provides one left-turn lane, two through lanes and channelized right-turn lanes (storage provided for southbound right-turn). A striped crosswalk with pedestrian signals is provided on the north leg of Harry S. Truman Boulevard at Premier Parkway. North of Premier Parkway, the road transitions to Lakeside Park Drive. The Missouri Department of Transportation (MoDOT) classifies Harry S. Truman Boulevard as a Principal Arterial under the jurisdiction of the City of Saint Charles. North of Ehlmann Road, Harry S. Truman Boulevard has an average annual daily traffic (AADT) volume of 12,677 vehicles per day (vpd) (2024) per MoDOT's Interactive Average Annual Daily Traffic Map and a posted speed limit of 40 miles per hour (mph).

Premier Parkway is an east-west road located approximately one-half mile northwest of the site. Premier Parkway generally provides one travel lane in each direction with a center TWLTL. At its signalized intersection with Harry S. Truman Boulevard, Premier Parkway provides dual left-turn lanes, one through lane, and one channelized right-turn lane on the west leg and one left-turn lane, one through lane, and one channelized right-turn lane on the east leg. A striped crosswalk with pedestrian signals is provided on the west leg of Premier Parkway at Harry S. Truman Boulevard. According to MoDOT, Premier Parkway is classified as a Minor Arterial under the jurisdiction of the City of Saint Peters. West of Harry S. Truman Boulevard, Premier Parkway has a posted speed limit of 45 mph.

Truman Industrial Boulevard extends east from Harry S. Truman Boulevard approximately one-quarter mile west of the site; the west leg of the intersection is a private driveway (Private Drive). Truman Industrial Boulevard provides one travel lane in each direction. At its unsignalized intersection with Harry S. Truman Boulevard, Truman Industrial Boulevard operates under minor-leg stop control and provides one shared lane on the east leg. Truman Industrial Boulevard is classified as a Local Road and is under the jurisdiction of the City of Saint Charles. There is no posted speed limit; therefore, a speed limit of 30 mph was assumed.

Ehlmann Road is an east-west road located approximately one-quarter mile south of the site. Ehlmann Road generally provides one travel lane in each direction. At its signalized intersection with Harry S. Truman Boulevard, Ehlmann Road provides one left-turn lane, one through lane, and one right-turn lane in each direction. The east leg provides a striped, channelized right-turn lane. The west leg provides a striped crosswalk with pedestrian signal. At its all-way stop-controlled T-intersection with Zumbehl Road, Ehlmann Road provides one left-turn lane and one right-turn lane. East of Harry S. Truman Boulevard, MoDOT classifies Ehlmann Road as a Minor Arterial; west of Harry S. Truman Boulevard, Ehlmann Road is classified as a Major Collector. Ehlmann Road is under the jurisdiction of the City of Saint Charles and the County of Saint Charles east and west of Harry S. Truman Boulevard, respectively. Ehlmann Road has an AADT volume of 4,288 vpd (2024) per MoDOT and a posted speed limit of 30 mph.

Zumbehl Road is a north-south road located directly south of the site. North of Ehlmann Road, Zumbhel Road provides one travel lane in each direction. Approximately one-quarter mile south of Ehlmann Road, Zumbehl Road provides one travel lane in each direction with a center TWLTL. At its all-way stop-controlled intersection with Ehlmann Road, Zumbehl Road provides one left-turn lane and one through lane on the south leg and one shared through/right-turn lane on the north leg. Approximately one-quarter mile north of Ehlmann Road, Zumbehl Road transitions to Elm Point Industrial Drive. According to MoDOT, Zumbehl Road is classified as a Minor Arterial under the jurisdiction of the City of Saint Charles. Zumbehl Road has an AADT volume of 10,027 vpd (2024) per MoDOT and a posted speed limit of 30 mph.

An at-grade rail crossing is provided along Zumbehl Road, approximately 125 feet south of the Zumbehl Road/Elm Point Industrial Drive intersection. According to the U.S Department of Transportation Crossing Inventory data for Crossing #916957A, an average of ten (10) trains per day cross Zumbehl Road at this location (Year 2024).

Elm Point Industrial Drive is an east-west road located approximately one-quarter mile south of the site. Elm Point Industrial Drive provides one travel lane in each direction. At its signalized intersection with Elm Street, Elm Point Industrial Drive provides one left-turn lane, one through lane, and one channelized right-turn lane on the east leg; the west leg includes dual left-turn lanes, one through lane, and one channelized right-turn lane. Striped crosswalks with pedestrian signals are provided on both legs of Elm Point Industrial Drive at its intersection with Elm Street. Approximately one-quarter mile north of Ehlmann Road, Elm Point Industrial Drive transitions to Zumbehl Road. According to MoDOT, Elm Point Industrial Drive is classified as a Minor Arterial under the jurisdiction of the City of Saint Charles. Elm Point Industrial Drive has an AADT volume of 9,466 vpd (2024) per MoDOT and a posted speed limit of 35 mph.

Elm Street is a north-south road located approximately one mile east of the site. North of Elm Point Industrial Drive, Elm Street provides two travel lanes in each direction with a center TWLTL. South of Elm Point Industrial Drive, Elm Street provides one travel lane in each direction with a center TWLTL. At its signalized intersection with Elm Point Industrial Drive, Elm Street provides one left-turn lane, two through lanes, one right-turn lane on the south leg; the north leg includes one left-turn lane, one through lane, and one channelized right-turn lane. Elm Street provides striped crosswalks with pedestrian signals at its intersection with Elm Point Industrial Drive. Elm Street provides a full interchange with Route 370 approximately 1.5 miles east of the site. MoDOT classifies Elm Street as a Minor Arterial under the jurisdiction of the City of Saint Charles. Elm Street has an AADT volume of 14,769 vpd (2024) per MoDOT and a posted speed limit of 35 mph.

Private Drive is an east-west driveway providing access to an industrial development on the west side of Harry S. Truman Boulevard. At its unsignalized intersection with Harry S. Truman Boulevard, Private Drive provides a single inbound and a single outbound lane. A stop sign is not currently posted; however, for purposes of this analysis Private Drive was assumed to operate under minor-leg stop control with a speed limit of 25 mph.

Crash Data

Table 2.1 summarizes crash data provided by the City of Saint Charles for all crashes within the study network from 2018 to 2024.

Table 2.1 Crash Data

Intersection	2018	2019	2020	2021	2022	2023	2024
Harry S. Truman Boulevard / Premier Parkway	N/A	N/A	N/A	N/A	15	14	7
Harry S. Truman Boulevard / Truman Industrial Boulevard	0	1	1	0	0	0	0
Harry S. Truman Boulevard / Ehlmann Road	3	3	5	4	3	7	0
Ehlmann Road / Zumbehl Road	1	0	1	0	1	3	0
Zumbehl Road / Elm Point Industrial Drive	0	0	1	1	1	1	0
Elm Street / Elm Point Industrial Drive	12	8	12	7	12	11	1

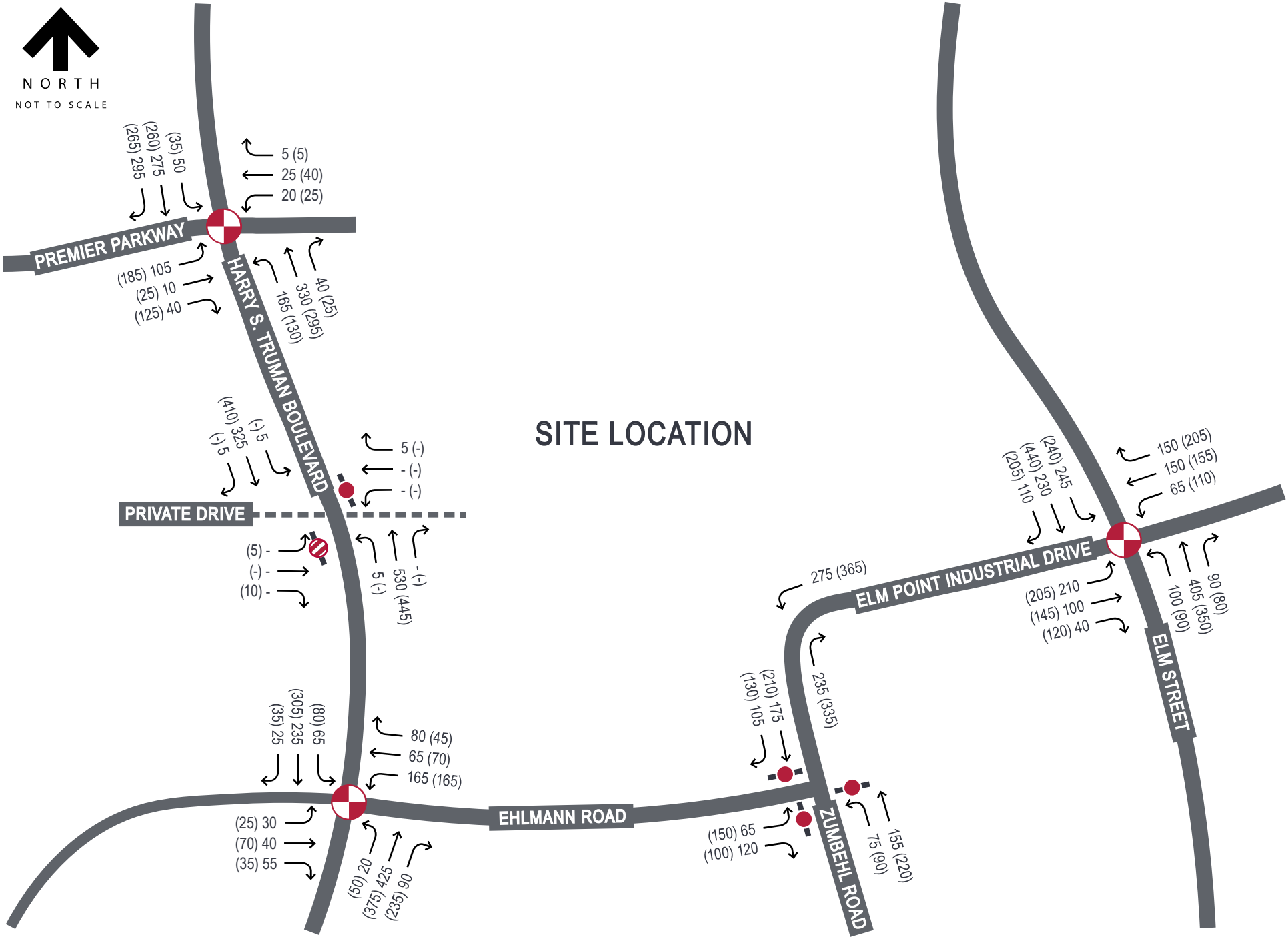
Traffic Count Data

Turning movement count data was collected in April 2025 at the study intersections listed below. The counts were conducted on a typical weekday from 6:00 to 9:00 AM and 4:00 to 7:00 PM. These periods coincide with the typical peak traffic periods of the surrounding roadway network.

- Harry S. Truman Boulevard / Premier Parkway
- Harry S. Truman Boulevard / Truman Industrial Boulevard
- Harry S. Truman Boulevard / Ehlmann Road
- Ehlmann Road / Zumbehl Road
- Elm Street / Elm Point Industrial Drive

Additionally, a bi-directional tube count was collected in April 2025 at the existing, free-flow intersection of Zumbehl Road/Elm Point Industrial Drive.

The traffic count data indicates that weekday peak traffic volumes occur within the study area from 7:00 to 8:00 AM and 5:00 to 6:00 PM. For purposes of this analysis, the existing peak hour volumes were rounded to the nearest multiple of five. The existing traffic volumes were balanced between intersections along Harry S. Turman Boulevard; however, they were not balanced at intersections along Ehlmann Road, Zumbehl Road or Elm Street due to the presence of multiple driveways and roadways between intersections. Existing peak traffic volumes are presented in **Exhibit 2**. A summary of the count data is provided in the appendix.



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EXHIBIT 2

EXISTING (2025) TRAFFIC VOLUMES

Existing Capacity Analysis

Synchro capacity software was used to evaluate the existing operational conditions at the study intersections during the weekday peak hours. The capacity of an intersection quantifies its ability to accommodate traffic volumes and is expressed in terms of level of service (LOS), measured in average delay per vehicle. LOS grades range from A to F, with LOS A as the highest (best traffic flow and least delay), LOS E as saturated or at-capacity conditions, and LOS F as the lowest (oversaturated conditions).

The LOS grades shown below, which are provided in the Transportation Research Board's Highway Capacity Manual (HCM) quantify and categorize the driver's discomfort, frustration, fuel consumption, and travel times experienced as a result of intersection control and the resulting traffic queuing. A detailed description of each LOS rating can be found in **Table 2.2**.

Table 2.2 Level of Service Grading Descriptions[1]

Level of Service	Description
A	Minimal control delay; traffic operates at primarily free-flow conditions; unimpeded movement within traffic stream.
B	Minor control delay at signalized intersections; traffic operates at a fairly unimpeded level with slightly restricted movement within traffic stream.
C	Moderate control delay; movement within traffic stream more restricted than at LOS B; formation of queues contributes to lower average travel speeds.
D	Considerable control delay that may be substantially increased by small increases in flow; average travel speeds continue to decrease.
E	High control delay; average travel speed no more than 33 percent of free flow speed.
F	Extremely high control delay; extensive queuing and high volumes create exceedingly restricted traffic flow.

[1]Highway Capacity Manual, 7th Edition.

The range of control delay for each rating (as detailed in the HCM) is shown in **Table 2.3**. Because signalized intersections are expected to carry a larger volume of vehicles and stopping is required during red time, note that higher delays are tolerated for the corresponding LOS ratings.

Table 2.3 Level of Service Grading Criteria[1]

Level of Service	Average Control Delay (s/veh) at:	
	Unsignalized Intersections	Signalized Intersections
A	0 – 10	0 – 10
B	> 10 – 15	> 10 – 20
C	> 15 – 25	> 20 – 35
D	> 25 – 35	> 35 – 55
E	> 35 – 50	> 55 – 80
F[2]	> 50	> 80

[1]Highway Capacity Manual, 7th Edition
[2]All movements with a Volume to Capacity (v/C) ratio greater than 1 receive a rating of LOS F.

For the purposes of this analysis, signal timings for the intersections of Harry S. Truman Boulevard/Premier Parkway, Harry S. Truman Boulevard/Ehlmann Road, and Elm Street/Elm Point Industrial Drive were based on field observations. Right-turn-on-red (RTOR) movements were not included despite being observed in the field.

Based on these standards, capacity results were identified for the study intersections under existing conditions. The results of the capacity analysis are summarized in **Table 2.4**. In this table, the operation on each approach is quantified according to the average delay per vehicle and the corresponding level of service. Overall intersection level of service is not reported for minor-leg stop-controlled intersections, since the majority of vehicles are able to move through the intersection with little to no delay. The results are based on Synchro's HCM 7th Edition reports. Copies of the capacity analysis reports are provided in the appendix.

Table 2.4 Existing (2025) Levels of Service

Intersection	Weekday AM Peak		Weekday PM Peak	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Harry S. Truman Boulevard / Premier Parkway ✱				
Eastbound	24	C	22	C
Westbound	20-	B	20+	C
Northbound	10-	A	11	B
Southbound	12	B	13	B
Intersection	*13*	*B*	*15*	*B*
Harry S. Truman Boulevard / Truman Industrial Boulevard △				
Eastbound	16	C	12	B
Westbound	13	B	15	B
Northbound (Left)	8	A	8	A
Southbound (left)	9	A	8	A
Harry S. Truman Boulevard / Ehlmann Road ✱				
Eastbound	19	B	23	C
Westbound	15	B	18	B
Northbound	15	B	15	B
Southbound	11	B	11	B
Intersection	*14*	*B*	*15*	*B*
Ehlmann Road / Zumbehl Road ▲				
Eastbound	9	A	11	B
Northbound	10-	A	12	B
Southbound	11	B	14	B
Intersection	*10+*	*B*	*13*	*B*
Elm Street / Elm Point Industrial Drive ✱				
Eastbound	24	C	24	C
Westbound	25	C	23	C
Northbound	18	B	17	B
Southbound	14	B	18	B
Intersection	*19*	*B*	*20-*	*B*

✱ -Signalized Intersection ▲ - All-Way Stop-Controlled Intersection △-Minor-Leg Stop-Controlled Intersection

Under existing conditions, all movements and approaches operate with acceptable delay (LOS C or better). At the unsignalized intersections, the 95th percentile queues are two vehicles (50 feet) or less during both peak hours. At the signalized intersections, the 95th percentile queues are nine vehicles (225 feet) or less during the peak hours and are accommodated within the existing lane geometry.

3. PROPOSED DEVELOPMENT

This section of the report outlines the proposed development plan and summarizes site-specific traffic characteristics.

Development Characteristics

The development includes five (5) light industrial buildings and ancillary uses including a substation, equipment yard and three (3) single-story office buildings for operations and support staff. For purposes of this analysis, the following site access was assumed.

- Access A would be the main entrance for operational traffic and temporary access for construction traffic. To accommodate Access A, Truman Industrial Boulevard would be extended east.
- Access B would be a secondary access for construction and emergency vehicles only. Access B would be aligned opposite Zumbehl Road at its intersection with Elm Point Industrial Drive.
    - As construction traffic volumes are expected to be variable with the peak condition represented in this analysis, all site-generated traffic was assumed to utilize Access A.

Trip Generation

Based on the unique operational conditions of the proposed development, site-specific trip generation rates were provided by the end user for both operational and construction traffic. Trip generation rates are shown in **Table 3.1**

Table 3.1 Site Specific Trip Generation Data

Unit	AM Peak Hour	PM Peak Hour
Building	T = 95*B 91% in/9% out	T = 75*B 9% in/91% out
Maximum Construction (Cars)	T = 370 87% in/13% out	T = 320 19% in/81% out
Maximum Construction (Trucks)	T = 20 50% in/50% out	T = 20 50% in/50% out

T = Trips, B = Building

Due to the operational and construction timelines, Kimley-Horn evaluated peak construction traffic and full buildout operational conditions as summarized below.

- Construction Peak (2030): Assumed four (4) buildings completed and operational, one (1) building under construction.
- Operational Conditions (Full Buildout) Short Term (2032) and Horizon Year (2050): Assumed five (5) buildings were completed and operational

A summary of the site trip generation for each scenario is provided in **Table 3.2.**

Table 3.2 Site-Generated Traffic Projections – Construction Peak and Operational Conditions

User	Weekday					
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Construction Peak Traffic						
4 Operational Buildings - Cars	345	35	380	25	275	300
1 Building Under Construction - Cars	320	50	370	60	260	320
1 Building Under Construction - Trucks	10	10	20	10	10	20
Total-Construction Peak Traffic	*675*	*95*	*770*	*95*	*545*	*640*
Operational Conditions (Full Buildout)						
5 Operational Buildings - Cars	430	45	475	35	340	375
Total Operational Traffic (Full Buildout)	430	45	475	35	340	375

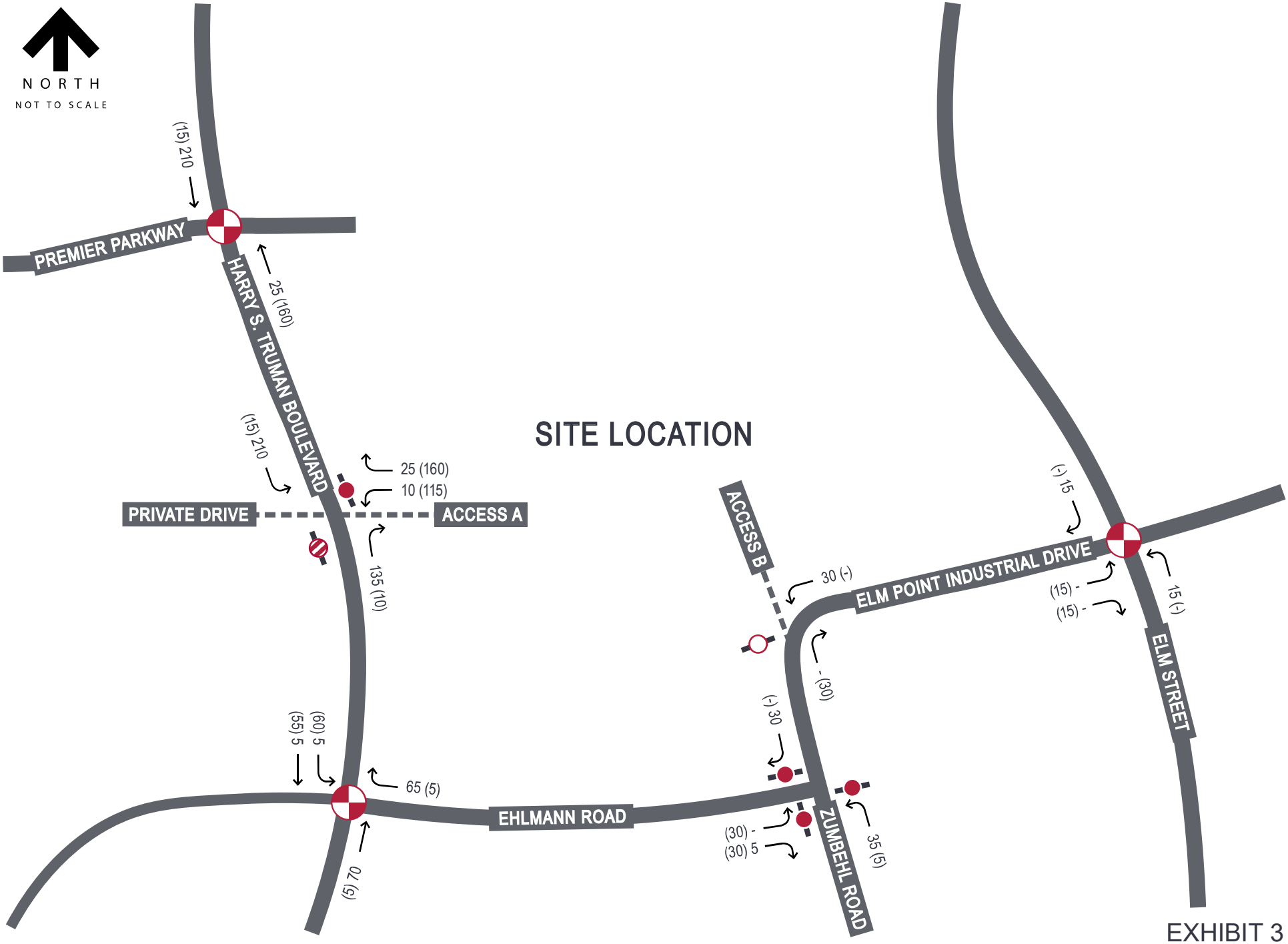
Directional Distribution

The estimated distribution of site-generated traffic on the surrounding roadway network as it approaches and departs the site is a function of several variables such as prevailing traffic volumes/patterns, the location of the employees' residences, characteristics of the street system, and the ease with which vehicles can travel over various sections of that system. As such, **Table 3.3** presents the anticipated directional distribution from which vehicles travel to and from the site.

Table 3.3 Estimated Trip Distribution

Traveling to/from	Trip Distribution Percentages	
	Passenger Cars	Heavy Vehicles
South on Harry S. Truman Boulevard	20%	--
North on Harry S. Truman Boulevard	60%	100%
South on Zumbehl Road	10%	--
North on Elm Street	5%	--
South on Elm Street	5%	--
Total	100%	100%

The site traffic assignment, representing traffic volumes associated with the proposed development at the study intersections, is a function of the estimated trip generation (Table 3.2) and the directional distribution (Table 3.3). For the construction peak traffic scenario, the site trip assignment for operational traffic (passenger vehicles) and construction traffic (passenger vehicles and trucks) is provided in **Exhibit 3**, **Exhibit 4**, and **Exhibit 5** respectively. The total trip assignment for the construction peak scenario is provided in **Exhibit 6**. The site trip assignment for the full buildout scenario is illustrated in **Exhibit 7**.



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EXHIBIT 3

SITE TRIP ASSIGNMENT - CONSTRUCTION PEAK (2030)
CARS (OPERATIONAL)

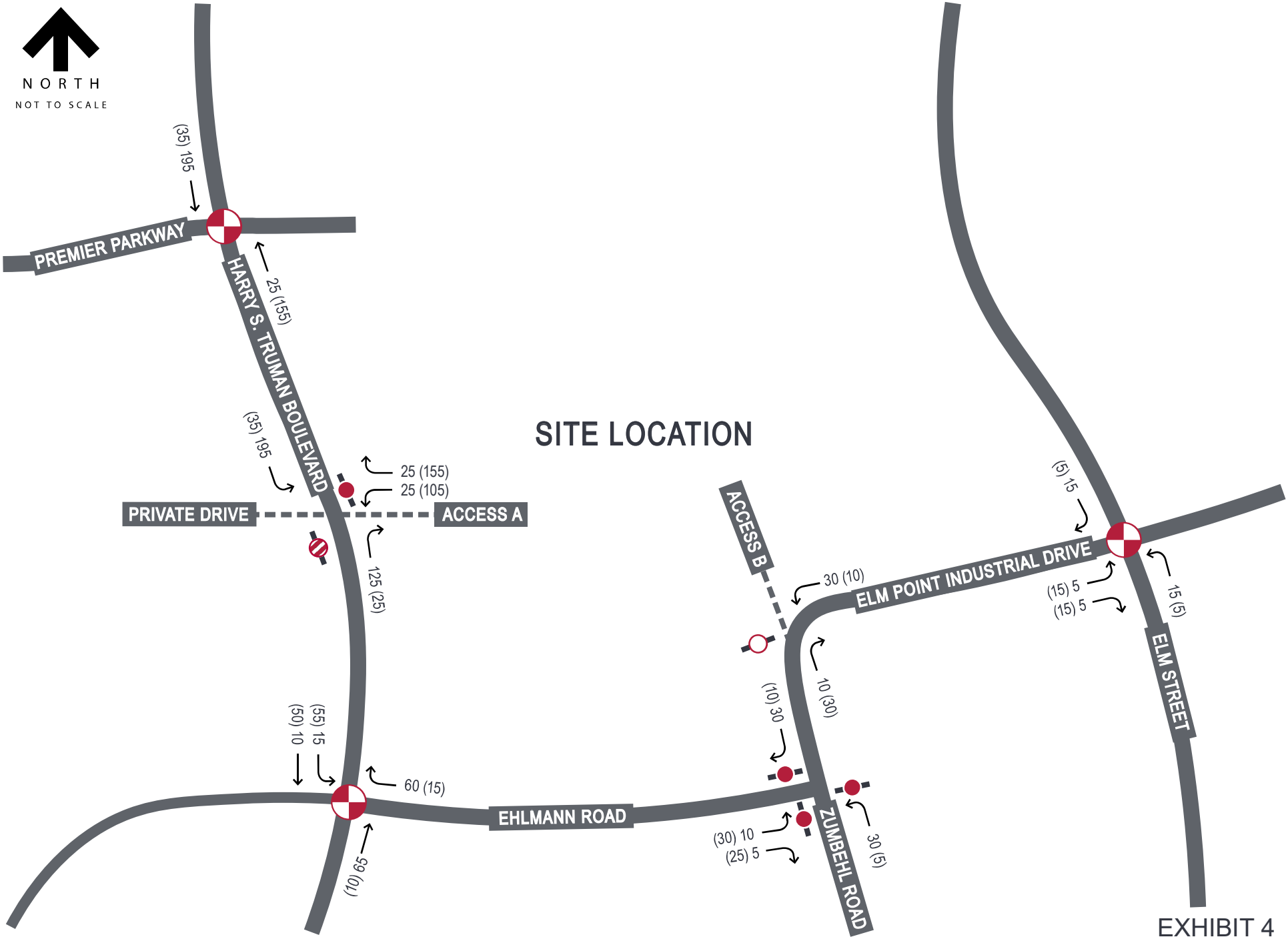
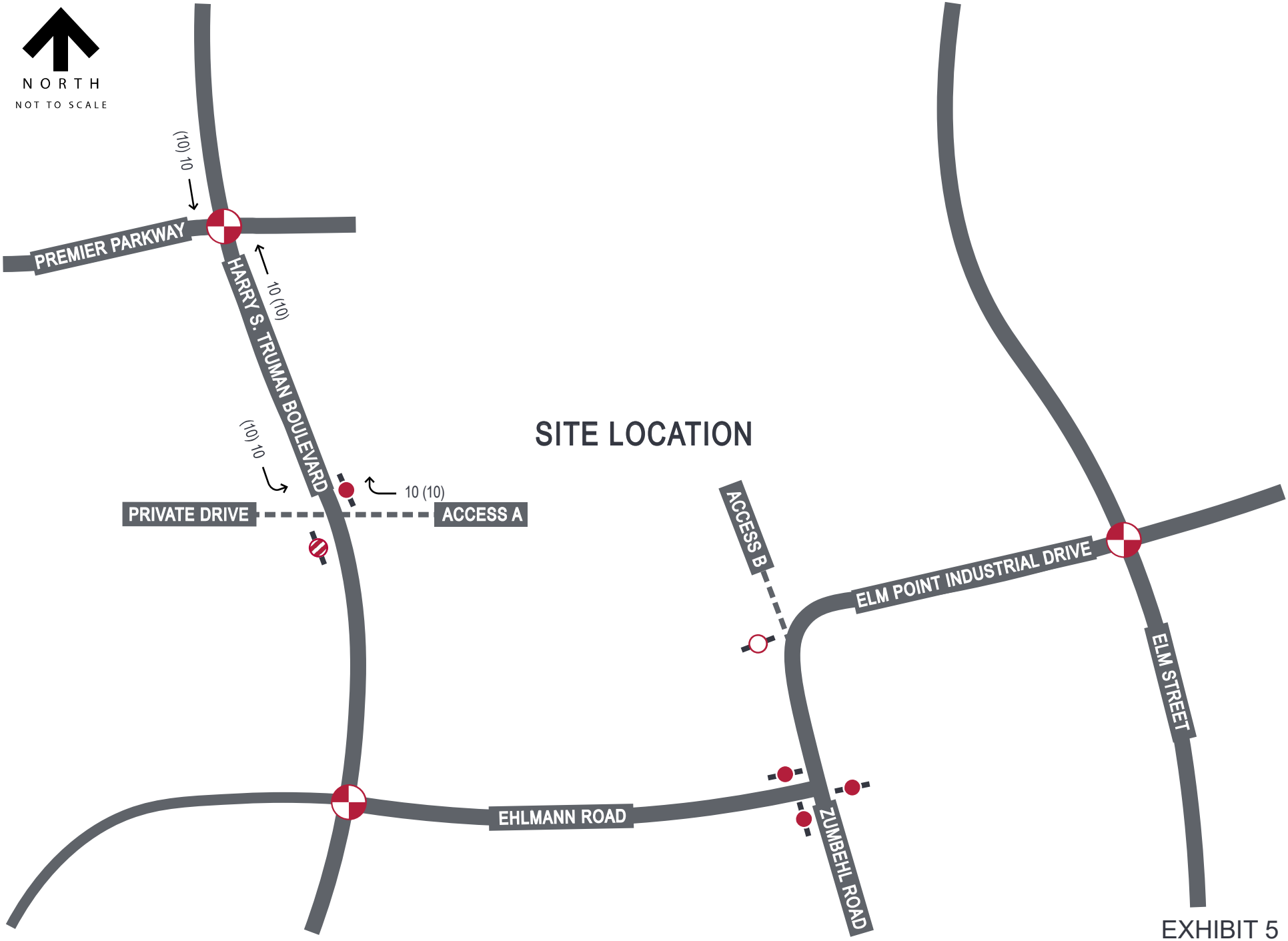


EXHIBIT 4

SITE TRIP ASSIGNMENT - CONSTRUCTION PEAK (2030)
CARS (CONSTRUCTION)

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EXHIBIT 5

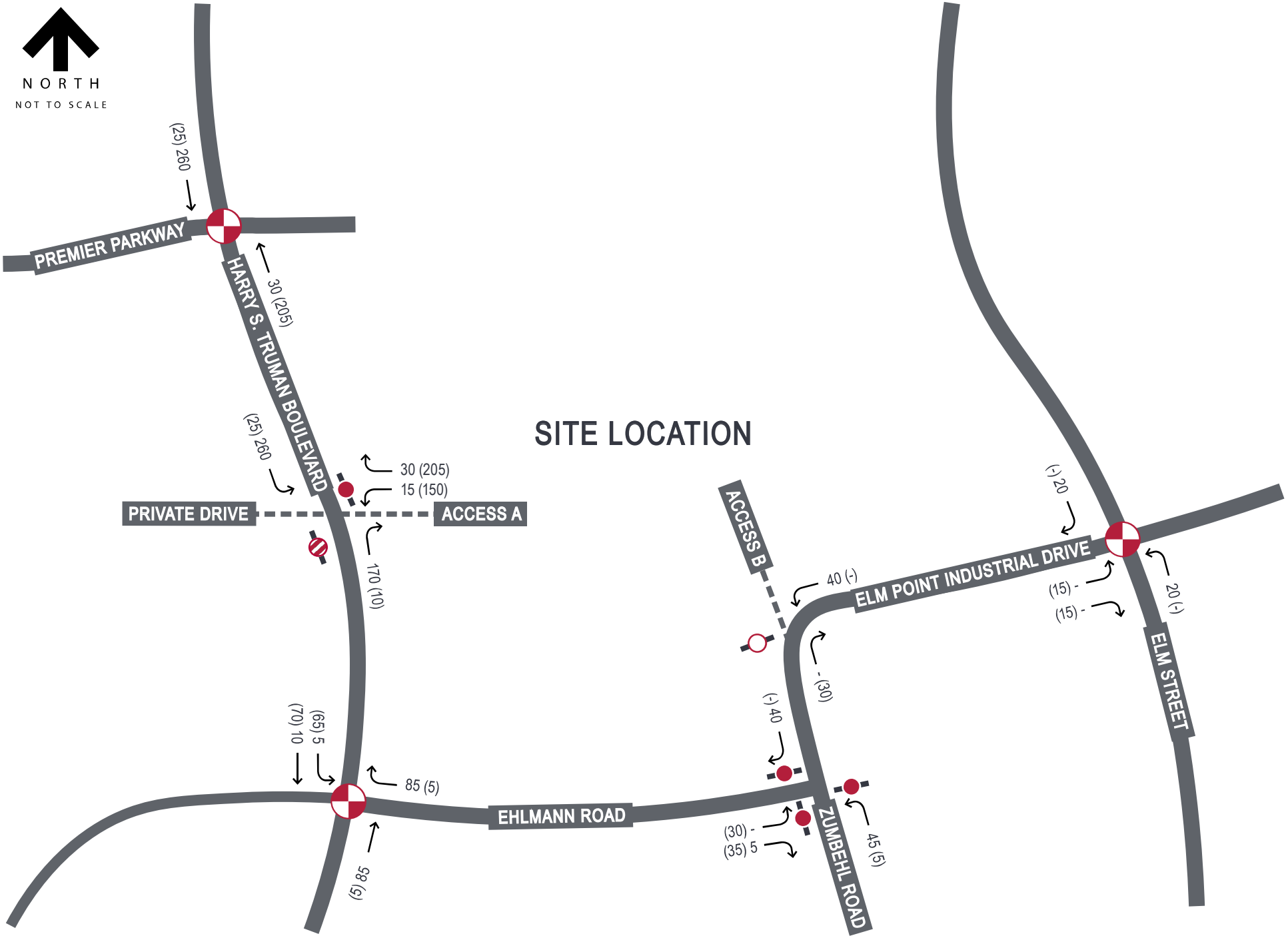
SITE TRIP ASSIGNMENT - CONSTRUCTION PEAK (2030)
TRUCKS (CONSTRUCTION)



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EXHIBIT 6

SITE TRIP ASSIGNMENT - CONSTRUCTION PEAK (2030) TOTAL



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EXHIBIT 7

SITE TRIP ASSIGNMENT - FULL BUILDOUT

4. FUTURE CONDITIONS

This section of the report develops future traffic projections for analysis. The development was assumed to be completed and fully operational in Year 2031. Therefore, Year 2032 (opening year plus one year) and Year 2050 traffic projections were developed, which reflects Short Term (2032) and Horizon Year (2050), per the City of Saint Charles *Traffic Impact Guidelines*.

Future Background Traffic Projections

To develop background traffic projections, historic AADT data on the surrounding roadway network, available through the MoDOT *Traffic Volumes Map*, was referenced to calculate an annual traffic growth rate. According to the MoDOT data, the surrounding area has experienced an approximate 0.5 percent increase in traffic volumes between 2021 and 2024.

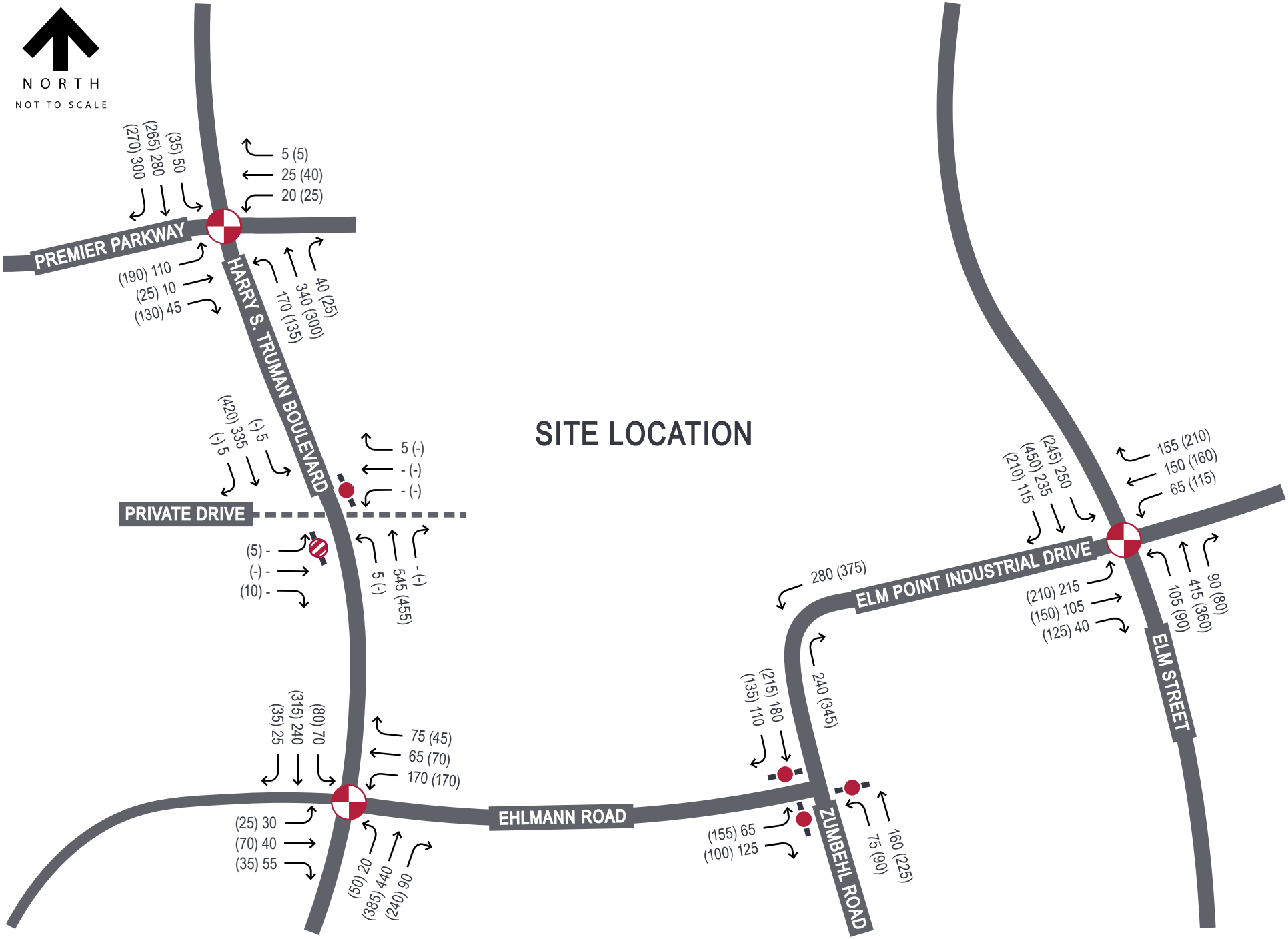
An annual growth rate of 0.5 percent was applied to existing (2025) traffic volumes (Exhibit 2) for a period of five years to develop Construction Peak (2030) No-Build traffic projections. The growth rate was then applied for a period of seven years to develop Short Term (2032) No-Build traffic projections, and for a period of 25 years to develop Horizon Year (2050) No-Build traffic projections. Construction Peak (2030) No-Build, Short Term (2032) No-Build and Horizon Year (2050) No-Build traffic projections are presented in **Exhibit 8**, **Exhibit 9**, and **Exhibit 10**, respectively.

Future Build Traffic Projections

Traffic projections for the Construction Peak (2030) scenario were calculated by adding the total site-generated trips anticipated during construction (Exhibit 6) to the Construction Peak (2030) No-Build traffic projections (Exhibit 8). As discussed, Construction Peak (2030) assumes four buildings constructed and operational and one building under construction. Construction Peak (2030) traffic projections are shown in **Exhibit 11**.

Traffic projections for the Short Term (2032) scenario were calculated by adding the site-generated trips for full buildout (Exhibit 7) to the Year 2032 no-build traffic projections (Exhibit 9). As discussed, the Short Term (2032) Build scenario assumes all five buildings constructed and operational. Short Term (2032) Build traffic projections are depicted in **Exhibit 12**.

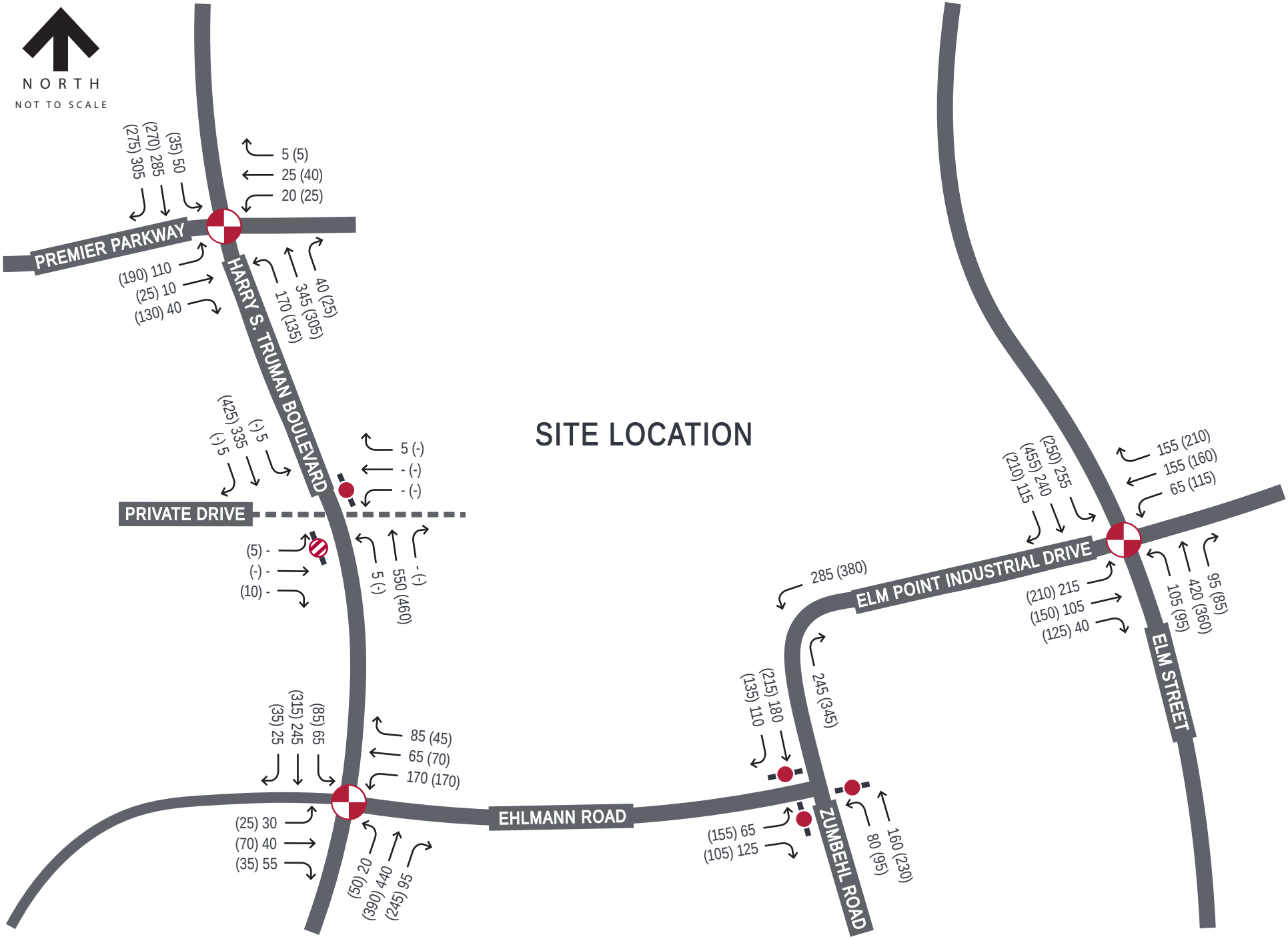
Traffic projections for the Horizon Year (2050) scenario were calculated by adding the site-generated trips for full buildout (Exhibit 7) to the Year 2050 no-build traffic projections (Exhibit 10). Horizon Year (2050) Build traffic projections are presented in **Exhibit 13**.



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EXHIBIT 8

CONSTRUCTION PEAK (2030) NO-BUILD TRAFFIC PROJECTIONS



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EXHIBIT 9

SHORT TERM (2032) NO-BUILD TRAFFIC PROJECTIONS



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EXHIBIT 10

HORIZON YEAR (2050) NO-BUILD TRAFFIC PROJECTIONS



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EXHIBIT 11

CONSTRUCTION PEAK (2030) BUILD TRAFFIC PROJECTIONS



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EXHIBIT 12

SHORT TERM (2032) BUILD TRAFFIC PROJECTIONS



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EXHIBIT 13

HORIZON YEAR (2050) BUILD TRAFFIC PROJECTIONS

Future Geometry and Traffic Control

The following provides a summary of future geometry and traffic control at the study intersections. A review of turn lane warrants and signal warrant criteria was also completed to assess potential offsite improvements to accommodate site-generated traffic.

Planned Improvements

At the time of this study, no programmed improvements to the study network are planned. However, the City of Saint Charles identifies two projects within the site boundaries in the *Long Range Transportation Plan*. Zumbehl Road, north of Elm Point Industrial Drive, is shown to be extended to a future interchange with Route 370. A future extension of Elm Point Industrial Drive, northwest of Zumbehl Road to Harry S. Truman Boulevard is also shown. As there are no known design plans or funding identified for these roadway extensions or the future interchange, the improvements were not included in the analysis of future conditions. As plans for these potential projects are further refined, additional analysis may be required for the study area roadway network.

The proposed development includes right-of-way (ROW) dedication for the future Elm Point Industrial Drive extension along the southern frontage.

Signal Warrants

The future traffic volumes at the study intersection were compared to the Warrant 3, Peak Hour criteria outlined in Figure 4C-3 of the *Manual on Uniform Traffic Control Devices (MUTCD) 11th Edition*. The Peak Hour signal warrant is intended for locations where for a minimum of one hour of an average day, traffic on the minor street experiences significant delay when entering or crossing the major street; this criteria generally applies to locations where traffic is concentrated during specific hours (e.g., shift changes).

Construction Peak (2030), Short Term (2032) Build and Horizon Year (2050) Build analyses were completed for the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A. Based on outbound traffic volumes during construction, the east leg is recommended to include two outbound lanes. Using Construction Peak (2030) traffic projections, a signal is warranted in the evening peak hour. Traffic projections for the operational (full buildout) Short Term (2032) and Horizon (2050) scenarios do not satisfy signal warrant criteria.

As construction traffic volumes are expected to be variable with the peak condition represented in this analysis, a signal was not included at the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A. Traffic volumes at the intersection should be monitored during construction. If construction peak traffic projections are realized, installation of a temporary traffic signal may be considered. Alternatively, Access B may be used as for site access at various phases of construction to reduce traffic volumes at Access A.

Turn Lane Warrants

For the analysis of future traffic conditions, turn lane warrants were evaluated at the proposed site driveways and study intersections using guidelines in the MoDOT *Engineering Policy Guide* (Section 940.9 Auxiliary Acceleration and Turning Lanes). For purposes of the turn lane warrants, Construction Peak (2030), Short Term (2032) and Horizon (2050) traffic projections were reviewed.

Based on MoDOT guidance for left-turn lanes (Figure 940.9.6), projected traffic volumes at the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A satisfy criteria for installation of a southbound left-turn lane under construction peak and full buildout conditions. Based on Sections 233.2.14-2.15 of the MoDOT *Engineering Policy Guide*, the left-turn lane should provide a total length of 445 feet which includes 355 feet of full width (deceleration and storage) and a 90-foot taper. Additionally, based on Figure 940.9.9 of the MoDOT *Engineering Policy Guide*, a northbound right-turn lane is warranted at the intersection under construction peak and full buildout conditions. Based on the spacing distance from the existing bridge section along Harry S. Truman Boulevard, minimum turn lane dimensions provided in Section 233.2.15-2.16 should be provided for the right-turn lane which results in a total length of 140 feet, including 50 feet of full width storage and a 90-foot taper.

Based on MoDOT guidance for right-turn lanes (Figure 940.9.9), a northbound right-turn lane is warranted at the intersection of Harry S. Truman Boulevard/Ehlmann Road in the weekday evening peak hour under existing conditions (Exhibit 2). However, there are no planned improvements for this intersection; therefore, existing geometry was used for all analysis scenarios. Based on the traffic projections, no additional turn lanes were identified at the study intersections.

For the Construction Peak (2030) scenario, a bypass lane should be provided at Access A in order to accommodate both operational and construction traffic on site.

Construction Peak (2030) Capacity Analysis

Based on the traffic projections presented in **Exhibit 11** and turn lanes identified for the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A, capacity results were identified for the study intersections under Construction Peak (2030) conditions. The results of the capacity analysis are summarized in **Table 4.1**. Copies of the Synchro reports are provided in the appendix.

Table 4.1 Construction (2030) Levels of Service

	AM Peak Hour		PM Peak Hour	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Harry S. Truman Boulevard / Premier Parkway ★				
Eastbound	28	C	26	C
Westbound	24	C	24	C
Northbound	9	A	12	B
Southbound	13	B	13	B
Intersection	*13*	*B*	*15*	*B*
Harry S. Truman Boulevard / Truman Industrial Boulevard-Access A △				
Eastbound	>120	F	17	C
Westbound	>120	F	61	F
Northbound (Left)	8	A	8	A
Southbound (Left)	15-	B	9	A
Harry S. Truman Boulevard / Ehlmann Road ★				
Eastbound	23	C	28	C
Westbound	17	B	21	C
Northbound	16	B	18	B
Southbound	11	B	12	B
Intersection	*15*	*B*	*17*	*B*
Ehlmann Road / Zumbehl Road ▲				
Eastbound	10+	B	15-	B
Northbound	10+	B	13	B
Southbound	14	C	19	C
Intersection	*12*	*B*	*16*	*C*
Elm Street / Elm Point Industrial Drive ★				
Eastbound	24	C	25	C
Westbound	25	C	24	C
Northbound	18	B	18	B
Southbound	15	B	20-	B
Intersection	*19*	*B*	*21*	*C*

★ -Signalized Intersection ▲ - All-Way Stop-Controlled Intersection △-Minor-Leg Stop-Controlled Intersection

With the addition of background traffic growth and site-generated traffic associated with the Construction Peak (2030), the majority of study intersections generally operate consistent with Existing (2025) conditions, with one exception. At the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A, the eastbound and westbound approaches are projected to operate at LOS F during the morning peak hour, with the westbound approach projected to operate at LOS F during the evening peak hour. This delay is typical of minor-leg stop-controlled streets intersecting with heavily traveled arterial roadways such as Harry S. Truman Boulevard. The projected 95th percentile queue is approximately nine vehicles (225 feet); the queue is not anticipated to spillback to any upstream driveway locations along Truman Industrial Boulevard-Access A.

All other movements and intersections operate at LOS C or better during the peak hours and experience 95th percentile queues of approximately ten vehicles (250 feet) or less. All projected queues are anticipated to be contained within the existing geometry and proposed turn lanes.

Construction Peak (2030) Security Gate Analysis

Per the City of Saint Charles, a review of queue conditions at the security gate for inbound and outbound traffic was completed. Access A was analyzed using SimTraffic simulation in Synchro. The analysis was completed for Construction Peak (2030), where the highest site-generated traffic volumes were projected for Access A. The results are provided in **Table 4.2**. Copies of the SimTraffic reports are provided in the appendix.

Table 4.2 Construction Peak (2030) Security Gate Analysis Results

Analysis / Movement	AM Peak Hour	PM Peak Hour
Delay (seconds)		
Eastbound (Inbound)	10-	5
Westbound (Outbound)	5	8
95th Percentile Queues (feet)		
Eastbound (Inbound)	150	55
Westbound (Outbound)	60	140

For purposes of the analysis, one inbound and one outbound lane were assumed at Access A. Based on the analysis, the highest projected 95th percentile is projected to be 150 feet; no spillback to the public right-of-way is not anticipated. All site-generated traffic would be accommodated onsite. Based on the site plan, up to four inbound lanes and two outbound lanes may be provided; and therefore, this analysis is considered conservative; actual queues and delay would likely be lower than the results of the SimTraffic analysis.

Short Term (2032) Capacity Analysis

Based on the traffic projections presented in **Exhibit 9** and **Exhibit 12** and turn lanes identified for the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A, capacity results were identified for the study intersections under Short Term (2032) No-Build and Build conditions. The results of the capacity analysis are summarized in **Table 4.3.** Copies of the Synchro reports are provided in the appendix.

Table 4.3 Short Term (2032) Levels of Service

Intersection	No-Build (2032)				Build (2032)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Harry S. Truman Boulevard / Premier Parkway ★								
Eastbound	24	C	23	C	26	C	24	C
Westbound	20-	B	20+	C	22	C	22	C
Northbound	10-	A	11	B	10-	A	12	B
Southbound	12	B	14	B	13	B	13	B
Intersection	*13*	*B*	*15*	*B*	*13*	*B*	*15*	*B*
Harry S. Truman Boulevard / Truman Industrial Boulevard-Access A △								
Eastbound	17	C	12	B	54	F	15	B
Westbound	13	B	15	C	27	D	19	C
Northbound (Left)	8	A	8	A	8	A	8	A
Southbound (Left)	9	A	8	A	12	A	9	A
Harry S. Truman Boulevard / Ehlmann Road ★								
Eastbound	20-	B	23	C	22	C	26	C
Westbound	15	B	17	B	16	B	20-	B
Northbound	15	B	16	B	15	B	16	B
Southbound	11	B	12	B	11	B	11	B
Intersection	*15*	*B*	*15*	*B*	*15*	*B*	*16*	*B*
Ehlmann Road / Zumbehl Road ▲								
Eastbound	10-	A	12	B	10-	A	12	B
Northbound	10-	A	12	B	10+	B	12	B
Southbound	12	B	15+	C	13	B	16	C
Intersection	*10+*	*B*	*13*	*B*	*11*	*B*	*14*	*B*
Elm Street / Elm Point Industrial Drive ★								
Eastbound	24	C	25	C	24	C	25	C
Westbound	25	C	24	C	25	C	24	C
Northbound	18	B	18	B	18	B	18	B
Southbound	14	B	19	B	14	B	19	B
Intersection	*19*	*B*	*20+*	*C*	*19*	*C*	*21*	*C*

★ -Signalized Intersection ▲ - All-Way Stop-Controlled Intersection △-Minor-Leg Stop-Controlled Intersection

Under Short Term (2032) No-Build and Build conditions, the roadway network is expected to operate with similar levels of delay and queuing as compared to Existing (2025) conditions. All movements are projected to operate at LOS C or better during the peak hours with one exception. Under build conditions, with the addition of site-generated traffic, the eastbound approach at the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A is projected to operate at LOS F in the morning peak hour. Compared to Construction Peak (2030) conditions, delay is projected to significantly improve at the intersection of Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A. This decrease in delay is due to the decrease in site-generated traffic attributable to full buildout operational conditions. The 95th percentile queues are projected to be a maximum of three vehicles (75 feet) at unsignalized study intersections, while the queues at the signalized intersections are roughly maintained with approximately ten vehicles (250 feet) or less. All projected queues are anticipated to be contained within the existing geometry and proposed turn lanes.

Horizon (2050) Capacity Analysis

Based on the traffic projections presented in **Exhibit 10** and **Exhibit 13** and the turn lanes identified at Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A, capacity results were identified for the study intersections under Horizon (2050) No-Build and Build conditions. The results of the capacity analysis are summarized in **Table 4.4.** Copies of the Synchro reports are provided in the appendix.

Table 4.4 Horizon (2050) Levels of Service

Intersection	No-Build (2050)				Build (2050)			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
Harry S. Truman Boulevard / Premier Parkway ★								
Eastbound	24	C	23	C	27	C	25	C
Westbound	20+	C	21	C	23	C	23	C
Northbound	10+	B	12	B	10-	A	12	B
Southbound	13	B	14	B	14	B	14	B
Intersection	*13*	*B*	*16*	*B*	*14*	*B*	*16*	*B*
Harry S. Truman Boulevard / Truman Industrial Boulevard-Access A △								
Eastbound	18	C	13	B	62	F	16	C
Westbound	14	B	16	C	32	D	22	C
Northbound (Left)	8	A	8	A	8	A	8	A
Southbound (Left)	9	A	9	A	12	B	9	A
Harry S. Truman Boulevard / Ehlmann Road ★								
Eastbound	21	C	24	C	23	C	28	C
Westbound	16	B	18	B	17	B	21	C
Northbound	16	B	16	B	16	B	17	B
Southbound	12	B	12	B	11	B	12	B
Intersection	*15*	*B*	*16*	*B*	*16*	*B*	*17*	*B*
Ehlmann Road / Zumbehl Road ▲								
Eastbound	10-	A	12	B	10+	B	13	B
Northbound	10+	B	13	B	11	B	13	B
Southbound	13	B	18	C	14	B	19	C
Intersection	*11*	*B*	*14*	*B*	*12*	*B*	*15+*	*C*
Elm Street / Elm Point Industrial Drive ★								
Eastbound	25	C	25	C	25	C	26	C
Westbound	28	C	27	C	28	C	25	C
Northbound	19	B	19	B	19	B	20-	B
Southbound	15	B	21	C	15	B	23	C
Intersection	*20+*	*C*	*22*	*C*	*20+*	*C*	*23*	*C*

★ -Signalized Intersection ▲ - All-Way Stop-Controlled Intersection △-Minor-Leg Stop-Controlled Intersection

Under Horizon (2050) Build conditions, the roadway network continues to operate generally consistent with Existing (2025) and Short Term (2032) conditions with the eastbound approach of the Harry S. Truman Boulevard/Truman Industrial Boulevard-Access A intersection projected to operate at LOS F in the morning peak hour. All other movements are projected to operate acceptably at LOS D or better. At the unsignalized intersections, the projected 95th percentile queues are approximately five vehicles (125 feet) or less, and approximately twelve vehicles (300 feet) or less at the signalized intersections. The projected 95th percentile queues would be accommodated within the existing lane geometry and proposed turn lanes.

5. RECOMMENDATIONS & CONCLUSIONS

Based on Kimley-Horn's review of the proposed site plan and evaluation of existing and future traffic conditions, the following improvements were identified to facilitate access to the site and limit the impact of the proposed development on key intersections in the site vicinity:

Harry S. Truman Boulevard / Truman Industrial Boulevard-Access A

- Provide a 140-foot northbound right-turn lane which includes 50 feet of full width storage and a 90-foot taper.
- Provide a 445-foot southbound left-turn lane which includes 355 feet of full width (deceleration and storage) and a 90-foot taper.
- Provide an additional westbound lane to allow for one dedicated left-turn lane and one shared through/right-turn lane. Install a stop bar for outbound traffic on the westbound approach.
- Design Access A to accommodate truck turning movements.
- To accommodate both operational and construction traffic under Construction Peak conditions, a temporary bypass lane should be provided at Access A on site.

Elm Point Industrial Drive / Zumbehl Road-Access B

- Design Access B to include a single inbound and a single outbound lane.
- Design Access B to accommodate truck turning movements.
- Install minor-leg stop control with a stop sign and stop bar for outbound traffic.

Regardless of the final configuration of the intersection geometrics, several additional items should be taken into consideration when preparing site and roadway improvement plans for the subject development. As the site design progresses, care should be taken with landscaping, signage, and monumentation at the site access locations to ensure that adequate sight distance is maintained. If alterations to the site plan or land use should occur, changes to the analysis provided within this traffic impact study may be needed.

APPENDIX

Traffic Count Data

Existing (2025) Capacity Reports

Turn Lane Warrants

Construction Peak (2030) Capacity Reports

Short Term (2032) No-Build Capacity Reports

Short Term (2032) Build Capacity Reports

Horizon (2050) No-Build Capacity Reports

Horizon (2050) Build Capacity Reports

TRAFFIC COUNT DATA

Harry S Truman Boulevard & Premier Parkway - TMC

Tue Apr 15, 2025
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285781, Location: 38.814504, -90.559707

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Premier Pkwy						Premier Pkwy						Harry S Truman Blvd						Harry S Truman Blvd						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 6:00AM	14	2	8	0	**24**	0	3	6	0	0	**9**	0	11	20	6	0	**37**	0	8	26	30	0	**64**	0	**134**
6:15AM	17	0	4	0	**21**	0	5	8	0	0	**13**	0	29	34	15	0	**78**	0	9	16	43	0	**68**	0	**180**
6:30AM	15	0	11	0	**26**	0	3	13	2	0	**18**	0	46	66	5	0	**117**	0	9	28	64	0	**101**	0	**262**
6:45AM	19	0	12	0	**31**	0	5	4	2	0	**11**	0	61	72	9	0	**142**	0	11	40	101	0	**152**	0	**336**
Hourly Total	65	2	35	0	**102**	0	16	31	4	0	**51**	0	147	192	35	0	**374**	0	37	110	238	0	**385**	0	**912**
7:00AM	20	3	9	0	**32**	0	5	7	0	0	**12**	0	42	89	13	0	**144**	0	11	66	67	0	**144**	0	**332**
7:15AM	29	3	10	0	**42**	0	7	13	1	0	**21**	0	63	81	6	0	**150**	0	15	73	83	0	**171**	0	**384**
7:30AM	27	4	12	0	**43**	0	4	3	1	0	**8**	0	33	71	6	0	**110**	0	11	72	88	0	**171**	0	**332**
7:45AM	30	2	10	0	**42**	0	4	3	4	0	**11**	0	26	74	15	0	**115**	0	14	64	59	0	**137**	0	**305**
Hourly Total	106	12	41	0	**159**	0	20	26	6	0	**52**	0	164	315	40	0	**519**	0	51	275	297	0	**623**	0	**1353**
8:00AM	24	5	8	0	**37**	0	10	2	2	0	**14**	0	17	54	12	0	**83**	0	17	63	33	0	**113**	0	**247**
8:15AM	24	1	7	0	**32**	0	2	6	1	0	**9**	0	13	43	6	0	**62**	0	11	47	35	0	**93**	0	**196**
8:30AM	21	2	8	0	**31**	0	4	3	0	0	**7**	0	8	38	5	0	**51**	0	7	51	30	0	**88**	0	**177**
8:45AM	15	4	10	0	**29**	0	6	3	3	0	**12**	0	10	44	8	0	**62**	0	3	47	43	0	**93**	0	**196**
Hourly Total	84	12	33	0	**129**	0	22	14	6	0	**42**	0	48	179	31	0	**258**	0	38	208	141	0	**387**	0	**816**
4:00PM	49	4	23	0	**76**	0	1	3	1	0	**5**	0	6	50	7	0	**63**	0	7	76	25	0	**108**	0	**252**
4:15PM	38	8	13	0	**59**	0	4	4	2	0	**10**	0	7	79	9	0	**95**	0	10	76	38	0	**124**	0	**288**
4:30PM	60	17	32	0	**109**	0	1	6	1	0	**8**	0	15	91	10	0	**116**	0	11	83	48	0	**142**	0	**375**
4:45PM	41	6	16	0	**63**	0	7	9	2	0	**18**	0	14	62	7	0	**83**	0	12	79	58	0	**149**	0	**313**
Hourly Total	188	35	84	0	**307**	0	13	22	6	0	**41**	0	42	282	33	0	**357**	0	40	314	169	0	**523**	0	**1228**
5:00PM	34	9	25	0	**68**	0	3	6	1	0	**10**	0	16	77	5	0	**98**	0	15	67	55	0	**137**	0	**313**
5:15PM	33	5	20	0	**58**	0	10	5	2	0	**17**	0	21	74	10	0	**105**	0	7	59	47	0	**113**	0	**293**
5:30PM	80	8	63	0	**151**	0	8	11	1	0	**20**	0	32	61	3	0	**96**	0	4	78	69	0	**151**	0	**418**
5:45PM	39	4	17	0	**60**	0	4	16	1	0	**21**	0	60	63	5	0	**128**	0	10	56	94	0	**160**	0	**369**
Hourly Total	186	26	125	0	**337**	0	25	38	5	0	**68**	0	129	275	23	0	**427**	0	36	260	265	0	**561**	0	**1393**
6:00PM	95	20	97	0	**212**	0	8	7	6	0	**21**	0	42	50	6	0	**98**	0	6	52	79	0	**137**	0	**468**
6:15PM	64	8	37	0	**109**	0	5	14	0	0	**19**	0	57	43	1	0	**101**	0	12	45	68	0	**125**	0	**354**
6:30PM	38	6	29	0	**73**	0	2	2	1	0	**5**	0	18	33	5	0	**56**	0	5	50	42	0	**97**	0	**231**
6:45PM	10	5	4	0	**19**	0	2	2	1	0	**5**	0	7	24	3	0	**34**	0	11	32	24	0	**67**	0	**125**
Hourly Total	207	39	167	0	**413**	0	17	25	8	0	**50**	0	124	150	15	0	**289**	0	34	179	213	0	**426**	0	**1178**
Total	836	126	485	0	**1447**	0	113	156	35	0	**304**	0	654	1393	177	0	**2224**	0	236	1346	1323	0	**2905**	0	**6880**
% Approach	57.8%	8.7%	33.5%	0%	**-**	-	37.2%	51.3%	11.5%	0%	**-**	-	29.4%	62.6%	8.0%	0%	**-**	-	8.1%	46.3%	45.5%	0%	**-**	-	-
% Total	12.2%	1.8%	7.0%	0%	**21.0%**	-	1.6%	2.3%	0.5%	0%	**4.4%**	-	9.5%	20.2%	2.6%	0%	**32.3%**	-	3.4%	19.6%	19.2%	0%	**42.2%**	-	-
Lights	669	111	459	0	**1239**	-	108	133	21	0	**262**	-	627	1349	168	0	**2144**	-	208	1316	1095	0	**2619**	-	6264
% Lights	80.0%	88.1%	94.6%	0%	**85.6%**	-	95.6%	85.3%	60.0%	0%	**86.2%**	-	95.9%	96.8%	94.9%	0%	**96.4%**	-	88.1%	97.8%	82.8%	0%	**90.2%**	-	91.0%
Articulated Trucks	119	10	13	0	**142**	-	3	10	10	0	**23**	-	21	18	2	0	**41**	-	13	15	190	0	**218**	-	424
% Articulated Trucks	14.2%	7.9%	2.7%	0%	**9.8%**	-	2.7%	6.4%	28.6%	0%	**7.6%**	-	3.2%	1.3%	1.1%	0%	**1.8%**	-	5.5%	1.1%	14.4%	0%	**7.5%**	-	6.2%
Buses and Single-Unit Trucks	47	5	10	0	**62**	-	2	13	4	0	**19**	-	6	26	7	0	**39**	-	15	15	38	0	**68**	-	188
% Buses and Single-Unit Trucks	5.6%	4.0%	2.1%	0%	**4.3%**	-	1.8%	8.3%	11.4%	0%	**6.3%**	-	0.9%	1.9%	4.0%	0%	**1.8%**	-	6.4%	1.1%	2.9%	0%	**2.3%**	-	2.7%
Bicycles on Road	1	0	3	0	**4**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	4
% Bicycles on Road	0.1%	0%	0.6%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Premier Parkway - TMC

Tue Apr 15, 2025
Forced Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285781, Location: 38.814504, -90.559707

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Premier Pkwy Eastbound						Premier Pkwy Westbound						Harry S Truman Blvd Northbound						Harry S Truman Blvd Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 7:00AM	20	3	9	0	**32**	0	5	7	0	0	**12**	0	42	89	13	0	**144**	0	11	66	67	0	**144**	0	**332**
7:15AM	29	3	10	0	**42**	0	7	13	1	0	**21**	0	63	81	6	0	**150**	0	15	73	83	0	**171**	0	**384**
7:30AM	27	4	12	0	**43**	0	4	3	1	0	**8**	0	33	71	6	0	**110**	0	11	72	88	0	**171**	0	**332**
7:45AM	30	2	10	0	**42**	0	4	3	4	0	**11**	0	26	74	15	0	**115**	0	14	64	59	0	**137**	0	**305**
Total	106	12	41	0	**159**	0	20	26	6	0	**52**	0	164	315	40	0	**519**	0	51	275	297	0	**623**	0	**1353**
% Approach	66.7%	7.5%	25.8%	0%	**-**	-	38.5%	50.0%	11.5%	0%	**-**	-	31.6%	60.7%	7.7%	0%	**-**	-	8.2%	44.1%	47.7%	0%	**-**	-	**-**
% Total	7.8%	0.9%	3.0%	0%	**11.8%**	-	1.5%	1.9%	0.4%	0%	**3.8%**	-	12.1%	23.3%	3.0%	0%	**38.4%**	-	3.8%	20.3%	22.0%	0%	**46.0%**	-	**-**
PHF	0.883	0.750	0.854	-	**0.924**	-	0.714	0.500	0.375	-	**0.619**	-	0.651	0.885	0.667	-	**0.865**	-	0.850	0.942	0.844	-	**0.911**	-	0.881
Lights	79	9	38	0	**126**	-	17	19	3	0	**39**	-	162	304	38	0	**504**	-	42	265	264	0	**571**	-	1240
% Lights	74.5%	75.0%	92.7%	0%	**79.2%**	-	85.0%	73.1%	50.0%	0%	**75.0%**	-	98.8%	96.5%	95.0%	0%	**97.1%**	-	82.4%	96.4%	88.9%	0%	**91.7%**	-	91.6%
Articulated Trucks	23	3	1	0	**27**	-	2	1	3	0	**6**	-	2	6	0	0	**8**	-	3	4	30	0	**37**	-	78
% Articulated Trucks	21.7%	25.0%	2.4%	0%	**17.0%**	-	10.0%	3.8%	50.0%	0%	**11.5%**	-	1.2%	1.9%	0%	0%	**1.5%**	-	5.9%	1.5%	10.1%	0%	**5.9%**	-	5.8%
Buses and Single-Unit Trucks	4	0	2	0	**6**	-	1	6	0	0	**7**	-	0	5	2	0	**7**	-	6	6	3	0	**15**	-	35
% Buses and Single-Unit Trucks	3.8%	0%	4.9%	0%	**3.8%**	-	5.0%	23.1%	0%	0%	**13.5%**	-	0%	1.6%	5.0%	0%	**1.3%**	-	11.8%	2.2%	1.0%	0%	**2.4%**	-	2.6%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Premier Parkway - TMC

Tue Apr 15, 2025
Forced Peak (5 PM - 6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285781, Location: 38.814504, -90.559707

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Premier Pkwy Eastbound						Premier Pkwy Westbound						Harry S Truman Blvd Northbound						Harry S Truman Blvd Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 5:00PM	34	9	25	0	**68**	0	3	6	1	0	**10**	0	16	77	5	0	**98**	0	15	67	55	0	**137**	0	**313**
5:15PM	33	5	20	0	**58**	0	10	5	2	0	**17**	0	21	74	10	0	**105**	0	7	59	47	0	**113**	0	**293**
5:30PM	80	8	63	0	**151**	0	8	11	1	0	**20**	0	32	61	3	0	**96**	0	4	78	69	0	**151**	0	**418**
5:45PM	39	4	17	0	**60**	0	4	16	1	0	**21**	0	60	63	5	0	**128**	0	10	56	94	0	**160**	0	**369**
Total	186	26	125	0	**337**	0	25	38	5	0	**68**	0	129	275	23	0	**427**	0	36	260	265	0	**561**	0	**1393**
% Approach	55.2%	7.7%	37.1%	0%	**-**	-	36.8%	55.9%	7.4%	0%	**-**	-	30.2%	64.4%	5.4%	0%	**-**	-	6.4%	46.3%	47.2%	0%	**-**	-	-
% Total	13.4%	1.9%	9.0%	0%	**24.2%**	-	1.8%	2.7%	0.4%	0%	**4.9%**	-	9.3%	19.7%	1.7%	0%	**30.7%**	-	2.6%	18.7%	19.0%	0%	**40.3%**	-	-
PHF	0.578	0.722	0.496	-	**0.556**	-	0.625	0.594	0.625	-	**0.810**	-	0.538	0.893	0.575	-	**0.834**	-	0.600	0.833	0.705	-	**0.877**	-	0.833
Lights	158	24	121	0	**303**	-	25	33	2	0	**60**	-	124	273	20	0	**417**	-	33	256	213	0	**502**	-	1282
% Lights	84.9%	92.3%	96.8%	0%	**89.9%**	-	100%	86.8%	40.0%	0%	**88.2%**	-	96.1%	99.3%	87.0%	0%	**97.7%**	-	91.7%	98.5%	80.4%	0%	**89.5%**	-	92.0%
Articulated Trucks	17	2	3	0	**22**	-	0	3	2	0	**5**	-	2	0	2	0	**4**	-	3	1	40	0	**44**	-	75
% Articulated Trucks	9.1%	7.7%	2.4%	0%	**6.5%**	-	0%	7.9%	40.0%	0%	**7.4%**	-	1.6%	0%	8.7%	0%	**0.9%**	-	8.3%	0.4%	15.1%	0%	**7.8%**	-	5.4%
Buses and Single-Unit Trucks	10	0	1	0	**11**	-	0	2	1	0	**3**	-	3	2	1	0	**6**	-	0	3	12	0	**15**	-	35
% Buses and Single-Unit Trucks	5.4%	0%	0.8%	0%	**3.3%**	-	0%	5.3%	20.0%	0%	**4.4%**	-	2.3%	0.7%	4.3%	0%	**1.4%**	-	0%	1.2%	4.5%	0%	**2.7%**	-	2.5%
Bicycles on Road	1	0	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0.5%	0%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Truman Industrial... - TMC

Tue Apr 15, 2025
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285782, Location: 38.81119, -90.554351

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Truman Industrial Dr						Truman Industrial Dr						Harry S Truman Blvd						Harry S Truman Blvd						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2025-04-15 6:00AM	0	0	2	0	**2**	0	0	0	0	0	**0**	0	1	36	0	0	**37**	0	1	31	2	0	**34**	0	**73**
6:15AM	1	0	0	0	**1**	0	0	0	1	0	**1**	0	2	76	0	0	**78**	0	0	22	1	0	**23**	0	**103**
6:30AM	1	0	0	0	**1**	0	0	0	0	0	**0**	0	0	127	1	1	**129**	0	1	36	2	0	**39**	0	**169**
6:45AM	0	0	1	0	**1**	0	0	0	0	0	**0**	0	0	146	0	0	**146**	0	0	60	0	0	**60**	0	**207**
Hourly Total	2	0	3	0	**5**	0	0	0	1	0	**1**	0	3	385	1	1	**390**	0	2	149	5	0	**156**	0	**552**
7:00AM	0	0	0	0	**0**	0	1	1	0	1	**3**	0	4	147	0	0	**151**	0	0	75	1	0	**76**	0	**230**
7:15AM	1	0	0	0	**1**	0	0	0	1	0	**1**	0	2	166	1	0	**169**	0	0	90	1	0	**91**	0	**262**
7:30AM	0	0	1	0	**1**	0	0	0	1	0	**1**	0	0	96	0	0	**96**	0	2	80	4	0	**86**	0	**184**
7:45AM	1	0	0	0	**1**	0	0	0	2	0	**2**	0	1	109	1	0	**111**	0	2	78	0	0	**80**	0	**194**
Hourly Total	2	0	1	0	**3**	0	1	1	4	1	**7**	0	7	518	2	0	**527**	0	4	323	6	0	**333**	0	**870**
8:00AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	84	1	0	**85**	0	0	79	1	0	**80**	0	**165**
8:15AM	1	0	0	0	**1**	0	0	0	0	0	**0**	0	0	62	0	0	**62**	0	0	57	1	0	**58**	0	**121**
8:30AM	0	0	1	0	**1**	0	1	0	0	0	**1**	0	2	57	1	0	**60**	0	0	62	0	0	**62**	0	**124**
8:45AM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	0	60	0	0	**60**	0	0	63	0	0	**63**	0	**123**
Hourly Total	1	0	1	0	**2**	0	1	0	0	0	**1**	0	2	263	2	0	**267**	0	0	261	2	0	**263**	0	**533**
4:00PM	6	0	1	0	**7**	0	0	0	0	0	**0**	0	0	61	0	0	**61**	0	0	94	0	0	**94**	0	**162**
4:15PM	1	0	2	0	**3**	0	1	0	0	0	**1**	0	1	90	0	0	**91**	0	0	91	1	0	**92**	0	**187**
4:30PM	3	0	1	0	**4**	1	0	0	3	0	**3**	0	1	106	0	0	**107**	0	0	126	1	0	**127**	0	**241**
4:45PM	0	0	0	0	**0**	0	0	0	1	0	**1**	0	2	75	0	0	**77**	0	0	105	0	0	**105**	0	**183**
Hourly Total	10	0	4	0	**14**	1	1	0	4	0	**5**	0	4	332	0	0	**336**	0	0	416	2	0	**418**	0	**773**
5:00PM	1	0	2	0	**3**	0	0	0	0	0	**0**	0	0	100	0	0	**100**	0	0	101	0	0	**101**	0	**204**
5:15PM	3	0	0	0	**3**	0	0	0	0	0	**0**	0	0	102	1	0	**103**	0	0	88	0	0	**88**	0	**194**
5:30PM	0	0	1	0	**1**	0	0	0	0	0	**0**	0	0	115	0	0	**115**	0	0	151	1	0	**152**	0	**268**
5:45PM	1	0	0	0	**1**	0	0	0	0	0	**0**	0	1	121	0	0	**122**	0	0	79	0	0	**79**	0	**202**
Hourly Total	5	0	3	0	**8**	0	0	0	0	0	**0**	0	1	438	1	0	**440**	0	0	419	1	0	**420**	0	**868**
6:00PM	0	0	0	0	**0**	0	0	1	0	0	**1**	0	0	98	0	0	**98**	0	0	161	0	0	**161**	0	**260**
6:15PM	0	0	2	0	**2**	0	0	0	0	0	**0**	0	0	88	0	0	**88**	0	0	92	0	0	**92**	0	**182**
6:30PM	0	0	1	0	**1**	0	0	0	0	0	**0**	0	0	61	0	0	**61**	0	0	82	0	0	**82**	0	**144**
6:45PM	0	0	0	0	**0**	0	0	0	0	0	**0**	0	1	36	0	0	**37**	0	0	39	1	0	**40**	0	**77**
Hourly Total	0	0	3	0	**3**	0	0	1	0	0	**1**	0	1	283	0	0	**284**	0	0	374	1	0	**375**	0	**663**
Total	20	0	15	0	**35**	1	3	2	9	1	**15**	0	18	2219	6	1	**2244**	0	6	1942	17	0	**1965**	0	**4259**
% Approach	57.1%	0%	42.9%	0%	**-**	-	20.0%	13.3%	60.0%	6.7%	**-**	-	0.8%	98.9%	0.3%	0%	**-**	-	0.3%	98.8%	0.9%	0%	**-**	-	-
% Total	0.5%	0%	0.4%	0%	**0.8%**	-	0.1%	0%	0.2%	0%	**0.4%**	-	0.4%	52.1%	0.1%	0%	**52.7%**	-	0.1%	45.6%	0.4%	0%	**46.1%**	-	-
Lights	18	0	14	0	**32**	-	3	2	7	1	**13**	-	17	2157	6	1	**2181**	-	5	1885	16	0	**1906**	-	4132
% Lights	90.0%	0%	93.3%	0%	**91.4%**	-	100%	100%	77.8%	100%	**86.7%**	-	94.4%	97.2%	100%	100%	**97.2%**	-	83.3%	97.1%	94.1%	0%	**97.0%**	-	97.0%
Articulated Trucks	1	0	1	0	**2**	-	0	0	1	0	**1**	-	1	35	0	0	**36**	-	0	18	1	0	**19**	-	58
% Articulated Trucks	5.0%	0%	6.7%	0%	**5.7%**	-	0%	0%	11.1%	0%	**6.7%**	-	5.6%	1.6%	0%	0%	**1.6%**	-	0%	0.9%	5.9%	0%	**1.0%**	-	1.4%
Buses and Single-Unit Trucks	1	0	0	0	**1**	-	0	0	1	0	**1**	-	0	27	0	0	**27**	-	1	39	0	0	**40**	-	69
% Buses and Single-Unit Trucks	5.0%	0%	0%	0%	**2.9%**	-	0%	0%	11.1%	0%	**6.7%**	-	0%	1.2%	0%	0%	**1.2%**	-	16.7%	2.0%	0%	0%	**2.0%**	-	1.6%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Truman Industrial... - TMC

Tue Apr 15, 2025
Forced Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285782, Location: 38.81119, -90.554351

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Truman Industrial Dr Eastbound						Truman Industrial Dr Westbound						Harry S Truman Blvd Northbound						Harry S Truman Blvd Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 7:00AM	0	0	0	0	**0**	0	1	1	0	1	**3**	0	4	147	0	0	**151**	0	0	75	1	0	**76**	0	**230**
7:15AM	1	0	0	0	**1**	0	0	0	1	0	**1**	0	2	166	1	0	**169**	0	0	90	1	0	**91**	0	**262**
7:30AM	0	0	1	0	**1**	0	0	0	1	0	**1**	0	0	96	0	0	**96**	0	2	80	4	0	**86**	0	**184**
7:45AM	1	0	0	0	**1**	0	0	0	2	0	**2**	0	1	109	1	0	**111**	0	2	78	0	0	**80**	0	**194**
Total	2	0	1	0	**3**	0	1	1	4	1	**7**	0	7	518	2	0	**527**	0	4	323	6	0	**333**	0	**870**
% Approach	66.7%	0%	33.3%	0%	**-**	-	14.3%	14.3%	57.1%	14.3%	**-**	-	1.3%	98.3%	0.4%	0%	**-**	-	1.2%	97.0%	1.8%	0%	**-**	-	**-**
% Total	0.2%	0%	0.1%	0%	**0.3%**	-	0.1%	0.1%	0.5%	0.1%	**0.8%**	-	0.8%	59.5%	0.2%	0%	**60.6%**	-	0.5%	37.1%	0.7%	0%	**38.3%**	-	**-**
PHF	0.500	-	0.250	-	**0.750**	-	0.250	0.250	0.500	0.250	**0.583**	-	0.438	0.780	0.500	-	**0.780**	-	0.500	0.897	0.375	-	**0.915**	-	0.830
Lights	1	0	1	0	**2**	-	1	1	2	1	**5**	-	6	510	2	0	**518**	-	3	306	6	0	**315**	-	840
% Lights	50.0%	0%	100%	0%	**66.7%**	-	100%	100%	50.0%	100%	**71.4%**	-	85.7%	98.5%	100%	0%	**98.3%**	-	75.0%	94.7%	100%	0%	**94.6%**	-	96.6%
Articulated Trucks	1	0	0	0	**1**	-	0	0	1	0	**1**	-	1	4	0	0	**5**	-	0	1	0	0	**1**	-	8
% Articulated Trucks	50.0%	0%	0%	0%	**33.3%**	-	0%	0%	25.0%	0%	**14.3%**	-	14.3%	0.8%	0%	0%	**0.9%**	-	0%	0.3%	0%	0%	**0.3%**	-	0.9%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	4	0	0	**4**	-	1	16	0	0	**17**	-	22
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	25.0%	0%	**14.3%**	-	0%	0.8%	0%	0%	**0.8%**	-	25.0%	5.0%	0%	0%	**5.1%**	-	2.5%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Truman Industrial... - TMC

Tue Apr 15, 2025
Forced Peak (5 PM - 6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285782, Location: 38.81119, -90.554351

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Truman Industrial Dr Eastbound						Truman Industrial Dr Westbound						Harry S Truman Blvd Northbound						Harry S Truman Blvd Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 5:00PM	1	0	2	0	**3**	0	0	0	0	0	**0**	0	0	100	0	0	**100**	0	0	101	0	0	**101**	0	**204**
5:15PM	3	0	0	0	**3**	0	0	0	0	0	**0**	0	0	102	1	0	**103**	0	0	88	0	0	**88**	0	**194**
5:30PM	0	0	1	0	**1**	0	0	0	0	0	**0**	0	0	115	0	0	**115**	0	0	151	1	0	**152**	0	**268**
5:45PM	1	0	0	0	**1**	0	0	0	0	0	**0**	0	1	121	0	0	**122**	0	0	79	0	0	**79**	0	**202**
Total	5	0	3	0	**8**	0	0	0	0	0	**0**	0	1	438	1	0	**440**	0	0	419	1	0	**420**	0	**868**
% Approach	62.5%	0%	37.5%	0%	**-**	-	0%	0%	0%	0%	**-**	-	0.2%	99.5%	0.2%	0%	**-**	-	0%	99.8%	0.2%	0%	**-**	-	**-**
% Total	0.6%	0%	0.3%	0%	**0.9%**	-	0%	0%	0%	0%	**0%**	-	0.1%	50.5%	0.1%	0%	**50.7%**	-	0%	48.3%	0.1%	0%	**48.4%**	-	**-**
PHF	0.417	-	0.375	-	**0.667**	-	-	-	-	-	**-**	-	0.250	0.905	0.250	-	**0.902**	-	-	0.694	0.250	-	**0.691**	-	0.810
Lights	5	0	3	0	**8**	-	0	0	0	0	**0**	-	1	426	1	0	**428**	-	0	412	1	0	**413**	-	849
% Lights	100%	0%	100%	0%	**100%**	-	0%	0%	0%	0%	**-**	-	100%	97.3%	100%	0%	**97.3%**	-	0%	98.3%	100%	0%	**98.3%**	-	97.8%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	7	0	0	**7**	-	0	1	0	0	**1**	-	8
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	1.6%	0%	0%	**1.6%**	-	0%	0.2%	0%	0%	**0.2%**	-	0.9%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	5	0	0	**5**	-	0	6	0	0	**6**	-	11
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	1.1%	0%	0%	**1.1%**	-	0%	1.4%	0%	0%	**1.4%**	-	1.3%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**-**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Ehlmann Road - TMC

Tue Apr 15, 2025
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285780, Location: 38.805354, -90.55287

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Ehlmann Rd						Ehlmann Rd						Harry S Truman Blvd						Harry S Truman Blvd						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 6:00AM	1	3	9	0	**13**	0	18	3	10	0	**31**	0	0	29	9	0	**38**	0	1	25	4	0	**30**	0	**112**
6:15AM	6	7	9	0	**22**	0	15	2	13	0	**30**	0	2	64	9	0	**75**	0	3	17	1	0	**21**	0	**148**
6:30AM	6	9	9	0	**24**	0	18	7	24	0	**49**	0	4	104	14	0	**122**	0	9	30	0	0	**39**	0	**234**
6:45AM	8	11	9	0	**28**	0	26	12	13	0	**51**	0	5	125	21	0	**151**	0	15	36	8	0	**59**	0	**289**
Hourly Total	21	30	36	0	**87**	0	77	24	60	0	**161**	0	11	322	53	0	**386**	0	28	108	13	0	**149**	0	**783**
7:00AM	8	11	16	0	**35**	0	35	14	15	0	**64**	0	1	141	36	0	**178**	0	22	41	6	0	**69**	0	**346**
7:15AM	11	13	11	0	**35**	0	42	15	15	0	**72**	0	6	134	23	0	**163**	0	20	61	5	0	**86**	0	**356**
7:30AM	4	11	14	0	**29**	0	40	15	27	0	**82**	0	6	68	18	0	**92**	0	18	63	5	0	**86**	0	**289**
7:45AM	7	6	16	0	**29**	0	47	21	23	0	**91**	1	6	84	11	0	**101**	0	7	59	10	0	**76**	1	**297**
Hourly Total	30	41	57	0	**128**	0	164	65	80	0	**309**	1	19	427	88	0	**534**	0	67	224	26	0	**317**	1	**1288**
8:00AM	9	8	16	0	**33**	0	44	11	12	0	**67**	0	16	61	20	0	**97**	0	15	58	11	0	**84**	0	**281**
8:15AM	7	4	14	0	**25**	0	36	9	14	0	**59**	0	16	41	22	0	**79**	0	8	36	9	0	**53**	0	**216**
8:30AM	8	10	10	0	**28**	0	41	11	13	0	**65**	0	1	39	21	0	**61**	0	12	48	10	0	**70**	0	**224**
8:45AM	10	9	12	0	**31**	0	39	15	7	0	**61**	0	9	48	27	0	**84**	0	10	46	5	0	**61**	1	**237**
Hourly Total	34	31	52	0	**117**	0	160	46	46	0	**252**	0	42	189	90	0	**321**	0	45	188	35	0	**268**	1	**958**
4:00PM	4	12	15	0	**31**	0	47	12	15	0	**74**	0	18	42	49	0	**109**	0	15	74	7	0	**96**	0	**310**
4:15PM	6	14	8	0	**28**	0	48	13	15	0	**76**	0	8	64	49	0	**121**	0	16	68	9	0	**93**	0	**318**
4:30PM	9	8	17	0	**34**	0	35	12	13	0	**60**	0	7	79	70	0	**156**	0	24	99	8	0	**131**	0	**381**
4:45PM	4	11	10	0	**25**	0	45	13	8	0	**66**	1	13	68	63	0	**144**	0	18	62	12	0	**92**	0	**327**
Hourly Total	23	45	50	0	**118**	0	175	50	51	0	**276**	1	46	253	231	0	**530**	0	73	303	36	0	**412**	0	**1336**
5:00PM	9	24	14	0	**47**	0	47	9	13	0	**69**	0	15	74	64	0	**153**	0	19	66	9	0	**94**	0	**363**
5:15PM	4	14	9	0	**27**	0	36	25	5	0	**66**	0	16	93	65	0	**174**	1	17	70	9	0	**96**	0	**363**
5:30PM	8	11	2	0	**21**	0	39	24	11	0	**74**	0	14	91	49	0	**154**	0	28	107	7	0	**142**	0	**391**
5:45PM	5	23	10	0	**38**	0	41	11	18	0	**70**	0	7	106	57	0	**170**	0	14	57	12	0	**83**	0	**361**
Hourly Total	26	72	35	0	**133**	0	163	69	47	0	**279**	0	52	364	235	0	**651**	1	78	300	37	0	**415**	0	**1478**
6:00PM	5	9	12	0	**26**	0	25	8	18	0	**51**	0	11	70	37	0	**118**	0	18	137	6	0	**161**	0	**356**
6:15PM	4	10	14	0	**28**	0	42	12	9	0	**63**	0	9	86	37	0	**132**	0	13	77	10	0	**100**	0	**323**
6:30PM	5	10	6	0	**21**	0	34	9	12	0	**55**	0	10	43	39	0	**92**	0	14	57	10	0	**81**	0	**249**
6:45PM	2	10	3	0	**15**	0	16	6	5	0	**27**	0	13	28	35	0	**76**	0	13	21	8	0	**42**	0	**160**
Hourly Total	16	39	35	0	**90**	0	117	35	44	0	**196**	0	43	227	148	0	**418**	0	58	292	34	0	**384**	0	**1088**
Total	150	258	265	0	**673**	0	856	289	328	0	**1473**	2	213	1782	845	0	**2840**	1	349	1415	181	0	**1945**	2	**6931**
% Approach	22.3%	38.3%	39.4%	0%	**-**	-	58.1%	19.6%	22.3%	0%	**-**	-	7.5%	62.7%	29.8%	0%	**-**	-	17.9%	72.8%	9.3%	0%	**-**	-	-
% Total	2.2%	3.7%	3.8%	0%	**9.7%**	-	12.4%	4.2%	4.7%	0%	**21.3%**	-	3.1%	25.7%	12.2%	0%	**41.0%**	-	5.0%	20.4%	2.6%	0%	**28.1%**	-	-
Lights	149	255	253	0	**657**	-	846	284	327	0	**1457**	-	203	1709	827	0	**2739**	-	345	1370	176	0	**1891**	-	6744
% Lights	99.3%	98.8%	95.5%	0%	**97.6%**	-	98.8%	98.3%	99.7%	0%	**98.9%**	-	95.3%	95.9%	97.9%	0%	**96.4%**	-	98.9%	96.8%	97.2%	0%	**97.2%**	-	97.3%
Articulated Trucks	0	0	0	0	**0**	-	1	0	0	0	**1**	-	0	34	0	0	**34**	-	0	17	0	0	**17**	-	52
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0.1%	0%	0%	0%	**0.1%**	-	0%	1.9%	0%	0%	**1.2%**	-	0%	1.2%	0%	0%	**0.9%**	-	0.8%
Buses and Single-Unit Trucks	1	3	12	0	**16**	-	9	4	1	0	**14**	-	10	39	18	0	**67**	-	4	27	5	0	**36**	-	133
% Buses and Single-Unit Trucks	0.7%	1.2%	4.5%	0%	**2.4%**	-	1.1%	1.4%	0.3%	0%	**1.0%**	-	4.7%	2.2%	2.1%	0%	**2.4%**	-	1.1%	1.9%	2.8%	0%	**1.9%**	-	1.9%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	1	0	0	**1**	-	2
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0.1%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Ehlmann Road - TMC

Tue Apr 15, 2025
AM Peak, Forced Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285780, Location: 38.805354, -90.55287

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Ehlmann Rd Eastbound						Ehlmann Rd Westbound						Harry S Truman Blvd Northbound						Harry S Truman Blvd Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 7:00AM	8	11	16	0	**35**	0	35	14	15	0	**64**	0	1	141	36	0	**178**	0	22	41	6	0	**69**	0	**346**
7:15AM	11	13	11	0	**35**	0	42	15	15	0	**72**	0	6	134	23	0	**163**	0	20	61	5	0	**86**	0	**356**
7:30AM	4	11	14	0	**29**	0	40	15	27	0	**82**	0	6	68	18	0	**92**	0	18	63	5	0	**86**	0	**289**
7:45AM	7	6	16	0	**29**	0	47	21	23	0	**91**	1	6	84	11	0	**101**	0	7	59	10	0	**76**	1	**297**
Total	30	41	57	0	**128**	0	164	65	80	0	**309**	1	19	427	88	0	**534**	0	67	224	26	0	**317**	1	**1288**
% Approach	23.4%	32.0%	44.5%	0%	**-**	-	53.1%	21.0%	25.9%	0%	**-**	-	3.6%	80.0%	16.5%	0%	**-**	-	21.1%	70.7%	8.2%	0%	**-**	-	-
% Total	2.3%	3.2%	4.4%	0%	**9.9%**	-	12.7%	5.0%	6.2%	0%	**24.0%**	-	1.5%	33.2%	6.8%	0%	**41.5%**	-	5.2%	17.4%	2.0%	0%	**24.6%**	-	-
PHF	0.682	0.788	0.891	-	**0.914**	-	0.872	0.774	0.741	-	**0.849**	-	0.792	0.757	0.611	-	**0.750**	-	0.761	0.889	0.650	-	**0.922**	-	0.904
Lights	29	40	54	0	**123**	-	161	63	80	0	**304**	-	18	414	82	0	**514**	-	66	212	23	0	**301**	-	1242
% Lights	96.7%	97.6%	94.7%	0%	**96.1%**	-	98.2%	96.9%	100%	0%	**98.4%**	-	94.7%	97.0%	93.2%	0%	**96.3%**	-	98.5%	94.6%	88.5%	0%	**95.0%**	-	96.4%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	6	0	0	**6**	-	0	1	0	0	**1**	-	7
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.4%	0%	0%	**1.1%**	-	0%	0.4%	0%	0%	**0.3%**	-	0.5%
Buses and Single-Unit Trucks	1	1	3	0	**5**	-	3	2	0	0	**5**	-	1	7	6	0	**14**	-	1	11	3	0	**15**	-	39
% Buses and Single-Unit Trucks	3.3%	2.4%	5.3%	0%	**3.9%**	-	1.8%	3.1%	0%	0%	**1.6%**	-	5.3%	1.6%	6.8%	0%	**2.6%**	-	1.5%	4.9%	11.5%	0%	**4.7%**	-	3.0%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Harry S Truman Boulevard & Ehlmann Road - TMC

Tue Apr 15, 2025
PM Peak (5 PM - 6 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285780, Location: 38.805354, -90.55287

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Ehlmann Rd Eastbound						Ehlmann Rd Westbound						Harry S Truman Blvd Northbound						Harry S Truman Blvd Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 5:00PM	9	24	14	0	**47**	0	47	9	13	0	**69**	0	15	74	64	0	**153**	0	19	66	9	0	**94**	0	**363**
5:15PM	4	14	9	0	**27**	0	36	25	5	0	**66**	0	16	93	65	0	**174**	1	17	70	9	0	**96**	0	**363**
5:30PM	8	11	2	0	**21**	0	39	24	11	0	**74**	0	14	91	49	0	**154**	0	28	107	7	0	**142**	0	**391**
5:45PM	5	23	10	0	**38**	0	41	11	18	0	**70**	0	7	106	57	0	**170**	0	14	57	12	0	**83**	0	**361**
Total	26	72	35	0	**133**	0	163	69	47	0	**279**	0	52	364	235	0	**651**	1	78	300	37	0	**415**	0	**1478**
% Approach	19.5%	54.1%	26.3%	0%	**-**	-	58.4%	24.7%	16.8%	0%	**-**	-	8.0%	55.9%	36.1%	0%	**-**	-	18.8%	72.3%	8.9%	0%	**-**	-	**-**
% Total	1.8%	4.9%	2.4%	0%	**9.0%**	-	11.0%	4.7%	3.2%	0%	**18.9%**	-	3.5%	24.6%	15.9%	0%	**44.0%**	-	5.3%	20.3%	2.5%	0%	**28.1%**	-	**-**
PHF	0.722	0.750	0.625		**0.707**	-	0.867	0.708	0.653		**0.939**	-	0.813	0.858	0.904		**0.935**	-	0.696	0.701	0.771		**0.731**	-	0.944
Lights	26	72	35	0	**133**	-	163	68	47	0	**278**	-	52	352	232	0	**636**	-	78	294	37	0	**409**	-	1456
% Lights	100%	100%	100%	0%	**100%**	-	100%	98.6%	100%	0%	**99.6%**	-	100%	96.7%	98.7%	0%	**97.7%**	-	100%	98.0%	100%	0%	**98.6%**	-	98.5%
Articulated Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	6	0	0	**6**	-	0	1	0	0	**1**	-	7
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.6%	0%	0%	**0.9%**	-	0%	0.3%	0%	0%	**0.2%**	-	0.5%
Buses and Single-Unit Trucks	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	6	3	0	**9**	-	0	5	0	0	**5**	-	14
% Buses and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.6%	1.3%	0%	**1.4%**	-	0%	1.7%	0%	0%	**1.2%**	-	0.9%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	1.4%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Ehlmann Road & Zumbehl Road - TMC

Tue Apr 15, 2025
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285783, Location: 38.80923, -90.538573

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	West Eastbound					South Northbound					North Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2025-04-15 6:00AM	10	3	0	**13**	0	3	20	0	**23**	0	10	6	0	**16**	0	**52**
6:15AM	7	5	0	**12**	0	10	13	0	**23**	0	17	7	0	**24**	0	**59**
6:30AM	20	16	0	**36**	0	7	27	0	**34**	0	23	20	0	**43**	0	**113**
6:45AM	17	23	0	**40**	0	11	37	0	**48**	0	34	21	0	**55**	0	**143**
Hourly Total	54	47	0	**101**	0	31	97	0	**128**	0	84	54	0	**138**	0	**367**
7:00AM	14	60	0	**74**	0	11	34	0	**45**	0	38	17	0	**55**	0	**174**
7:15AM	15	32	0	**47**	0	18	32	0	**50**	0	53	24	0	**77**	0	**174**
7:30AM	17	23	0	**40**	0	25	41	0	**66**	0	47	27	0	**74**	0	**180**
7:45AM	19	7	0	**26**	0	21	49	0	**70**	0	36	38	0	**74**	0	**170**
Hourly Total	65	122	0	**187**	0	75	156	0	**231**	0	174	106	0	**280**	0	**698**
8:00AM	20	15	0	**35**	0	11	30	0	**41**	0	27	25	0	**52**	0	**128**
8:15AM	7	12	0	**19**	0	13	29	0	**42**	0	37	15	0	**52**	0	**113**
8:30AM	24	8	0	**32**	0	16	34	0	**50**	0	31	27	0	**58**	0	**140**
8:45AM	24	16	0	**40**	0	23	22	0	**45**	0	31	26	0	**57**	0	**142**
Hourly Total	75	51	0	**126**	0	63	115	0	**178**	0	126	93	0	**219**	0	**523**
4:00PM	25	20	0	**45**	0	29	58	0	**87**	0	55	25	0	**80**	0	**212**
4:15PM	38	16	0	**54**	0	17	65	0	**82**	0	64	24	0	**88**	0	**224**
4:30PM	34	18	0	**52**	0	20	51	0	**71**	1	55	29	0	**84**	0	**207**
4:45PM	26	28	0	**54**	0	11	37	0	**48**	0	55	39	0	**94**	0	**196**
Hourly Total	123	82	0	**205**	0	77	211	0	**288**	1	229	117	0	**346**	0	**839**
5:00PM	40	28	0	**68**	0	19	60	0	**79**	0	49	33	0	**82**	0	**229**
5:15PM	37	19	0	**56**	0	19	54	0	**73**	1	61	32	0	**93**	0	**222**
5:30PM	36	18	0	**54**	0	28	60	0	**88**	0	47	42	0	**89**	0	**231**
5:45PM	38	36	0	**74**	0	25	48	0	**73**	0	51	24	0	**75**	0	**222**
Hourly Total	151	101	0	**252**	0	91	222	0	**313**	1	208	131	0	**339**	0	**904**
6:00PM	26	23	0	**49**	0	15	50	0	**65**	0	43	19	0	**62**	0	**176**
6:15PM	26	10	0	**36**	0	18	59	0	**77**	0	37	26	0	**63**	0	**176**
6:30PM	19	22	0	**41**	0	20	48	0	**68**	0	41	17	0	**58**	0	**167**
6:45PM	32	22	0	**54**	0	9	36	0	**45**	0	38	16	0	**54**	0	**153**
Hourly Total	103	77	0	**180**	0	62	193	0	**255**	0	159	78	0	**237**	0	**672**
Total	571	480	0	**1051**	0	399	994	0	**1393**	2	980	579	0	**1559**	0	**4003**
% Approach	54.3%	45.7%	0%	**-**	-	28.6%	71.4%	0%	**-**	-	62.9%	37.1%	0%	**-**	-	-
% Total	14.3%	12.0%	0%	**26.3%**	-	10.0%	24.8%	0%	**34.8%**	-	24.5%	14.5%	0%	**38.9%**	-	-
Lights	563	473	0	**1036**	-	391	975	0	**1366**	-	957	574	0	**1531**	-	3933
% Lights	98.6%	98.5%	0%	**98.6%**	-	98.0%	98.1%	0%	**98.1%**	-	97.7%	99.1%	0%	**98.2%**	-	98.3%
Articulated Trucks	0	0	0	**0**	-	0	4	0	**4**	-	3	0	0	**3**	-	7
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0.4%	0%	**0.3%**	-	0.3%	0%	0%	**0.2%**	-	0.2%
Buses and Single-Unit Trucks	8	7	0	**15**	-	8	15	0	**23**	-	20	5	0	**25**	-	63
% Buses and Single-Unit Trucks	1.4%	1.5%	0%	**1.4%**	-	2.0%	1.5%	0%	**1.7%**	-	2.0%	0.9%	0%	**1.6%**	-	1.6%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	2	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Ehlmann Road & Zumbehl Road - TMC

Tue Apr 15, 2025
AM Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285783, Location: 38.80923, -90.538573

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	West Eastbound					South Northbound					North Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2025-04-15 7:00AM	14	60	0	**74**	0	11	34	0	**45**	0	38	17	0	**55**	0	**174**
7:15AM	15	32	0	**47**	0	18	32	0	**50**	0	53	24	0	**77**	0	**174**
7:30AM	17	23	0	**40**	0	25	41	0	**66**	0	47	27	0	**74**	0	**180**
7:45AM	19	7	0	**26**	0	21	49	0	**70**	0	36	38	0	**74**	0	**170**
Total	65	122	0	**187**	0	75	156	0	**231**	0	174	106	0	**280**	0	**698**
% Approach	34.8%	65.2%	0%	**-**	-	32.5%	67.5%	0%	**-**	-	62.1%	37.9%	0%	**-**	-	**-**
% Total	9.3%	17.5%	0%	**26.8%**	-	10.7%	22.3%	0%	**33.1%**	-	24.9%	15.2%	0%	**40.1%**	-	**-**
PHF	0.855	0.508	-	**0.632**	-	0.750	0.796	-	**0.825**	-	0.821	0.697	-	**0.909**	-	0.969
Lights	63	116	0	**179**	-	71	154	0	**225**	-	172	106	0	**278**	-	682
% Lights	96.9%	95.1%	0%	**95.7%**	-	94.7%	98.7%	0%	**97.4%**	-	98.9%	100%	0%	**99.3%**	-	97.7%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	2	6	0	**8**	-	4	2	0	**6**	-	2	0	0	**2**	-	16
% Buses and Single-Unit Trucks	3.1%	4.9%	0%	**4.3%**	-	5.3%	1.3%	0%	**2.6%**	-	1.1%	0%	0%	**0.7%**	-	2.3%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Ehlmann Road & Zumbehl Road - TMC

Tue Apr 15, 2025
PM Peak, Forced Peak (5 PM - 6 PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285783, Location: 38.80923, -90.538573

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg Direction	West Eastbound					South Northbound					North Southbound					
Time	L	R	U	**App**	Ped*	L	T	U	**App**	Ped*	T	R	U	**App**	Ped*	**Int**
2025-04-15 5:00PM	40	28	0	**68**	0	19	60	0	**79**	0	49	33	0	**82**	0	**229**
5:15PM	37	19	0	**56**	0	19	54	0	**73**	1	61	32	0	**93**	0	**222**
5:30PM	36	18	0	**54**	0	28	60	0	**88**	0	47	42	0	**89**	0	**231**
5:45PM	38	36	0	**74**	0	25	48	0	**73**	0	51	24	0	**75**	0	**222**
Total	151	101	0	**252**	0	91	222	0	**313**	1	208	131	0	**339**	0	**904**
% Approach	59.9%	40.1%	0%	**-**	-	29.1%	70.9%	0%	**-**	-	61.4%	38.6%	0%	**-**	-	**-**
% Total	16.7%	11.2%	0%	**27.9%**	-	10.1%	24.6%	0%	**34.6%**	-	23.0%	14.5%	0%	**37.5%**	-	**-**
PHF	0.944	0.701	-	**0.851**	-	0.813	0.925	-	**0.889**	-	0.852	0.780	-	**0.911**	-	0.978
Lights	149	101	0	**250**	-	91	221	0	**312**	-	208	131	0	**339**	-	901
% Lights	98.7%	100%	0%	**99.2%**	-	100%	99.5%	0%	**99.7%**	-	100%	100%	0%	**100%**	-	99.7%
Articulated Trucks	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Articulated Trucks	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Buses and Single-Unit Trucks	2	0	0	**2**	-	0	1	0	**1**	-	0	0	0	**0**	-	3
% Buses and Single-Unit Trucks	1.3%	0%	0%	**0.8%**	-	0%	0.5%	0%	**0.3%**	-	0%	0%	0%	**0%**	-	0.3%
Bicycles on Road	0	0	0	**0**	-	0	0	0	**0**	-	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Elm Point Industrial Drive & Elm Street - TMC

Tue Apr 15, 2025
Full Length (6 AM-9 AM, 4 PM-7 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285784, Location: 38.819386, -90.513231

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Elm Point Industrial Dr						Elm Point Industrial Dr						Elm St						Elm St						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	L	T	R	U	App	Ped*	Int
2025-04-15 6:00AM	25	14	3	0	**42**	0	5	12	17	0	**34**	0	5	52	10	0	**67**	0	29	16	8	0	**53**	0	**196**
6:15AM	23	12	9	0	**44**	0	8	21	13	0	**42**	0	6	70	23	0	**99**	0	42	19	17	0	**78**	0	**263**
6:30AM	35	23	4	0	**62**	1	5	17	32	0	**54**	0	17	68	23	0	**108**	0	44	27	27	0	**98**	0	**322**
6:45AM	45	26	5	0	**76**	0	12	26	40	0	**78**	0	22	76	25	0	**123**	0	71	51	33	0	**155**	0	**432**
Hourly Total	128	75	21	0	**224**	1	30	76	102	0	**208**	0	50	266	81	0	**397**	0	186	113	85	0	**384**	0	**1213**
7:00AM	55	19	14	0	**88**	0	12	29	39	0	**80**	0	19	88	14	0	**121**	0	54	41	24	0	**119**	0	**408**
7:15AM	47	29	8	0	**84**	0	16	40	35	0	**91**	0	17	124	26	0	**167**	0	56	55	24	0	**135**	0	**477**
7:30AM	51	26	7	0	**84**	0	23	46	42	0	**111**	0	25	84	24	0	**133**	0	64	73	30	0	**167**	0	**495**
7:45AM	55	24	13	0	**92**	0	15	33	36	0	**84**	0	38	109	26	0	**173**	0	69	61	34	0	**164**	1	**513**
Hourly Total	208	98	42	0	**348**	0	66	148	152	0	**366**	0	99	405	90	0	**594**	0	243	230	112	0	**585**	1	**1893**
8:00AM	40	29	17	0	**86**	0	12	18	44	0	**74**	0	27	94	22	0	**143**	0	60	60	29	0	**149**	0	**452**
8:15AM	40	30	8	0	**78**	0	16	27	18	0	**61**	0	20	90	19	0	**129**	0	53	41	19	0	**113**	0	**381**
8:30AM	30	18	11	0	**59**	0	10	27	37	0	**74**	0	25	65	6	0	**96**	0	43	54	25	0	**122**	0	**351**
8:45AM	31	19	13	0	**63**	0	9	25	44	0	**78**	0	22	61	19	0	**102**	0	58	40	20	0	**118**	1	**361**
Hourly Total	141	96	49	0	**286**	0	47	97	143	0	**287**	0	94	310	66	0	**470**	0	214	195	93	0	**502**	1	**1545**
4:00PM	34	49	13	0	**96**	0	33	33	64	0	**130**	1	17	65	23	0	**105**	0	54	114	54	0	**222**	0	**553**
4:15PM	53	49	27	0	**129**	1	24	40	53	0	**117**	0	17	82	28	0	**127**	0	65	147	78	0	**290**	3	**663**
4:30PM	39	40	20	0	**99**	0	36	43	66	0	**145**	0	20	79	21	0	**120**	0	64	137	39	0	**240**	0	**604**
4:45PM	41	29	21	0	**91**	3	36	35	52	0	**123**	0	25	69	26	0	**120**	0	57	124	62	0	**243**	0	**577**
Hourly Total	167	167	81	0	**415**	4	129	151	235	0	**515**	1	79	295	98	0	**472**	0	240	522	233	0	**995**	3	**2397**
5:00PM	47	36	33	0	**116**	0	31	49	79	0	**159**	0	23	80	18	0	**121**	0	59	123	55	0	**237**	0	**633**
5:15PM	59	34	27	0	**120**	1	30	42	46	0	**118**	2	23	96	31	0	**150**	1	64	119	59	0	**242**	0	**630**
5:30PM	47	40	30	0	**117**	0	30	33	47	0	**110**	2	24	91	19	0	**134**	0	58	103	42	0	**203**	0	**564**
5:45PM	54	36	32	0	**122**	0	18	32	35	0	**85**	0	18	83	12	0	**113**	0	61	96	50	0	**207**	0	**527**
Hourly Total	207	146	122	0	**475**	1	109	156	207	0	**472**	4	88	350	80	0	**518**	1	242	441	206	0	**889**	0	**2354**
6:00PM	29	39	15	0	**83**	0	26	38	38	0	**102**	0	18	66	25	0	**109**	0	62	88	36	0	**186**	0	**480**
6:15PM	50	45	18	0	**113**	0	19	35	40	0	**94**	0	17	71	16	0	**104**	0	57	84	40	0	**181**	0	**492**
6:30PM	32	27	18	0	**77**	0	11	15	39	0	**65**	1	9	59	12	0	**80**	0	51	74	38	0	**163**	0	**385**
6:45PM	39	35	10	0	**84**	0	11	21	36	0	**68**	0	10	71	18	0	**99**	0	54	84	41	0	**179**	0	**430**
Hourly Total	150	146	61	0	**357**	0	67	109	153	0	**329**	1	54	267	71	0	**392**	0	224	330	155	0	**709**	0	**1787**
Total	1001	728	376	0	**2105**	6	448	737	992	0	**2177**	6	464	1893	486	0	**2843**	1	1349	1831	884	0	**4064**	5	**11189**
% Approach	47.6%	34.6%	17.9%	0%	**-**	-	20.6%	33.9%	45.6%	0%	**-**	-	16.3%	66.6%	17.1%	0%	**-**	-	33.2%	45.1%	21.8%	0%	**-**	-	-
% Total	8.9%	6.5%	3.4%	0%	**18.8%**	-	4.0%	6.6%	8.9%	0%	**19.5%**	-	4.1%	16.9%	4.3%	0%	**25.4%**	-	12.1%	16.4%	7.9%	0%	**36.3%**	-	-
Lights	972	712	371	0	**2055**	-	441	720	928	0	**2089**	-	462	1880	480	0	**2822**	-	1289	1793	852	0	**3934**	-	10900
% Lights	97.1%	97.8%	98.7%	0%	**97.6%**	-	98.4%	97.7%	93.5%	0%	**96.0%**	-	99.6%	99.3%	98.8%	0%	**99.3%**	-	95.6%	97.9%	96.4%	0%	**96.8%**	-	97.4%
Articulated Trucks	10	0	0	0	**10**	-	0	1	39	0	**40**	-	0	0	0	0	**0**	-	23	6	4	0	**33**	-	83
% Articulated Trucks	1.0%	0%	0%	0%	**0.5%**	-	0%	0.1%	3.9%	0%	**1.8%**	-	0%	0%	0%	0%	**0%**	-	1.7%	0.3%	0.5%	0%	**0.8%**	-	0.7%
Buses and Single-Unit Trucks	19	16	5	0	**40**	-	7	15	25	0	**47**	-	2	13	6	0	**21**	-	36	31	28	0	**95**	-	203
% Buses and Single-Unit Trucks	1.9%	2.2%	1.3%	0%	**1.9%**	-	1.6%	2.0%	2.5%	0%	**2.2%**	-	0.4%	0.7%	1.2%	0%	**0.7%**	-	2.7%	1.7%	3.2%	0%	**2.3%**	-	1.8%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	1	1	0	0	**2**	-	3
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0.1%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.1%	0.1%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	6	-	-	-	-	-	6	-	-	-	-	-	1	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	40.0%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	3	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	60.0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Elm Point Industrial Drive & Elm Street - TMC

Tue Apr 15, 2025
Forced Peak (7 AM - 8 AM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285784, Location: 38.819386, -90.513231

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg	Elm Point Industrial Dr						Elm Point Industrial Dr						Elm St						Elm St						
Direction	Eastbound						Westbound						Northbound						Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 7:00AM	55	19	14	0	**88**	0	12	29	39	0	**80**	0	19	88	14	0	**121**	0	54	41	24	0	**119**	0	**408**
7:15AM	47	29	8	0	**84**	0	16	40	35	0	**91**	0	17	124	26	0	**167**	0	56	55	24	0	**135**	0	**477**
7:30AM	51	26	7	0	**84**	0	23	46	42	0	**111**	0	25	84	24	0	**133**	0	64	73	30	0	**167**	0	**495**
7:45AM	55	24	13	0	**92**	0	15	33	36	0	**84**	0	38	109	26	0	**173**	0	69	61	34	0	**164**	1	**513**
Total	208	98	42	0	**348**	0	66	148	152	0	**366**	0	99	405	90	0	**594**	0	243	230	112	0	**585**	1	**1893**
% Approach	59.8%	28.2%	12.1%	0%	**-**	-	18.0%	40.4%	41.5%	0%	**-**	-	16.7%	68.2%	15.2%	0%	**-**	-	41.5%	39.3%	19.1%	0%	**-**	-	-
% Total	11.0%	5.2%	2.2%	0%	**18.4%**	-	3.5%	7.8%	8.0%	0%	**19.3%**	-	5.2%	21.4%	4.8%	0%	**31.4%**	-	12.8%	12.2%	5.9%	0%	**30.9%**	-	-
PHF	0.945	0.845	0.750	-	**0.946**	-	0.717	0.804	0.905	-	**0.824**	-	0.651	0.817	0.865	-	**0.858**	-	0.880	0.788	0.824	-	**0.876**	-	0.923
Lights	196	98	40	0	**334**	-	65	144	129	0	**338**	-	98	405	90	0	**593**	-	231	209	106	0	**546**	-	1811
% Lights	94.2%	100%	95.2%	0%	**96.0%**	-	98.5%	97.3%	84.9%	0%	**92.3%**	-	99.0%	100%	100%	0%	**99.8%**	-	95.1%	90.9%	94.6%	0%	**93.3%**	-	95.7%
Articulated Trucks	5	0	0	0	**5**	-	0	1	14	0	**15**	-	0	0	0	0	**0**	-	3	3	1	0	**7**	-	27
% Articulated Trucks	2.4%	0%	0%	0%	**1.4%**	-	0%	0.7%	9.2%	0%	**4.1%**	-	0%	0%	0%	0%	**0%**	-	1.2%	1.3%	0.9%	0%	**1.2%**	-	1.4%
Buses and Single-Unit Trucks	7	0	2	0	**9**	-	1	3	9	0	**13**	-	1	0	0	0	**1**	-	9	18	5	0	**32**	-	55
% Buses and Single-Unit Trucks	3.4%	0%	4.8%	0%	**2.6%**	-	1.5%	2.0%	5.9%	0%	**3.6%**	-	1.0%	0%	0%	0%	**0.2%**	-	3.7%	7.8%	4.5%	0%	**5.5%**	-	2.9%
Bicycles on Road	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	0
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Elm Point Industrial Drive & Elm Street - TMC

Tue Apr 15, 2025
Forced Peak (5 PM - 6 PM)
All Classes (Lights, Articulated Trucks, Buses and Single-Unit Trucks, Pedestrians, Bicycles on Road, Bicycles on Crosswalk)
All Movements
ID: 1285784, Location: 38.819386, -90.513231

Provided by: Gewalt Hamilton Associates Inc.
625 Forest Edge Drive, Vernon Hills, IL, 60061, US

Leg / Direction	Elm Point Industrial Dr Eastbound						Elm Point Industrial Dr Westbound						Elm St Northbound						Elm St Southbound						
Time	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	L	T	R	U	**App**	Ped*	**Int**
2025-04-15 5:00PM	47	36	33	0	**116**	0	31	49	79	0	**159**	0	23	80	18	0	**121**	0	59	123	55	0	**237**	0	**633**
5:15PM	59	34	27	0	**120**	1	30	42	46	0	**118**	2	23	96	31	0	**150**	1	64	119	59	0	**242**	0	**630**
5:30PM	47	40	30	0	**117**	0	30	33	47	0	**110**	2	24	91	19	0	**134**	0	58	103	42	0	**203**	0	**564**
5:45PM	54	36	32	0	**122**	0	18	32	35	0	**85**	0	18	83	12	0	**113**	0	61	96	50	0	**207**	0	**527**
Total	207	146	122	0	**475**	1	109	156	207	0	**472**	4	88	350	80	0	**518**	1	242	441	206	0	**889**	0	**2354**
% Approach	43.6%	30.7%	25.7%	0%	**-**	-	23.1%	33.1%	43.9%	0%	**-**	-	17.0%	67.6%	15.4%	0%	**-**	-	27.2%	49.6%	23.2%	0%	**-**	-	-
% Total	8.8%	6.2%	5.2%	0%	**20.2%**	-	4.6%	6.6%	8.8%	0%	**20.1%**	-	3.7%	14.9%	3.4%	0%	**22.0%**	-	10.3%	18.7%	8.8%	0%	**37.8%**	-	-
PHF	0.877	0.913	0.924	-	**0.973**	-	0.879	0.791	0.655	-	**0.741**	-	0.917	0.911	0.645	-	**0.863**	-	0.945	0.896	0.873	-	**0.918**	-	0.929
Lights	207	144	122	0	**473**	-	108	155	205	0	**468**	-	88	346	80	0	**514**	-	233	440	204	0	**877**	-	2332
% Lights	100%	98.6%	100%	0%	**99.6%**	-	99.1%	99.4%	99.0%	0%	**99.2%**	-	100%	98.9%	100%	0%	**99.2%**	-	96.3%	99.8%	99.0%	0%	**98.7%**	-	99.1%
Articulated Trucks	0	0	0	0	**0**	-	0	0	1	0	**1**	-	0	0	0	0	**0**	-	3	0	1	0	**4**	-	5
% Articulated Trucks	0%	0%	0%	0%	**0%**	-	0%	0%	0.5%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	1.2%	0%	0.5%	0%	**0.4%**	-	0.2%
Buses and Single-Unit Trucks	0	2	0	0	**2**	-	1	0	1	0	**2**	-	0	4	0	0	**4**	-	6	1	1	0	**8**	-	16
% Buses and Single-Unit Trucks	0%	1.4%	0%	0%	**0.4%**	-	0.9%	0%	0.5%	0%	**0.4%**	-	0%	1.1%	0%	0%	**0.8%**	-	2.5%	0.2%	0.5%	0%	**0.9%**	-	0.7%
Bicycles on Road	0	0	0	0	**0**	-	0	1	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	1
% Bicycles on Road	0%	0%	0%	0%	**0%**	-	0%	0.6%	0%	0%	**0.2%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	4	-	-	-	-	-	1	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

EXISTING (2025) CAPACITY REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	10	40	20	25	5	165	330	40	50	275	295
Future Volume (veh/h)	105	10	40	20	25	5	165	330	40	50	275	295
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	111	11	0	21	26	0	174	347	0	53	289	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Cap, veh/h	188	259		299	167		613	1368		528	1200	
Arrive On Green	0.06	0.16	0.00	0.02	0.09	0.00	0.10	0.39	0.00	0.03	0.32	0.00
Sat Flow, veh/h	2908	1610	1585	1668	1841	0	1781	3647	0	1725	3741	1485
Grp Volume(v), veh/h	111	11	0	21	26	0	174	347	0	53	289	0
Grp Sat Flow(s),veh/h/ln	1454	1610	1585	1668	1841	0	1781	1777	0	1725	1870	1485
Q Serve(g_s), s	1.7	0.3	0.0	0.5	0.6	0.0	2.8	3.1	0.0	1.0	2.7	0.0
Cycle Q Clear(g_c), s	1.7	0.3	0.0	0.5	0.6	0.0	2.8	3.1	0.0	1.0	2.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	188	259		299	167		613	1368		528	1200	
V/C Ratio(X)	0.59	0.04		0.07	0.16		0.28	0.25		0.10	0.24	
Avail Cap(c_a), veh/h	964	310		862	354		880	2585		897	2721	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.3	16.6	0.0	18.9	19.6	0.0	8.1	9.8	0.0	10.1	11.7	0.0
Incr Delay (d2), s/veh	3.0	0.1	0.0	0.1	0.9	0.0	0.3	0.4	0.0	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.2	0.0	0.3	0.5	0.0	1.4	1.8	0.0	0.5	1.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.2	16.7	0.0	19.0	20.5	0.0	8.3	10.2	0.0	10.2	12.2	0.0
LnGrp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		122			47			521			342	
Approach Delay, s/veh		23.5			19.9			9.6			11.9	
Approach LOS		C			B			A			B	

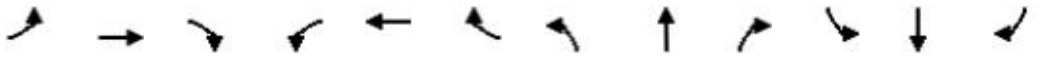
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	24.0	4.2	13.5	8.0	21.0	7.5	10.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	3.0	5.1	2.5	2.3	4.8	4.7	3.7	2.6
Green Ext Time (p_c), s	0.0	6.5	0.0	0.0	0.2	5.4	0.2	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	12.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	105	10	40	20	25	5	165	330	40	50	275	295
Future Volume (veh/h)	105	10	40	20	25	5	165	330	40	50	275	295
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	111	11	0	21	26	0	174	347	0	53	289	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	188	259		299	167		613	1368		528	1200	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.06	0.16	0.00	0.02	0.09	0.00	0.10	0.39	0.00	0.03	0.32	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.2	16.7	0.0	19.0	20.5	0.0	8.3	10.2	0.0	10.2	12.2	0.0
Ln Grp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		122			47			521			342	
Approach Delay, s/veh		23.5			19.9			9.6			11.9	
Approach LOS		C			B			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	5.0	24.0	4.2	13.5	8.0	21.0	7.5	10.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	7.0	3.7	9.1	3.8	7.2
Max Q Clear (g_c+I1), s	3.0	5.1	2.5	2.3	4.8	4.7	3.7	2.6
Green Ext Time (g_e), s	0.0	6.5	0.0	0.0	0.2	5.4	0.2	0.0
Prob of Phs Call (p_c)	0.50	1.00	0.24	0.85	0.90	1.00	0.76	0.53
Prob of Max Out (p_x)	0.00	0.07	0.00	1.00	0.08	0.04	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1725		1668		1781		2908	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1610		3741		1841

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1485		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	53	0	21	0	174	0	111	0
Grp Sat Flow (s), veh/h/ln	1725	0	1668	0	1781	0	1454	0
Q Serve Time (g_s), s	1.0	0.0	0.5	0.0	2.8	0.0	1.7	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	0.5	0.0	2.8	0.0	1.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1001	0	1315	0	1090	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.0	0.0	4.2	0.0	16.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	14.9	0.0	4.2	0.0	12.3	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	528	0	299	0	613	0	188	0
V/C Ratio (X)	0.10	0.00	0.07	0.00	0.28	0.00	0.59	0.00
Avail Cap (c_a), veh/h	897	0	862	0	880	0	964	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.1	0.0	18.9	0.0	8.1	0.0	21.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.3	0.0	3.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.2	0.0	19.0	0.0	8.3	0.0	24.2	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.2	0.0	0.7	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.5	0.0	0.3	0.0	1.4	0.0	1.0	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.08	0.00	0.14	0.00	0.15	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	347	0	11	0	289	0	26
Grp Sat Flow (s), veh/h/ln	0	1777	0	1610	0	1870	0	1841
Q Serve Time (g_s), s	0.0	3.1	0.0	0.3	0.0	2.7	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	0.3	0.0	2.7	0.0	0.6
Lane Grp Cap (c), veh/h	0	1368	0	259	0	1200	0	167
V/C Ratio (X)	0.00	0.25	0.00	0.04	0.00	0.24	0.00	0.16
Avail Cap (c_a), veh/h	0	2585	0	310	0	2721	0	354
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.8	0.0	16.6	0.0	11.7	0.0	19.6
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	0.5	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.2	0.0	16.7	0.0	12.2	0.0	20.5
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.1	0.0	0.9	0.0	0.2

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	0.2	0.0	1.8	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.01	0.00	0.05	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1485	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	255	0	476	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	305	0	1080	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	12.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

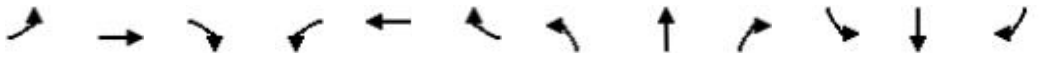
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	1	1	1	5	5	530	2	5	325	5
Future Vol, veh/h	2	1	1	1	1	5	5	530	2	5	325	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	2	2	2	2	25	14	2	2	2	2	2
Mvmt Flow	2	1	1	1	1	5	5	558	2	5	342	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	645	926	174	752	927	280	347	0	0	560	0	0
Stage 1	355	355	-	569	569	-	-	-	-	-	-	-
Stage 2	290	571	-	182	358	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.54	6.94	7.54	6.54	7.4	4.38	-	-	4.14	-	-
Critical Hdwy Stg 1	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	4	4.02	3.32	3.52	4.02	3.55	2.34	-	-	2.22	-	-
Pot Cap-1 Maneuver	275	267	840	299	267	653	1126	-	-	1007	-	-
Stage 1	520	628	-	474	504	-	-	-	-	-	-	-
Stage 2	575	503	-	802	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	268	264	840	294	264	653	1126	-	-	1007	-	-
Mov Cap-2 Maneuver	268	264	-	294	264	-	-	-	-	-	-	-
Stage 1	517	624	-	471	501	-	-	-	-	-	-	-
Stage 2	566	500	-	795	623	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	16.33	12.76	0.12	0.18
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	33	-	-	322	471	53	-	-
HCM Lane V/C Ratio	0.005	-	-	0.013	0.016	0.005	-	-
HCM Control Delay (s/veh)	8.2	0	-	16.3	12.8	8.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	165	65	80	20	425	90	65	235	25
Future Volume (veh/h)	30	40	55	165	65	80	20	425	90	65	235	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	174	68	0	21	447	95	68	247	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	378	292	235	505	465		523	1013	214	410	1208	126
Arrive On Green	0.02	0.15	0.15	0.11	0.24	0.00	0.02	0.35	0.35	0.04	0.37	0.37
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2920	616	1781	3248	339
Grp Volume(v), veh/h	32	42	58	174	68	0	21	271	271	68	134	139
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1759	1781	1777	1809
Q Serve(g_s), s	0.8	0.9	1.6	3.9	1.4	0.0	0.4	6.0	6.0	1.2	2.6	2.6
Cycle Q Clear(g_c), s	0.8	0.9	1.6	3.9	1.4	0.0	0.4	6.0	6.0	1.2	2.6	2.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.35	1.00		0.19
Lane Grp Cap(c), veh/h	378	292	235	505	465		523	616	610	410	661	673
V/C Ratio(X)	0.08	0.14	0.25	0.34	0.15		0.04	0.44	0.44	0.17	0.20	0.21
Avail Cap(c_a), veh/h	744	583	469	714	583		900	1192	1180	743	1192	1214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.8	18.8	19.1	14.0	15.3	0.0	10.5	12.8	12.8	10.3	10.8	10.8
Incr Delay (d2), s/veh	0.1	0.5	1.2	0.4	0.3	0.0	0.0	2.3	2.3	0.2	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.8	1.1	2.5	1.1	0.0	0.2	4.1	4.1	0.7	1.7	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.9	19.3	20.2	14.4	15.6	0.0	10.5	15.0	15.1	10.5	11.5	11.5
LnGrp LOS	B	B	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			242			563			341	
Approach Delay, s/veh		19.4			14.7			14.9			11.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.5	23.6	9.0	12.5	4.3	24.8	4.6	17.0
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.2	8.0	5.9	3.6	2.4	4.6	2.8	3.4
Green Ext Time (p_c), s	0.1	9.6	0.2	0.4	0.0	4.7	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	14.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	165	65	80	20	425	90	65	235	25
Future Volume (veh/h)	30	40	55	165	65	80	20	425	90	65	235	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	174	68	0	21	447	95	68	247	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	378	292	235	505	465		523	1013	214	410	1208	126
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.15	0.15	0.11	0.24	0.00	0.02	0.35	0.35	0.04	0.37	0.37
Unsig. Movement Delay												
Ln Grp Delay, s/veh	17.9	19.3	20.2	14.4	15.6	0.0	10.5	15.0	15.1	10.5	11.5	11.5
Ln Grp LOS	B	B	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			242			563			341	
Approach Delay, s/veh		19.4			14.7			14.9			11.3	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	5.5	23.6	9.0	12.5	4.3	24.8	4.6	17.0
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.6	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.2	8.0	5.9	3.6	2.4	4.6	2.8	3.4
Green Ext Time (g_e), s	0.1	9.6	0.2	0.4	0.0	4.7	0.0	0.3
Prob of Phs Call (p_c)	0.62	1.00	0.91	0.94	0.26	1.00	0.36	0.99
Prob of Max Out (p_x)	0.00	0.28	0.22	0.08	0.00	0.03	0.00	0.09

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2920		1969		3248		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		616		1585		339		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	68	0	174	0	21	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.2	0.0	3.9	0.0	0.4	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	3.9	0.0	0.4	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	864	0	1295	0	1106	0	1333	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.6	0.0	9.5	0.0	17.6	0.0	7.5	0.0
Perm LT Serve Time (g_u), s	11.6	0.0	6.6	0.0	16.2	0.0	7.5	0.0
Perm LT Q Serve Time (g_ps), s	0.5	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	410	0	505	0	523	0	378	0
V/C Ratio (X)	0.17	0.00	0.34	0.00	0.04	0.00	0.08	0.00
Avail Cap (c_a), veh/h	743	0	714	0	900	0	744	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.3	0.0	14.0	0.0	10.5	0.0	17.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.0	0.0	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.5	0.0	14.4	0.0	10.5	0.0	17.9	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.3	0.0	0.1	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.7	0.0	2.5	0.0	0.2	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.64	0.00	0.04	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	271	0	42	0	134	0	68
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	6.0	0.0	0.9	0.0	2.6	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	6.0	0.0	0.9	0.0	2.6	0.0	1.4
Lane Grp Cap (c), veh/h	0	616	0	292	0	661	0	465
V/C Ratio (X)	0.00	0.44	0.00	0.14	0.00	0.20	0.00	0.15
Avail Cap (c_a), veh/h	0	1192	0	583	0	1192	0	583
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.8	0.0	18.8	0.0	10.8	0.0	15.3
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.5	0.0	0.7	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.0	0.0	19.3	0.0	11.5	0.0	15.6
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.4	0.0	0.8	0.0	0.6

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.1	0.0	0.8	0.0	1.7	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.08	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	271	0	58	0	139	0	0
Grp Sat Flow (s), veh/h/ln	0	1759	0	1585	0	1809	0	1585
Q Serve Time (g_s), s	0.0	6.0	0.0	1.6	0.0	2.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.0	0.0	1.6	0.0	2.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.35	0.00	1.00	0.00	0.19	0.00	1.00
Lane Grp Cap (c), veh/h	0	610	0	235	0	673	0	375
V/C Ratio (X)	0.00	0.44	0.00	0.25	0.00	0.21	0.00	0.00
Avail Cap (c_a), veh/h	0	1180	0	469	0	1214	0	469
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.8	0.0	19.1	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	1.2	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.1	0.0	20.2	0.0	11.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.9	0.0	0.5	0.0	0.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.1	0.0	1.1	0.0	1.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.00	0.19	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	14.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	10.3
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	120	75	155	175	105
Future Vol, veh/h	65	120	75	155	175	105
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	126	79	163	184	111
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.4	9.7	11.3
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	63%
Vol Right, %	0%	0%	0%	100%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	75	155	65	120	280
LT Vol	75	0	65	0	0
Through Vol	0	155	0	0	175
RT Vol	0	0	0	120	105
Lane Flow Rate	79	163	68	126	295
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.128	0.241	0.12	0.18	0.403
Departure Headway (Hd)	5.832	5.328	6.331	5.12	4.919
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	612	671	563	695	728
Service Time	3.597	3.093	4.105	2.893	2.977
HCM Lane V/C Ratio	0.129	0.243	0.121	0.181	0.405
HCM Control Delay, s/veh	9.5	9.8	10	9	11.3
HCM Lane LOS	A	A	A	A	B
HCM 95th-tile Q	0.4	0.9	0.4	0.7	2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	100	40	65	150	150	100	405	90	245	230	110
Future Volume (veh/h)	210	100	40	65	150	150	100	405	90	245	230	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	221	105	0	68	158	0	105	426	95	258	242	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Cap, veh/h	359	426		390	277		521	991	420	521	664	
Arrive On Green	0.10	0.22	0.00	0.05	0.14	0.00	0.06	0.27	0.27	0.14	0.34	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1497	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	221	105	0	68	158	0	105	426	95	258	242	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1497	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.5	2.5	0.0	1.8	4.2	0.0	2.4	5.3	2.7	5.4	5.3	0.0
Cycle Q Clear(g_c), s	3.5	2.5	0.0	1.8	4.2	0.0	2.4	5.3	2.7	5.4	5.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	359	426		390	277		521	991	420	521	664	
V/C Ratio(X)	0.61	0.25		0.17	0.57		0.20	0.43	0.23	0.49	0.36	
Avail Cap(c_a), veh/h	1252	426		985	313		924	1256	532	797	664	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.3	18.4	0.0	19.5	22.7	0.0	13.5	17.2	16.3	11.1	14.2	0.0
Incr Delay (d2), s/veh	1.7	0.6	0.0	0.2	4.0	0.0	0.2	1.4	1.2	0.7	1.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	2.0	0.0	1.3	3.8	0.0	1.5	4.0	1.8	3.3	4.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.0	19.0	0.0	19.7	26.7	0.0	13.7	18.6	17.5	11.9	15.7	0.0
LnGrp LOS	C	B		B	C		B	B	B	B	B	
Approach Vol, veh/h		326			226			626			500	
Approach Delay, s/veh		23.7			24.6			17.6			13.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	21.0	6.1	18.3	7.2	25.1	10.4	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	7.4	7.3	3.8	4.5	4.4	7.3	5.5	6.2
Green Ext Time (p_c), s	0.5	5.5	0.1	0.3	0.2	2.6	0.6	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	100	40	65	150	150	100	405	90	245	230	110
Future Volume (veh/h)	210	100	40	65	150	150	100	405	90	245	230	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	221	105	0	68	158	0	105	426	95	258	242	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	359	426		390	277		521	991	420	521	664	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.22	0.00	0.05	0.14	0.00	0.06	0.27	0.27	0.14	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.0	19.0	0.0	19.7	26.7	0.0	13.7	18.6	17.5	11.9	15.7	0.0
Ln Grp LOS	C	B		B	C		B	B	B	B	B	
Approach Vol, veh/h		326			226			626			500	
Approach Delay, s/veh		23.7			24.6			17.6			13.7	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	11.3	21.0	6.1	18.3	7.2	25.1	10.4	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	7.4	7.3	3.8	4.5	4.4	7.3	5.5	6.2
Green Ext Time (g_e), s	0.5	5.5	0.1	0.3	0.2	2.6	0.6	0.3
Prob of Phs Call (p_c)	0.98	1.00	0.66	1.00	0.81	1.00	0.97	0.99
Prob of Max Out (p_x)	0.03	0.79	0.00	1.00	0.00	0.63	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1497

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	258	0	68	0	105	0	221	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.4	0.0	1.8	0.0	2.4	0.0	3.5	0.0
Cycle Q Clear Time (g_c), s	5.4	0.0	1.8	0.0	2.4	0.0	3.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	881	0	1289	0	1138	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.7	0.0	8.0	0.0	13.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	521	0	390	0	521	0	359	0
V/C Ratio (X)	0.49	0.00	0.17	0.00	0.20	0.00	0.61	0.00
Avail Cap (c_a), veh/h	797	0	985	0	924	0	1252	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.1	0.0	19.5	0.0	13.5	0.0	24.3	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.2	0.0	0.2	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.9	0.0	19.7	0.0	13.7	0.0	26.0	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	0.7	0.0	0.8	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.3	0.0	1.3	0.0	1.5	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.64	0.00	0.16	0.00	0.22	0.00	0.36	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	426	0	105	0	242	0	158
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	5.3	0.0	2.5	0.0	5.3	0.0	4.2
Cycle Q Clear Time (g_c), s	0.0	5.3	0.0	2.5	0.0	5.3	0.0	4.2
Lane Grp Cap (c), veh/h	0	991	0	426	0	664	0	277
V/C Ratio (X)	0.00	0.43	0.00	0.25	0.00	0.36	0.00	0.57
Avail Cap (c_a), veh/h	0	1256	0	426	0	664	0	313
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.2	0.0	18.4	0.0	14.2	0.0	22.7
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.6	0.0	1.5	0.0	4.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.6	0.0	19.0	0.0	15.7	0.0	26.7
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	1.0	0.0	2.0	0.0	1.8

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.0	0.0	2.0	0.0	4.1	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.01	0.00	0.15	0.00	0.23
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	95	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1497
Q Serve Time (g_s), s	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	420	0	343	0	534	0	210
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	532	0	343	0	534	0	238
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.22	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	25	125	25	40	5	130	295	25	35	260	265
Future Volume (veh/h)	185	25	125	25	40	5	130	295	25	35	260	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	195	26	0	26	42	0	137	311	0	37	274	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Cap, veh/h	328	411		339	208		558	1267		486	1128	
Arrive On Green	0.10	0.22	0.00	0.02	0.12	0.00	0.08	0.36	0.00	0.02	0.30	0.00
Sat Flow, veh/h	3264	1875	1585	1781	1781	0	1781	3647	0	1697	3741	1422
Grp Volume(v), veh/h	195	26	0	26	42	0	137	311	0	37	274	0
Grp Sat Flow(s),veh/h/ln	1632	1875	1585	1781	1781	0	1781	1777	0	1697	1870	1422
Q Serve(g_s), s	2.8	0.5	0.0	0.6	1.1	0.0	2.5	3.1	0.0	0.7	2.7	0.0
Cycle Q Clear(g_c), s	2.8	0.5	0.0	0.6	1.1	0.0	2.5	3.1	0.0	0.7	2.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	328	411		339	208		558	1267		486	1128	
V/C Ratio(X)	0.59	0.06		0.08	0.20		0.25	0.25		0.08	0.24	
Avail Cap(c_a), veh/h	1345	411		1076	322		829	4214		837	4436	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.4	15.4	0.0	18.9	19.9	0.0	9.7	11.3	0.0	11.6	13.1	0.0
Incr Delay (d2), s/veh	1.7	0.1	0.0	0.1	1.0	0.0	0.2	0.5	0.0	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.8	0.4	0.0	0.4	0.8	0.0	1.4	1.8	0.0	0.4	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.1	15.5	0.0	19.0	20.9	0.0	9.9	11.8	0.0	11.6	13.6	0.0
LnGrp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		221			68			448			311	
Approach Delay, s/veh		22.2			20.2			11.2			13.4	
Approach LOS		C			C			B			B	

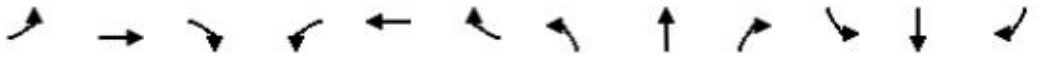
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	23.7	4.4	16.9	7.4	21.0	9.5	11.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	2.7	5.1	2.6	2.5	4.5	4.7	4.8	3.1
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.2	6.1	0.5	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	25	125	25	40	5	130	295	25	35	260	265
Future Volume (veh/h)	185	25	125	25	40	5	130	295	25	35	260	265
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	195	26	0	26	42	0	137	311	0	37	274	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	328	411		339	208		558	1267		486	1128	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.22	0.00	0.02	0.12	0.00	0.08	0.36	0.00	0.02	0.30	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.1	15.5	0.0	19.0	20.9	0.0	9.9	11.8	0.0	11.6	13.6	0.0
Ln Grp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		221			68			448			311	
Approach Delay, s/veh		22.2			20.2			11.2			13.4	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	4.7	23.7	4.4	16.9	7.4	21.0	9.5	11.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	6.9	3.7	9.1	3.7	7.3
Max Q Clear (g_c+I1), s	2.7	5.1	2.6	2.5	4.5	4.7	4.8	3.1
Green Ext Time (g_e), s	0.0	6.9	0.0	0.0	0.2	6.1	0.5	0.1
Prob of Phs Call (p_c)	0.40	1.00	0.30	0.97	0.85	1.00	0.93	0.73
Prob of Max Out (p_x)	0.00	0.00	0.00	1.00	0.04	0.00	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1697		1781		1781		3264	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1875		3741		1781

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1422		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	37	0	26	0	137	0	195	0
Grp Sat Flow (s), veh/h/ln	1697	0	1781	0	1781	0	1632	0
Q Serve Time (g_s), s	0.7	0.0	0.6	0.0	2.5	0.0	2.8	0.0
Cycle Q Clear Time (g_c), s	0.7	0.0	0.6	0.0	2.5	0.0	2.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1018	0	1385	0	1105	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.0	0.0	5.8	0.0	16.2	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	14.7	0.0	5.8	0.0	12.3	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	486	0	339	0	558	0	328	0
V/C Ratio (X)	0.08	0.00	0.08	0.00	0.25	0.00	0.59	0.00
Avail Cap (c_a), veh/h	837	0	1076	0	829	0	1345	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.6	0.0	18.9	0.0	9.7	0.0	21.4	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.2	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.6	0.0	19.0	0.0	9.9	0.0	23.1	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.2	0.0	0.7	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.4	0.0	0.4	0.0	1.4	0.0	1.8	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.10	0.00	0.14	0.00	0.24	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	311	0	26	0	274	0	42
Grp Sat Flow (s), veh/h/ln	0	1777	0	1875	0	1870	0	1781
Q Serve Time (g_s), s	0.0	3.1	0.0	0.5	0.0	2.7	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	0.5	0.0	2.7	0.0	1.1
Lane Grp Cap (c), veh/h	0	1267	0	411	0	1128	0	208
V/C Ratio (X)	0.00	0.25	0.00	0.06	0.00	0.24	0.00	0.20
Avail Cap (c_a), veh/h	0	4214	0	411	0	4436	0	322
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.3	0.0	15.4	0.0	13.1	0.0	19.9
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	0.5	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	15.5	0.0	13.6	0.0	20.9
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.2	0.0	1.0	0.0	0.4

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	0.4	0.0	1.9	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.01	0.00	0.05	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1422	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	348	0	429	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	348	0	1686	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

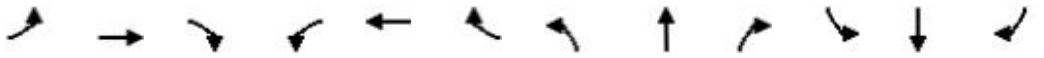
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	1	1	1	1	445	1	1	410	1
Future Vol, veh/h	5	1	10	1	1	1	1	445	1	1	410	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	1	1	1	1	468	1	1	432	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	671	906	216	689	906	235	433	0	0	469	0	0
Stage 1	434	434	-	471	471	-	-	-	-	-	-	-
Stage 2	237	472	-	218	435	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	342	275	788	332	275	767	1123	-	-	1088	-	-
Stage 1	570	579	-	542	558	-	-	-	-	-	-	-
Stage 2	745	558	-	764	579	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	340	274	788	325	274	767	1123	-	-	1088	-	-
Mov Cap-2 Maneuver	340	274	-	325	274	-	-	-	-	-	-	-
Stage 1	570	579	-	542	557	-	-	-	-	-	-	-
Stage 2	742	557	-	751	578	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.23	14.71	0.03	0.03
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	515	374	9	-	-
HCM Lane V/C Ratio	0.001	-	-	0.033	0.008	0.001	-	-
HCM Control Delay (s/veh)	8.2	0	-	12.2	14.7	8.3	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	165	70	45	50	375	235	80	305	35
Future Volume (veh/h)	25	70	35	165	70	45	50	375	235	80	305	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	174	74	0	53	395	247	84	321	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	330	261	210	447	444		539	847	523	413	1344	154
Arrive On Green	0.02	0.13	0.13	0.11	0.23	0.00	0.03	0.40	0.40	0.05	0.42	0.42
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2110	1303	1781	3214	368
Grp Volume(v), veh/h	26	74	37	174	74	0	53	332	310	84	176	182
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1636	1781	1777	1804
Q Serve(g_s), s	0.7	2.0	1.2	4.6	1.8	0.0	1.0	8.0	8.2	1.6	3.7	3.8
Cycle Q Clear(g_c), s	0.7	2.0	1.2	4.6	1.8	0.0	1.0	8.0	8.2	1.6	3.7	3.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.20
Lane Grp Cap(c), veh/h	330	261	210	447	444		539	714	657	413	743	755
V/C Ratio(X)	0.08	0.28	0.18	0.39	0.17		0.10	0.47	0.47	0.20	0.24	0.24
Avail Cap(c_a), veh/h	802	674	543	753	674		835	1338	1232	680	1338	1359
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	22.8	22.5	17.1	18.2	0.0	9.8	12.9	12.9	10.0	11.0	11.0
Incr Delay (d2), s/veh	0.1	1.3	0.8	0.6	0.4	0.0	0.1	2.2	2.4	0.2	0.8	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	1.7	0.8	3.2	1.4	0.0	0.6	5.4	5.2	0.9	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.5	24.1	23.4	17.6	18.6	0.0	9.9	15.0	15.3	10.2	11.7	11.7
LnGrp LOS	C	C	C	B	B		A	B	B	B	B	B
Approach Vol, veh/h		137			248			695			442	
Approach Delay, s/veh		23.4			17.9			14.8			11.4	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	29.5	10.0	12.7	5.3	30.4	4.5	18.2
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Q Clear Time (g_c+I1), s	3.6	10.2	6.6	4.0	3.0	5.8	2.7	3.8
Green Ext Time (p_c), s	0.1	13.3	0.3	0.7	0.0	7.0	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	15.1
HCM 7th LOS	B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	165	70	45	50	375	235	80	305	35
Future Volume (veh/h)	25	70	35	165	70	45	50	375	235	80	305	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	174	74	0	53	395	247	84	321	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	330	261	210	447	444		539	847	523	413	1344	154
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.13	0.13	0.11	0.23	0.00	0.03	0.40	0.40	0.05	0.42	0.42
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.5	24.1	23.4	17.6	18.6	0.0	9.9	15.0	15.3	10.2	11.7	11.7
Ln Grp LOS	C	C	C	B	B		A	B	B	B	B	B
Approach Vol, veh/h		137			248			695			442	
Approach Delay, s/veh		23.4			17.9			14.8			11.4	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	6.2	29.5	10.0	12.7	5.3	30.4	4.5	18.2
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.8	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.6	10.2	6.6	4.0	3.0	5.8	2.7	3.8
Green Ext Time (g_e), s	0.1	13.3	0.3	0.7	0.0	7.0	0.0	0.5
Prob of Phs Call (p_c)	0.74	1.00	0.94	0.97	0.58	1.00	0.34	1.00
Prob of Max Out (p_x)	0.01	0.24	0.01	0.01	0.00	0.02	0.00	0.01

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2110		1969		3214		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1303		1585		368		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	84	0	174	0	53	0	26	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.6	0.0	4.6	0.0	1.0	0.0	0.7	0.0
Cycle Q Clear Time (g_c), s	1.6	0.0	4.6	0.0	1.0	0.0	0.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	787	0	1282	0	1023	0	1326	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.5	0.0	9.7	0.0	23.5	0.0	7.7	0.0
Perm LT Serve Time (g_u), s	15.3	0.0	5.8	0.0	20.6	0.0	7.7	0.0
Perm LT Q Serve Time (g_ps), s	1.0	0.0	0.6	0.0	0.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	413	0	447	0	539	0	330	0
V/C Ratio (X)	0.20	0.00	0.39	0.00	0.10	0.00	0.08	0.00
Avail Cap (c_a), veh/h	680	0	753	0	835	0	802	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.0	0.0	17.1	0.0	9.8	0.0	21.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.6	0.0	0.1	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.2	0.0	17.6	0.0	9.9	0.0	21.5	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	1.7	0.0	0.3	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.9	0.0	3.2	0.0	0.6	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.81	0.00	0.10	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	332	0	74	0	176	0	74
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	8.0	0.0	2.0	0.0	3.7	0.0	1.8
Cycle Q Clear Time (g_c), s	0.0	8.0	0.0	2.0	0.0	3.7	0.0	1.8
Lane Grp Cap (c), veh/h	0	714	0	261	0	743	0	444
V/C Ratio (X)	0.00	0.47	0.00	0.28	0.00	0.24	0.00	0.17
Avail Cap (c_a), veh/h	0	1338	0	674	0	1338	0	674
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	22.8	0.0	11.0	0.0	18.2
Incr Delay (d2), s/veh	0.0	2.2	0.0	1.3	0.0	0.8	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.0	0.0	24.1	0.0	11.7	0.0	18.6
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	0.9	0.0	1.2	0.0	0.7

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.4	0.0	1.7	0.0	2.4	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.18	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	310	0	37	0	182	0	0
Grp Sat Flow (s), veh/h/ln	0	1636	0	1585	0	1804	0	1585
Q Serve Time (g_s), s	0.0	8.2	0.0	1.2	0.0	3.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.2	0.0	1.2	0.0	3.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.80	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	657	0	210	0	755	0	358
V/C Ratio (X)	0.00	0.47	0.00	0.18	0.00	0.24	0.00	0.00
Avail Cap (c_a), veh/h	0	1232	0	543	0	1359	0	543
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	22.5	0.0	11.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.4	0.0	0.8	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.3	0.0	23.4	0.0	11.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.4	0.0	1.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	5.2	0.0	0.8	0.0	2.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.14	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.1
HCM 7th LOS	B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	12.5
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	150	100	90	220	210	130
Future Vol, veh/h	150	100	90	220	210	130
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	158	105	95	232	221	137
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	11.3	11.5	14.4
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	62%
Vol Right, %	0%	0%	0%	100%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	90	220	150	100	340
LT Vol	90	0	150	0	0
Through Vol	0	220	0	0	210
RT Vol	0	0	0	100	130
Lane Flow Rate	95	232	158	105	358
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.166	0.373	0.3	0.164	0.535
Departure Headway (Hd)	6.303	5.797	6.836	5.62	5.377
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	570	621	526	639	673
Service Time	4.032	3.526	4.569	3.352	3.403
HCM Lane V/C Ratio	0.167	0.374	0.3	0.164	0.532
HCM Control Delay, s/veh	10.3	12	12.5	9.5	14.4
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	0.6	1.7	1.3	0.6	3.2



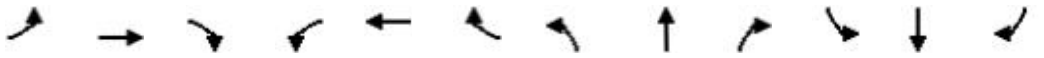
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	145	120	110	155	205	90	350	80	240	440	205
Future Volume (veh/h)	205	145	120	110	155	205	90	350	80	240	440	205
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	216	153	0	116	163	0	95	368	84	253	463	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	359		407	280		364	998	423	543	675	
Arrive On Green	0.10	0.18	0.00	0.08	0.14	0.00	0.06	0.27	0.27	0.13	0.34	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1585	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	216	153	0	116	163	0	95	368	84	253	463	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1585	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.4	3.9	0.0	3.1	4.4	0.0	2.1	4.5	2.3	5.2	11.4	0.0
Cycle Q Clear(g_c), s	3.4	3.9	0.0	3.1	4.4	0.0	2.1	4.5	2.3	5.2	11.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	348	359		407	280		364	998	423	543	675	
V/C Ratio(X)	0.62	0.43		0.28	0.58		0.26	0.37	0.20	0.47	0.69	
Avail Cap(c_a), veh/h	953	1015		791	1015		781	1264	536	826	675	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.3	20.4	0.0	18.3	22.6	0.0	14.0	16.8	16.0	10.9	15.9	0.0
Incr Delay (d2), s/veh	1.8	1.7	0.0	0.4	4.1	0.0	0.4	1.0	1.1	0.6	5.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	3.2	0.0	2.1	3.9	0.0	1.4	3.3	1.5	3.2	9.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.1	22.1	0.0	18.7	26.6	0.0	14.4	17.8	17.0	11.5	21.5	0.0
LnGrp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		369			279			547			716	
Approach Delay, s/veh		24.4			23.3			17.1			18.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.1	21.0	7.9	16.3	6.8	25.3	10.2	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Q Clear Time (g_c+I1), s	7.2	6.5	5.1	5.9	4.1	13.4	5.4	6.4
Green Ext Time (p_c), s	0.5	5.0	0.2	1.4	0.2	2.9	0.5	1.5

Intersection Summary	
HCM 7th Control Delay, s/veh	19.7
HCM 7th LOS	B

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	205	145	120	110	155	205	90	350	80	240	440	205
Future Volume (veh/h)	205	145	120	110	155	205	90	350	80	240	440	205
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	216	153	0	116	163	0	95	368	84	253	463	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	348	359		407	280		364	998	423	543	675	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.18	0.00	0.08	0.14	0.00	0.06	0.27	0.27	0.13	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.1	22.1	0.0	18.7	26.6	0.0	14.4	17.8	17.0	11.5	21.5	0.0
Ln Grp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		369			279			547			716	
Approach Delay, s/veh		24.4			23.3			17.1			18.0	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	11.1	21.0	7.9	16.3	6.8	25.3	10.2	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	7.2	6.5	5.1	5.9	4.1	13.4	5.4	6.4
Green Ext Time (g_e), s	0.5	5.0	0.2	1.4	0.2	2.9	0.5	1.5
Prob of Phs Call (p_c)	0.98	1.00	0.84	1.00	0.77	1.00	0.97	1.00
Prob of Max Out (p_x)	0.02	0.69	0.00	0.00	0.00	1.00	0.00	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	253	0	116	0	95	0	216	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.2	0.0	3.1	0.0	2.1	0.0	3.4	0.0
Cycle Q Clear Time (g_c), s	5.2	0.0	3.1	0.0	2.1	0.0	3.4	0.0
Perm LT Sat Flow (s_l), veh/h/ln	939	0	1234	0	929	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	10.5	0.0	6.4	0.0	7.9	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.4	0.0	0.2	0.0	0.8	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	543	0	407	0	364	0	348	0
V/C Ratio (X)	0.47	0.00	0.28	0.00	0.26	0.00	0.62	0.00
Avail Cap (c_a), veh/h	826	0	791	0	781	0	953	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.9	0.0	18.3	0.0	14.0	0.0	24.3	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.4	0.0	0.4	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.5	0.0	18.7	0.0	14.4	0.0	26.1	0.0
1st-Term Q (Q1), veh/ln	1.7	0.0	1.1	0.0	0.7	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.2	0.0	2.1	0.0	1.4	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.62	0.00	0.27	0.00	0.20	0.00	0.35	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	368	0	153	0	463	0	163
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	4.5	0.0	3.9	0.0	11.4	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	4.5	0.0	3.9	0.0	11.4	0.0	4.4
Lane Grp Cap (c), veh/h	0	998	0	359	0	675	0	280
V/C Ratio (X)	0.00	0.37	0.00	0.43	0.00	0.69	0.00	0.58
Avail Cap (c_a), veh/h	0	1264	0	1015	0	675	0	1015
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	16.8	0.0	20.4	0.0	15.9	0.0	22.6
Incr Delay (d2), s/veh	0.0	1.0	0.0	1.7	0.0	5.6	0.0	4.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.8	0.0	22.1	0.0	21.5	0.0	26.6
1st-Term Q (Q1), veh/ln	0.0	1.7	0.0	1.6	0.0	4.3	0.0	1.8

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.2	0.0	1.1	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.71	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	3.3	0.0	3.2	0.0	9.2	0.0	3.9
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.01	0.00	0.34	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	84	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	423	0	289	0	543	0	225
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	536	0	818	0	543	0	818
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	19.7
HCM 7th LOS	B

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

TURN LANE WARRANTS

Harry S. Truman Boulevard / Truman Industrial Boulevard - Access A
Construction Peak (2030)
Right-Warranted

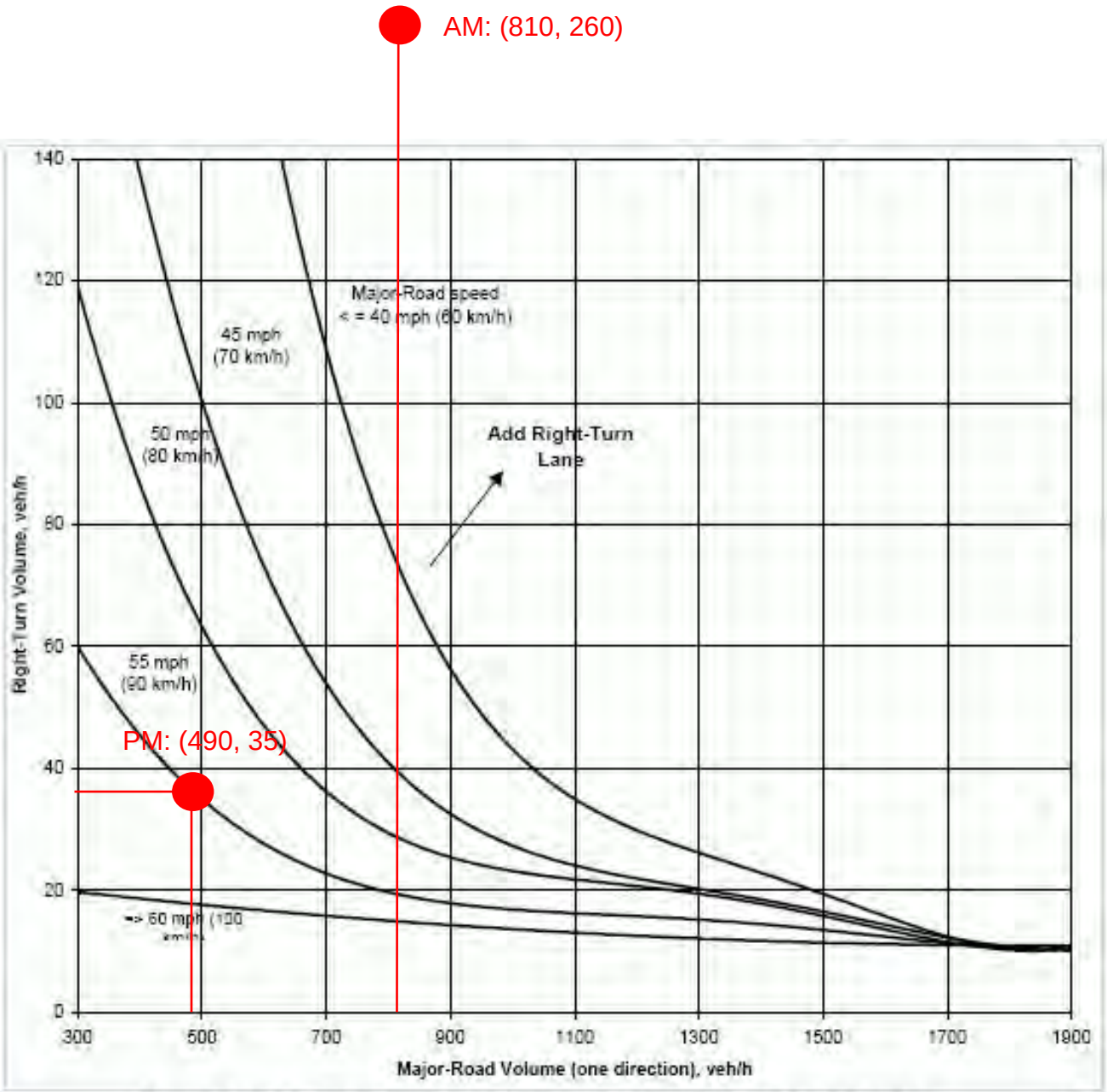


Figure 940.9.9, Right Turn Lane Guidelines for Four-Lane Roadways

Harry S. Truman Boulevard / Truman Industrial Boulevard - Access A
Short Term (2032)
Right-Warranted

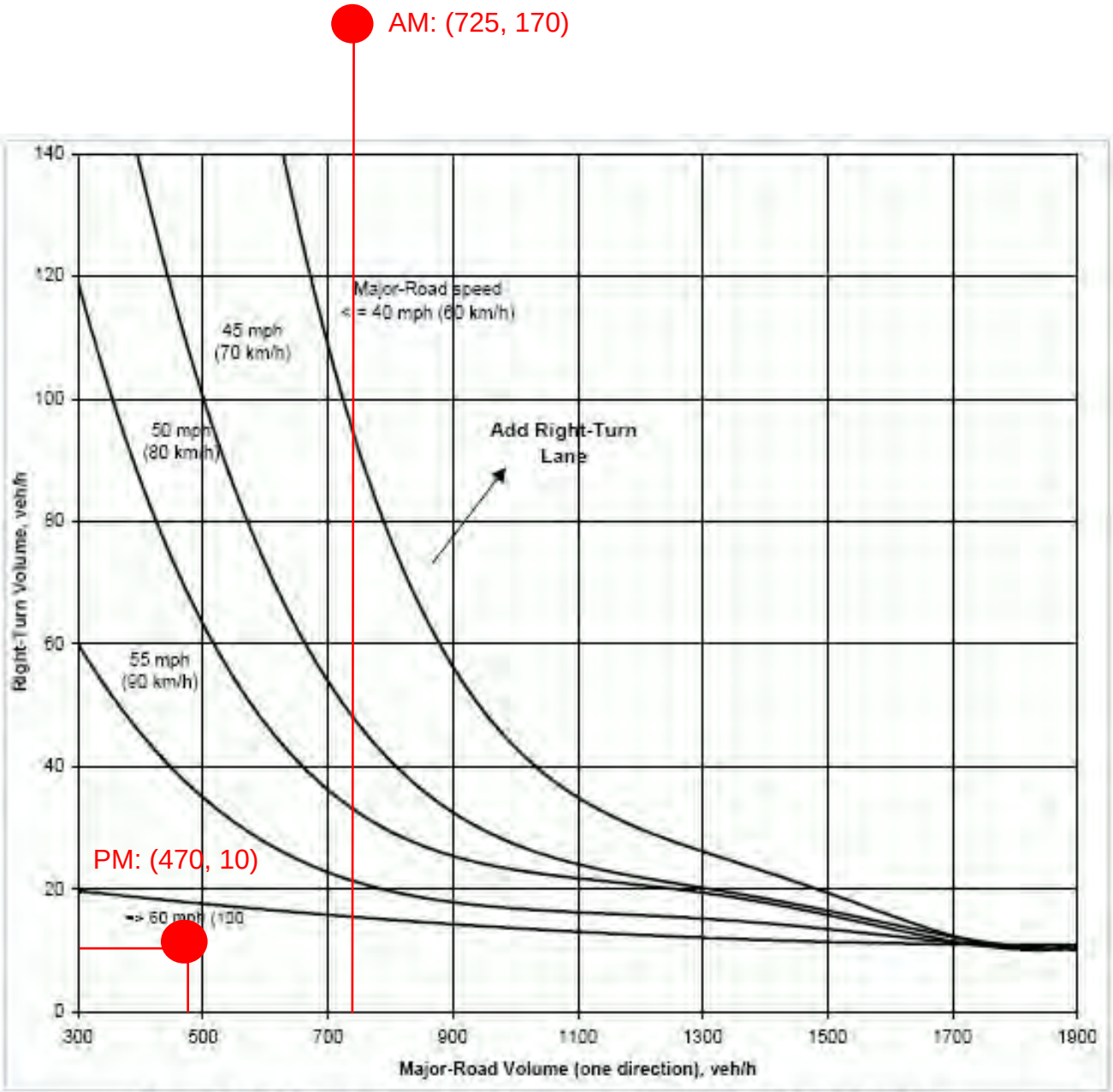


Figure 940.9.9, Right Turn Lane Guidelines for Four-Lane Roadways

Harry S. Truman Boulevard / Truman Industrial Boulevard - Access A
Horizon Year (2050)
Right-Warranted

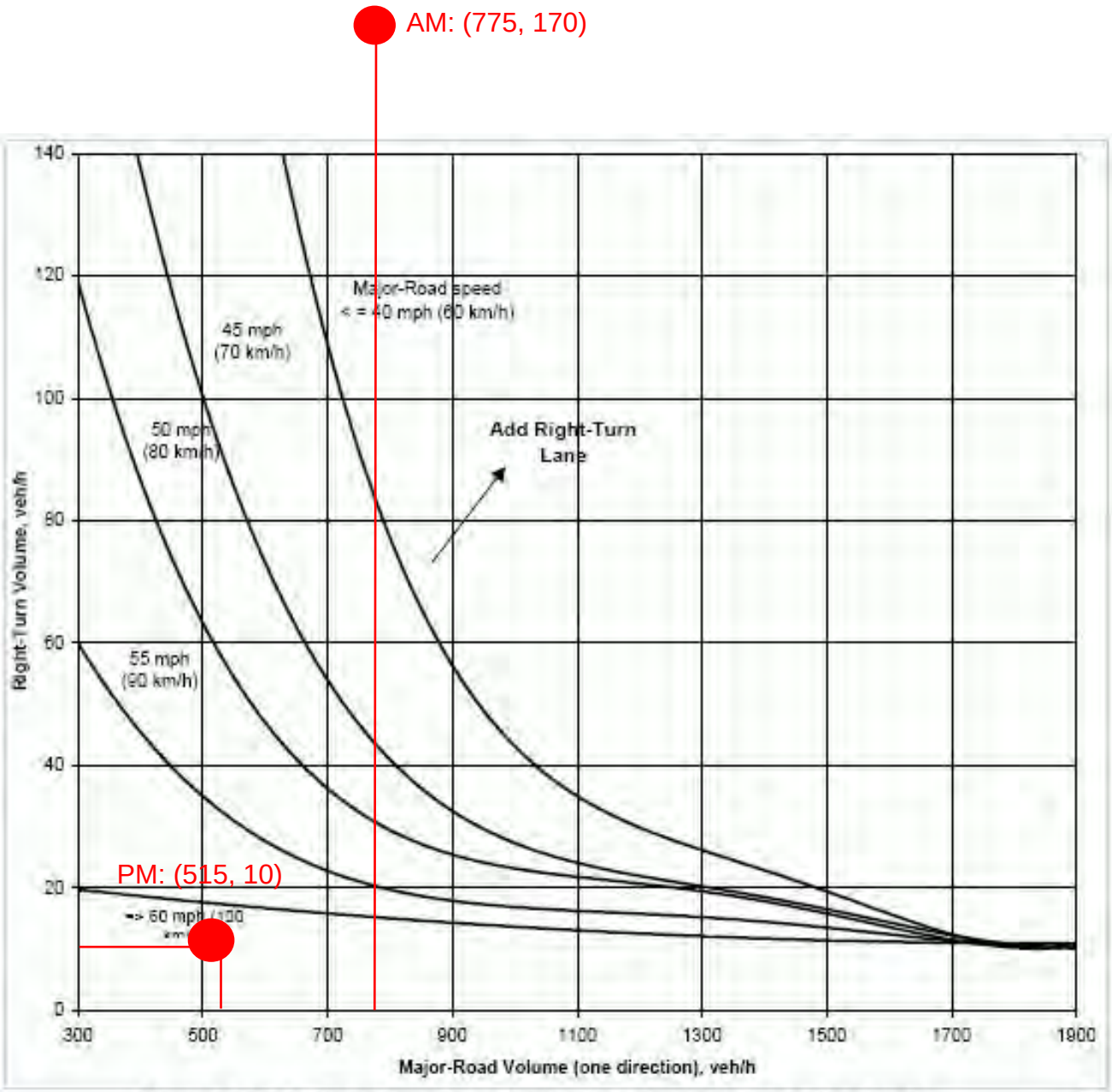


Figure 940.9.9, Right Turn Lane Guidelines for Four-Lane Roadways

Harry S. Truman Boulevard / Truman Industrial Boulevard - Access A
Construction Peak (2030)
Left- Warranted

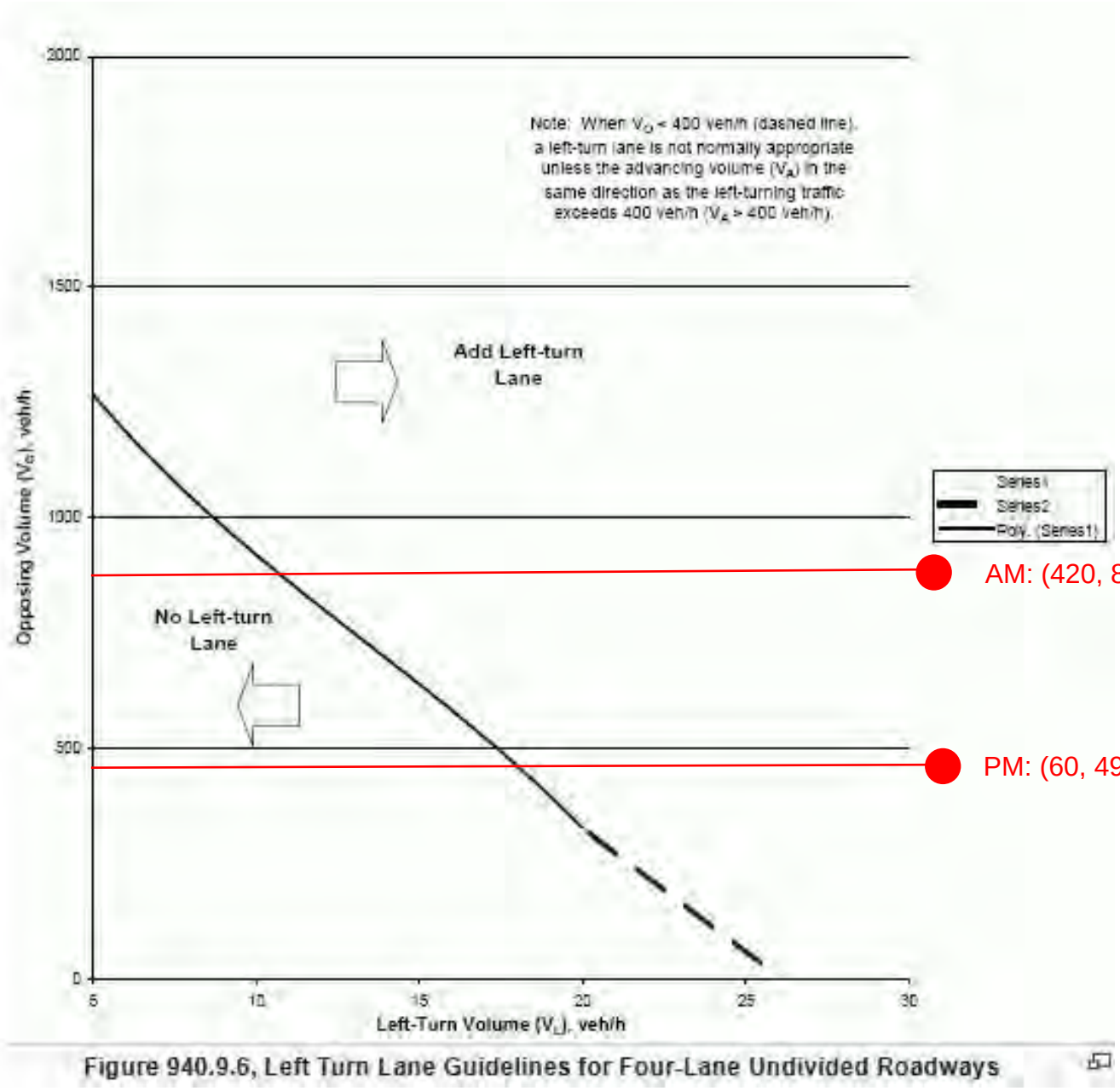


Figure 940.9.6, Left Turn Lane Guidelines for Four-Lane Undivided Roadways

Harry S. Truman Boulevard / Truman Industrial Boulevard - Access A
Short Term (2032)
Left- Warranted

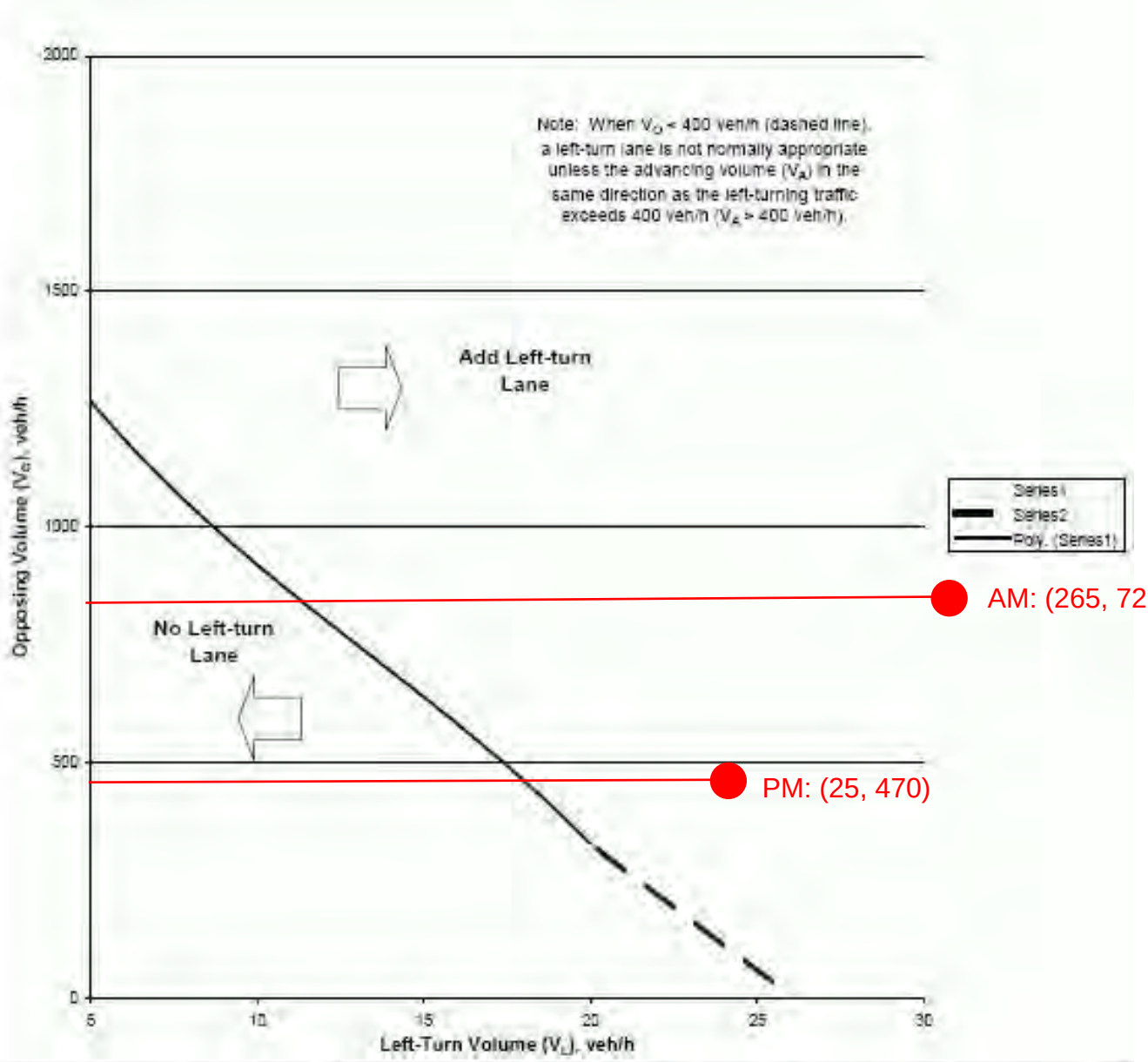


Figure 940.9.6, Left Turn Lane Guidelines for Four-Lane Undivided Roadways

Harry S. Truman Boulevard / Truman Industrial Boulevard - Access A
Horizon (2050)
Left- Warranted

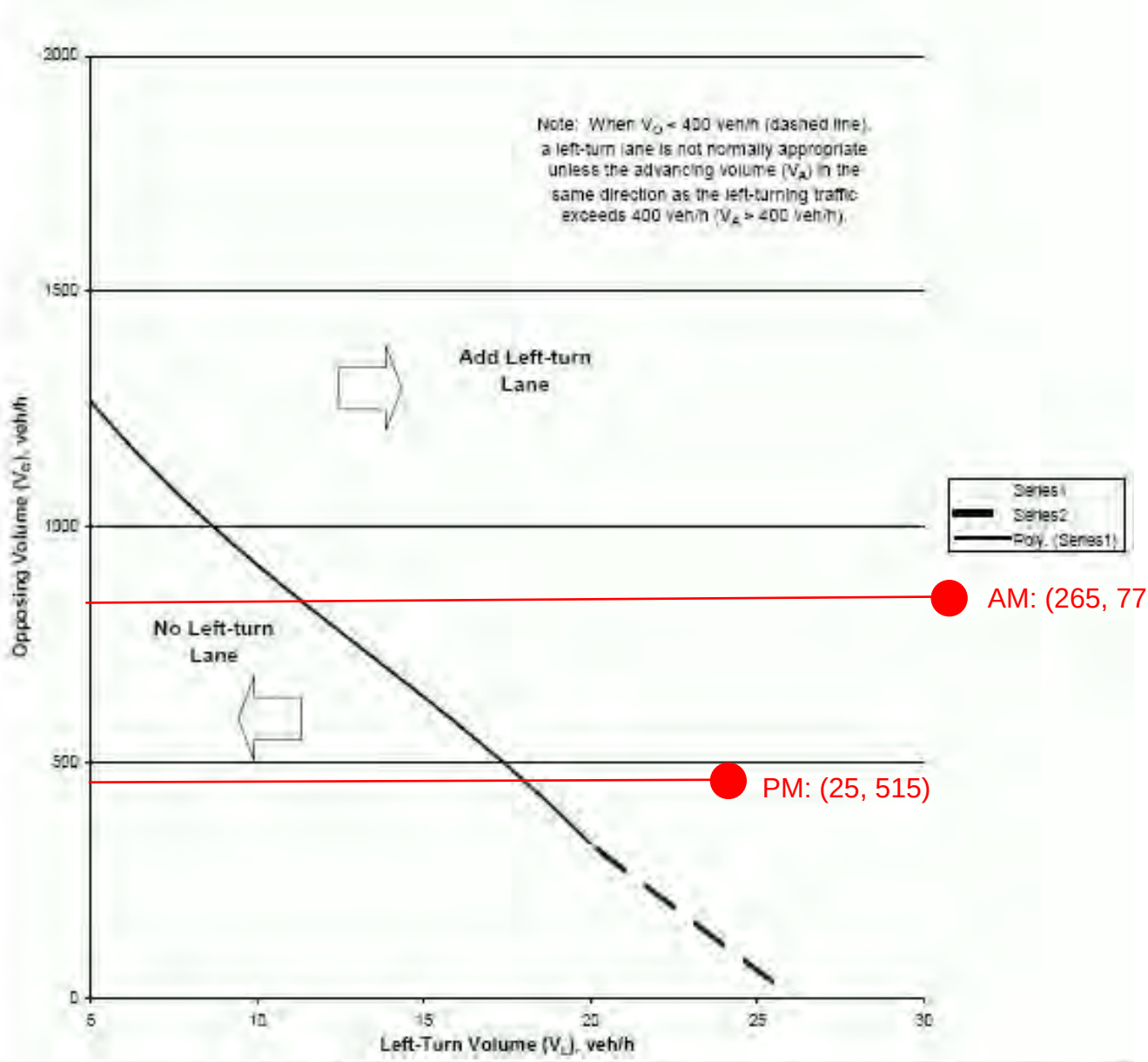


Figure 940.9.6, Left Turn Lane Guidelines for Four-Lane Undivided Roadways

Harry S. Truman Boulevard / Ehlmann Road
Existing 2025
Right-Warranted

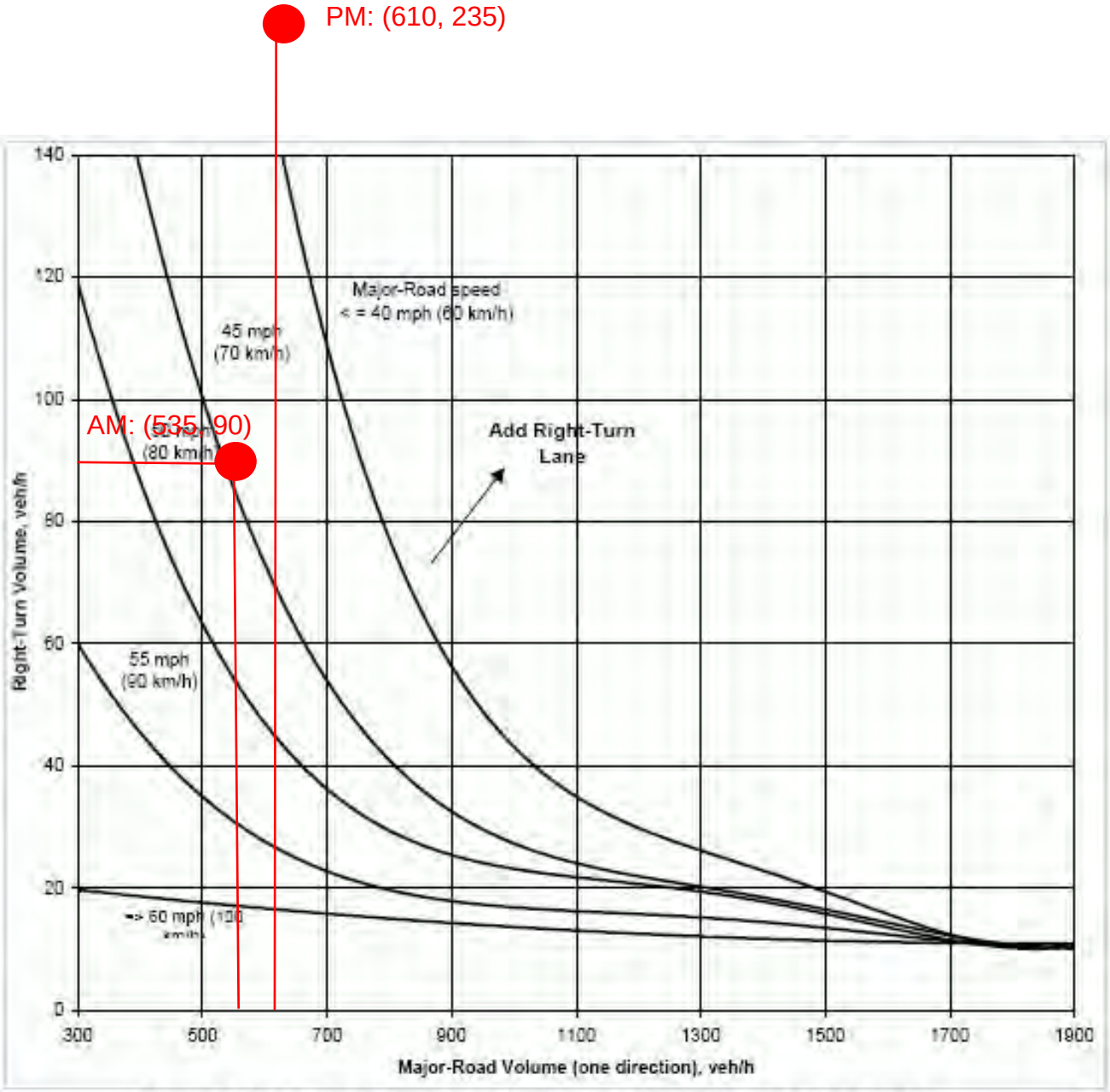


Figure 940.9.9, Right Turn Lane Guidelines for Four-Lane Roadways

Ehlmann Road / Zumbehl Road
Existing 2025
Right - Not Warranted

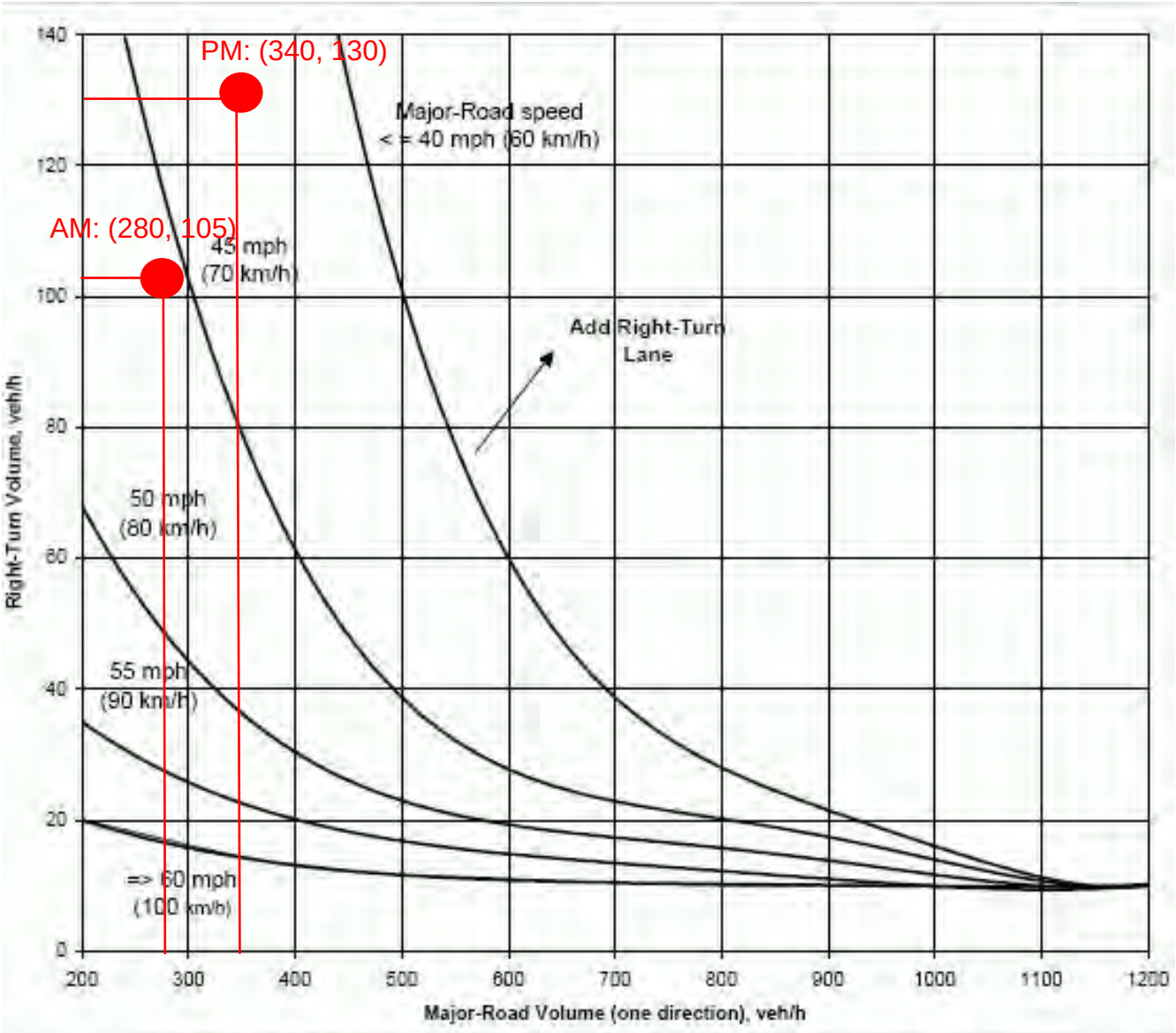


Figure 940.9.8 Right Turn Lane Guidelines for Two-Lane Roadways

Ehlmann Road / Zumbehl Road
Construction Peak (2030)
Right - Not Warranted

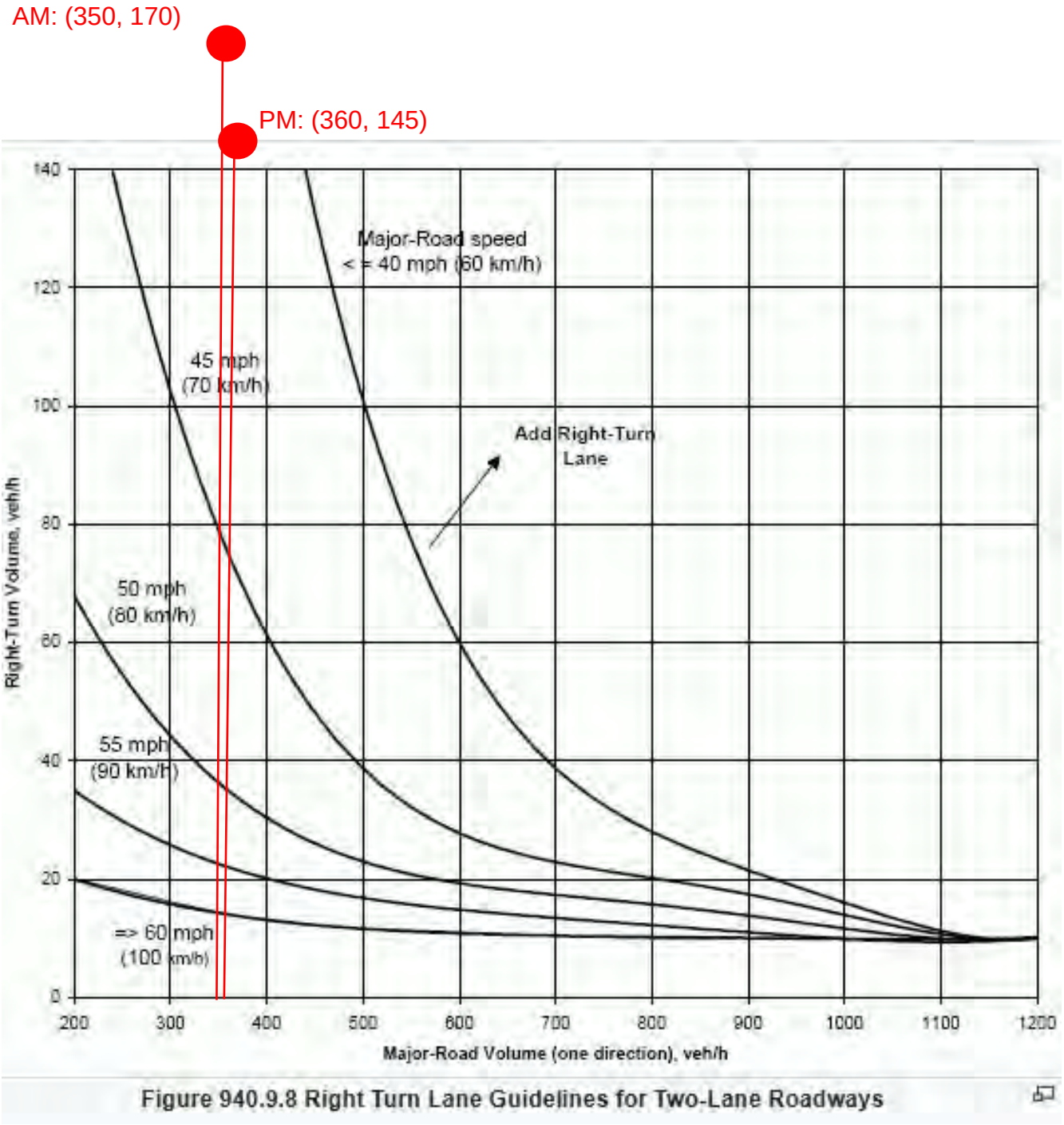


Figure 940.9.8 Right Turn Lane Guidelines for Two-Lane Roadways

Ehlmann Road / Zumbehl Road
Horizon (2050)
Right - Not Warranted

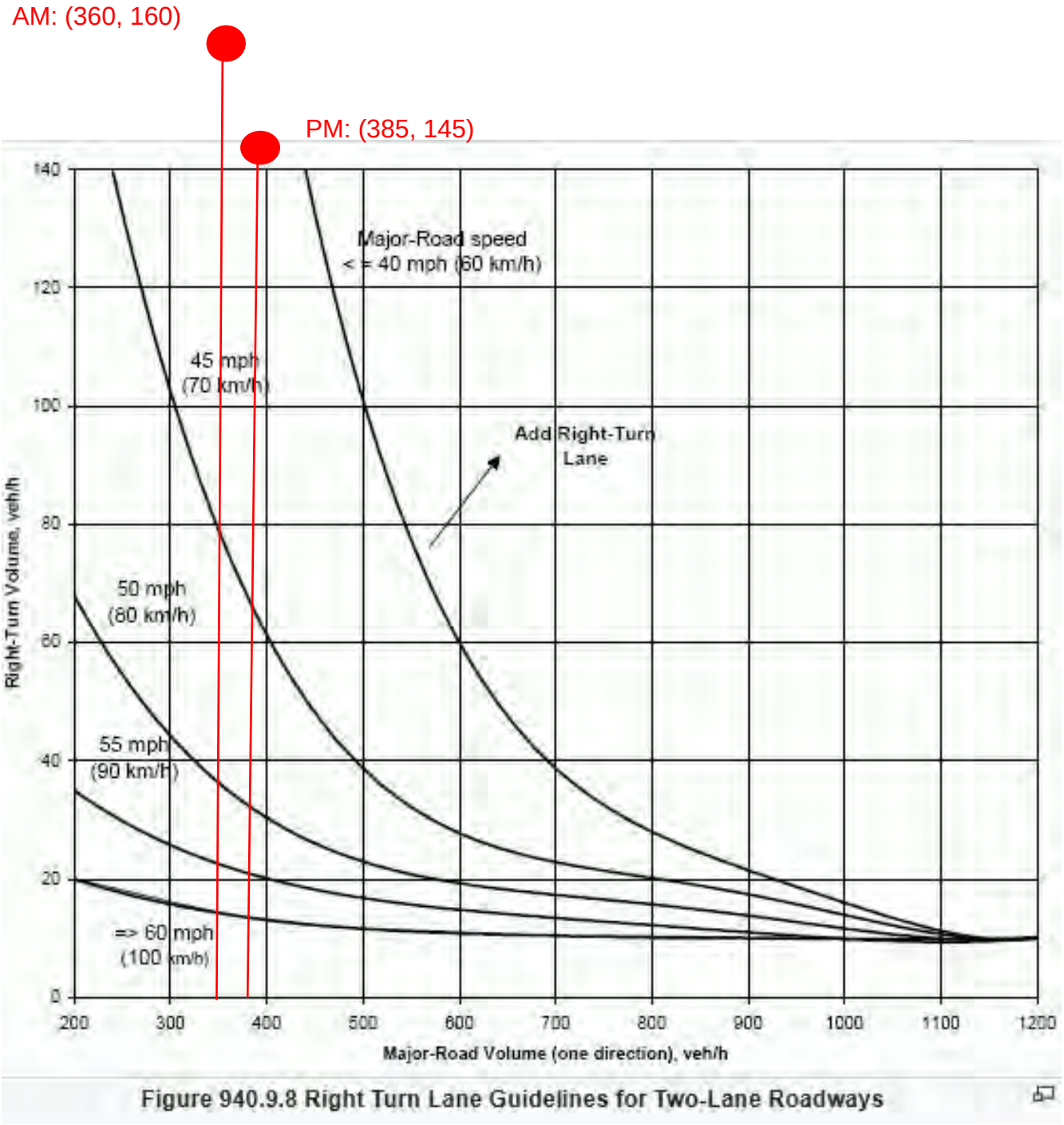


Figure 940.9.8 Right Turn Lane Guidelines for Two-Lane Roadways

CONSTRUCTION PEAK (2030) CAPACITY REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	45	20	25	5	170	400	40	50	695	300
Future Volume (veh/h)	110	10	45	20	25	5	170	400	40	50	695	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	116	11	0	21	26	0	179	421	0	53	732	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Cap, veh/h	191	246		264	156		474	1654		548	1530	
Arrive On Green	0.07	0.15	0.00	0.01	0.08	0.00	0.09	0.47	0.00	0.03	0.41	0.00
Sat Flow, veh/h	2908	1610	1585	1668	1841	0	1781	3647	0	1725	3741	1485
Grp Volume(v), veh/h	116	11	0	21	26	0	179	421	0	53	732	0
Grp Sat Flow(s),veh/h/ln	1454	1610	1585	1668	1841	0	1781	1777	0	1725	1870	1485
Q Serve(g_s), s	2.2	0.3	0.0	0.6	0.7	0.0	3.0	4.1	0.0	1.0	8.1	0.0
Cycle Q Clear(g_c), s	2.2	0.3	0.0	0.6	0.7	0.0	3.0	4.1	0.0	1.0	8.1	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	191	246		264	156		474	1654		548	1530	
V/C Ratio(X)	0.61	0.04		0.08	0.17		0.38	0.25		0.10	0.48	
Avail Cap(c_a), veh/h	798	256		726	293		682	2138		847	2251	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.7	20.4	0.0	23.2	24.0	0.0	8.2	9.2	0.0	9.2	12.3	0.0
Incr Delay (d2), s/veh	3.1	0.2	0.0	0.1	1.1	0.0	0.5	0.4	0.0	0.1	1.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	0.2	0.0	0.4	0.6	0.0	1.6	2.3	0.0	0.6	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	28.8	20.6	0.0	23.3	25.1	0.0	8.7	9.5	0.0	9.2	13.3	0.0
LnGrp LOS	C	C		C	C		A	A		A	B	
Approach Vol, veh/h		127			47			600			785	
Approach Delay, s/veh		28.1			24.3			9.3			13.1	
Approach LOS		C			C			A			B	

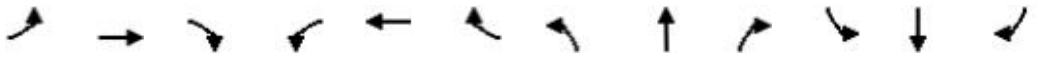
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	32.3	4.3	14.6	8.4	29.1	8.2	10.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	13.0	6.1	2.6	2.3	5.0	10.1	4.2	2.7
Green Ext Time (p_c), s	0.0	7.9	0.0	0.0	0.2	13.0	0.2	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	45	20	25	5	170	400	40	50	695	300
Future Volume (veh/h)	110	10	45	20	25	5	170	400	40	50	695	300
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	116	11	0	21	26	0	179	421	0	53	732	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	191	246		264	156		474	1654		548	1530	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.15	0.00	0.01	0.08	0.00	0.09	0.47	0.00	0.03	0.41	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	28.8	20.6	0.0	23.3	25.1	0.0	8.7	9.5	0.0	9.2	13.3	0.0
Ln Grp LOS	C	C		C	C		A	A		A	B	
Approach Vol, veh/h		127			47			600			785	
Approach Delay, s/veh		28.1			24.3			9.3			13.1	
Approach LOS		C			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	5.2	32.3	4.3	14.6	8.4	29.1	8.2	10.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	7.0	3.7	9.1	3.8	7.2
Max Q Clear (g_c+I1), s	3.0	6.1	2.6	2.3	5.0	10.1	4.2	2.7
Green Ext Time (g_e), s	0.0	7.9	0.0	0.0	0.2	13.0	0.2	0.0
Prob of Phs Call (p_c)	0.56	1.00	0.28	0.91	0.94	1.00	0.84	0.60
Prob of Max Out (p_x)	0.00	0.12	0.00	1.00	0.10	0.49	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1725		1668		1781		2908	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1610		3741		1841

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1485		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	53	0	21	0	179	0	116	0
Grp Sat Flow (s), veh/h/ln	1725	0	1668	0	1781	0	1454	0
Q Serve Time (g_s), s	1.0	0.0	0.6	0.0	3.0	0.0	2.2	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	0.6	0.0	3.0	0.0	2.2	0.0
Perm LT Sat Flow (s_l), veh/h/ln	935	0	1315	0	724	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.1	0.0	4.8	0.0	24.8	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	22.2	0.0	4.8	0.0	15.0	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.1	0.0	0.0	0.0	3.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	548	0	264	0	474	0	191	0
V/C Ratio (X)	0.10	0.00	0.08	0.00	0.38	0.00	0.61	0.00
Avail Cap (c_a), veh/h	847	0	726	0	682	0	798	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	9.2	0.0	23.2	0.0	8.2	0.0	25.7	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.5	0.0	3.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	9.2	0.0	23.3	0.0	8.7	0.0	28.8	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.2	0.0	0.8	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.6	0.0	0.4	0.0	1.6	0.0	1.4	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.11	0.00	0.16	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	421	0	11	0	732	0	26
Grp Sat Flow (s), veh/h/ln	0	1777	0	1610	0	1870	0	1841
Q Serve Time (g_s), s	0.0	4.1	0.0	0.3	0.0	8.1	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	4.1	0.0	0.3	0.0	8.1	0.0	0.7
Lane Grp Cap (c), veh/h	0	1654	0	246	0	1530	0	156
V/C Ratio (X)	0.00	0.25	0.00	0.04	0.00	0.48	0.00	0.17
Avail Cap (c_a), veh/h	0	2138	0	256	0	2251	0	293
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.2	0.0	20.4	0.0	12.3	0.0	24.0
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.2	0.0	1.1	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	9.5	0.0	20.6	0.0	13.3	0.0	25.1
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.1	0.0	2.8	0.0	0.3

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.3	0.0	0.2	0.0	5.5	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.01	0.00	0.15	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1485	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	242	0	607	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	252	0	893	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	15.1

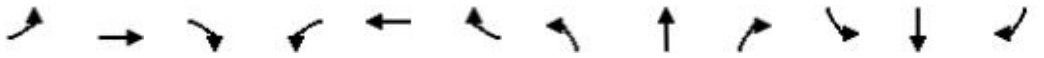
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	1	35	1	65	5	545	260	420	335	5
Future Vol, veh/h	2	1	1	35	1	65	5	545	260	420	335	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	50	70	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	2	2	2	2	25	14	2	2	2	2	2
Mvmt Flow	2	1	1	37	1	68	5	574	274	442	353	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1537	2097	179	1645	1826	287	358	0	0	847	0	0
Stage 1	1239	1239	-	584	584	-	-	-	-	-	-	-
Stage 2	298	858	-	1061	1242	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.54	6.94	7.54	6.54	7.4	4.38	-	-	4.14	-	-
Critical Hdwy Stg 1	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	4	4.02	3.32	3.52	4.02	3.55	2.34	-	-	2.22	-	-
Pot Cap-1 Maneuver	50	51	833	66	76	646	1116	-	-	786	-	-
Stage 1	125	246	-	465	496	-	-	-	-	-	-	-
Stage 2	568	372	-	239	245	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	19	22	833	~ 28	33	646	1116	-	-	786	-	-
Mov Cap-2 Maneuver	19	22	-	~ 28	33	-	-	-	-	-	-	-
Stage 1	55	107	-	462	493	-	-	-	-	-	-	-
Stage 2	504	369	-	103	107	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/veh	64.85	179.66	0.09	8.46
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	33	-	-	27	28	504	786	-	-
HCM Lane V/C Ratio	0.005	-	-	0.159	1.322	0.138	0.563	-	-
HCM Control Delay (s/veh)	8.2	0.1	-	164.9	$ 493.4	13.3	15.3	-	-
HCM Lane LOS	A	A	-	F	F	B	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	4.3	0.5	3.6	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	170	65	205	20	575	90	90	255	25
Future Volume (veh/h)	30	40	55	170	65	205	20	575	90	90	255	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	179	68	0	21	605	95	95	268	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	340	263	212	473	442		559	1196	187	397	1397	134
Arrive On Green	0.02	0.13	0.13	0.11	0.22	0.00	0.01	0.39	0.39	0.05	0.43	0.43
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	3078	482	1781	3275	315
Grp Volume(v), veh/h	32	42	58	179	68	0	21	349	351	95	144	150
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1784	1781	1777	1814
Q Serve(g_s), s	0.9	1.1	1.9	4.6	1.6	0.0	0.4	8.6	8.6	1.8	2.9	3.0
Cycle Q Clear(g_c), s	0.9	1.1	1.9	4.6	1.6	0.0	0.4	8.6	8.6	1.8	2.9	3.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.27	1.00		0.17
Lane Grp Cap(c), veh/h	340	263	212	473	442		559	691	693	397	758	773
V/C Ratio(X)	0.09	0.16	0.27	0.38	0.15		0.04	0.50	0.51	0.24	0.19	0.19
Avail Cap(c_a), veh/h	660	514	414	630	514		889	1051	1055	660	1051	1073
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.9	22.0	22.4	16.6	17.9	0.0	10.3	13.4	13.4	9.9	10.3	10.3
Incr Delay (d2), s/veh	0.1	0.6	1.5	0.5	0.3	0.0	0.0	2.6	2.6	0.3	0.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.9	1.3	3.2	1.3	0.0	0.2	5.9	6.0	1.0	1.9	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.0	22.6	23.9	17.1	18.2	0.0	10.4	16.0	16.0	10.2	10.8	10.9
LnGrp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			247			721			389	
Approach Delay, s/veh		22.8			17.4			15.8			10.7	
Approach LOS		C			B			B			B	

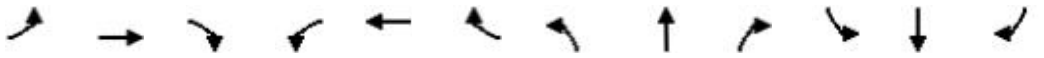
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.5	28.3	9.9	12.7	4.4	30.5	4.7	17.9
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.8	10.6	6.6	3.9	2.4	5.0	2.9	3.6
Green Ext Time (p_c), s	0.1	11.7	0.2	0.4	0.0	5.1	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	15.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	170	65	205	20	575	90	90	255	25
Future Volume (veh/h)	30	40	55	170	65	205	20	575	90	90	255	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	179	68	0	21	605	95	95	268	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	340	263	212	473	442		559	1196	187	397	1397	134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.13	0.13	0.11	0.22	0.00	0.01	0.39	0.39	0.05	0.43	0.43
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.0	22.6	23.9	17.1	18.2	0.0	10.4	16.0	16.0	10.2	10.8	10.9
Ln Grp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			247			721			389	
Approach Delay, s/veh		22.8			17.4			15.8			10.7	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	6.5	28.3	9.9	12.7	4.4	30.5	4.7	17.9
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.0	3.8	6.6	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.8	10.6	6.6	3.9	2.4	5.0	2.9	3.6
Green Ext Time (g_e), s	0.1	11.7	0.2	0.4	0.0	5.1	0.0	0.3
Prob of Phs Call (p_c)	0.78	1.00	0.94	0.96	0.28	1.00	0.40	1.00
Prob of Max Out (p_x)	0.01	0.48	0.41	0.09	0.00	0.05	0.00	0.10

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3078		1969		3275		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		482		1585		315		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	95	0	179	0	21	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.8	0.0	4.6	0.0	0.4	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	1.8	0.0	4.6	0.0	0.4	0.0	0.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	746	0	1295	0	1085	0	1333	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.0	0.0	9.7	0.0	22.3	0.0	7.7	0.0
Perm LT Serve Time (g_u), s	13.7	0.0	6.6	0.0	21.5	0.0	7.7	0.0
Perm LT Q Serve Time (g_ps), s	1.4	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	397	0	473	0	559	0	340	0
V/C Ratio (X)	0.24	0.00	0.38	0.00	0.04	0.00	0.09	0.00
Avail Cap (c_a), veh/h	660	0	630	0	889	0	660	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	9.9	0.0	16.6	0.0	10.3	0.0	20.9	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.0	0.0	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.2	0.0	17.1	0.0	10.4	0.0	21.0	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	1.7	0.0	0.1	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.0	0.0	3.2	0.0	0.2	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.81	0.00	0.04	0.00	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	349	0	42	0	144	0	68
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	8.6	0.0	1.1	0.0	2.9	0.0	1.6
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	1.1	0.0	2.9	0.0	1.6
Lane Grp Cap (c), veh/h	0	691	0	263	0	758	0	442
V/C Ratio (X)	0.00	0.50	0.00	0.16	0.00	0.19	0.00	0.15
Avail Cap (c_a), veh/h	0	1051	0	514	0	1051	0	514
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.4	0.0	22.0	0.0	10.3	0.0	17.9
Incr Delay (d2), s/veh	0.0	2.6	0.0	0.6	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	22.6	0.0	10.8	0.0	18.2
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.5	0.0	0.9	0.0	0.7

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.9	0.0	0.9	0.0	1.9	0.0	1.3
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.10	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	351	0	58	0	150	0	0
Grp Sat Flow (s), veh/h/ln	0	1784	0	1585	0	1814	0	1585
Q Serve Time (g_s), s	0.0	8.6	0.0	1.9	0.0	3.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	1.9	0.0	3.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.27	0.00	1.00	0.00	0.17	0.00	1.00
Lane Grp Cap (c), veh/h	0	693	0	212	0	773	0	356
V/C Ratio (X)	0.00	0.51	0.00	0.27	0.00	0.19	0.00	0.00
Avail Cap (c_a), veh/h	0	1055	0	414	0	1073	0	414
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.4	0.0	22.4	0.0	10.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.6	0.0	1.5	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	23.9	0.0	10.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.7	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.0	0.0	1.3	0.0	1.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.23	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

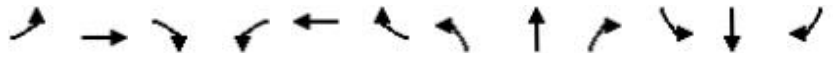
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	135	140	160	180	170
Future Vol, veh/h	75	135	140	160	180	170
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	142	147	168	189	179
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	10.1	10.6	13.5
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	51%
Vol Right, %	0%	0%	0%	100%	49%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	140	160	75	135	350
LT Vol	140	0	75	0	0
Through Vol	0	160	0	0	180
RT Vol	0	0	0	135	170
Lane Flow Rate	147	168	79	142	368
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.251	0.263	0.149	0.22	0.515
Departure Headway (Hd)	6.122	5.616	6.778	5.563	5.14
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	591	643	531	648	707
Service Time	3.822	3.316	4.492	3.276	3.14
HCM Lane V/C Ratio	0.249	0.261	0.149	0.219	0.521
HCM Control Delay, s/veh	10.9	10.3	10.7	9.8	13.5
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	1	1.1	0.5	0.8	3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	220	105	45	65	150	155	135	415	90	250	235	145
Future Volume (veh/h)	220	105	45	65	150	155	135	415	90	250	235	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	232	111	0	68	158	0	142	437	95	263	247	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Cap, veh/h	372	431		386	274		527	982	416	520	624	
Arrive On Green	0.11	0.22	0.00	0.05	0.14	0.00	0.09	0.26	0.26	0.14	0.32	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1497	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	232	111	0	68	158	0	142	437	95	263	247	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1497	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.7	2.7	0.0	1.8	4.3	0.0	3.2	5.6	2.7	5.6	5.6	0.0
Cycle Q Clear(g_c), s	3.7	2.7	0.0	1.8	4.3	0.0	3.2	5.6	2.7	5.6	5.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	372	431		386	274		527	982	416	520	624	
V/C Ratio(X)	0.62	0.26		0.18	0.58		0.27	0.44	0.23	0.51	0.40	
Avail Cap(c_a), veh/h	1240	431		975	310		889	1244	527	784	655	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	18.5	0.0	19.7	23.0	0.0	13.2	17.6	16.5	11.5	15.2	0.0
Incr Delay (d2), s/veh	1.7	0.7	0.0	0.2	4.1	0.0	0.3	1.5	1.3	0.8	1.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	2.1	0.0	1.3	3.8	0.0	2.1	4.2	1.8	3.5	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.1	19.1	0.0	19.9	27.1	0.0	13.5	19.0	17.8	12.3	17.1	0.0
LnGrp LOS	C	B		B	C		B	B	B	B	B	
Approach Vol, veh/h		343			226			674			510	
Approach Delay, s/veh		23.8			25.0			17.7			14.6	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	21.0	6.1	18.5	8.4	24.1	10.7	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	7.7	7.6	3.8	4.7	5.2	7.6	5.7	6.3
Green Ext Time (p_c), s	0.5	5.5	0.1	0.3	0.3	2.6	0.6	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	263	0	68	0	142	0	232	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.6	0.0	1.8	0.0	3.2	0.0	3.7	0.0
Cycle Q Clear Time (g_c), s	5.6	0.0	1.8	0.0	3.2	0.0	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	872	0	1282	0	1133	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	16.6	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.4	0.0	8.0	0.0	12.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.1	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	520	0	386	0	527	0	372	0
V/C Ratio (X)	0.51	0.00	0.18	0.00	0.27	0.00	0.62	0.00
Avail Cap (c_a), veh/h	784	0	975	0	889	0	1240	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.5	0.0	19.7	0.0	13.2	0.0	24.4	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.2	0.0	0.3	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.3	0.0	19.9	0.0	13.5	0.0	26.1	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	0.7	0.0	1.1	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.5	0.0	1.3	0.0	2.1	0.0	2.6	0.0
%ile Storage Ratio (RQ%)	0.68	0.00	0.16	0.00	0.30	0.00	0.38	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	437	0	111	0	247	0	158
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	5.6	0.0	2.7	0.0	5.6	0.0	4.3
Cycle Q Clear Time (g_c), s	0.0	5.6	0.0	2.7	0.0	5.6	0.0	4.3
Lane Grp Cap (c), veh/h	0	982	0	431	0	624	0	274
V/C Ratio (X)	0.00	0.44	0.00	0.26	0.00	0.40	0.00	0.58
Avail Cap (c_a), veh/h	0	1244	0	431	0	655	0	310
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.6	0.0	18.5	0.0	15.2	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.7	0.0	1.9	0.0	4.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.0	0.0	19.1	0.0	17.1	0.0	27.1
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	1.1	0.0	2.2	0.0	1.8

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.2	0.0	2.1	0.0	4.5	0.0	3.8
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.01	0.00	0.17	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	95	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1497
Q Serve Time (g_s), s	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	416	0	347	0	502	0	209
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	527	0	347	0	527	0	236
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.8	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	25	130	25	40	5	135	625	25	35	325	270
Future Volume (veh/h)	190	25	130	25	40	5	135	625	25	35	325	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	200	26	0	26	42	0	142	658	0	37	342	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Cap, veh/h	319	380		299	189		589	1554		389	1447	
Arrive On Green	0.10	0.20	0.00	0.02	0.11	0.00	0.07	0.44	0.00	0.02	0.39	0.00
Sat Flow, veh/h	3264	1875	1585	1781	1781	0	1781	3647	0	1697	3741	1422
Grp Volume(v), veh/h	200	26	0	26	42	0	142	658	0	37	342	0
Grp Sat Flow(s),veh/h/ln	1632	1875	1585	1781	1781	0	1781	1777	0	1697	1870	1422
Q Serve(g_s), s	3.5	0.7	0.0	0.8	1.3	0.0	2.7	7.6	0.0	0.8	3.7	0.0
Cycle Q Clear(g_c), s	3.5	0.7	0.0	0.8	1.3	0.0	2.7	7.6	0.0	0.8	3.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	319	380		299	189		589	1554		389	1447	
V/C Ratio(X)	0.63	0.07		0.09	0.22		0.24	0.42		0.10	0.24	
Avail Cap(c_a), veh/h	1124	380		911	269		803	3523		677	3708	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.8	19.2	0.0	23.2	24.4	0.0	8.8	11.6	0.0	10.8	12.3	0.0
Incr Delay (d2), s/veh	2.0	0.2	0.0	0.1	1.3	0.0	0.2	0.8	0.0	0.1	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.3	0.5	0.0	0.6	1.0	0.0	1.5	4.6	0.0	0.5	2.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.8	19.3	0.0	23.3	25.6	0.0	9.0	12.4	0.0	10.9	12.7	0.0
LnGrp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		226			68			800			379	
Approach Delay, s/veh		26.9			24.7			11.8			12.5	
Approach LOS		C			C			B			B	

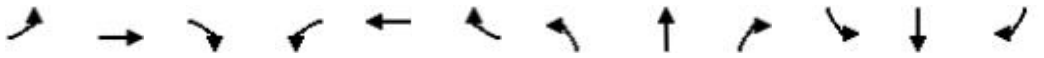
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	32.0	4.5	18.1	7.9	29.0	10.3	12.3
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	2.8	9.6	2.8	2.7	4.7	5.7	5.5	3.3
Green Ext Time (p_c), s	0.0	16.4	0.0	0.0	0.2	7.8	0.5	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	25	130	25	40	5	135	625	25	35	325	270
Future Volume (veh/h)	190	25	130	25	40	5	135	625	25	35	325	270
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	200	26	0	26	42	0	142	658	0	37	342	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	319	380		299	189		589	1554		389	1447	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.20	0.00	0.02	0.11	0.00	0.07	0.44	0.00	0.02	0.39	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.8	19.3	0.0	23.3	25.6	0.0	9.0	12.4	0.0	10.9	12.7	0.0
Ln Grp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		226			68			800			379	
Approach Delay, s/veh		26.9			24.7			11.8			12.5	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	4.9	32.0	4.5	18.1	7.9	29.0	10.3	12.3
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	6.9	3.7	9.1	3.7	7.3
Max Q Clear (g_c+I1), s	2.8	9.6	2.8	2.7	4.7	5.7	5.5	3.3
Green Ext Time (g_e), s	0.0	16.4	0.0	0.0	0.2	7.8	0.5	0.1
Prob of Phs Call (p_c)	0.46	1.00	0.35	0.99	0.90	1.00	0.96	0.79
Prob of Max Out (p_x)	0.00	0.09	0.00	1.00	0.05	0.00	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1697		1781		1781		3264	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1875		3741		1781

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1422		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	37	0	26	0	142	0	200	0
Grp Sat Flow (s), veh/h/ln	1697	0	1781	0	1781	0	1632	0
Q Serve Time (g_s), s	0.8	0.0	0.8	0.0	2.7	0.0	3.5	0.0
Cycle Q Clear Time (g_c), s	0.8	0.0	0.8	0.0	2.7	0.0	3.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	739	0	1385	0	1039	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.0	0.0	6.3	0.0	24.5	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	18.4	0.0	6.3	0.0	19.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	389	0	299	0	589	0	319	0
V/C Ratio (X)	0.10	0.00	0.09	0.00	0.24	0.00	0.63	0.00
Avail Cap (c_a), veh/h	677	0	911	0	803	0	1124	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.8	0.0	23.2	0.0	8.8	0.0	25.8	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.2	0.0	2.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.9	0.0	23.3	0.0	9.0	0.0	27.8	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.3	0.0	0.8	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.5	0.0	0.6	0.0	1.5	0.0	2.3	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.13	0.00	0.15	0.00	0.31	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	658	0	26	0	342	0	42
Grp Sat Flow (s), veh/h/ln	0	1777	0	1875	0	1870	0	1781
Q Serve Time (g_s), s	0.0	7.6	0.0	0.7	0.0	3.7	0.0	1.3
Cycle Q Clear Time (g_c), s	0.0	7.6	0.0	0.7	0.0	3.7	0.0	1.3
Lane Grp Cap (c), veh/h	0	1554	0	380	0	1447	0	189
V/C Ratio (X)	0.00	0.42	0.00	0.07	0.00	0.24	0.00	0.22
Avail Cap (c_a), veh/h	0	3523	0	380	0	3708	0	269
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.6	0.0	19.2	0.0	12.3	0.0	24.4
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.2	0.0	0.4	0.0	1.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.4	0.0	19.3	0.0	12.7	0.0	25.6
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.3	0.0	1.3	0.0	0.5

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.6	0.0	0.5	0.0	2.5	0.0	1.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.02	0.00	0.07	0.00	0.24
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1422	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	322	0	550	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	322	0	1410	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	14.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

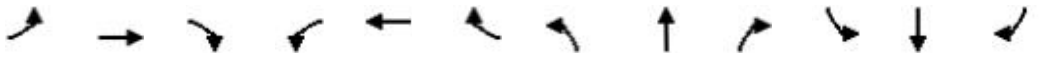
Intersection	
Int Delay, s/veh	16.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	220	1	325	1	455	35	60	420	1
Future Vol, veh/h	5	1	10	220	1	325	1	455	35	60	420	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	50	70	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	232	1	342	1	479	37	63	442	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	811	1087	222	829	1051	239	443	0	0	516	0	0
Stage 1	569	569	-	481	481	-	-	-	-	-	-	-
Stage 2	242	518	-	348	569	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	271	215	782	263	226	762	1113	-	-	1046	-	-
Stage 1	474	504	-	535	552	-	-	-	-	-	-	-
Stage 2	740	531	-	641	504	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	139	201	782	242	212	762	1113	-	-	1046	-	-
Mov Cap-2 Maneuver	139	201	-	242	212	-	-	-	-	-	-	-
Stage 1	446	474	-	534	551	-	-	-	-	-	-	-
Stage 2	406	531	-	593	473	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	17.78	44.6	0.03	1.08
HCM LOS	C	E		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	298	242	756	1046	-	-
HCM Lane V/C Ratio	0.001	-	-	0.056	0.956	0.454	0.06	-	-
HCM Control Delay (s/veh)	8.2	0	-	17.8	90.4	13.7	8.7	-	-
HCM Lane LOS	A	A	-	C	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	8.7	2.4	0.2	-	-



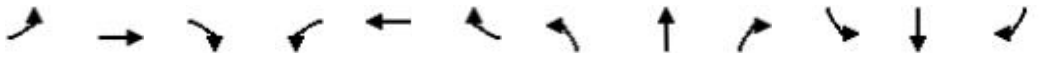
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	170	70	65	50	400	240	195	420	35
Future Volume (veh/h)	25	70	35	170	70	65	50	400	240	195	420	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	179	74	0	53	421	253	205	442	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	302	238	192	424	427		508	842	501	466	1520	127
Arrive On Green	0.02	0.12	0.12	0.11	0.22	0.00	0.03	0.39	0.39	0.09	0.46	0.46
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2143	1275	1781	3320	277
Grp Volume(v), veh/h	26	74	37	179	74	0	53	348	326	205	236	243
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1641	1781	1777	1821
Q Serve(g_s), s	0.8	2.2	1.4	5.3	2.0	0.0	1.1	9.6	9.7	4.1	5.4	5.4
Cycle Q Clear(g_c), s	0.8	2.2	1.4	5.3	2.0	0.0	1.1	9.6	9.7	4.1	5.4	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.78	1.00		0.15
Lane Grp Cap(c), veh/h	302	238	192	424	427		508	698	645	466	813	833
V/C Ratio(X)	0.09	0.31	0.19	0.42	0.17		0.10	0.50	0.50	0.44	0.29	0.29
Avail Cap(c_a), veh/h	726	608	490	676	608		770	1208	1115	613	1208	1238
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.4	26.0	25.6	19.6	20.6	0.0	11.1	14.8	14.9	9.9	11.0	11.0
Incr Delay (d2), s/veh	0.1	1.6	1.0	0.7	0.4	0.0	0.1	2.5	2.8	0.7	0.9	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	2.0	1.0	3.8	1.6	0.0	0.7	6.8	6.4	2.3	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.5	27.6	26.7	20.3	21.0	0.0	11.2	17.4	17.7	10.6	11.9	11.9
LnGrp LOS	C	C	C	C	C		B	B	B	B	B	B
Approach Vol, veh/h		137			253			727			684	
Approach Delay, s/veh		26.7			20.5			17.1			11.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	31.4	10.8	12.8	5.5	35.6	4.6	19.0
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Q Clear Time (g_c+I1), s	6.1	11.7	7.3	4.2	3.1	7.4	2.8	4.0
Green Ext Time (p_c), s	0.3	13.7	0.3	0.7	0.0	9.6	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	170	70	65	50	400	240	195	420	35
Future Volume (veh/h)	25	70	35	170	70	65	50	400	240	195	420	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	179	74	0	53	421	253	205	442	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	302	238	192	424	427		508	842	501	466	1520	127
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.12	0.12	0.11	0.22	0.00	0.03	0.39	0.39	0.09	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.5	27.6	26.7	20.3	21.0	0.0	11.2	17.4	17.7	10.6	11.9	11.9
Ln Grp LOS	C	C	C	C	C		B	B	B	B	B	B
Approach Vol, veh/h		137			253			727			684	
Approach Delay, s/veh		26.7			20.5			17.1			11.5	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	9.6	31.4	10.8	12.8	5.5	35.6	4.6	19.0
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.8	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	6.1	11.7	7.3	4.2	3.1	7.4	2.8	4.0
Green Ext Time (g_e), s	0.3	13.7	0.3	0.7	0.0	9.6	0.0	0.5
Prob of Phs Call (p_c)	0.97	1.00	0.96	0.98	0.61	1.00	0.37	1.00
Prob of Max Out (p_x)	0.26	0.29	0.01	0.02	0.00	0.08	0.00	0.01

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2143		1969		3320		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1275		1585		277		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	205	0	179	0	53	0	26	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	4.1	0.0	5.3	0.0	1.1	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	4.1	0.0	5.3	0.0	1.1	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	764	0	1282	0	916	0	1326	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	27.4	0.0	9.8	0.0	25.4	0.0	7.8	0.0
Perm LT Serve Time (g_u), s	15.7	0.0	5.6	0.0	24.2	0.0	7.8	0.0
Perm LT Q Serve Time (g_ps), s	4.3	0.0	0.7	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	466	0	424	0	508	0	302	0
V/C Ratio (X)	0.44	0.00	0.42	0.00	0.10	0.00	0.09	0.00
Avail Cap (c_a), veh/h	613	0	676	0	770	0	726	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	9.9	0.0	19.6	0.0	11.1	0.0	24.4	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.7	0.0	0.1	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.6	0.0	20.3	0.0	11.2	0.0	24.5	0.0
1st-Term Q (Q1), veh/ln	1.2	0.0	2.0	0.0	0.4	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	2.3	0.0	3.8	0.0	0.7	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.40	0.00	0.97	0.00	0.12	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	348	0	74	0	236	0	74
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	9.6	0.0	2.2	0.0	5.4	0.0	2.0
Cycle Q Clear Time (g_c), s	0.0	9.6	0.0	2.2	0.0	5.4	0.0	2.0
Lane Grp Cap (c), veh/h	0	698	0	238	0	813	0	427
V/C Ratio (X)	0.00	0.50	0.00	0.31	0.00	0.29	0.00	0.17
Avail Cap (c_a), veh/h	0	1208	0	608	0	1208	0	608
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.8	0.0	26.0	0.0	11.0	0.0	20.6
Incr Delay (d2), s/veh	0.0	2.5	0.0	1.6	0.0	0.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.4	0.0	27.6	0.0	11.9	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	3.3	0.0	1.0	0.0	1.7	0.0	0.9

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.8	0.0	2.0	0.0	3.5	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.21	0.00	0.04	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	326	0	37	0	243	0	0
Grp Sat Flow (s), veh/h/ln	0	1641	0	1585	0	1821	0	1585
Q Serve Time (g_s), s	0.0	9.7	0.0	1.4	0.0	5.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.7	0.0	1.4	0.0	5.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.78	0.00	1.00	0.00	0.15	0.00	1.00
Lane Grp Cap (c), veh/h	0	645	0	192	0	833	0	343
V/C Ratio (X)	0.00	0.50	0.00	0.19	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	1115	0	490	0	1238	0	490
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.9	0.0	25.6	0.0	11.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.8	0.0	1.0	0.0	0.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.7	0.0	26.7	0.0	11.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	0.5	0.0	1.8	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.4	0.0	1.0	0.0	3.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.17	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Notes
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	14.5
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	215	155	100	225	215	145
Future Vol, veh/h	215	155	100	225	215	145
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	226	163	105	237	226	153
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	13.3	12.7	17.5
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	60%
Vol Right, %	0%	0%	0%	100%	40%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	225	215	155	360
LT Vol	100	0	215	0	0
Through Vol	0	225	0	0	215
RT Vol	0	0	0	155	145
Lane Flow Rate	105	237	226	163	379
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.199	0.414	0.442	0.263	0.609
Departure Headway (Hd)	6.794	6.286	7.03	5.811	5.785
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	527	571	511	617	621
Service Time	4.545	4.037	4.781	3.561	3.83
HCM Lane V/C Ratio	0.199	0.415	0.442	0.264	0.61
HCM Control Delay, s/veh	11.2	13.4	15.3	10.6	17.5
HCM Lane LOS	B	B	C	B	C
HCM 95th-tile Q	0.7	2	2.2	1.1	4.1



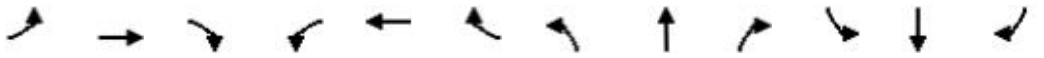
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	150	155	115	160	210	95	360	80	245	450	215
Future Volume (veh/h)	240	150	155	115	160	210	95	360	80	245	450	215
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	253	158	0	121	168	0	100	379	84	258	474	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	390	376		418	280		351	975	413	534	661	
Arrive On Green	0.11	0.19	0.00	0.08	0.14	0.00	0.06	0.26	0.26	0.14	0.34	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1585	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	253	158	0	121	168	0	100	379	84	258	474	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1585	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	4.0	4.1	0.0	3.3	4.6	0.0	2.3	4.8	2.4	5.5	12.1	0.0
Cycle Q Clear(g_c), s	4.0	4.1	0.0	3.3	4.6	0.0	2.3	4.8	2.4	5.5	12.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	390	376		418	280		351	975	413	534	661	
V/C Ratio(X)	0.65	0.42		0.29	0.60		0.29	0.39	0.20	0.48	0.72	
Avail Cap(c_a), veh/h	931	992		784	992		751	1235	523	800	661	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	20.5	0.0	18.6	23.2	0.0	14.6	17.5	16.6	11.4	16.7	0.0
Incr Delay (d2), s/veh	1.8	1.6	0.0	0.4	4.4	0.0	0.4	1.2	1.1	0.7	6.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.9	3.3	0.0	2.2	4.1	0.0	1.5	3.6	1.6	3.4	9.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.3	22.1	0.0	19.0	27.5	0.0	15.0	18.7	17.7	12.1	23.3	0.0
LnGrp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		411			289			563			732	
Approach Delay, s/veh		24.7			24.0			17.9			19.3	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	21.0	8.2	17.0	7.1	25.3	11.0	14.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Q Clear Time (g_c+I1), s	17.5	6.8	5.3	6.1	4.3	14.1	6.0	6.6
Green Ext Time (p_c), s	0.5	5.1	0.2	1.5	0.2	2.6	0.6	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	20.7
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	150	155	115	160	210	95	360	80	245	450	215
Future Volume (veh/h)	240	150	155	115	160	210	95	360	80	245	450	215
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	253	158	0	121	168	0	100	379	84	258	474	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	390	376		418	280		351	975	413	534	661	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.19	0.00	0.08	0.14	0.00	0.06	0.26	0.26	0.14	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.3	22.1	0.0	19.0	27.5	0.0	15.0	18.7	17.7	12.1	23.3	0.0
Ln Grp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		411			289			563			732	
Approach Delay, s/veh		24.7			24.0			17.9			19.3	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	11.4	21.0	8.2	17.0	7.1	25.3	11.0	14.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	7.5	6.8	5.3	6.1	4.3	14.1	6.0	6.6
Green Ext Time (g_e), s	0.5	5.1	0.2	1.5	0.2	2.6	0.6	1.6
Prob of Phs Call (p_c)	0.98	1.00	0.86	1.00	0.80	1.00	0.98	1.00
Prob of Max Out (p_x)	0.03	0.72	0.00	0.00	0.00	1.00	0.01	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	258	0	121	0	100	0	253	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.5	0.0	3.3	0.0	2.3	0.0	4.0	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	3.3	0.0	2.3	0.0	4.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	929	0	1228	0	920	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.2	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	10.2	0.0	6.9	0.0	7.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.6	0.0	0.1	0.0	1.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	534	0	418	0	351	0	390	0
V/C Ratio (X)	0.48	0.00	0.29	0.00	0.29	0.00	0.65	0.00
Avail Cap (c_a), veh/h	800	0	784	0	751	0	931	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.4	0.0	18.6	0.0	14.6	0.0	24.4	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.0	0.4	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.1	0.0	19.0	0.0	15.0	0.0	26.3	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	1.2	0.0	0.8	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.4	0.0	2.2	0.0	1.5	0.0	2.9	0.0
%ile Storage Ratio (RQ%)	0.67	0.00	0.29	0.00	0.22	0.00	0.42	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	379	0	158	0	474	0	168
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	4.8	0.0	4.1	0.0	12.1	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	4.1	0.0	12.1	0.0	4.6
Lane Grp Cap (c), veh/h	0	975	0	376	0	661	0	280
V/C Ratio (X)	0.00	0.39	0.00	0.42	0.00	0.72	0.00	0.60
Avail Cap (c_a), veh/h	0	1235	0	992	0	661	0	992
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.5	0.0	20.5	0.0	16.7	0.0	23.2
Incr Delay (d2), s/veh	0.0	1.2	0.0	1.6	0.0	6.6	0.0	4.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.7	0.0	22.1	0.0	23.3	0.0	27.5
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	1.7	0.0	4.7	0.0	1.9

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	1.2	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.68	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	3.6	0.0	3.3	0.0	9.9	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.01	0.00	0.36	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	84	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.4	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	413	0	303	0	532	0	225
V/C Ratio (X)	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	523	0	799	0	532	0	799
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.6	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.1	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.7	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.6	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	20.7
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

SHORT TERM (2032) NO-BUILD CAPACITY REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	40	20	25	5	170	345	40	50	285	305
Future Volume (veh/h)	110	10	40	20	25	5	170	345	40	50	285	305
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	116	11	0	21	26	0	179	363	0	53	300	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Cap, veh/h	196	263		297	166		608	1369		519	1193	
Arrive On Green	0.07	0.16	0.00	0.02	0.09	0.00	0.10	0.39	0.00	0.03	0.32	0.00
Sat Flow, veh/h	2908	1610	1585	1668	1841	0	1781	3647	0	1725	3741	1485
Grp Volume(v), veh/h	116	11	0	21	26	0	179	363	0	53	300	0
Grp Sat Flow(s),veh/h/ln	1454	1610	1585	1668	1841	0	1781	1777	0	1725	1870	1485
Q Serve(g_s), s	1.8	0.3	0.0	0.5	0.6	0.0	2.9	3.3	0.0	1.0	2.8	0.0
Cycle Q Clear(g_c), s	1.8	0.3	0.0	0.5	0.6	0.0	2.9	3.3	0.0	1.0	2.8	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	263		297	166		608	1369		519	1193	
V/C Ratio(X)	0.59	0.04		0.07	0.16		0.29	0.27		0.10	0.25	
Avail Cap(c_a), veh/h	958	308		857	352		869	2569		886	2704	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.3	16.6	0.0	19.1	19.7	0.0	8.1	9.9	0.0	10.2	11.9	0.0
Incr Delay (d2), s/veh	2.9	0.1	0.0	0.1	0.9	0.0	0.3	0.5	0.0	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.2	0.0	0.4	0.5	0.0	1.4	1.9	0.0	0.5	1.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.2	16.7	0.0	19.2	20.7	0.0	8.4	10.4	0.0	10.3	12.4	0.0
LnGrp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		127			47			542			353	
Approach Delay, s/veh		23.5			20.0			9.7			12.1	
Approach LOS		C			B			A			B	

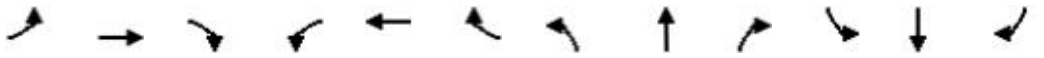
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.0	24.1	4.2	13.7	8.1	21.0	7.7	10.3
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	3.8	5.3	2.5	2.3	4.9	4.8	3.8	2.6
Green Ext Time (p_c), s	0.0	6.8	0.0	0.0	0.2	5.6	0.2	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	12.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	40	20	25	5	170	345	40	50	285	305
Future Volume (veh/h)	110	10	40	20	25	5	170	345	40	50	285	305
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	116	11	0	21	26	0	179	363	0	53	300	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	196	263		297	166		608	1369		519	1193	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.16	0.00	0.02	0.09	0.00	0.10	0.39	0.00	0.03	0.32	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.2	16.7	0.0	19.2	20.7	0.0	8.4	10.4	0.0	10.3	12.4	0.0
Ln Grp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		127			47			542			353	
Approach Delay, s/veh		23.5			20.0			9.7			12.1	
Approach LOS		C			B			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	5.0	24.1	4.2	13.7	8.1	21.0	7.7	10.3
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	7.0	3.7	9.1	3.8	7.2
Max Q Clear (g_c+I1), s	3.0	5.3	2.5	2.3	4.9	4.8	3.8	2.6
Green Ext Time (g_e), s	0.0	6.8	0.0	0.0	0.2	5.6	0.2	0.0
Prob of Phs Call (p_c)	0.50	1.00	0.24	0.86	0.90	1.00	0.78	0.53
Prob of Max Out (p_x)	0.00	0.08	0.00	1.00	0.09	0.05	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1725		1668		1781		2908	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1610		3741		1841

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1485		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	53	0	21	0	179	0	116	0
Grp Sat Flow (s), veh/h/ln	1725	0	1668	0	1781	0	1454	0
Q Serve Time (g_s), s	1.0	0.0	0.5	0.0	2.9	0.0	1.8	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	0.5	0.0	2.9	0.0	1.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	986	0	1315	0	1079	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.0	0.0	4.3	0.0	16.6	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	14.8	0.0	4.3	0.0	12.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	519	0	297	0	608	0	196	0
V/C Ratio (X)	0.10	0.00	0.07	0.00	0.29	0.00	0.59	0.00
Avail Cap (c_a), veh/h	886	0	857	0	869	0	958	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.2	0.0	19.1	0.0	8.1	0.0	21.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.3	0.0	2.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.3	0.0	19.2	0.0	8.4	0.0	24.2	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.2	0.0	0.8	0.0	0.5	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.5	0.0	0.4	0.0	1.4	0.0	1.1	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.08	0.00	0.15	0.00	0.16	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	363	0	11	0	300	0	26
Grp Sat Flow (s), veh/h/ln	0	1777	0	1610	0	1870	0	1841
Q Serve Time (g_s), s	0.0	3.3	0.0	0.3	0.0	2.8	0.0	0.6
Cycle Q Clear Time (g_c), s	0.0	3.3	0.0	0.3	0.0	2.8	0.0	0.6
Lane Grp Cap (c), veh/h	0	1369	0	263	0	1193	0	166
V/C Ratio (X)	0.00	0.27	0.00	0.04	0.00	0.25	0.00	0.16
Avail Cap (c_a), veh/h	0	2569	0	308	0	2704	0	352
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.9	0.0	16.6	0.0	11.9	0.0	19.7
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	0.5	0.0	0.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.4	0.0	16.7	0.0	12.4	0.0	20.7
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.1	0.0	0.9	0.0	0.2

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	1.9	0.0	0.2	0.0	1.9	0.0	0.5
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.01	0.00	0.05	0.00	0.11
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1485	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	259	0	473	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	303	0	1073	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	12.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

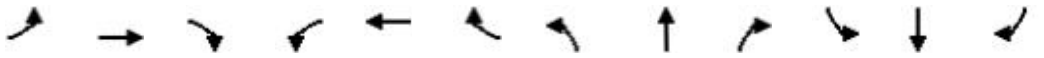
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	1	1	1	5	5	550	2	5	335	5
Future Vol, veh/h	2	1	1	1	1	5	5	550	2	5	335	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	2	2	2	2	25	14	2	2	2	2	2
Mvmt Flow	2	1	1	1	1	5	5	579	2	5	353	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	666	957	179	778	959	291	358	0	0	581	0	0
Stage 1	366	366	-	591	591	-	-	-	-	-	-	-
Stage 2	301	592	-	187	368	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.54	6.94	7.54	6.54	7.4	4.38	-	-	4.14	-	-
Critical Hdwy Stg 1	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	4	4.02	3.32	3.52	4.02	3.55	2.34	-	-	2.22	-	-
Pot Cap-1 Maneuver	264	256	833	286	256	642	1116	-	-	989	-	-
Stage 1	511	621	-	460	493	-	-	-	-	-	-	-
Stage 2	566	492	-	796	620	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	258	253	833	282	253	642	1116	-	-	989	-	-
Mov Cap-2 Maneuver	258	253	-	282	253	-	-	-	-	-	-	-
Stage 1	508	618	-	458	490	-	-	-	-	-	-	-
Stage 2	557	490	-	789	616	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	16.77	13	0.12	0.17
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	32	-	-	310	458	51	-	-
HCM Lane V/C Ratio	0.005	-	-	0.014	0.016	0.005	-	-
HCM Control Delay (s/veh)	8.2	0	-	16.8	13	8.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	170	65	85	20	440	95	65	245	25
Future Volume (veh/h)	30	40	55	170	65	85	20	440	95	65	245	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	179	68	0	21	463	100	68	258	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	372	288	232	504	466		521	1028	221	405	1234	123
Arrive On Green	0.02	0.15	0.15	0.11	0.24	0.00	0.02	0.35	0.35	0.04	0.38	0.38
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2910	624	1781	3263	326
Grp Volume(v), veh/h	32	42	58	179	68	0	21	281	282	68	139	145
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1758	1781	1777	1812
Q Serve(g_s), s	0.8	1.0	1.7	4.1	1.4	0.0	0.4	6.3	6.4	1.2	2.7	2.8
Cycle Q Clear(g_c), s	0.8	1.0	1.7	4.1	1.4	0.0	0.4	6.3	6.4	1.2	2.7	2.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.36	1.00		0.18
Lane Grp Cap(c), veh/h	372	288	232	504	466		521	628	621	405	672	685
V/C Ratio(X)	0.09	0.15	0.25	0.36	0.15		0.04	0.45	0.45	0.17	0.21	0.21
Avail Cap(c_a), veh/h	731	572	460	701	572		891	1170	1157	731	1170	1193
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.2	19.2	19.5	14.3	15.6	0.0	10.4	12.8	12.9	10.3	10.8	10.9
Incr Delay (d2), s/veh	0.1	0.5	1.2	0.4	0.3	0.0	0.0	2.3	2.4	0.2	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	0.8	1.2	2.7	1.1	0.0	0.2	4.3	4.3	0.7	1.8	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.3	19.7	20.7	14.7	15.9	0.0	10.5	15.1	15.2	10.5	11.5	11.6
LnGrp LOS	B	B	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			247			584			352	
Approach Delay, s/veh		19.8			15.0			15.0			11.3	
Approach LOS		B			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.6	24.3	9.3	12.5	4.3	25.5	4.6	17.2
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.2	8.4	6.1	3.7	2.4	4.8	2.8	3.4
Green Ext Time (p_c), s	0.1	9.9	0.2	0.4	0.0	4.9	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	14.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	170	65	85	20	440	95	65	245	25
Future Volume (veh/h)	30	40	55	170	65	85	20	440	95	65	245	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	179	68	0	21	463	100	68	258	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	372	288	232	504	466		521	1028	221	405	1234	123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.15	0.15	0.11	0.24	0.00	0.02	0.35	0.35	0.04	0.38	0.38
Unsig. Movement Delay												
Ln Grp Delay, s/veh	18.3	19.7	20.7	14.7	15.9	0.0	10.5	15.1	15.2	10.5	11.5	11.6
Ln Grp LOS	B	B	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			247			584			352	
Approach Delay, s/veh		19.8			15.0			15.0			11.3	
Approach LOS		B			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	5.6	24.3	9.3	12.5	4.3	25.5	4.6	17.2
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.6	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.2	8.4	6.1	3.7	2.4	4.8	2.8	3.4
Green Ext Time (g_e), s	0.1	9.9	0.2	0.4	0.0	4.9	0.0	0.3
Prob of Phs Call (p_c)	0.62	1.00	0.92	0.94	0.26	1.00	0.37	0.99
Prob of Max Out (p_x)	0.00	0.30	0.26	0.08	0.00	0.04	0.00	0.09

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2910		1969		3263		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		624		1585		326		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	68	0	179	0	21	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.2	0.0	4.1	0.0	0.4	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	1.2	0.0	4.1	0.0	0.4	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	847	0	1295	0	1095	0	1333	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.3	0.0	9.5	0.0	18.3	0.0	7.5	0.0
Perm LT Serve Time (g_u), s	11.9	0.0	6.6	0.0	16.7	0.0	7.5	0.0
Perm LT Q Serve Time (g_ps), s	0.6	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	405	0	504	0	521	0	372	0
V/C Ratio (X)	0.17	0.00	0.36	0.00	0.04	0.00	0.09	0.00
Avail Cap (c_a), veh/h	731	0	701	0	891	0	731	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.3	0.0	14.3	0.0	10.4	0.0	18.2	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.4	0.0	0.0	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.5	0.0	14.7	0.0	10.5	0.0	18.3	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.4	0.0	0.1	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.7	0.0	2.7	0.0	0.2	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.12	0.00	0.68	0.00	0.04	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	281	0	42	0	139	0	68
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	6.3	0.0	1.0	0.0	2.7	0.0	1.4
Cycle Q Clear Time (g_c), s	0.0	6.3	0.0	1.0	0.0	2.7	0.0	1.4
Lane Grp Cap (c), veh/h	0	628	0	288	0	672	0	466
V/C Ratio (X)	0.00	0.45	0.00	0.15	0.00	0.21	0.00	0.15
Avail Cap (c_a), veh/h	0	1170	0	572	0	1170	0	572
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.8	0.0	19.2	0.0	10.8	0.0	15.6
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.5	0.0	0.7	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.1	0.0	19.7	0.0	11.5	0.0	15.9
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.4	0.0	0.8	0.0	0.6

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.3	0.0	0.8	0.0	1.8	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.08	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	282	0	58	0	145	0	0
Grp Sat Flow (s), veh/h/ln	0	1758	0	1585	0	1812	0	1585
Q Serve Time (g_s), s	0.0	6.4	0.0	1.7	0.0	2.8	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.4	0.0	1.7	0.0	2.8	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.36	0.00	1.00	0.00	0.18	0.00	1.00
Lane Grp Cap (c), veh/h	0	621	0	232	0	685	0	375
V/C Ratio (X)	0.00	0.45	0.00	0.25	0.00	0.21	0.00	0.00
Avail Cap (c_a), veh/h	0	1157	0	460	0	1193	0	460
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	12.9	0.0	19.5	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.4	0.0	1.2	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.2	0.0	20.7	0.0	11.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.0	0.0	0.6	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	4.3	0.0	1.2	0.0	1.8	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.19	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	14.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	10.4
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	125	80	160	180	110
Future Vol, veh/h	65	125	80	160	180	110
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	132	84	168	189	116
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.5	9.8	11.6
HCM LOS	A	A	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	62%
Vol Right, %	0%	0%	0%	100%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	160	65	125	290
LT Vol	80	0	65	0	0
Through Vol	0	160	0	0	180
RT Vol	0	0	0	125	110
Lane Flow Rate	84	168	68	132	305
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.137	0.251	0.121	0.189	0.419
Departure Headway (Hd)	5.861	5.357	6.383	5.171	4.947
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	608	667	558	688	723
Service Time	3.63	3.125	4.16	2.948	3.008
HCM Lane V/C Ratio	0.138	0.252	0.122	0.192	0.422
HCM Control Delay, s/veh	9.6	9.9	10	9.2	11.6
HCM Lane LOS	A	A	A	A	B
HCM 95th-tile Q	0.5	1	0.4	0.7	2.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	105	40	65	155	155	105	420	95	255	240	115
Future Volume (veh/h)	215	105	40	65	155	155	105	420	95	255	240	115
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	226	111	0	68	163	0	111	442	100	268	253	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Cap, veh/h	365	427		387	275		516	984	417	520	661	
Arrive On Green	0.11	0.22	0.00	0.05	0.14	0.00	0.07	0.26	0.26	0.14	0.34	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1497	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	226	111	0	68	163	0	111	442	100	268	253	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1497	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.6	2.7	0.0	1.8	4.4	0.0	2.5	5.6	2.8	5.7	5.6	0.0
Cycle Q Clear(g_c), s	3.6	2.7	0.0	1.8	4.4	0.0	2.5	5.6	2.8	5.7	5.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	427		387	275		516	984	417	520	661	
V/C Ratio(X)	0.62	0.26		0.18	0.59		0.22	0.45	0.24	0.52	0.38	
Avail Cap(c_a), veh/h	1242	427		977	311		909	1246	528	783	661	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	18.5	0.0	19.7	23.0	0.0	13.6	17.6	16.5	11.3	14.4	0.0
Incr Delay (d2), s/veh	1.7	0.7	0.0	0.2	4.6	0.0	0.2	1.5	1.4	0.8	1.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	2.1	0.0	1.3	4.0	0.0	1.6	4.2	1.9	3.5	4.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.1	19.2	0.0	19.9	27.6	0.0	13.8	19.1	17.9	12.1	16.1	0.0
LnGrp LOS	C	B		B	C		B	B	B	B	B	
Approach Vol, veh/h		337			231			653			521	
Approach Delay, s/veh		23.9			25.3			18.0			14.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	21.0	6.1	18.4	7.4	25.2	10.5	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	7.7	7.6	3.8	4.7	4.5	7.6	5.6	6.4
Green Ext Time (p_c), s	0.5	5.6	0.1	0.3	0.2	2.6	0.6	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	105	40	65	155	155	105	420	95	255	240	115
Future Volume (veh/h)	215	105	40	65	155	155	105	420	95	255	240	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	226	111	0	68	163	0	111	442	100	268	253	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	365	427		387	275		516	984	417	520	661	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.22	0.00	0.05	0.14	0.00	0.07	0.26	0.26	0.14	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.1	19.2	0.0	19.9	27.6	0.0	13.8	19.1	17.9	12.1	16.1	0.0
Ln Grp LOS	C	B		B	C		B	B	B	B	B	
Approach Vol, veh/h		337			231			653			521	
Approach Delay, s/veh		23.9			25.3			18.0			14.0	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	11.6	21.0	6.1	18.4	7.4	25.2	10.5	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	7.7	7.6	3.8	4.7	4.5	7.6	5.6	6.4
Green Ext Time (g_e), s	0.5	5.6	0.1	0.3	0.2	2.6	0.6	0.3
Prob of Phs Call (p_c)	0.99	1.00	0.66	1.00	0.83	1.00	0.97	1.00
Prob of Max Out (p_x)	0.03	0.82	0.00	1.00	0.00	0.68	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1497

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	268	0	68	0	111	0	226	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.7	0.0	1.8	0.0	2.5	0.0	3.6	0.0
Cycle Q Clear Time (g_c), s	5.7	0.0	1.8	0.0	2.5	0.0	3.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	864	0	1282	0	1127	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.4	0.0	8.0	0.0	13.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.4	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	520	0	387	0	516	0	365	0
V/C Ratio (X)	0.52	0.00	0.18	0.00	0.22	0.00	0.62	0.00
Avail Cap (c_a), veh/h	783	0	977	0	909	0	1242	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.3	0.0	19.7	0.0	13.6	0.0	24.4	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.2	0.0	0.2	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.1	0.0	19.9	0.0	13.8	0.0	26.1	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	0.7	0.0	0.9	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.5	0.0	1.3	0.0	1.6	0.0	2.6	0.0
%ile Storage Ratio (RQ%)	0.68	0.00	0.16	0.00	0.24	0.00	0.37	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	442	0	111	0	253	0	163
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	5.6	0.0	2.7	0.0	5.6	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	5.6	0.0	2.7	0.0	5.6	0.0	4.4
Lane Grp Cap (c), veh/h	0	984	0	427	0	661	0	275
V/C Ratio (X)	0.00	0.45	0.00	0.26	0.00	0.38	0.00	0.59
Avail Cap (c_a), veh/h	0	1246	0	427	0	661	0	311
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.6	0.0	18.5	0.0	14.4	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.7	0.0	1.7	0.0	4.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.1	0.0	19.2	0.0	16.1	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	1.1	0.0	2.2	0.0	1.9

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.2	0.0	2.1	0.0	4.4	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.01	0.00	0.16	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	100	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1497
Q Serve Time (g_s), s	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	417	0	344	0	532	0	209
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	528	0	344	0	532	0	236
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	25	130	25	40	5	135	305	25	35	270	275
Future Volume (veh/h)	190	25	130	25	40	5	135	305	25	35	270	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	200	26	0	26	42	0	142	321	0	37	284	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Cap, veh/h	329	411		338	208		555	1272		482	1124	
Arrive On Green	0.10	0.22	0.00	0.02	0.12	0.00	0.08	0.36	0.00	0.02	0.30	0.00
Sat Flow, veh/h	3264	1875	1585	1781	1781	0	1781	3647	0	1697	3741	1422
Grp Volume(v), veh/h	200	26	0	26	42	0	142	321	0	37	284	0
Grp Sat Flow(s),veh/h/ln	1632	1875	1585	1781	1781	0	1781	1777	0	1697	1870	1422
Q Serve(g_s), s	2.9	0.5	0.0	0.6	1.1	0.0	2.6	3.2	0.0	0.8	2.9	0.0
Cycle Q Clear(g_c), s	2.9	0.5	0.0	0.6	1.1	0.0	2.6	3.2	0.0	0.8	2.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	329	411		338	208		555	1272		482	1124	
V/C Ratio(X)	0.61	0.06		0.08	0.20		0.26	0.25		0.08	0.25	
Avail Cap(c_a), veh/h	1013	411		894	321		820	2420		831	2547	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.5	15.4	0.0	19.0	20.0	0.0	9.7	11.3	0.0	11.6	13.2	0.0
Incr Delay (d2), s/veh	1.8	0.1	0.0	0.1	1.0	0.0	0.2	0.5	0.0	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.9	0.4	0.0	0.4	0.8	0.0	1.4	1.9	0.0	0.4	2.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.3	15.6	0.0	19.1	21.0	0.0	9.9	11.8	0.0	11.7	13.8	0.0
LnGrp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		226			68			463			321	
Approach Delay, s/veh		22.4			20.2			11.2			13.5	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.7	23.9	4.4	17.0	7.6	21.0	9.5	11.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	2.8	5.2	2.6	2.5	4.6	4.9	4.9	3.1
Green Ext Time (p_c), s	0.0	5.9	0.0	0.0	0.2	5.3	0.4	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	25	130	25	40	5	135	305	25	35	270	275
Future Volume (veh/h)	190	25	130	25	40	5	135	305	25	35	270	275
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	200	26	0	26	42	0	142	321	0	37	284	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	329	411		338	208		555	1272		482	1124	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.22	0.00	0.02	0.12	0.00	0.08	0.36	0.00	0.02	0.30	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.3	15.6	0.0	19.1	21.0	0.0	9.9	11.8	0.0	11.7	13.8	0.0
Ln Grp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		226			68			463			321	
Approach Delay, s/veh		22.4			20.2			11.2			13.5	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	4.7	23.9	4.4	17.0	7.6	21.0	9.5	11.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	6.9	3.7	9.1	3.7	7.3
Max Q Clear (g_c+I1), s	2.8	5.2	2.6	2.5	4.6	4.9	4.9	3.1
Green Ext Time (g_e), s	0.0	5.9	0.0	0.0	0.2	5.3	0.4	0.1
Prob of Phs Call (p_c)	0.40	1.00	0.30	0.98	0.86	1.00	0.94	0.73
Prob of Max Out (p_x)	0.00	0.05	0.00	1.00	0.05	0.04	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1697		1781		1781		3264	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1875		3741		1781

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1422		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	37	0	26	0	142	0	200	0
Grp Sat Flow (s), veh/h/ln	1697	0	1781	0	1781	0	1632	0
Q Serve Time (g_s), s	0.8	0.0	0.6	0.0	2.6	0.0	2.9	0.0
Cycle Q Clear Time (g_c), s	0.8	0.0	0.6	0.0	2.6	0.0	2.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	1008	0	1385	0	1095	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.0	0.0	5.8	0.0	16.4	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	14.7	0.0	5.8	0.0	12.1	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	482	0	338	0	555	0	329	0
V/C Ratio (X)	0.08	0.00	0.08	0.00	0.26	0.00	0.61	0.00
Avail Cap (c_a), veh/h	831	0	894	0	820	0	1013	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.6	0.0	19.0	0.0	9.7	0.0	21.5	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.2	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.7	0.0	19.1	0.0	9.9	0.0	23.3	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.2	0.0	0.7	0.0	0.9	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.4	0.0	0.4	0.0	1.4	0.0	1.9	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.10	0.00	0.14	0.00	0.25	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	321	0	26	0	284	0	42
Grp Sat Flow (s), veh/h/ln	0	1777	0	1875	0	1870	0	1781
Q Serve Time (g_s), s	0.0	3.2	0.0	0.5	0.0	2.9	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	3.2	0.0	0.5	0.0	2.9	0.0	1.1
Lane Grp Cap (c), veh/h	0	1272	0	411	0	1124	0	208
V/C Ratio (X)	0.00	0.25	0.00	0.06	0.00	0.25	0.00	0.20
Avail Cap (c_a), veh/h	0	2420	0	411	0	2547	0	321
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.3	0.0	15.4	0.0	13.2	0.0	20.0
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	0.5	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.8	0.0	15.6	0.0	13.8	0.0	21.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.2	0.0	1.0	0.0	0.4

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	1.9	0.0	0.4	0.0	2.0	0.0	0.8
%ile Storage Ratio (RQ%)	0.00	0.08	0.00	0.01	0.00	0.05	0.00	0.19
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1422	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	348	0	427	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	348	0	968	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

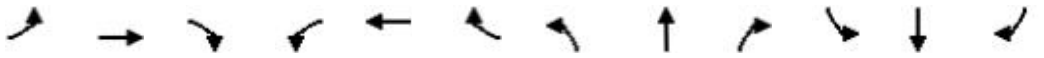
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	1	1	1	1	460	1	1	425	1
Future Vol, veh/h	5	1	10	1	1	1	1	460	1	1	425	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	1	1	1	1	484	1	1	447	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	695	937	224	713	937	243	448	0	0	485	0	0
Stage 1	450	450	-	487	487	-	-	-	-	-	-	-
Stage 2	245	487	-	226	451	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	329	263	779	319	263	758	1108	-	-	1074	-	-
Stage 1	558	570	-	531	549	-	-	-	-	-	-	-
Stage 2	737	549	-	756	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	326	263	779	313	263	758	1108	-	-	1074	-	-
Mov Cap-2 Maneuver	326	263	-	313	263	-	-	-	-	-	-	-
Stage 1	558	569	-	530	548	-	-	-	-	-	-	-
Stage 2	734	548	-	743	569	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.44	15.08	0.03	0.03
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	501	360	8	-	-
HCM Lane V/C Ratio	0.001	-	-	0.034	0.009	0.001	-	-
HCM Control Delay (s/veh)	8.3	0	-	12.4	15.1	8.4	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	170	70	45	50	390	245	85	315	35
Future Volume (veh/h)	25	70	35	170	70	45	50	390	245	85	315	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	179	74	0	53	411	258	89	332	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	338	267	215	456	452		522	812	504	396	1308	145
Arrive On Green	0.02	0.14	0.14	0.11	0.23	0.00	0.03	0.39	0.39	0.05	0.41	0.41
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2104	1307	1781	3226	357
Grp Volume(v), veh/h	26	74	37	179	74	0	53	346	323	89	182	187
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1635	1781	1777	1806
Q Serve(g_s), s	0.7	1.9	1.2	4.6	1.7	0.0	1.0	8.5	8.6	1.7	3.9	3.9
Cycle Q Clear(g_c), s	0.7	1.9	1.2	4.6	1.7	0.0	1.0	8.5	8.6	1.7	3.9	3.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.20
Lane Grp Cap(c), veh/h	338	267	215	456	452		522	686	631	396	720	732
V/C Ratio(X)	0.08	0.28	0.17	0.39	0.16		0.10	0.51	0.51	0.22	0.25	0.26
Avail Cap(c_a), veh/h	667	519	418	617	519		828	1062	977	667	1062	1080
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.7	22.1	21.8	16.4	17.5	0.0	10.1	13.3	13.4	10.3	11.2	11.2
Incr Delay (d2), s/veh	0.1	1.2	0.8	0.5	0.4	0.0	0.1	2.6	2.9	0.3	0.8	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.5	1.7	0.8	3.1	1.4	0.0	0.6	5.8	5.5	1.0	2.5	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.8	23.3	22.6	17.0	17.9	0.0	10.1	16.0	16.3	10.5	12.0	12.1
LnGrp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		137			253			722			458	
Approach Delay, s/veh		22.6			17.2			15.7			11.8	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.4	27.9	9.9	12.7	5.2	29.1	4.5	18.1
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.7	10.6	6.6	3.9	3.0	5.9	2.7	3.7
Green Ext Time (p_c), s	0.1	11.4	0.2	0.5	0.0	6.5	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	15.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	170	70	45	50	390	245	85	315	35
Future Volume (veh/h)	25	70	35	170	70	45	50	390	245	85	315	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	179	74	0	53	411	258	89	332	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	338	267	215	456	452		522	812	504	396	1308	145
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.14	0.14	0.11	0.23	0.00	0.03	0.39	0.39	0.05	0.41	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	20.8	23.3	22.6	17.0	17.9	0.0	10.1	16.0	16.3	10.5	12.0	12.1
Ln Grp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		137			253			722			458	
Approach Delay, s/veh		22.6			17.2			15.7			11.8	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	6.4	27.9	9.9	12.7	5.2	29.1	4.5	18.1
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.8	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.7	10.6	6.6	3.9	3.0	5.9	2.7	3.7
Green Ext Time (g_e), s	0.1	11.4	0.2	0.5	0.0	6.5	0.0	0.4
Prob of Phs Call (p_c)	0.75	1.00	0.94	0.96	0.57	1.00	0.34	1.00
Prob of Max Out (p_x)	0.01	0.47	0.39	0.14	0.00	0.10	0.00	0.12

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2104		1969		3226		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1307		1585		357		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	89	0	179	0	53	0	26	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.7	0.0	4.6	0.0	1.0	0.0	0.7	0.0
Cycle Q Clear Time (g_c), s	1.7	0.0	4.6	0.0	1.0	0.0	0.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	768	0	1282	0	1013	0	1326	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	21.9	0.0	9.7	0.0	21.9	0.0	7.7	0.0
Perm LT Serve Time (g_u), s	13.4	0.0	5.8	0.0	19.1	0.0	7.7	0.0
Perm LT Q Serve Time (g_ps), s	1.1	0.0	0.6	0.0	0.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	396	0	456	0	522	0	338	0
V/C Ratio (X)	0.22	0.00	0.39	0.00	0.10	0.00	0.08	0.00
Avail Cap (c_a), veh/h	667	0	617	0	828	0	667	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.3	0.0	16.4	0.0	10.1	0.0	20.7	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.0	0.1	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.5	0.0	17.0	0.0	10.1	0.0	20.8	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	1.7	0.0	0.3	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.0	0.0	3.1	0.0	0.6	0.0	0.5	0.0
%ile Storage Ratio (RQ%)	0.17	0.00	0.80	0.00	0.10	0.00	0.09	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	346	0	74	0	182	0	74
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	8.5	0.0	1.9	0.0	3.9	0.0	1.7
Cycle Q Clear Time (g_c), s	0.0	8.5	0.0	1.9	0.0	3.9	0.0	1.7
Lane Grp Cap (c), veh/h	0	686	0	267	0	720	0	452
V/C Ratio (X)	0.00	0.51	0.00	0.28	0.00	0.25	0.00	0.16
Avail Cap (c_a), veh/h	0	1062	0	519	0	1062	0	519
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.3	0.0	22.1	0.0	11.2	0.0	17.5
Incr Delay (d2), s/veh	0.0	2.6	0.0	1.2	0.0	0.8	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	23.3	0.0	12.0	0.0	17.9
1st-Term Q (Q1), veh/ln	0.0	2.7	0.0	0.8	0.0	1.2	0.0	0.7

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.8	0.0	1.7	0.0	2.5	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.18	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	323	0	37	0	187	0	0
Grp Sat Flow (s), veh/h/ln	0	1635	0	1585	0	1806	0	1585
Q Serve Time (g_s), s	0.0	8.6	0.0	1.2	0.0	3.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.6	0.0	1.2	0.0	3.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.80	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	631	0	215	0	732	0	364
V/C Ratio (X)	0.00	0.51	0.00	0.17	0.00	0.26	0.00	0.00
Avail Cap (c_a), veh/h	0	977	0	418	0	1080	0	418
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.4	0.0	21.8	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.9	0.0	0.8	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.3	0.0	22.6	0.0	12.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.6	0.0	0.4	0.0	1.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	5.5	0.0	0.8	0.0	2.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.17	0.00	0.14	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.4
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	155	105	95	230	215	135
Future Vol, veh/h	155	105	95	230	215	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	111	100	242	226	142
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	11.5	11.8	15.1
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	61%
Vol Right, %	0%	0%	0%	100%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	95	230	155	105	350
LT Vol	95	0	155	0	0
Through Vol	0	230	0	0	215
RT Vol	0	0	0	105	135
Lane Flow Rate	100	242	163	111	368
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.177	0.394	0.313	0.175	0.556
Departure Headway (Hd)	6.364	5.857	6.91	5.693	5.436
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	564	615	520	630	663
Service Time	4.096	3.589	4.645	3.428	3.466
HCM Lane V/C Ratio	0.177	0.393	0.313	0.176	0.555
HCM Control Delay, s/veh	10.5	12.4	12.8	9.6	15.1
HCM Lane LOS	B	B	B	A	C
HCM 95th-tile Q	0.6	1.9	1.3	0.6	3.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	150	125	115	160	210	95	360	85	250	455	210
Future Volume (veh/h)	210	150	125	115	160	210	95	360	85	250	455	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	221	158	0	121	168	0	100	379	89	263	479	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	359	355		406	277		356	988	419	542	672	
Arrive On Green	0.10	0.18	0.00	0.08	0.14	0.00	0.06	0.26	0.26	0.14	0.34	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1585	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	221	158	0	121	168	0	100	379	89	263	479	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1585	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.5	4.1	0.0	3.2	4.6	0.0	2.3	4.7	2.5	5.5	12.0	0.0
Cycle Q Clear(g_c), s	3.5	4.1	0.0	3.2	4.6	0.0	2.3	4.7	2.5	5.5	12.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	359	355		406	277		356	988	419	542	672	
V/C Ratio(X)	0.62	0.45		0.30	0.61		0.28	0.38	0.21	0.49	0.71	
Avail Cap(c_a), veh/h	1247	355		935	312		763	1251	530	812	672	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	20.7	0.0	18.4	22.9	0.0	14.2	17.1	16.3	11.1	16.3	0.0
Incr Delay (d2), s/veh	1.7	1.9	0.0	0.4	4.9	0.0	0.4	1.1	1.2	0.7	6.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	3.4	0.0	2.2	4.1	0.0	1.5	3.5	1.7	3.4	9.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.1	22.6	0.0	18.8	27.8	0.0	14.7	18.2	17.5	11.7	22.6	0.0
LnGrp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		379			289			568			742	
Approach Delay, s/veh		24.6			24.1			17.5			18.8	
Approach LOS		C			C			B			B	

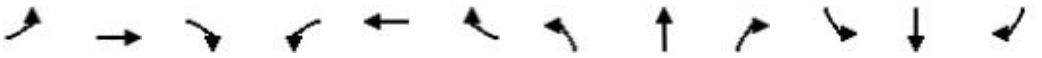
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.4	21.0	8.2	16.2	7.0	25.4	10.4	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	7.5	6.7	5.2	6.1	4.3	14.0	5.5	6.6
Green Ext Time (p_c), s	0.5	5.1	0.2	0.3	0.2	2.7	0.6	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	20.3
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	150	125	115	160	210	95	360	85	250	455	210
Future Volume (veh/h)	210	150	125	115	160	210	95	360	85	250	455	210
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	221	158	0	121	168	0	100	379	89	263	479	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	359	355		406	277		356	988	419	542	672	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.18	0.00	0.08	0.14	0.00	0.06	0.26	0.26	0.14	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.1	22.6	0.0	18.8	27.8	0.0	14.7	18.2	17.5	11.7	22.6	0.0
Ln Grp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		379			289			568			742	
Approach Delay, s/veh		24.6			24.1			17.5			18.8	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	11.4	21.0	8.2	16.2	7.0	25.4	10.4	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	7.5	6.7	5.2	6.1	4.3	14.0	5.5	6.6
Green Ext Time (g_e), s	0.5	5.1	0.2	0.3	0.2	2.7	0.6	0.3
Prob of Phs Call (p_c)	0.98	1.00	0.85	1.00	0.79	1.00	0.97	1.00
Prob of Max Out (p_x)	0.03	0.71	0.00	1.00	0.00	1.00	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	263	0	121	0	100	0	221	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.5	0.0	3.2	0.0	2.3	0.0	3.5	0.0
Cycle Q Clear Time (g_c), s	5.5	0.0	3.2	0.0	2.3	0.0	3.5	0.0
Perm LT Sat Flow (s_l), veh/h/ln	925	0	1228	0	916	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	10.3	0.0	6.2	0.0	7.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.7	0.0	0.2	0.0	0.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	542	0	406	0	356	0	359	0
V/C Ratio (X)	0.49	0.00	0.30	0.00	0.28	0.00	0.62	0.00
Avail Cap (c_a), veh/h	812	0	935	0	763	0	1247	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.1	0.0	18.4	0.0	14.2	0.0	24.4	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.0	0.4	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.7	0.0	18.8	0.0	14.7	0.0	26.1	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	1.2	0.0	0.8	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.4	0.0	2.2	0.0	1.5	0.0	2.5	0.0
%ile Storage Ratio (RQ%)	0.65	0.00	0.28	0.00	0.22	0.00	0.36	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	379	0	158	0	479	0	168
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	4.7	0.0	4.1	0.0	12.0	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	4.7	0.0	4.1	0.0	12.0	0.0	4.6
Lane Grp Cap (c), veh/h	0	988	0	355	0	672	0	277
V/C Ratio (X)	0.00	0.38	0.00	0.45	0.00	0.71	0.00	0.61
Avail Cap (c_a), veh/h	0	1251	0	355	0	672	0	312
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.1	0.0	20.7	0.0	16.3	0.0	22.9
Incr Delay (d2), s/veh	0.0	1.1	0.0	1.9	0.0	6.3	0.0	4.9
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.2	0.0	22.6	0.0	22.6	0.0	27.8
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	1.7	0.0	4.6	0.0	1.9

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	1.2	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.68	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	3.5	0.0	3.4	0.0	9.8	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.13	0.00	0.01	0.00	0.36	0.00	0.26
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	89	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	419	0	286	0	541	0	223
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	530	0	286	0	541	0	251
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.3	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.5	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	20.3
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

SHORT TERM (2032) BUILD CAPACITY REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	40	20	25	5	170	375	40	50	545	305
Future Volume (veh/h)	110	10	40	20	25	5	170	375	40	50	545	305
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	116	11	0	21	26	0	179	395	0	53	574	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Cap, veh/h	193	255		281	161		514	1511		533	1361	
Arrive On Green	0.07	0.16	0.00	0.02	0.09	0.00	0.09	0.43	0.00	0.03	0.36	0.00
Sat Flow, veh/h	2908	1610	1585	1668	1841	0	1781	3647	0	1725	3741	1485
Grp Volume(v), veh/h	116	11	0	21	26	0	179	395	0	53	574	0
Grp Sat Flow(s),veh/h/ln	1454	1610	1585	1668	1841	0	1781	1777	0	1725	1870	1485
Q Serve(g_s), s	2.0	0.3	0.0	0.6	0.7	0.0	2.9	3.7	0.0	1.0	5.9	0.0
Cycle Q Clear(g_c), s	2.0	0.3	0.0	0.6	0.7	0.0	2.9	3.7	0.0	1.0	5.9	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	193	255		281	161		514	1511		533	1361	
V/C Ratio(X)	0.60	0.04		0.07	0.16		0.35	0.26		0.10	0.42	
Avail Cap(c_a), veh/h	877	282		791	322		747	2352		865	2476	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.3	18.3	0.0	20.9	21.7	0.0	8.2	9.5	0.0	9.7	12.3	0.0
Incr Delay (d2), s/veh	3.0	0.1	0.0	0.1	1.0	0.0	0.4	0.4	0.0	0.1	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	0.2	0.0	0.4	0.6	0.0	1.5	2.1	0.0	0.6	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.3	18.5	0.0	21.1	22.7	0.0	8.6	10.0	0.0	9.8	13.2	0.0
LnGrp LOS	C	B		C	C		A	A		A	B	
Approach Vol, veh/h		127			47			574			627	
Approach Delay, s/veh		25.6			21.9			9.5			13.0	
Approach LOS		C			C			A			B	

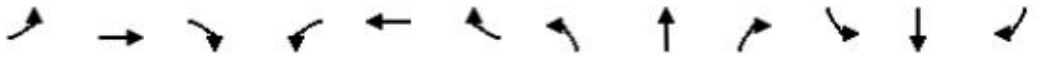
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.1	27.8	4.3	14.1	8.3	24.7	7.9	10.5
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	3.0	5.7	2.6	2.3	4.9	7.9	4.0	2.7
Green Ext Time (p_c), s	0.0	7.4	0.0	0.0	0.2	10.8	0.2	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	13.0
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	110	10	40	20	25	5	170	375	40	50	545	305
Future Volume (veh/h)	110	10	40	20	25	5	170	375	40	50	545	305
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	116	11	0	21	26	0	179	395	0	53	574	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	193	255		281	161		514	1511		533	1361	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.16	0.00	0.02	0.09	0.00	0.09	0.43	0.00	0.03	0.36	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.3	18.5	0.0	21.1	22.7	0.0	8.6	10.0	0.0	9.8	13.2	0.0
Ln Grp LOS	C	B		C	C		A	A		A	B	
Approach Vol, veh/h		127			47			574			627	
Approach Delay, s/veh		25.6			21.9			9.5			13.0	
Approach LOS		C			C			A			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	5.1	27.8	4.3	14.1	8.3	24.7	7.9	10.5
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	7.0	3.7	9.1	3.8	7.2
Max Q Clear (g_c+I1), s	3.0	5.7	2.6	2.3	4.9	7.9	4.0	2.7
Green Ext Time (g_e), s	0.0	7.4	0.0	0.0	0.2	10.8	0.2	0.0
Prob of Phs Call (p_c)	0.53	1.00	0.26	0.89	0.92	1.00	0.81	0.56
Prob of Max Out (p_x)	0.00	0.10	0.00	1.00	0.09	0.30	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1725		1668		1781		2908	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1610		3741		1841

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1485		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	53	0	21	0	179	0	116	0
Grp Sat Flow (s), veh/h/ln	1725	0	1668	0	1781	0	1454	0
Q Serve Time (g_s), s	1.0	0.0	0.6	0.0	2.9	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	1.0	0.0	0.6	0.0	2.9	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	958	0	1315	0	839	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	18.7	0.0	4.5	0.0	20.3	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	18.2	0.0	4.5	0.0	12.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	2.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	533	0	281	0	514	0	193	0
V/C Ratio (X)	0.10	0.00	0.07	0.00	0.35	0.00	0.60	0.00
Avail Cap (c_a), veh/h	865	0	791	0	747	0	877	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	9.7	0.0	20.9	0.0	8.2	0.0	23.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.4	0.0	3.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	9.8	0.0	21.1	0.0	8.6	0.0	26.3	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.2	0.0	0.8	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.6	0.0	0.4	0.0	1.5	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.09	0.00	0.15	0.00	0.18	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	395	0	11	0	574	0	26
Grp Sat Flow (s), veh/h/ln	0	1777	0	1610	0	1870	0	1841
Q Serve Time (g_s), s	0.0	3.7	0.0	0.3	0.0	5.9	0.0	0.7
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	0.3	0.0	5.9	0.0	0.7
Lane Grp Cap (c), veh/h	0	1511	0	255	0	1361	0	161
V/C Ratio (X)	0.00	0.26	0.00	0.04	0.00	0.42	0.00	0.16
Avail Cap (c_a), veh/h	0	2352	0	282	0	2476	0	322
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	9.5	0.0	18.3	0.0	12.3	0.0	21.7
Incr Delay (d2), s/veh	0.0	0.4	0.0	0.1	0.0	1.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.0	0.0	18.5	0.0	13.2	0.0	22.7
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.1	0.0	2.0	0.0	0.3

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.1	0.0	0.2	0.0	4.0	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.01	0.00	0.11	0.00	0.13
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1485	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	251	0	540	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	278	0	983	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	13.0
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

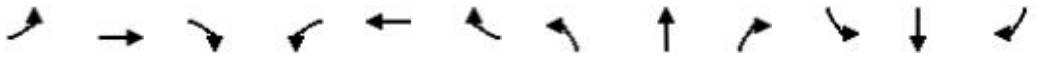
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	1	15	1	35	5	550	170	265	335	5
Future Vol, veh/h	2	1	1	15	1	35	5	550	170	265	335	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	50	70	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	2	2	2	2	25	14	2	2	2	2	2
Mvmt Flow	2	1	1	16	1	37	5	579	179	279	353	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1214	1682	179	1324	1505	289	358	0	0	758	0	0
Stage 1	913	913	-	589	589	-	-	-	-	-	-	-
Stage 2	301	768	-	735	916	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.54	6.94	7.54	6.54	7.4	4.38	-	-	4.14	-	-
Critical Hdwy Stg 1	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	4	4.02	3.32	3.52	4.02	3.55	2.34	-	-	2.22	-	-
Pot Cap-1 Maneuver	93	94	833	114	120	643	1116	-	-	849	-	-
Stage 1	214	350	-	461	493	-	-	-	-	-	-	-
Stage 2	566	409	-	377	349	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	58	62	833	75	80	643	1116	-	-	849	-	-
Mov Cap-2 Maneuver	58	62	-	75	80	-	-	-	-	-	-	-
Stage 1	144	235	-	458	490	-	-	-	-	-	-	-
Stage 2	529	406	-	252	235	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	54.06	27.82	0.09	4.95
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	32	-	-	78	75	538	849	-	-
HCM Lane V/C Ratio	0.005	-	-	0.054	0.21	0.07	0.329	-	-
HCM Control Delay (s/veh)	8.2	0	-	54.1	65.3	12.2	11.3	-	-
HCM Lane LOS	A	A	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.7	0.2	1.4	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	170	65	170	20	525	95	70	255	25
Future Volume (veh/h)	30	40	55	170	65	170	20	525	95	70	255	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	179	68	0	21	553	100	74	268	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	353	273	220	485	452		542	1143	206	393	1334	128
Arrive On Green	0.02	0.14	0.14	0.11	0.23	0.00	0.01	0.38	0.38	0.04	0.41	0.41
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	3008	542	1781	3275	315
Grp Volume(v), veh/h	32	42	58	179	68	0	21	326	327	74	144	150
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1773	1781	1777	1814
Q Serve(g_s), s	0.8	1.0	1.8	4.4	1.5	0.0	0.4	7.7	7.7	1.4	2.9	2.9
Cycle Q Clear(g_c), s	0.8	1.0	1.8	4.4	1.5	0.0	0.4	7.7	7.7	1.4	2.9	2.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		0.17
Lane Grp Cap(c), veh/h	353	273	220	485	452		542	675	673	393	724	739
V/C Ratio(X)	0.09	0.15	0.26	0.37	0.15		0.04	0.48	0.49	0.19	0.20	0.20
Avail Cap(c_a), veh/h	688	537	432	658	537		887	1098	1095	690	1098	1121
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.8	20.9	21.2	15.7	16.9	0.0	10.2	13.0	13.0	10.2	10.5	10.5
Incr Delay (d2), s/veh	0.1	0.6	1.4	0.5	0.3	0.0	0.0	2.5	2.5	0.2	0.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.9	1.3	3.0	1.2	0.0	0.2	5.2	5.3	0.8	1.8	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.9	21.4	22.5	16.1	17.2	0.0	10.2	15.4	15.5	10.4	11.1	11.1
LnGrp LOS	B	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			247			674			368	
Approach Delay, s/veh		21.5			16.4			15.3			11.0	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.8	26.9	9.7	12.6	4.3	28.4	4.7	17.6
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.4	9.7	6.4	3.8	2.4	4.9	2.8	3.5
Green Ext Time (p_c), s	0.1	11.2	0.2	0.4	0.0	5.1	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	40	55	170	65	170	20	525	95	70	255	25
Future Volume (veh/h)	30	40	55	170	65	170	20	525	95	70	255	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	42	58	179	68	0	21	553	100	74	268	26
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	353	273	220	485	452		542	1143	206	393	1334	128
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.14	0.14	0.11	0.23	0.00	0.01	0.38	0.38	0.04	0.41	0.41
Unsig. Movement Delay												
Ln Grp Delay, s/veh	19.9	21.4	22.5	16.1	17.2	0.0	10.2	15.4	15.5	10.4	11.1	11.1
Ln Grp LOS	B	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		132			247			674			368	
Approach Delay, s/veh		21.5			16.4			15.3			11.0	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	5.8	26.9	9.7	12.6	4.3	28.4	4.7	17.6
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.6	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.4	9.7	6.4	3.8	2.4	4.9	2.8	3.5
Green Ext Time (g_e), s	0.1	11.2	0.2	0.4	0.0	5.1	0.0	0.3
Prob of Phs Call (p_c)	0.68	1.00	0.94	0.95	0.27	1.00	0.39	1.00
Prob of Max Out (p_x)	0.00	0.42	0.34	0.09	0.00	0.04	0.00	0.10

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3008		1969		3275		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		542		1585		315		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	74	0	179	0	21	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.4	0.0	4.4	0.0	0.4	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	1.4	0.0	4.4	0.0	0.4	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	779	0	1295	0	1085	0	1333	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	20.9	0.0	9.6	0.0	20.9	0.0	7.6	0.0
Perm LT Serve Time (g_u), s	13.2	0.0	6.6	0.0	19.5	0.0	7.6	0.0
Perm LT Q Serve Time (g_ps), s	0.8	0.0	0.5	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	393	0	485	0	542	0	353	0
V/C Ratio (X)	0.19	0.00	0.37	0.00	0.04	0.00	0.09	0.00
Avail Cap (c_a), veh/h	690	0	658	0	887	0	688	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.2	0.0	15.7	0.0	10.2	0.0	19.8	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.0	0.0	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.4	0.0	16.1	0.0	10.2	0.0	19.9	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	1.6	0.0	0.1	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.8	0.0	3.0	0.0	0.2	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.14	0.00	0.75	0.00	0.04	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	326	0	42	0	144	0	68
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	7.7	0.0	1.0	0.0	2.9	0.0	1.5
Cycle Q Clear Time (g_c), s	0.0	7.7	0.0	1.0	0.0	2.9	0.0	1.5
Lane Grp Cap (c), veh/h	0	675	0	273	0	724	0	452
V/C Ratio (X)	0.00	0.48	0.00	0.15	0.00	0.20	0.00	0.15
Avail Cap (c_a), veh/h	0	1098	0	537	0	1098	0	537
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.0	0.0	20.9	0.0	10.5	0.0	16.9
Incr Delay (d2), s/veh	0.0	2.5	0.0	0.6	0.0	0.6	0.0	0.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.4	0.0	21.4	0.0	11.1	0.0	17.2
1st-Term Q (Q1), veh/ln	0.0	2.4	0.0	0.4	0.0	0.9	0.0	0.6

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.2	0.0	0.9	0.0	1.8	0.0	1.2
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.09	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	327	0	58	0	150	0	0
Grp Sat Flow (s), veh/h/ln	0	1773	0	1585	0	1814	0	1585
Q Serve Time (g_s), s	0.0	7.7	0.0	1.8	0.0	2.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.7	0.0	1.8	0.0	2.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.31	0.00	1.00	0.00	0.17	0.00	1.00
Lane Grp Cap (c), veh/h	0	673	0	220	0	739	0	364
V/C Ratio (X)	0.00	0.49	0.00	0.26	0.00	0.20	0.00	0.00
Avail Cap (c_a), veh/h	0	1095	0	432	0	1121	0	432
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.0	0.0	21.2	0.0	10.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.5	0.0	1.4	0.0	0.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.5	0.0	22.5	0.0	11.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	0.6	0.0	0.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	5.3	0.0	1.3	0.0	1.9	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.21	0.00	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.0
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	65	130	125	160	180	150
Future Vol, veh/h	65	130	125	160	180	150
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	68	137	132	168	189	158
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.8	10.2	12.7
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	55%
Vol Right, %	0%	0%	0%	100%	45%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	125	160	65	130	330
LT Vol	125	0	65	0	0
Through Vol	0	160	0	0	180
RT Vol	0	0	0	130	150
Lane Flow Rate	132	168	68	137	347
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.217	0.254	0.125	0.204	0.481
Departure Headway (Hd)	5.932	5.428	6.581	5.368	4.984
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	600	655	540	661	716
Service Time	3.716	3.21	4.378	3.164	3.057
HCM Lane V/C Ratio	0.22	0.256	0.126	0.207	0.485
HCM Control Delay, s/veh	10.4	10.1	10.3	9.6	12.7
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	0.8	1	0.4	0.8	2.6



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	105	40	65	155	155	125	420	95	255	240	135
Future Volume (veh/h)	215	105	40	65	155	155	125	420	95	255	240	135
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	226	111	0	68	163	0	132	442	100	268	253	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Cap, veh/h	365	427		387	275		522	983	417	520	638	
Arrive On Green	0.11	0.22	0.00	0.05	0.14	0.00	0.08	0.26	0.26	0.14	0.32	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1497	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	226	111	0	68	163	0	132	442	100	268	253	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1497	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.6	2.7	0.0	1.8	4.4	0.0	3.0	5.6	2.8	5.7	5.7	0.0
Cycle Q Clear(g_c), s	3.6	2.7	0.0	1.8	4.4	0.0	3.0	5.6	2.8	5.7	5.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	365	427		387	275		522	983	417	520	638	
V/C Ratio(X)	0.62	0.26		0.18	0.59		0.25	0.45	0.24	0.52	0.40	
Avail Cap(c_a), veh/h	1242	427		976	311		894	1246	528	783	656	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.4	18.5	0.0	19.7	23.0	0.0	13.3	17.6	16.5	11.3	15.0	0.0
Incr Delay (d2), s/veh	1.7	0.7	0.0	0.2	4.6	0.0	0.3	1.5	1.4	0.8	1.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.6	2.1	0.0	1.3	4.0	0.0	1.9	4.2	1.9	3.5	4.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.1	19.2	0.0	19.9	27.6	0.0	13.6	19.1	17.9	12.1	16.8	0.0
LnGrp LOS	C	B		B	C		B	B	B	B	B	
Approach Vol, veh/h		337			231			674			521	
Approach Delay, s/veh		23.9			25.3			17.8			14.4	
Approach LOS		C			C			B			B	

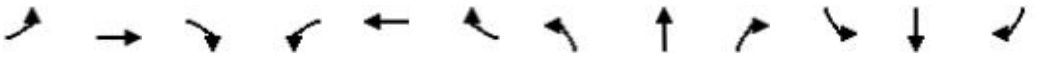
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.6	21.0	6.1	18.4	8.1	24.5	10.5	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	7.7	7.6	3.8	4.7	5.0	7.7	5.6	6.4
Green Ext Time (p_c), s	0.5	5.6	0.1	0.3	0.2	2.6	0.6	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	105	40	65	155	155	125	420	95	255	240	135
Future Volume (veh/h)	215	105	40	65	155	155	125	420	95	255	240	135
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	226	111	0	68	163	0	132	442	100	268	253	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	365	427		387	275		522	983	417	520	638	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.22	0.00	0.05	0.14	0.00	0.08	0.26	0.26	0.14	0.32	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.1	19.2	0.0	19.9	27.6	0.0	13.6	19.1	17.9	12.1	16.8	0.0
Ln Grp LOS	C	B		B	C		B	B	B	B	B	
Approach Vol, veh/h		337			231			674			521	
Approach Delay, s/veh		23.9			25.3			17.8			14.4	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	11.6	21.0	6.1	18.4	8.1	24.5	10.5	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	7.7	7.6	3.8	4.7	5.0	7.7	5.6	6.4
Green Ext Time (g_e), s	0.5	5.6	0.1	0.3	0.2	2.6	0.6	0.3
Prob of Phs Call (p_c)	0.99	1.00	0.66	1.00	0.88	1.00	0.97	1.00
Prob of Max Out (p_x)	0.03	0.82	0.00	1.00	0.00	0.69	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1497

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	268	0	68	0	132	0	226	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.7	0.0	1.8	0.0	3.0	0.0	3.6	0.0
Cycle Q Clear Time (g_c), s	5.7	0.0	1.8	0.0	3.0	0.0	3.6	0.0
Perm LT Sat Flow (s_l), veh/h/ln	864	0	1282	0	1127	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.4	0.0	8.0	0.0	12.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.4	0.0	0.0	0.0	0.3	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	520	0	387	0	522	0	365	0
V/C Ratio (X)	0.52	0.00	0.18	0.00	0.25	0.00	0.62	0.00
Avail Cap (c_a), veh/h	783	0	976	0	894	0	1242	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.3	0.0	19.7	0.0	13.3	0.0	24.4	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.2	0.0	0.3	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.1	0.0	19.9	0.0	13.6	0.0	26.1	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	0.7	0.0	1.0	0.0	1.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.5	0.0	1.3	0.0	1.9	0.0	2.6	0.0
%ile Storage Ratio (RQ%)	0.68	0.00	0.16	0.00	0.28	0.00	0.37	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	442	0	111	0	253	0	163
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	5.6	0.0	2.7	0.0	5.7	0.0	4.4
Cycle Q Clear Time (g_c), s	0.0	5.6	0.0	2.7	0.0	5.7	0.0	4.4
Lane Grp Cap (c), veh/h	0	983	0	427	0	638	0	275
V/C Ratio (X)	0.00	0.45	0.00	0.26	0.00	0.40	0.00	0.59
Avail Cap (c_a), veh/h	0	1246	0	427	0	656	0	311
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.6	0.0	18.5	0.0	15.0	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.7	0.0	1.8	0.0	4.6
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.1	0.0	19.2	0.0	16.8	0.0	27.6
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	1.1	0.0	2.2	0.0	1.9

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.1	0.0	0.3	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.2	0.0	2.1	0.0	4.6	0.0	4.0
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.01	0.00	0.17	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	100	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1497
Q Serve Time (g_s), s	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.8	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	417	0	344	0	513	0	209
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	528	0	344	0	528	0	236
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	18.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	25	130	25	40	5	135	510	25	35	295	275
Future Volume (veh/h)	190	25	130	25	40	5	135	510	25	35	295	275
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	200	26	0	26	42	0	142	537	0	37	311	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Cap, veh/h	329	402		323	201		566	1379		406	1247	
Arrive On Green	0.10	0.21	0.00	0.02	0.11	0.00	0.08	0.39	0.00	0.02	0.33	0.00
Sat Flow, veh/h	3264	1875	1585	1781	1781	0	1781	3647	0	1697	3741	1422
Grp Volume(v), veh/h	200	26	0	26	42	0	142	537	0	37	311	0
Grp Sat Flow(s),veh/h/ln	1632	1875	1585	1781	1781	0	1781	1777	0	1697	1870	1422
Q Serve(g_s), s	3.1	0.6	0.0	0.7	1.1	0.0	2.6	5.8	0.0	0.8	3.2	0.0
Cycle Q Clear(g_c), s	3.1	0.6	0.0	0.7	1.1	0.0	2.6	5.8	0.0	0.8	3.2	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	329	402		323	201		566	1379		406	1247	
V/C Ratio(X)	0.61	0.06		0.08	0.21		0.25	0.39		0.09	0.25	
Avail Cap(c_a), veh/h	1254	402		1009	300		810	3929		731	4136	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.0	16.7	0.0	20.5	21.5	0.0	9.4	11.8	0.0	11.4	12.9	0.0
Incr Delay (d2), s/veh	1.8	0.1	0.0	0.1	1.1	0.0	0.2	0.8	0.0	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.0	0.4	0.0	0.5	0.9	0.0	1.4	3.5	0.0	0.5	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.8	16.9	0.0	20.6	22.6	0.0	9.6	12.6	0.0	11.5	13.4	0.0
LnGrp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		226			68			679			348	
Approach Delay, s/veh		23.9			21.8			12.0			13.2	
Approach LOS		C			C			B			B	

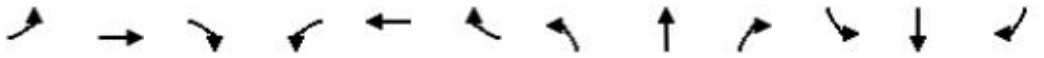
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.8	26.7	4.5	17.4	7.7	23.8	9.9	12.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	2.8	7.8	2.7	2.6	4.6	5.2	5.1	3.1
Green Ext Time (p_c), s	0.0	12.9	0.0	0.0	0.2	7.0	0.5	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	25	130	25	40	5	135	510	25	35	295	275
Future Volume (veh/h)	190	25	130	25	40	5	135	510	25	35	295	275
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	200	26	0	26	42	0	142	537	0	37	311	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	329	402		323	201		566	1379		406	1247	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.10	0.21	0.00	0.02	0.11	0.00	0.08	0.39	0.00	0.02	0.33	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.8	16.9	0.0	20.6	22.6	0.0	9.6	12.6	0.0	11.5	13.4	0.0
Ln Grp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		226			68			679			348	
Approach Delay, s/veh		23.9			21.8			12.0			13.2	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	4.8	26.7	4.5	17.4	7.7	23.8	9.9	12.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	6.9	3.7	9.1	3.7	7.3
Max Q Clear (g_c+I1), s	2.8	7.8	2.7	2.6	4.6	5.2	5.1	3.1
Green Ext Time (g_e), s	0.0	12.9	0.0	0.0	0.2	7.0	0.5	0.1
Prob of Phs Call (p_c)	0.42	1.00	0.32	0.98	0.88	1.00	0.95	0.75
Prob of Max Out (p_x)	0.00	0.03	0.00	1.00	0.05	0.00	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1697		1781		1781		3264	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1875		3741		1781

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1422		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	37	0	26	0	142	0	200	0
Grp Sat Flow (s), veh/h/ln	1697	0	1781	0	1781	0	1632	0
Q Serve Time (g_s), s	0.8	0.0	0.7	0.0	2.6	0.0	3.1	0.0
Cycle Q Clear Time (g_c), s	0.8	0.0	0.7	0.0	2.6	0.0	3.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	827	0	1385	0	1068	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.8	0.0	6.0	0.0	19.2	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	14.9	0.0	6.0	0.0	14.6	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.1	0.0	0.0	0.0	0.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	406	0	323	0	566	0	329	0
V/C Ratio (X)	0.09	0.00	0.08	0.00	0.25	0.00	0.61	0.00
Avail Cap (c_a), veh/h	731	0	1009	0	810	0	1254	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.4	0.0	20.5	0.0	9.4	0.0	23.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.2	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.5	0.0	20.6	0.0	9.6	0.0	24.8	0.0
1st-Term Q (Q1), veh/ln	0.2	0.0	0.3	0.0	0.8	0.0	1.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.5	0.0	0.5	0.0	1.4	0.0	2.0	0.0
%ile Storage Ratio (RQ%)	0.06	0.00	0.11	0.00	0.15	0.00	0.27	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	537	0	26	0	311	0	42
Grp Sat Flow (s), veh/h/ln	0	1777	0	1875	0	1870	0	1781
Q Serve Time (g_s), s	0.0	5.8	0.0	0.6	0.0	3.2	0.0	1.1
Cycle Q Clear Time (g_c), s	0.0	5.8	0.0	0.6	0.0	3.2	0.0	1.1
Lane Grp Cap (c), veh/h	0	1379	0	402	0	1247	0	201
V/C Ratio (X)	0.00	0.39	0.00	0.06	0.00	0.25	0.00	0.21
Avail Cap (c_a), veh/h	0	3929	0	402	0	4136	0	300
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	11.8	0.0	16.7	0.0	12.9	0.0	21.5
Incr Delay (d2), s/veh	0.0	0.8	0.0	0.1	0.0	0.5	0.0	1.1
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.6	0.0	16.9	0.0	13.4	0.0	22.6
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	0.2	0.0	1.1	0.0	0.4

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	3.5	0.0	0.4	0.0	2.2	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.02	0.00	0.06	0.00	0.21
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1422	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	339	0	474	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	339	0	1572	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	14.8
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

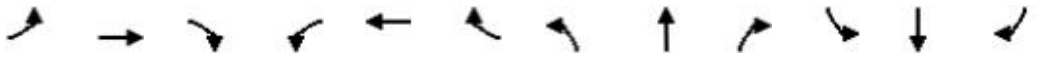
Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	135	1	205	1	460	10	25	425	1
Future Vol, veh/h	5	1	10	135	1	205	1	460	10	25	425	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	50	70	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	142	1	216	1	484	11	26	447	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	745	997	224	763	987	242	448	0	0	495	0	0
Stage 1	501	501	-	486	486	-	-	-	-	-	-	-
Stage 2	245	497	-	277	501	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	302	243	779	293	246	759	1108	-	-	1065	-	-
Stage 1	521	541	-	531	549	-	-	-	-	-	-	-
Stage 2	737	543	-	706	541	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	210	236	779	281	240	759	1108	-	-	1065	-	-
Mov Cap-2 Maneuver	210	236	-	281	240	-	-	-	-	-	-	-
Stage 1	508	528	-	531	549	-	-	-	-	-	-	-
Stage 2	526	543	-	678	527	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	14.61	19.06	0.03	0.47
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	8	-	-	391	281	751	1065	-	-
HCM Lane V/C Ratio	0.001	-	-	0.043	0.506	0.289	0.025	-	-
HCM Control Delay (s/veh)	8.3	0	-	14.6	30.3	11.7	8.5	-	-
HCM Lane LOS	A	A	-	B	D	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	2.7	1.2	0.1	-	-



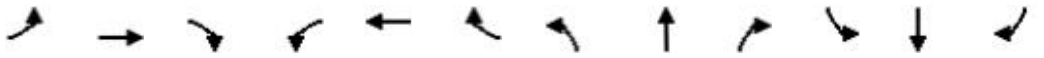
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	170	70	50	50	395	245	150	385	35
Future Volume (veh/h)	25	70	35	170	70	50	50	395	245	150	385	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	179	74	0	53	416	258	158	405	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	309	244	196	431	432		518	845	519	445	1473	134
Arrive On Green	0.02	0.12	0.12	0.11	0.22	0.00	0.03	0.40	0.40	0.08	0.45	0.45
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2115	1299	1781	3294	300
Grp Volume(v), veh/h	26	74	37	179	74	0	53	349	325	158	218	224
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1637	1781	1777	1816
Q Serve(g_s), s	0.8	2.2	1.3	5.2	1.9	0.0	1.1	9.3	9.4	3.1	4.9	4.9
Cycle Q Clear(g_c), s	0.8	2.2	1.3	5.2	1.9	0.0	1.1	9.3	9.4	3.1	4.9	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.16
Lane Grp Cap(c), veh/h	309	244	196	431	432		518	710	654	445	795	813
V/C Ratio(X)	0.08	0.30	0.19	0.42	0.17		0.10	0.49	0.50	0.36	0.27	0.28
Avail Cap(c_a), veh/h	744	625	503	695	625		789	1240	1142	631	1240	1268
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.6	25.2	24.8	18.9	19.9	0.0	10.6	14.1	14.2	9.8	11.0	11.0
Incr Delay (d2), s/veh	0.1	1.5	1.0	0.6	0.4	0.0	0.1	2.4	2.7	0.5	0.9	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	1.9	0.9	3.7	1.6	0.0	0.7	6.5	6.1	1.8	3.2	3.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.7	26.6	25.8	19.5	20.3	0.0	10.7	16.6	16.9	10.3	11.8	11.8
LnGrp LOS	C	C	C	B	C		B	B	B	B	B	B
Approach Vol, veh/h		137			253			727			600	
Approach Delay, s/veh		25.8			19.8			16.3			11.4	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	31.2	10.6	12.8	5.4	34.2	4.6	18.8
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Q Clear Time (g_c+I1), s	5.1	11.4	7.2	4.2	3.1	6.9	2.8	3.9
Green Ext Time (p_c), s	0.2	13.8	0.3	0.7	0.0	8.8	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	15.9
HCM 7th LOS	B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	70	35	170	70	50	50	395	245	150	385	35
Future Volume (veh/h)	25	70	35	170	70	50	50	395	245	150	385	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	74	37	179	74	0	53	416	258	158	405	37
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	309	244	196	431	432		518	845	519	445	1473	134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.12	0.12	0.11	0.22	0.00	0.03	0.40	0.40	0.08	0.45	0.45
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.7	26.6	25.8	19.5	20.3	0.0	10.7	16.6	16.9	10.3	11.8	11.8
Ln Grp LOS	C	C	C	B	C		B	B	B	B	B	B
Approach Vol, veh/h		137			253			727			600	
Approach Delay, s/veh		25.8			19.8			16.3			11.4	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	8.4	31.2	10.6	12.8	5.4	34.2	4.6	18.8
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.8	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	5.1	11.4	7.2	4.2	3.1	6.9	2.8	3.9
Green Ext Time (g_e), s	0.2	13.8	0.3	0.7	0.0	8.8	0.0	0.5
Prob of Phs Call (p_c)	0.94	1.00	0.96	0.98	0.60	1.00	0.37	1.00
Prob of Max Out (p_x)	0.09	0.29	0.01	0.01	0.00	0.06	0.00	0.01

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2115		1969		3294		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1299		1585		300		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	158	0	179	0	53	0	26	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	3.1	0.0	5.2	0.0	1.1	0.0	0.8	0.0
Cycle Q Clear Time (g_c), s	3.1	0.0	5.2	0.0	1.1	0.0	0.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	764	0	1282	0	947	0	1326	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	26.7	0.0	9.8	0.0	25.2	0.0	7.8	0.0
Perm LT Serve Time (g_u), s	15.8	0.0	5.6	0.0	23.3	0.0	7.8	0.0
Perm LT Q Serve Time (g_ps), s	2.8	0.0	0.7	0.0	0.1	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	445	0	431	0	518	0	309	0
V/C Ratio (X)	0.36	0.00	0.42	0.00	0.10	0.00	0.08	0.00
Avail Cap (c_a), veh/h	631	0	695	0	789	0	744	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	9.8	0.0	18.9	0.0	10.6	0.0	23.6	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.6	0.0	0.1	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.3	0.0	19.5	0.0	10.7	0.0	23.7	0.0
1st-Term Q (Q1), veh/ln	0.9	0.0	2.0	0.0	0.4	0.0	0.3	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.8	0.0	3.7	0.0	0.7	0.0	0.6	0.0
%ile Storage Ratio (RQ%)	0.30	0.00	0.93	0.00	0.11	0.00	0.10	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	349	0	74	0	218	0	74
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	9.3	0.0	2.2	0.0	4.9	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	9.3	0.0	2.2	0.0	4.9	0.0	1.9
Lane Grp Cap (c), veh/h	0	710	0	244	0	795	0	432
V/C Ratio (X)	0.00	0.49	0.00	0.30	0.00	0.27	0.00	0.17
Avail Cap (c_a), veh/h	0	1240	0	625	0	1240	0	625
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.1	0.0	25.2	0.0	11.0	0.0	19.9
Incr Delay (d2), s/veh	0.0	2.4	0.0	1.5	0.0	0.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.6	0.0	26.6	0.0	11.8	0.0	20.3
1st-Term Q (Q1), veh/ln	0.0	3.1	0.0	1.0	0.0	1.6	0.0	0.8

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.5	0.0	1.9	0.0	3.2	0.0	1.6
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.20	0.00	0.04	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	325	0	37	0	224	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	1585	0	1816	0	1585
Q Serve Time (g_s), s	0.0	9.4	0.0	1.3	0.0	4.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.4	0.0	1.3	0.0	4.9	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.79	0.00	1.00	0.00	0.16	0.00	1.00
Lane Grp Cap (c), veh/h	0	654	0	196	0	813	0	348
V/C Ratio (X)	0.00	0.50	0.00	0.19	0.00	0.28	0.00	0.00
Avail Cap (c_a), veh/h	0	1142	0	503	0	1268	0	503
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.2	0.0	24.8	0.0	11.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	0.0	1.0	0.0	0.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.9	0.0	25.8	0.0	11.8	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.9	0.0	0.5	0.0	1.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.1	0.0	0.9	0.0	3.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.16	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.9
HCM 7th LOS	B

Notes
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	13.7
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	185	140	100	230	215	135
Future Vol, veh/h	185	140	100	230	215	135
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	195	147	105	242	226	142
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	12.3	12.4	16.2
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	61%
Vol Right, %	0%	0%	0%	100%	39%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	230	185	140	350
LT Vol	100	0	185	0	0
Through Vol	0	230	0	0	215
RT Vol	0	0	0	140	135
Lane Flow Rate	105	242	195	147	368
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.193	0.41	0.377	0.236	0.578
Departure Headway (Hd)	6.607	6.099	6.977	5.759	5.652
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	543	591	516	623	637
Service Time	4.349	3.841	4.72	3.502	3.69
HCM Lane V/C Ratio	0.193	0.409	0.378	0.236	0.578
HCM Control Delay, s/veh	10.9	13	13.9	10.3	16.2
HCM Lane LOS	B	B	B	B	C
HCM 95th-tile Q	0.7	2	1.7	0.9	3.7



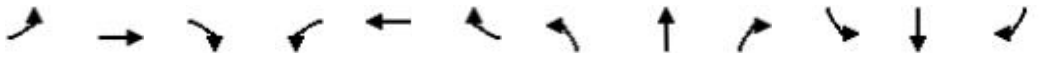
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	150	140	115	160	210	95	360	85	250	455	210
Future Volume (veh/h)	225	150	140	115	160	210	95	360	85	250	455	210
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	237	158	0	121	168	0	100	379	89	263	479	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	366		412	280		352	980	415	539	667	
Arrive On Green	0.11	0.19	0.00	0.08	0.14	0.00	0.06	0.26	0.26	0.14	0.34	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1585	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	237	158	0	121	168	0	100	379	89	263	479	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1585	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.8	4.1	0.0	3.2	4.6	0.0	2.3	4.8	2.5	5.6	12.2	0.0
Cycle Q Clear(g_c), s	3.8	4.1	0.0	3.2	4.6	0.0	2.3	4.8	2.5	5.6	12.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	371	366		412	280		352	980	415	539	667	
V/C Ratio(X)	0.64	0.43		0.29	0.60		0.28	0.39	0.21	0.49	0.72	
Avail Cap(c_a), veh/h	935	997		780	997		755	1241	526	804	667	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.5	20.6	0.0	18.6	23.0	0.0	14.5	17.4	16.5	11.2	16.5	0.0
Incr Delay (d2), s/veh	1.8	1.7	0.0	0.4	4.3	0.0	0.4	1.2	1.2	0.7	6.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.7	3.4	0.0	2.2	4.1	0.0	1.5	3.6	1.7	3.4	9.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.3	22.3	0.0	18.9	27.4	0.0	14.9	18.5	17.7	11.9	23.1	0.0
LnGrp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		395			289			568			742	
Approach Delay, s/veh		24.7			23.8			17.8			19.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.5	21.0	8.1	16.7	7.1	25.4	10.7	14.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Q Clear Time (g_c+I1), s	7.8	6.8	5.2	6.1	4.3	14.2	5.8	6.6
Green Ext Time (p_c), s	0.5	5.1	0.2	1.5	0.2	2.6	0.5	1.6

Intersection Summary	
HCM 7th Control Delay, s/veh	20.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	225	150	140	115	160	210	95	360	85	250	455	210
Future Volume (veh/h)	225	150	140	115	160	210	95	360	85	250	455	210
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	237	158	0	121	168	0	100	379	89	263	479	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	371	366		412	280		352	980	415	539	667	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.19	0.00	0.08	0.14	0.00	0.06	0.26	0.26	0.14	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.3	22.3	0.0	18.9	27.4	0.0	14.9	18.5	17.7	11.9	23.1	0.0
Ln Grp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		395			289			568			742	
Approach Delay, s/veh		24.7			23.8			17.8			19.1	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	11.5	21.0	8.1	16.7	7.1	25.4	10.7	14.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	7.6	6.8	5.2	6.1	4.3	14.2	5.8	6.6
Green Ext Time (g_e), s	0.5	5.1	0.2	1.5	0.2	2.6	0.5	1.6
Prob of Phs Call (p_c)	0.98	1.00	0.85	1.00	0.80	1.00	0.98	1.00
Prob of Max Out (p_x)	0.03	0.72	0.00	0.00	0.00	1.00	0.01	0.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	263	0	121	0	100	0	237	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	5.6	0.0	3.2	0.0	2.3	0.0	3.8	0.0
Cycle Q Clear Time (g_c), s	5.6	0.0	3.2	0.0	2.3	0.0	3.8	0.0
Perm LT Sat Flow (s_l), veh/h/ln	925	0	1228	0	916	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.2	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	10.2	0.0	6.6	0.0	7.2	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	2.7	0.0	0.2	0.0	1.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	539	0	412	0	352	0	371	0
V/C Ratio (X)	0.49	0.00	0.29	0.00	0.28	0.00	0.64	0.00
Avail Cap (c_a), veh/h	804	0	780	0	755	0	935	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.2	0.0	18.6	0.0	14.5	0.0	24.5	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.4	0.0	0.4	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.9	0.0	18.9	0.0	14.9	0.0	26.3	0.0
1st-Term Q (Q1), veh/ln	1.8	0.0	1.2	0.0	0.8	0.0	1.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.4	0.0	2.2	0.0	1.5	0.0	2.7	0.0
%ile Storage Ratio (RQ%)	0.67	0.00	0.28	0.00	0.22	0.00	0.39	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	379	0	158	0	479	0	168
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	4.8	0.0	4.1	0.0	12.2	0.0	4.6
Cycle Q Clear Time (g_c), s	0.0	4.8	0.0	4.1	0.0	12.2	0.0	4.6
Lane Grp Cap (c), veh/h	0	980	0	366	0	667	0	280
V/C Ratio (X)	0.00	0.39	0.00	0.43	0.00	0.72	0.00	0.60
Avail Cap (c_a), veh/h	0	1241	0	997	0	667	0	997
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.4	0.0	20.6	0.0	16.5	0.0	23.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	1.7	0.0	6.5	0.0	4.3
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.5	0.0	22.3	0.0	23.1	0.0	27.4
1st-Term Q (Q1), veh/ln	0.0	1.8	0.0	1.7	0.0	4.7	0.0	1.9

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	1.2	0.0	0.3
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.68	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	3.6	0.0	3.4	0.0	9.9	0.0	4.1
%ile Storage Ratio (RQ%)	0.00	0.14	0.00	0.01	0.00	0.36	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	89	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.5	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	415	0	295	0	537	0	226
V/C Ratio (X)	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	526	0	802	0	537	0	802
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.5	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.2	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.7	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	20.5
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HORIZON (2050) NO-BUILD CAPACITY REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	45	25	30	5	185	375	45	55	310	335
Future Volume (veh/h)	120	10	45	25	30	5	185	375	45	55	310	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	126	11	0	26	32	0	195	395	0	58	326	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Cap, veh/h	210	281		310	184		593	1349		499	1158	
Arrive On Green	0.07	0.17	0.00	0.02	0.10	0.00	0.11	0.38	0.00	0.04	0.31	0.00
Sat Flow, veh/h	2908	1610	1585	1668	1841	0	1781	3647	0	1725	3741	1485
Grp Volume(v), veh/h	126	11	0	26	32	0	195	395	0	58	326	0
Grp Sat Flow(s),veh/h/ln	1454	1610	1585	1668	1841	0	1781	1777	0	1725	1870	1485
Q Serve(g_s), s	2.0	0.3	0.0	0.7	0.8	0.0	3.3	3.8	0.0	1.1	3.2	0.0
Cycle Q Clear(g_c), s	2.0	0.3	0.0	0.7	0.8	0.0	3.3	3.8	0.0	1.1	3.2	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	281		310	184		593	1349		499	1158	
V/C Ratio(X)	0.60	0.04		0.08	0.17		0.33	0.29		0.12	0.28	
Avail Cap(c_a), veh/h	930	299		848	342		828	2494		847	2625	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.8	16.6	0.0	19.1	20.0	0.0	8.4	10.5	0.0	10.8	12.7	0.0
Incr Delay (d2), s/veh	2.7	0.1	0.0	0.1	1.0	0.0	0.3	0.6	0.0	0.1	0.6	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.2	0.2	0.0	0.4	0.6	0.0	1.7	2.2	0.0	0.6	2.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.5	16.7	0.0	19.3	20.9	0.0	8.8	11.0	0.0	10.9	13.3	0.0
LnGrp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		137			58			590			384	
Approach Delay, s/veh		23.9			20.2			10.3			12.9	
Approach LOS		C			C			B			B	

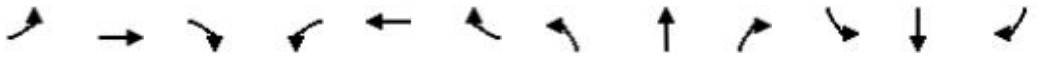
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.2	24.4	4.4	14.5	8.6	21.0	8.0	10.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	3.1	5.8	2.7	2.3	5.3	5.2	4.0	2.8
Green Ext Time (p_c), s	0.1	7.4	0.0	0.0	0.3	6.1	0.3	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	45	25	30	5	185	375	45	55	310	335
Future Volume (veh/h)	120	10	45	25	30	5	185	375	45	55	310	335
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	126	11	0	26	32	0	195	395	0	58	326	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	210	281		310	184		593	1349		499	1158	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.17	0.00	0.02	0.10	0.00	0.11	0.38	0.00	0.04	0.31	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.5	16.7	0.0	19.3	20.9	0.0	8.8	11.0	0.0	10.9	13.3	0.0
Ln Grp LOS	C	B		B	C		A	B		B	B	
Approach Vol, veh/h		137			58			590			384	
Approach Delay, s/veh		23.9			20.2			10.3			12.9	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	5.2	24.4	4.4	14.5	8.6	21.0	8.0	10.8
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	7.0	3.7	9.1	3.8	7.2
Max Q Clear (g_c+I1), s	3.1	5.8	2.7	2.3	5.3	5.2	4.0	2.8
Green Ext Time (g_e), s	0.1	7.4	0.0	0.0	0.3	6.1	0.3	0.1
Prob of Phs Call (p_c)	0.54	1.00	0.30	0.90	0.93	1.00	0.82	0.60
Prob of Max Out (p_x)	0.00	0.10	0.00	1.00	0.13	0.06	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1725		1668		1781		2908	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1610		3741		1841

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1485		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	58	0	26	0	195	0	126	0
Grp Sat Flow (s), veh/h/ln	1725	0	1668	0	1781	0	1454	0
Q Serve Time (g_s), s	1.1	0.0	0.7	0.0	3.3	0.0	2.0	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	0.7	0.0	3.3	0.0	2.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	958	0	1315	0	1054	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.0	0.0	4.8	0.0	16.9	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	14.6	0.0	4.8	0.0	11.8	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	1.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	499	0	310	0	593	0	210	0
V/C Ratio (X)	0.12	0.00	0.08	0.00	0.33	0.00	0.60	0.00
Avail Cap (c_a), veh/h	847	0	848	0	828	0	930	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.8	0.0	19.1	0.0	8.4	0.0	21.8	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.3	0.0	2.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.9	0.0	19.3	0.0	8.8	0.0	24.5	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.2	0.0	0.9	0.0	0.6	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.6	0.0	0.4	0.0	1.7	0.0	1.2	0.0
%ile Storage Ratio (RQ%)	0.08	0.00	0.10	0.00	0.17	0.00	0.18	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	395	0	11	0	326	0	32
Grp Sat Flow (s), veh/h/ln	0	1777	0	1610	0	1870	0	1841
Q Serve Time (g_s), s	0.0	3.8	0.0	0.3	0.0	3.2	0.0	0.8
Cycle Q Clear Time (g_c), s	0.0	3.8	0.0	0.3	0.0	3.2	0.0	0.8
Lane Grp Cap (c), veh/h	0	1349	0	281	0	1158	0	184
V/C Ratio (X)	0.00	0.29	0.00	0.04	0.00	0.28	0.00	0.17
Avail Cap (c_a), veh/h	0	2494	0	299	0	2625	0	342
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.5	0.0	16.6	0.0	12.7	0.0	20.0
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.1	0.0	0.6	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.0	0.0	16.7	0.0	13.3	0.0	20.9
1st-Term Q (Q1), veh/ln	0.0	1.1	0.0	0.1	0.0	1.1	0.0	0.3

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.2	0.0	0.2	0.0	2.2	0.0	0.6
%ile Storage Ratio (RQ%)	0.00	0.09	0.00	0.01	0.00	0.06	0.00	0.14
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1485	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	277	0	460	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	294	0	1042	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	13.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

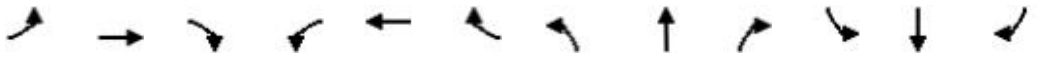
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	1	1	1	5	5	600	2	5	370	5
Future Vol, veh/h	2	1	1	1	1	5	5	600	2	5	370	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	2	2	2	2	25	14	2	2	2	2	2
Mvmt Flow	2	1	1	1	1	5	5	632	2	5	389	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	729	1047	197	849	1048	317	395	0	0	634	0	0
Stage 1	403	403	-	643	643	-	-	-	-	-	-	-
Stage 2	327	644	-	206	405	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.54	6.94	7.54	6.54	7.4	4.38	-	-	4.14	-	-
Critical Hdwy Stg 1	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	4	4.02	3.32	3.52	4.02	3.55	2.34	-	-	2.22	-	-
Pot Cap-1 Maneuver	235	227	811	254	226	616	1079	-	-	945	-	-
Stage 1	482	598	-	428	467	-	-	-	-	-	-	-
Stage 2	543	466	-	777	597	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	229	224	811	250	224	616	1079	-	-	945	-	-
Mov Cap-2 Maneuver	229	224	-	250	224	-	-	-	-	-	-	-
Stage 1	479	595	-	426	464	-	-	-	-	-	-	-
Stage 2	534	463	-	770	593	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	18.2	13.69	0.12	0.17
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	30	-	-	277	422	47	-	-
HCM Lane V/C Ratio	0.005	-	-	0.015	0.017	0.006	-	-
HCM Control Delay (s/veh)	8.4	0	-	18.2	13.7	8.8	0.1	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	45	60	185	75	90	25	480	100	75	265	30
Future Volume (veh/h)	35	45	60	185	75	90	25	480	100	75	265	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	47	63	195	79	0	26	505	105	79	279	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	361	279	225	501	469		519	1064	220	399	1257	143
Arrive On Green	0.02	0.14	0.14	0.12	0.24	0.00	0.02	0.36	0.36	0.05	0.39	0.39
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2932	607	1781	3216	366
Grp Volume(v), veh/h	37	47	63	195	79	0	26	305	305	79	153	158
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1761	1781	1777	1805
Q Serve(g_s), s	1.0	1.1	1.9	4.7	1.7	0.0	0.5	7.2	7.3	1.5	3.1	3.2
Cycle Q Clear(g_c), s	1.0	1.1	1.9	4.7	1.7	0.0	0.5	7.2	7.3	1.5	3.1	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.34	1.00		0.20
Lane Grp Cap(c), veh/h	361	279	225	501	469		519	645	639	399	694	705
V/C Ratio(X)	0.10	0.17	0.28	0.39	0.17		0.05	0.47	0.48	0.20	0.22	0.22
Avail Cap(c_a), veh/h	694	540	435	661	540		862	1106	1096	693	1106	1123
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.4	20.6	21.0	15.2	16.5	0.0	10.7	13.4	13.4	10.5	11.1	11.1
Incr Delay (d2), s/veh	0.1	0.6	1.4	0.5	0.4	0.0	0.0	2.5	2.5	0.2	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	1.0	1.4	3.2	1.4	0.0	0.3	5.0	5.0	0.9	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.6	21.2	22.4	15.7	16.9	0.0	10.7	15.9	16.0	10.8	11.8	11.9
LnGrp LOS	B	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		147			274			636			390	
Approach Delay, s/veh		21.3			16.0			15.7			11.6	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.0	25.8	10.1	12.7	4.5	27.4	4.8	18.0
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.5	9.3	6.7	3.9	2.5	5.2	3.0	3.7
Green Ext Time (p_c), s	0.1	10.5	0.2	0.5	0.0	5.4	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	15.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	45	60	185	75	90	25	480	100	75	265	30
Future Volume (veh/h)	35	45	60	185	75	90	25	480	100	75	265	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	47	63	195	79	0	26	505	105	79	279	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	361	279	225	501	469		519	1064	220	399	1257	143
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.14	0.14	0.12	0.24	0.00	0.02	0.36	0.36	0.05	0.39	0.39
Unsig. Movement Delay												
Ln Grp Delay, s/veh	19.6	21.2	22.4	15.7	16.9	0.0	10.7	15.9	16.0	10.8	11.8	11.9
Ln Grp LOS	B	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		147			274			636			390	
Approach Delay, s/veh		21.3			16.0			15.7			11.6	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	6.0	25.8	10.1	12.7	4.5	27.4	4.8	18.0
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.6	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.5	9.3	6.7	3.9	2.5	5.2	3.0	3.7
Green Ext Time (g_e), s	0.1	10.5	0.2	0.5	0.0	5.4	0.0	0.4
Prob of Phs Call (p_c)	0.70	1.00	0.95	0.97	0.33	1.00	0.43	1.00
Prob of Max Out (p_x)	0.01	0.37	0.46	0.11	0.00	0.06	0.00	0.13

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2932		1969		3216		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		607		1585		366		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	79	0	195	0	26	0	37	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.5	0.0	4.7	0.0	0.5	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	1.5	0.0	4.7	0.0	0.5	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	811	0	1283	0	1068	0	1320	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.9	0.0	9.7	0.0	19.8	0.0	7.7	0.0
Perm LT Serve Time (g_u), s	12.5	0.0	6.6	0.0	18.2	0.0	7.7	0.0
Perm LT Q Serve Time (g_ps), s	0.8	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	399	0	501	0	519	0	361	0
V/C Ratio (X)	0.20	0.00	0.39	0.00	0.05	0.00	0.10	0.00
Avail Cap (c_a), veh/h	693	0	661	0	862	0	694	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.5	0.0	15.2	0.0	10.7	0.0	19.4	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.5	0.0	0.0	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.8	0.0	15.7	0.0	10.7	0.0	19.6	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	1.7	0.0	0.2	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.9	0.0	3.2	0.0	0.3	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.15	0.00	0.80	0.00	0.05	0.00	0.12	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	305	0	47	0	153	0	79
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	7.2	0.0	1.1	0.0	3.1	0.0	1.7
Cycle Q Clear Time (g_c), s	0.0	7.2	0.0	1.1	0.0	3.1	0.0	1.7
Lane Grp Cap (c), veh/h	0	645	0	279	0	694	0	469
V/C Ratio (X)	0.00	0.47	0.00	0.17	0.00	0.22	0.00	0.17
Avail Cap (c_a), veh/h	0	1106	0	540	0	1106	0	540
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.4	0.0	20.6	0.0	11.1	0.0	16.5
Incr Delay (d2), s/veh	0.0	2.5	0.0	0.6	0.0	0.7	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	15.9	0.0	21.2	0.0	11.8	0.0	16.9
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	0.5	0.0	1.0	0.0	0.7

2nd-Term Q (Q2), veh/ln	0.0	0.4	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.0	0.0	1.0	0.0	2.0	0.0	1.4
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.10	0.00	0.02	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	305	0	63	0	158	0	0
Grp Sat Flow (s), veh/h/ln	0	1761	0	1585	0	1805	0	1585
Q Serve Time (g_s), s	0.0	7.3	0.0	1.9	0.0	3.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	7.3	0.0	1.9	0.0	3.2	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.34	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	639	0	225	0	705	0	378
V/C Ratio (X)	0.00	0.48	0.00	0.28	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	1096	0	435	0	1123	0	435
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.4	0.0	21.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.5	0.0	1.4	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.0	0.0	22.4	0.0	11.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.3	0.0	0.7	0.0	1.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	5.0	0.0	1.4	0.0	2.1	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.15	0.00	0.23	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

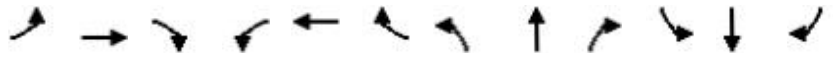
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	11.1
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	135	85	175	200	120
Future Vol, veh/h	75	135	85	175	200	120
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	142	89	184	211	126
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	9.8	10.2	12.6
HCM LOS	A	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	63%
Vol Right, %	0%	0%	0%	100%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	85	175	75	135	320
LT Vol	85	0	75	0	0
Through Vol	0	175	0	0	200
RT Vol	0	0	0	135	120
Lane Flow Rate	89	184	79	142	337
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.148	0.28	0.143	0.209	0.472
Departure Headway (Hd)	5.968	5.463	6.51	5.297	5.041
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	596	652	546	669	707
Service Time	3.754	3.249	4.308	3.094	3.117
HCM Lane V/C Ratio	0.149	0.282	0.145	0.212	0.477
HCM Control Delay, s/veh	9.8	10.4	10.4	9.5	12.6
HCM Lane LOS	A	B	B	A	B
HCM 95th-tile Q	0.5	1.1	0.5	0.8	2.5



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	115	45	75	170	170	115	460	100	280	260	125
Future Volume (veh/h)	240	115	45	75	170	170	115	460	100	280	260	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	253	121	0	79	179	0	121	484	105	295	274	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Cap, veh/h	395	421		391	268		506	957	405	515	658	
Arrive On Green	0.11	0.21	0.00	0.05	0.14	0.00	0.07	0.26	0.26	0.15	0.33	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1497	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	253	121	0	79	179	0	121	484	105	295	274	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1497	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	4.1	3.0	0.0	2.2	5.1	0.0	2.9	6.5	3.1	6.5	6.3	0.0
Cycle Q Clear(g_c), s	4.1	3.0	0.0	2.2	5.1	0.0	2.9	6.5	3.1	6.5	6.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	421		391	268		506	957	405	515	658	
V/C Ratio(X)	0.64	0.29		0.20	0.67		0.24	0.51	0.26	0.57	0.42	
Avail Cap(c_a), veh/h	1208	421		949	302		874	1212	514	744	658	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.8	19.3	0.0	20.1	24.1	0.0	14.1	18.7	17.4	11.9	15.1	0.0
Incr Delay (d2), s/veh	1.7	0.8	0.0	0.3	7.2	0.0	0.2	1.9	1.5	1.0	1.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	2.4	0.0	1.5	4.9	0.0	1.9	5.0	2.1	4.0	5.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.6	20.1	0.0	20.4	31.3	0.0	14.4	20.6	18.9	12.9	17.0	0.0
LnGrp LOS	C	C		C	C		B	C	B	B	B	
Approach Vol, veh/h		374			258			710			569	
Approach Delay, s/veh		24.5			28.0			19.3			14.9	
Approach LOS		C			C			B			B	

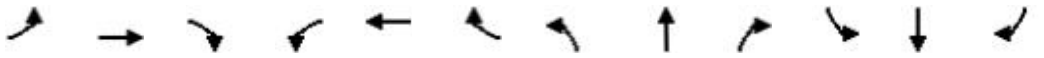
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	21.0	6.6	18.5	7.9	25.6	11.2	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	8.5	8.5	4.2	5.0	4.9	8.3	6.1	7.1
Green Ext Time (p_c), s	0.5	5.6	0.1	0.3	0.2	2.8	0.7	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	115	45	75	170	170	115	460	100	280	260	125
Future Volume (veh/h)	240	115	45	75	170	170	115	460	100	280	260	125
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	253	121	0	79	179	0	121	484	105	295	274	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	395	421		391	268		506	957	405	515	658	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.21	0.00	0.05	0.14	0.00	0.07	0.26	0.26	0.15	0.33	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.6	20.1	0.0	20.4	31.3	0.0	14.4	20.6	18.9	12.9	17.0	0.0
Ln Grp LOS	C	C		C	C		B	C	B	B	B	
Approach Vol, veh/h		374			258			710			569	
Approach Delay, s/veh		24.5			28.0			19.3			14.9	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	12.5	21.0	6.6	18.5	7.9	25.6	11.2	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	8.5	8.5	4.2	5.0	4.9	8.3	6.1	7.1
Green Ext Time (g_e), s	0.5	5.6	0.1	0.3	0.2	2.8	0.7	0.3
Prob of Phs Call (p_c)	0.99	1.00	0.72	1.00	0.86	1.00	0.98	1.00
Prob of Max Out (p_x)	0.07	0.89	0.00	1.00	0.00	0.78	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1497

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	295	0	79	0	121	0	253	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	6.5	0.0	2.2	0.0	2.9	0.0	4.1	0.0
Cycle Q Clear Time (g_c), s	6.5	0.0	2.2	0.0	2.9	0.0	4.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	827	0	1270	0	1105	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	8.5	0.0	8.0	0.0	13.3	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	4.7	0.0	0.0	0.0	0.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	515	0	391	0	506	0	395	0
V/C Ratio (X)	0.57	0.00	0.20	0.00	0.24	0.00	0.64	0.00
Avail Cap (c_a), veh/h	744	0	949	0	874	0	1208	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.9	0.0	20.1	0.0	14.1	0.0	24.8	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.3	0.0	0.2	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.9	0.0	20.4	0.0	14.4	0.0	26.6	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	0.8	0.0	1.0	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	4.0	0.0	1.5	0.0	1.9	0.0	3.0	0.0
%ile Storage Ratio (RQ%)	0.79	0.00	0.20	0.00	0.27	0.00	0.43	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	484	0	121	0	274	0	179
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	6.5	0.0	3.0	0.0	6.3	0.0	5.1
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	3.0	0.0	6.3	0.0	5.1
Lane Grp Cap (c), veh/h	0	957	0	421	0	658	0	268
V/C Ratio (X)	0.00	0.51	0.00	0.29	0.00	0.42	0.00	0.67
Avail Cap (c_a), veh/h	0	1212	0	421	0	658	0	302
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.7	0.0	19.3	0.0	15.1	0.0	24.1
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.8	0.0	1.9	0.0	7.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.6	0.0	20.1	0.0	17.0	0.0	31.3
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	1.3	0.0	2.5	0.0	2.2

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.4	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.0	0.0	2.4	0.0	5.1	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.01	0.00	0.19	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	105	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1497
Q Serve Time (g_s), s	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	405	0	339	0	530	0	204
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	514	0	339	0	530	0	230
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	30	140	30	45	5	145	335	30	40	295	300
Future Volume (veh/h)	210	30	140	30	45	5	145	335	30	40	295	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	221	32	0	32	47	0	153	353	0	42	311	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Cap, veh/h	354	432		349	220		538	1253		460	1092	
Arrive On Green	0.11	0.23	0.00	0.02	0.12	0.00	0.09	0.35	0.00	0.03	0.29	0.00
Sat Flow, veh/h	3264	1875	1585	1781	1781	0	1781	3647	0	1697	3741	1422
Grp Volume(v), veh/h	221	32	0	32	47	0	153	353	0	42	311	0
Grp Sat Flow(s),veh/h/ln	1632	1875	1585	1781	1781	0	1781	1777	0	1697	1870	1422
Q Serve(g_s), s	3.3	0.7	0.0	0.8	1.2	0.0	2.8	3.7	0.0	0.9	3.3	0.0
Cycle Q Clear(g_c), s	3.3	0.7	0.0	0.8	1.2	0.0	2.8	3.7	0.0	0.9	3.3	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	432		349	220		538	1253		460	1092	
V/C Ratio(X)	0.62	0.07		0.09	0.21		0.28	0.28		0.09	0.28	
Avail Cap(c_a), veh/h	984	432		882	312		782	2350		795	2474	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.9	15.5	0.0	19.1	20.3	0.0	10.1	12.0	0.0	12.3	14.1	0.0
Incr Delay (d2), s/veh	1.8	0.2	0.0	0.1	1.0	0.0	0.3	0.6	0.0	0.1	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.1	0.5	0.0	0.6	0.9	0.0	1.6	2.3	0.0	0.5	2.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.7	15.7	0.0	19.2	21.3	0.0	10.3	12.5	0.0	12.3	14.7	0.0
LnGrp LOS	C	B		B	C		B	B		B	B	
Approach Vol, veh/h		253			79			506			353	
Approach Delay, s/veh		22.7			20.5			11.9			14.4	
Approach LOS		C			C			B			B	

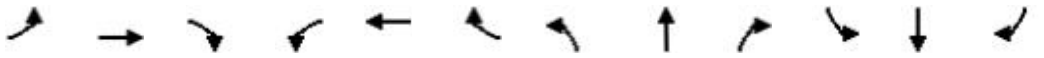
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	24.1	4.6	17.8	8.0	21.0	10.1	12.4
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	2.9	5.7	2.8	2.7	4.8	5.3	5.3	3.2
Green Ext Time (p_c), s	0.0	6.5	0.0	0.1	0.2	5.8	0.5	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	15.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	30	140	30	45	5	145	335	30	40	295	300
Future Volume (veh/h)	210	30	140	30	45	5	145	335	30	40	295	300
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	221	32	0	32	47	0	153	353	0	42	311	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	354	432		349	220		538	1253		460	1092	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.23	0.00	0.02	0.12	0.00	0.09	0.35	0.00	0.03	0.29	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.7	15.7	0.0	19.2	21.3	0.0	10.3	12.5	0.0	12.3	14.7	0.0
Ln Grp LOS	C	B		B	C		B	B		B	B	
Approach Vol, veh/h		253			79			506			353	
Approach Delay, s/veh		22.7			20.5			11.9			14.4	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	4.9	24.1	4.6	17.8	8.0	21.0	10.1	12.4
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	6.9	3.7	9.1	3.7	7.3
Max Q Clear (g_c+I1), s	2.9	5.7	2.8	2.7	4.8	5.3	5.3	3.2
Green Ext Time (g_e), s	0.0	6.5	0.0	0.1	0.2	5.8	0.5	0.1
Prob of Phs Call (p_c)	0.45	1.00	0.37	0.99	0.89	1.00	0.96	0.80
Prob of Max Out (p_x)	0.00	0.08	0.00	1.00	0.07	0.05	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1697		1781		1781		3264	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1875		3741		1781

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1422		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	42	0	32	0	153	0	221	0
Grp Sat Flow (s), veh/h/ln	1697	0	1781	0	1781	0	1632	0
Q Serve Time (g_s), s	0.9	0.0	0.8	0.0	2.8	0.0	3.3	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	0.8	0.0	2.8	0.0	3.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	979	0	1377	0	1068	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	15.0	0.0	6.4	0.0	16.6	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	14.4	0.0	6.4	0.0	11.7	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	460	0	349	0	538	0	354	0
V/C Ratio (X)	0.09	0.00	0.09	0.00	0.28	0.00	0.62	0.00
Avail Cap (c_a), veh/h	795	0	882	0	782	0	984	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.3	0.0	19.1	0.0	10.1	0.0	21.9	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.3	0.0	1.8	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.3	0.0	19.2	0.0	10.3	0.0	23.7	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.3	0.0	0.8	0.0	1.1	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.5	0.0	0.6	0.0	1.6	0.0	2.1	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.13	0.00	0.16	0.00	0.28	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	353	0	32	0	311	0	47
Grp Sat Flow (s), veh/h/ln	0	1777	0	1875	0	1870	0	1781
Q Serve Time (g_s), s	0.0	3.7	0.0	0.7	0.0	3.3	0.0	1.2
Cycle Q Clear Time (g_c), s	0.0	3.7	0.0	0.7	0.0	3.3	0.0	1.2
Lane Grp Cap (c), veh/h	0	1253	0	432	0	1092	0	220
V/C Ratio (X)	0.00	0.28	0.00	0.07	0.00	0.28	0.00	0.21
Avail Cap (c_a), veh/h	0	2350	0	432	0	2474	0	312
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.0	0.0	15.5	0.0	14.1	0.0	20.3
Incr Delay (d2), s/veh	0.0	0.6	0.0	0.2	0.0	0.7	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.5	0.0	15.7	0.0	14.7	0.0	21.3
1st-Term Q (Q1), veh/ln	0.0	1.2	0.0	0.2	0.0	1.2	0.0	0.5

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.3	0.0	0.5	0.0	2.3	0.0	0.9
%ile Storage Ratio (RQ%)	0.00	0.10	0.00	0.02	0.00	0.06	0.00	0.22
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1422	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	365	0	415	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	365	0	940	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.5
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

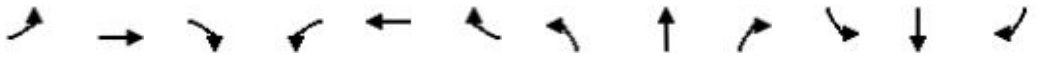
Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	1	1	1	1	505	1	1	465	1
Future Vol, veh/h	5	1	10	1	1	1	1	505	1	1	465	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	1	1	1	1	532	1	1	489	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	761	1027	245	782	1027	266	491	0	0	533	0	0
Stage 1	492	492	-	534	534	-	-	-	-	-	-	-
Stage 2	268	535	-	247	493	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	295	233	755	285	233	732	1069	-	-	1031	-	-
Stage 1	527	546	-	497	523	-	-	-	-	-	-	-
Stage 2	714	522	-	735	546	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	292	232	755	279	232	732	1069	-	-	1031	-	-
Mov Cap-2 Maneuver	292	232	-	279	232	-	-	-	-	-	-	-
Stage 1	526	545	-	497	522	-	-	-	-	-	-	-
Stage 2	711	522	-	722	545	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.09	16.22	0.03	0.03
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	7	-	-	462	324	8	-	-
HCM Lane V/C Ratio	0.001	-	-	0.036	0.01	0.001	-	-
HCM Control Delay (s/veh)	8.4	0	-	13.1	16.2	8.5	0	-
HCM Lane LOS	A	A	-	B	C	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	80	40	185	80	50	55	425	265	90	345	40
Future Volume (veh/h)	30	80	40	185	80	50	55	425	265	90	345	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	84	42	195	84	0	58	447	279	95	363	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	329	258	208	451	453		513	834	517	383	1334	153
Arrive On Green	0.02	0.13	0.13	0.12	0.23	0.00	0.03	0.40	0.40	0.05	0.42	0.42
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2106	1306	1781	3212	369
Grp Volume(v), veh/h	32	84	42	195	84	0	58	377	349	95	200	205
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1635	1781	1777	1804
Q Serve(g_s), s	0.9	2.3	1.4	5.3	2.1	0.0	1.2	9.7	9.8	1.9	4.4	4.5
Cycle Q Clear(g_c), s	0.9	2.3	1.4	5.3	2.1	0.0	1.2	9.7	9.8	1.9	4.4	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.80	1.00		0.20
Lane Grp Cap(c), veh/h	329	258	208	451	453		513	703	647	383	738	749
V/C Ratio(X)	0.10	0.33	0.20	0.43	0.19		0.11	0.54	0.54	0.25	0.27	0.27
Avail Cap(c_a), veh/h	635	493	397	579	493		796	1009	928	631	1009	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.9	23.6	23.2	17.4	18.5	0.0	10.2	13.9	13.9	10.6	11.5	11.6
Incr Delay (d2), s/veh	0.1	1.5	1.0	0.7	0.4	0.0	0.1	2.9	3.2	0.3	0.9	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	2.0	1.0	3.7	1.7	0.0	0.7	6.8	6.4	1.1	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	22.1	25.2	24.2	18.1	18.9	0.0	10.3	16.8	17.1	10.9	12.4	12.5
LnGrp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		158			279			784			500	
Approach Delay, s/veh		24.3			18.3			16.4			12.1	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.7	29.7	10.7	12.9	5.5	30.9	4.7	18.8
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.9	11.8	7.3	4.3	3.2	6.5	2.9	4.1
Green Ext Time (p_c), s	0.1	11.9	0.2	0.6	0.1	7.1	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	80	40	185	80	50	55	425	265	90	345	40
Future Volume (veh/h)	30	80	40	185	80	50	55	425	265	90	345	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	84	42	195	84	0	58	447	279	95	363	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	329	258	208	451	453		513	834	517	383	1334	153
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.13	0.13	0.12	0.23	0.00	0.03	0.40	0.40	0.05	0.42	0.42
Unsig. Movement Delay												
Ln Grp Delay, s/veh	22.1	25.2	24.2	18.1	18.9	0.0	10.3	16.8	17.1	10.9	12.4	12.5
Ln Grp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		158			279			784			500	
Approach Delay, s/veh		24.3			18.3			16.4			12.1	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	6.7	29.7	10.7	12.9	5.5	30.9	4.7	18.8
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.8	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.9	11.8	7.3	4.3	3.2	6.5	2.9	4.1
Green Ext Time (g_e), s	0.1	11.9	0.2	0.6	0.1	7.1	0.0	0.4
Prob of Phs Call (p_c)	0.79	1.00	0.96	0.98	0.62	1.00	0.41	1.00
Prob of Max Out (p_x)	0.01	0.55	0.72	0.19	0.00	0.13	0.00	0.16

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2106		1969		3212		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1306		1585		369		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	95	0	195	0	58	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.9	0.0	5.3	0.0	1.2	0.0	0.9	0.0
Cycle Q Clear Time (g_c), s	1.9	0.0	5.3	0.0	1.2	0.0	0.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	728	0	1265	0	980	0	1314	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	23.7	0.0	9.9	0.0	23.7	0.0	7.9	0.0
Perm LT Serve Time (g_u), s	13.9	0.0	5.5	0.0	20.4	0.0	7.9	0.0
Perm LT Q Serve Time (g_ps), s	1.5	0.0	0.8	0.0	0.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	383	0	451	0	513	0	329	0
V/C Ratio (X)	0.25	0.00	0.43	0.00	0.11	0.00	0.10	0.00
Avail Cap (c_a), veh/h	631	0	579	0	796	0	635	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.6	0.0	17.4	0.0	10.2	0.0	21.9	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.0	0.1	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.9	0.0	18.1	0.0	10.3	0.0	22.1	0.0
1st-Term Q (Q1), veh/ln	0.6	0.0	2.0	0.0	0.4	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.1	0.0	3.7	0.0	0.7	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.19	0.00	0.94	0.00	0.12	0.00	0.11	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	377	0	84	0	200	0	84
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	9.7	0.0	2.3	0.0	4.4	0.0	2.1
Cycle Q Clear Time (g_c), s	0.0	9.7	0.0	2.3	0.0	4.4	0.0	2.1
Lane Grp Cap (c), veh/h	0	703	0	258	0	738	0	453
V/C Ratio (X)	0.00	0.54	0.00	0.33	0.00	0.27	0.00	0.19
Avail Cap (c_a), veh/h	0	1009	0	493	0	1009	0	493
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.9	0.0	23.6	0.0	11.5	0.0	18.5
Incr Delay (d2), s/veh	0.0	2.9	0.0	1.5	0.0	0.9	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.8	0.0	25.2	0.0	12.4	0.0	18.9
1st-Term Q (Q1), veh/ln	0.0	3.2	0.0	1.0	0.0	1.4	0.0	0.9

2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.1	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.8	0.0	2.0	0.0	2.9	0.0	1.7
%ile Storage Ratio (RQ%)	0.00	0.20	0.00	0.22	0.00	0.04	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	349	0	42	0	205	0	0
Grp Sat Flow (s), veh/h/ln	0	1635	0	1585	0	1804	0	1585
Q Serve Time (g_s), s	0.0	9.8	0.0	1.4	0.0	4.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	9.8	0.0	1.4	0.0	4.5	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.80	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	647	0	208	0	749	0	365
V/C Ratio (X)	0.00	0.54	0.00	0.20	0.00	0.27	0.00	0.00
Avail Cap (c_a), veh/h	0	928	0	397	0	1024	0	397
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.9	0.0	23.2	0.0	11.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.2	0.0	1.0	0.0	0.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.1	0.0	24.2	0.0	12.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.0	0.0	0.5	0.0	1.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.6	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.4	0.0	1.0	0.0	3.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.17	0.00	0.04	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	16.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	14.4
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	170	115	100	250	240	145
Future Vol, veh/h	170	115	100	250	240	145
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	179	121	105	263	253	153
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	12.2	12.7	17.7
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	62%
Vol Right, %	0%	0%	0%	100%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	100	250	170	115	385
LT Vol	100	0	170	0	0
Through Vol	0	250	0	0	240
RT Vol	0	0	0	115	145
Lane Flow Rate	105	263	179	121	405
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.191	0.441	0.353	0.198	0.629
Departure Headway (Hd)	6.539	6.032	7.095	5.876	5.588
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	548	597	506	610	644
Service Time	4.281	3.773	4.839	3.619	3.625
HCM Lane V/C Ratio	0.192	0.441	0.354	0.198	0.629
HCM Control Delay, s/veh	10.8	13.5	13.7	10.1	17.7
HCM Lane LOS	B	B	B	B	C
HCM 95th-tile Q	0.7	2.2	1.6	0.7	4.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	165	135	125	180	230	100	395	90	270	500	230
Future Volume (veh/h)	230	165	135	125	180	230	100	395	90	270	500	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	242	174	0	132	189	0	105	416	95	284	526	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	383	348		400	271		329	967	410	535	673	
Arrive On Green	0.11	0.18	0.00	0.09	0.14	0.00	0.07	0.26	0.26	0.15	0.34	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1585	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	242	174	0	132	189	0	105	416	95	284	526	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1585	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	3.9	4.6	0.0	3.6	5.3	0.0	2.5	5.4	2.7	6.1	13.9	0.0
Cycle Q Clear(g_c), s	3.9	4.6	0.0	3.6	5.3	0.0	2.5	5.4	2.7	6.1	13.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	383	348		400	271		329	967	410	535	673	
V/C Ratio(X)	0.63	0.50		0.33	0.70		0.32	0.43	0.23	0.53	0.78	
Avail Cap(c_a), veh/h	1221	348		902	305		720	1225	519	778	673	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.7	21.6	0.0	18.8	23.9	0.0	14.9	17.9	17.0	11.5	17.2	0.0
Incr Delay (d2), s/veh	1.7	2.4	0.0	0.5	8.5	0.0	0.6	1.4	1.3	0.8	8.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	3.9	0.0	2.5	5.2	0.0	1.7	4.1	1.9	3.8	11.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.4	23.9	0.0	19.3	32.3	0.0	15.5	19.3	18.3	12.3	26.0	0.0
LnGrp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		416			321			616			810	
Approach Delay, s/veh		25.4			26.9			18.5			21.2	
Approach LOS		C			C			B			C	

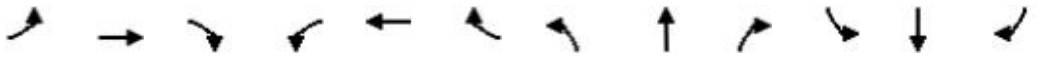
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	21.0	8.7	16.3	7.3	25.8	10.9	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	8.1	7.4	5.6	6.6	4.5	15.9	5.9	7.3
Green Ext Time (p_c), s	0.5	5.4	0.3	0.3	0.2	1.9	0.7	0.2

Intersection Summary	
HCM 7th Control Delay, s/veh	22.1
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	230	165	135	125	180	230	100	395	90	270	500	230
Future Volume (veh/h)	230	165	135	125	180	230	100	395	90	270	500	230
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	242	174	0	132	189	0	105	416	95	284	526	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	383	348		400	271		329	967	410	535	673	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.18	0.00	0.09	0.14	0.00	0.07	0.26	0.26	0.15	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.4	23.9	0.0	19.3	32.3	0.0	15.5	19.3	18.3	12.3	26.0	0.0
Ln Grp LOS	C	C		B	C		B	B	B	B	C	
Approach Vol, veh/h		416			321			616			810	
Approach Delay, s/veh		25.4			26.9			18.5			21.2	
Approach LOS		C			C			B			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	12.1	21.0	8.7	16.3	7.3	25.8	10.9	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	8.1	7.4	5.6	6.6	4.5	15.9	5.9	7.3
Green Ext Time (g_e), s	0.5	5.4	0.3	0.3	0.2	1.9	0.7	0.2
Prob of Phs Call (p_c)	0.99	1.00	0.88	1.00	0.82	1.00	0.98	1.00
Prob of Max Out (p_x)	0.05	0.79	0.00	1.00	0.00	1.00	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	284	0	132	0	105	0	242	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	6.1	0.0	3.6	0.0	2.5	0.0	3.9	0.0
Cycle Q Clear Time (g_c), s	6.1	0.0	3.6	0.0	2.5	0.0	3.9	0.0
Perm LT Sat Flow (s_l), veh/h/ln	889	0	1211	0	877	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.6	0.0	5.6	0.0	5.9	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.5	0.0	0.3	0.0	1.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	535	0	400	0	329	0	383	0
V/C Ratio (X)	0.53	0.00	0.33	0.00	0.32	0.00	0.63	0.00
Avail Cap (c_a), veh/h	778	0	902	0	720	0	1221	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.5	0.0	18.8	0.0	14.9	0.0	24.7	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.5	0.0	0.6	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.3	0.0	19.3	0.0	15.5	0.0	26.4	0.0
1st-Term Q (Q1), veh/ln	2.0	0.0	1.3	0.0	0.9	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	3.8	0.0	2.5	0.0	1.7	0.0	2.8	0.0
%ile Storage Ratio (RQ%)	0.74	0.00	0.32	0.00	0.24	0.00	0.41	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	416	0	174	0	526	0	189
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	5.4	0.0	4.6	0.0	13.9	0.0	5.3
Cycle Q Clear Time (g_c), s	0.0	5.4	0.0	4.6	0.0	13.9	0.0	5.3
Lane Grp Cap (c), veh/h	0	967	0	348	0	673	0	271
V/C Ratio (X)	0.00	0.43	0.00	0.50	0.00	0.78	0.00	0.70
Avail Cap (c_a), veh/h	0	1225	0	348	0	673	0	305
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	17.9	0.0	21.6	0.0	17.2	0.0	23.9
Incr Delay (d2), s/veh	0.0	1.4	0.0	2.4	0.0	8.8	0.0	8.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.3	0.0	23.9	0.0	26.0	0.0	32.3
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	1.9	0.0	5.4	0.0	2.3

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	1.6	0.0	0.6
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.62	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.1	0.0	3.9	0.0	11.4	0.0	5.2
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.01	0.00	0.42	0.00	0.32
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	95	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	410	0	280	0	541	0	218
V/C Ratio (X)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	519	0	280	0	541	0	246
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.3	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	22.1
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

HORIZON (2050) BUILD CAPACITY REPORTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	45	25	30	5	185	405	45	55	570	335
Future Volume (veh/h)	120	10	45	25	30	5	185	405	45	55	570	335
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	126	11	0	26	32	0	195	426	0	58	600	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Cap, veh/h	207	269		289	176		507	1522		519	1363	
Arrive On Green	0.07	0.17	0.00	0.02	0.10	0.00	0.10	0.43	0.00	0.03	0.36	0.00
Sat Flow, veh/h	2908	1610	1585	1668	1841	0	1781	3647	0	1725	3741	1485
Grp Volume(v), veh/h	126	11	0	26	32	0	195	426	0	58	600	0
Grp Sat Flow(s),veh/h/ln	1454	1610	1585	1668	1841	0	1781	1777	0	1725	1870	1485
Q Serve(g_s), s	2.3	0.3	0.0	0.8	0.9	0.0	3.3	4.2	0.0	1.1	6.5	0.0
Cycle Q Clear(g_c), s	2.3	0.3	0.0	0.8	0.9	0.0	3.3	4.2	0.0	1.1	6.5	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	207	269		289	176		507	1522		519	1363	
V/C Ratio(X)	0.61	0.04		0.09	0.18		0.38	0.28		0.11	0.44	
Avail Cap(c_a), veh/h	836	269		770	307		712	2241		827	2358	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.3	18.8	0.0	21.5	22.4	0.0	8.5	10.0	0.0	10.1	13.0	0.0
Incr Delay (d2), s/veh	2.9	0.1	0.0	0.1	1.0	0.0	0.5	0.5	0.0	0.1	1.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	0.2	0.0	0.5	0.7	0.0	1.8	2.4	0.0	0.7	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.2	19.0	0.0	21.7	23.5	0.0	9.0	10.5	0.0	10.2	14.0	0.0
LnGrp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		137			58			621			658	
Approach Delay, s/veh		26.5			22.7			10.0			13.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	5.3	29.1	4.5	15.0	8.8	25.7	8.3	11.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Q Clear Time (g_c+I1), s	3.1	6.2	2.8	2.3	5.3	8.5	4.3	2.9
Green Ext Time (p_c), s	0.1	7.9	0.0	0.0	0.3	11.1	0.3	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	13.7
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	10	45	25	30	5	185	405	45	55	570	335
Future Volume (veh/h)	120	10	45	25	30	5	185	405	45	55	570	335
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1574	1610	1870	1752	1841	1159	1870	1870	1870	1811	1969	1752
Adj Flow Rate, veh/h	126	11	0	26	32	0	195	426	0	58	600	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	22	25	2	10	4	50	2	2	2	6	2	10
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	207	269		289	176		507	1522		519	1363	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.17	0.00	0.02	0.10	0.00	0.10	0.43	0.00	0.03	0.36	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.2	19.0	0.0	21.7	23.5	0.0	9.0	10.5	0.0	10.2	14.0	0.0
Ln Grp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		137			58			621			658	
Approach Delay, s/veh		26.5			22.7			10.0			13.7	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	5.3	29.1	4.5	15.0	8.8	25.7	8.3	11.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	34.0	16.5	9.0	11.5	34.0	15.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	7.0	3.7	9.1	3.8	7.2
Max Q Clear (g_c+I1), s	3.1	6.2	2.8	2.3	5.3	8.5	4.3	2.9
Green Ext Time (g_e), s	0.1	7.9	0.0	0.0	0.3	11.1	0.3	0.1
Prob of Phs Call (p_c)	0.58	1.00	0.32	0.92	0.95	1.00	0.85	0.64
Prob of Max Out (p_x)	0.00	0.13	0.00	1.00	0.14	0.34	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1725		1668		1781		2908	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1610		3741		1841

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1485		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	58	0	26	0	195	0	126	0
Grp Sat Flow (s), veh/h/ln	1725	0	1668	0	1781	0	1454	0
Q Serve Time (g_s), s	1.1	0.0	0.8	0.0	3.3	0.0	2.3	0.0
Cycle Q Clear Time (g_c), s	1.1	0.0	0.8	0.0	3.3	0.0	2.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	931	0	1315	0	819	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.7	0.0	5.2	0.0	21.6	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	18.9	0.0	5.2	0.0	13.1	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.1	0.0	0.0	0.0	2.7	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	519	0	289	0	507	0	207	0
V/C Ratio (X)	0.11	0.00	0.09	0.00	0.38	0.00	0.61	0.00
Avail Cap (c_a), veh/h	827	0	770	0	712	0	836	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.1	0.0	21.5	0.0	8.5	0.0	24.3	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.5	0.0	2.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.2	0.0	21.7	0.0	9.0	0.0	27.2	0.0
1st-Term Q (Q1), veh/ln	0.4	0.0	0.3	0.0	0.9	0.0	0.7	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.7	0.0	0.5	0.0	1.8	0.0	1.4	0.0
%ile Storage Ratio (RQ%)	0.09	0.00	0.12	0.00	0.18	0.00	0.20	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	426	0	11	0	600	0	32
Grp Sat Flow (s), veh/h/ln	0	1777	0	1610	0	1870	0	1841
Q Serve Time (g_s), s	0.0	4.2	0.0	0.3	0.0	6.5	0.0	0.9
Cycle Q Clear Time (g_c), s	0.0	4.2	0.0	0.3	0.0	6.5	0.0	0.9
Lane Grp Cap (c), veh/h	0	1522	0	269	0	1363	0	176
V/C Ratio (X)	0.00	0.28	0.00	0.04	0.00	0.44	0.00	0.18
Avail Cap (c_a), veh/h	0	2241	0	269	0	2358	0	307
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	10.0	0.0	18.8	0.0	13.0	0.0	22.4
Incr Delay (d2), s/veh	0.0	0.5	0.0	0.1	0.0	1.0	0.0	1.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	10.5	0.0	19.0	0.0	14.0	0.0	23.5
1st-Term Q (Q1), veh/ln	0.0	1.3	0.0	0.1	0.0	2.3	0.0	0.3

2nd-Term Q (Q2), veh/ln	0.0	0.1	0.0	0.0	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	2.4	0.0	0.2	0.0	4.5	0.0	0.7
%ile Storage Ratio (RQ%)	0.00	0.11	0.00	0.01	0.00	0.12	0.00	0.16
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1485	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	265	0	541	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	265	0	936	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	13.7
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

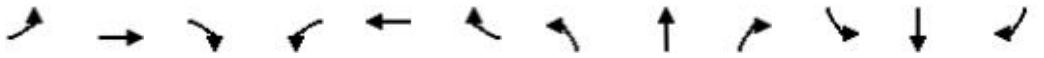
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	1	1	15	1	35	5	600	170	265	370	5
Future Vol, veh/h	2	1	1	15	1	35	5	600	170	265	370	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	50	70	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	50	2	2	2	2	25	14	2	2	2	2	2
Mvmt Flow	2	1	1	16	1	37	5	632	179	279	389	5

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1277	1771	197	1395	1595	316	395	0	0	811	0	0
Stage 1	950	950	-	642	642	-	-	-	-	-	-	-
Stage 2	327	821	-	753	953	-	-	-	-	-	-	-
Critical Hdwy	8.5	6.54	6.94	7.54	6.54	7.4	4.38	-	-	4.14	-	-
Critical Hdwy Stg 1	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	7.5	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	4	4.02	3.32	3.52	4.02	3.55	2.34	-	-	2.22	-	-
Pot Cap-1 Maneuver	83	82	811	101	106	617	1079	-	-	811	-	-
Stage 1	201	337	-	429	467	-	-	-	-	-	-	-
Stage 2	543	387	-	368	336	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	50	54	811	65	69	617	1079	-	-	811	-	-
Mov Cap-2 Maneuver	50	54	-	65	69	-	-	-	-	-	-	-
Stage 1	132	221	-	426	464	-	-	-	-	-	-	-
Stage 2	506	384	-	240	220	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	62.34	31.78	0.09	4.86
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	30	-	-	67	65	505	811	-	-
HCM Lane V/C Ratio	0.005	-	-	0.063	0.244	0.075	0.344	-	-
HCM Control Delay (s/veh)	8.4	0.1	-	62.3	77.6	12.7	11.7	-	-
HCM Lane LOS	A	A	-	F	F	B	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.8	0.2	1.5	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	45	60	185	75	175	25	565	100	80	275	30
Future Volume (veh/h)	35	45	60	185	75	175	25	565	100	80	275	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	47	63	195	79	0	26	595	105	84	289	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	265	213	484	455		536	1169	206	385	1346	148
Arrive On Green	0.02	0.13	0.13	0.12	0.23	0.00	0.02	0.39	0.39	0.05	0.42	0.42
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	3020	532	1781	3229	355
Grp Volume(v), veh/h	37	47	63	195	79	0	26	350	350	84	158	163
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1775	1781	1777	1807
Q Serve(g_s), s	1.0	1.2	2.1	5.1	1.9	0.0	0.5	8.7	8.7	1.6	3.3	3.4
Cycle Q Clear(g_c), s	1.0	1.2	2.1	5.1	1.9	0.0	0.5	8.7	8.7	1.6	3.3	3.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.20
Lane Grp Cap(c), veh/h	344	265	213	484	455		536	688	687	385	741	753
V/C Ratio(X)	0.11	0.18	0.30	0.40	0.17		0.05	0.51	0.51	0.22	0.21	0.22
Avail Cap(c_a), veh/h	656	510	411	624	510		858	1043	1042	655	1043	1061
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.0	22.2	22.6	16.5	17.8	0.0	10.4	13.5	13.5	10.4	10.8	10.8
Incr Delay (d2), s/veh	0.1	0.7	1.6	0.5	0.4	0.0	0.0	2.7	2.7	0.3	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	1.0	1.5	3.5	1.5	0.0	0.3	6.0	6.0	1.0	2.1	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	22.9	24.2	17.1	18.2	0.0	10.5	16.2	16.2	10.6	11.5	11.5
LnGrp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		147			274			726			405	
Approach Delay, s/veh		23.0			17.4			16.0			11.3	
Approach LOS		C			B			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.2	28.4	10.5	12.8	4.5	30.1	4.9	18.4
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Q Clear Time (g_c+I1), s	3.6	10.7	7.1	4.1	2.5	5.4	3.0	3.9
Green Ext Time (p_c), s	0.1	11.7	0.2	0.5	0.0	5.6	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	15.7
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	45	60	185	75	175	25	565	100	80	275	30
Future Volume (veh/h)	35	45	60	185	75	175	25	565	100	80	275	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	47	63	195	79	0	26	595	105	84	289	32
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	344	265	213	484	455		536	1169	206	385	1346	148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.13	0.13	0.12	0.23	0.00	0.02	0.39	0.39	0.05	0.42	0.42
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.1	22.9	24.2	17.1	18.2	0.0	10.5	16.2	16.2	10.6	11.5	11.5
Ln Grp LOS	C	C	C	B	B		B	B	B	B	B	B
Approach Vol, veh/h		147			274			726			405	
Approach Delay, s/veh		23.0			17.4			16.0			11.3	
Approach LOS		C			B			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	6.2	28.4	10.5	12.8	4.5	30.1	4.9	18.4
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	34.0	11.5	15.0	11.5	34.0	11.5	15.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.6	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	3.6	10.7	7.1	4.1	2.5	5.4	3.0	3.9
Green Ext Time (g_e), s	0.1	11.7	0.2	0.5	0.0	5.6	0.0	0.4
Prob of Phs Call (p_c)	0.74	1.00	0.96	0.97	0.34	1.00	0.45	1.00
Prob of Max Out (p_x)	0.01	0.49	0.61	0.11	0.00	0.06	0.00	0.14

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3020		1969		3229		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		532		1585		355		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	84	0	195	0	26	0	37	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	1.6	0.0	5.1	0.0	0.5	0.0	1.0	0.0
Cycle Q Clear Time (g_c), s	1.6	0.0	5.1	0.0	0.5	0.0	1.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	746	0	1283	0	1059	0	1320	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	22.6	0.0	9.8	0.0	22.4	0.0	7.8	0.0
Perm LT Serve Time (g_u), s	13.7	0.0	6.6	0.0	20.8	0.0	7.8	0.0
Perm LT Q Serve Time (g_ps), s	1.1	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	385	0	484	0	536	0	344	0
V/C Ratio (X)	0.22	0.00	0.40	0.00	0.05	0.00	0.11	0.00
Avail Cap (c_a), veh/h	655	0	624	0	858	0	656	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.4	0.0	16.5	0.0	10.4	0.0	21.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.5	0.0	0.0	0.0	0.1	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.6	0.0	17.1	0.0	10.5	0.0	21.1	0.0
1st-Term Q (Q1), veh/ln	0.5	0.0	1.9	0.0	0.2	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.0	0.0	3.5	0.0	0.3	0.0	0.7	0.0
%ile Storage Ratio (RQ%)	0.16	0.00	0.89	0.00	0.05	0.00	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	350	0	47	0	158	0	79
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	8.7	0.0	1.2	0.0	3.3	0.0	1.9
Cycle Q Clear Time (g_c), s	0.0	8.7	0.0	1.2	0.0	3.3	0.0	1.9
Lane Grp Cap (c), veh/h	0	688	0	265	0	741	0	455
V/C Ratio (X)	0.00	0.51	0.00	0.18	0.00	0.21	0.00	0.17
Avail Cap (c_a), veh/h	0	1043	0	510	0	1043	0	510
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	22.2	0.0	10.8	0.0	17.8
Incr Delay (d2), s/veh	0.0	2.7	0.0	0.7	0.0	0.7	0.0	0.4
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.2	0.0	22.9	0.0	11.5	0.0	18.2
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.5	0.0	1.0	0.0	0.8

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.0	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	6.0	0.0	1.0	0.0	2.1	0.0	1.5
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.11	0.00	0.03	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	350	0	63	0	163	0	0
Grp Sat Flow (s), veh/h/ln	0	1775	0	1585	0	1807	0	1585
Q Serve Time (g_s), s	0.0	8.7	0.0	2.1	0.0	3.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.7	0.0	2.1	0.0	3.4	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.30	0.00	1.00	0.00	0.20	0.00	1.00
Lane Grp Cap (c), veh/h	0	687	0	213	0	753	0	366
V/C Ratio (X)	0.00	0.51	0.00	0.30	0.00	0.22	0.00	0.00
Avail Cap (c_a), veh/h	0	1042	0	411	0	1061	0	411
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	13.5	0.0	22.6	0.0	10.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.7	0.0	1.6	0.0	0.7	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	16.2	0.0	24.2	0.0	11.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.8	0.0	0.7	0.0	1.1	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.1	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	6.0	0.0	1.5	0.0	2.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.25	0.00	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.7
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	140	130	175	200	160
Future Vol, veh/h	75	140	130	175	200	160
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	79	147	137	184	211	168
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	10.3	10.6	14.3
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	56%
Vol Right, %	0%	0%	0%	100%	44%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	130	175	75	140	360
LT Vol	130	0	75	0	0
Through Vol	0	175	0	0	200
RT Vol	0	0	0	140	160
Lane Flow Rate	137	184	79	147	379
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.234	0.289	0.15	0.23	0.547
Departure Headway (Hd)	6.144	5.639	6.824	5.608	5.193
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	586	639	527	641	697
Service Time	3.87	3.364	4.556	3.34	3.193
HCM Lane V/C Ratio	0.234	0.288	0.15	0.229	0.544
HCM Control Delay, s/veh	10.7	10.6	10.8	10	14.3
HCM Lane LOS	B	B	B	A	B
HCM 95th-tile Q	0.9	1.2	0.5	0.9	3.3



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	115	45	75	170	170	135	460	100	280	260	145
Future Volume (veh/h)	240	115	45	75	170	170	135	460	100	280	260	145
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	253	121	0	79	179	0	142	484	105	295	274	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Cap, veh/h	395	421		391	268		511	957	405	515	635	
Arrive On Green	0.11	0.21	0.00	0.05	0.14	0.00	0.09	0.26	0.26	0.15	0.32	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1497	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	253	121	0	79	179	0	142	484	105	295	274	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1497	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	4.1	3.0	0.0	2.2	5.1	0.0	3.3	6.5	3.1	6.5	6.4	0.0
Cycle Q Clear(g_c), s	4.1	3.0	0.0	2.2	5.1	0.0	3.3	6.5	3.1	6.5	6.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	395	421		391	268		511	957	405	515	635	
V/C Ratio(X)	0.64	0.29		0.20	0.67		0.28	0.51	0.26	0.57	0.43	
Avail Cap(c_a), veh/h	1208	421		949	302		860	1212	514	744	638	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.8	19.3	0.0	20.1	24.1	0.0	13.9	18.7	17.4	11.9	15.6	0.0
Incr Delay (d2), s/veh	1.7	0.8	0.0	0.3	7.2	0.0	0.3	1.9	1.5	1.0	2.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.0	2.4	0.0	1.5	4.9	0.0	2.2	5.0	2.1	4.0	5.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.6	20.1	0.0	20.4	31.3	0.0	14.2	20.6	18.9	12.9	17.8	0.0
LnGrp LOS	C	C		C	C		B	C	B	B	B	
Approach Vol, veh/h		374			258			731			569	
Approach Delay, s/veh		24.5			28.0			19.1			15.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.5	21.0	6.6	18.5	8.5	24.9	11.2	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	8.5	8.5	4.2	5.0	5.3	8.4	6.1	7.1
Green Ext Time (p_c), s	0.5	5.6	0.1	0.3	0.2	2.7	0.7	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	115	45	75	170	170	135	460	100	280	260	145
Future Volume (veh/h)	240	115	45	75	170	170	135	460	100	280	260	145
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1767	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	253	121	0	79	179	0	142	484	105	295	274	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	9	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	395	421		391	268		511	957	405	515	635	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.21	0.00	0.05	0.14	0.00	0.09	0.26	0.26	0.15	0.32	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	26.6	20.1	0.0	20.4	31.3	0.0	14.2	20.6	18.9	12.9	17.8	0.0
Ln Grp LOS	C	C		C	C		B	C	B	B	B	
Approach Vol, veh/h		374			258			731			569	
Approach Delay, s/veh		24.5			28.0			19.1			15.2	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	12.5	21.0	6.6	18.5	8.5	24.9	11.2	14.0
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	21.5	9.0	16.5	19.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	8.5	8.5	4.2	5.0	5.3	8.4	6.1	7.1
Green Ext Time (g_e), s	0.5	5.6	0.1	0.3	0.2	2.7	0.7	0.3
Prob of Phs Call (p_c)	0.99	1.00	0.72	1.00	0.90	1.00	0.98	1.00
Prob of Max Out (p_x)	0.07	0.89	0.00	1.00	0.00	0.79	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1497

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	295	0	79	0	142	0	253	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	6.5	0.0	2.2	0.0	3.3	0.0	4.1	0.0
Cycle Q Clear Time (g_c), s	6.5	0.0	2.2	0.0	3.3	0.0	4.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	827	0	1270	0	1105	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	8.0	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	8.5	0.0	8.0	0.0	12.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	4.7	0.0	0.0	0.0	0.4	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	515	0	391	0	511	0	395	0
V/C Ratio (X)	0.57	0.00	0.20	0.00	0.28	0.00	0.64	0.00
Avail Cap (c_a), veh/h	744	0	949	0	860	0	1208	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.9	0.0	20.1	0.0	13.9	0.0	24.8	0.0
Incr Delay (d2), s/veh	1.0	0.0	0.3	0.0	0.3	0.0	1.7	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	12.9	0.0	20.4	0.0	14.2	0.0	26.6	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	0.8	0.0	1.2	0.0	1.5	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	4.0	0.0	1.5	0.0	2.2	0.0	3.0	0.0
%ile Storage Ratio (RQ%)	0.79	0.00	0.20	0.00	0.32	0.00	0.43	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	484	0	121	0	274	0	179
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	6.5	0.0	3.0	0.0	6.4	0.0	5.1
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	3.0	0.0	6.4	0.0	5.1
Lane Grp Cap (c), veh/h	0	957	0	421	0	635	0	268
V/C Ratio (X)	0.00	0.51	0.00	0.29	0.00	0.43	0.00	0.67
Avail Cap (c_a), veh/h	0	1212	0	421	0	638	0	302
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.7	0.0	19.3	0.0	15.6	0.0	24.1
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.8	0.0	2.1	0.0	7.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.6	0.0	20.1	0.0	17.8	0.0	31.3
1st-Term Q (Q1), veh/ln	0.0	2.5	0.0	1.3	0.0	2.5	0.0	2.2

2nd-Term Q (Q2), veh/ln	0.0	0.3	0.0	0.1	0.0	0.4	0.0	0.5
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	5.0	0.0	2.4	0.0	5.2	0.0	4.9
%ile Storage Ratio (RQ%)	0.00	0.19	0.00	0.01	0.00	0.19	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	105	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1497
Q Serve Time (g_s), s	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	3.1	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	405	0	339	0	511	0	204
V/C Ratio (X)	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	514	0	339	0	514	0	230
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.4	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	18.9	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.1	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.26	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	20.2
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	30	140	30	45	5	145	540	30	40	320	300
Future Volume (veh/h)	210	30	140	30	45	5	145	540	30	40	320	300
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	221	32	0	32	47	0	153	568	0	42	337	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Cap, veh/h	350	415		326	208		559	1404		396	1266	
Arrive On Green	0.11	0.22	0.00	0.02	0.12	0.00	0.08	0.39	0.00	0.03	0.34	0.00
Sat Flow, veh/h	3264	1875	1585	1781	1781	0	1781	3647	0	1697	3741	1422
Grp Volume(v), veh/h	221	32	0	32	47	0	153	568	0	42	337	0
Grp Sat Flow(s),veh/h/ln	1632	1875	1585	1781	1781	0	1781	1777	0	1697	1870	1422
Q Serve(g_s), s	3.7	0.8	0.0	0.9	1.3	0.0	2.9	6.5	0.0	0.9	3.7	0.0
Cycle Q Clear(g_c), s	3.7	0.8	0.0	0.9	1.3	0.0	2.9	6.5	0.0	0.9	3.7	0.0
Prop In Lane	1.00		1.00	1.00		0.00	1.00		0.00	1.00		1.00
Lane Grp Cap(c), veh/h	350	415		326	208		559	1404		396	1266	
V/C Ratio(X)	0.63	0.08		0.10	0.23		0.27	0.40		0.11	0.27	
Avail Cap(c_a), veh/h	1188	415		969	285		776	3722		699	3918	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	24.1	17.4	0.0	21.3	22.6	0.0	9.6	12.3	0.0	11.8	13.6	0.0
Incr Delay (d2), s/veh	1.9	0.2	0.0	0.1	1.2	0.0	0.3	0.9	0.0	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	0.5	0.0	0.6	1.1	0.0	1.6	4.0	0.0	0.6	2.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.9	17.6	0.0	21.4	23.7	0.0	9.9	13.1	0.0	11.9	14.1	0.0
LnGrp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		253			79			721			379	
Approach Delay, s/veh		24.9			22.8			12.4			13.8	
Approach LOS		C			C			B			B	

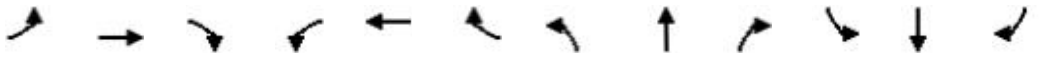
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	4.9	28.2	4.7	18.5	8.1	25.1	10.5	12.6
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Q Clear Time (g_c+I1), s	2.9	8.5	2.9	2.8	4.9	5.7	5.7	3.3
Green Ext Time (p_c), s	0.0	13.8	0.0	0.1	0.2	7.7	0.6	0.1

Intersection Summary	
HCM 7th Control Delay, s/veh	15.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	30	140	30	45	5	145	540	30	40	320	300
Future Volume (veh/h)	210	30	140	30	45	5	145	540	30	40	320	300
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1767	1875	1870	1870	1781	1307	1870	1870	1767	1781	1969	1678
Adj Flow Rate, veh/h	221	32	0	32	47	0	153	568	0	42	337	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	9	8	2	2	8	40	2	2	9	8	2	15
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	350	415		326	208		559	1404		396	1266	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.22	0.00	0.02	0.12	0.00	0.08	0.39	0.00	0.03	0.34	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.9	17.6	0.0	21.4	23.7	0.0	9.9	13.1	0.0	11.9	14.1	0.0
Ln Grp LOS	C	B		C	C		A	B		B	B	
Approach Vol, veh/h		253			79			721			379	
Approach Delay, s/veh		24.9			22.8			12.4			13.8	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	3.0	2.0	4.0
Phs Duration (G+Y+Rc), s	4.9	28.2	4.7	18.5	8.1	25.1	10.5	12.6
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	11.5	59.0	21.5	9.0	11.5	59.0	20.5	9.0
Max Allow Headway (MAH), s	3.8	9.0	3.8	6.9	3.7	9.1	3.7	7.3
Max Q Clear (g_c+I1), s	2.9	8.5	2.9	2.8	4.9	5.7	5.7	3.3
Green Ext Time (g_e), s	0.0	13.8	0.0	0.1	0.2	7.7	0.6	0.1
Prob of Phs Call (p_c)	0.48	1.00	0.39	0.99	0.91	1.00	0.97	0.82
Prob of Max Out (p_x)	0.00	0.05	0.00	1.00	0.07	0.00	0.00	1.00

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1697		1781		1781		3264	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3647		1875		3741		1781

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		0		1585		1422		0

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	42	0	32	0	153	0	221	0
Grp Sat Flow (s), veh/h/ln	1697	0	1781	0	1781	0	1632	0
Q Serve Time (g_s), s	0.9	0.0	0.9	0.0	2.9	0.0	3.7	0.0
Cycle Q Clear Time (g_c), s	0.9	0.0	0.9	0.0	2.9	0.0	3.7	0.0
Perm LT Sat Flow (s_l), veh/h/ln	803	0	1377	0	1043	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	19.1	0.0	6.6	0.0	20.7	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	15.8	0.0	6.6	0.0	15.4	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.2	0.0	0.0	0.0	0.9	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	396	0	326	0	559	0	350	0
V/C Ratio (X)	0.11	0.00	0.10	0.00	0.27	0.00	0.63	0.00
Avail Cap (c_a), veh/h	699	0	969	0	776	0	1188	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	11.8	0.0	21.3	0.0	9.6	0.0	24.1	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.1	0.0	0.3	0.0	1.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	11.9	0.0	21.4	0.0	9.9	0.0	25.9	0.0
1st-Term Q (Q1), veh/ln	0.3	0.0	0.3	0.0	0.9	0.0	1.2	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	0.6	0.0	0.6	0.0	1.6	0.0	2.4	0.0
%ile Storage Ratio (RQ%)	0.07	0.00	0.14	0.00	0.17	0.00	0.32	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	2	0	1
Grp Vol (v), veh/h	0	568	0	32	0	337	0	47
Grp Sat Flow (s), veh/h/ln	0	1777	0	1875	0	1870	0	1781
Q Serve Time (g_s), s	0.0	6.5	0.0	0.8	0.0	3.7	0.0	1.3
Cycle Q Clear Time (g_c), s	0.0	6.5	0.0	0.8	0.0	3.7	0.0	1.3
Lane Grp Cap (c), veh/h	0	1404	0	415	0	1266	0	208
V/C Ratio (X)	0.00	0.40	0.00	0.08	0.00	0.27	0.00	0.23
Avail Cap (c_a), veh/h	0	3722	0	415	0	3918	0	285
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	12.3	0.0	17.4	0.0	13.6	0.0	22.6
Incr Delay (d2), s/veh	0.0	0.9	0.0	0.2	0.0	0.5	0.0	1.2
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	13.1	0.0	17.6	0.0	14.1	0.0	23.7
1st-Term Q (Q1), veh/ln	0.0	2.1	0.0	0.3	0.0	1.3	0.0	0.5

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.1	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.0	0.0	0.5	0.0	2.6	0.0	1.1
%ile Storage Ratio (RQ%)	0.00	0.18	0.00	0.02	0.00	0.07	0.00	0.25
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment				R		R		
Lanes in Grp	0	0	0	1	0	1	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	1585	0	1422	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	351	0	481	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	351	0	1489	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	15.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	1	10	135	1	205	1	505	10	25	465	1
Future Vol, veh/h	5	1	10	135	1	205	1	505	10	25	465	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	0	-	-	-	-	50	70	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	1	11	142	1	216	1	532	11	26	489	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	811	1087	245	832	1077	266	491	0	0	542	0	0
Stage 1	543	543	-	534	534	-	-	-	-	-	-	-
Stage 2	268	544	-	298	543	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	6.94	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	3.32	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	271	215	755	262	218	732	1069	-	-	1023	-	-
Stage 1	492	518	-	498	523	-	-	-	-	-	-	-
Stage 2	714	517	-	686	518	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	185	209	755	250	212	732	1069	-	-	1023	-	-
Mov Cap-2 Maneuver	185	209	-	250	212	-	-	-	-	-	-	-
Stage 1	479	505	-	497	522	-	-	-	-	-	-	-
Stage 2	502	517	-	658	504	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	15.64	21.87	0.03	0.44
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	7	-	-	355	250	724	1023	-	-
HCM Lane V/C Ratio	0.001	-	-	0.047	0.568	0.3	0.026	-	-
HCM Control Delay (s/veh)	8.4	0	-	15.6	36.8	12.1	8.6	-	-
HCM Lane LOS	A	A	-	C	E	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	3.2	1.3	0.1	-	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	80	40	185	80	55	55	430	265	155	415	40
Future Volume (veh/h)	30	80	40	185	80	55	55	430	265	155	415	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	84	42	195	84	0	58	453	279	163	437	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	233	188	424	432		508	874	535	429	1501	144
Arrive On Green	0.02	0.12	0.12	0.12	0.22	0.00	0.03	0.41	0.41	0.08	0.46	0.46
Sat Flow, veh/h	1781	1969	1585	1781	1969	1585	1781	2118	1296	1781	3277	314
Grp Volume(v), veh/h	32	84	42	195	84	0	58	380	352	163	236	243
Grp Sat Flow(s),veh/h/ln	1781	1969	1585	1781	1969	1585	1781	1777	1637	1781	1777	1814
Q Serve(g_s), s	1.1	2.6	1.6	6.0	2.3	0.0	1.2	10.7	10.8	3.3	5.5	5.6
Cycle Q Clear(g_c), s	1.1	2.6	1.6	6.0	2.3	0.0	1.2	10.7	10.8	3.3	5.5	5.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.79	1.00		0.17
Lane Grp Cap(c), veh/h	300	233	188	424	432		508	733	675	429	814	831
V/C Ratio(X)	0.11	0.36	0.22	0.46	0.19		0.11	0.52	0.52	0.38	0.29	0.29
Avail Cap(c_a), veh/h	704	590	475	648	590		757	1171	1079	597	1171	1196
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.2	27.1	26.6	20.2	21.3	0.0	10.7	14.7	14.7	10.2	11.3	11.3
Incr Delay (d2), s/veh	0.2	2.0	1.3	0.8	0.5	0.0	0.1	2.6	2.9	0.6	0.9	0.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.8	2.4	1.2	4.3	1.9	0.0	0.8	7.5	7.1	1.9	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	25.3	29.1	27.9	20.9	21.7	0.0	10.8	17.3	17.6	10.7	12.2	12.2
LnGrp LOS	C	C	C	C	C		B	B	B	B	B	B
Approach Vol, veh/h		158			279			790			642	
Approach Delay, s/veh		28.0			21.2			16.9			11.8	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.7	33.5	11.6	12.9	5.7	36.6	4.9	19.6
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green Setting (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Q Clear Time (g_c+I1), s	5.3	12.8	8.0	4.6	3.2	7.6	3.1	4.3
Green Ext Time (p_c), s	0.2	14.8	0.3	0.8	0.1	9.6	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	16.7
HCM 7th LOS	B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	80	40	185	80	55	55	430	265	155	415	40
Future Volume (veh/h)	30	80	40	185	80	55	55	430	265	155	415	40
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	32	84	42	195	84	0	58	453	279	163	437	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	300	233	188	424	432		508	874	535	429	1501	144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.02	0.12	0.12	0.12	0.22	0.00	0.03	0.41	0.41	0.08	0.46	0.46
Unsig. Movement Delay												
Ln Grp Delay, s/veh	25.3	29.1	27.9	20.9	21.7	0.0	10.8	17.3	17.6	10.7	12.2	12.2
Ln Grp LOS	C	C	C	C	C		B	B	B	B	B	B
Approach Vol, veh/h		158			279			790			642	
Approach Delay, s/veh		28.0			21.2			16.9			11.8	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	4.0	1.1	3.0	1.1	4.0	1.1	3.0
Phs Duration (G+Y+Rc), s	8.7	33.5	11.6	12.9	5.7	36.6	4.9	19.6
Change Period (Y+Rc), s	3.5	6.0	3.5	5.0	3.5	6.0	3.5	5.0
Max Green (Gmax), s	11.5	44.0	16.5	20.0	11.5	44.0	16.5	20.0
Max Allow Headway (MAH), s	3.7	9.1	3.8	6.8	3.7	9.0	3.8	7.2
Max Q Clear (g_c+I1), s	5.3	12.8	8.0	4.6	3.2	7.6	3.1	4.3
Green Ext Time (g_e), s	0.2	14.8	0.3	0.8	0.1	9.6	0.0	0.5
Prob of Phs Call (p_c)	0.95	1.00	0.97	0.99	0.66	1.00	0.45	1.00
Prob of Max Out (p_x)	0.11	0.37	0.02	0.02	0.00	0.08	0.00	0.02

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		1781	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		2118		1969		3277		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1296		1585		314		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)	
Lanes in Grp	1	0	1	0	1	0	1	0
Grp Vol (v), veh/h	163	0	195	0	58	0	32	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1781	0
Q Serve Time (g_s), s	3.3	0.0	6.0	0.0	1.2	0.0	1.1	0.0
Cycle Q Clear Time (g_c), s	3.3	0.0	6.0	0.0	1.2	0.0	1.1	0.0
Perm LT Sat Flow (s_l), veh/h/ln	724	0	1265	0	916	0	1314	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	29.1	0.0	9.9	0.0	27.5	0.0	7.9	0.0
Perm LT Serve Time (g_u), s	16.8	0.0	5.3	0.0	25.0	0.0	7.9	0.0
Perm LT Q Serve Time (g_ps), s	3.6	0.0	0.8	0.0	0.2	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	429	0	424	0	508	0	300	0
V/C Ratio (X)	0.38	0.00	0.46	0.00	0.11	0.00	0.11	0.00
Avail Cap (c_a), veh/h	597	0	648	0	757	0	704	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	10.2	0.0	20.2	0.0	10.7	0.0	25.2	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.8	0.0	0.1	0.0	0.2	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	10.7	0.0	20.9	0.0	10.8	0.0	25.3	0.0
1st-Term Q (Q1), veh/ln	1.0	0.0	2.3	0.0	0.4	0.0	0.4	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	1.9	0.0	4.3	0.0	0.8	0.0	0.8	0.0
%ile Storage Ratio (RQ%)	0.33	0.00	1.10	0.00	0.13	0.00	0.13	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	380	0	84	0	236	0	84
Grp Sat Flow (s), veh/h/ln	0	1777	0	1969	0	1777	0	1969
Q Serve Time (g_s), s	0.0	10.7	0.0	2.6	0.0	5.5	0.0	2.3
Cycle Q Clear Time (g_c), s	0.0	10.7	0.0	2.6	0.0	5.5	0.0	2.3
Lane Grp Cap (c), veh/h	0	733	0	233	0	814	0	432
V/C Ratio (X)	0.00	0.52	0.00	0.36	0.00	0.29	0.00	0.19
Avail Cap (c_a), veh/h	0	1171	0	590	0	1171	0	590
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	14.7	0.0	27.1	0.0	11.3	0.0	21.3
Incr Delay (d2), s/veh	0.0	2.6	0.0	2.0	0.0	0.9	0.0	0.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.3	0.0	29.1	0.0	12.2	0.0	21.7
1st-Term Q (Q1), veh/ln	0.0	3.6	0.0	1.2	0.0	1.8	0.0	1.0

2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.1
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	7.5	0.0	2.4	0.0	3.6	0.0	1.9
%ile Storage Ratio (RQ%)	0.00	0.23	0.00	0.25	0.00	0.04	0.00	0.01
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		T+R		R		T+R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	352	0	42	0	243	0	0
Grp Sat Flow (s), veh/h/ln	0	1637	0	1585	0	1814	0	1585
Q Serve Time (g_s), s	0.0	10.8	0.0	1.6	0.0	5.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.8	0.0	1.6	0.0	5.6	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.79	0.00	1.00	0.00	0.17	0.00	1.00
Lane Grp Cap (c), veh/h	0	675	0	188	0	831	0	347
V/C Ratio (X)	0.00	0.52	0.00	0.22	0.00	0.29	0.00	0.00
Avail Cap (c_a), veh/h	0	1079	0	475	0	1196	0	475
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.7	0.0	26.6	0.0	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.9	0.0	1.3	0.0	0.9	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.6	0.0	27.9	0.0	12.2	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.4	0.0	0.6	0.0	1.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.5	0.0	0.1	0.0	0.2	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.80	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	7.1	0.0	1.2	0.0	3.7	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.21	0.00	0.20	0.00	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	16.7
HCM 7th LOS	B

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Intersection Delay, s/veh	15.4
Intersection LOS	C

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	200	150	105	250	240	145
Future Vol, veh/h	200	150	105	250	240	145
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	211	158	111	263	253	153
Number of Lanes	1	1	1	1	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	2	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	2
HCM Control Delay, s/veh	13.2	13.4	19.2
HCM LOS	B	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	SBLn1
Vol Left, %	100%	0%	100%	0%	0%
Vol Thru, %	0%	100%	0%	0%	62%
Vol Right, %	0%	0%	0%	100%	38%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	250	200	150	385
LT Vol	105	0	200	0	0
Through Vol	0	250	0	0	240
RT Vol	0	0	0	150	145
Lane Flow Rate	111	263	211	158	405
Geometry Grp	5	5	5	5	3b
Degree of Util (X)	0.208	0.459	0.419	0.261	0.653
Departure Headway (Hd)	6.784	6.276	7.165	5.945	5.803
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	528	574	501	603	620
Service Time	4.539	4.03	4.917	3.697	3.85
HCM Lane V/C Ratio	0.21	0.458	0.421	0.262	0.653
HCM Control Delay, s/veh	11.3	14.3	15	10.8	19.2
HCM Lane LOS	B	B	B	B	C
HCM 95th-tile Q	0.8	2.4	2	1	4.8



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	165	150	125	180	230	100	395	90	270	500	230
Future Volume (veh/h)	245	165	150	125	180	230	100	395	90	270	500	230
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	258	174	0	132	189	0	105	416	95	284	526	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	391	386		418	302		317	938	398	525	658	
Arrive On Green	0.11	0.20	0.00	0.09	0.15	0.00	0.07	0.25	0.25	0.15	0.33	0.00
Sat Flow, veh/h	3456	1969	1585	1781	1969	1585	1781	3741	1585	1781	1969	1585
Grp Volume(v), veh/h	258	174	0	132	189	0	105	416	95	284	526	0
Grp Sat Flow(s),veh/h/ln	1728	1969	1585	1781	1969	1585	1781	1870	1585	1781	1969	1585
Q Serve(g_s), s	4.3	4.7	0.0	3.6	5.4	0.0	2.6	5.6	2.9	6.4	14.5	0.0
Cycle Q Clear(g_c), s	4.3	4.7	0.0	3.6	5.4	0.0	2.6	5.6	2.9	6.4	14.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	391	386		418	302		317	938	398	525	658	
V/C Ratio(X)	0.66	0.45		0.32	0.63		0.33	0.44	0.24	0.54	0.80	
Avail Cap(c_a), veh/h	896	955		755	955		692	1188	504	751	658	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	25.4	21.2	0.0	18.7	23.7	0.0	15.7	18.9	17.9	12.2	18.1	0.0
Incr Delay (d2), s/veh	1.9	1.8	0.0	0.4	4.5	0.0	0.6	1.5	1.4	0.9	9.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	3.9	0.0	2.5	4.8	0.0	1.8	4.3	2.0	4.1	12.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	27.3	23.0	0.0	19.1	28.2	0.0	16.3	20.4	19.3	13.0	28.0	0.0
LnGrp LOS	C	C		B	C		B	C	B	B	C	
Approach Vol, veh/h		432			321			616			810	
Approach Delay, s/veh		25.6			24.5			19.5			22.7	
Approach LOS		C			C			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.4	21.0	8.7	17.7	7.4	26.0	11.3	15.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green Setting (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Q Clear Time (g_c+I1), s	8.4	7.6	5.6	6.7	4.6	16.5	6.3	7.4
Green Ext Time (p_c), s	0.5	5.3	0.2	1.6	0.2	1.5	0.6	1.8

Intersection Summary	
HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	245	165	150	125	180	230	100	395	90	270	500	230
Future Volume (veh/h)	245	165	150	125	180	230	100	395	90	270	500	230
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1969	1870	1870	1969	1870	1870	1969	1870	1870	1969	1870
Adj Flow Rate, veh/h	258	174	0	132	189	0	105	416	95	284	526	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	391	386		418	302		317	938	398	525	658	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.11	0.20	0.00	0.09	0.15	0.00	0.07	0.25	0.25	0.15	0.33	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	27.3	23.0	0.0	19.1	28.2	0.0	16.3	20.4	19.3	13.0	28.0	0.0
Ln Grp LOS	C	C		B	C		B	C	B	B	C	
Approach Vol, veh/h		432			321			616			810	
Approach Delay, s/veh		25.6			24.5			19.5			22.7	
Approach LOS		C			C			B			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs	1	2	3	4	5	6	7	8
Case No	1.1	3.0	1.1	3.0	1.1	3.0	2.0	3.0
Phs Duration (G+Y+Rc), s	12.4	21.0	8.7	17.7	7.4	26.0	11.3	15.2
Change Period (Y+Rc), s	3.5	6.0	3.5	6.0	3.5	6.0	4.5	6.0
Max Green (Gmax), s	16.5	19.0	16.5	29.0	16.5	19.0	15.5	29.0
Max Allow Headway (MAH), s	3.8	8.9	3.8	7.1	3.8	9.1	3.8	7.1
Max Q Clear (g_c+I1), s	8.4	7.6	5.6	6.7	4.6	16.5	6.3	7.4
Green Ext Time (g_e), s	0.5	5.3	0.2	1.6	0.2	1.5	0.6	1.8
Prob of Phs Call (p_c)	0.99	1.00	0.89	1.00	0.83	1.00	0.99	1.00
Prob of Max Out (p_x)	0.06	0.80	0.00	0.01	0.00	1.00	0.02	0.01

Left-Turn Movement Data								
Assigned Mvmt	1		3		5		7	
Mvmt Sat Flow, veh/h	1781		1781		1781		3456	

Through Movement Data								
Assigned Mvmt		2		4		6		8
Mvmt Sat Flow, veh/h		3741		1969		1969		1969

Right-Turn Movement Data								
Assigned Mvmt		12		14		16		18
Mvmt Sat Flow, veh/h		1585		1585		1585		1585

Left Lane Group Data								
Assigned Mvmt	1	0	3	0	5	0	7	0

Lane Assignment	L (Pr/Pm)		L (Pr/Pm)		L (Pr/Pm)		L (Prot)	
Lanes in Grp	1	0	1	0	1	0	2	0
Grp Vol (v), veh/h	284	0	132	0	105	0	258	0
Grp Sat Flow (s), veh/h/ln	1781	0	1781	0	1781	0	1728	0
Q Serve Time (g_s), s	6.4	0.0	3.6	0.0	2.6	0.0	4.3	0.0
Cycle Q Clear Time (g_c), s	6.4	0.0	3.6	0.0	2.6	0.0	4.3	0.0
Perm LT Sat Flow (s_l), veh/h/ln	889	0	1211	0	877	0	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	17.0	0.0	9.2	0.0	15.0	0.0	0.0	0.0
Perm LT Serve Time (g_u), s	9.4	0.0	7.1	0.0	5.5	0.0	0.0	0.0
Perm LT Q Serve Time (g_ps), s	3.6	0.0	0.3	0.0	1.3	0.0	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Lane Grp Cap (c), veh/h	525	0	418	0	317	0	391	0
V/C Ratio (X)	0.54	0.00	0.32	0.00	0.33	0.00	0.66	0.00
Avail Cap (c_a), veh/h	751	0	755	0	692	0	896	0
Upstream Filter (I)	1.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00
Uniform Delay (d1), s/veh	12.2	0.0	18.7	0.0	15.7	0.0	25.4	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.4	0.0	0.6	0.0	1.9	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	13.0	0.0	19.1	0.0	16.3	0.0	27.3	0.0
1st-Term Q (Q1), veh/ln	2.1	0.0	1.4	0.0	0.9	0.0	1.6	0.0
2nd-Term Q (Q2), veh/ln	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	1.80	0.00	1.80	0.00	1.80	0.00	1.80	0.00
%ile Back of Q (95%), veh/ln	4.1	0.0	2.5	0.0	1.8	0.0	3.1	0.0
%ile Storage Ratio (RQ%)	0.79	0.00	0.32	0.00	0.25	0.00	0.45	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	0	4	0	6	0	8
Lane Assignment		T		T		T		T
Lanes in Grp	0	2	0	1	0	1	0	1
Grp Vol (v), veh/h	0	416	0	174	0	526	0	189
Grp Sat Flow (s), veh/h/ln	0	1870	0	1969	0	1969	0	1969
Q Serve Time (g_s), s	0.0	5.6	0.0	4.7	0.0	14.5	0.0	5.4
Cycle Q Clear Time (g_c), s	0.0	5.6	0.0	4.7	0.0	14.5	0.0	5.4
Lane Grp Cap (c), veh/h	0	938	0	386	0	658	0	302
V/C Ratio (X)	0.00	0.44	0.00	0.45	0.00	0.80	0.00	0.63
Avail Cap (c_a), veh/h	0	1188	0	955	0	658	0	955
Upstream Filter (I)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Uniform Delay (d1), s/veh	0.0	18.9	0.0	21.2	0.0	18.1	0.0	23.7
Incr Delay (d2), s/veh	0.0	1.5	0.0	1.8	0.0	9.9	0.0	4.5
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	20.4	0.0	23.0	0.0	28.0	0.0	28.2
1st-Term Q (Q1), veh/ln	0.0	2.2	0.0	2.0	0.0	5.7	0.0	2.3

2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.2	0.0	1.8	0.0	0.4
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.80	0.00	1.60	0.00	1.80
%ile Back of Q (95%), veh/ln	0.0	4.3	0.0	3.9	0.0	12.0	0.0	4.8
%ile Storage Ratio (RQ%)	0.00	0.16	0.00	0.01	0.00	0.44	0.00	0.30
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	0	14	0	16	0	18
Lane Assignment		R		R		R		R
Lanes in Grp	0	1	0	1	0	1	0	1
Grp Vol (v), veh/h	0	95	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	1585	0	1585	0	1585	0	1585
Q Serve Time (g_s), s	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	2.9	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	1.00	0.00	1.00	0.00	1.00	0.00	1.00
Lane Grp Cap (c), veh/h	0	398	0	311	0	529	0	243
V/C Ratio (X)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	504	0	769	0	529	0	769
Upstream Filter (I)	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	17.9	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	19.3	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.80	0.00	1.00	0.00	1.00	0.00	1.00
%ile Back of Q (95%), veh/ln	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 7th Control Delay, s/veh	22.6
HCM 7th LOS	C

Notes

Unsignalized Delay for [EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.







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