

Traffic Impact Study

Parklands Village 2

Dominium Parklands

Aurora, Colorado

Prepared for:

Dominium Partners, LLC

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Parklands Village 2 – Dominion Parklands

Aurora, Colorado

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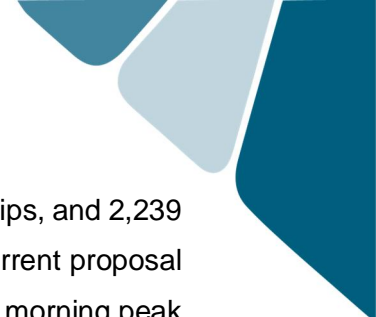
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1.0 EXECUTIVE SUMMARY

Parklands Village 2 is proposed to be bordered by Alameda Avenue to the north, Mississippi Avenue to the south, Harvest Road to the west, and Powhaton Road to the east in Aurora, Colorado. The project is proposed to include single-family homes, retail uses, parks, and a K-8 school on a total of approximately 566 acres. It is expected that Parklands Village 2 will be completed in the next several years in four separate filings. For purposes of this study, Filing 1 is estimated to be completed by approximately 2025, and Filings 2, 3, and 4 in 2027, 2029, and 2031, respectively. Therefore, analysis was conducted for each of these horizon years as each filing is completed. While Filing 1 of this development was previously approved by the City of Aurora in a traffic study completed by Kimley-Horn in March 2023, this filing is included in this study to provide a comprehensive analysis for the entire Parklands Village 2 development area.

Regional access to Parklands Village 2 will be provided by E-470 and Interstate 70 (I-70). Primary access will be provided by Alameda Avenue, Mississippi Avenue, Harvest Road, and Powhaton Road. Direct access to Filing 1 will be provided by a full movement access along Alameda Avenue at Jamestown Way, a future south leg of Little River Street along Alameda Avenue, and a full movement access along Harvest Road. Direct access to Filings 2-4 will be provided by a proposed south leg at the Alameda Avenue & New Castle Way intersection, an additional full movement access along Alameda Avenue between New Castle Way and Powhaton Road, three (3) full movement accesses along Powhaton Road, a future west leg at the Mississippi Avenue & Powhaton Road intersection, and two (2) full movement accesses along the future Harvest Road extension.

Because Filing 1 of the project will consist solely of residential uses, internal capture trips are generally not anticipated to occur onsite by the 2025 horizon. As such, Filing 1 is expected to generate approximately 3,860 weekday daily trips, with 268 of these trips occurring during the morning peak hour and 375 of these trips occurring during the afternoon peak hour. Accounting for internal capture, the overall Parklands Village 2 development is expected to generate approximately 20,938 weekday daily trips, with 1,331 of these trips occurring during the morning peak hour and 1,932 of these trips occurring during the afternoon peak hour. Of note, the current proposal in this study for Parklands Village 2 generates less traffic than the traffic previously estimated to be generated by Village 2 in the Parklands Development Master Traffic Study. The



master study had projected 21,880 weekday daily trips, 1,481 morning peak hour trips, and 2,239 afternoon peak hour trips, after its accounting for internal capture. As such, the current proposal is anticipated to generate 942 fewer weekday daily trips, with 150 fewer trips in the morning peak hour and 307 fewer afternoon peak hour trips.

Based on the analysis presented in this report, Kimley-Horn believes Parklands Village 2 will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following recommendations:

2025 Recommendations

- With Filing 1 of construction of this development, a south leg at the Alameda Avenue & Harvest Road (#1) intersection is proposed to be constructed. Additionally, two full movement accesses are proposed along Alameda Avenue, with the first access as the south leg of the Alameda Avenue & Jamestown Way (#4) intersection, and the second access to be constructed as the south leg of the Alameda Avenue & Little River Street (#5) intersection. With construction of the south leg of Harvest Road, an access is proposed to be located at the “Road 4” & Harvest Road (#6) intersection. Road 4 is anticipated to continue through Little River Street (#7) with a single-lane roundabout proposed to be constructed at that intersection.
- The Alameda Avenue & Harvest Road (#1) intersection is proposed to operate with stop control on the north and south Harvest Road legs, requiring the addition of an R1-1 “STOP” sign on the to-be constructed northbound approach to the intersection. The eastbound and westbound Alameda Avenue approaches and the northbound Harvest Road approach should all operate well during this horizon with a shared lane for left/through/right turning movements in each direction. The southbound approach is recommended to continue to provide the existing left turn lane in addition to a shared through/right turn lane.
- The Alameda Avenue & Powhaton Road (#2) intersection should operate well during this horizon without any improvements required to the existing intersection configuration.
- The Mississippi Avenue & Harvest Road (#3) intersection should remain unaffected from Filing 1 project construction as the two areas will not be directly connected during this phase.
- The Alameda Avenue & Jamestown Way (#4) intersection should operate well with stop control on the newly constructed northbound and the existing southbound Jamestown Way approaches to the intersection with an R1-1 “STOP” sign placed in each direction. Each

approach to the intersection should provide a shared lane for left/through/right turning movements in each direction.

- The Alameda Avenue & Little River Street (#5) is anticipated to operate well with stop control on the proposed-to-be-constructed south leg and the existing north leg of Little River Street with R1-1 “STOP” signs posted in each direction on this street. Each approach to the intersection should provide a shared lane for left/through/right turning movements in each direction.
- The Road 4 & Harvest Road (#6) intersection will have only two non-opposing legs to the intersection during this horizon, and as such it is anticipated to operate with free southbound left and westbound right turning movements, similar to how Mississippi Avenue & Harvest Road (#3) operates today.
- The Road 4 & Little River Street (#7) intersection is anticipated to be constructed in this phase as a single-lane roundabout although only eastbound left and southbound right turning movements are anticipated to occur during this horizon. The east and south legs to the intersection should be stubbed out for future construction that will be completed during Filing 1I as the rest of Parklands Village 2 is constructed. R1-2 “YIELD” signs should be placed on the eastbound and southbound approaches to the intersection.

2027 Recommendations

- The Alameda Avenue & Harvest Road (#1) intersection is recommended to provide left turn lanes in each direction at this horizon. The northbound left turn lane should provide 275 feet in length with a 160-foot taper, the eastbound left turn lane should be 150 feet in length with a 120-foot taper, while the westbound left turn lane should be 150 feet in length with a 100-foot taper.
- The Alameda Avenue & Powhaton Road (#2) intersection is recommended to provide a 150-foot eastbound left turn lane with 100-foot taper with the same in the westbound direction, as well as a 150-foot southbound right turn lane with a 140-foot taper.
- By the Filing 2 2027 horizon, the Jamestown Way (#4) and Little River Street (#5) intersections along Alameda Avenue are recommended to provide eastbound and westbound left turn lanes each with 150 feet in length and a 100-foot taper.
- The east and south legs of the roundabout at Road 4 & Little River Street (#7) are also anticipated to be constructed, which will operate well with one lane in each direction for shared turning movements and R1-2 “YIELD” signs posted on all four approaches to the roundabout.

- A new south leg at the existing Alameda Avenue & New Castle Way (#8) intersection is anticipated to be provided with Filing 2 construction. The eastbound and westbound approaches are recommended to provide left turn lanes and a shared through/right turn lane along Alameda Avenue.
- Access to the proposed multifamily and commercial sites is proposed along Alameda Avenue approximately 500 feet to the east of New Castle Way via a Private North/South Road (Intersection #9). It is recommended that the northbound approach to this 'T'-intersection provide an R1-1 "STOP" sign and separate left and right turn lanes. The eastbound approach is recommended to provide one through lane and a separate right turn lane, while the westbound approach is recommended to provide a left turn lane and one through lane.
- Additional access to the commercial site is proposed along Powhatan Road (Intersection #10). During this horizon, it is recommended the eastbound approach provide separate left and right turn lanes with an R1-1 "STOP" sign posted. The northbound approach is recommended to provide a left turn lane and one through lane while the southbound approach is anticipated to operate well with a shared through/right turn lane.
- An additional internal access at Road 4 & New Castle Way (#11) is anticipated to be constructed with Filing 2 development as a stop-controlled 'T'-intersection with an R1-1 "STOP" sign posted on the southbound New Castle Way approach to the intersection. It is recommended that the southbound approach provide separate left and right turn lanes in this horizon.
- A new access along Powhatan Road at Road 4 (#12) is anticipated to be constructed with Filing 2 development. The northbound Powhatan Road approach should provide a left turn lane, while the southbound Powhatan Road should operate well with one lane for shared through/right turning movements. The eastbound Road 4 approach should operate well with a posted R1-1 "STOP" sign and one lane for shared left/right turning movements.


2029 Recommendations

- The Alameda Avenue & Harvest Road (#1) as well as the Alameda Avenue & Powhatan Road (#2) intersections are both anticipated to require signalization after Filing 3 construction.
- Filing 3 construction is anticipated to be completed by approximately 2029. With Filing 3 development, no changes to the 2027 improvements are anticipated to be required at the project access intersections.

- Mississippi Avenue from Little River Street to Powhatan Road is recommended to be constructed with Filing 3 development, which will exist as the southern border to Filing 3 development. The new Mississippi Avenue & Little River Street (#15) intersection will only provide a southbound left turning movement and a westbound right turning movement during this horizon and as such, is not anticipated to experience measurable delay.
- A new intersection at “Street C” & Powhatan Road (#16) is also anticipated to be constructed during Filing 3. This intersection should provide a northbound left turn lane along Powhatan Road while the southbound approach should operate well with one lane for shared through/right turning movements. The eastbound Street C approach should operate well with a posted R1-1 “STOP” sign and one lane for shared left/right turning movements.
- The new Mississippi Avenue & Powhatan Road (#17) intersection is also anticipated to be constructed with Filing 3 development, and like the Street C intersection, should provide a northbound left turn lane on Powhatan Road, one lane for shared through/right turning movements in the southbound Powhatan Road approach, and one lane with a posted R1-1 “STOP” sign and one lane for shared eastbound left/right turning movements on Mississippi Avenue.


2031 Full Buildout Recommendations

- Full buildout of the Parklands Village 2 development is anticipated by approximately 2031. While it is not known at which point Harmony development to the east of Powhatan Road will construct additional accesses along Powhatan Road, it is known that access is proposed at the Commercial Access intersection (#10), the Road 4 intersection (#12) and at Mississippi Avenue (#17). It is assumed that the east legs of these intersections will be constructed by full buildout of Parklands Village 2 development to provide a comprehensive analysis of these intersections in conjunction with the access system proposed with Parklands development.
- Two through lanes in each direction are recommended to be provided along Powhatan Road adjacent to the project area with full buildout of Parklands Village 2.
- Although it is recognized that the full Harvest Road extension from Alameda Avenue to Mississippi Avenue is anticipated to be constructed by this project, this full connection with a bridge over Coal Creek is not anticipated to be needed until Filing 4 development of this project is constructed.
- The Road 4 & Harvest Road (#6) intersection is anticipated to add a new south leg to the intersection that did not exist with Filing 3 development. This intersection should provide



separate northbound through and right turn lanes along as well as separate southbound left and through lanes along Harvest Road, while the westbound Road 4 approach should operate with stop control and a posted R1-1 “STOP” sign with separate westbound left and right turn lanes.

- A new east leg is assumed to be constructed by this horizon at the Commercial Access & Powhatan Road (#10) intersection. The eastbound and westbound approaches at this intersection are anticipated to operate well with stop control and separate left turn lanes and shared through/right turn lanes in each direction. The northbound and southbound approaches on Powhatan Road are each anticipated to operate well with separate left turn lanes, one through lane, and one shared through/right turn lane in each direction.
- With a new east leg at Road 4 & Powhatan Road (#12) assumed to be completed by this 2031 horizon, this intersection is anticipated to continue operating well with stop control on the eastbound and westbound approaches to the intersection with R1-1 “STOP” signs posted on these approaches to Powhatan Road. The northbound and southbound Powhatan Road approaches to this intersection are each recommended to provide a left turn lane, one through lane, and one shared through/right turn lane. The eastbound and westbound Road 4 approaches should each provide a left turn lane and a shared through/right turn lane in each direction.
- A new stop-controlled ‘T’-intersection along the future Harvest Road extension at “Street B” (#13) to the north of Mississippi Avenue is anticipated to be constructed with Filing 4 development. This intersection should provide separate northbound through and right turn lanes as well as separate southbound left and through lanes along Harvest Road, while the westbound Street B approach should provide an R1-1 “STOP” sign and separate left and right turn lanes. The left and right turn lanes on Harvest Road should be 275 feet in length with a 160-foot taper, while the westbound approach should be a continuous left turn lane and a right turn lane with 100 feet in length and a 100-foot taper.
- The extension of Mississippi Avenue from the Harvest Road extension to Little River Street is anticipated to be constructed with Filing 4 development. This extension will create a new stop-controlled ‘T’-intersection at Mississippi Avenue & Harvest Road East (#14). This intersection should provide separate northbound through and right turn lanes and separate southbound left and through lanes along Harvest Road while westbound Mississippi Avenue should provide an R1-1 “STOP” sign with separate left and right turn lanes. It should be noted that while the intersection is anticipated to operate acceptably with this configuration and stop



control by the 2031 horizon, it is possible this intersection will eventually require signalization, as the Parklands Master Traffic Study did identify by the 2040 horizon that this intersection would require a signal. While this study does not recommend a signal by the 2031 horizon, depending on how developments in the area are ultimately constructed and the timing of each development, this intersection should be monitored for when a signal should be installed. The left and right turn lanes on Harvest Road should be 275 feet in length with a 160-foot taper, while the westbound approach should be a continuous left turn lane and a right turn lane with 150 feet in length and a 100-foot taper.

- Because of the Mississippi Avenue connection from Harvest Road to Powhatan Road with full buildout of Parklands Village 2, a new west leg at the Mississippi Avenue & Little River Street (#15) intersection is anticipated to be constructed with Filing 4 construction. As such, this stop-controlled 'T'-intersection should operate well with one through lane in each direction along Mississippi Avenue while southbound Little River Street should provide an R1-1 "STOP" sign and separate left and right turn lanes. The southbound left turn lane should provide 100 feet in length and a 100-foot taper while the right turn lane should be a continuous turn lane.
- The Mississippi Avenue & Powhatan Road (#17) intersection is anticipated to have a new east leg with Harmony development. With full buildout of Parklands Village 2 and this assumed new east leg by the 2031 horizon, a signal is anticipated to be required at this intersection. The northbound and southbound Powhatan Road approaches should each provide a left turn lane, two through lanes, and a right turn lane, while the eastbound and westbound Mississippi Avenue approaches should each provide a left turn lane and a shared through/right turn lane to provide acceptable operations. The eastbound and westbound left turn lanes should be 150 feet in length with a 100-foot taper while the northbound and southbound left and right turn lanes should provide 150 feet in length with a 140-foot taper.
- It is recognized that additional improvements to the study area intersections by the 2040 horizon, however, per previous discussion with the City of Aurora staff, a 2040 long-term horizon is not included for intersections that were previously studied in the Parklands Master Traffic Study, as the Parklands Village 2 traffic generation in this study is lower than that studied in the master study.

2040 Recommendations at Alameda Avenue & Private North/South Road (#9), Commercial Access & Powhaton Road (#10), Street B & Harvest Road (#13) and Street C & Powhaton Road (#16)


- It is anticipated that by the 2040 horizon, two through lanes in each direction will be provided along Harvest Road.
- All other recommendations pertaining to the Alameda Avenue & Private North/South Road (#9), Commercial Access & Powhaton Road (#10), Street B & Harvest Road (#13), and the Street C & Powhaton Road (#16) intersections are accomplished in the 2031 horizon.
- For the 2040 recommendations at other intersections within this study area, the Parklands Master Traffic Study can be referenced, which includes detailed analysis of each of the other intersections and the development of several other areas nearby the Parklands Village 2 project.

Dominium Site-Specific Recommendations

- Two public street accesses along the east side of New Castle Way are proposed in association with the Dominion multifamily site within the Filing 2 development. There are also two proposed private street accesses along the Private North/South Road to the south of Alameda Avenue.
- For purposes of this study, the two public street accesses along New Castle Way were analyzed for the assumed full buildout conditions and traffic volumes in the 2040 horizon. Both the public and private street accesses are recommended to operate with stop control with posted R1-1 “STOP” signs for vehicles exiting the development. The two public street accesses along New Castle Way are proposed to align to future public streets along the west side of New Castle Way. No turn lanes are anticipated to be needed on any approach at either the North Access & New Castle Way (#18) or South Access & New Castle Way (#19) intersections.

General Notes and Recommendations

- The roadway geometry and control recommendations provided in this study are evaluated based on the anticipated needs at the study area intersections during these horizons. As such, the recommended turn lanes provided in this study are based on the 2025, 2027, 2029, and 2031 needs rather than aligning with the roadway geometry provided in the Parklands Village Master Traffic Study, as this would result in overbuilding the roadway for the needs anticipated



by 2031. It should be noted that additional roadway improvements and intersection control may be needed at the external intersections as development continues to occur in this area beyond the 2031 horizon—for which the Parklands Village Master Traffic Study can be referenced.

- The recommendations for the 2040 horizon, with the exception of the aforementioned Alameda Avenue & Private North/South Road (#9), Commercial Access & Powhaton Road (#10), Street B & Harvest Road (#13), and the Street C & Powhaton Road (#16) intersections, should be found in the Parklands Village Master Traffic Study. The recommendations found in that study should be appropriate for each of the intersections included in this study, as the Parklands Village 2 traffic generation in this study is less than the traffic generated by the Parklands Village 2 development area that was analyzed in the master study.
- It is understood that additional roadway improvements beyond those shown in this study may be constructed based on the City public improvement plans. If these additional improvements, such as additional turn lanes or through lanes are constructed, it would be understood that this would only serve to improve the level of service of the study intersections when compared to the results shown in this study and as such the results of this study represent a conservative analysis of projected future traffic conditions.
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Aurora and the Manual on Uniform Traffic Control Devices (MUTCD) – 2023 Edition.

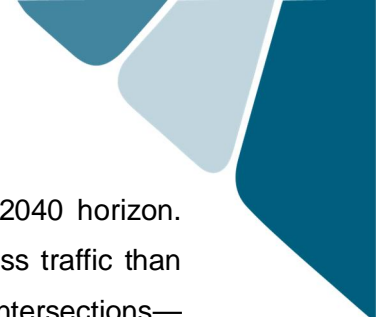
2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study for Parklands Village 2 proposed to be bordered by Alameda Avenue to the north, Mississippi Avenue to the south, Harvest Road to the west, and Powhaton Road to the east in Aurora, Colorado. A vicinity map illustrating the Parklands Village 2 development location is shown in **Figure 1**. Parklands Village 2 is proposed to include single-family homes, retail uses, parks, and a K-8 school on a total of approximately 566 acres. A conceptual site plan is attached in **Appendix H**.

For purposes of this analysis, Parklands Village 2 was evaluated in a total of four (4) filings. A traffic impact study for the Parklands Village 2 – Filing 1 area was completed in March 2023 and was approved by the City of Aurora. This traffic study includes the Filing 1 development area once again, which for purposes of this study is anticipated to be completed by approximately 2025. Filing 1 is anticipated to be constructed on the northwest quadrant of the development area, which is located at the southeast corner of the Alameda Avenue & Harvest Road intersection. The following provides a summary of the anticipated development in each of the four (4) filings analyzed in this study:

- Filing 1: 276 single-family detached dwelling units (DU); 164 single-family attached DU; and a 3.6-acre park – estimated completion in 2025
- Filing 2: 226 single-family detached DU; 104 single-family attached DU; 273 multifamily low-rise housing DU; 35,000 square feet of office uses; and 95,000 square feet of retail uses – estimated completion in 2027
- Filing 3: 359 single-family detached DU; 76 single-family attached DU; and a 3.6-acre park – estimated completion in 2029
- Filing 4: 383 single-family detached DU; 92 single-family attached DU; 300 multifamily mid-rise housing DU; a 47.7-acre park; a K-8 school with up to 1,054 students; and approximately 15,000 square feet of retail uses – estimated completion in 2031.

A master study for the overall Parklands development, *Parklands Development Master Traffic Study*, includes the development area of Parklands Village 2. The Parklands master traffic study provided a thorough long-term 2040 analysis of intersections internal to Parklands Village 2 and accesses to the external arterial street system; therefore, the requested City of Aurora scope for



this traffic study includes analysis for each filing horizon and not a long-term 2040 horizon. Further, the current proposal of Parklands Village 2 is calculated to generate less traffic than evaluated in the master traffic study. However, there are four external street intersections—Alameda Avenue & Private North/South Road (Intersection #9), Commercial Access & Powhaton Road (#10), Street B & Harvest Road (#13) and Street C & Powhaton Road (#16)—in this study that were not analyzed in the master study. As such, at the request of City of Aurora staff, analysis was conducted in the 2040 horizon for these four intersections. For detailed analysis of all study area intersections besides these aforementioned intersections, the Parklands Development Master Traffic Study should be referenced.

The purpose of this traffic study is to identify project traffic generation characteristics to determine potential project traffic related impacts on the local street system and to develop the necessary mitigation measures required for the identified traffic impacts. The following intersections were incorporated into this traffic study in accordance with the City of Aurora requested scope:

- Alameda Avenue and Harvest Road (Intersection #1)
- Alameda Avenue and Powhaton Road (#2)
- Mississippi Avenue and Harvest Road (#3)
- Mississippi Avenue and Powhaton Road (#17)

In addition, the proposed public street connections to Alameda Avenue, Harvest Road, Mississippi Avenue, and Powhaton Road and the major internal development street intersections were evaluated (Intersections #4-16).

Regional access to Parklands Village 2 will be provided by E-470 and Interstate 70 (I-70). Primary access will be provided by Alameda Avenue, Mississippi Avenue, Harvest Road, and Powhaton Road. Direct access to Filing 1 will be provided by a full movement access along Alameda Avenue at Jamestown Way, a future south leg of Little River Street along Alameda Avenue, and a full movement access along Harvest Road. Direct access to Filings 2-4 will be provided by a proposed south leg at the Alameda Avenue & New Castle Way intersection, an additional full movement access along Alameda Avenue between New Castle Way and Powhaton Road, three (3) full movement accesses along Powhaton Road, a future west leg at the Mississippi Avenue & Powhaton Road intersection, and two (2) full movement accesses along the future Harvest Road extension.

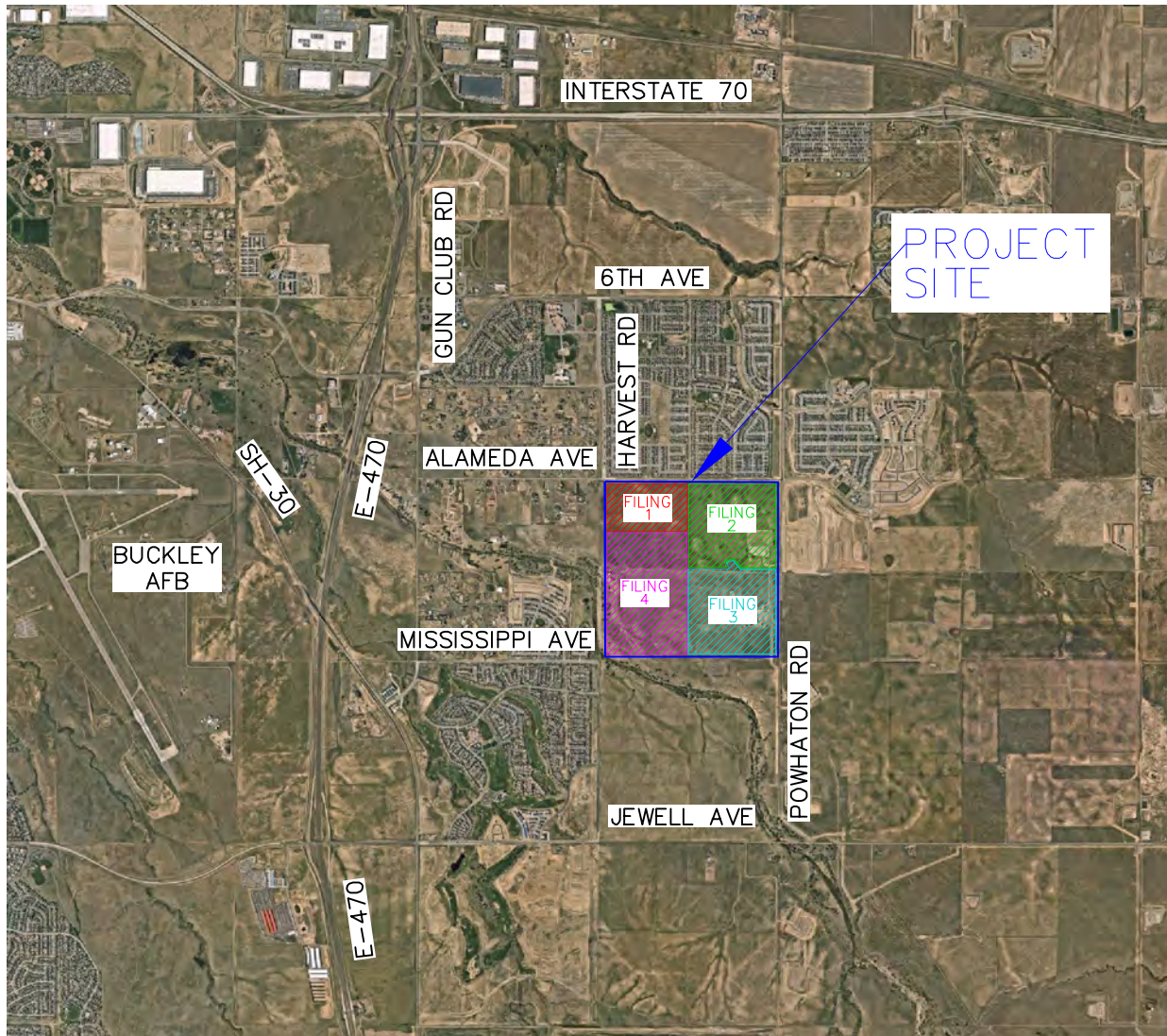


FIGURE 1
PARKLANDS VILLAGE 2 — DOMINIUM
AURORA, COLORADO
VICINITY MAP

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

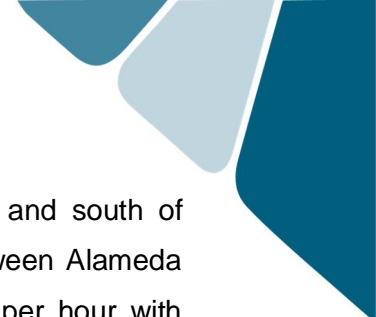
The existing site is comprised primarily of vacant land, with two oil and gas facilities to remain. To the north are single-family residential homes and directly to the east, west, and south is vacant land. Extending to the east is vacant and agricultural land and to the west are single-family homes and the Colorado E-470 freeway. Development is currently occurring to the east of Powhaton Road which is anticipated to be primarily residential uses.

3.2 Existing Roadway Network

Regional access to Parklands Village 2 will be provided by E-470 and Interstate 70 (I-70). Primary access will be provided by Alameda Avenue, Mississippi Avenue, Harvest Road, and Powhaton Road. Direct access to Filing 1 will be provided by a full movement access along Alameda Avenue at Jamestown Way, a future south leg of Little River Street along Alameda Avenue, and a full movement access along Harvest Road. Direct access to Filings 2-4 will be provided by a proposed south leg at the Alameda Avenue & New Castle Way intersection, an additional full movement access along Alameda Avenue between New Castle Way and Powhaton Road, three (3) full movement accesses along Powhaton Road, a future west leg at the Mississippi Avenue & Powhaton Road intersection, and two (2) full movement accesses along the future Harvest Road extension.

Alameda Avenue extends east/west with one through lane in each direction. Sidewalks exist on the north side of Alameda Avenue fronting the newer single-family constructed homes. The posted speed limit west of Harvest Road is 35 miles per hour, while east of Harvest Road has a posted speed limit of 30 miles per hour.

Harvest Road currently only extends northbound and southbound with two through lanes of travel between 6th Avenue and Alameda Avenue. However, Harvest Road is a two-lane roadway between Jewell Avenue and Mississippi Avenue. The roadway provides a raised median separating opposing travel lanes and sidewalks on the east and west side. The posted speed limit is 45 miles per hour.



Powhaton Road is a two-lane roadway north of 1st Avenue/Ellsworth Avenue and south of Alameda Avenue. The roadway widens to four lanes with a raised median between Alameda Avenue and 1st Avenue/Ellsworth Avenue. The posted speed limit is 40 miles per hour with sidewalks along the four-lane section on the east and west side.

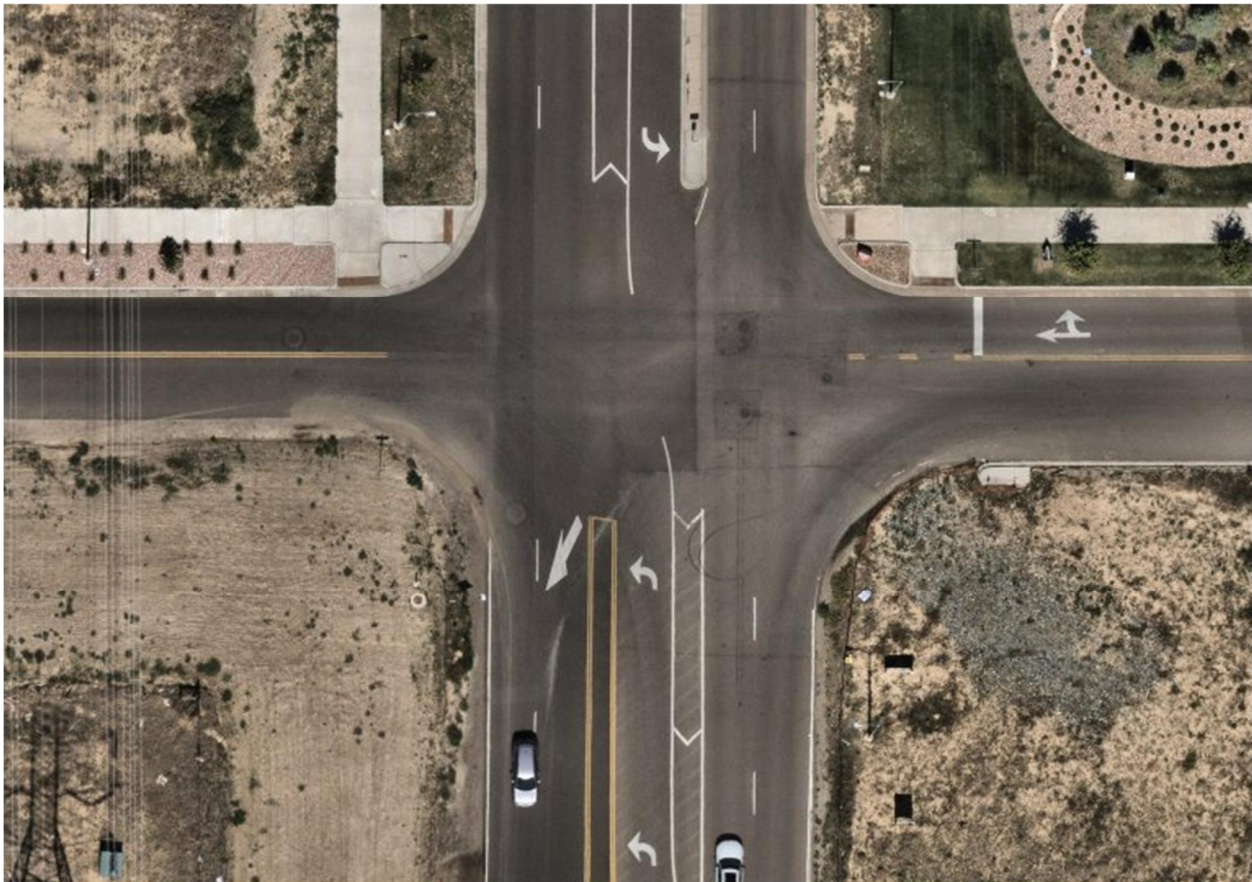
Mississippi Avenue extends east/west as a two-lane roadway between Gun Club Road and Duquesne Street and widens into four-lanes to Harvest Road. Sidewalk is provided on the south side of Mississippi Avenue and some sections along the north side. The posted speed limit is 30 miles per hour.

The T-intersection of Alameda Avenue and Harvest Road (#1) is unsignalized and operates with stop control on the southbound approach of Harvest Road. The eastbound approach of Alameda Avenue provides a single lane for shared left and through movements. The westbound approach of Alameda Avenue provides a shared through/right turn lane. The southbound approach provides a separate left and right turn lane. An aerial photo of the existing intersection configuration is below (north is up - typical).



Alameda Avenue and Harvest Road (#1)

The unsignalized intersection of Alameda Avenue and Powhatan Road (#2) operates with stop control on the eastbound and westbound approaches of Alameda Avenue. The northbound and southbound approaches of Powhatan Road provide a separate left turn lane, a through lane, and a shared through/right turn lane. The eastbound and westbound approaches provide a single lane for shared movements. An aerial photo of the existing intersection configuration is below.



Alameda Avenue and Powhatan Road (#2)

The unsignalized intersection of Mississippi Avenue and Harvest Road (#3) does not provide intersection control and currently only has two legs with a 90 degree bend. Harvest Road transitions into Mississippi Avenue northbound and Mississippi Avenue transitions into Harvest Road eastbound. An aerial photo of the existing intersection configuration is below.



Mississippi Avenue and Harvest Road (#3)

The intersection lane configuration and control for the study area intersections are shown in **Figure 2**.

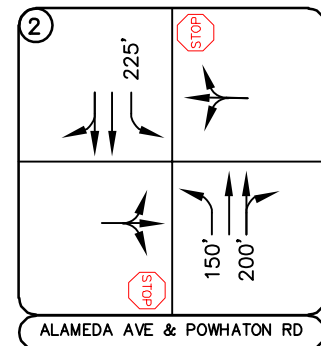
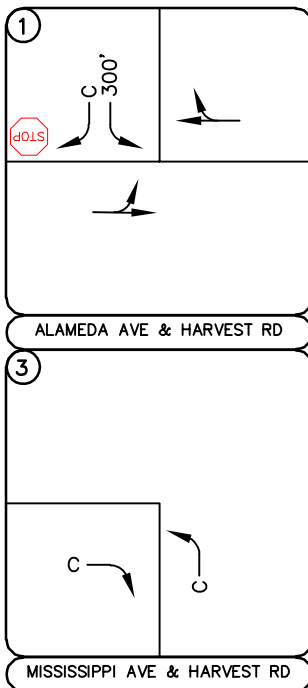
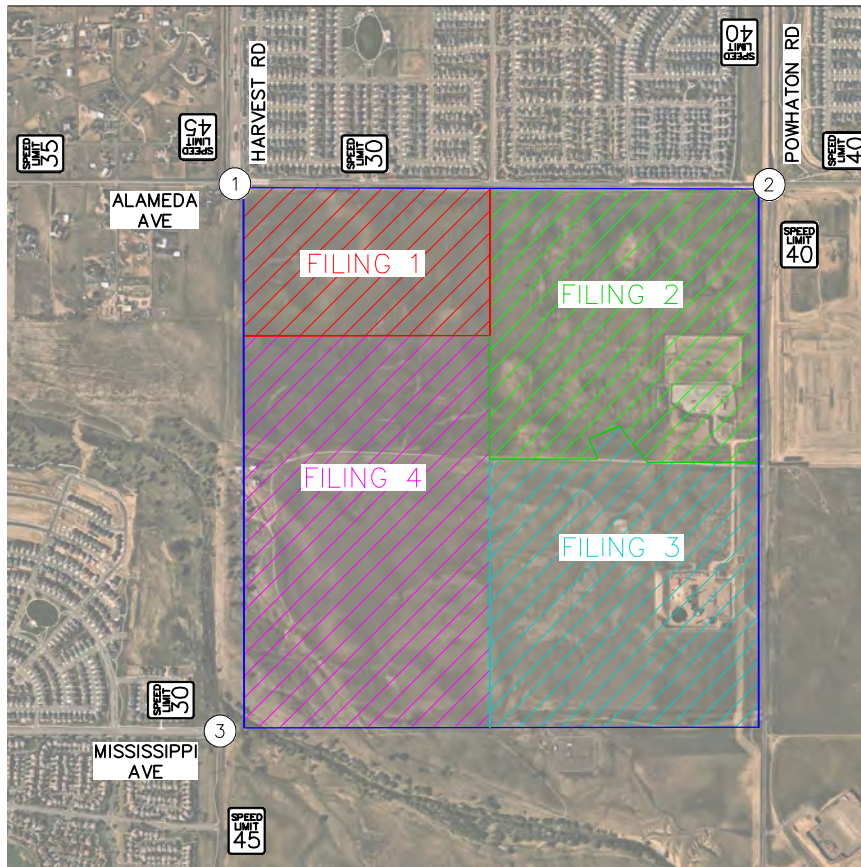


FIGURE 2
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 EXISTING GEOMETRY AND CONTROL

LEGEND	
	Study Area Key Intersection
	Stop Controlled Approach
	Roadway Speed Limit
	100' Turn Lane Length (feet)
	C Continuous Turn Lane

3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the study intersections in June 2021 during the weekday morning and afternoon peak hours for the *Parklands Master Traffic Study* updated March 2022 study. Per previous coordination with City of Aurora staff, these counts were authorized to be used in this study. The counts were conducted during the morning and afternoon peak hours of adjacent street traffic in 15-minute intervals from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM on this count date. The existing year 2021 intersection traffic volumes are shown in **Figure 3**. The 2021 counts were grown by the standard Aurora two (2) percent annual growth to estimate 2023 traffic volumes. In addition, the intersection of Alameda Avenue and Powhatan Road was under construction during year 2021. Therefore, the inherent increase in traffic volumes at that intersection have been accounted for with the adjusted 2023 volumes. The 2023 adjusted traffic volumes are shown in **Figure 4**. The existing intersection traffic volume count sheets provided in **Appendix A**.

3.4 Unspecified Development Traffic Growth

According to information provided on the CDOT website, the 20-year growth factor along State Highway 30 in this area is approximately 1.48. This growth factor equates to an annual growth rate of 1.96 percent. Traffic information from the CDOT Online Transportation Information System (OTIS) website is provided in **Appendix B**. This aligns well with the City of Aurora typical standard of 2.0 percent annual traffic growth. As such, a 2.0 percent annual growth rate was used to calculate future traffic volumes at the study area intersections to estimate short-term 2025 traffic volumes.

This study incorporates anticipated development from the Harmony Traffic Impact Study completed in March 2017, Parklands Village 1 development traffic, as well as using the City of Aurora *Northeast Aurora Transportation Study (NEATS) Refresh (2018)* anticipated future traffic volumes as a basis for background traffic volumes for all horizons beyond the 2025 Filing 1 horizon in this study. The traffic anticipated to be generated by the Parklands Village 2, Parklands Village 1, and Harmony developments is expected to account for a substantial portion of the future traffic growth along the roadways analyzed in this study, however, an annual growth rate of 0.5 percent on top of the aforementioned background traffic growth was used to grow traffic volumes beyond the 2025 horizon.

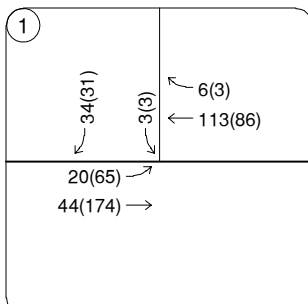
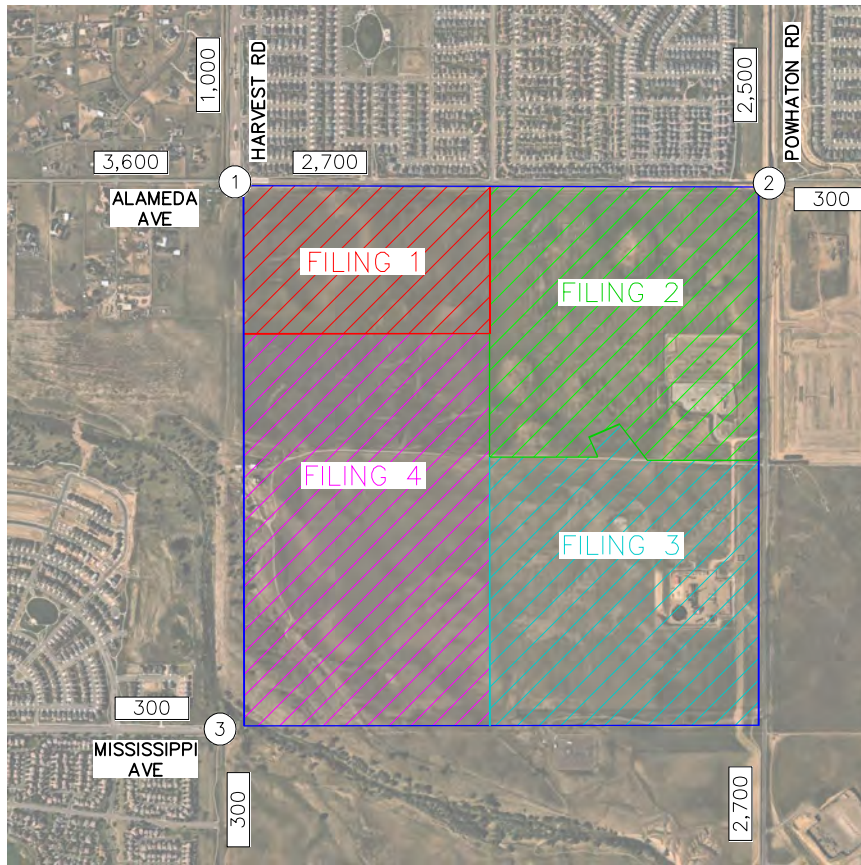
Where the additional traffic from these developments and the 0.5 percent annual growth rate may not be accounted for, the City of Aurora NEATS 2030 and 2040 projected daily traffic volumes were used as a basis to further grow traffic volumes to better match these projections. This is in alignment with the procedure followed in the Parklands Development Master Traffic Study prepared by Fox Tuttle Transportation Group in March 2022, the City of Aurora Northeast Area Transportation Study (NEATS) Refresh Final Report 2030 Daily Traffic Volumes were used as a basis to form 2031 traffic volume estimates at the external study area intersections on Alameda Avenue, Mississippi Avenue, Harvest Road, and Powhaton Road.

For purposes of this analysis, it was generally assumed that the 2030 NEATS average daily traffic (ADT) volumes were the traffic volumes for the 2031 background plus project traffic scenario in this study. However, this procedure was not used at the intersection of Alameda Avenue and Harvest Road (#1), because the volumes shown in the 2030 NEATS document along Alameda Avenue do not reflect the traffic volumes seen today, with an estimated 700 ADT on the west leg of Alameda Avenue in 2030 NEATS while there is estimated to be approximately 3,900 ADT there today. Although it is recognized that this volume may decrease or plateau slightly over time as additional roadway connections are created in the area, the existing volumes seen at this intersection were used as a basis to form the 2031 estimated traffic volumes rather than the 2030 NEATS volumes, with a slight reduction in volume on this west leg accounted for when the existing Mississippi Avenue and Harvest Road (#3) intersection becomes a T-intersection. Applicable documents from adjacent traffic studies, the master study, and the NEATS projections are also included in **Appendix B**.

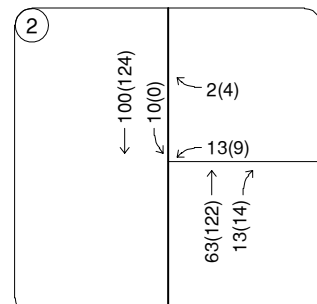
Additionally, it is anticipated that the extension of Harvest Road from Mississippi Avenue to Alameda Avenue will be constructed as part of this project. This connection is not anticipated to be needed during Filings 1, 2, or 3 of this project as traffic can safely and adequately access the development area from other areas without overloading those roadways. As such, it is not anticipated that it will be completed before the Filing 4 horizon in 2031, however, it was assumed that it will be completed as part of Filing 4 of this development by the 2031 horizon. This connection is anticipated to include construction of a bridge over Coal Creek. Of note, although this connection is expected to be constructed along with this project, the 2031 background traffic volumes were generated with the assumption that this connection is there. By doing so, the 2031

background traffic volumes represent the induced background traffic volume anticipated to generated by the Harvest Road extension.

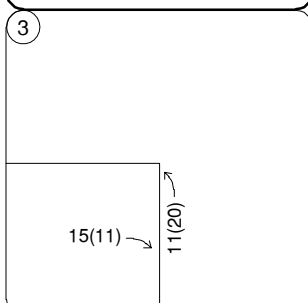
The calculated background traffic volumes for 2025 (Filing 1), 2027 (Filing 2), 2029 (Filing 3), and 2031 (Filing 4) are shown in **Figures 5** through **8**, respectively.



ALAMEDA AVE & HARVEST RD



ALAMEDA AVE & POWHASTON RD

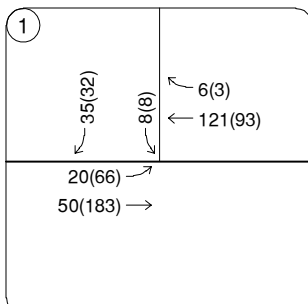
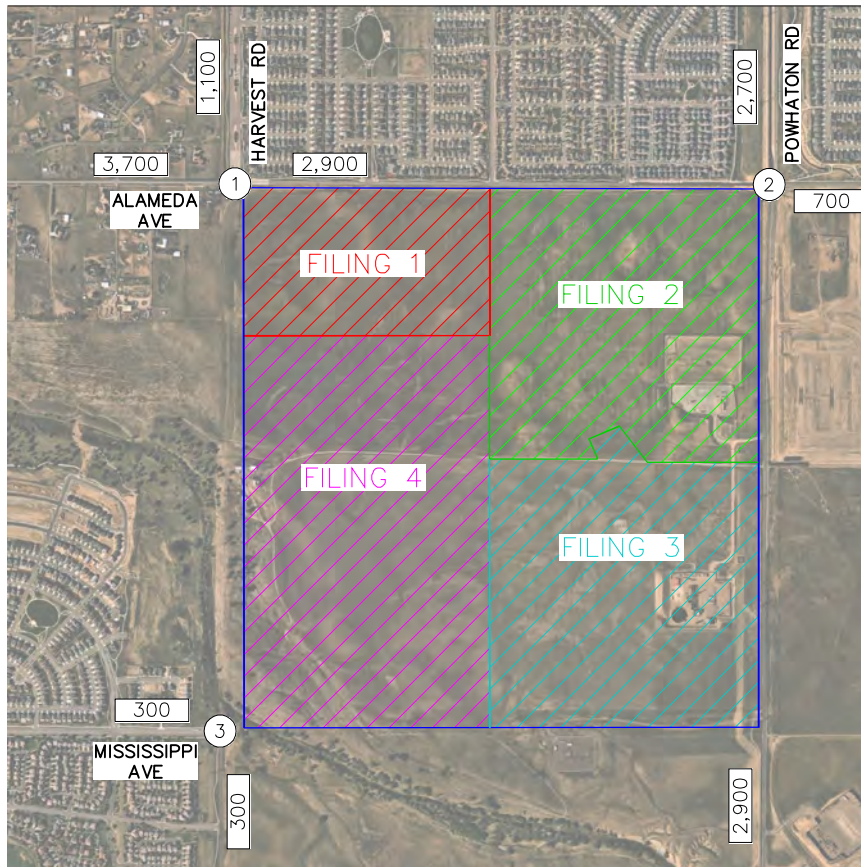


MISSISSIPPI AVE & HARVEST RD

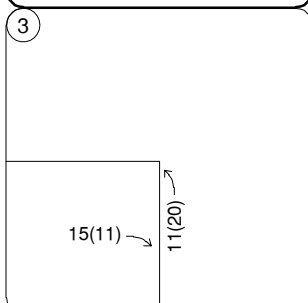
LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

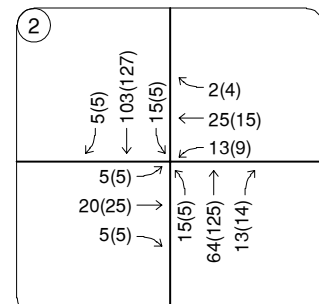
FIGURE 3
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2021 EXISTING TRAFFIC VOLUMES



ALAMEDA AVE & HARVEST RD



MISSISSIPPI AVE & HARVEST RD



ALAMEDA AVE & POWHATON RD

LEGEND



Study Area Key Intersection

XXX(XXX)

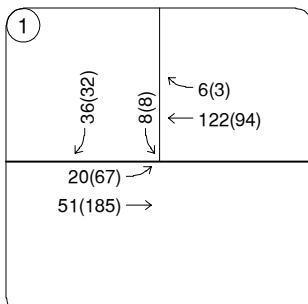
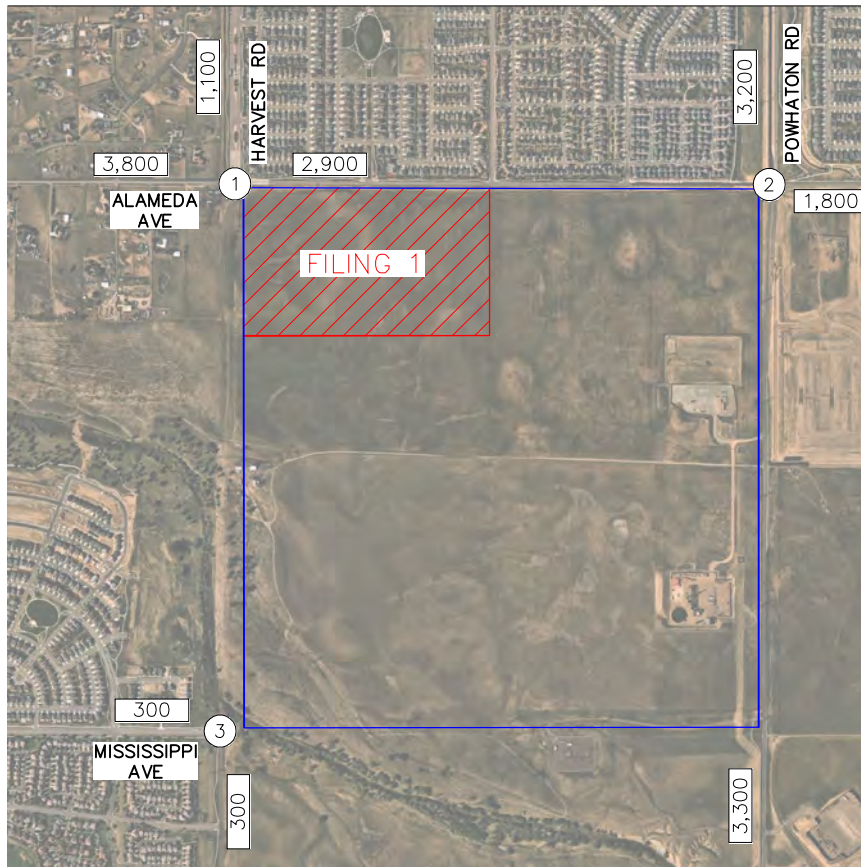
Weekday AM(PM)

Peak Hour Traffic Volumes

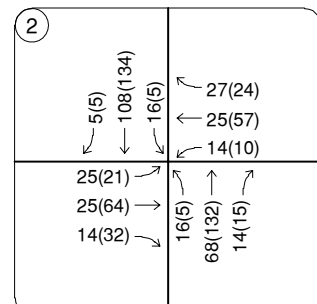
XX,X00

Estimated Daily Traffic Volume

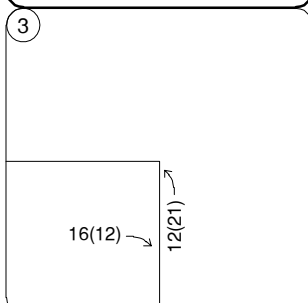
FIGURE 4
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2023 ADJUSTED TRAFFIC VOLUMES



ALAMEDA AVE & HARVEST RD



ALAMEDA AVE & POWHATON RD

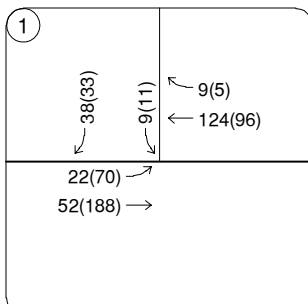
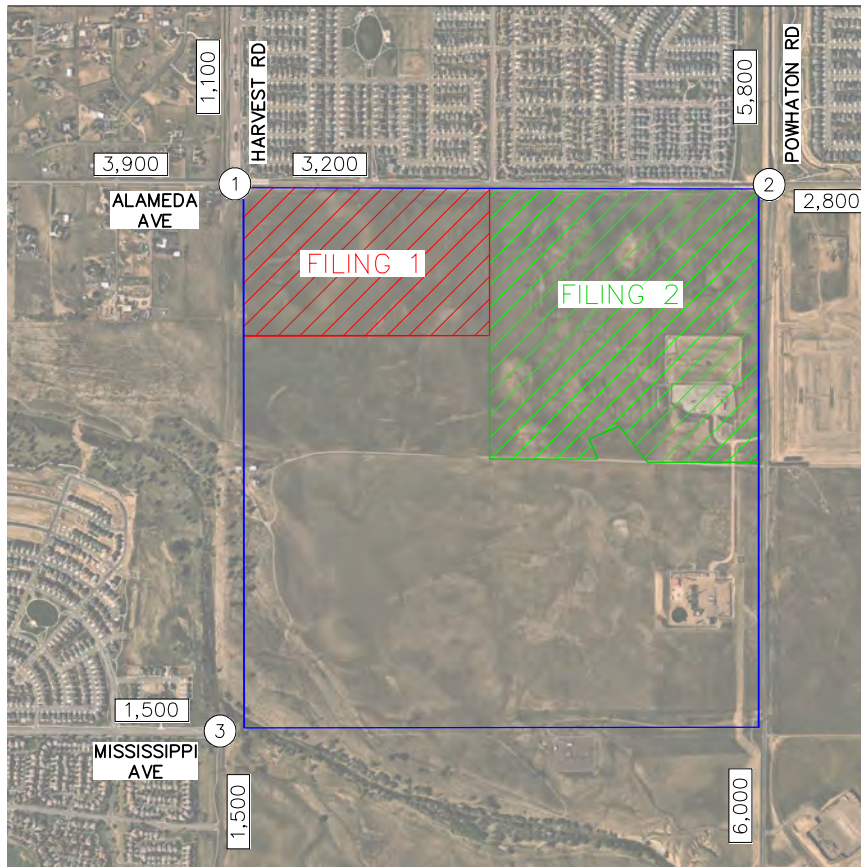


MISSISSIPPI AVE & HARVEST RD

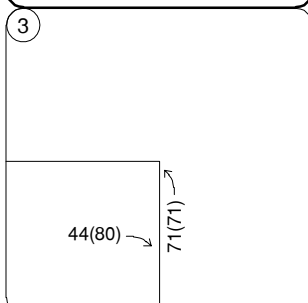
LEGEND

- (X) Study Area Key Intersection
- xxx(xxx) Weekday AM(PM)
Peak Hour Traffic Volumes
- xx,x00 Estimated Daily Traffic Volume

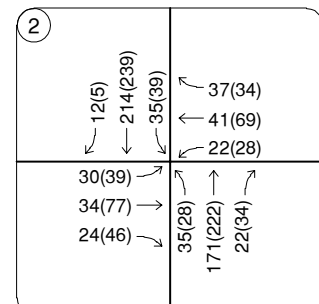
FIGURE 5
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2025 BACKGROUND TRAFFIC VOLUMES



ALAMEDA AVE & HARVEST RD



MISSISSIPPI AVE & HARVEST RD



ALAMEDA AVE & POWHATON RD

LEGEND



Study Area Key Intersection

xxx(xxx)

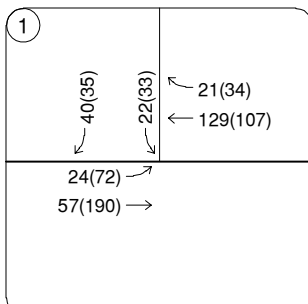
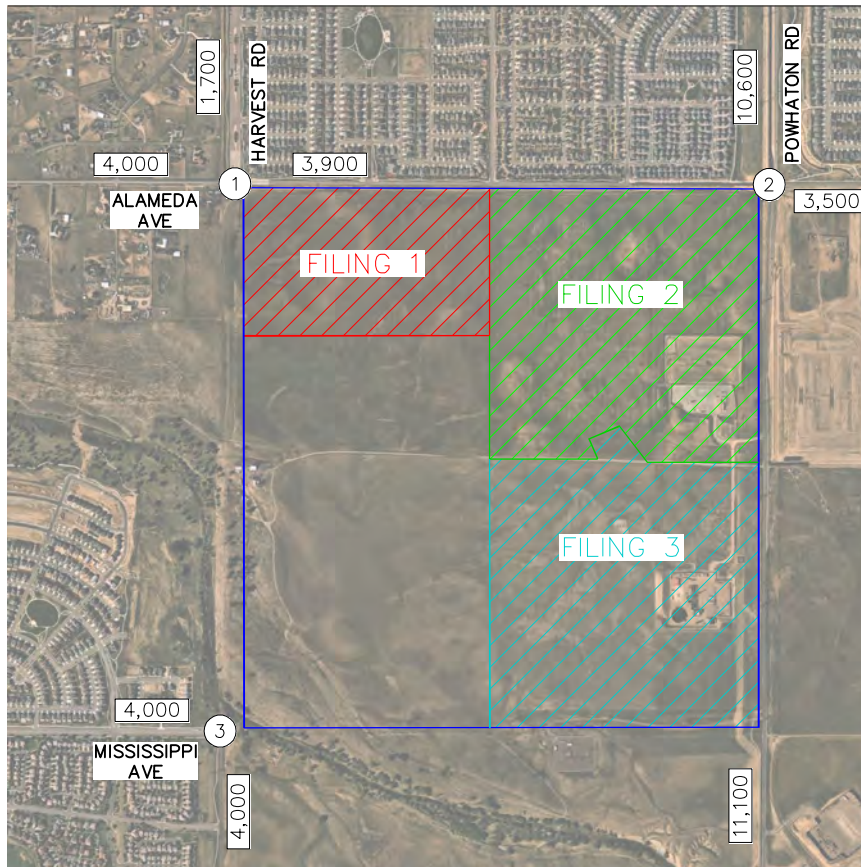
Weekday AM(PM)

Peak Hour Traffic Volumes

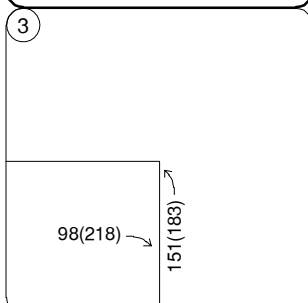
xx,x00

Estimated Daily Traffic Volume

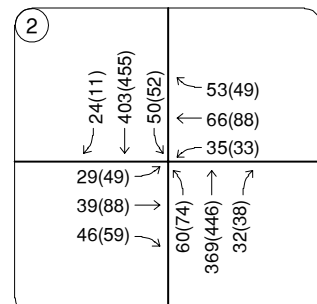
FIGURE 6
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2027 BACKGROUND TRAFFIC VOLUMES



ALAMEDA AVE & HARVEST RD



MISSISSIPPI AVE & HARVEST RD

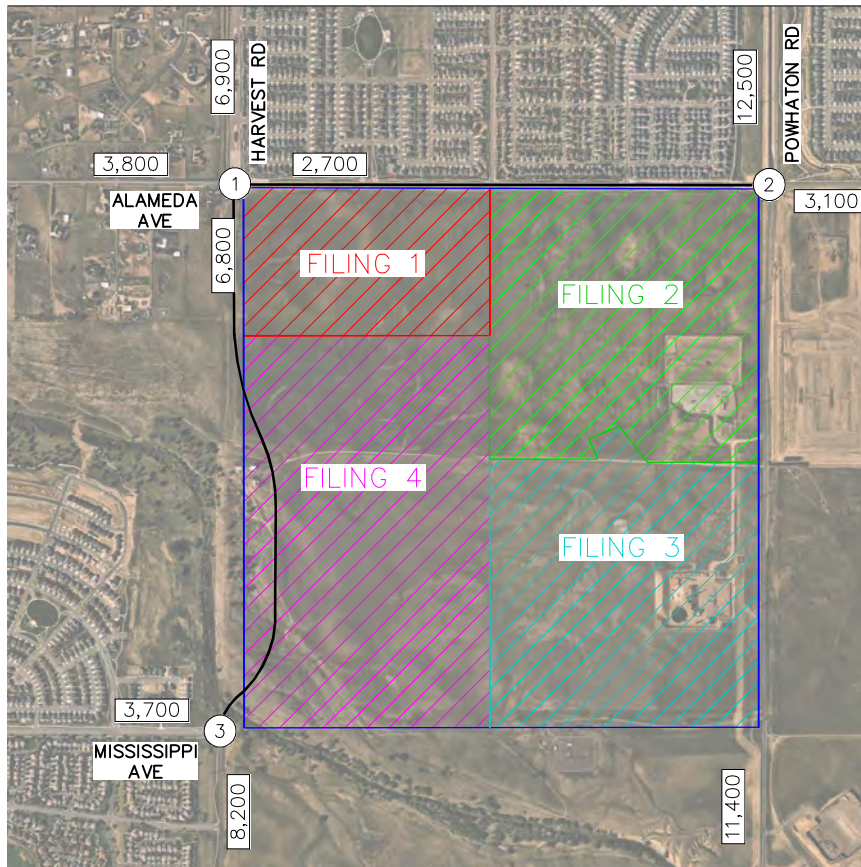


ALAMEDA AVE & POWHATON RD

LEGEND

- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
 Peak Hour Traffic Volumes
- XX,X00 Estimated Daily Traffic Volume

FIGURE 7
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 2029 BACKGROUND TRAFFIC VOLUMES



1	<div> <div>51(52)</div> <div>245(205)</div> <div>13(12)</div> <div>22(14)</div> <div>52(37)</div> <div>75(30)</div> </div>
	<div> <div>25(72)</div> <div>37(140)</div> <div>38(40)</div> <div>65(40)</div> <div>330(330)</div> <div>25(38)</div> </div>

ALAMEDA AVE & HARVEST RD

3	<div> <div>50(42)</div> <div>265(268)</div> <div>75(80)</div> <div>77(128)</div> <div>92(116)</div> <div>340(310)</div> </div>
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MISSISSIPPI AVE & HARVEST RD

2	<div> <div>48(40)</div> <div>523(508)</div> <div>55(54)</div> <div>46(48)</div> <div>79(70)</div> <div>44(23)</div> </div>
	<div> <div>58(95)</div> <div>39(83)</div> <div>23(39)</div> <div>41(39)</div> <div>484(506)</div> <div>30(29)</div> </div>

ALAMEDA AVE & POWHATON RD

LEGEND



Study Area Key Intersection

XXX(XXX)

Weekday AM(PM)

Peak Hour Traffic Volumes

XX,X00

Estimated Daily Traffic Volume

FIGURE 8
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 2031 BACKGROUND TRAFFIC VOLUMES

4.0 PROJECT TRAFFIC CHARACTERISTICS

4.1 Trip Generation

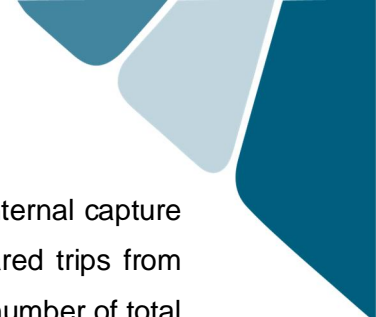
Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*¹ published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Report fitted curve equations that apply to Single-Family Detached Housing (ITE Land Use Cod 210), Single-Family Attached Housing (ITE 215), Multifamily Mid-Rise Housing (ITE 221), and Public Park (ITE 411), and average rate equations that apply to Elementary School (ITE 520), Middle School (ITE 522), General Office Building (ITE 710), Shopping Plaza (ITE 821), and Strip Retail Plaza (ITE 822) for traffic associated with the development.

Because Filing 1 of the project will consist solely of residential uses, internal capture trips are generally not anticipated to occur onsite by the 2025 horizon. As such, Filing 1 is expected to generate approximately 3,860 weekday daily trips, with 268 of these trips occurring during the morning peak hour and 375 of these trips occurring during the afternoon peak hour. **Table 1** summarizes the estimated trip generation for the Parklands Village 2: Filing 1 development.

Table 1 – Parklands Village 2: Filing 1 Traffic Generation

Land Use and Size	Weekday Vehicle Trips						
	Daily	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Single-Family Detached Housing – (ITE 210) – 276 Dwelling Units	2,568	49	139	188	163	95	258
Single-Family Attached Housing – (ITE 215) – 164 Dwelling Units	1,200	25	55	80	54	40	94
Public Park (ITE 411) – 3.6 Acres	92	0	0	0	13	10	23
Total Filing 1 Trips	3,860	74	194	268	230	145	375

¹ Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.



As the full buildout of Parklands Village 2 is proposed to contain a mix of uses, internal capture trips are expected to occur on site as well. These internal capture trips are shared trips from vehicles already within the internal street network. These shared trips reduce the number of total external trips and were calculated using as a basis the internal capture rates provided in the previously approved Parklands Development Master Traffic Study prepared by the Fox Tuttle Transportation Group, LLC in an updated March 2022 study. Based on the figures and trip generation tables provided in that study, 25 percent of residential trips, 30 percent of commercial trips, and 90 percent of school trips were assumed to be internal to the overall Parklands Development area. The volumes captured internal to the site were added to the internal study area intersections.

Accounting for internal capture, the overall Parklands Village 2 development is expected to generate approximately 20,938 weekday daily trips, with 1,331 of these trips occurring during the morning peak hour and 1,932 of these trips occurring during the afternoon peak hour. Calculations were based on the procedure and information provided in the ITE *Trip Generation Manual, 11th Edition – Volume 1: User's Guide and Handbook*, 2021. **Table 2** summarizes the estimated trip generation for Parklands Village 2. The trip generation worksheets are included in **Appendix C**.

Of note, the current proposal in this study for Parklands Village 2 generates less traffic than the traffic previously estimated to be generated by Village 2 in the Parklands Development Master Traffic Study. The master study had projected 21,880 weekday daily trips, 1,481 morning peak hour trips, and 2,239 afternoon peak hour trips, after its accounting for internal capture. As such, the current proposal is anticipated to generate 942 fewer weekday daily trips, with 150 fewer trips in the morning peak hour and 307 fewer afternoon peak hour trips.

Table 2 – Parklands Village 2 Traffic Generation

Land Use and Size (ITE Code)		Trip Type	Internal/ External Capture Adjust	Weekday Vehicle Trips						
				Daily	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Parklands Village 2 - Filing 1										
Single-Family Detached Housing - 276 DU	(ITE 210)	External	0.85	2,184	42	118	160	139	81	220
Single-Family Attached Housing - 164 DU	(ITE 215)	External	0.85	1,020	21	47	68	46	34	80
Public Park - 3.6 Acres	(ITE 411)	External	0.85	78	0	0	0	11	9	20
Filing 1 Total External Project Trips				3,282	63	165	228	196	124	320
Parklands Village 2 - Filing 2										
Single-Family Detached Housing - 226 DU	(ITE 210)	External	0.85	1,816	35	98	133	115	67	182
Single-Family Attached Housing - 104 DU	(ITE 215)	External	0.85	632	13	28	41	28	21	49
Multifamily Low-Rise Housing - 273 DU	(ITE 220)	External	0.85	1,552	22	69	91	74	43	117
General Office Building - 35,000 SF	(ITE 710)	External	0.70	266	33	4	37	6	29	35
Shopping Plaza - 95,000 SF	(ITE 821)	External	0.70	4,490	71	43	114	169	176	345
Filing 2 Total External Project Trips				8,756	174	242	416	392	336	728
Parklands Village 2 - Filing 3										
Single-Family Detached Housing - 359 DU	(ITE 210)	External	0.85	2,780	53	150	202	177	104	281
Single-Family Attached Housing - 76 DU	(ITE 215)	External	0.85	452	9	20	29	20	15	36
Public Park - 3.6 Acres	(ITE 411)	External	0.85	78	0	0	0	11	9	20
Filing 3 Total External Project Trips				3,310	62	170	231	208	128	337
Parklands Village 2 - Filing 4										
Single-Family Detached Housing - 383 DU	(ITE 210)	External	0.85	2,950	56	158	214	188	111	298
Single-Family Attached Housing - 92 DU	(ITE 215)	External	0.85	554	11	25	36	25	19	43
Multifamily Mid-Rise Housing - 300 DU	(ITE 221)	External	0.85	1,178	24	80	104	61	39	100
Public Park - 47.7 Acres	(ITE 411)	External	0.85	102	1	0	1	12	9	21
Elementary School - 715 Students	(ITE 520)	External	0.10	162	29	24	53	5	6	11
Middle/Junior High School - 339 Students	(ITE 522)	External	0.10	72	12	10	23	2	3	5
Strip Retail Plaza - 15,000 SF	(ITE 822)	External	0.70	572	15	10	25	34	35	69
Filing 4 Total External Project Trips				5,590	148	307	456	327	222	547
Total External Project Trips				20,938	447	884	1,331	1,123	810	1,932

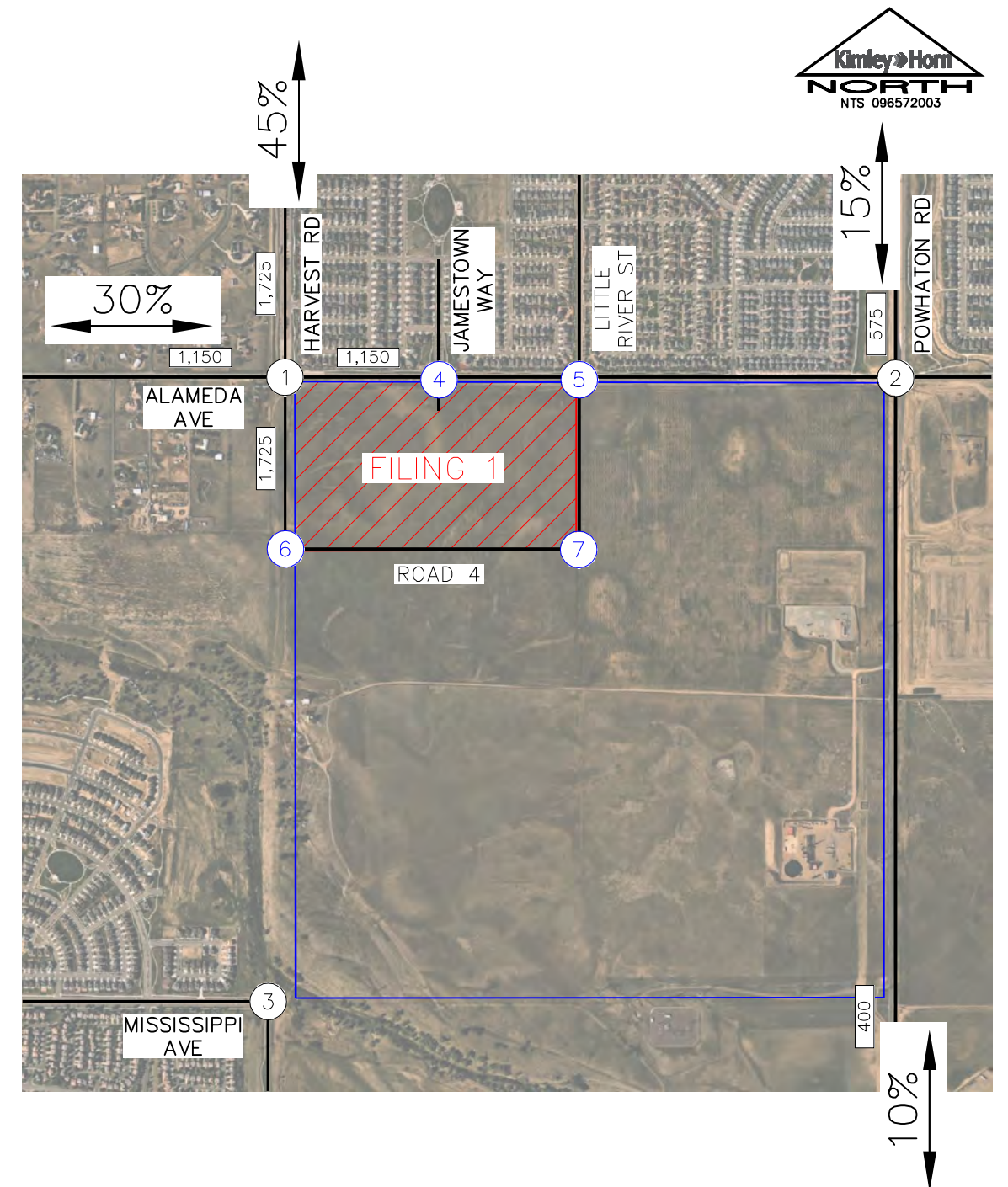
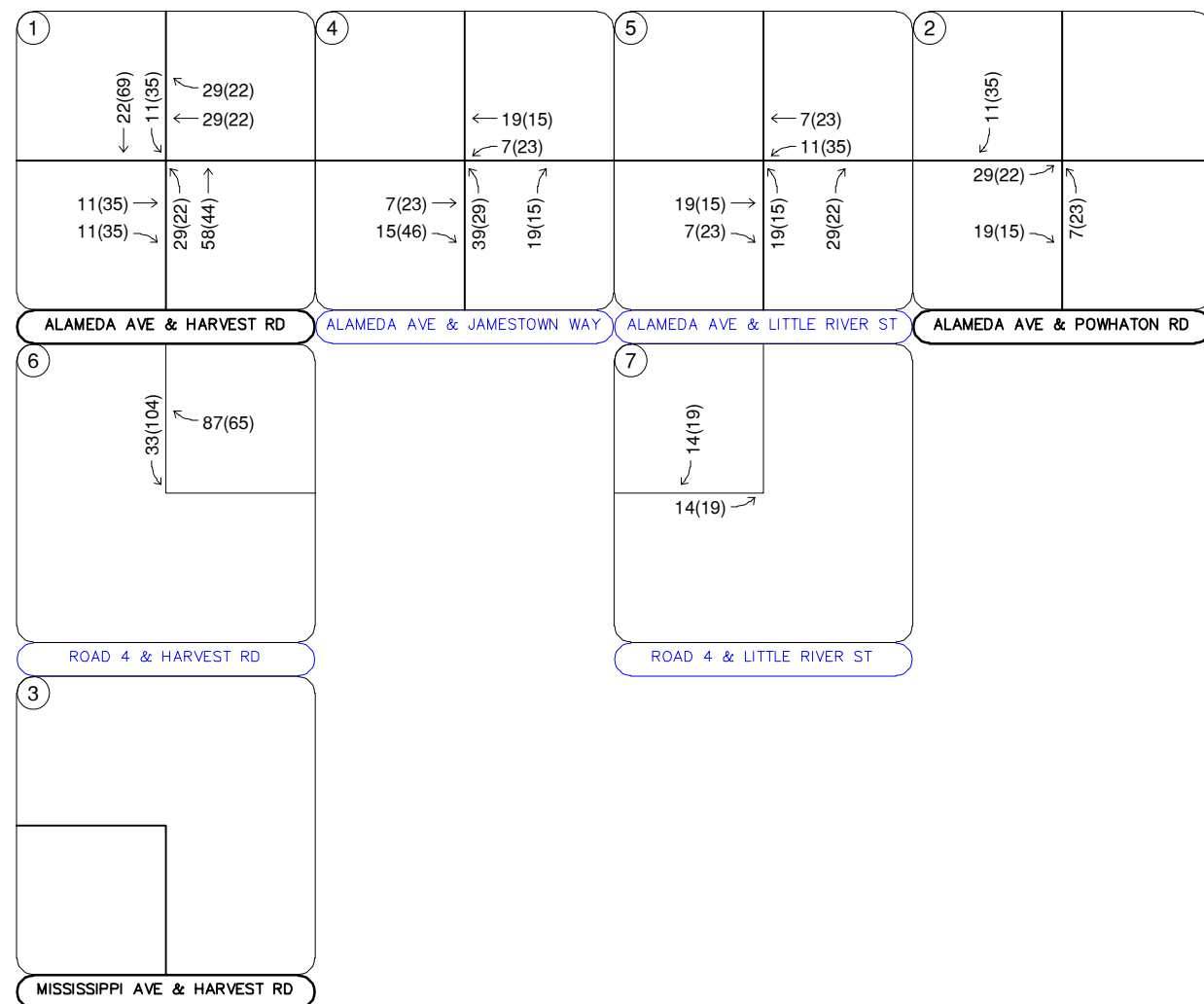
4.2 Trip Distribution and Traffic Assignment

Distribution of site traffic on the street system was based on the area street system characteristics, existing traffic patterns, existing and anticipated surrounding demographic information, and the proposed phased access system for the project. The directional distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. Parklands Village 2 traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1** and **Table 2**.

The external trip distribution and intersection by intersection traffic assignment volumes are shown for each of the four filings in **Figure 9** through **12**, while **Figure 13** shows the 2031 full buildout external trip distribution and traffic assignment volumes for all filings together. Of note, these figures show only the trip distribution and traffic assignment specific to that filing (i.e., Filing 2 in **Figure 10** does not show Filing 1 plus Filing 2 traffic assignment, it is only Filing 2 traffic assignment). Detailed trip distribution and assignment figures by intersection for each individual filing are attached in **Appendix D**.

4.3 Total (Background Plus Project) Traffic

Site traffic volumes were added to the background volumes to represent estimated traffic conditions for the 2025, 2027, 2029, and 2031 horizons for each filing year. Of note, because of several surrounding developments anticipated to be constructed in coming years and because some vehicles from these developments may enter through the study area intersections included in this study, it is expected there will be some induced traffic passing through some of these intersections as the area continues to develop. These total traffic volumes for the study area are illustrated for the each of these horizon years in **Figures 14** through **17**, respectively.



LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- xxx(yyy) Weekday AM(PM)
- xxx(yyy) Peak Hour Traffic Volumes
- xx,xxx Estimated Daily Traffic Volume
- xx% External Trip Distribution Percentage

FIGURE 9
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 1 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

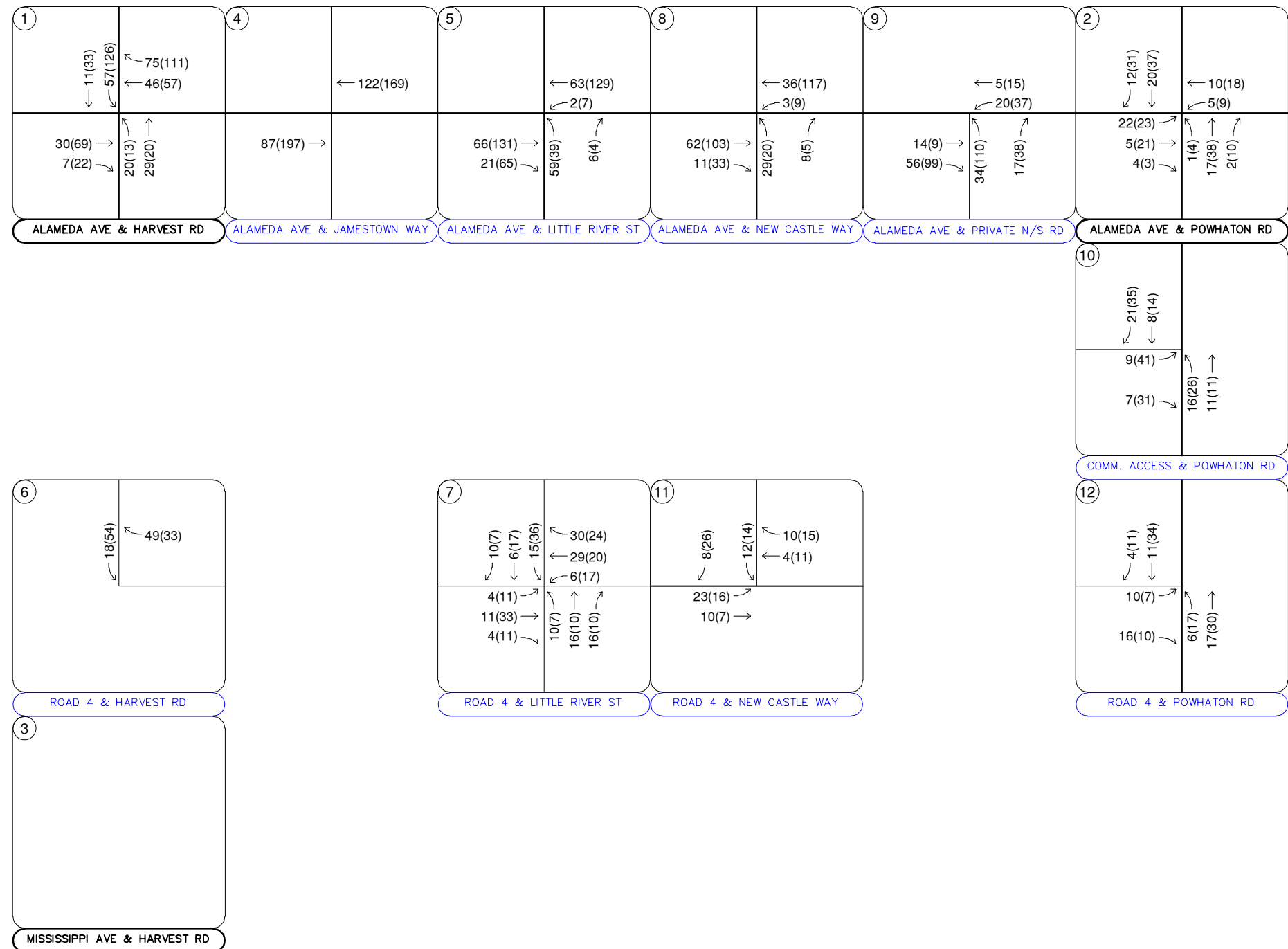


FIGURE 10
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 2 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT



Note:
15% Residential
30% Commercial
of total project trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Trips only.

LEGEND	
(X)	Study Area Key Intersection
(X)	Project Access Intersection
xxx(XXX)	Weekday AM(PM)
xx,xxx	Peak Hour Traffic Volumes
xx,xxx	Estimated Daily Traffic Volume
xx%	Residential Trip Distribution
xx%	Commercial Trip Distribution

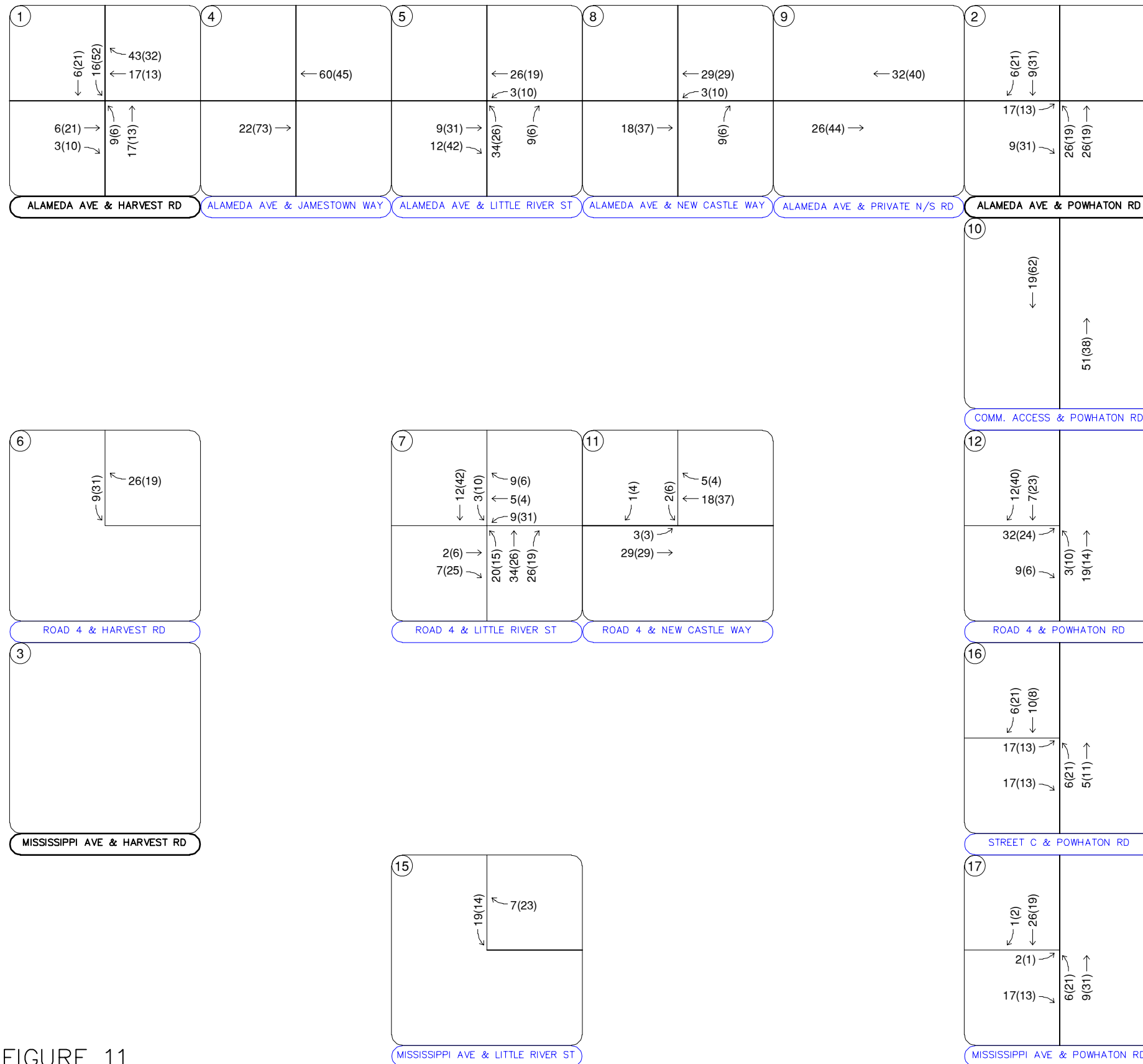
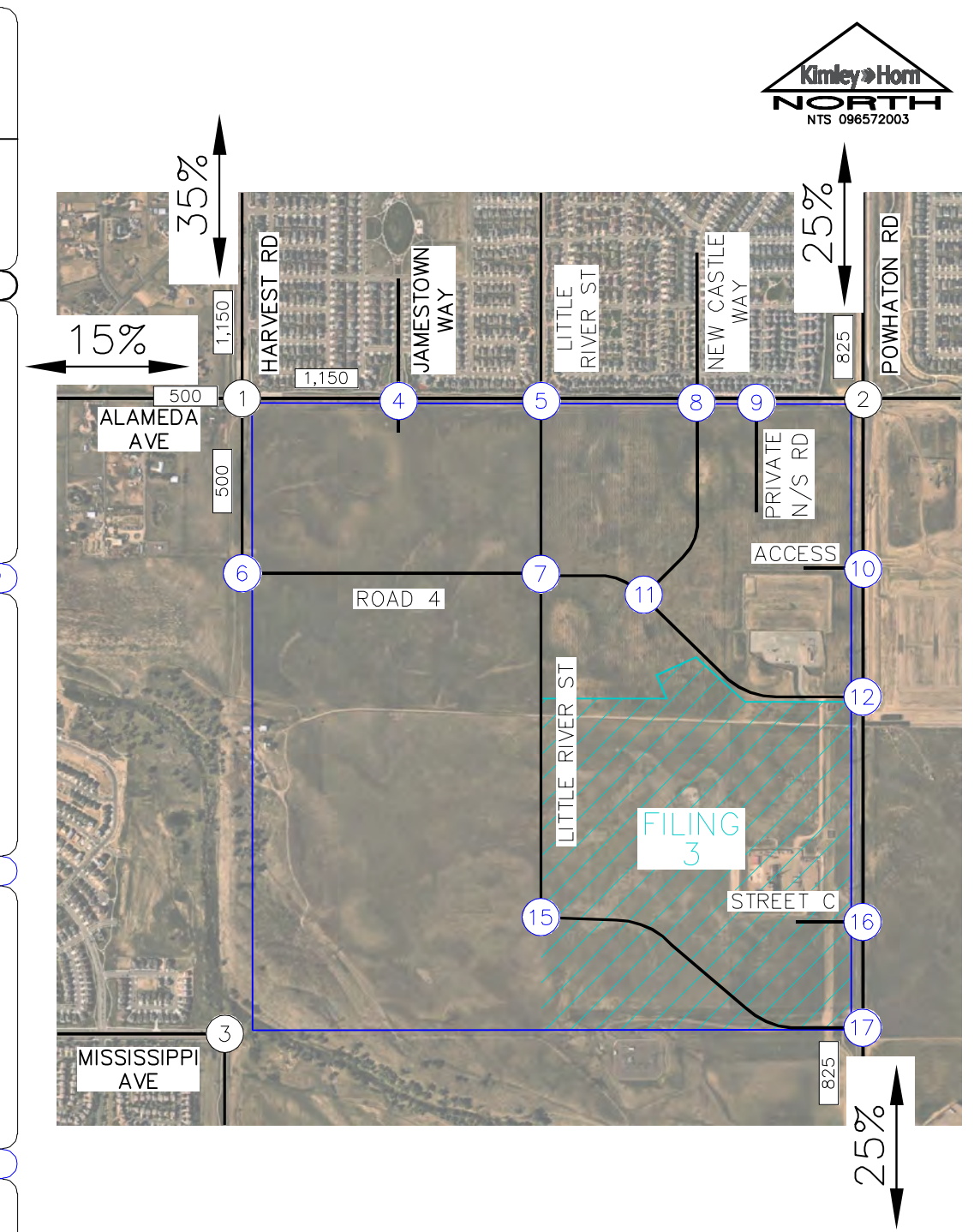


FIGURE 11
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 FILING 3 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT



Note:
 15% of total project residential trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Residential Trips only—85% of the total project residential trips.

Study Area Key Intersection
 Project Access Intersection
 XXX(XXX) Weekday AM(PM)
 Peak Hour Traffic Volumes
 XX,X00 Estimated Daily Traffic Volume
 XX% External Trip Distribution Percentage

LEGEND

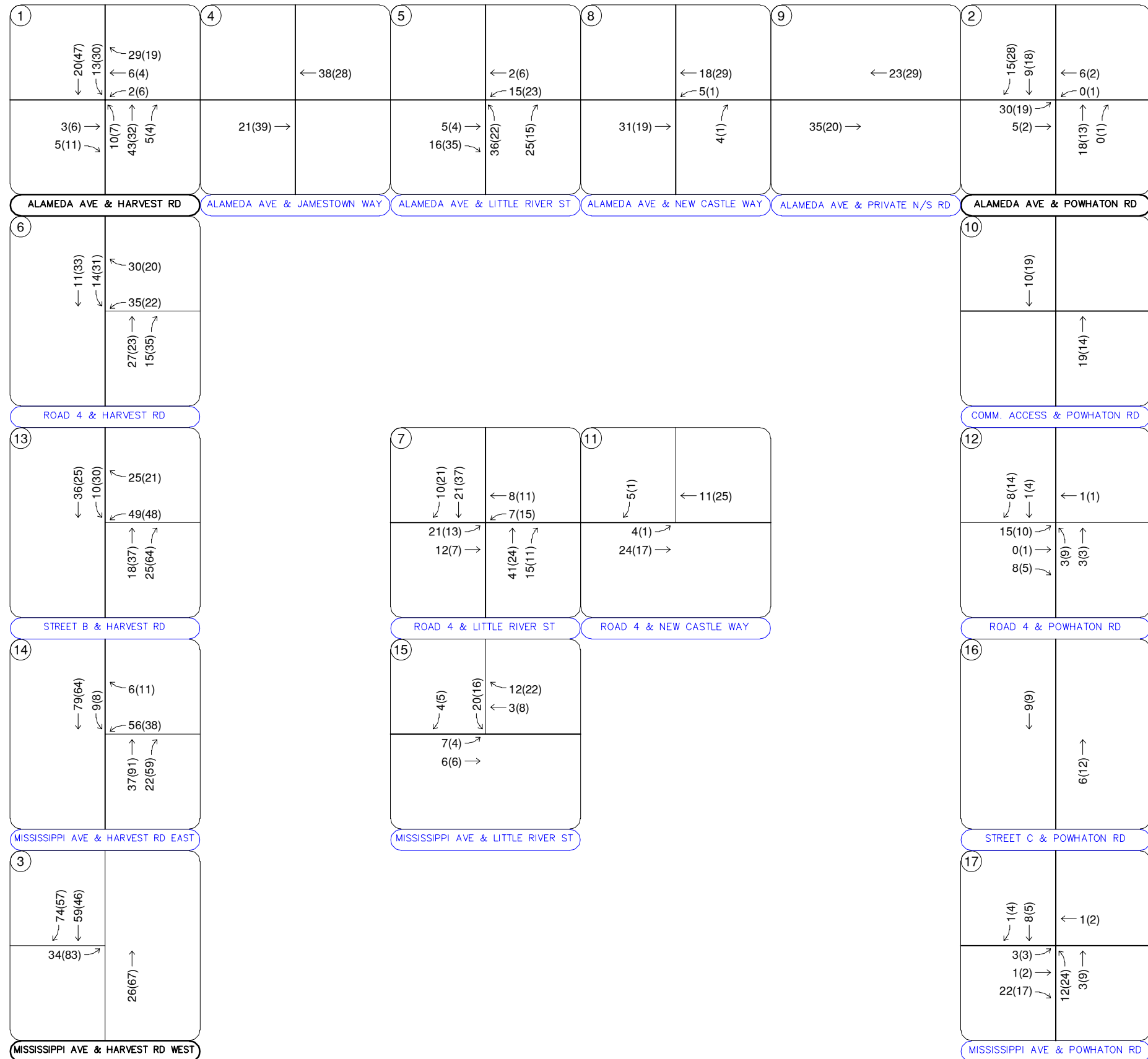
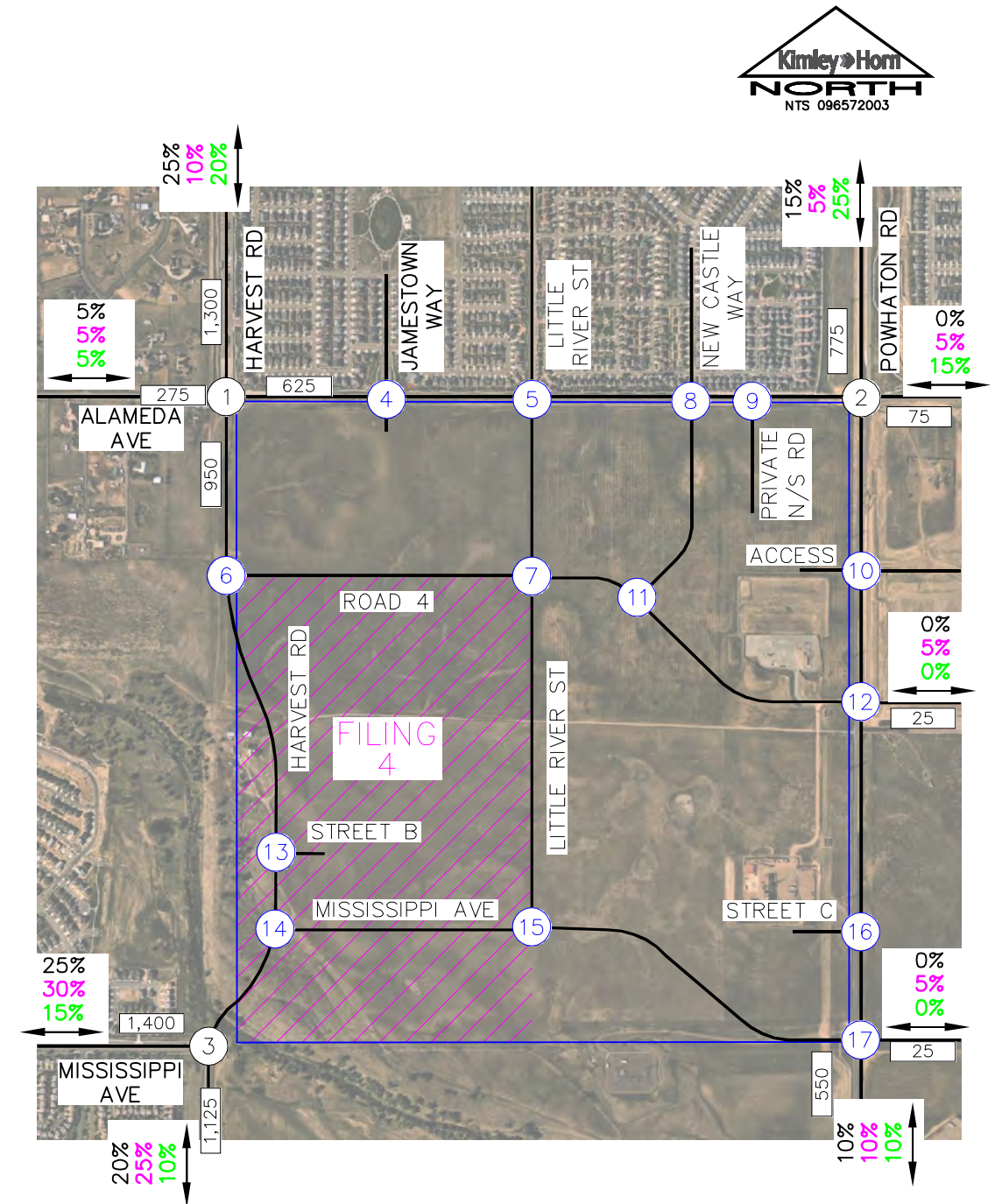


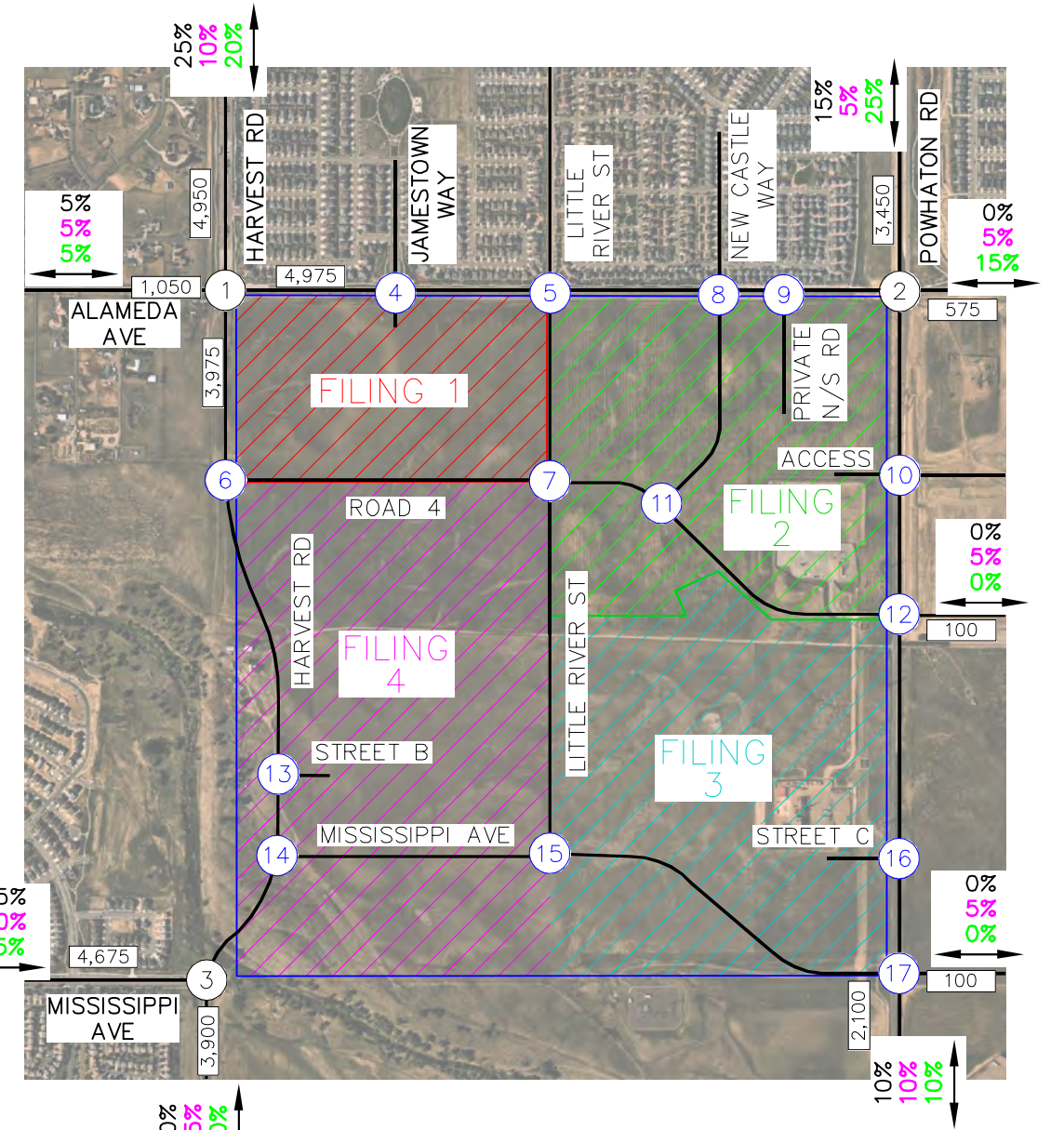
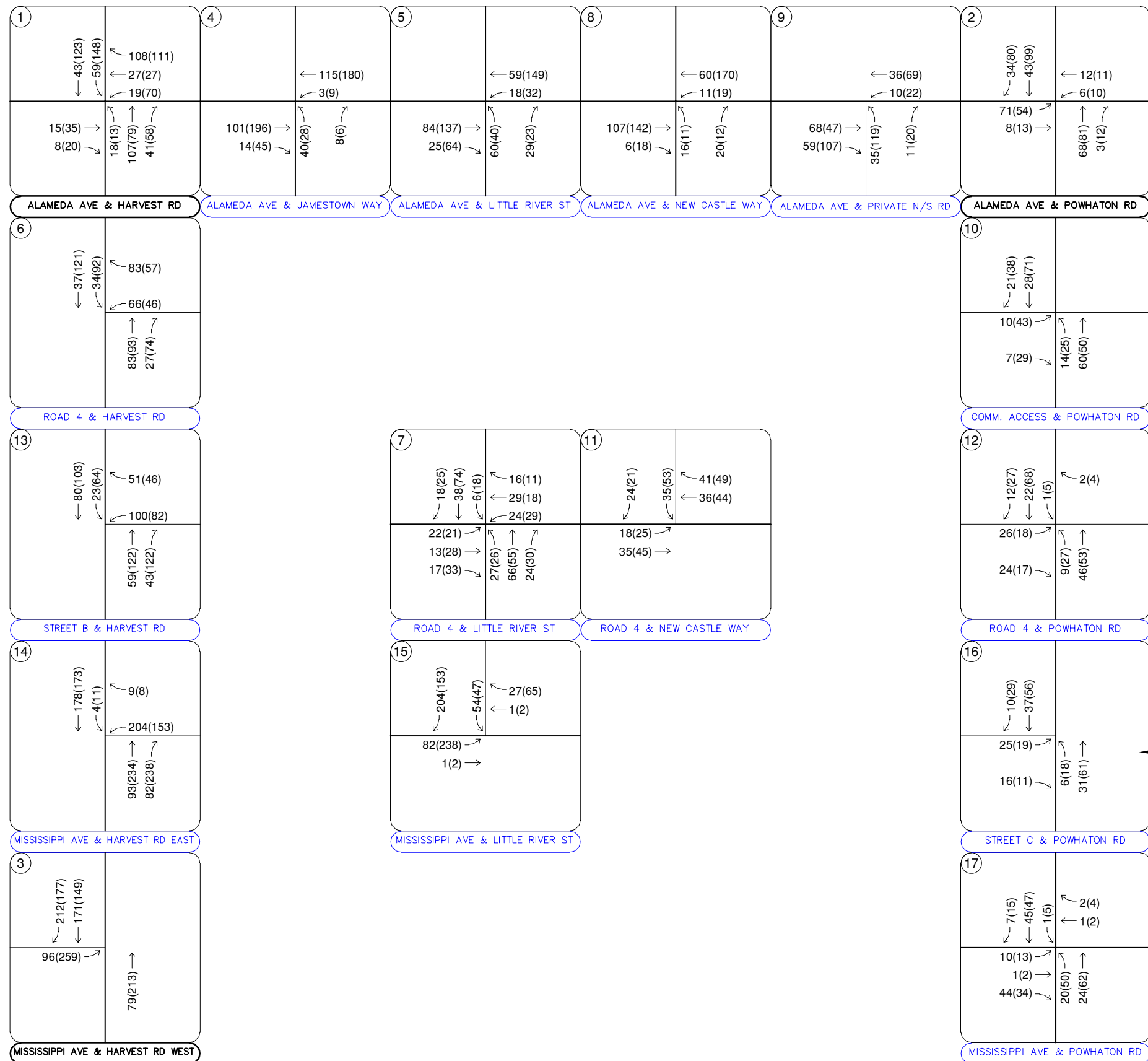
FIGURE 12
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 FILING 4 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT



Note:
 15% Residential
 30% Commercial
 90% School
 of total project trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Trips only.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XXX(XXX) Weekday AM(PM)
- XX,XXX Estimated Daily Traffic Volume
- XX% Residential Trip Distribution
- XX% Commercial Trip Distribution
- XX% School Trip Distribution



Note:
15% Residential
30% Commercial
90% School
of total project trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Trips only.

FIGURE 13
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2031 FULL BUILDOUT EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

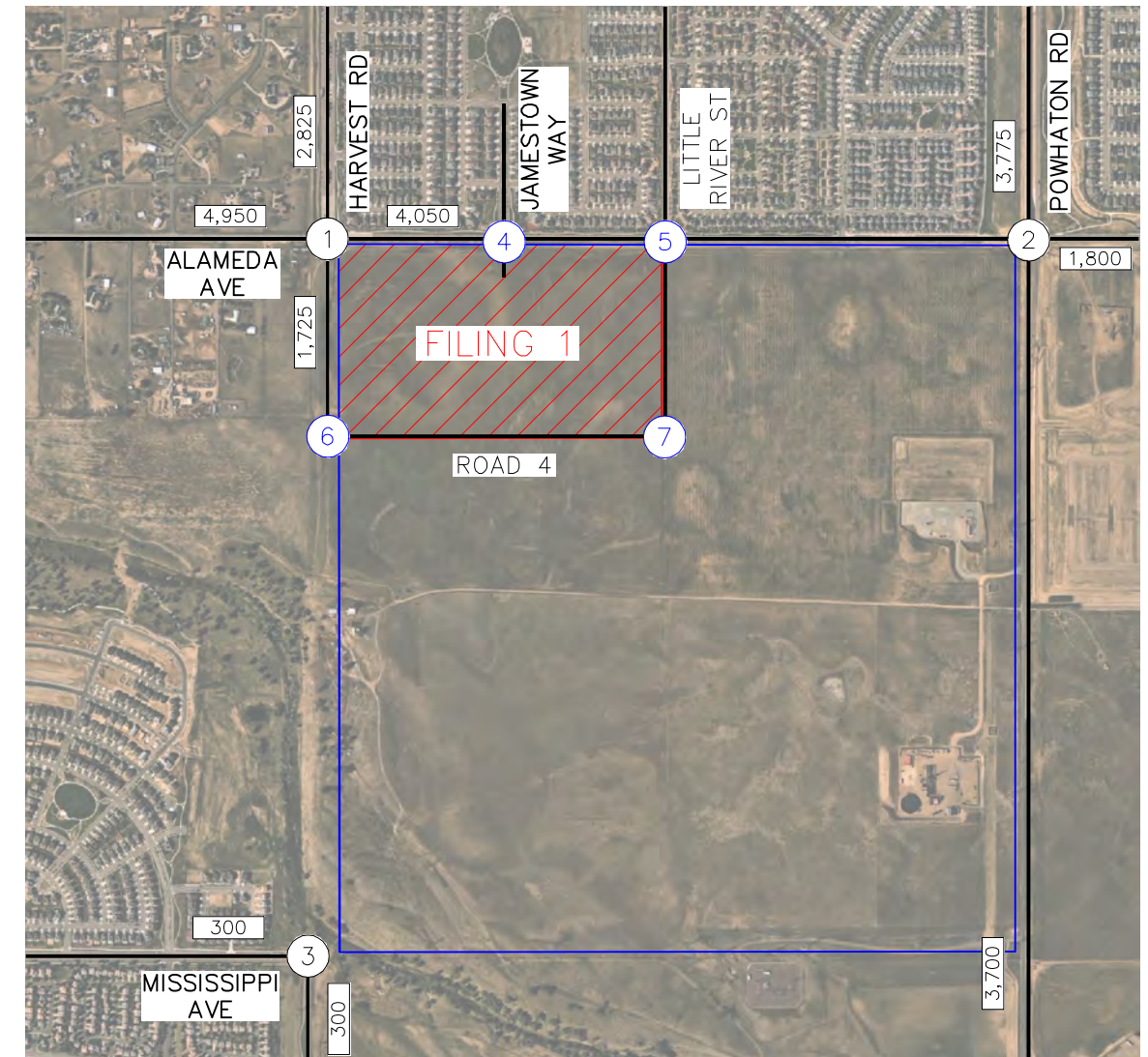
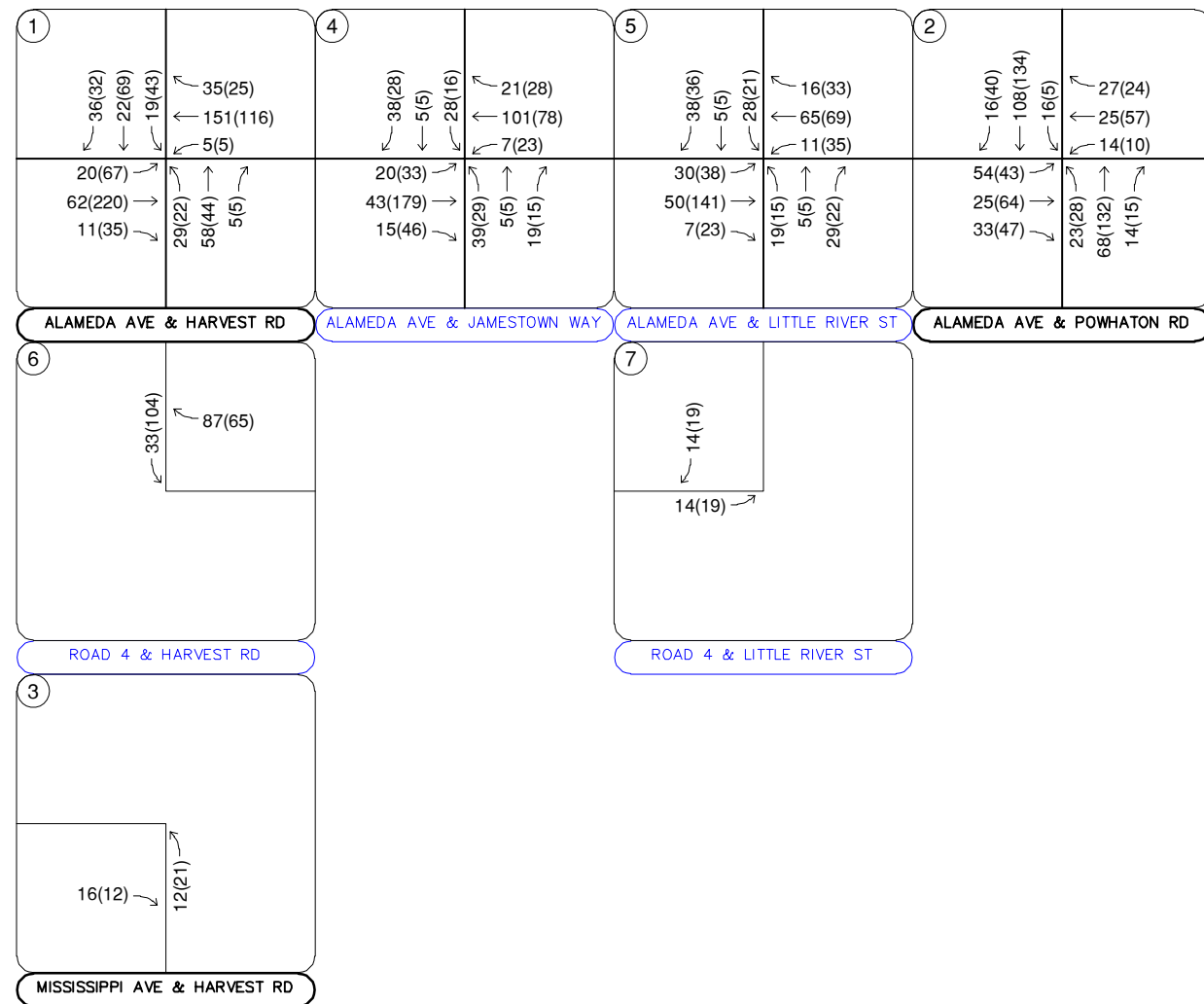
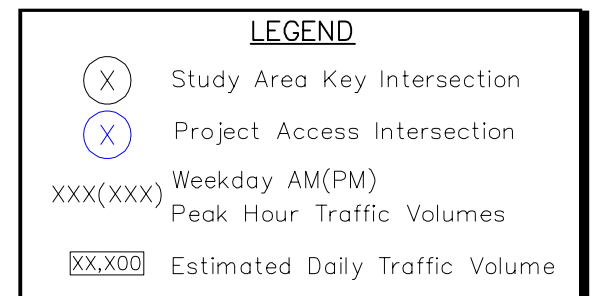


FIGURE 14
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2025 TOTAL TRAFFIC VOLUMES



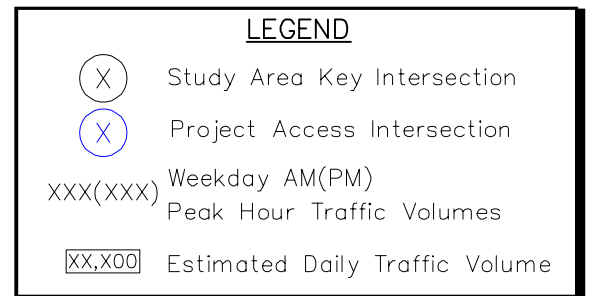
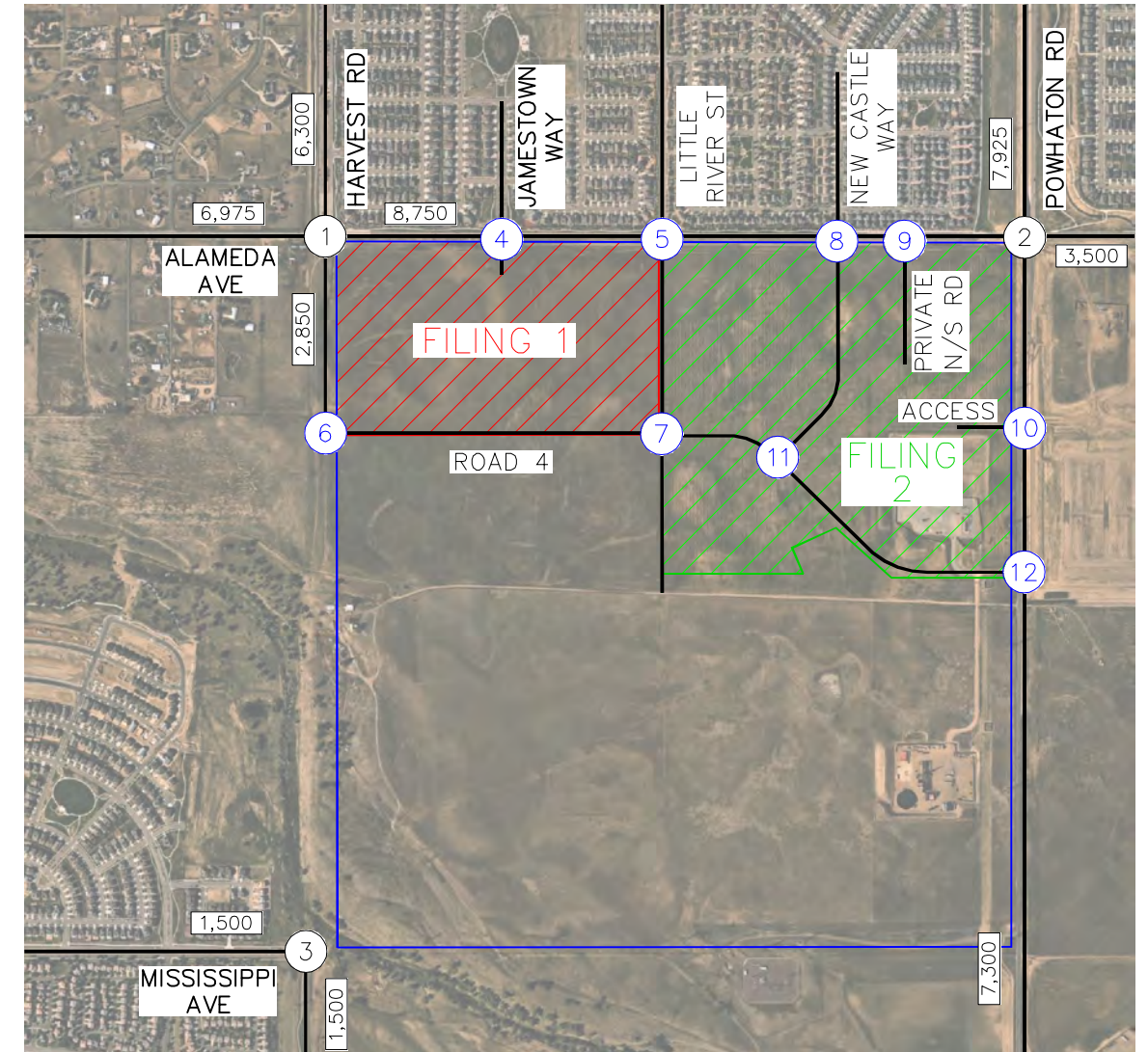
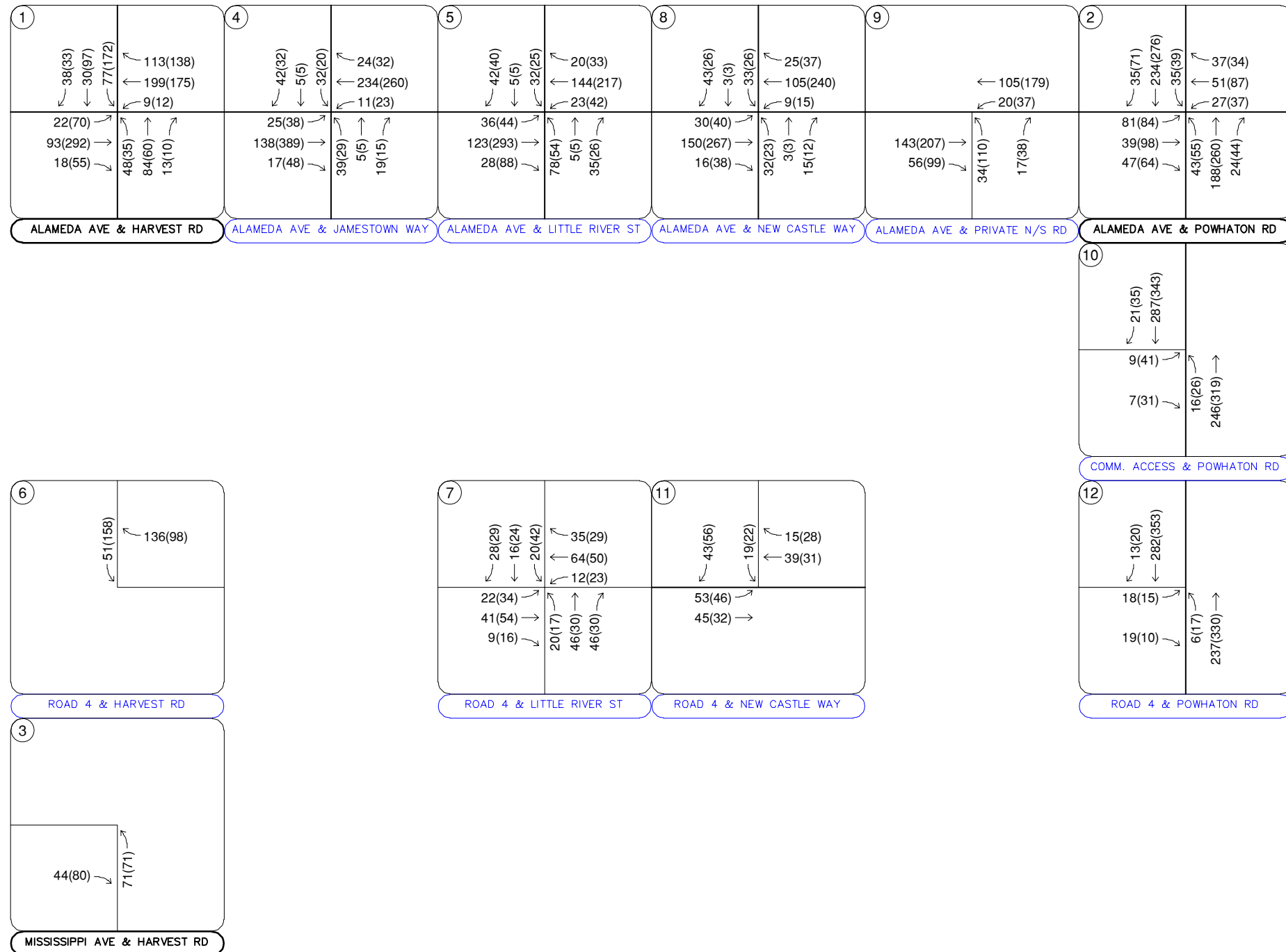


FIGURE 15
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2027 TOTAL TRAFFIC VOLUMES

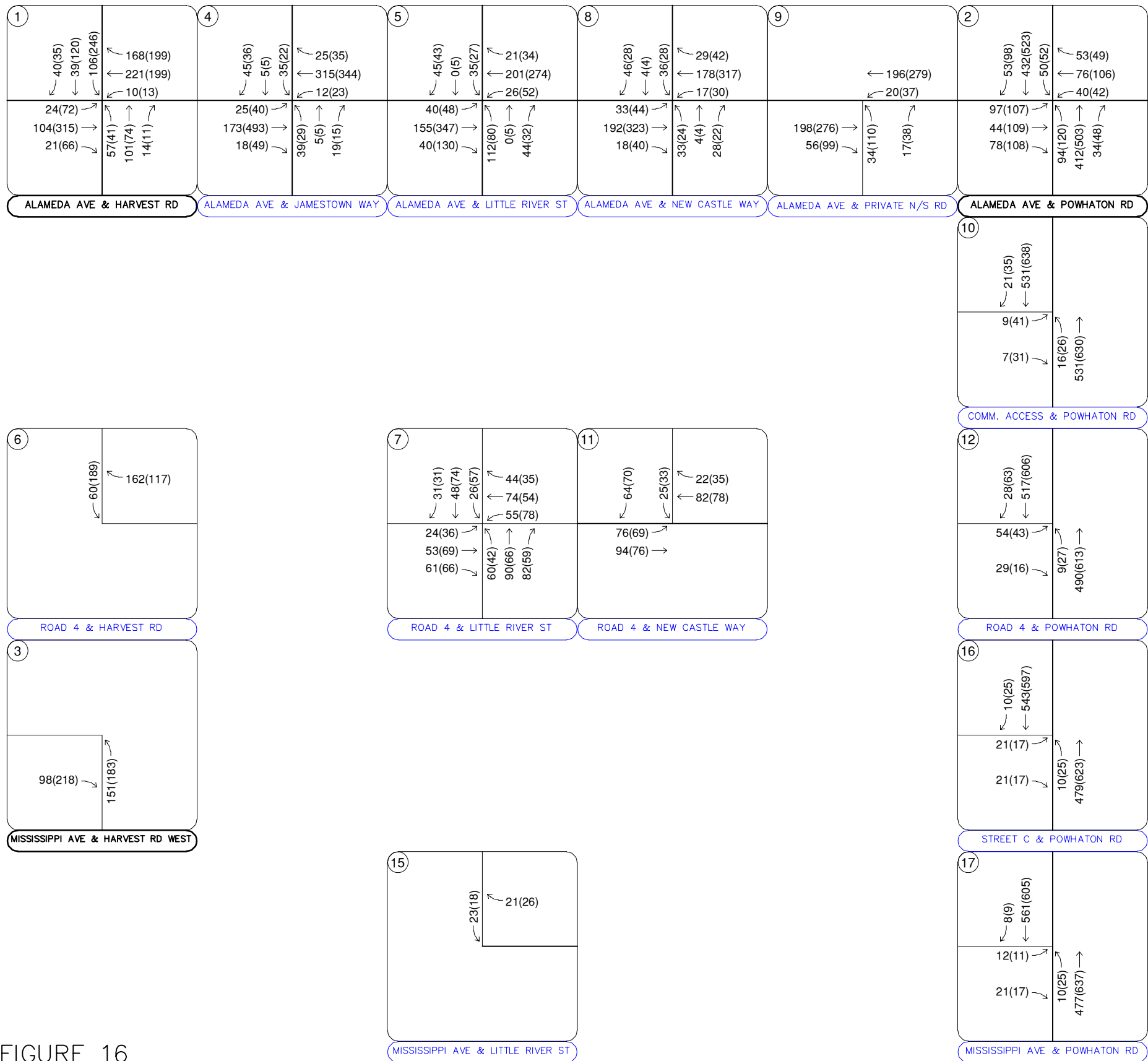
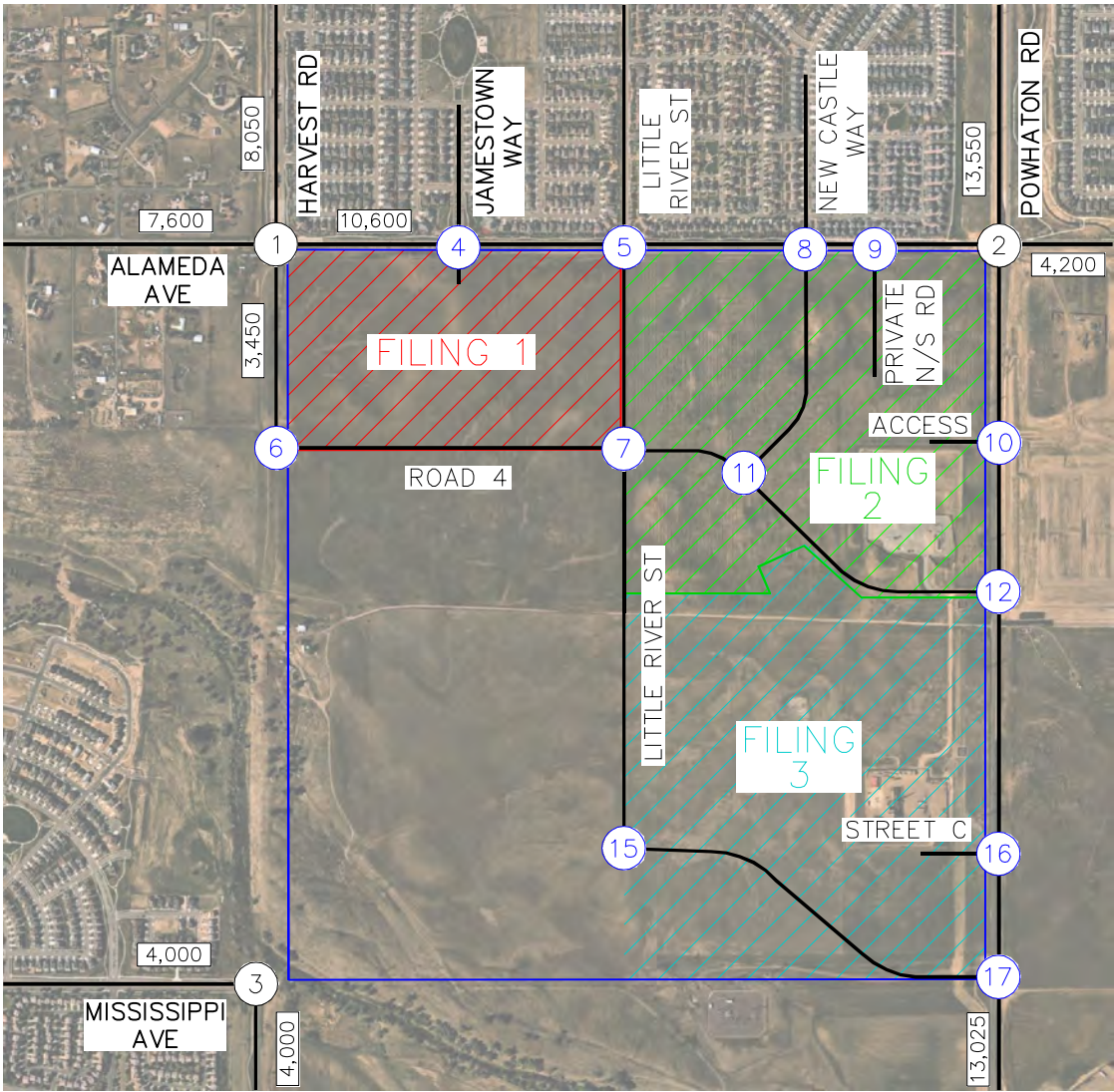


FIGURE 16
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 2029 TOTAL TRAFFIC VOLUMES



LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- xxx(xxx) Weekday AM(PM)
- xxx(xxx) Peak Hour Traffic Volumes
- xx,x00 Estimated Daily Traffic Volume

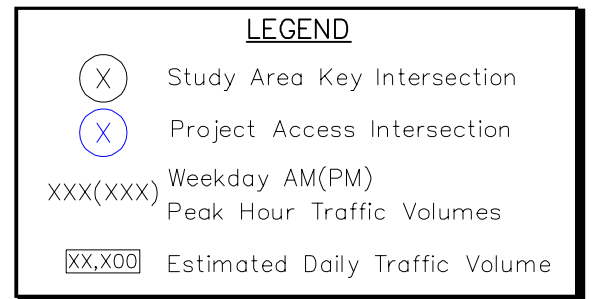
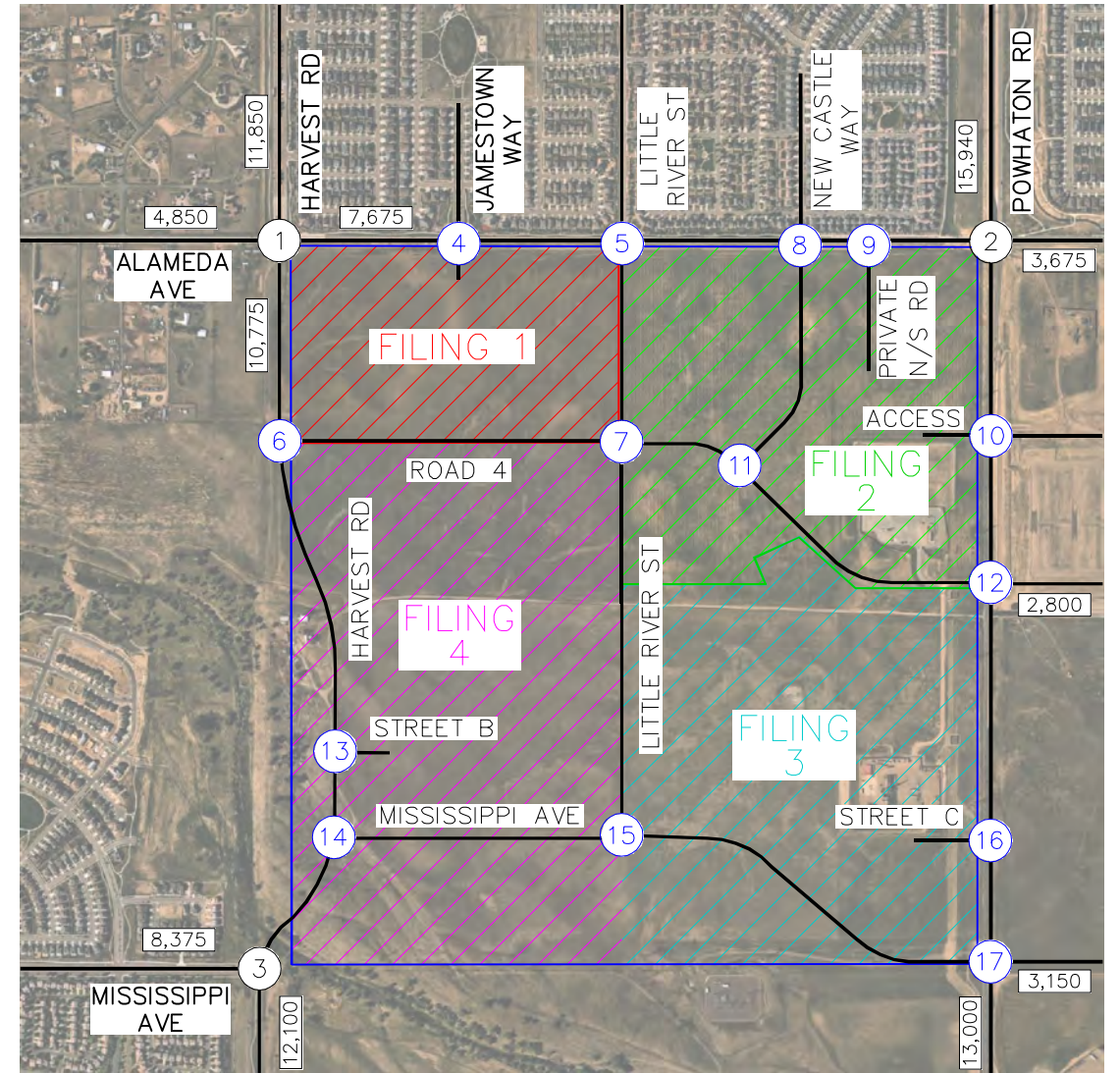
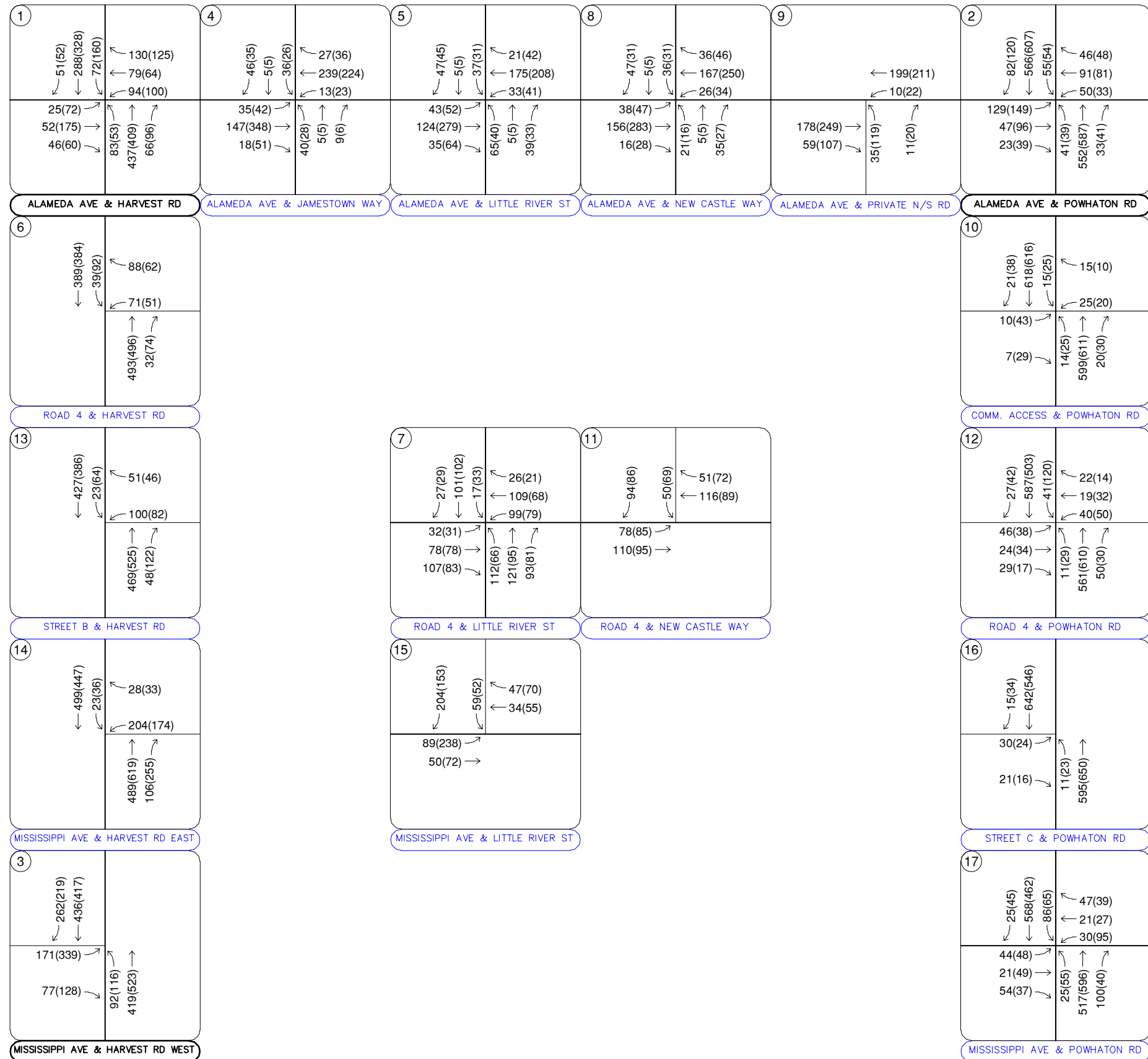


FIGURE 17
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2031 TOTAL TRAFFIC VOLUMES

5.0 TRAFFIC OPERATIONS ANALYSIS

Kimley-Horn's analysis of traffic operations in the site vicinity was conducted to determine potential capacity deficiencies in the 2025, 2027, 2029, and 2031 development horizons at the identified key intersections. The acknowledged source for determining overall capacity is the *Highway Capacity Manual (HCM)*².

5.1 Analysis Methodology

Capacity analysis results are listed in terms of Level of Service (LOS). LOS is a qualitative term describing operating conditions a driver will experience while traveling on a particular street or highway during a specific time interval. It ranges from A (very little delay) to F (long delays and congestion). For intersections and roadways in this study area, standard traffic engineering practice recommends overall intersection LOS D and movement/approach LOS E as the minimum desirable thresholds for acceptable operations. **Table 3** shows the definition of level of service for signalized and unsignalized intersections.

Table 3 – Level of Service Definitions

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Seventh Edition, Transportation Research Board, 2022.

Study area intersections were analyzed based on average total delay analysis for signalized and unsignalized intersections. Under the unsignalized analysis, the LOS for a two-way stop-controlled intersection is determined by the computed or measured control delay and is defined for each minor movement. LOS for a two-way stop-controlled intersection is not defined for the intersection as a whole. LOS for signalized, roundabout, and all-way stop controlled intersections are defined for each approach and for the overall intersection.

² Transportation Research Board, *Highway Capacity Manual*, Seventh Edition, Washington DC, 2022.

5.2 Key Intersection Operational Analysis

Calculations for the operational level of service at the key intersections for the study area are provided in **Appendix D**. The existing year analysis is based on the lane geometry and intersection control shown in **Figure 2**. Existing peak hour factors were utilized in the existing and 2025 horizon analysis years while the HCM urban standard of 0.92 was used for the 2027, 2029, and 2031 horizon analysis years. The existing heavy vehicle percentages obtained from the turning movement counts were also used in each horizon year. Synchro traffic analysis software was used to analyze the signalized and unsignalized key intersections for HCM level of service.

Alameda Avenue and Harvest Road (#1)

The intersection of Alameda Avenue and Harvest Road (#1) is unsignalized and operates with stop control on the southbound approach of Harvest Road. The intersection movements operate acceptably at LOS B or better during both peak hours under existing conditions. With project traffic, the south leg of the intersection will be constructed during Filing 1 construction. The northbound approach operates acceptably as a single lane, shared with all movements in the 2025 Filing 1 horizon. In addition, left and right turn lanes along Alameda Avenue are not needed operationally. In the 2025 horizon, it was assumed that the northbound and southbound Harvest Road approaches would be stop-controlled.

By the 2027 horizon with project traffic, this intersection is anticipated to require the addition of left turn lanes in each direction to operate acceptably, and by the 2029 horizon with the addition of project traffic, the intersection is anticipated to require signalization for acceptable operations. This is largely due to existing traffic and the anticipated high southbound left turning movement created by this project, Harmony development, and Parklands Village 1 traffic. If not provided in the 2027 horizon, with signalization in approximately the 2029 horizon, it is recommended each approach to the intersection provide a left turn lane and a shared through/right turn lane. With these recommended improvements, the intersection is anticipated to operate well in this configuration through the 2031 full buildout horizon. **Table 4** provides the results of the LOS analysis conducted at this intersection. Of note, an MUTCD Four Hour Signal Warrant analysis was completed for this intersection to show its warrant condition by 2029, and the signal warrant analysis worksheet is included in **Appendix G**.

Table 4 – Alameda Avenue & Harvest Road (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Adjusted Existing				
Eastbound Left	7.6	A	7.5	A
Southbound Left	10.1	B	11.7	B
Southbound Right	9.2	A	8.9	A
2025 Background				
Eastbound Left	7.6	A	7.5	A
Southbound Left	10.1	B	11.8	B
Southbound Right	9.2	A	8.9	A
2025 Background Plus Project #				
Northbound Approach	12.9	B	16.5	C
Eastbound Left	7.8	A	7.7	A
Westbound Left	7.4	A	7.8	A
Southbound Left	12.3	B	16.1	C
Southbound Through/Right	10.6	B	14.4	B
2027 Background				
Eastbound Left	7.6	A	7.6	A
Southbound Left	10.2	B	12.0	B
Southbound Right	9.3	A	8.9	A
2027 Background Plus Project ##				
Northbound Left	13.2	B	18.4	C
Northbound Through/Right	13.4	B	16.5	C
Eastbound Left	8.1	A	8.2	A
Westbound Left	7.5	A	8.1	A
Southbound Left	14.0	B	29.4	D
Southbound Through/Right	11.4	B	17.2	C
2029 Background				
Eastbound Left	7.7	A	7.7	A
Southbound Left	10.5	B	12.7	B
Southbound Right	9.3	A	9.1	A
2029 Background Plus Project ##^ - Overall	18.6	B	20.7	C
Eastbound Approach	12.1	B	20.2	C
Westbound Approach	14.8	B	20.1	C
Northbound Approach	27.0	C	25.8	C
Southbound Approach	24.3	C	20.3	C
2031 Background ##				
Northbound Left	8.1	A	7.9	A
Eastbound Left	25.7	D	23.7	C
Eastbound Through/Right	16.4	C	25.4	D
Westbound Left	32.8	D	32.5	D
Westbound Through/Right	19.7	C	16.5	C
Southbound Left	8.2	A	8.1	A
2031 Background Plus Project ##^ - Overall	18.2	B	20.5	C
Eastbound Approach	34.8	C	32.4	C
Westbound Approach	40.2	D	33.6	C
Northbound Approach	10.1	B	15.5	B
Southbound Approach	8.6	A	11.9	B

= New south leg with one lane for shared movements; ## = # + left turn lanes in each direction; ### = ## + signalization; ##^ = ## + signalization

Alameda Avenue and Powhaton Road (#2)

The unsignalized intersection of Alameda Avenue and Powhaton Road (#2) operates with stop control on the eastbound and westbound approaches of Alameda Avenue. The intersection movements operate acceptably at LOS B or better during both peak hours under existing conditions. The intersection movements are anticipated to operate acceptably with the Filing 1 project traffic in year 2025 without intersection improvements.

By the 2027 horizon, this intersection is anticipated to require the addition of left turn lanes in the eastbound and westbound directions. Additionally, a southbound right turn lane is anticipated to be warranted by this horizon and as such it was included in the analysis of this intersection during this horizon. At the 2029 horizon with or without project traffic, the intersection is anticipated to require signalization to continue operating acceptably. An MUTCD Four Hour Signal Warrant analysis was completed with and without the project traffic in the 2029 horizon. The signal is not anticipated to be warranted based on projected 2029 background traffic volumes, however, there are anticipated to be minor movements on Alameda Avenue that are expected to approach a failing level of service by the 2029 horizon without project traffic, so it is expected a signal would be required here even without the addition project traffic. With these recommended improvements, the intersection is anticipated to operate well in this configuration through the 2031 full buildout horizon. **Table 5** provides the results of the LOS analysis conducted at this intersection.

Table 5 – Alameda Avenue & Powhaton Road (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Adjusted Existing				
Northbound Left	7.5	A	7.5	A
Eastbound Approach	10.6	B	10.8	B
Westbound Approach	10.8	B	10.6	B
Southbound Left	7.4	A	7.6	A
2025 Background				
Northbound Left	7.5	A	7.5	A
Eastbound Approach	10.8	B	11.5	B
Westbound Approach	10.3	B	11.2	B
Southbound Left	7.5	A	7.6	A
2025 Background Plus Project				
Northbound Left	7.5	A	7.6	A
Eastbound Approach	11.1	B	12.5	B
Westbound Approach	10.4	B	11.8	B
Southbound Left	7.5	A	7.6	A

Table 5 – Alameda Avenue & Powhaton Road (#2) LOS Results (Cont'd)

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2027 Background				
Northbound Left	7.8	A	7.8	A
Eastbound Approach	13.1	B	15.8	C
Westbound Approach	12.7	B	15.0	C
Southbound Left	7.8	A	7.9	A
2027 Background Plus Project #				
Northbound Left	8.0	A	8.2	A
Eastbound Left	15.7	C	20.1	C
Eastbound Through/Right	12.1	B	17.3	C
Westbound Left	13.9	B	18.4	C
Westbound Through/Right	13.1	B	17.9	C
Southbound Left	7.8	A	8.1	A
2029 Background				
Northbound Left	8.5	A	8.6	A
Eastbound Approach	19.0	C	40.7	E
Westbound Approach	22.2	C	34.2	D
Southbound Left	8.4	A	8.7	A
2029 Background Plus Project #^ - Overall	15.1	B	16.5	B
Eastbound Approach	36.1	D	35.7	D
Westbound Approach	33.9	C	33.1	C
Northbound Approach	7.7	A	9.4	A
Southbound Approach	8.0	A	9.6	A
2031 Background #				
Northbound Left	9.0	A	8.9	A
Eastbound Left	253.4	F	>300	F
Eastbound Through/Right	36.8	E	76.1	F
Westbound Left	58.4	F	105.0	F
Westbound Through/Right	71.8	F	58.2	F
Southbound Left	8.9	A	9.0	A
2031 Background Plus Project #^ - Overall	14.8	B	15.6	B
Eastbound Approach	35.7	D	34.0	C
Westbound Approach	31.0	C	29.9	C
Northbound Approach	9.9	A	10.9	B
Southbound Approach	9.1	A	10.0	A

= Eastbound and westbound left turn lanes; #^ = # + signalization

Mississippi Avenue and Harvest Road West (#3)

The unsignalized intersection of Mississippi Avenue and Harvest Road West (#3) does not provide intersection control and currently only has two legs with a 90-degree bend. Harvest Road transitions into Mississippi Avenue northbound and Mississippi Avenue transitions into Harvest Road eastbound. Therefore, no delay is reported for the existing or background scenarios. However, by 2031 with project construction, the north leg of the intersection—connecting Harvest Road from Mississippi Avenue to Alameda Avenue—will be constructed. Although it is recognized that this connection may not occur without project construction, the 2031 background traffic scenario assumed that this connection would be in place to provide a clear estimate of the traffic volume that would be induced by this future roadway connection without the addition of project traffic.

The intersection may meet the MUTCD Four Hour Signal Warrants based on the 2031 background traffic volumes, but it is expected to operate acceptably as an unsignalized T-intersection without the addition of project traffic in 2031. It would be expected that cost for this signal would be shared between all developments being constructed in this area. The signal warrant analysis worksheet is attached in **Appendix G**. Separate eastbound left and right turn lanes along with separate northbound left and southbound right turn lanes are anticipated to be warranted in the 2031 background traffic scenario. To align with the 2030 NEATS roadway network, it was assumed that only one through lane would be provided on Harvest Road in this horizon. With signalization and the recommended turn lanes, the intersection is anticipated to operate with LOS B during both peak hours through the 2031 horizon with the addition of project traffic. **Table 6** provides the results of the LOS analysis conducted at this intersection.

Table 6 – Mississippi Avenue & Harvest Road West (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2031 Background				
Northbound Left	9.0	A	8.3	A
Eastbound Left	25.7	D	26.0	D
Eastbound Right	11.1	B	11.5	B
2031 Background Plus Project # - Overall	12.0	B	17.9	B
Eastbound Approach	42.1	D	38.8	D
Northbound Approach	3.8	A	8.4	A
Southbound Approach	7.2	A	12.1	B

= Signalization

Project Accesses


2025 (Filing 1) Results

With construction of the Parklands Village 2 project, Filing 1 in 2025 is planned to provide access on the south leg of the Alameda Avenue & Jamestown Way (#4) intersection, extending Little River Street south of Alameda Avenue (#5) and providing an access along the Harvest Road extension at “Road 4” (#6), and providing a roundabout intersection along Road 4 at Little River Street (#7). The Jamestown Way access (#4) is recommended to provide an R1-1 “STOP” sign on the northbound approach exiting the development. Likewise, the extension of Little River Street (#5) is recommended to provide an R1-1 “STOP” sign on the northbound approach. The access proposed on the extension of Harvest Road (#6) will terminate at the southern end of the Filing 1 development. Therefore, no delays will be reported in the Filing 1 short-term horizon at this intersection. The proposed roundabout at Road 4 & Little River Street (#7) will only have eastbound left and southbound right turning movements in this horizon with future plans for a south and an east leg by the Filing 2 2027 horizon; R1-2 “YIELD” signs should be provided at this roundabout. All four approaches to each of these three intersections are anticipated to operate well in the 2025 horizon with a single shared lane for left/through/right turning movements.

2027 (Filing 2 Results)

By the Filing 2 2027 horizon, the Jamestown Way (#4) and Little River Street (#5) intersections along Alameda Avenue are recommended to provide eastbound and westbound left turn lanes. The east and south legs of the roundabout at Road 4 & Little River Street (#7) are also anticipated to be constructed, which will operate well with one lane in each direction for shared turning movements and R1-2 “YIELD” signs posted on all four approaches to the roundabout. A new south leg at the existing Alameda Avenue & New Castle Way (#8) intersection is anticipated to be provided with Filing 2 construction. The eastbound and westbound approaches are recommended to provide left turn lanes and a shared through/right turn lane along Alameda Avenue.

To provide access to both the proposed multifamily and commercial sites on the southwest corner of the Alameda Avenue & Powhaton Road intersection, a full movement access approximately 500 feet to the east of New Castle Way (900 feet to the west of Powhaton Road) is proposed to operate as a private north/south road. Because this access would serve commercial development and higher density residential uses, it is recommended an eastbound right turn lane be provided,



in addition to a westbound left turn lane on Alameda Avenue; it would also be recommended that separate northbound left and right turn lanes be provided for vehicles exiting the development. Alameda Avenue & Private North/South Road (#9) intersection is expected to operate well with stop control on the northbound approach with a posted R-1 “STOP” sign. Additionally, access to the commercial development is proposed on Powhaton Road to the south of Alameda Avenue. Though it is not yet known the exact location of this access, it would be proposed the access be constructed at the northern end of the oil and gas facility to the west of Powhaton Road, making the access likely located approximately 1,400 feet to the south of the Alameda Avenue & Powhaton Road (#2) intersection, which would align with a future access of the Harmony development to the east of Powhaton Road. It is believed this access will continue to operate well through full buildout of the area with full movement based on the operational analysis performed in this study, even with this intersection being a four-leg intersection with Harmony development to the east. For purposes of this study, because the timing of the Harmony development is not yet known, it was assumed that in this horizon year this commercial access on Powhaton Road (#10) would operate as a ‘T’-intersection with an R1-1 “STOP” sign posted on the eastbound approach exiting the commercial site. It would be recommended to provide a northbound left turn lane on Powhaton Road and separate eastbound left and right turn lanes.

An additional internal access at Road 4 & New Castle Way (#11) is anticipated to be constructed with Filing 2 development as a stop-controlled ‘T’-intersection with an R1-1 “STOP” sign posted on the southbound New Castle Way approach to the intersection. It is recommended that the southbound approach provide separate left and right turn lanes in this horizon. Finally, a new full movement access along Powhaton Road at Road 4 (#12) is anticipated to be constructed with Filing 2 development. The northbound Powhaton Road approach should provide a left turn lane, while the southbound Powhaton Road should operate well with one lane for shared through/right turning movements. The eastbound Road 4 approach should operate well with a posted R1-1 “STOP” sign and one lane for shared left/right turning movements.

2029 (Filing 3) Results

For purposes of this study, it was assumed that Filing 3 construction would be completed by approximately 2029. With Filing 3 development, no changes to the 2027 improvements are anticipated to be required at the project access intersections (improvements to the Alameda Avenue & Harvest Road (#1) and the Alameda Avenue & Powhaton Road (#2) intersections in

the 2029 horizon were discussed previously). Mississippi Avenue from Little River Street to Powhatan Road is recommended to be constructed with Filing 3 development, which will exist as the southern border to Filing 3 development. The new Mississippi Avenue & Little River Street (#15) intersection will only provide a southbound left turning movement and a westbound right turning movement during this horizon and as such, is not anticipated to experience measurable delay. A new intersection at “Street C” & Powhatan Road (#16) is also anticipated to be constructed during Filing 3. This intersection should provide a northbound left turn lane along Powhatan Road while the southbound approach should operate well with one lane for shared through/right turning movements. The eastbound Street C approach should operate well with a posted R1-1 “STOP” sign and one lane for shared left/right turning movements. Finally, the new Mississippi Avenue & Powhatan Road (#17) intersection is also anticipated to be constructed with Filing 3 development, and like the Street C intersection, should provide a northbound left turn lane on Powhatan Road, one lane for shared through/right turning movements in the southbound Powhatan Road approach, and one lane with a posted R1-1 “STOP” sign and one lane for shared eastbound left/right turning movements on Mississippi Avenue.


2031 (Filing 4) Results

Full buildout of the Parklands Village 2 development is anticipated by approximately 2031. While it is not known at which point Harmony development to the east of Powhatan Road will construct additional accesses along Powhatan Road, it is known that access is proposed at the Road 4 intersection (#12) and at Mississippi Avenue (#17). It is assumed that the east legs of these intersections will be constructed by full buildout of Parklands Village 2 development to provide a comprehensive analysis of these intersections in conjunction with the access system proposed with Parklands development. As mentioned previously, because it is unknown the exact timing of Harmony development, it was assumed that by this horizon the east leg at the Commercial Access & Powhatan Road (#10) would also have been constructed.

While it is recognized that the full Harvest Road extension from Alameda Avenue to Mississippi Avenue is anticipated to be constructed by this project, this full connection with a bridge over Coal Creek is not anticipated to be needed until Filing 4 development of this project is constructed and to align with 2030 NEATS projections, one lane in each direction was conservatively assumed along Harvest Road in this horizon, though it is understood two lanes in each direction may be provided. Two through lanes in each direction are recommended to be provided along Powhatan

Road adjacent to the project area with full buildout of Parklands Village 2. With full buildout of Parklands Village 2 development, the Road 4 & Harvest Road (#6) intersection is anticipated to add a new south leg to the intersection that did not exist with Filing 3 development. This intersection should provide separate northbound through and right turn lanes along as well as separate southbound left and through lanes along Harvest Road, while the westbound Road 4 approach should operate with stop control and a posted R1-1 “STOP” sign with separate westbound left and right turn lanes. With a new east leg at Road 4 & Powhatan Road (#12) assumed to be completed by this 2031 horizon, this intersection is anticipated to continue operating well with stop control on the eastbound and westbound approaches to the intersection with R1-1 “STOP” signs posted on these approaches to Powhatan Road. The northbound and southbound Powhatan Road approaches to this intersection are each recommended to provide a left turn lane, one through lane, and one shared through/right turn lane. The eastbound and westbound Road 4 approaches should each provide a left turn lane and a shared through/right turn lane in each direction. A new stop-controlled ‘T’-intersection along the future Harvest Road extension at “Street B” (#13) to the north of Mississippi Avenue is anticipated to be constructed with Filing 4 development. This intersection should provide separate northbound through and right turn lanes as well as separate southbound left and through lanes along Harvest Road, while the westbound Street B approach should provide an R1-1 “STOP” sign and separate left and right turn lanes.

The extension of Mississippi Avenue from the Harvest Road extension to Little River Street is anticipated to be constructed with Filing 4 development. This extension will create a new stop-controlled ‘T’-intersection at Mississippi Avenue & Harvest Road East (#14). This intersection should provide separate northbound through and right turn lanes and separate southbound left and through lanes along Harvest Road while westbound Mississippi Avenue should provide an R1-1 “STOP” sign with separate left and right turn lanes. It should be noted that while the intersection is anticipated to operate acceptably with this configuration and stop control by the 2031 horizon, it is possible this intersection will eventually require signalization, as the Parklands Master Traffic Study did identify by the 2040 horizon that this intersection would require a signal. While this study does not recommend a signal by the 2031 horizon, depending on how developments in the area are ultimately constructed and the timing of each development, this intersection should be monitored for when a signal should be installed. Because of the Mississippi Avenue connection from Harvest Road to Powhatan Road with full buildout of Parklands Village



2, a new west leg at the Mississippi Avenue & Little River Street (#15) intersection is anticipated to be constructed with Filing 4 construction. As such, this stop-controlled 'T'-intersection should operate well with one through lane in each direction along Mississippi Avenue while southbound Little River Street should provide an R1-1 "STOP" sign and separate left and right turn lanes. Finally, the Mississippi Avenue & Powhatan Road (#17) intersection is anticipated to have a new east leg with Harmony development. With full buildout of Parklands Village 2 and this assumed new east leg by the 2031 horizon, a signal is anticipated to be required at this intersection for acceptable operations. The signal warrant analysis worksheets are included in **Appendix G**, which show that the signal may be a few vehicles short of meeting four hour signal warrants, but to achieve acceptable operations and because traffic volumes will continue increasing at that intersection after the 2031 horizon, it is recommended a signal be installed here by full buildout of Parklands Village 2 development. The northbound and southbound Powhatan Road approaches should each provide a left turn lane, two through lanes, and a right turn lane, while the eastbound and westbound Mississippi Avenue approaches should each provide a left turn lane and a shared through/right turn lane to provide acceptable operations.

It is recognized that additional improvements to the study area intersections may be needed by the 2040 horizon, however, per previous discussion with the City of Aurora staff, a 2040 long-term horizon is not included for intersections that were previously studied in the Parklands Master Traffic Study, as the Parklands Village 2 traffic generation in this study is lower than that studied in the master study. The average daily traffic (ADT) and roadway classification for the internal intersections are shown in **Figure 18**. **Table 7** provides the results of the level of service for these project access intersections.

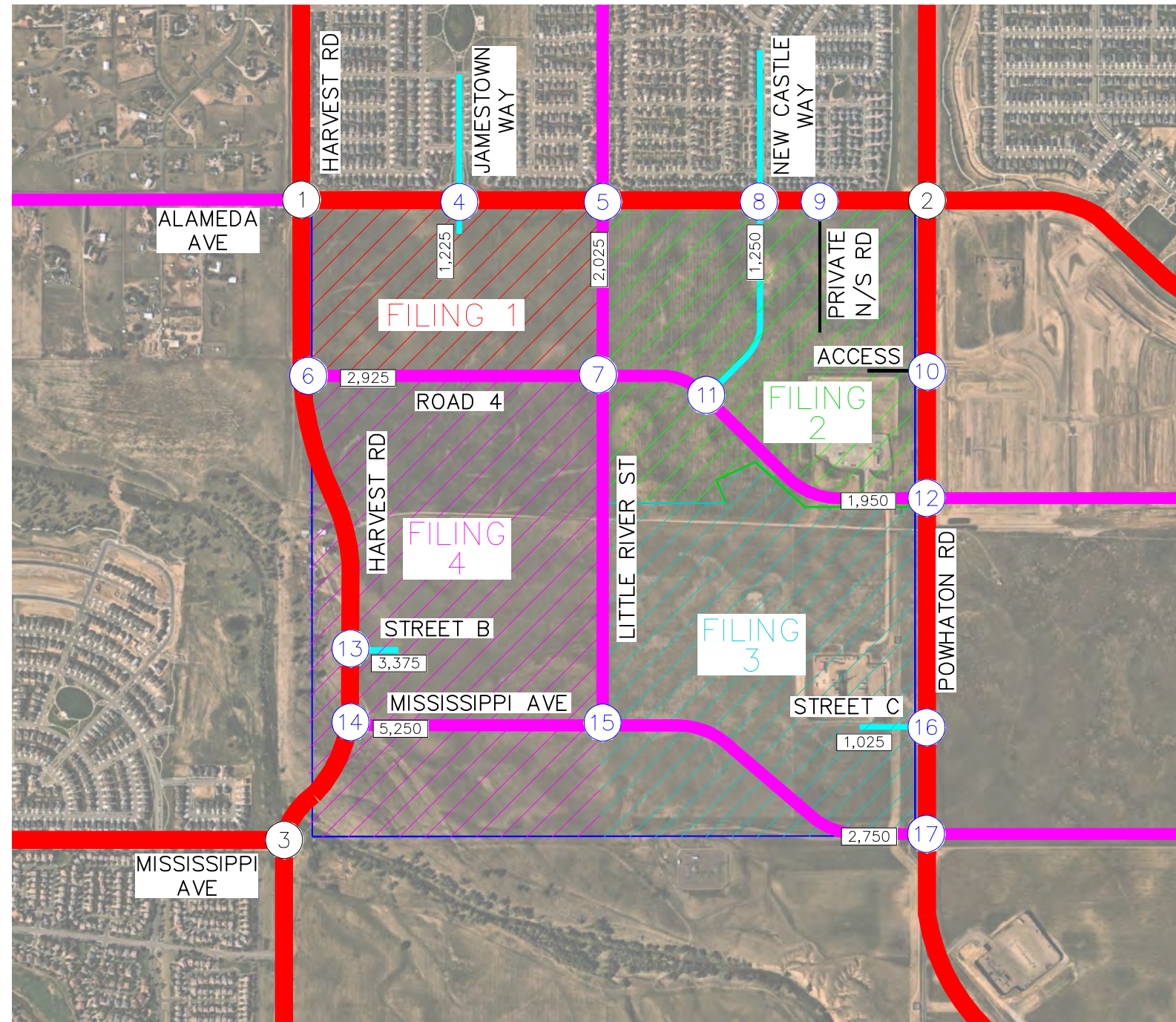


FIGURE 18
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
INTERNAL INTERSECTION ROADWAY CLASSIFICATION

LEGEND	
—	ARTERIAL ROADWAY
—	COLLECTOR ROADWAY
—	LOCAL ROADWAY
XX,X00	ESTIMATED 2031 DAILY TRAFFIC VOLUME

Table 7 – Project Access Level of Service Results

Control	Intersection Movement	2025 Total				2027 Total				2029 Total				2031 Total			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Alameda Ave & Jamestown Way (#4)																	
TWSC	Northbound Approach	10.3	B	12.0	B	12.1	B	15.2	C	12.9	B	16.9	C	12.7	B	14.3	B
	Eastbound Left	7.5	A	7.5	A	7.9	A	8.0	A	8.1	A	8.3	A	7.9	A	7.9	A
	Westbound Left	7.3	A	7.8	A	7.6	A	8.4	A	7.6	A	8.8	A	7.6	A	8.2	A
	Southbound Approach	9.9	A	10.4	B	11.6	B	13.2	B	12.5	B	14.8	B	11.7	B	12.6	B
Alameda Ave & Little River St (#5)																	
TWSC	Northbound Approach	9.6	A	10.8	B	12.6	B	15.8	C	15.0	C	18.5	C	12.2	B	13.3	B
	Eastbound Left	7.4	A	7.5	A	7.7	A	7.9	A	7.7	A	8.0	A	7.7	A	7.9	A
	Westbound Left	7.4	A	7.6	A	7.6	A	8.3	A	7.7	A	8.7	A	7.6	A	8.1	A
	Southbound Approach	9.8	A	10.5	B	11.1	B	13.0	B	11.6	B	13.6	B	11.2	B	12.4	B
Road 4 & Harvest Rd (#6)																	
TWSC	Westbound Left	-	-	-	-	-	-	-	-	-	-	-	-	16.9	C	18.5	C
	Westbound Right	-	-	-	-	-	-	-	-	-	-	-	-	13.0	B	12.6	B
	Southbound Left	-	-	-	-	-	-	-	-	-	-	-	-	8.8	A	9.2	A
Road 4 & Little River St (#7)																	
Roundabout	Overall	2.7	A	2.7	A	3.6	A	3.7	A	4.6	A	4.7	A	5.8	A	5.1	A
	Eastbound Approach	2.7	A	2.7	A	3.3	A	3.7	A	4.2	A	4.9	A	5.5	A	5.2	A
	Westbound Approach	-	-	-	-	3.7	A	3.7	A	4.7	A	4.5	A	6.1	A	4.8	A
	Northbound Approach	-	-	-	-	3.7	A	3.7	A	4.8	A	4.6	A	5.9	A	5.2	A
	Southbound Approach	2.7	A	2.7	A	3.4	A	3.7	A	4.2	A	4.7	A	5.4	A	4.9	A
Alameda Ave & New Castle Way (#8)																	
TWSC	Northbound Approach	-	-	-	-	11.2	B	13.1	B	11.7	B	14.0	B	11.0	B	12.6	B
	Eastbound Left	-	-	-	-	7.6	A	8.0	A	7.7	A	8.2	A	7.7	A	8.0	A
	Westbound Left	-	-	-	-	7.6	A	8.0	A	7.7	A	8.2	A	7.7	A	8.0	A
	Southbound Approach	-	-	-	-	10.6	B	12.5	B	11.3	B	13.6	B	11.3	B	13.1	B

Control	Intersection Movement	2025 Total				2027 Total				2029 Total				2031 Total			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Alameda Ave & Private North/South Rd (#9)																	
TWSC	Northbound Left	-	-	-	-	10.4	B	12.7	B	11.0	B	13.9	B	10.7	B	12.8	B
	Northbound Right	-	-	-	-	9.1	A	9.7	A	9.5	A	10.2	B	9.3	A	9.8	A
	Westbound Left	-	-	-	-	7.7	A	8.0	A	7.8	A	8.2	A	7.8	A	8.1	A
Commercial Access & Powhatan Rd (#10)																	
TWSC	Northbound Left	-	-	-	-	8.0	A	8.2	A	8.8	A	9.5	A	8.0	A	8.0	A
	Eastbound Left	-	-	-	-	11.8	B	13.6	B	16.1	C	22.0	C	13.2	B	14.7	B
	Eastbound Through/Right	-	-	-	-	10.1	B	10.8	B	10.6	B	11.9	B	9.3	A	9.5	A
	Westbound Left	-	-	-	-	-	-	-	-	-	-	-	-	15.9	C	16.8	C
	Westbound Through/Right	-	-	-	-	-	-	-	-	-	-	-	-	10.6	B	10.7	B
	Southbound Left	-	-	-	-	-	-	-	-	-	-	-	-	9.0	A	9.1	A
Road 4 & New Castle Way (#11)																	
TWSC	Eastbound Left	-	-	-	-	7.4	A	7.4	A	7.6	A	7.6	A	7.8	A	7.8	A
	Southbound Left	-	-	-	-	10.0	B	9.8	A	11.4	B	11.1	B	12.5	B	12.6	B
	Southbound Right	-	-	-	-	8.7	A	8.8	A	9.1	A	9.1	A	9.6	A	9.4	A
Road 4 & Powhatan Rd (#12)																	
TWSC	Northbound Left	-	-	-	-	7.9	A	8.2	A	8.7	A	9.5	A	8.0	A	8.0	A
	Eastbound Left	-	-	-	-	11.1	B	12.2	B	15.6	C	19.3	C	12.1	B	14.0	B
	Eastbound Through/Right	-	-	-	-	11.1	B	12.2	B	15.6	C	19.3	C	12.0	B	15.6	C
	Westbound Left	-	-	-	-	-	-	-	-	-	-	-	-	11.7	B	13.6	B
	Westbound Through/Right	-	-	-	-	-	-	-	-	-	-	-	-	11.8	B	15.8	C
	Southbound Left	-	-	-	-	-	-	-	-	-	-	-	-	8.1	A	8.2	A
Street B & Harvest Rd (#13)																	
TWSC	Westbound Left	-	-	-	-	-	-	-	-	-	-	-	-	17.9	C	19.4	C
	Westbound Right	-	-	-	-	-	-	-	-	-	-	-	-	10.7	B	10.9	B
	Southbound Left	-	-	-	-	-	-	-	-	-	-	-	-	8.7	A	9.7	A

Control	Intersection Movement	2025 Total				2027 Total				2029 Total				2031 Total			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Mississippi Ave & Harvest Rd East (#14)																	
TWSC	Westbound Left	-	-	-	-	-	-	-	-	-	-	-	-	30.8	D	33.6	D
	Westbound Right	-	-	-	-	-	-	-	-	-	-	-	-	10.4	B	11.5	B
	Southbound Left	-	-	-	-	-	-	-	-	-	-	-	-	9.1	A	11.6	B
Mississippi Ave & Little River St (#15)																	
TWSC	Eastbound Left	-	-	-	-	-	-	-	-	-	-	-	-	7.5	A	8.0	A
	Southbound Left	-	-	-	-	-	-	-	-	-	-	-	-	11.3	B	18.0	C
	Southbound Right	-	-	-	-	-	-	-	-	-	-	-	-	9.6	A	9.5	A
Street C & Powhatan Rd (#16)																	
TWSC	Northbound Left	-	-	-	-	-	-	-	-	8.7	A	9.1	A	9.1	A	8.9	A
	Eastbound Approach	-	-	-	-	-	-	-	-	14.7	B	16.2	C	13.8	B	12.7	B
Mississippi Ave & Powhatan Rd (#17)																	
TWSC	Northbound Left	-	-	-	-	-	-	-	-	8.8	A	9.0	A	-	-	-	-
	Eastbound Approach	-	-	-	-	-	-	-	-	14.1	B	15.5	C	-	-	-	-
Signalized	Overall	-	-	-	-	-	-	-	-	-	-	-	-	9.8	A	12.3	B
	Eastbound Approach	-	-	-	-	-	-	-	-	-	-	-	-	40.8	D	35.7	D
	Westbound Approach	-	-	-	-	-	-	-	-	-	-	-	-	40.2	D	38.1	D
	Northbound Approach	-	-	-	-	-	-	-	-	-	-	-	-	5.0	A	6.7	A
	Southbound Approach	-	-	-	-	-	-	-	-	-	-	-	-	4.3	A	6.2	A

5.3 Turn Bay Length Analysis

The City of Aurora generally defaults to the Colorado Department of Transportation (CDOT) State Highway Access Code (SHAC) guidelines to determine if turn lanes are warranted at key intersections and accesses. CDOT classifies their state highways based on roadway types. The Non-Rural Arterial Category NR-C (low to moderate travel speeds and moderate volumes) was assigned to Alameda Avenue and Mississippi Avenue, based on matching the characteristics of the CDOT roadways. Whereas the Non-Rural Arterial Category NR-B (moderate travel speed and moderate traffic volumes) was assigned to Harvest Road and Powhaton Road based on matching the characteristics of the CDOT roadways. All other roadways are based on a minimum recommended 100-foot turn lanes with 100-foot tapers where turn lanes are determined to be needed or recommended operationally. Of note, although a turn lane may be warranted at an intersection, that does not necessarily mean a turn lane should be provided. Careful consideration should be taken to assess provision of turn lanes to prevent overbuilding roadways and thus decreasing safety for drivers, pedestrians, bicyclists, and all other road users.

According to the State Highway Access Code for category NR-B and NR-C roadways the following thresholds apply for an auxiliary lane:

- A left turn lane with storage length plus taper is required for any access with a projected peak hour left ingress turning volume greater than 25 vehicles per hour (vph). If the posted speed limit is greater than 40 miles per hour, a deceleration lane and taper is required for any access with a projected peak hour left ingress turning volume greater than 10 vph. The taper length will be included within the deceleration length.
- A right turn lane with storage length plus taper is required for any access with a projected peak hour right ingress turning volume greater than 50 vehicles per hour (vph). If the posted speed limit is greater than 40 miles per hour, a right turn lane deceleration lane and taper is required for any access with a project peak hour right ingress turning volume greater than 25 vehicles per hour.

Table 8 summarizes if auxiliary turn lanes are warranted along these external roadways and if so, the turn lane length requirements are based on CDOT State Highway Access Code guidelines.

Table 8 – Turn Lane Warrant and Length Summary

Intersection	2025			2027			2029			2031		
	Volume	Met?	Length	Volume	Met?	Length	Volume	Met?	Length	Volume	Met?	Length
Alameda Ave & Harvest Rd (#1)												
Northbound Left	29	X		48	Y	275'+ 160'T	57	Y	275'+ 160'T	83	Y	275'+ 160'T
Southbound Left	43	Y	275'+ 160'T	172	Y	275'+ 160'T	246	Y	275'+ 160'T	160	Y	275'+ 160'T
Eastbound Left	67	X		70	Y	150'+ 120'T	72	Y	150'+ 120'T	72	Y	150'+ 120'T
Eastbound Right	35	N		55	X		66	X		60	X	
Westbound Left	5	N		12	X		13	X		100	Y	150'+ 100'T
Westbound Right	35	N		138	X		199	X		130	X	
Alameda Ave & Powhatan Rd (#2)												
Northbound Left	28	Y	150'+ 140'T	55	Y	150'+ 140'T	120	Y	150'+ 140'T	41	Y	150'+ 140'T
Eastbound Left	54	X		84	Y	150'+ 100'T	107	Y	150'+ 100'T	149	Y	150'+ 100'T
Westbound Left	14	N		37	Y	150'+ 100'T	42	Y	150'+ 100'T	50	Y	150'+ 100'T
Northbound Right	15	N		44	N		48	X		41	N	150'+ 140'T
Eastbound Right	47	N		64	X		108	X		39	N	150'+ 100'T
Southbound Right	40	N		71	Y	150'+ 140'T	98	Y	150'+ 140'T	120	Y	150'+ 140'T
Mississippi Ave & Harvest Rd West (#3)												
Northbound Left	-	-	-	-	-	-	-	-	-	116	Y	275'+ 160'T
Southbound Right	-	-	-	-	-	-	-	-	-	262	Y	275'+ 160'T
Alameda Ave & Jamestown (#4)												
Westbound Left	23	N		23	X		23	X		23	X	
Eastbound Right	46	N		48	N		49	N		51	X	

Intersection	2025			2027			2029			2031		
	Volume	Met?	Length	Volume	Met?	Length	Volume	Met?	Length	Volume	Met?	Length
Alameda Ave & Little River St (#5)												
Westbound Left	35	X		42	Y	150'+100'T	52	Y	150'+100'T	41	Y	150'+100'T
Eastbound Right	23	N		88	X		130	X		64	X	
Road 4 & Harvest Rd (#6)												
Southbound Left	104	X		158	X		189	X		92	Y	275'+160'T
Northbound Right	-	-		-	-		-	-		74	Y	275'+160'T
Alameda Ave & New Castle (#8)												
Westbound Left	-	-		15	X	150'+100'T	30	Y	150'+100'T	34	Y	150'+100'T
Eastbound Right	-	-		38	N		40	N		28	N	150'+100'T
Alameda Ave & Private N/S Rd (#9)												
Eastbound Right	-	-		99	Y	150'+100'T	99	Y	150'+100'T	107	Y	150'+100'T
Westbound Left	-	-		37	Y	150'+100'T	37	Y	150'+100'T	22	Y	150'+100'T
Commercial Access & Powhatan Rd (#10)												
Northbound Left	-	-		26	Y	150'+140'T	26	Y	150'+140'T	25	Y	150'+140'T
Southbound Left	-	-		35	N		35	N		38	N	
Road 4 & Powhatan Rd (#12)												
Northbound Left	-	-		17	X	150'+140'T	27	Y	150'+140'T	29	Y	150'+140'T
Southbound Right	-	-		20	N		63	X		42	N	

Intersection	2025			2027			2029			2031		
	Volume	Met?	Length	Volume	Met?	Length	Volume	Met?	Length	Volume	Met?	Length
Street B & Harvest Rd (#13)												
Southbound Left	-	-		-	-		-	-		64	Y	275'+160'T
Northbound Right	-	-		-	-		-	-		122	Y	275'+160'T
Mississippi & Harvest Rd East (#14)												
Southbound Left	-	-		-	-		-	-		36	Y	275'+160'T
Northbound Right	-	-		-	-		-	-		255	Y	275'+160'T
Street C & Powhatan Rd (#16)												
Northbound Left	-	-		-	-		-	-		23	Y	150'+140'T
Southbound Right	-	-		-	-		-	-		34	N	
Mississippi & Powhatan Rd (#17)												
Northbound Left	-	-		-	-		25	Y	150'+140'T	55	Y	150'+140'T
Southbound Right	-			-			9	N		45	X	150'+140'T

Y = Yes; N = No; X = Explanation Provided Below

It is understood that additional roadway improvements beyond those shown in this study may be constructed based on the City public improvement plans. If these additional improvements, such as additional turn lanes or through lanes are constructed, it would be understood that this would only serve to improve the level of service of the study intersections when compared to the results shown in this study and as such the results of this study represent a conservative analysis of projected future traffic conditions.

2025 (Filing 1) Turn Lane Evaluation

The northbound left turn lane at the Alameda Avenue and Harvest Road (#1) intersection during the short-term 2025 horizon meets the turn lane volume threshold for requiring a separate left

turn lane. However, the opposing through volume is fewer than 100 vehicles per hour and this turn lane may be dropped based on CDOT standards. The same is the case for the eastbound and westbound left turn approach. The northbound approach operates with stop control and will operate acceptable with a single lane in the short-term. Left turn lanes will be implemented on the eastbound, westbound, and northbound approaches of this intersection upon signalization in the future.

An eastbound left turn lane is warranted at the Alameda Avenue & Powhatan Road (#2) intersection, however, the opposing through volume is fewer than 100 vehicles per hour and this turn lane may be dropped based on CDOT standards.

A westbound left turn lane is warranted at the Alameda Avenue & Little River Street (#5) intersection, however, the eastbound through volume and the westbound through movements are both low, and operationally this turn lane is not needed during this horizon.

A southbound left turn lane is warranted at the Road 4 & Harvest Road (#6) intersection. However, in this short-term horizon there will no continuing southbound through movement or opposing northbound approach; as such, a turn lane at this intersection during this horizon is not applicable.

2027 (Filing 2) Turn Lane Evaluation

The Alameda Avenue & Harvest Road (#1) intersection is recommended to provide left turn lanes on all four approaches to the intersection when Filing 2 is constructed. Although the eastbound right turning movement may meet warrants, because of right-of-way constraints it is not anticipated to be provided, and it is not needed operationally. Likewise, a westbound right turn lane is not anticipated to be needed operationally and once the Harvest Road connection is constructed, the westbound through and westbound right turning movements would both be expected to drop significantly. As such, this higher volume is expected to only be experienced as a temporary condition, and it is not recommended that a westbound right turn lane be constructed to accommodate the volumes seen during this temporary condition.

The eastbound right turning movement at the intersection of Alameda Avenue & Powhatan Road (#2) may meet warrants for a right turn lane, but it is not anticipated to be needed operationally and the eastbound through movements are anticipated to be minor.

A westbound left turn lane at Alameda Avenue & Jamestown Way (#4) may not be warranted but it is anticipated to be provided to be consistent with other intersection recommendations along Alameda Avenue in this area. An eastbound right turn lane at Alameda Avenue & Little River Street (#6) may be warranted but it is not anticipated to be needed operationally. A southbound left turn lane is warranted at the Road 4 & Harvest Road (#6) intersection, however, in this horizon there will no continuing southbound through movement or opposing northbound approach; as such, a turn lane at this intersection during this horizon is not applicable. A westbound left turn lane at Alameda Avenue & New Castle Way (#8) may not yet be warranted but it is recommended to be provided because it is expected to be warranted after Filing 3 construction.

A northbound left turn lane at Road 4 & Powhatan Road (#12) may not yet be warranted but is recommended to be provided in this horizon as it will be warranted with Filing 3 construction.

2029 (Filing 3) Turn Lane Evaluation

The Alameda Avenue & Harvest Road (#1) intersection is recommended to provide left turn lanes on all four approaches to the intersection when Filing 2 is constructed. Although the eastbound right turning movement may meet warrants, because of right-of-way constraints it is not anticipated to be provided, and it is not needed operationally. Likewise, a westbound right turn lane is not anticipated to be needed operationally and once the Harvest Road connection is constructed, the westbound through and westbound right turning movements would both be expected to drop significantly. As such, this higher volume is expected to only be experienced as a temporary condition, and it is not recommended that a westbound right turn lane be constructed to accommodate the volumes seen during this temporary condition.

The eastbound right turning movement at the intersection of Alameda Avenue & Powhatan Road (#2) may meet warrants for a right turn lane, but it is not anticipated to be needed operationally and the eastbound through movements are anticipated to be minor. The northbound right turning movement may slightly exceed thresholds, but this level of turning movement is anticipated to decrease at full buildout of Parklands Village 2 development when other roadway connections are complete.

A westbound left turn lane at Alameda Avenue & Jamestown Way (#4) may not be warranted but it is anticipated to be provided to be consistent with other intersection recommendations along

Alameda Avenue in this area. An eastbound right turn lane at Alameda Avenue & Little River Street (#5) may be warranted but it is not anticipated to be needed operationally. A southbound left turn lane is warranted at the Road 4 & Harvest Road (#6) intersection, however, in this horizon there will no continuing southbound through movement or opposing northbound approach; as such, a turn lane at this intersection during this horizon is not applicable. An eastbound right turn lane at Alameda Avenue & New Castle Way (#8) may be warranted but it is not recommended to be provided because it is not needed operationally and this level of eastbound right turning movement is anticipated to decrease at full buildout of Parklands Village 2 development when other roadway connections are complete. A southbound right turn lane may be warranted at Road 4 & Powhaton Road (#12) but is not recommended to be provided as it is not anticipated to be needed operationally.

2031 (Full Buildout) Turn Lane Evaluation

At the Alameda Avenue & Harvest Road (#1) intersection, although the eastbound right turning movement may meet warrants, because of right-of-way constraints it is not anticipated to be provided, and it is not needed operationally. Likewise, a westbound right turn lane is not anticipated to be needed operationally as the westbound through and westbound right turning movements are both expected to be under 100 vehicles during the peak hour.

A westbound left turn lane at Alameda Avenue & Jamestown Way (#4) may not be warranted but it is anticipated to be provided to be consistent with other intersection recommendations along Alameda Avenue in this area. Additionally, while an eastbound right turn lane may approach meeting warrants by this horizon, because of the low eastbound through volume along Alameda Avenue it is not expected to be needed operationally. The same is the case for the eastbound right turning movement along Alameda Avenue at Little River Street (#5) and at New Castle Way (#8). The Mississippi Avenue & Powhaton Road (#17) intersection may have southbound right turning movements that could be slightly below warrants, but it is recommended to be provided.

5.4 Vehicle Queuing Analysis

A vehicle queuing analysis was conducted for the study area intersections. The queuing analysis was performed using Synchro presenting the results of the 95th percentile queue lengths. Results are shown in the following **Table 9** with calculations provided within the level of service operational sheets of **Appendix E** for unsignalized intersections and **Appendix F** for signalized intersections.

Turn lane and taper lengths are based on CDOT standard with a minimum recommended turn lane length of 150 feet along external roadways and 100 feet for internal roadways with recommended taper lengths based on CDOT standard in conjunction with the speed limit along each roadway.

Table 9 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Calculated Queue (feet)	2025 Recommended Length (feet)	2027 Calc. Queue (feet)	2027 Rec. Length (feet)	2029 Calc. Queue (feet)	2029 Rec. Length (feet)	2031 Calc. Queue (feet)	2031 Rec. Length (feet)
Alameda & Harvest (#1)									
Eastbound Left	DNE	-	DNE	25'	150'+120'T	62'	150'+120'T	77'	150'+120'T
Westbound Left	DNE	-	DNE	25'	150'+100'T	14'	150'+100'T	130'	150'+100'T
Northbound Left	DNE	-	DNE	25'	275'+160'T	47'	275'+160'T	25'	275'+160'T
Southbound Left	300'	25'	300'	100'	300'	149'	300'	64'	300'
Alameda & Powhatan (#2)									
Eastbound Left	DNE	-	DNE	50'	150'+100'T	102'	150'+100'T	138'	150'+100'T
Westbound Left	DNE	-	DNE	25'	150'+100'T	53'	150'+100'T	54'	150'+100'T
Northbound Left	150'	25'	150'	25'	150'	47'	150'	19'	150'
Southbound Left	225'	25'	225'	25'	225'	24'	225'	28'	225'
Mississippi & Harvest West (#3)									
Eastbound Left	DNE	-	DNE	-	DNE	-	DNE	262'	C
Eastbound Right	DNE	-	DNE	-	DNE	-	DNE	38'	C
Northbound Left	DNE	-	DNE	-	DNE	-	DNE	60'	275'+160'T
Southbound Right	DNE	-	DNE	-	DNE	-	DNE	33'	275'+160'T
Alameda & Jamestown (#4)									
Eastbound Left	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Westbound Left	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Alameda & Little River (#5)									
Eastbound Left	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Westbound Left	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Road 4 & Harvest (#6)									
Westbound Left	DNE	-	DNE	-	DNE	-	DNE	50'	100'+100'T
Westbound Right	DNE	-	C	-	C	-	C	25'	C
Southbound Left	DNE	-	DNE	-	DNE	-	DNE	25'	275'+160'T
Northbound Right	DNE	-	DNE	-	DNE	-	DNE	0'	275'+160'T

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Calculated Queue (feet)	2025 Recommended Length (feet)	2027 Calc. Queue (feet)	2027 Rec. Length (feet)	2029 Calc. Queue (feet)	2029 Rec. Length (feet)	2031 Calc. Queue (feet)	2031 Rec. Length (feet)
Alameda & New Castle (#8)									
Eastbound Left	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Westbound Left	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Alameda & Private N/S Rd (#9)									
Northbound Left	DNE	-	DNE	25'	C	25'	C	25'	C
Northbound Right	DNE	-	DNE	25'	100'+100'T	25'	100'+100'T	25'	100'+100'T
Westbound Left	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Comm. Access & Powhatan (#10)									
Northbound Left	DNE	-	DNE	25'	C	25'	C	25'	C
Eastbound Left	DNE	-	DNE	25'	100'+100'T	25'	100'+100'T	25'	100'+100'T
Eastbound Right	DNE	-	DNE	25'	150'+100'T	25'	150'+100'T	25'	150'+100'T
Road 4 & New Castle Way (#11)									
Southbound Left	DNE	-	DNE	25'	100'+100'T	25'	100'+100'T	25'	100'+100'T
Southbound Right	DNE	-	DNE	25'	C	25'	C	25'	C
Road 4 & Powhatan (#12)									
Eastbound Left	DNE	-	DNE	-	DNE	-	DNE	25'	100'+100'T
Westbound Left	DNE	-	DNE	-	DNE	-	DNE	25'	100'+100'T
Northbound Left	DNE	-	DNE	25'	150'+140'T	-	DNE	25'	150'+140'T
Southbound Left	DNE	-	DNE	-	DNE	-	DNE	25'	150'+140'T
Street B & Harvest (#13)									
Westbound Left	DNE	-	DNE	-	DNE	-	DNE	50'	C
Westbound Right	DNE	-	DNE	-	DNE	-	DNE	25'	100'+100'T
Southbound Left	DNE	-	DNE	-	DNE	-	DNE	25'	275'+160'T
Mississippi & Harvest East (#14)									
Westbound Left	DNE	-	DNE	-	DNE	-	DNE	100'	C
Westbound Right	DNE	-	DNE	-	DNE	-	DNE	25'	150'+100'T
Southbound Left	DNE	-	DNE	-	DNE	-	DNE	25'	275'+160'T
Mississippi & Little River (#15)									
Southbound Left	DNE	-	DNE	-	DNE	-	DNE	25'	100'+100'T
Southbound Right	DNE	-	DNE	-	DNE	-	DNE	25'	C
Street C & Powhatan (#16)									
Northbound Left	DNE	-	DNE	-	DNE	25'	150'+140'T	25'	150'+140'T

Intersection Turn Lane	Existing Turn Lane Length (feet)	2025 Calculated Queue (feet)	2025 Recommended Length (feet)	2027 Calc. Queue (feet)	2027 Rec. Length (feet)	2029 Calc. Queue (feet)	2029 Rec. Length (feet)	2031 Calc. Queue (feet)	2031 Rec. Length (feet)
Mississippi & Powhatan (#17)									
Eastbound Left	DNE	-	DNE	-	DNE	DNE	-	56'	150'+100'T
Westbound Left	DNE	-	DNE	-	DNE	DNE	-	101'	150'+100'T
Northbound Left	DNE	-	DNE	-	DNE	25'	150'+140'T	20'	150'+140'T
Northbound Right	DNE	-	DNE	-	DNE	DNE	-	18'	150'+140'T
Southbound Left	DNE	-	DNE	-	DNE	DNE	-	6'	150'+140'T
Southbound Right	DNE	-	DNE	-	DNE	DNE	-	0'	150'+140'T

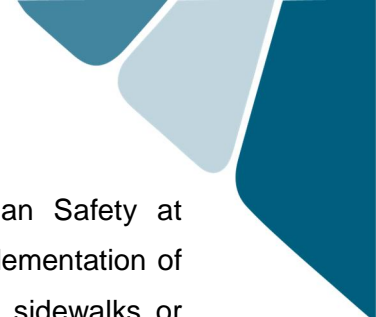
DNE = Does Not Exist; C = Continuous Lane; T = Taper; **Blue** Text = Recommendation

The vehicle queues at all study area intersections are anticipated to remain within the existing or recommended turn lane lengths through the 2031 at full buildout of the project.

5.5 Pedestrian Connectivity/Safety and Traffic Calming

Sidewalks will be provided along the project's frontage on Alameda Avenue, Powhatan Road, Harvest Road, and Mississippi Avenue. In addition, sidewalks will be constructed within the development along public and local roadways to connect the residential to the retail/school uses and vice versa. The major internal intersections should be constructed with ADA ramps and crosswalk pavement markings. A proposed K-8 School along the southwest corner of Road 4 and Little River Street will provide additional school zone signs and warnings. S1-1 School Advance Warning signs could be placed prior to all four of the approaches of the Road 4/Little River Street intersection. In addition, a school speed limit assembly could be placed along the school's frontage roads of Road 4 and Little River Street to warn vehicles of a lower speed limit when school is in session. A S4-3 SCHOOL sign with a R2-1 SPEED LIMIT 15/20 and a S4-1 School Times are typically placed near schools. Additional mid-block crossings may be needed west of the school along Road 4 and south of the school along Little River Street. Pedestrian crosswalk pavement markings and the S1-1 and a W16-7p downward diagonal arrow should be placed near these midblock crossings.

Speed cushions, chicanes, lane narrowing, and compact roundabouts are not expected to be necessary internal to the project site.



The Federal Highway Administration (FHWA) Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations should be used as guidance during design implementation of uncontrolled locations. Uncontrolled pedestrian crossing locations occur where sidewalks or designated walkways intersect a roadway at a location where no traffic control is present. Uncontrolled pedestrian crossing locations correspond to higher pedestrian crash rates, often due to inadequate pedestrian crossing accommodations. Safe Transportation for Every Pedestrian (STEP) program promotes the following six effective and lower-cost countermeasures that communities can deploy based on their specific needs:

- Crosswalk visibility enhancements (i.e., high-visibility crosswalk markings, parking restriction on crosswalk approach, improved lighting, advance Yield Here To [Stop Here For] Pedestrians sign and yield [stop] line, In- Street Pedestrian Crossing sign, and curb extension).
- Raised crosswalk.
- Pedestrian refuge island.
- Pedestrian Hybrid Beacon (PHB).
- Road Diet.
- Rectangular Rapid-Flashing Beacon (RRFB).

As identified previously, near the school, crosswalk visibility will need to be enhanced to provide a safe and comfortable connection from the surrounding residential homes to the school for the students. It is not believed raised crosswalks, refuge islands, PHB, RRFB, or road diets will be needed near the school or on the internal intersections. These recommendations are consistent with the surrounding residential developments to the north and east.

5.6 Improvement Summary

Based on the results of the intersection operational and vehicle queuing analysis, the key intersection recommended improvements and control are shown in **Figure 19** through **22** for the 2025, 2027, 2029, and 2031 horizon years, respectively.

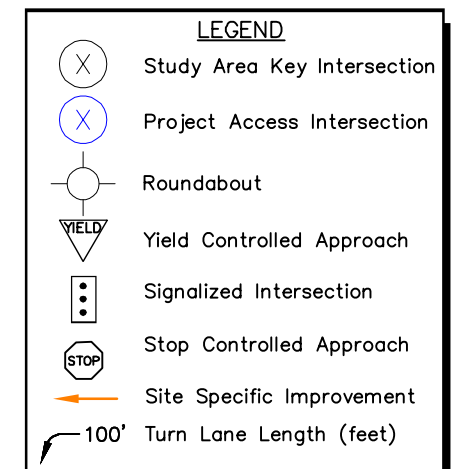
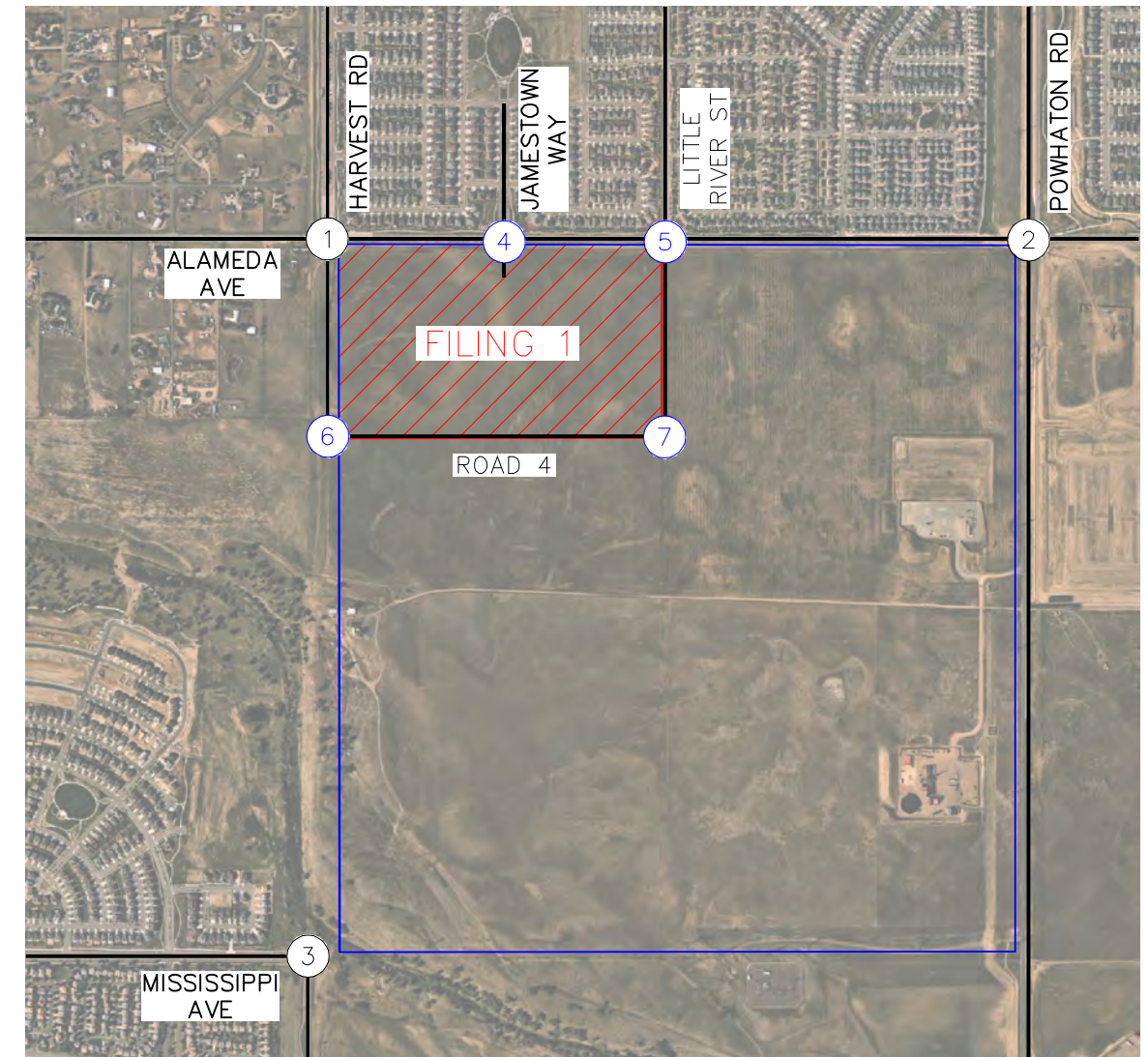
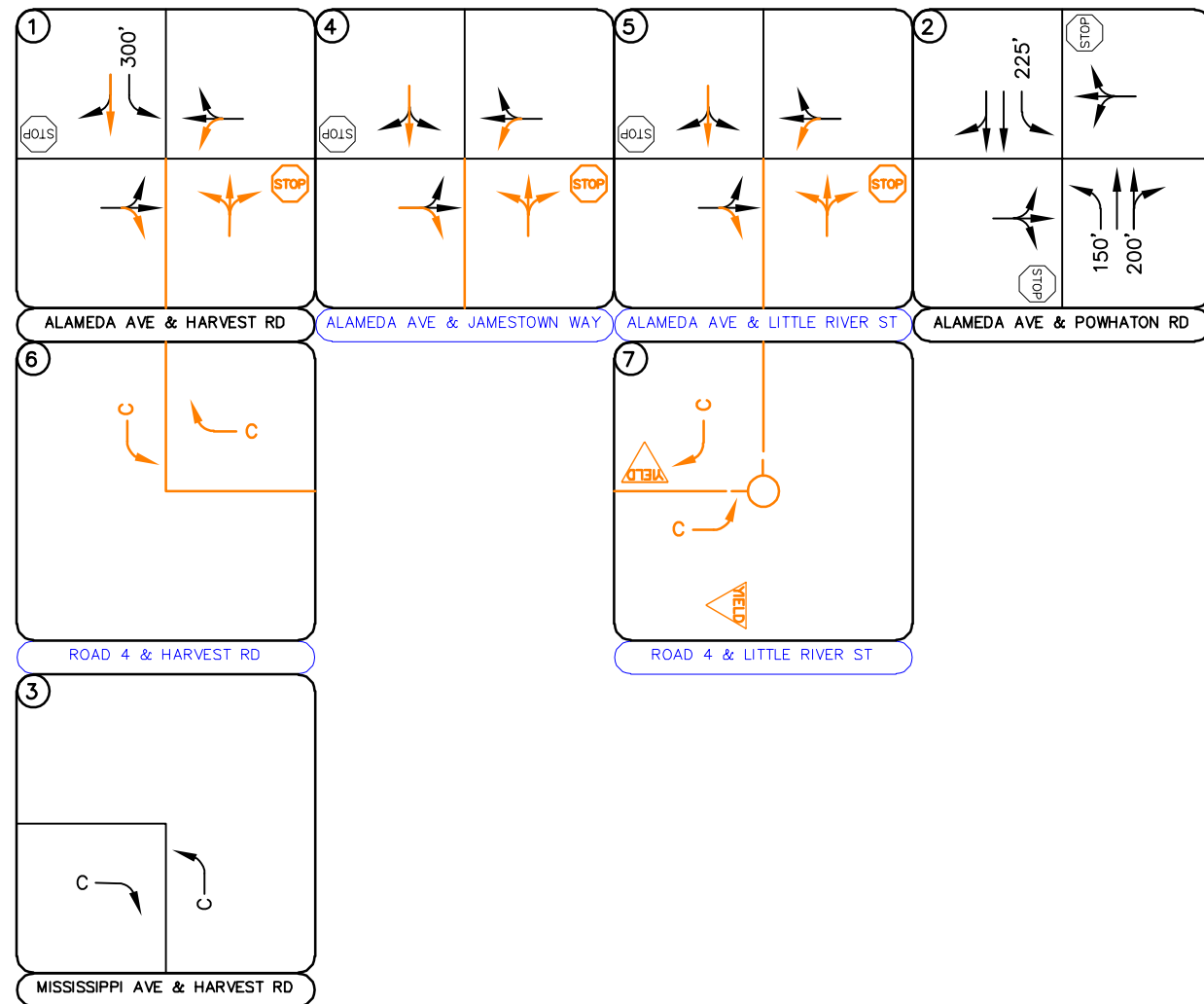


FIGURE 19
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2025 RECOMMENDED GEOMETRY AND CONTROL

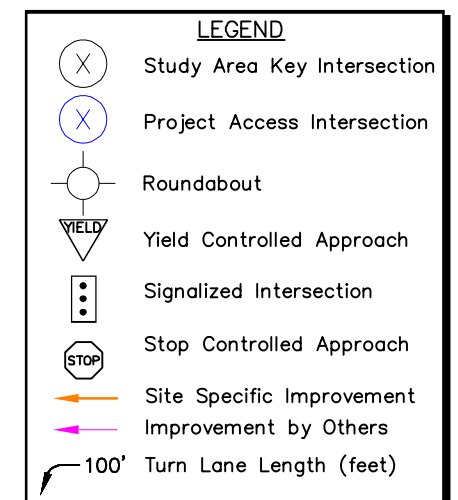
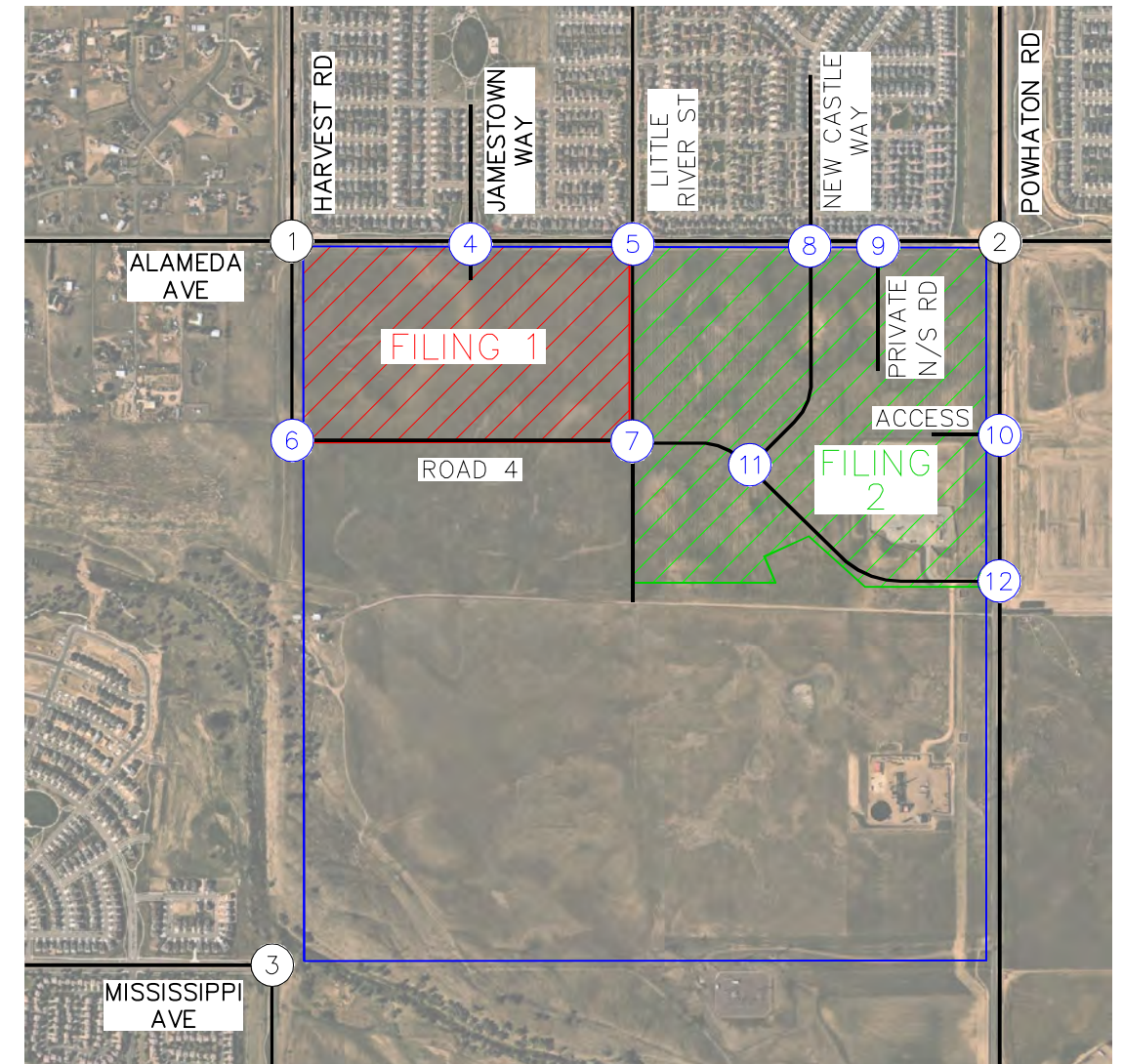
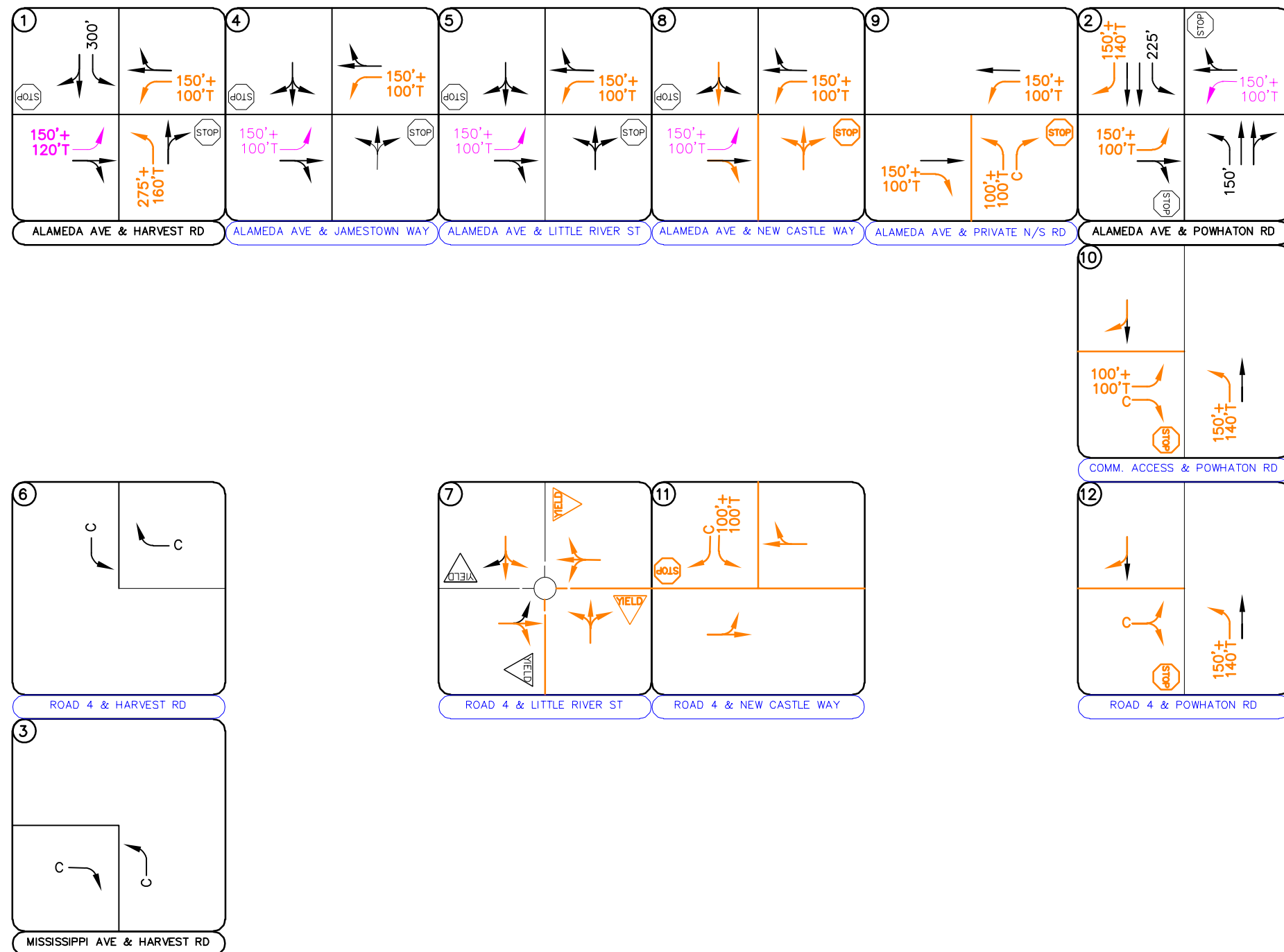


FIGURE 20
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2027 RECOMMENDED GEOMETRY AND CONTROL

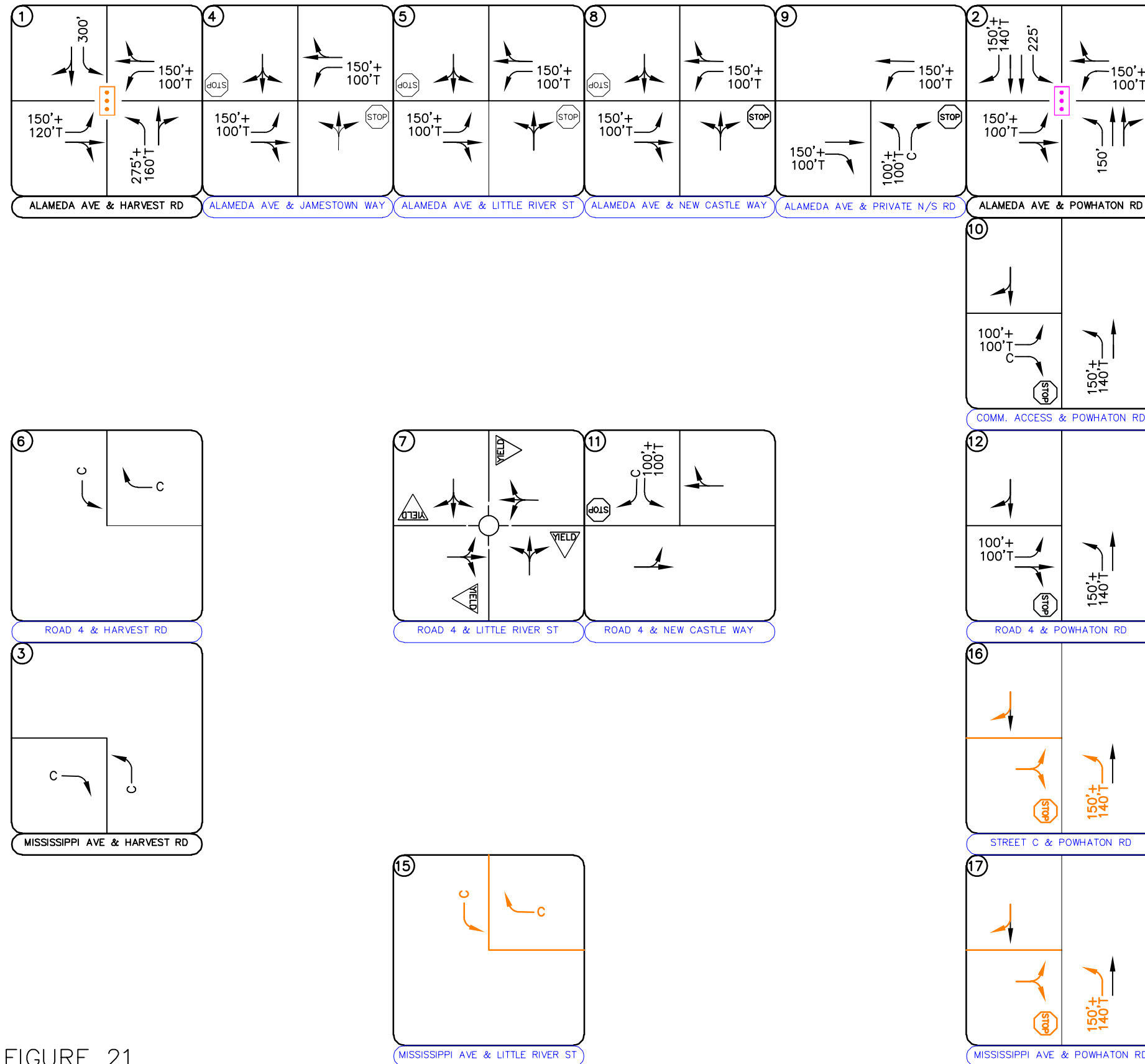
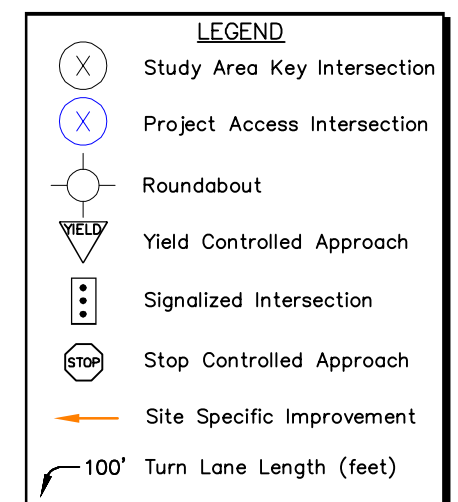
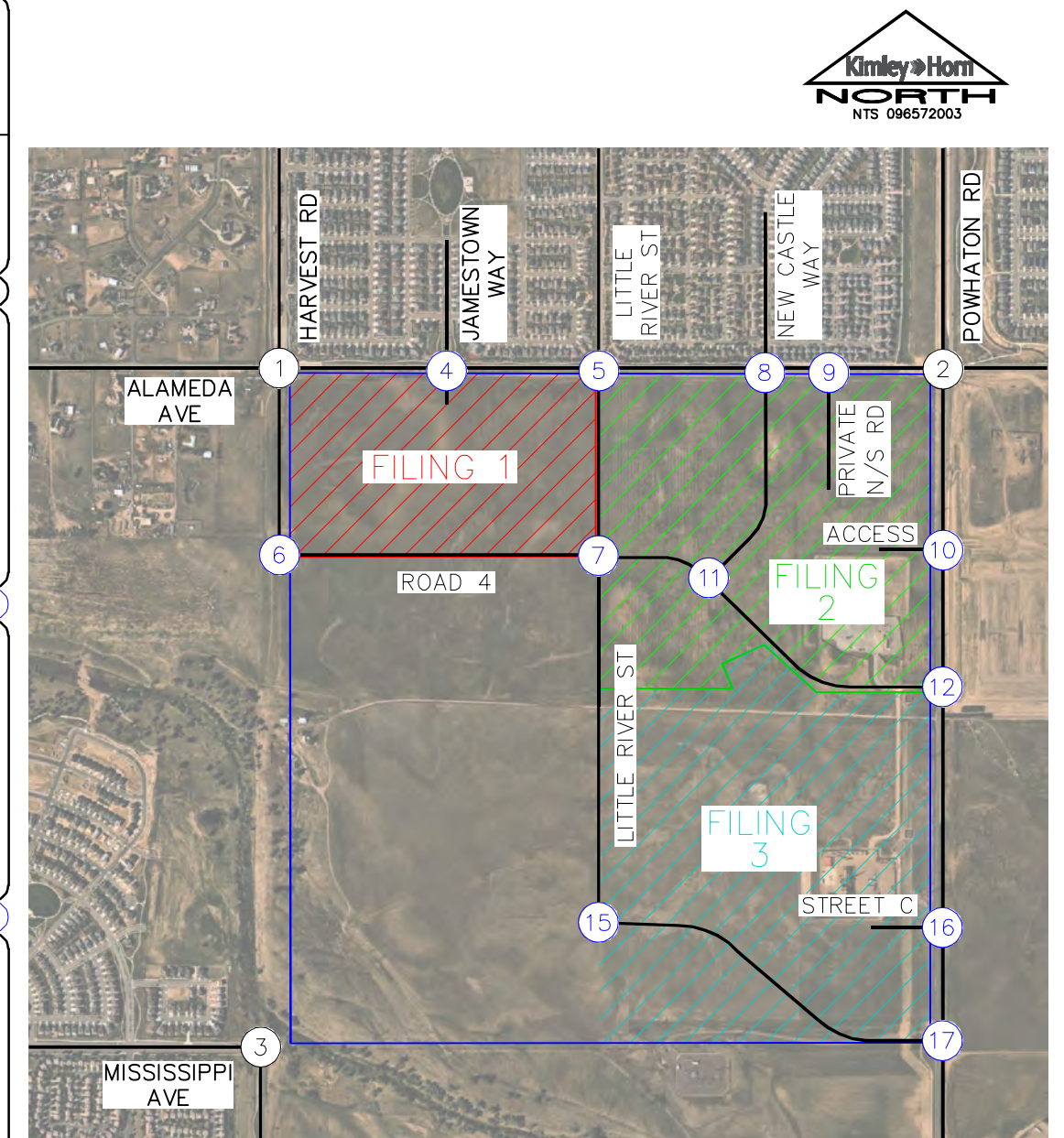


FIGURE 21
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 2029 RECOMMENDED GEOMETRY AND CONTROL



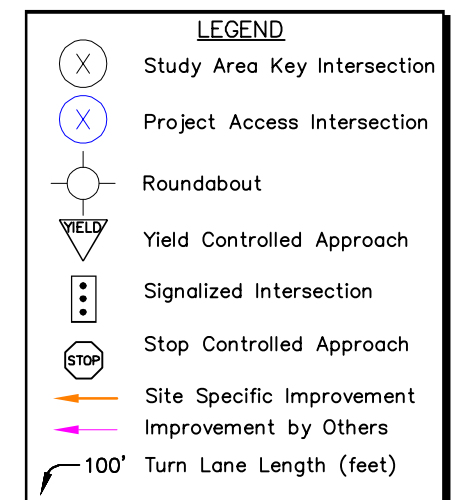
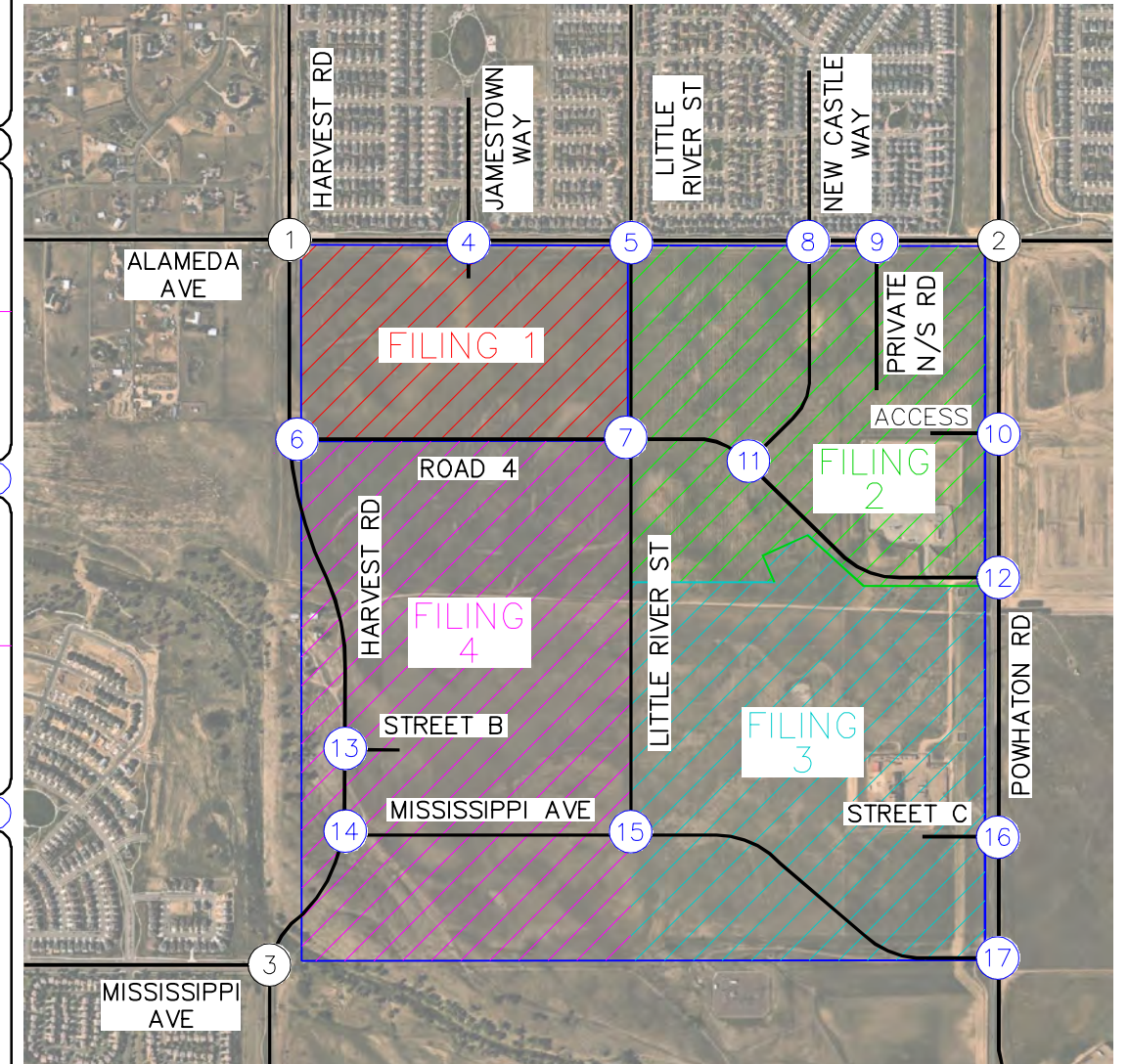
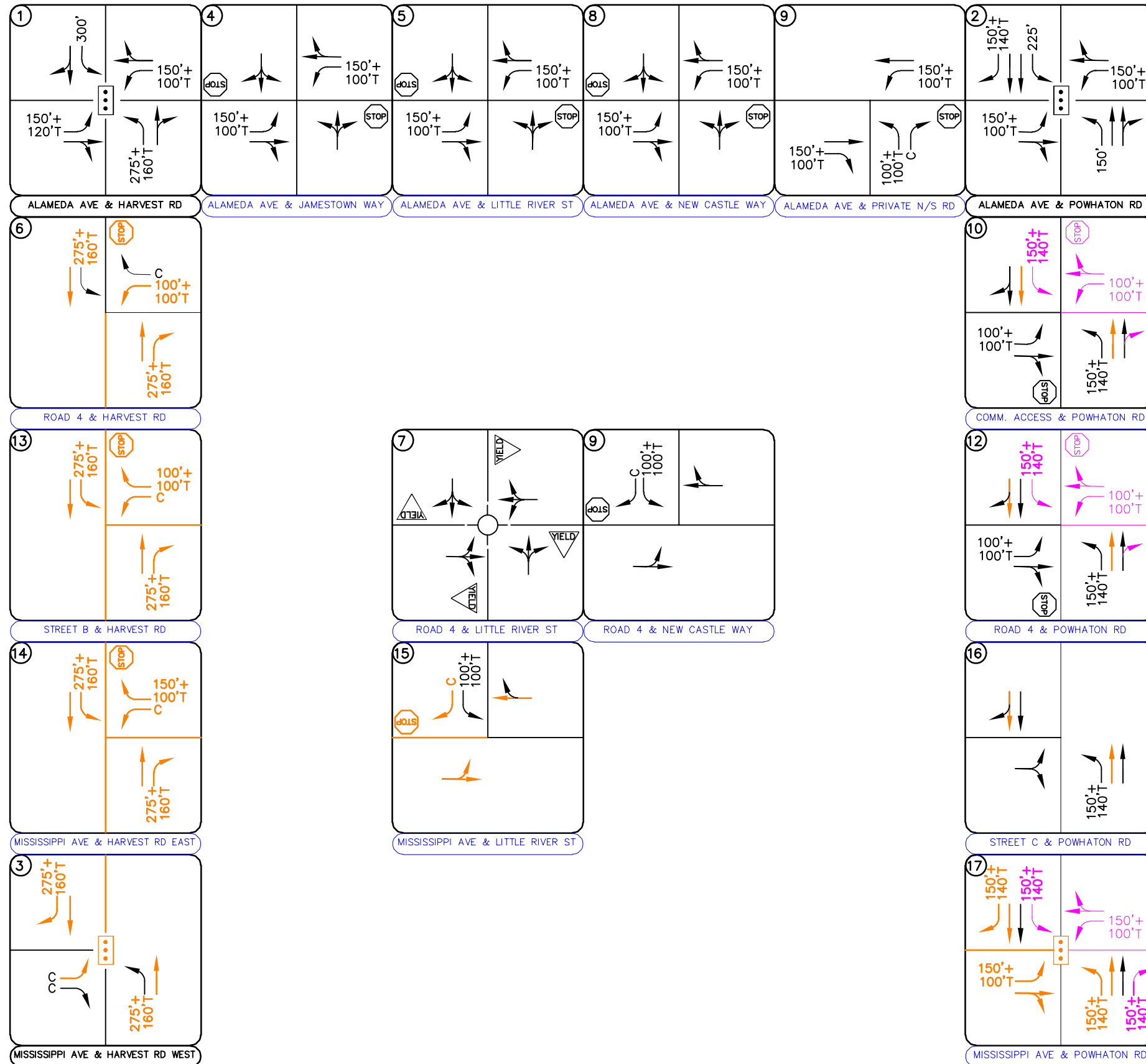


FIGURE 22
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
2031 RECOMMENDED GEOMETRY AND CONTROL

6.0 2040 SUPPLEMENTAL ANALYSIS

Per discussion with City of Aurora staff, 2040 twenty-year planning horizon analysis would be required for any external intersections that were not originally included in the Parklands Master Traffic Study completed in March 2022. There are four intersections that were not assessed in the master study, which include the Alameda Avenue & Private North/South Road (#9) intersection just to the east of Alameda Avenue & New Castle Way (#8), the Commercial Access & Powhaton Road (#10) intersection just to the south of Alameda Avenue & Powhaton Road (#2), the Street B & Harvest Road (#13) intersection just to the north of Mississippi Avenue & Harvest Road (#14), and the intersection of Street C & Powhaton Road (#16) just to the north of Mississippi Avenue & Powhaton Road (#17). As such, these intersections were analyzed for the 2040 long-term horizon.

Traffic volumes for these intersections were generated based on the anticipated 2040 background plus project traffic volumes shown in the Parklands Master Traffic Study at the adjacent intersections of Alameda Avenue & Powhaton Road (#2) for both the Alameda Avenue & Private North/South Road (#9) and the Commercial Access & Powhaton Road (#10) intersections, while the traffic volumes at Mississippi Avenue & Harvest Road (#14) and Mississippi Avenue & Powhaton Road (#17) were used for the Street B & Harvest Road (#13) and Street C & Powhaton Road (#16) intersections, respectively. Because there are no additional planned intersections along Alameda Avenue, Harvest Road, or Powhaton Road between these intersections, the eastbound and westbound through volumes on Alameda Avenue and the northbound and southbound through volumes on both Harvest Road and Powhaton Road would be consistent with the volumes seen to occur at these four study intersections. Additionally, the volume entering and exiting the Parklands Village 2 area is not anticipated to change significantly at these intersections by 2040 when compared to the 2031 volumes shown in this study, as these accesses will be local roads with no major connections to other areas.

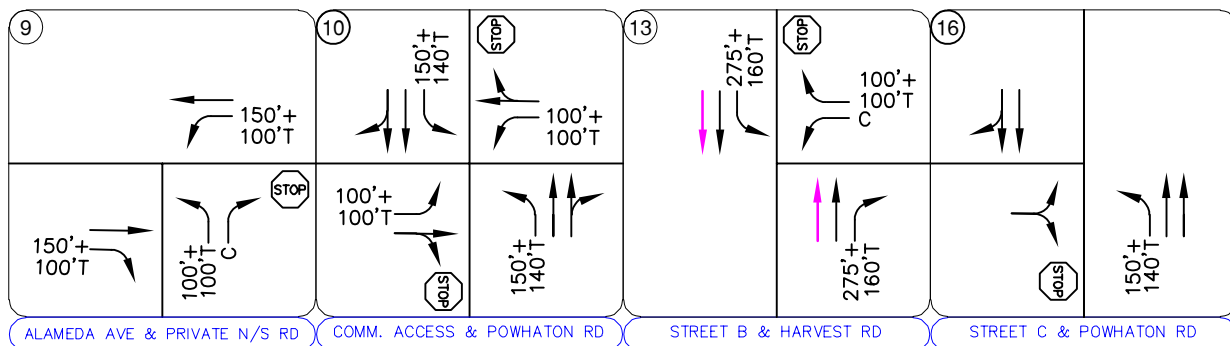
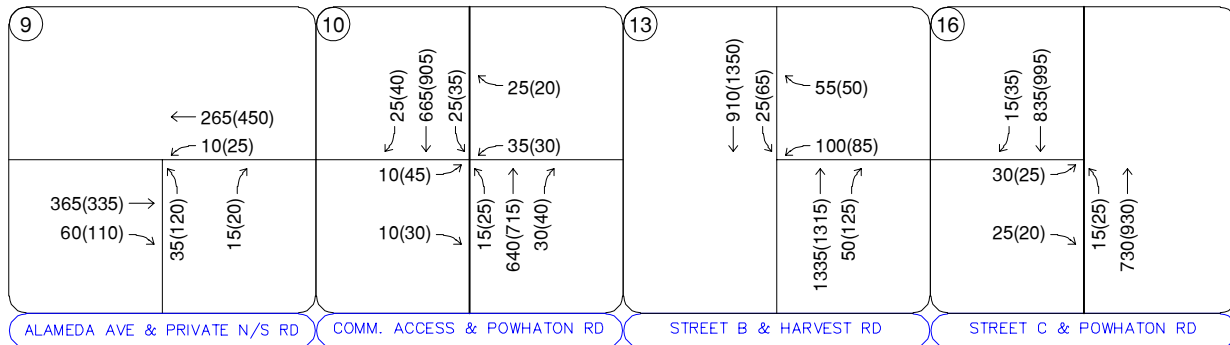
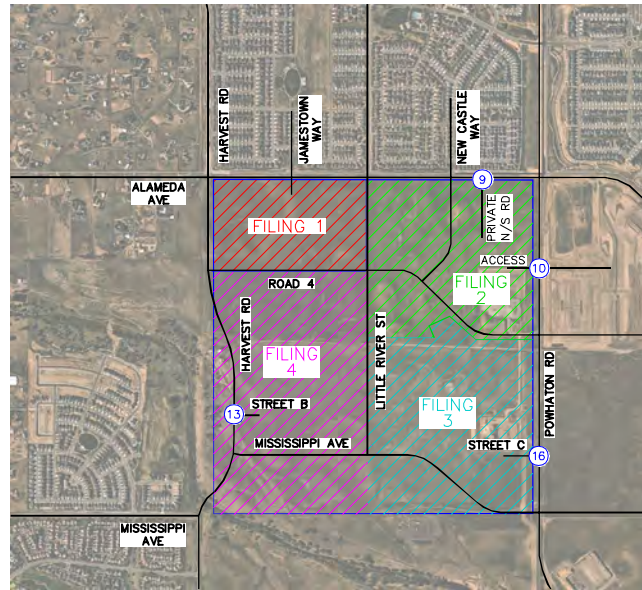
Because the main roadway network serving Parklands Village 2 will be in place by the 2031 horizon, no trip distribution changes were made for the 2040 horizon analysis. **Figure 23** displays the anticipated 2040 traffic volumes in addition to the 2040 recommended geometry and control for the Alameda Avenue & Private North/South Road (#9), Commercial Access & Powhaton Road (#10), Street B & Harvest Road (#13), and Street C & Powhaton Road (#16) intersections.

Calculations for the operational level of service at these intersections are provided in **Appendix E. Table 10** provides the results of the LOS analysis conducted at these intersections. Of note, by 2040 it is anticipated that Harvest Road will provide two through lanes in each direction whereas in the 2031 horizon only one through lane in each direction was provided, which is in alignment with the Parklands Master Traffic Study.

Table 10 – 2024 Level of Service Results

Intersection	Intersection Control	2040 Total			
		AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Alameda Ave & Private North/South Rd (#9)	TWSC				
Northbound Left		12.4	B	16.7	C
Northbound Right		10.7	B	10.5	B
Westbound Left		8.3	A	8.4	A
Commercial Access & Powhatan Rd (#10)	TWSC				
Northbound Left		8.1	A	8.6	A
Eastbound Left		13.0	B	13.6	B
Eastbound Through/Right		9.4	A	10.2	B
Westbound Left		13.1	B	13.1	B
Westbound Through/Right		9.4	A	9.7	A
Southbound Left		8.1	A	8.2	A
Street B & Harvest Rd (#13)	TWSC				
Westbound Left		29.4	D	36.7	E
Westbound Right		12.0	B	12.2	B
Southbound Left		10.1	B	10.7	B
Street C & Powhatan Rd (#16)	TWSC				
Northbound Left		8.4	A	8.7	A
Eastbound Approach		11.4	B	12.9	B

The turning movements at each of these intersections are expected to operate with LOS D or better through the 2040 horizon with the addition of project traffic with exception of the westbound left turn movement at Harvest Road and Street B (#13). Of note, based on this analysis it is possible the westbound left turning movement may become borderline LOS D/LOS E at the Street B & Harvest Road (#13) intersection, though if this were to occur and these drivers deemed this unacceptable it is believed they would simply reroute to the multiple other options to leave the development area during this busiest period of the day. The anticipated queues at these intersections are all expected to remain at 75 feet or less through the 2040 horizon. As such, the previously recommended turn lane lengths provided in the 2031 horizon will adequately accommodate expected queues through the 2040 horizon at these intersections with the addition of project traffic.



LEGEND

- (X) Project Access Intersection
- xxx(xxx) Weekday AM(PM)
Peak Hour Traffic Volumes
- STOP Stop Controlled Approach
- 100' Turn Lane Length (feet)

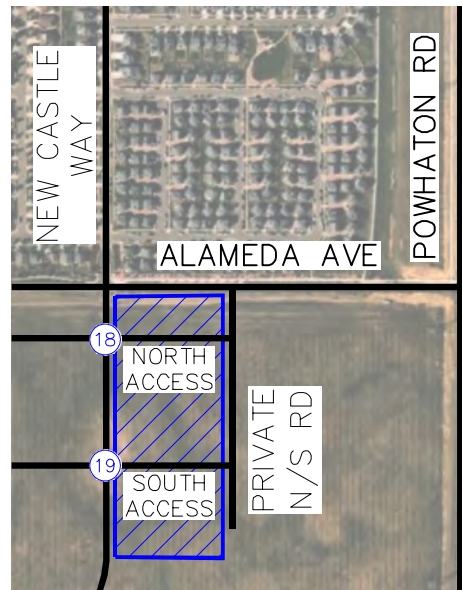
FIGURE 23
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 2040 TOTAL TRAFFIC VOLUMES
 AND GEOMETRY AND CONTROL

7.0 DOMINIUM SUPPLEMENTAL ANALYSIS

The Dominion multifamily development is proposed to include 273 multifamily dwelling units to be constructed near the southwest corner of the Alameda Avenue & Powhatan Road (#2) intersection within Filing 2 of Parklands Village 2. This development will be served by two public street accesses along the east side of the future extension of New Castle Way to the south of Alameda Avenue, with these accesses proposed to align to two public streets to the west of New Castle Way, with the northern east/west roadway expected to be named Nevada Avenue and the southern east/west roadway named Alaska Drive. For purposes of this study, these two intersections will be referred to as North Access & New Castle Way (#18) and South Access & New Castle Way (#19). The site plan for this development area is included in **Appendix H**.

It is also proposed there be two additional accesses on the east side of the development to be gained from the proposed Private North/South Road, with these accesses just to the south of the proposed full movement access at Alameda Avenue & Private North/South Road (#9) evaluated previously. Of note, because the two proposed accesses along the east side of the Dominion development will be gained via a private roadway, these two eastern accesses were not evaluated for operational level of service or vehicle queue conditions. It would be recommended these two private street accesses operate as stop-controlled 'T'-intersections with R1-1 "STOP" signs posted on the eastbound approach to the private street for vehicles exiting the development, while the Private North/South Road would operate with free movement.

The 2040 traffic volumes at these intersections were developed based on the volumes entering New Castle Way from Alameda Avenue, as no other intersections are anticipated to be located between the Alameda Avenue & New Castle Way (#8) intersection and the North Access & New Castle Way (#18) intersection. **Figure 24** illustrates the site trip distribution for the Dominion site, the project traffic assignment, the estimated 2040 total traffic volumes, and the recommended geometry and control for the North Access (#18) and South Access (#19) intersections along New Castle Way. The intersection level of service results are provided in **Table 11**. The level of service operational results are included in **Appendix E**.

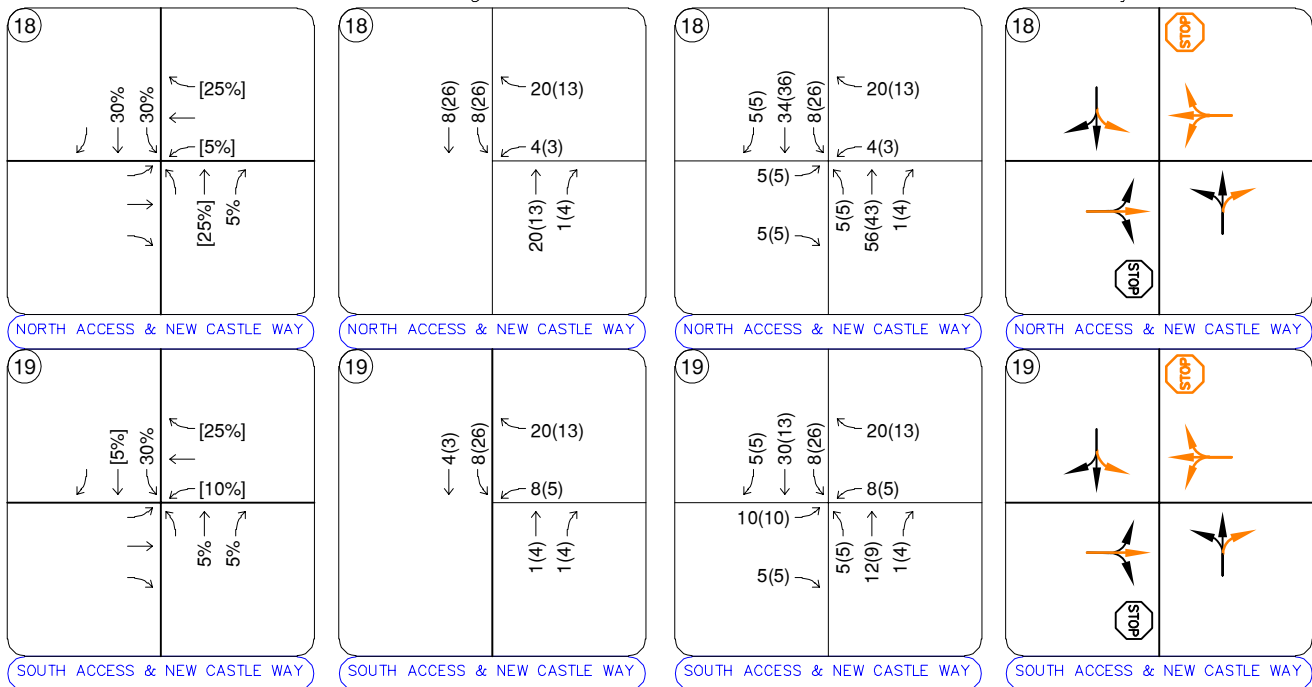


Project Trip Distribution

Project Traffic Assignment

2040 Total Traffic Volumes

Recommended Geometry and Control



Note:

Some vehicles will use the accesses on the proposed private north/south road.

FIGURE 24
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 DOMINIUM PROJECT TRIP DISTRIBUTION,
 TRAFFIC ASSIGNMENT,
 2040 TOTAL TRAFFIC VOLUMES, AND
 RECOMMENDED GEOMETRY AND CONTROL

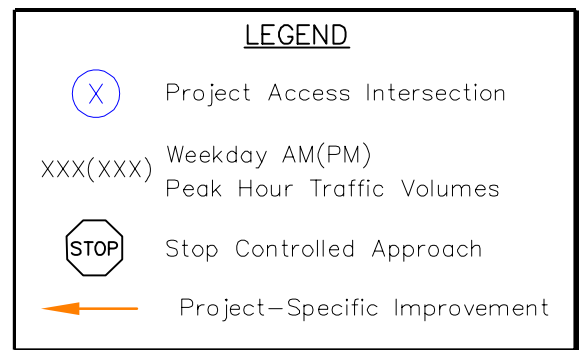


Table 11 – Dominion Access Level of Service Results

Intersection	Intersection Control	2040 Total			
		AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
North Access & New Castle Way (#18)	TWSC				
Northbound Left		7.3	A	7.3	A
Eastbound Approach		9.0	A	9.1	A
Westbound Approach		8.8	A	8.8	A
Southbound Left		7.3	A	7.4	A
South Access & New Castle Way (#19)	TWSC				
Northbound Left		7.3	A	7.3	A
Eastbound Approach		9.0	A	9.0	A
Westbound Approach		8.7	A	8.7	A
Southbound Left		7.3	A	7.3	A

8.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes Parklands Village 2 will be successfully incorporated into the existing and future roadway network. Analysis of the existing street network, the proposed project development, and expected traffic volumes resulted in the following recommendations:

2025 Recommendations

- With Filing 1 of construction of this development, a south leg at the Alameda Avenue & Harvest Road (#1) intersection is proposed to be constructed. Additionally, two full movement accesses are proposed along Alameda Avenue, with the first access as the south leg of the Alameda Avenue & Jamestown Way (#4) intersection, and the second access to be constructed as the south leg of the Alameda Avenue & Little River Street (#5) intersection. With construction of the south leg of Harvest Road, an access is proposed to be located at the “Road 4” & Harvest Road (#6) intersection. Road 4 is anticipated to continue through Little River Street (#7) with a single-lane roundabout proposed to be constructed at that intersection.
- The Alameda Avenue & Harvest Road (#1) intersection is proposed to operate with stop control on the north and south Harvest Road legs, requiring the addition of an R1-1 “STOP” sign on the to-be constructed northbound approach to the intersection. The eastbound and westbound Alameda Avenue approaches and the northbound Harvest Road approach should all operate well during this horizon with a shared lane for left/through/right turning movements in each direction. The southbound approach is recommended to continue to provide the existing left turn lane in addition to a shared through/right turn lane.
- The Alameda Avenue & Powhatan Road (#2) intersection should operate well during this horizon without any improvements required to the existing intersection configuration.
- The Mississippi Avenue & Harvest Road (#3) intersection should remain unaffected from Filing 1 project construction as the two areas will not be directly connected during this phase.
- The Alameda Avenue & Jamestown Way (#4) intersection should operate well with stop control on the newly constructed northbound and the existing southbound Jamestown Way approaches to the intersection with an R1-1 “STOP” sign placed in each direction. Each approach to the intersection should provide a shared lane for left/through/right turning movements in each direction.

- The Alameda Avenue & Little River Street (#5) is anticipated to operate well with stop control on the proposed-to-be-constructed south leg and the existing north leg of Little River Street with R1-1 “STOP” signs posted in each direction on this street. Each approach to the intersection should provide a shared lane for left/through/right turning movements in each direction.
- The Road 4 & Harvest Road (#6) intersection will have only two non-opposing legs to the intersection during this horizon, and as such it is anticipated to operate with free southbound left and westbound right turning movements, similar to how Mississippi Avenue & Harvest Road (#3) operates today.
- The Road 4 & Little River Street (#7) intersection is anticipated to be constructed in this phase as a single-lane roundabout although only eastbound left and southbound right turning movements are anticipated to occur during this horizon. The east and south legs to the intersection should be stubbed out for future construction that will be completed during Filing 1I as the rest of Parklands Village 2 is constructed. R1-2 “YIELD” signs should be placed on the eastbound and southbound approaches to the intersection.

2027 Recommendations

- The Alameda Avenue & Harvest Road (#1) intersection is recommended to provide left turn lanes in each direction at this horizon. The northbound left turn lane should provide 275 feet in length with a 160-foot taper, the eastbound left turn lane should be 150 feet in length with a 120-foot taper, while the westbound left turn lane should be 150 feet in length with a 100-foot taper.
- The Alameda Avenue & Powhatan Road (#2) intersection is recommended to provide a 150-foot eastbound left turn lane with 100-foot taper with the same in the westbound direction, as well as a 150-foot southbound right turn lane with a 140-foot taper.
- By the Filing 2 2027 horizon, the Jamestown Way (#4) and Little River Street (#5) intersections along Alameda Avenue are recommended to provide eastbound and westbound left turn lanes each with 150 feet in length and a 100-foot taper.
- The east and south legs of the roundabout at Road 4 & Little River Street (#7) are also anticipated to be constructed, which will operate well with one lane in each direction for shared turning movements and R1-2 “YIELD” signs posted on all four approaches to the roundabout.
- A new south leg at the existing Alameda Avenue & New Castle Way (#8) intersection is anticipated to be provided with Filing 2 construction. The eastbound and westbound

approaches are recommended to provide left turn lanes and a shared through/right turn lane along Alameda Avenue.

- Access to the proposed multifamily and commercial sites is proposed along Alameda Avenue approximately 500 feet to the east of New Castle Way via a Private North/South Road (Intersection #9). It is recommended that the northbound approach to this 'T'-intersection provide an R1-1 "STOP" sign and separate left and right turn lanes. The eastbound approach is recommended to provide one through lane and a separate right turn lane, while the westbound approach is recommended to provide a left turn lane and one through lane.
- Additional access to the commercial site is proposed along Powhatan Road (Intersection #10). During this horizon, it is recommended the eastbound approach provide separate left and right turn lanes with an R1-1 "STOP" sign posted. The northbound approach is recommended to provide a left turn lane and one through lane while the southbound approach is anticipated to operate well with a shared through/right turn lane.
- An additional internal access at Road 4 & New Castle Way (#11) is anticipated to be constructed with Filing 2 development as a stop-controlled 'T'-intersection with an R1-1 "STOP" sign posted on the southbound New Castle Way approach to the intersection. It is recommended that the southbound approach provide separate left and right turn lanes in this horizon.
- A new access along Powhatan Road at Road 4 (#12) is anticipated to be constructed with Filing 2 development. The northbound Powhatan Road approach should provide a left turn lane, while the southbound Powhatan Road should operate well with one lane for shared through/right turning movements. The eastbound Road 4 approach should operate well with a posted R1-1 "STOP" sign and one lane for shared left/right turning movements.

2029 Recommendations

- The Alameda Avenue & Harvest Road (#1) as well as the Alameda Avenue & Powhatan Road (#2) intersections are both anticipated to require signalization after Filing 3 construction.
- Filing 3 construction is anticipated to be completed by approximately 2029. With Filing 3 development, no changes to the 2027 improvements are anticipated to be required at the project access intersections.
- Mississippi Avenue from Little River Street to Powhatan Road is recommended to be constructed with Filing 3 development, which will exist as the southern border to Filing 3 development. The new Mississippi Avenue & Little River Street (#15) intersection will only

provide a southbound left turning movement and a westbound right turning movement during this horizon and as such, is not anticipated to experience measurable delay.

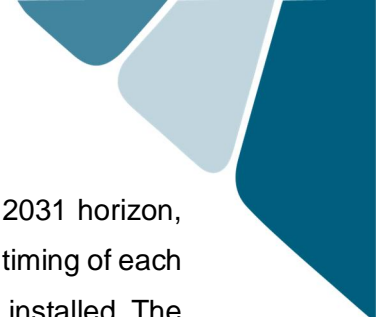
- A new intersection at “Street C” & Powhatan Road (#16) is also anticipated to be constructed during Filing 3. This intersection should provide a northbound left turn lane along Powhatan Road while the southbound approach should operate well with one lane for shared through/right turning movements. The eastbound Street C approach should operate well with a posted R1-1 “STOP” sign and one lane for shared left/right turning movements.
- The new Mississippi Avenue & Powhatan Road (#17) intersection is also anticipated to be constructed with Filing 3 development, and like the Street C intersection, should provide a northbound left turn lane on Powhatan Road, one lane for shared through/right turning movements in the southbound Powhatan Road approach, and one lane with a posted R1-1 “STOP” sign and one lane for shared eastbound left/right turning movements on Mississippi Avenue.

2031 Full Buildout Recommendations

- Full buildout of the Parklands Village 2 development is anticipated by approximately 2031. While it is not known at which point Harmony development to the east of Powhatan Road will construct additional accesses along Powhatan Road, it is known that access is proposed at the Commercial Access intersection (#10), the Road 4 intersection (#12) and at Mississippi Avenue (#17). It is assumed that the east legs of these intersections will be constructed by full buildout of Parklands Village 2 development to provide a comprehensive analysis of these intersections in conjunction with the access system proposed with Parklands development.
- Two through lanes in each direction are recommended to be provided along Powhatan Road adjacent to the project area with full buildout of Parklands Village 2.
- Although it is recognized that the full Harvest Road extension from Alameda Avenue to Mississippi Avenue is anticipated to be constructed by this project, this full connection with a bridge over Coal Creek is not anticipated to be needed until Filing 4 development of this project is constructed.
- The Road 4 & Harvest Road (#6) intersection is anticipated to add a new south leg to the intersection that did not exist with Filing 3 development. This intersection should provide separate northbound through and right turn lanes along as well as separate southbound left and through lanes along Harvest Road, while the westbound Road 4 approach should operate

with stop control and a posted R1-1 “STOP” sign with separate westbound left and right turn lanes.

- A new east leg is assumed to be constructed by this horizon at the Commercial Access & Powhatan Road (#10) intersection. The eastbound and westbound approaches at this intersection are anticipated to operate well with stop control and separate left turn lanes and shared through/right turn lanes in each direction. The northbound and southbound approaches on Powhatan Road are each anticipated to operate well with separate left turn lanes, one through lane, and one shared through/right turn lane in each direction.
- With a new east leg at Road 4 & Powhatan Road (#12) assumed to be completed by this 2031 horizon, this intersection is anticipated to continue operating well with stop control on the eastbound and westbound approaches to the intersection with R1-1 “STOP” signs posted on these approaches to Powhatan Road. The northbound and southbound Powhatan Road approaches to this intersection are each recommended to provide a left turn lane, one through lane, and one shared through/right turn lane. The eastbound and westbound Road 4 approaches should each provide a left turn lane and a shared through/right turn lane in each direction.
- A new stop-controlled ‘T’-intersection along the future Harvest Road extension at “Street B” (#13) to the north of Mississippi Avenue is anticipated to be constructed with Filing 4 development. This intersection should provide separate northbound through and right turn lanes as well as separate southbound left and through lanes along Harvest Road, while the westbound Street B approach should provide an R1-1 “STOP” sign and separate left and right turn lanes. The left and right turn lanes on Harvest Road should be 275 feet in length with a 160-foot taper, while the westbound approach should be a continuous left turn lane and a right turn lane with 100 feet in length and a 100-foot taper.
- The extension of Mississippi Avenue from the Harvest Road extension to Little River Street is anticipated to be constructed with Filing 4 development. This extension will create a new stop-controlled ‘T’-intersection at Mississippi Avenue & Harvest Road East (#14). This intersection should provide separate northbound through and right turn lanes and separate southbound left and through lanes along Harvest Road while westbound Mississippi Avenue should provide an R1-1 “STOP” sign with separate left and right turn lanes. It should be noted that while the intersection is anticipated to operate acceptably with this configuration and stop control by the 2031 horizon, it is possible this intersection will eventually require signalization, as the Parklands Master Traffic Study did identify by the 2040 horizon that this intersection



would require a signal. While this study does not recommend a signal by the 2031 horizon, depending on how developments in the area are ultimately constructed and the timing of each development, this intersection should be monitored for when a signal should be installed. The left and right turn lanes on Harvest Road should be 275 feet in length with a 160-foot taper, while the westbound approach should be a continuous left turn lane and a right turn lane with 150 feet in length and a 100-foot taper.

- Because of the Mississippi Avenue connection from Harvest Road to Powhatan Road with full buildout of Parklands Village 2, a new west leg at the Mississippi Avenue & Little River Street (#15) intersection is anticipated to be constructed with Filing 4 construction. As such, this stop-controlled 'T'-intersection should operate well with one through lane in each direction along Mississippi Avenue while southbound Little River Street should provide an R1-1 "STOP" sign and separate left and right turn lanes. The southbound left turn lane should provide 100 feet in length and a 100-foot taper while the right turn lane should be a continuous turn lane.
- The Mississippi Avenue & Powhatan Road (#17) intersection is anticipated to have a new east leg with Harmony development. With full buildout of Parklands Village 2 and this assumed new east leg by the 2031 horizon, a signal is anticipated to be required at this intersection. The northbound and southbound Powhatan Road approaches should each provide a left turn lane, two through lanes, and a right turn lane, while the eastbound and westbound Mississippi Avenue approaches should each provide a left turn lane and a shared through/right turn lane to provide acceptable operations. The eastbound and westbound left turn lanes should be 150 feet in length with a 100-foot taper while the northbound and southbound left and right turn lanes should provide 150 feet in length with a 140-foot taper.
- It is recognized that additional improvements to the study area intersections by the 2040 horizon, however, per previous discussion with the City of Aurora staff, a 2040 long-term horizon is not included for intersections that were previously studied in the Parklands Master Traffic Study, as the Parklands Village 2 traffic generation in this study is lower than that studied in the master study.

2040 Recommendations at Alameda Avenue & Private North/South Road (#9), Commercial Access & Powhatan Road (#10), Street B & Harvest Road (#13) and Street C & Powhatan Road (#16)

- It is anticipated that by the 2040 horizon, two through lanes in each direction will be provided along Harvest Road.

- All other recommendations pertaining to the Alameda Avenue & Private North/South Road (#9), Commercial Access & Powhaton Road (#10), Street B & Harvest Road (#13), and the Street C & Powhaton Road (#16) intersections are accomplished in the 2031 horizon.
- For the 2040 recommendations at other intersections within this study area, the Parklands Master Traffic Study can be referenced, which includes detailed analysis of each of the other intersections and the development of several other areas nearby the Parklands Village 2 project.

Dominium Site-Specific Recommendations

- Two public street accesses along the east side of New Castle Way are proposed in association with the Dominion multifamily site within the Filing 2 development. There are also two proposed private street accesses along the Private North/South Road to the south of Alameda Avenue.
- For purposes of this study, the two public street accesses along New Castle Way were analyzed for the assumed full buildout conditions and traffic volumes in the 2040 horizon. Both the public and private street accesses are recommended to operate with stop control with posted R1-1 “STOP” signs for vehicles exiting the development. The two public street accesses along New Castle Way are proposed to align to future public streets along the west side of New Castle Way. No turn lanes are anticipated to be needed on any approach at either the North Access & New Castle Way (#18) or South Access & New Castle Way (#19) intersections.

General Notes and Recommendations

- The roadway geometry and control recommendations provided in this study are evaluated based on the anticipated needs at the study area intersections during these horizons. As such, the recommended turn lanes provided in this study are based on the 2025, 2027, 2029, and 2031 needs rather than aligning with the roadway geometry provided in the Parklands Village Master Traffic Study, as this would result in overbuilding the roadway for the needs anticipated by 2031. It should be noted that additional roadway improvements and intersection control may be needed at the external intersections as development continues to occur in this area beyond the 2031 horizon—for which the Parklands Village Master Traffic Study can be referenced.

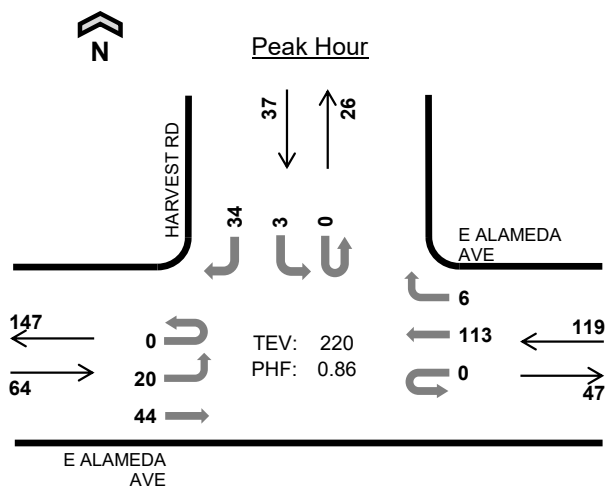
- The recommendations for the 2040 horizon, with the exception of the aforementioned Alameda Avenue & Private North/South Road (#9), Commercial Access & Powhaton Road (#10), Street B & Harvest Road (#13), and the Street C & Powhaton Road (#16) intersections, should be found in the Parklands Village Master Traffic Study. The recommendations found in that study should be appropriate for each of the intersections included in this study, as the Parklands Village 2 traffic generation in this study is less than the traffic generated by the Parklands Village 2 development area that was analyzed in the master study.
- It is understood that additional roadway improvements beyond those shown in this study may be constructed based on the City public improvement plans. If these additional improvements, such as additional turn lanes or through lanes are constructed, it would be understood that this would only serve to improve the level of service of the study intersections when compared to the results shown in this study and as such the results of this study represent a conservative analysis of projected future traffic conditions.
- Any onsite or offsite improvements should be incorporated into the Civil Drawings and conform to standards of the City of Aurora and the Manual on Uniform Traffic Control Devices (MUTCD) – 2023 Edition.

APPENDICES

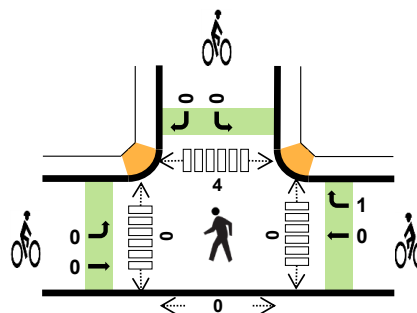
APPENDIX A

Intersection Count Sheets

HARVEST RD E ALAMEDA AVE



Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	7.8%	0.89
WB	6.7%	0.83
NB	-	-
SB	5.4%	0.84
TOTAL	6.8%	0.86

Two-Hour Count Summaries

Interval Start		E ALAMEDA AVE				E ALAMEDA AVE				0				HARVEST RD				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	3	8	0	0	0	22	0	0	0	0	0	0	0	0	7	40	0
7:15 AM		0	6	11	0	0	0	36	0	0	0	0	0	0	0	0	11	64	0
7:30 AM		0	6	12	0	0	0	25	0	0	0	0	0	0	0	0	10	53	0
7:45 AM		0	4	9	0	0	0	23	3	0	0	0	0	0	1	0	4	44	201
8:00 AM		0	4	12	0	0	0	29	3	0	0	0	0	0	2	0	9	59	220
8:15 AM		0	3	11	0	0	0	31	2	0	0	0	0	1	1	0	11	60	216
8:30 AM		0	4	9	0	0	0	22	0	0	0	0	0	0	2	0	14	51	214
8:45 AM		0	5	11	0	0	0	23	2	0	0	0	0	0	0	0	4	45	215
Count Total		0	35	83	0	0	0	211	10	0	0	0	0	1	6	0	70	416	0
Peak Hour	All	0	20	44	0	0	0	113	6	0	0	0	0	0	3	0	34	220	0
	HV	0	0	5	0	0	0	4	4	0	0	0	0	0	2	0	0	15	0
	HV%	-	0%	11%	-	-	-	4%	67%	-	-	-	-	-	67%	-	0%	7%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

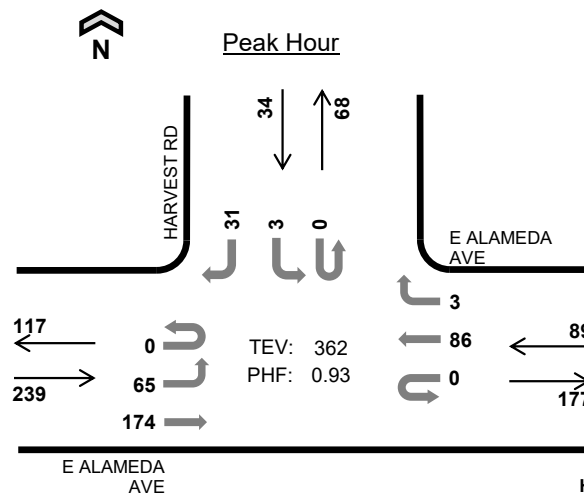
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
7:15 AM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
7:30 AM	2	1	0	0	3	0	0	0	0	0	0	0	2	0	2
7:45 AM	2	3	0	0	5	0	1	0	0	1	0	0	1	0	1
8:00 AM	0	2	0	2	4	0	0	0	0	0	0	0	1	0	1
8:15 AM	2	3	0	0	5	0	0	0	0	0	0	0	1	0	1
8:30 AM	0	1	0	2	3	0	0	0	0	0	0	0	0	0	0
8:45 AM	1	4	0	2	7	0	0	0	0	0	0	0	0	0	0
Count Total	9	17	0	6	32	0	1	0	0	1	0	0	5	0	5
Peak Hr	5	8	0	2	15	0	1	0	0	1	0	0	4	0	4

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E ALAMEDA AVE				E ALAMEDA AVE				0				HARVEST RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
7:15 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
7:30 AM	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
7:45 AM	0	0	2	0	0	0	0	3	0	0	0	0	0	0	0	0	5	13
8:00 AM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	2	0	4	15
8:15 AM	0	1	1	0	0	0	1	2	0	0	0	0	0	0	0	0	5	17
8:30 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0	3	17
8:45 AM	0	1	0	0	0	0	2	2	0	0	0	0	0	0	0	2	7	19
Count Total	0	2	7	0	0	0	9	8	0	0	0	0	0	4	0	2	32	0
Peak Hour	0	0	5	0	0	0	4	4	0	0	0	0	0	2	0	0	15	0

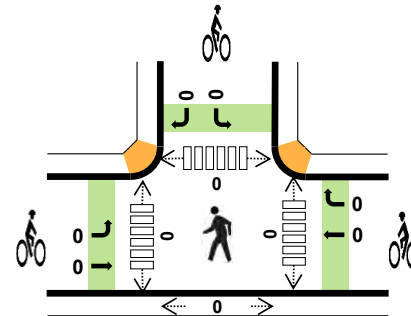
Two-Hour Count Summaries - Bikes																		
Interval Start	E ALAMEDA AVE			E ALAMEDA AVE			0			HARVEST RD			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	0	1	0	0	0	0	0	0	1	1	1			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1			
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0			
Peak Hour	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

HARVEST RD E ALAMEDA AVE



Date: Wed, Jun 23, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 5:00 PM to 6:00 PM



	HV %:	PHF
EB	0.8%	0.89
WB	1.1%	0.86
NB	-	-
SB	0.0%	0.85
TOTAL	0.8%	0.93

Two-Hour Count Summaries

Interval Start		E ALAMEDA AVE				E ALAMEDA AVE				0				HARVEST RD				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	14	27	0	0	0	25	3	0	0	0	0	0	0	0	8	77	0
4:15 PM		0	16	43	0	0	0	27	1	0	0	0	0	0	1	0	10	98	0
4:30 PM		0	16	27	0	0	0	19	0	0	0	0	0	0	0	0	9	71	0
4:45 PM		0	14	31	0	0	0	15	0	0	0	0	0	0	0	0	11	71	317
5:00 PM		0	17	37	0	0	0	20	0	0	0	0	0	0	0	0	5	79	319
5:15 PM		0	15	38	0	0	0	26	0	0	0	0	0	0	0	0	10	89	310
5:30 PM		0	15	52	0	0	0	20	1	0	0	0	0	0	1	0	8	97	336
5:45 PM		0	18	47	0	0	0	20	2	0	0	0	0	0	2	0	8	97	362
Count Total		0	125	302	0	0	0	172	7	0	0	0	0	0	4	0	69	679	0
Peak Hour	All	0	65	174	0	0	0	86	3	0	0	0	0	0	3	0	31	362	0
	HV	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0
	HV%	-	3%	0%	-	-	-	1%	0%	-	-	-	-	-	0%	-	0%	1%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0
4:15 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
4:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	6	4	0	0	10	0	0	0	0	0	0	0	0	0	0
Peak Hr	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	E ALAMEDA AVE				E ALAMEDA AVE				0				HARVEST RD				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0
4:15 PM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
4:30 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
5:00 PM	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	2	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	3	3	0	0	0	4	0	0	0	0	0	0	0	0	0	10	0
Peak Hour	0	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	3	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E ALAMEDA AVE			E ALAMEDA AVE			0			HARVEST RD						15-min Total	Rolling One Hour	
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

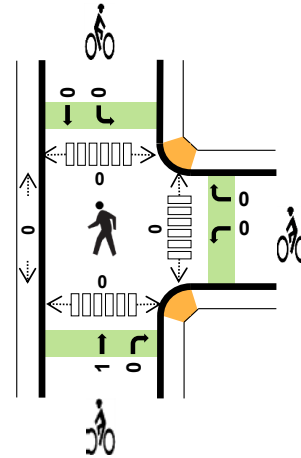
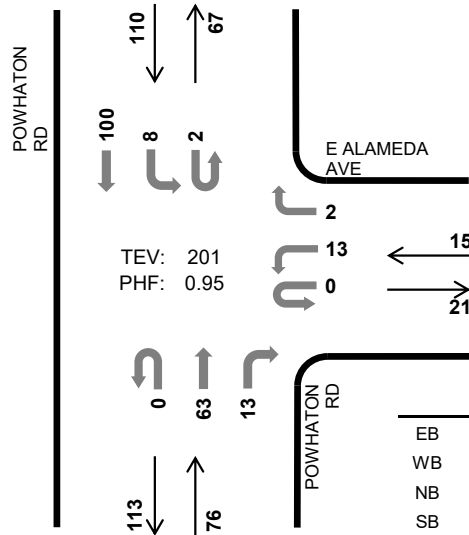
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

POWHATON RD E ALAMEDA AVE



Peak Hour

Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:15 AM to 8:15 AM



	HV %:	PHF
EB	-	-
WB	6.7%	0.75
NB	3.9%	0.86
SB	6.4%	0.89
TOTAL	5.5%	0.95

Two-Hour Count Summaries

Interval Start		0				E ALAMEDA AVE				POWHATON RD				POWHATON RD				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM		0	0	0	0	0	2	0	0	0	0	19	0	0	0	27	0	48	0
7:15 AM		0	0	0	0	0	2	0	0	0	0	11	3	1	1	29	0	47	0
7:30 AM		0	0	0	0	0	4	0	0	0	0	20	2	0	2	25	0	53	0
7:45 AM		0	0	0	0	0	3	0	1	0	0	19	3	0	1	22	0	49	197
8:00 AM		0	0	0	0	0	4	0	1	0	0	13	5	1	4	24	0	52	201
8:15 AM		0	0	0	0	0	1	0	1	0	0	14	3	0	0	25	0	44	198
8:30 AM		0	0	0	0	0	3	0	1	0	0	10	2	0	1	20	0	37	182
8:45 AM		0	0	0	0	0	2	0	0	0	0	13	3	0	0	24	0	42	175
Count Total		0	0	0	0	0	21	0	4	0	0	119	21	2	9	196	0	372	0
Peak Hour	All	0	0	0	0	0	13	0	2	0	0	63	13	2	8	100	0	201	0
	HV	0	0	0	0	0	1	0	0	0	0	2	1	1	2	4	0	11	0
	HV%	-	-	-	-	-	8%	-	0%	-	-	3%	8%	50%	25%	4%	-	5%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	0	1	0	1	2	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	3	4	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	1	4	5	0	0	1	0	1	0	0	0	0	0
8:15 AM	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	1	5	6	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	6	21	29	0	0	1	0	1	0	0	0	0	0
Peak Hr	0	1	3	7	11	0	0	1	0	1	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																				
Interval Start	0				E ALAMEDA AVE				POWHATON RD				POWHATON RD				15-min Total	Rolling One Hour		
	Eastbound				Westbound				Northbound				Southbound							
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT				
7:00 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0	2	0	
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	2	0	4	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	8
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	2	0	5	11	
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	4	0	5	12	
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	3	0	5	16	
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	5	0	6	21	
Count Total	0	0	0	0	0	2	0	0	0	0	0	5	1	1	3	17	0	29	0	
Peak Hour	0	0	0	0	0	1	0	0	0	0	0	2	1	1	2	4	0	11	0	

Two-Hour Count Summaries - Bikes																			
Interval Start	0			E ALAMEDA AVE			POWHATON RD			POWHATON RD			15-min Total	Rolling One Hour					
	Eastbound			Westbound			Northbound			Southbound									
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT							
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0

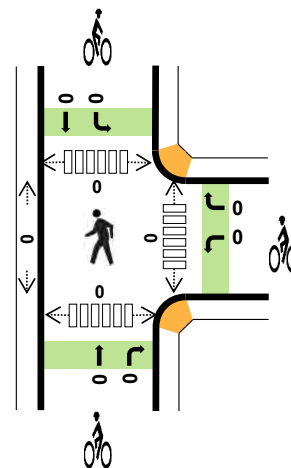
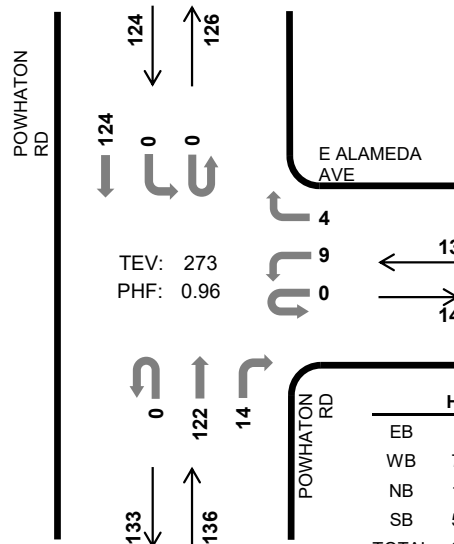
Note: U-Turn volumes for bikes are included in Left-Turn, if any.

POWHATON RD E ALAMEDA AVE



Peak Hour

Date: Wed, Jun 23, 2021
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM



	HV %:	PHF
EB	-	-
WB	7.7%	0.54
NB	1.5%	0.92
SB	5.6%	0.94
TOTAL	3.7%	0.96

Two-Hour Count Summaries

Interval Start		0				E ALAMEDA AVE				POWHATON RD				POWHATON RD				15-min Total	Rolling One Hour
		Eastbound				Westbound				Northbound				Southbound					
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	0	0	0	4	0	2	0	0	24	7	0	0	25	0	62	0
4:15 PM		0	0	0	0	0	3	0	3	0	0	30	4	0	0	31	0	71	0
4:30 PM		0	0	0	0	0	2	0	1	0	0	32	4	0	0	30	0	69	0
4:45 PM		0	0	0	0	0	3	0	0	0	0	23	6	0	0	33	0	65	267
5:00 PM		0	0	0	0	0	1	0	0	0	0	37	0	0	0	30	0	68	273
5:15 PM		0	0	0	0	0	7	0	3	0	0	30	4	0	0	20	0	64	266
5:30 PM		0	0	0	0	0	7	0	4	0	0	30	2	0	1	30	0	74	271
5:45 PM		0	0	0	0	0	3	0	3	0	0	44	2	0	1	10	0	63	269
Count Total		0	0	0	0	0	30	0	16	0	0	250	29	0	2	209	0	536	0
Peak Hour	All	0	0	0	0	0	9	0	4	0	0	122	14	0	0	124	0	273	0
	HV	0	0	0	0	0	1	0	0	0	0	1	1	0	0	7	0	10	0
	HV%	-	-	-	-	-	11%	-	0%	-	-	1%	7%	-	-	6%	-	4%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

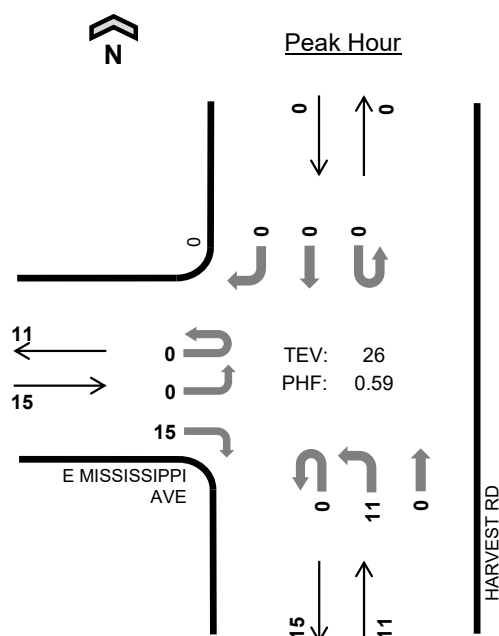
Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	4	5	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	1	1	1	3	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	2	1	0	3	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	3	0	1	4	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	8	3	8	19	0	0	0	0	0	0	0	0	0	0
Peak Hr	0	1	2	7	10	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	0				E ALAMEDA AVE				POWHATON RD				POWHATON RD				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	2	0	
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	4	0	5	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9
5:00 PM	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0	1	0	3	10
5:15 PM	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	0	3	8
5:30 PM	0	0	0	0	0	1	0	2	0	0	0	0	0	0	0	1	0	4	10
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
Count Total	0	0	0	0	0	5	0	3	0	0	2	1	0	0	0	8	0	19	0
Peak Hour	0	0	0	0	0	1	0	0	0	0	1	1	0	0	0	7	0	10	0

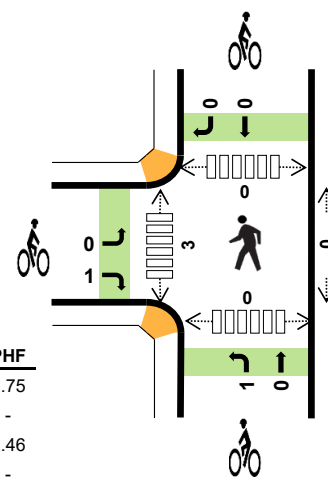
Two-Hour Count Summaries - Bikes																	
Interval Start	0			E ALAMEDA AVE			POWHATON RD			POWHATON RD			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

HARVEST RD E MISSISSIPPI AVE



Date: Wed, Jun 23, 2021
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM



	HV %:	PHF
EB	40.0%	0.75
WB	-	-
NB	45.5%	0.46
SB	-	-
TOTAL	42.3%	0.59

Two-Hour Count Summaries

Interval Start		E MISSISSIPPI AVE				0				HARVEST RD				0				15-min Total	Rolling One Hour	
		Eastbound				Westbound				Northbound				Southbound						
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM		0	0	0	4	0	0	0	0	0	4	0	0	0	0	0	0	0	8	0
7:15 AM		0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:30 AM		0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
7:45 AM		0	0	0	5	0	0	0	0	0	6	0	0	0	0	0	0	0	11	24
8:00 AM		0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	4	20
8:15 AM		0	0	0	5	0	0	0	0	0	2	0	0	0	0	0	0	0	7	24
8:30 AM		0	0	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	4	26
8:45 AM		0	0	0	3	0	0	0	0	0	2	0	0	0	0	0	0	0	5	20
Count Total		0	0	0	26	0	0	0	0	0	18	0	0	0	0	0	0	0	44	0
Peak Hour	All	0	0	0	15	0	0	0	0	0	11	0	0	0	0	0	0	0	26	0
	HV	0	0	0	6	0	0	0	0	0	5	0	0	0	0	0	0	0	11	0
	HV%	-	-	-	40%	-	-	-	-	-	45%	-	-	-	-	-	-	-	42%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	1	0	1	0	2	0	0	0	0	0	0	1	0	0	1
7:15 AM	1	0	0	0	1	0	0	0	0	0	0	0	0	1	1
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	2	0	3	0	5	0	0	1	0	1	0	1	0	0	1
8:00 AM	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0
8:15 AM	2	0	2	0	4	0	0	0	0	0	0	1	0	0	1
8:30 AM	1	0	0	0	1	0	0	0	0	0	0	1	0	0	1
8:45 AM	2	0	1	0	3	0	0	0	0	0	0	0	0	0	0
Count Total	10	0	7	0	17	1	0	1	0	2	0	4	0	1	5
Peak Hr	6	0	5	0	11	1	0	1	0	2	0	3	0	0	3

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E MISSISSIPPI AVE				0				HARVEST RD				0				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:00 AM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	0
7:15 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	2	0	0	0	0	0	0	3	0	0	0	0	0	0	5	8
8:00 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
8:15 AM	0	0	0	2	0	0	0	0	0	0	2	0	0	0	0	0	0	4	10
8:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	11
8:45 AM	0	0	0	2	0	0	0	0	0	0	1	0	0	0	0	0	0	3	9
Count Total	0	0	0	10	0	0	0	0	0	0	7	0	0	0	0	0	0	17	0
Peak Hour	0	0	0	6	0	0	0	0	0	0	5	0	0	0	0	0	0	11	0

Two-Hour Count Summaries - Bikes																			
Interval Start	E MISSISSIPPI AVE				0				HARVEST RD				0				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	LT	TH	RT		LT	TH	RT		LT	TH	RT		LT	TH	RT				
7:00 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0
7:15 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0
7:30 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	0	0
7:45 AM	0	0	0		0	0	0		1	0	0		0	0	0		1	1	1
8:00 AM	0	0	1		0	0	0		0	0	0		0	0	0		1	2	2
8:15 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	2	2
8:30 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	2	2
8:45 AM	0	0	0		0	0	0		0	0	0		0	0	0		0	1	1
Count Total	0	0	1		0	0	0		1	0	0		0	0	0		2	0	0
Peak Hour	0	0	1		0	0	0		1	0	0		0	0	0		2	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

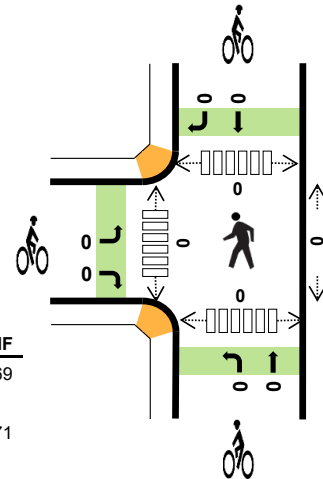
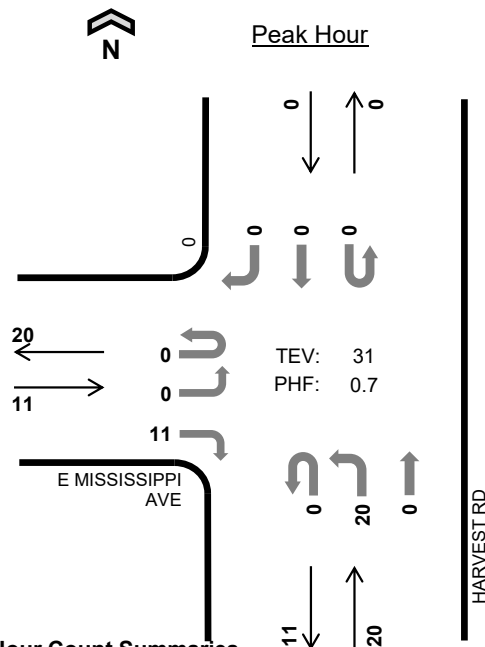
HARVEST RD E MISSISSIPPI AVE



Date: Wed, Jun 23, 2021

Count Period: 4:00 PM to 6:00 PM

Peak Hour: 4:45 PM to 5:45 PM



	HV %:	PHF
EB	27.3%	0.69
WB	-	-
NB	5.0%	0.71
SB	-	-
TOTAL	12.9%	0.70

Two-Hour Count Summaries

Interval Start		E MISSISSIPPI AVE				0				HARVEST RD				0				15-min Total	Rolling One Hour	
		Eastbound				Westbound				Northbound				Southbound						
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM		0	0	0	4	0	0	0	0	0	3	0	0	0	0	0	0	0	7	0
4:15 PM		0	0	0	3	0	0	0	0	0	4	0	0	0	0	0	0	0	7	0
4:30 PM		0	0	0	5	0	0	0	0	0	4	0	0	0	0	0	0	0	9	0
4:45 PM		0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0	6	29
5:00 PM		0	0	0	3	0	0	0	0	0	5	0	0	0	0	0	0	0	8	30
5:15 PM		0	0	0	2	0	0	0	0	0	4	0	0	0	0	0	0	0	6	29
5:30 PM		0	0	0	4	0	0	0	0	0	7	0	0	0	0	0	0	0	11	31
5:45 PM		0	0	0	1	0	0	0	0	0	3	0	0	0	0	0	0	0	4	29
Count Total		0	0	0	24	0	0	0	0	0	34	0	0	0	0	0	0	0	58	0
Peak Hour	All	0	0	0	11	0	0	0	0	0	20	0	0	0	0	0	0	0	31	0
	HV	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0
	HV%	-	-	-	27%	-	-	-	-	-	5%	-	-	-	-	-	-	-	13%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
4:00 PM	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	1	0	0	0	0	0	0	3	0	0	3
4:30 PM	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0
4:45 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:00 PM	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0
5:15 PM	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	5	0	3	0	8	0	0	0	0	0	0	3	0	0	3
Peak Hr	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																			
Interval Start	E MISSISSIPPI AVE				0				HARVEST RD				0				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0
4:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5
5:00 PM	0	0	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	2	6
5:15 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	6
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
Count Total	0	0	0	5	0	0	0	0	0	3	0	0	0	0	0	0	0	8	0
Peak Hour	0	0	0	3	0	0	0	0	0	1	0	0	0	0	0	0	0	4	0

Two-Hour Count Summaries - Bikes																		
Interval Start	E MISSISSIPPI AVE			0			HARVEST RD			0			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

Location: HARVEST RD N-O JEWELL AVE
 Date Range: 6/24/2021 - 6/30/2021
 Site Code: 01

Time	Thursday			Friday			Saturday			Sunday			Monday			Tuesday			Wednesday			Mid-Week Average		
	6/24/2021			6/25/2021			6/26/2021			6/27/2021			6/28/2021			6/29/2021			6/30/2021					
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
1:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
2:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
3:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	3	14	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	14	17
5:00 AM	4	12	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	12	16
6:00 AM	10	26	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	26	36
7:00 AM	18	33	51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	33	51
8:00 AM	19	21	40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	21	40
9:00 AM	13	19	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	19	32
10:00 AM	18	16	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	16	34
11:00 AM	26	17	43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	17	43
12:00 PM	21	25	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	25	46
1:00 PM	23	30	53	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	30	53
2:00 PM	46	21	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46	21	67
3:00 PM	29	30	59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	30	59
4:00 PM	37	29	66	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	29	66
5:00 PM	35	27	62	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	35	27	62
6:00 PM	50	26	76	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	50	26	76
7:00 PM	38	8	46	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38	8	46
8:00 PM	17	15	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	15	32
9:00 PM	15	8	23	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	8	23
10:00 PM	11	4	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	4	15
11:00 PM	5	1	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	1	6
Total	441	383	824	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	441	383	824
Percent	54%	46%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	54%	46%	-

1. Mid-week average includes data between Tuesday and Thursday.

Location: HARVEST RD S/O E MISSISSIPPI AVE
 Date Range: 6/23/2021 - 6/29/2021
 Site Code: 02

Time	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday			Mid-Week Average		
	6/23/2021			6/24/2021			6/25/2021			6/26/2021			6/27/2021			6/28/2021			6/29/2021					
	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total	NB	SB	Total
12:00 AM	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	3
1:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
2:00 AM	1	0	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0	1
3:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
4:00 AM	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0
5:00 AM	3	3	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	3	6
6:00 AM	9	7	16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	7	16
7:00 AM	12	13	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	13	25
8:00 AM	8	12	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	12	20
9:00 AM	14	19	33	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	19	33
10:00 AM	9	8	17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	8	17
11:00 AM	15	15	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	15	30
12:00 PM	23	13	36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23	13	36
1:00 PM	16	11	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	11	27
2:00 PM	19	8	27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	8	27
3:00 PM	9	16	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	16	25
4:00 PM	15	14	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15	14	29
5:00 PM	19	10	29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	10	29
6:00 PM	14	10	24	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	10	24
7:00 PM	10	12	22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	12	22
8:00 PM	10	2	12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	2	12
9:00 PM	7	4	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	4	11
10:00 PM	7	3	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	3	10
11:00 PM	1	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	3
Total	223	183	406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	223	183	406
Percent	55%	45%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55%	45%	-

1. Mid-week average includes data between Tuesday and Thursday.

Location: E JEWELL AVE E/O HARVEST RD
 Date Range: 6/23/2021 - 6/29/2021
 Site Code: 04

Time	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday			Mid-Week Average		
	6/23/2021			6/24/2021			6/25/2021			6/26/2021			6/27/2021			6/28/2021			6/29/2021					
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	8	10	18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	10	18
1:00 AM	5	2	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	2	7
2:00 AM	12	3	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	3	15
3:00 AM	5	6	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	6	11
4:00 AM	28	7	35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28	7	35
5:00 AM	64	53	117	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	64	53	117
6:00 AM	61	90	151	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	61	90	151
7:00 AM	81	127	208	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	127	208
8:00 AM	81	112	193	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	81	112	193
9:00 AM	79	90	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	90	169
10:00 AM	76	98	174	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76	98	174
11:00 AM	73	95	168	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	73	95	168
12:00 PM	126	98	224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	126	98	224
1:00 PM	116	97	213	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116	97	213
2:00 PM	117	127	244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	117	127	244
3:00 PM	144	147	291	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	144	147	291
4:00 PM	151	143	294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	151	143	294
5:00 PM	166	132	298	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	166	132	298
6:00 PM	130	91	221	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	91	221
7:00 PM	92	60	152	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	92	60	152
8:00 PM	79	63	142	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	79	63	142
9:00 PM	63	42	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	63	42	105
10:00 PM	29	35	64	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29	35	64
11:00 PM	17	22	39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	22	39
Total	1,803	1,750	3,553	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1,803	1,750	3,553
Percent	51%	49%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	51%	49%	-

1. Mid-week average includes data between Tuesday and Thursday.

Location: E ALAMEDA AVE W/O HARVEST RD
 Date Range: 6/23/2021 - 6/29/2021
 Site Code: 05

Time	Wednesday			Thursday			Friday			Saturday			Sunday			Monday			Tuesday			Mid-Week Average		
	6/23/2021			6/24/2021			6/25/2021			6/26/2021			6/27/2021			6/28/2021			6/29/2021					
	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total	EB	WB	Total
12:00 AM	27	5	32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27	5	32
1:00 AM	11	3	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	3	14
2:00 AM	3	6	9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	6	9
3:00 AM	2	13	15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	13	15
4:00 AM	4	34	38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	34	38
5:00 AM	12	91	103	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12	91	103
6:00 AM	33	120	153	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33	120	153
7:00 AM	59	138	197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	138	197
8:00 AM	58	143	201	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58	143	201
9:00 AM	60	109	169	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	60	109	169
10:00 AM	71	83	154	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	71	83	154
11:00 AM	101	118	219	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	101	118	219
12:00 PM	125	129	254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	129	254
1:00 PM	116	95	211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	116	95	211
2:00 PM	161	85	246	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161	85	246
3:00 PM	132	112	244	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	132	112	244
4:00 PM	188	126	314	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	188	126	314
5:00 PM	241	117	358	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	241	117	358
6:00 PM	195	120	315	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	195	120	315
7:00 PM	172	91	263	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	172	91	263
8:00 PM	137	70	207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	137	70	207
9:00 PM	96	47	143	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	96	47	143
10:00 PM	83	21	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83	21	104
11:00 PM	42	8	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	8	50
Total	2,129	1,884	4,013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,129	1,884	4,013
Percent	53%	47%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53%	47%	-

1. Mid-week average includes data between Tuesday and Thursday.



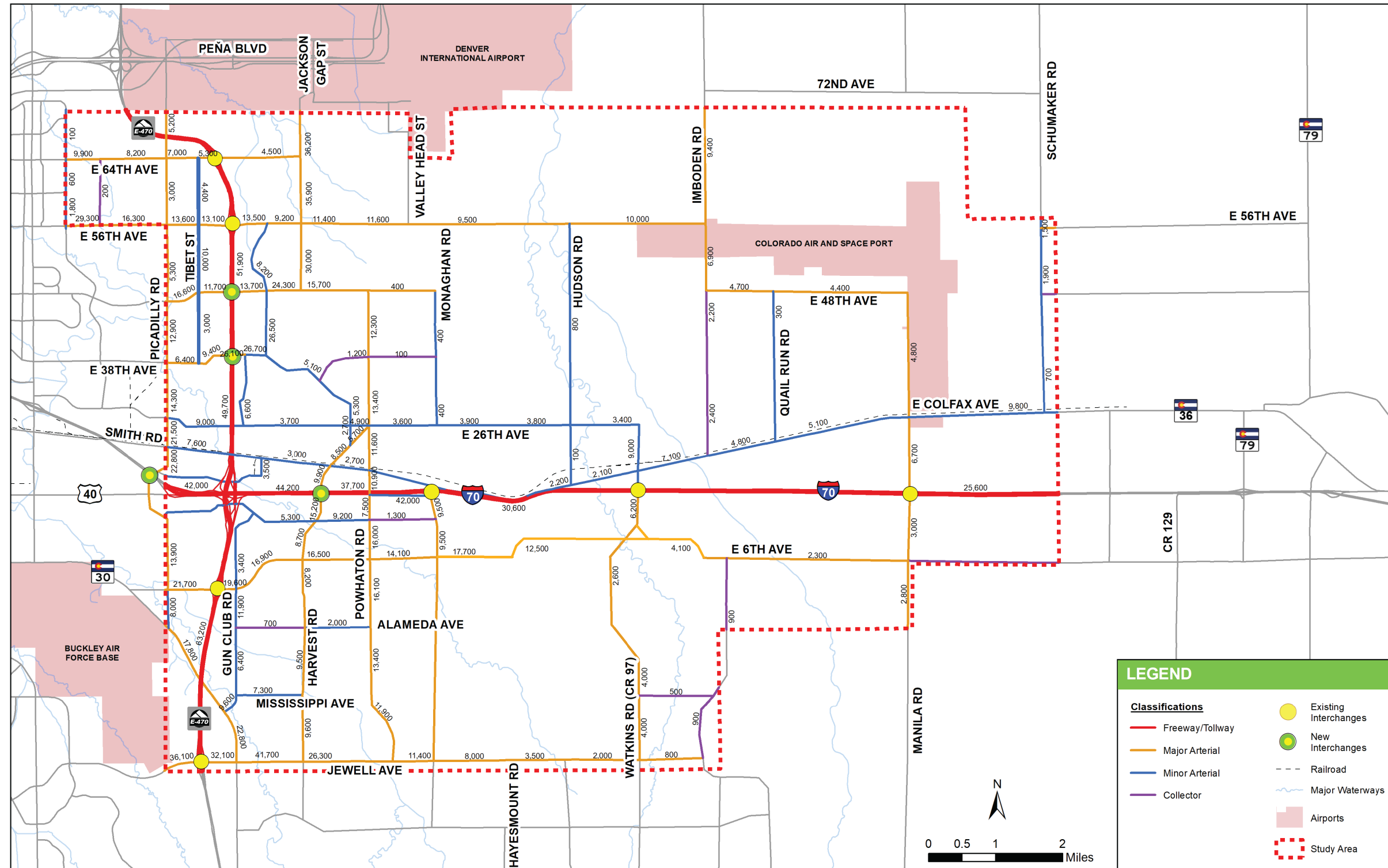
APPENDIX B

Future Traffic Projections,
NEATS Projections, and
Adjacent Traffic Studies

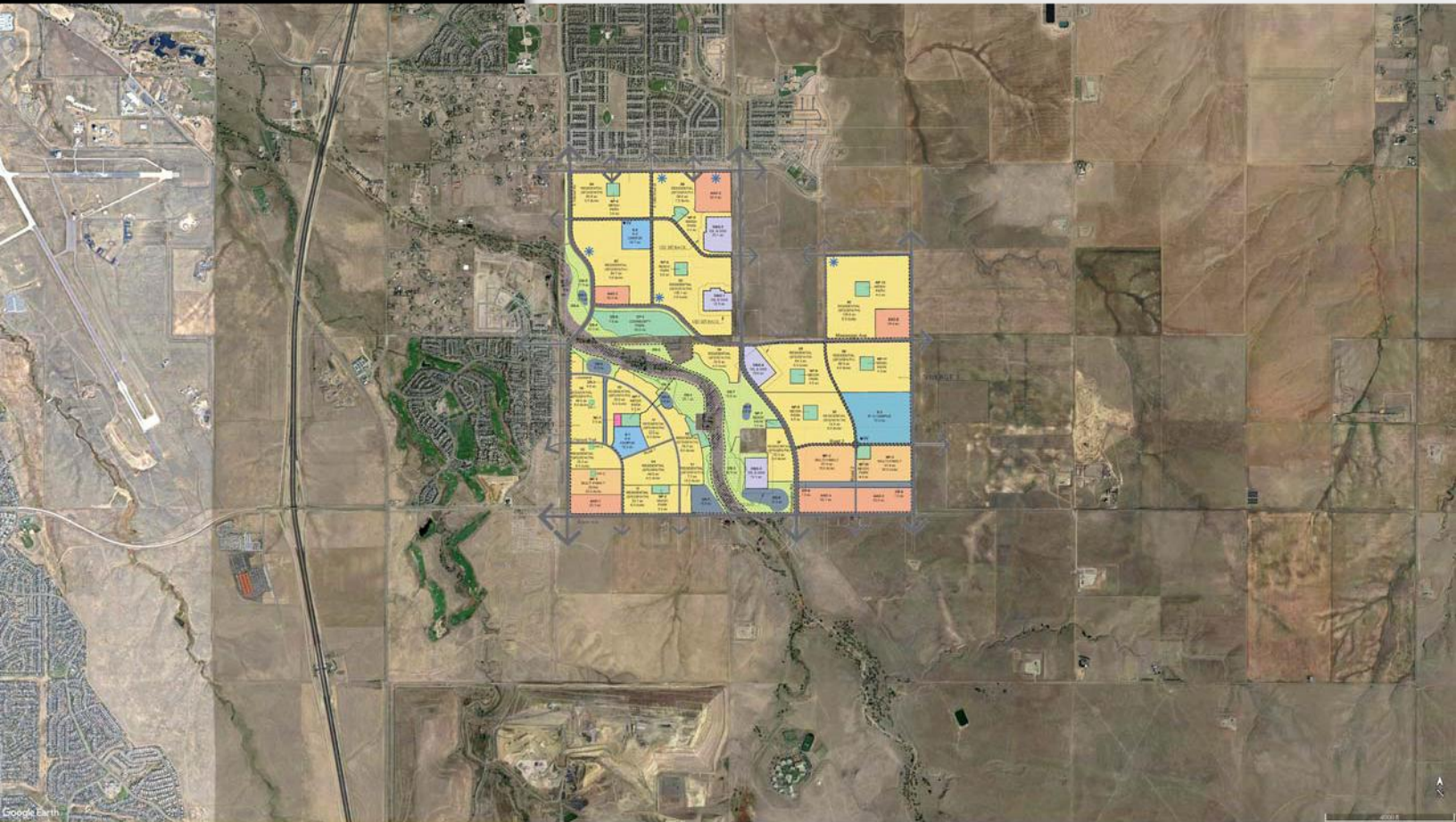
ROUTE	REFPT	ENDREFPT	AADT	AADTYR	OFFPKTRK	YR20FACTOR	GROWTHRATE	DHV	LOCATION
030A	12.585	15.036	9300	2021	6.4	1.42	1.80%	11.5	ON SH 30 6TH AVE W/O PICCADILLY RD AURORA
030A	15.036	19.293	19000	2021	4.9	1.53	2.10%	10.5	ON SH 30 S/O JEWELL AVE AURORA
Average						1.475	1.96%		



Figure 12.
2030 Daily Traffic Volumes



Parklands Development Master Traffic Study



Previous Submittal Dates: Oct. 1, 2021; Mar. 4 &
June 9 & July 22, 2022

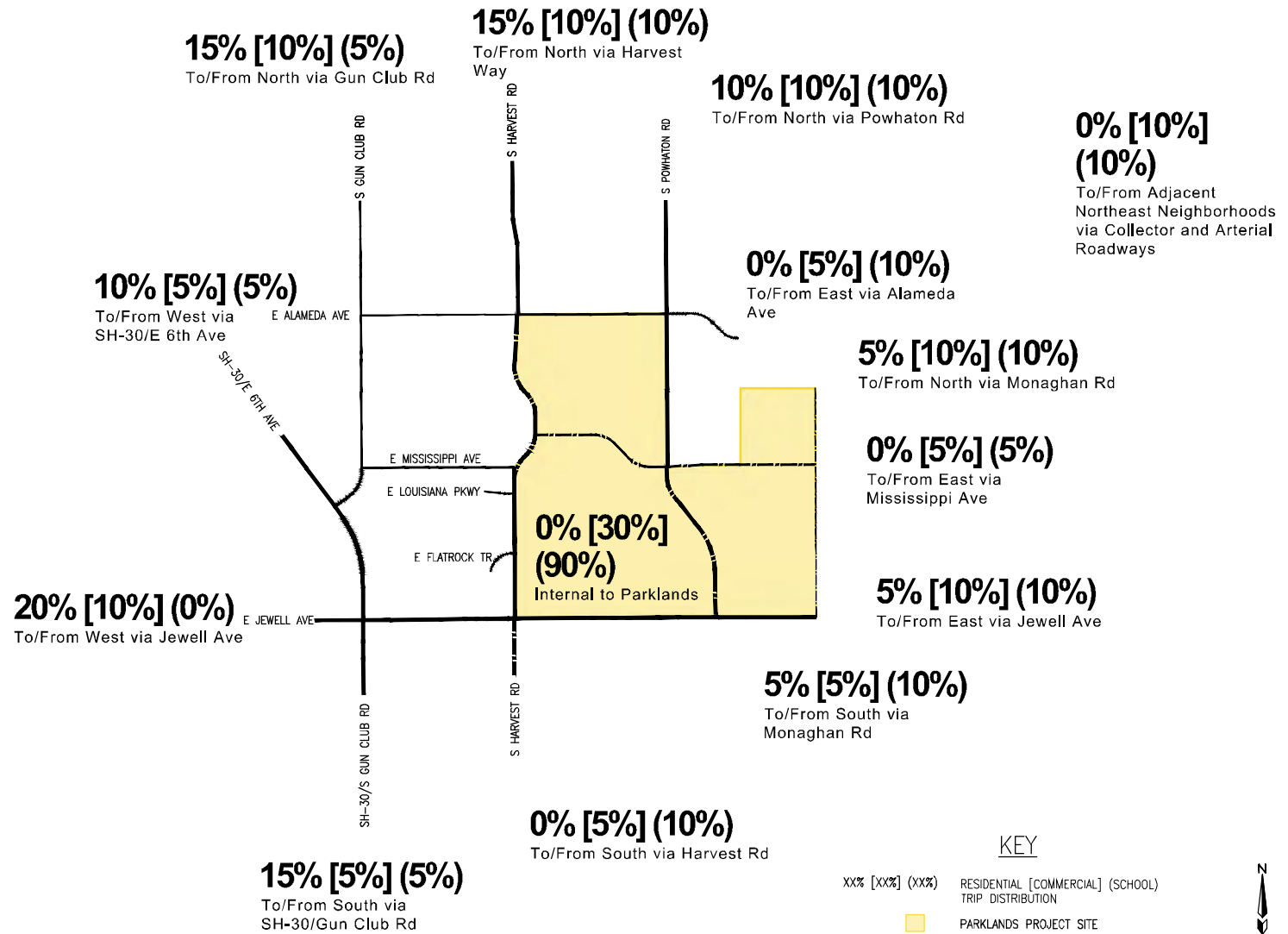
Updated: October 18, 2022



Submitted To:
Clayton Properties Group II
4908 Tower Rd
Denver, Colorado 80249

Submitted By:
Fox Tuttle Transportation Group, LLC
1624 Market Street, Suite 202
Denver, CO 80202

FOX TUTTLE

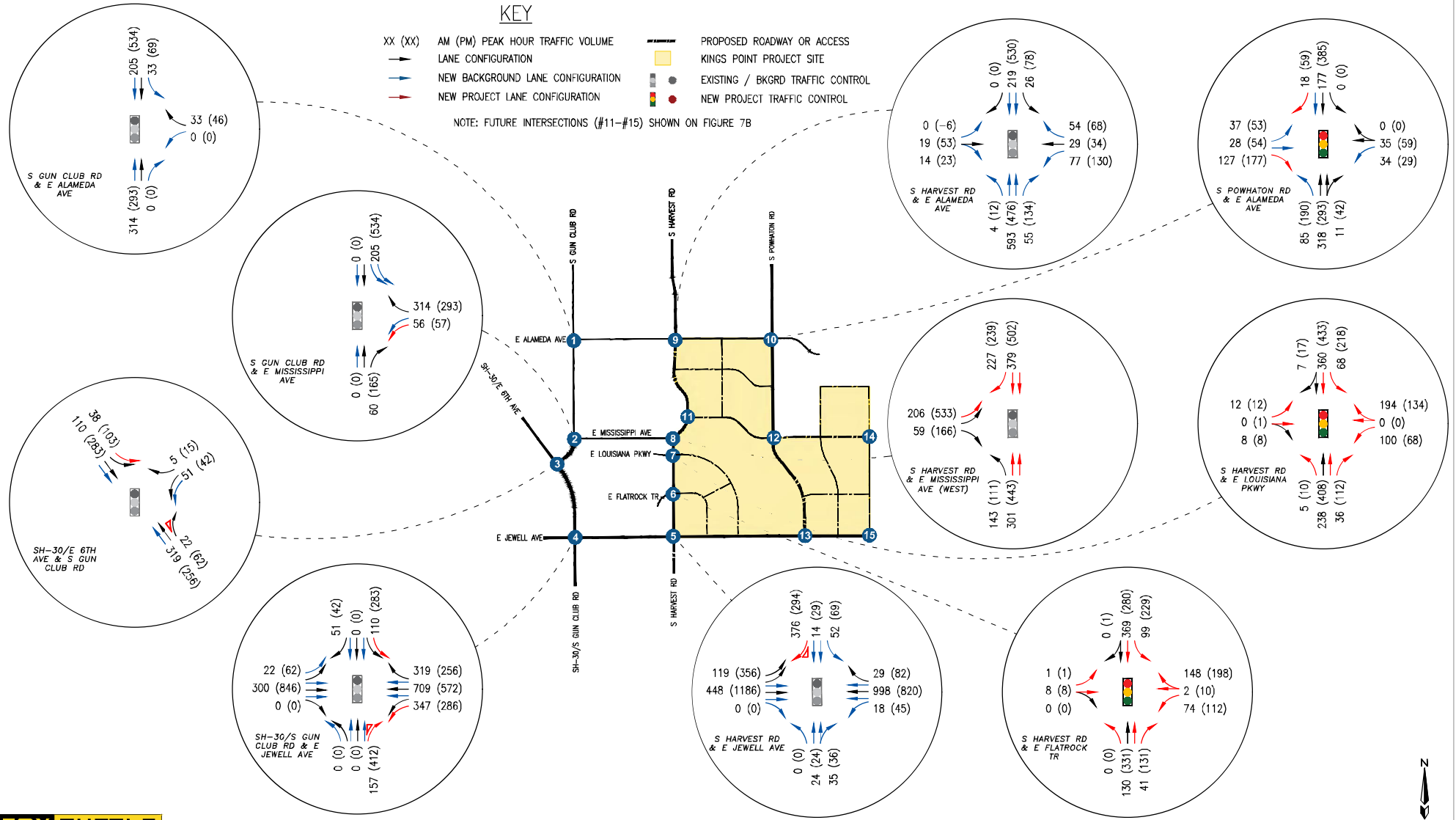


KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
 → LANE CONFIGURATION
 → NEW BACKGROUND LANE CONFIGURATION
 → NEW PROJECT LANE CONFIGURATION

- PROPOSED ROADWAY OR ACCESS
 KINGS POINT PROJECT SITE
 EXISTING / BKGRD TRAFFIC CONTROL
 NEW PROJECT TRAFFIC CONTROL

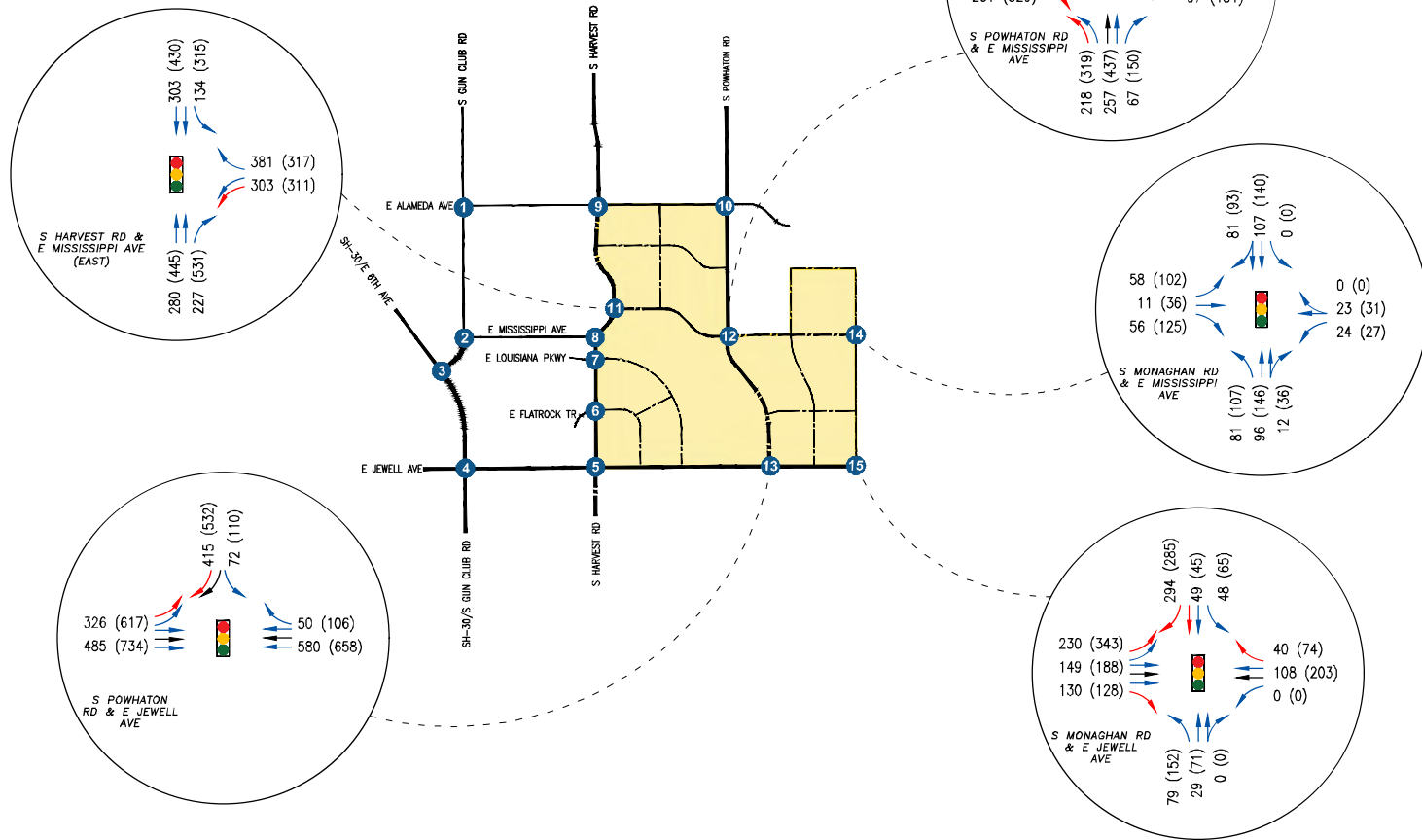
NOTE: FUTURE INTERSECTIONS (#11-#15) SHOWN ON FIGURE 7B

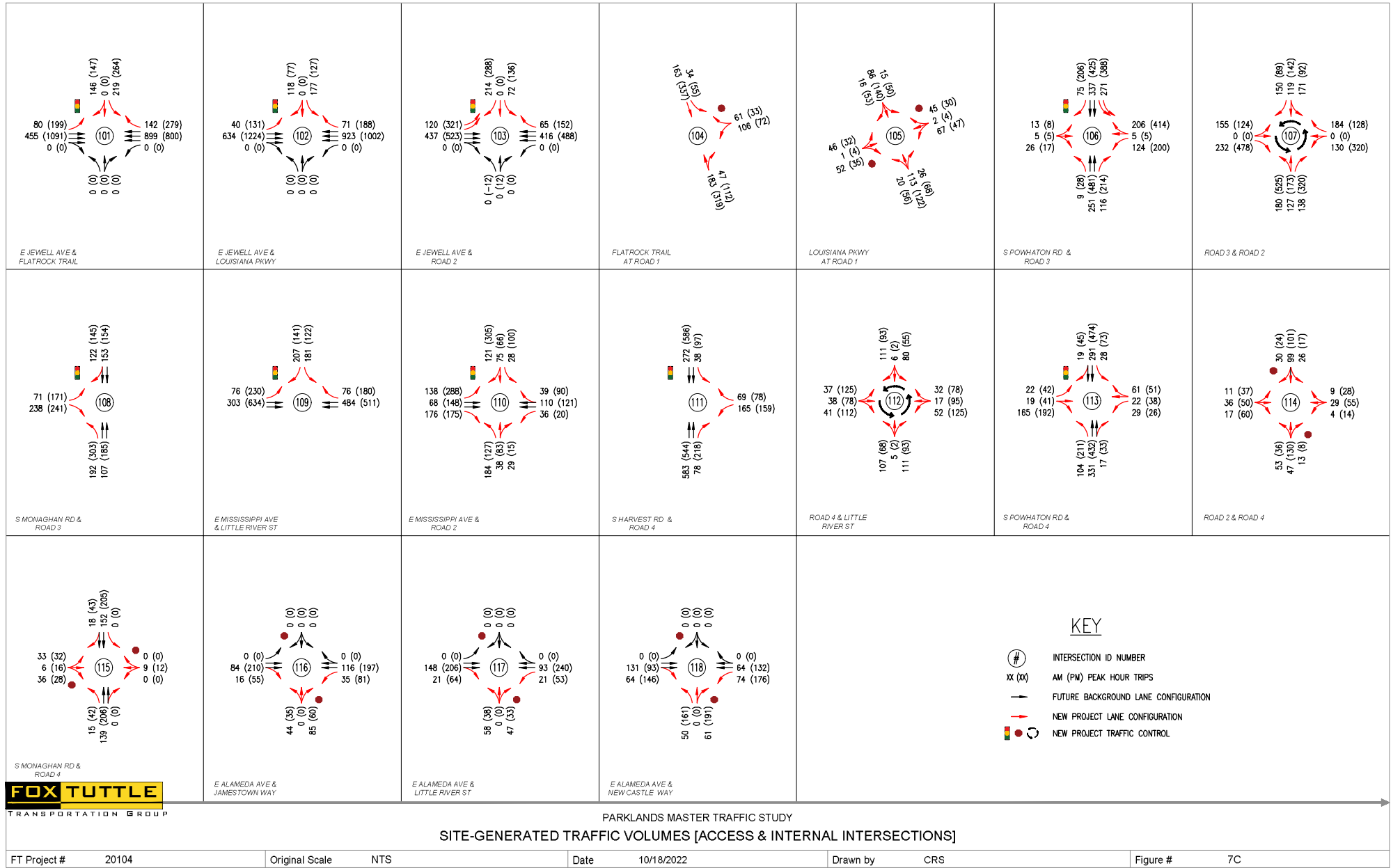


KEY

- XX (XX) AM (PM) PEAK HOUR TRAFFIC VOLUME
- LANE CONFIGURATION
- NEW BACKGROUND LANE CONFIGURATION
- NEW PROJECT LANE CONFIGURATION
- PROPOSED ROADWAY OR ACCESS
- KINGS POINT PROJECT SITE
- EXISTING / BKGRD TRAFFIC CONTROL
- NEW PROJECT TRAFFIC CONTROL

NOTE: EXISTING INTERSECTIONS (#1-#10) SHOWN ON FIGURE 7A







LSC TRANSPORTATION CONSULTANTS, INC.

1889 York Street
Denver, CO 80206
(303) 333-1105
FAX (303) 333-1107
E-mail: lsc@lscdenver.com

March 9, 2017

Melcor/TC Aurora, LLC
c/o Mr. James Spehalski
Marathon Land Company
9750 W. Cambridge Place
Littleton, CO 80127

Re: Harmony
Traffic Impact Analysis
Aurora, CO
(LSC #140770)

Dear Mr. Spehalski:

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact analysis for the proposed Harmony development to reflect updated long range modeling results completed recently by Felsburg Holt & Ullevig (FHU). As shown on Figure 1, the site is located north of Mississippi Avenue, east of Powhatan Road, and west of Hayesmount and Monaghan Roads in Aurora, Colorado. This site was previously studied in the *Sandy Creek Traffic Impact Analysis* (TIA), December, 2012, by FHU, and the *Harmony TIA*, November, 2015 by LSC. This study updates the long-term projections based on the currently proposed land uses and roadway network currently surrounding the site.

REPORT CONTENTS

The report contains the following: the updated typical weekday site-generated traffic volume projections for the site; the assignment of the projected traffic volumes to the area roadways; the projected 2040 background and resulting total traffic volumes on the area roadways; the site's projected traffic impacts; and any recommended roadway improvements to mitigate the site's traffic impacts.

LAND USE AND ACCESS

The site is proposed to include about 2,700 single-family homes, about 310 townhomes, about 1,032 elementary school students and about 344 middle/junior high school students divided among two campuses, an 11,500 square-foot community center, a fire station, and a significant area of parks and open space. Figure 2 shows the conceptual site plan.

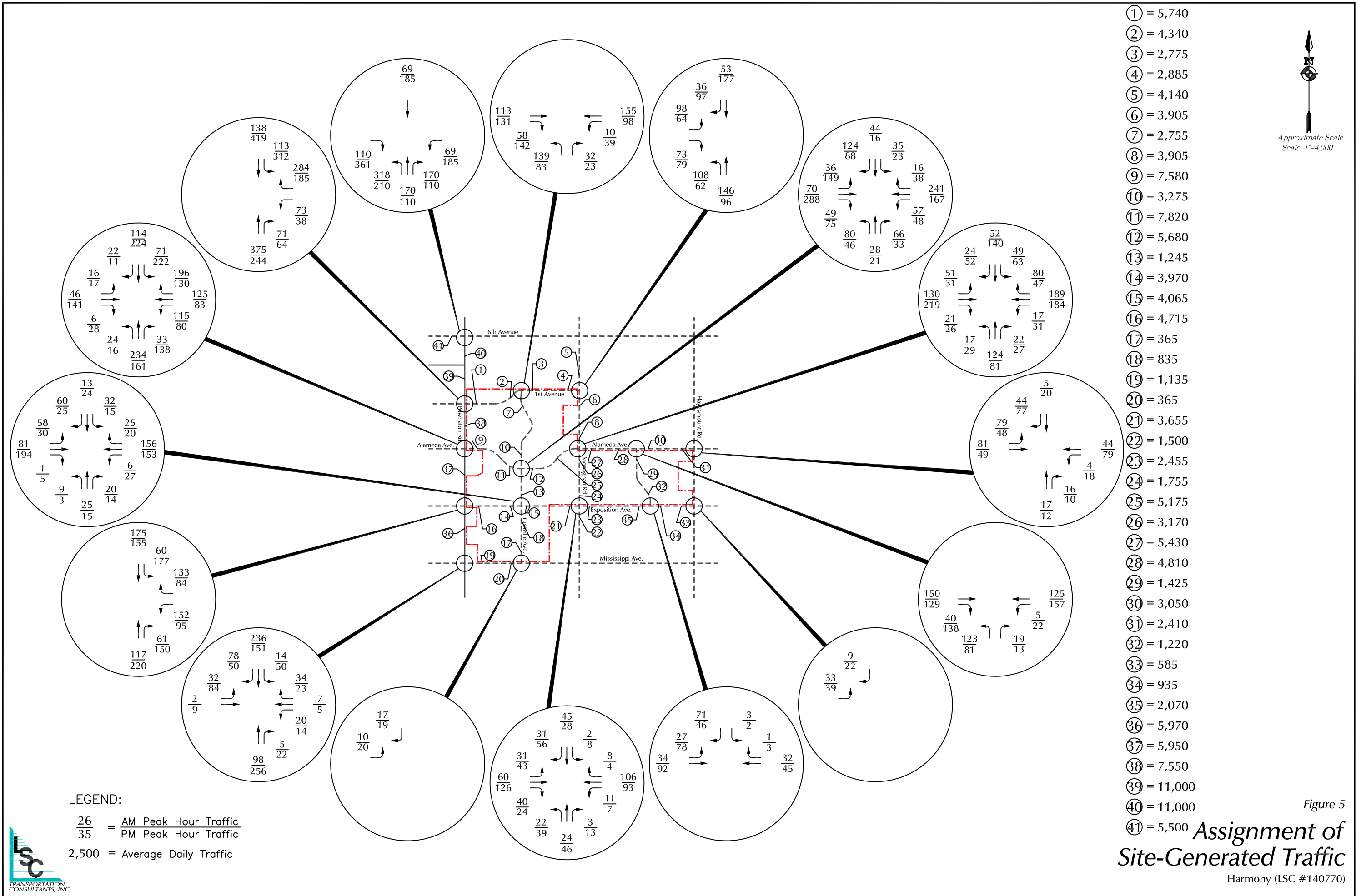
The map shows the SITE area bounded by 6th Avenue to the north, Exposition Ave. to the south, Powell Rd. to the west, and Hayesmount Rd. to the east. The SITE is outlined in red. Existing streets are shown with dashed lines, and proposed streets are shown with solid lines. Traffic volumes are indicated by arrows and percentages.

Location	Direction	Volume
6th Avenue	North-South	10% / 10%
6th Avenue	East-West	20% / 10%
1st Avenue	North-South	15% / 10%
Hayesmount Rd.	North-South	5% / 10%
Alameda Ave.	East-West	10% / 10%
Exposition Ave.	East-West	5% / 10%
Mississippi Ave.	East-West	5% / 5%
Trussville Ave.	North-South	15% / 15%

$$= \frac{\text{Residential Percent Directional Distribution}}{\text{School Percent Directional Distribution}}$$

Directional Distribution of Site-Generated Traffic

Harmony (LSC #140770)



- ① = 5,740
- ② = 4,340
- ③ = 2,775
- ④ = 2,885
- ⑤ = 4,140
- ⑥ = 3,905
- ⑦ = 2,755
- ⑧ = 3,905
- ⑨ = 7,580
- ⑩ = 3,275
- ⑪ = 7,820
- ⑫ = 5,680
- ⑬ = 1,245
- ⑭ = 3,970
- ⑮ = 4,065
- ⑯ = 4,715
- ⑰ = 365
- ⑱ = 835
- ⑲ = 1,135
- ⑳ = 365
- ㉑ = 3,655
- ㉒ = 1,500
- ㉓ = 2,455
- ㉔ = 1,755
- ㉕ = 5,175
- ㉖ = 3,170
- ㉗ = 5,430
- ㉘ = 4,810
- ㉙ = 1,425
- ㉚ = 3,050
- ㉛ = 2,410
- ㉜ = 1,220
- ㉝ = 585
- ㉞ = 935
- ㉟ = 2,070
- ㊱ = 5,970
- ㊲ = 5,950
- ㊳ = 7,550
- ㊴ = 11,000
- ㊵ = 11,000
- ㊶ = 5,500

Traffic Impact Study

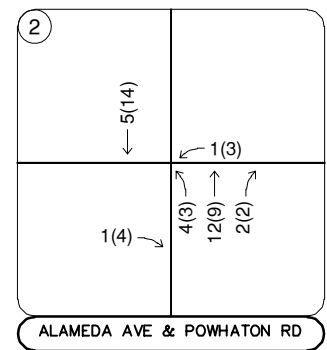
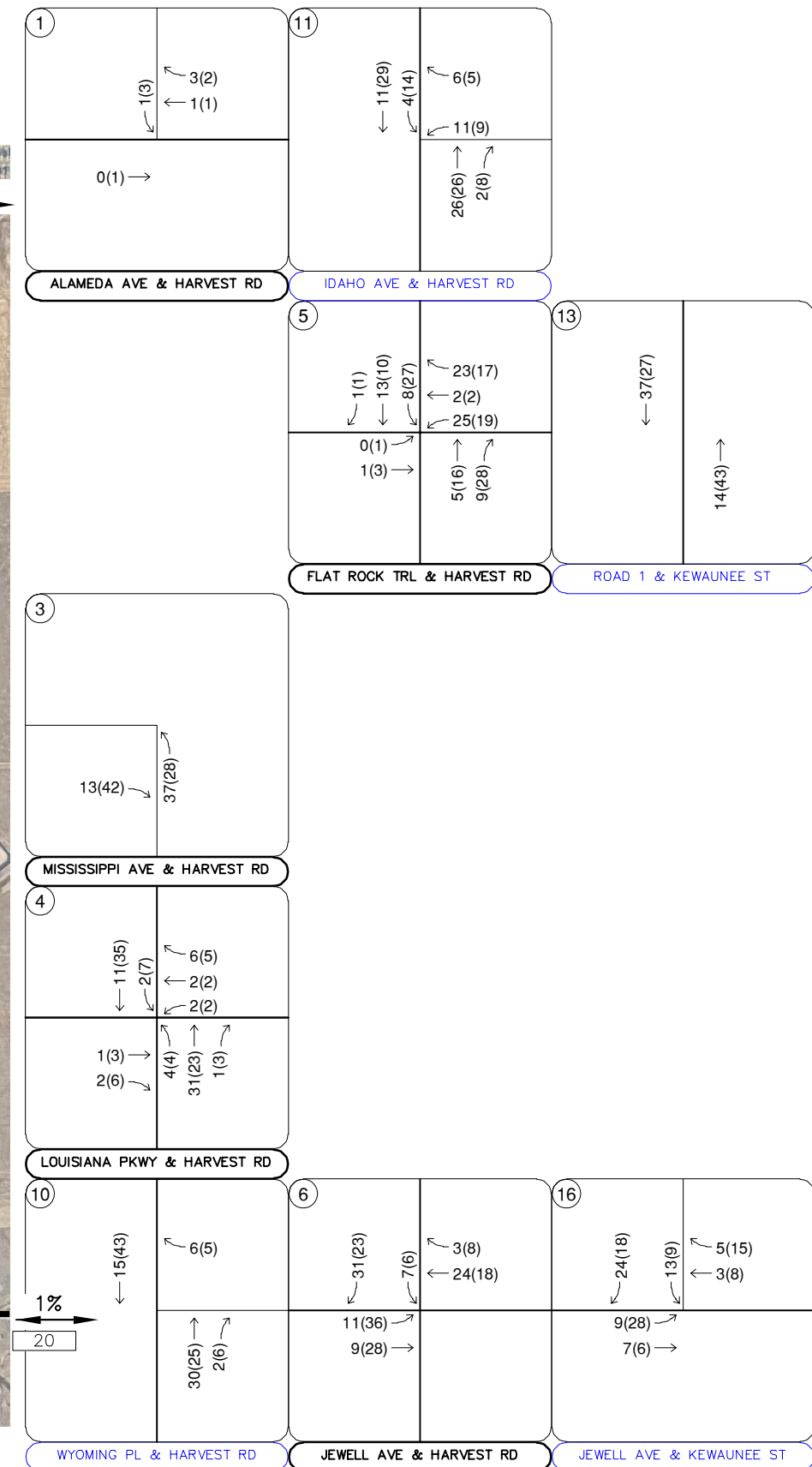
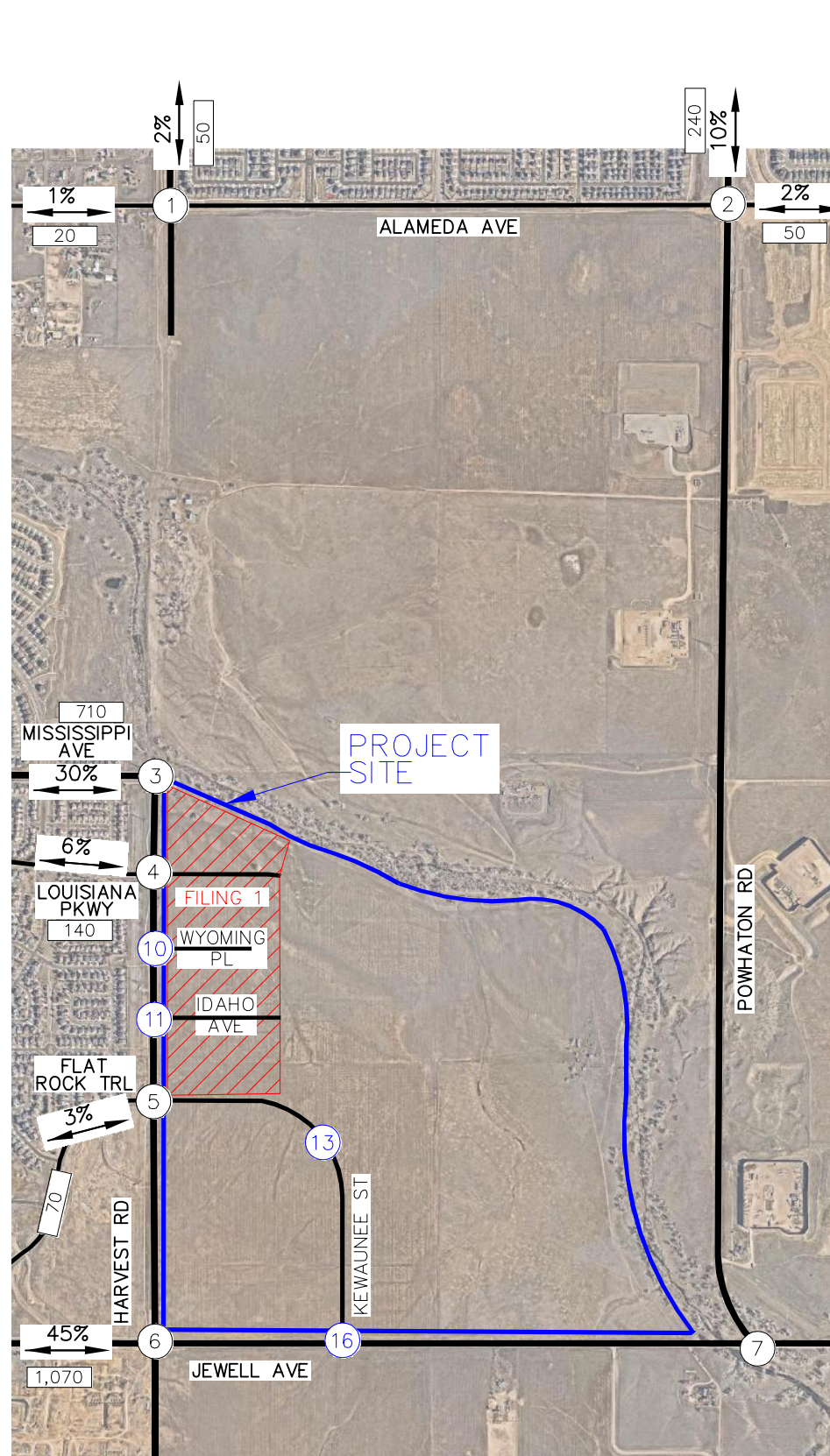
Parklands Village 1

Aurora, Colorado

Prepared for:

NL Parklands V4 Land Co., LLC

Kimley»Horn



Note:
15% of total residential project trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Trips only.

LEGEND

- (X) Study Area Key Intersection
- (X) Future Proposed Intersection
- Realigned Roadway/Intersection
- XX,X00 Estimated Daily Traffic Volume
- XX% External Trip Distribution Percentage
- xxx(xxx) Weekday AM(PM)
- Peak Hour Traffic Volumes

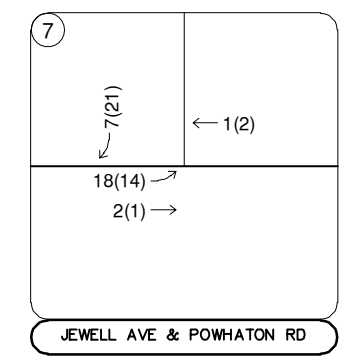
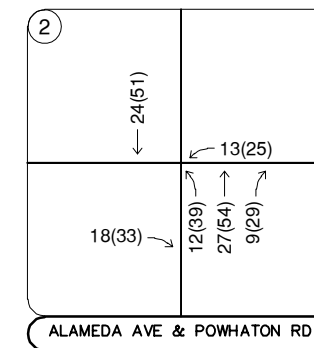
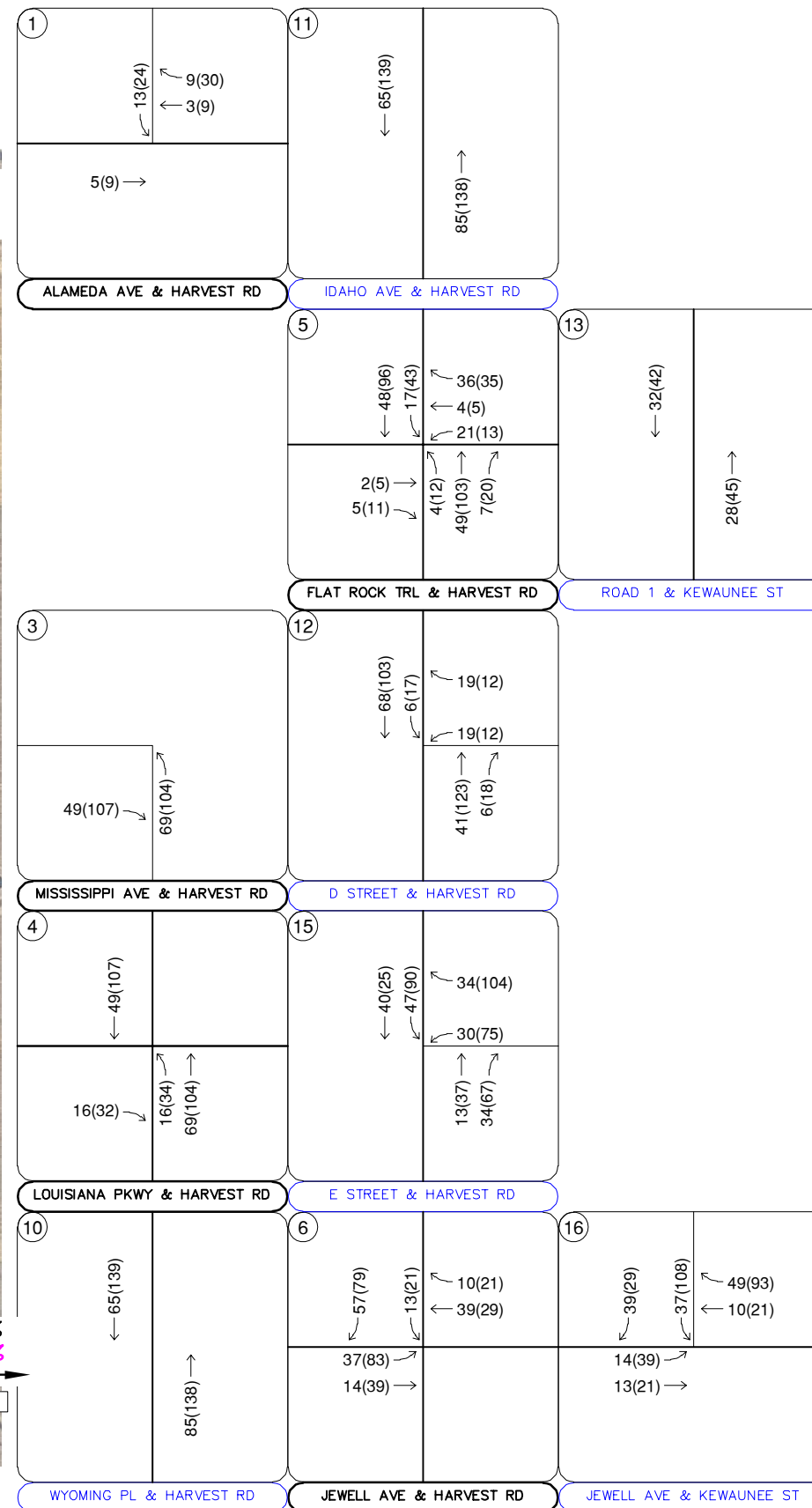
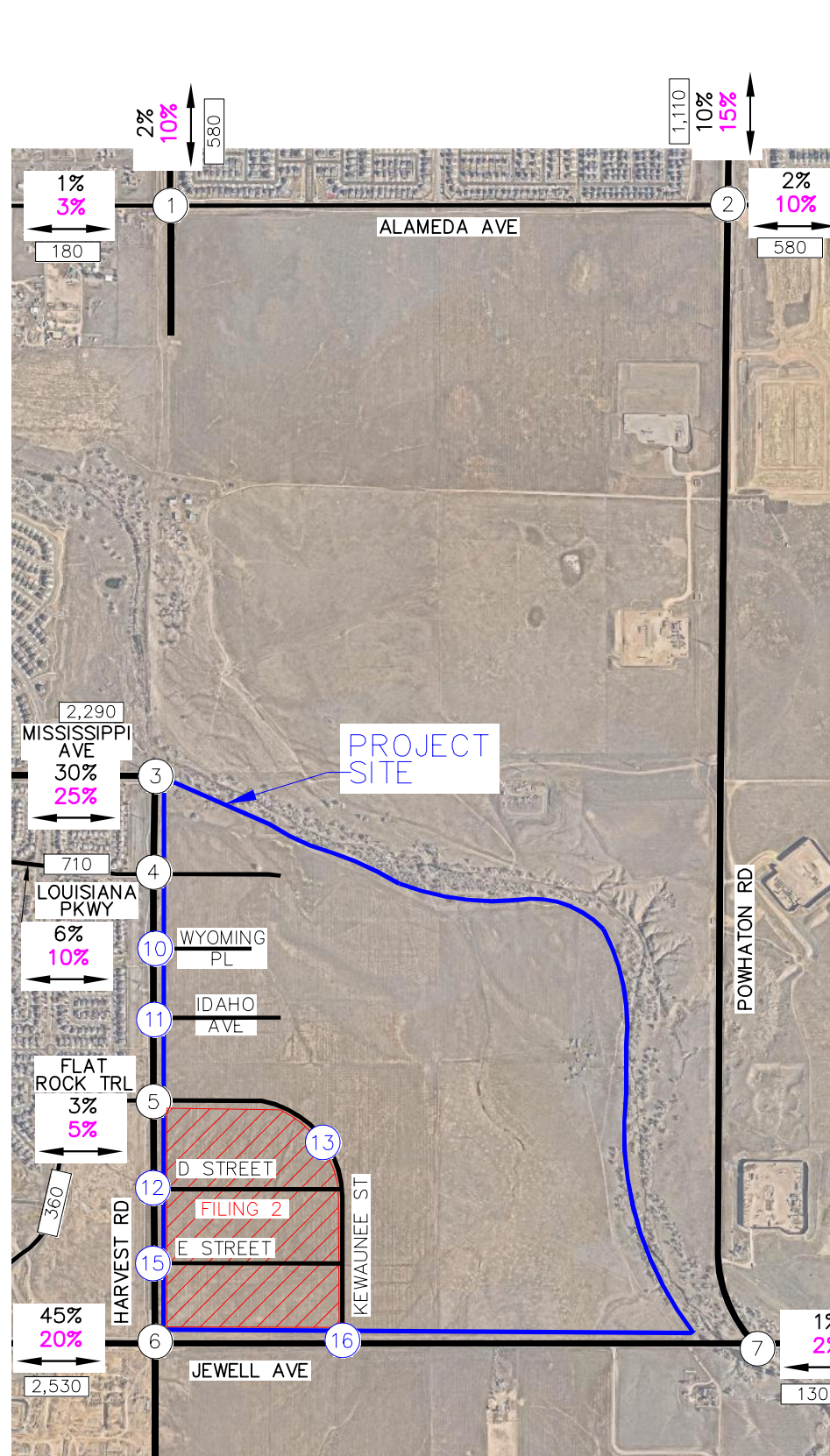


FIGURE 11
PARKLANDS VILLAGE 1
AURORA, COLORADO
FILING 1 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT



Note:
 15% Residential
 30% Commercial
 of total project trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Trips only.

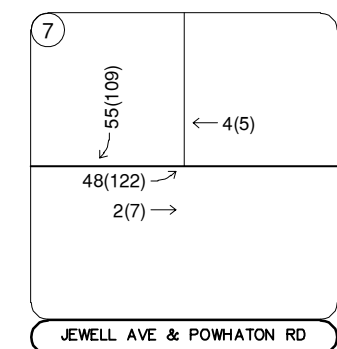
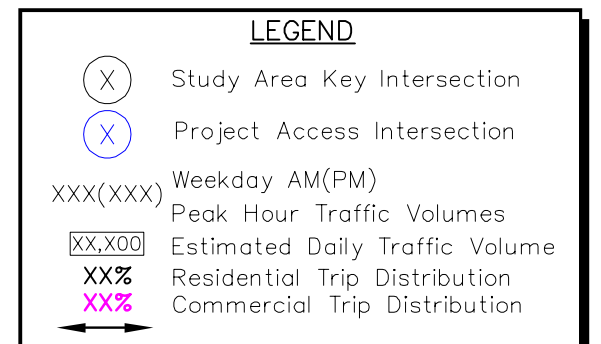


FIGURE 12
 PARKLANDS VILLAGE 1
 AURORA, COLORADO
 FILING 2 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT



FIGURE 13
PARKLANDS VILLAGE 1
AURORA, COLORADO
FILING 3 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT



FIGURE 14
PARKLANDS VILLAGE 1
AURORA, COLORADO
FILING 4 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT



Note:
15% of total residential project trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Trips only.

LEGEND

- (X) Study Area Key Intersection
- (X) Future Proposed Intersection
- Red line Redigned Roadway/Intersection
- XX,X00 Estimated Daily Traffic Volume
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

FIGURE 15
PARKLANDS VILLAGE 1
AURORA, COLORADO
FILING 5 EXTERNAL TRIP DISTRIBUTION AND TRAFFIC ASSIGNMENT

Note:
 15% Residential
 90% School
 of total project trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Future Proposed Intersection
- Realigned Roadway/Interchange
- XX,X00 Estimated Daily Traffic Volume
- XX% External Trip Distribution
- XX%[XX%] Entering[Exiting] Trip Distribution Percentages

Map Details:

- Intersections:** Alameda Ave & Harvest Rd, Idaho Ave & Harvest Rd, Alameda Ave & Powhatan Rd, Mississippi Ave & Harvest Rd, Flat Rock Trl & Harvest Rd, Road 1 & Kewaunee St, Road 1 & Louisiana Pkwy, Mississippi Ave & Powhatan Rd, Mississippi Ave & Harvest Rd, D Street & Harvest Rd, Louisiana Pkwy & Harvest Rd, E Street & Harvest Rd, Wyoming Pl & Harvest Rd, Jewell Ave & Harvest Rd, Jewell Ave & Kewaunee St, Jewell Ave & Road 2, Jewell Ave & Louisiana Pkwy, Jewell Ave & Powhatan Rd.
- Traffic Volumes:**
 - Alameda Ave & Harvest Rd: 6(19) left, 2(6) right, 5(4) left, 16(13) right, 12(22) left, 20(15) right.
 - Idaho Ave & Harvest Rd: 2(2) left, 10(20) left, 19(13) right, 5(2) left, 14(7) right, 3(4) right, 1(2) left, 9(11) right.
 - Alameda Ave & Powhatan Rd: 4(12) left, 1(2) left, 11(8) right, 2(2) right.
 - Mississippi Ave & Harvest Rd: 8(25) left, 21(16) right.
 - Flat Rock Trl & Harvest Rd: 13(37) left, 34(24) right, 13(6) left, 16(12) right, 12(8) right, 11(37) left, 1(2) left, 8(5) right, 6(5) left, 6(19) right, 1(2) right.
 - Road 1 & Louisiana Pkwy: 5(15) left, 2(0) left, 13(10) right, 2(0) right.
 - Mississippi Ave & Harvest Rd: 8(25) left, 20(27) right, 31(18) right, 21(16) right, 10(13) right.
 - D Street & Harvest Rd: 16(9) left, 10(13) right.
 - Mississippi Ave & Harvest Rd: 8(19) left, 20(33) left, 35(22) right, 8(5) left, 2(2) right, 6(7) right, 2(1) right, 2(1) left, 17(12) right, 1(2) right.
 - E Street & Harvest Rd: 16(9) left, 10(13) right.
 - Louisiana Pkwy & Harvest Rd: 12(22) left, 20(15) right, 2% left, 10% right, 40.
 - Jewell Ave & Harvest Rd: 15(9) left, 1(0) left, 32(23) right, 1(0) left, 9(13) right, 13(34) right, 1(0) left, 1(0) right.
 - Jewell Ave & Kewaunee St: 17(11) left, 2(0) left, 8(5) right, 5(5) left, 16(12) right, 9(19) right, 5(15) right, 2(0) right.
 - Jewell Ave & Road 2: 5(4) left, 13(20) right, 1(4) left, 16(13) right.
 - Jewell Ave & Louisiana Pkwy: 11(9) left, 2(0) left, 12(7) right, 6(10) right, 6(8) right, 5(15) right, 8(5) right, 2(0) right.
 - Jewell Ave & Powhatan Rd: 7(15) left, 5(3) left, 15(10) right, 5(2) right.

APPENDIX C

Trip Generation Worksheets

Project Parklands Village 2 - Filing 1
 Subject Trip Generation for Single-Family Detached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independent Variable - Dwelling Units (X)

$$X = 276$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 220)

$$\ln(T) = 0.91 \ln(X) + 0.12$$

$$\ln(T) = 0.91 * \ln(276) + 0.12$$

Directional Distribution: 26% ent. 74% exit.

T = 188 Average Vehicle Trip Ends

49 entering 139 exiting

$$49 + 139 = 188$$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 221)

$$\ln(T) = 0.94 \ln(X) + 0.27$$

$$\ln(T) = 0.94 * \ln(276) + 0.27$$

Directional Distribution: 63% ent. 37% exit.

T = 258 Average Vehicle Trip Ends

163 entering 95 exiting

$$163 + 95 = 258$$

Weekday (200 Series Page 219)

$$\ln(T) = 0.92 \ln(X) + 2.68$$

$$\ln(T) = 0.92 * \ln(276) + 2.68$$

Directional Distribution: 50% entering, 50% exiting

T = 2568 Average Vehicle Trip Ends

1284 entering 1284 exiting

$$1284 + 1284 = 2568$$

Project Parklands Village 2 - Filing 1
 Subject Trip Generation for Single-Family Attached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Attached Housing (215)

Independent Variable - Dwelling Units (X)

$$X = 164$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 239)

(T) = 0.52 (X) - 5.70	Directional Distribution:	31% ent.	69% exit.
(T) = 0.52 * (164) - 5.70	T = 80	Average Vehicle Trip Ends	
	25 entering	55 exiting	
	25 + 55 = 80		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 240)

(T) = 0.60 (X) - 3.93	Directional Distribution:	57% ent.	43% exit.
(T) = 0.60 * (164) - 3.93	T = 94	Average Vehicle Trip Ends	
	54 entering	40 exiting	
	54 + 40 = 94		

Weekday (200 Series Page 238)

(T) = 7.62 (X) - 50.48	Directional Distribution:	50% entering, 50% exiting
(T) = 7.62 * (164) + 50.48	T = 1200	Average Vehicle Trip Ends
	600 entering	600 exiting
	600 + 600 = 1200	

Project Parklands Village 2 - Filing 1
 Subject Trip Generation - Public Park
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations
 Land Use Code - Public Park (411)
 Independent Variable - Acres (X)

Acres 3.6
 $X = 3.6$
 T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 3)

Directional Distribution: 59% ent. 41% exit.
 $(T) = 0.02 (X)$
 $(T) = 0.02 * (3.6)$
 $T = 0$ Average Vehicle Trip Ends
 0 entering 0 exiting
 0 + 0 = 0

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 4)

Directional Distribution: 55% ent. 45% exit.
 $(T) = 0.06 (X) + 22.60$
 $(T) = 0.06 * (3.6) + 22.60$
 $T = 23$ Average Vehicle Trip Ends
 13 entering 10 exiting
 13 + 10 = 23

Weekday (400 Series page 2)

Average Weekday
 $T = 0.64 * (X) + 88.46$
 $T = 0.64 * (3.6) + 88.46$
 Directional Distribution: 50% entering, 50% exiting
 $T = 92$ Average Vehicle Trip Ends
 46 entering 46 exiting
 46 + 46 = 92

Project Parklands Village 2 - Filing 2
 Subject Trip Generation for Single-Family Detached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independent Variable - Dwelling Units (X)

$$X = 226$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 220)

$$\ln(T) = 0.91 \ln(X) + 0.12$$

$$\ln(T) = 0.91 * \ln(226) + 0.12$$

Directional Distribution: 26% ent. 74% exit.

T = 156 Average Vehicle Trip Ends

41 entering 115 exiting

$$41 + 115 = 156$$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 221)

$$\ln(T) = 0.94 \ln(X) + 0.27$$

$$\ln(T) = 0.94 * \ln(226) + 0.27$$

Directional Distribution: 63% ent. 37% exit.

T = 214 Average Vehicle Trip Ends

135 entering 79 exiting

$$135 + 79 = 214$$

Weekday (200 Series Page 219)

$$\ln(T) = 0.92 \ln(X) + 2.68$$

$$\ln(T) = 0.92 * \ln(226) + 2.68$$

Directional Distribution: 50% entering, 50% exiting

T = 2136 Average Vehicle Trip Ends

1068 entering 1068 exiting

$$1068 + 1068 = 2136$$

Project Parklands Village 2 - Filing 2
 Subject Trip Generation for Single-Family Attached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Attached Housing (215)

Independent Variable - Dwelling Units (X)

$$X = 104$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 239)

(T) = 0.52 (X) - 5.70	Directional Distribution:	31% ent.	69% exit.
(T) = 0.52 * (104) - 5.70	T = 48	Average Vehicle Trip Ends	
	15 entering	33 exiting	
	15 + 33 = 48		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 240)

(T) = 0.60 (X) - 3.93	Directional Distribution:	57% ent.	43% exit.
(T) = 0.60 * (104) - 3.93	T = 58	Average Vehicle Trip Ends	
	33 entering	25 exiting	
	33 + 25 = 58		

Weekday (200 Series Page 238)

(T) = 7.62 (X) - 50.48	Directional Distribution:	50% entering, 50% exiting
(T) = 7.62 * (104) + 50.48	T = 742	Average Vehicle Trip Ends
	371 entering	371 exiting
	371 + 371 = 742	

Project Parklands Village 2 - Filing 2 - Dominion Parklands
 Subject Trip Generation for Multifamily Housing (Low-Rise)
 Designed by TJD Date November 11, 2024 Job No. 096572003
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Multifamily Housing (Low-Rise) (220)

Independent Variable - Dwelling Units (X)

$$X = 273$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 255)

$(T) = 0.31 (X) + 22.85$	Directional Distribution:	24% ent.	76% exit.
$(T) = 0.31 * (273.0) + 22.85$	T = 107	Average Vehicle Trip Ends	
	26 entering	81 exiting	
	26 + 81 = 107		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 256)

$(T) = 0.43 (X) + 20.55$	Directional Distribution:	63% ent.	37% exit.
$(T) = 0.43 * (273.0) + 20.55$	T = 138	Average Vehicle Trip Ends	
	87 entering	51 exiting	
	87 + 51 = 138		

Weekday (200 Series Page 254)

$(T) = 6.41 (X) + 75.31$	Directional Distribution:	50% ent.	50% exit.
$(T) = 6.41 * (273.0) + 75.31$	T = 1826	Average Vehicle Trip Ends	
	913 entering	913 exiting	
	913 + 913 = 1826		

Project Parklands Village 2 - Filing 2
 Subject Trip Generation for General Office Building
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rates

Land Use Code - General Office Building (710)

Independent Variable - 1000 Square Feet (X)

SF = 35,000

X = 35.000

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (700 Series Page 710)

(T) = 1.52 (X)		Directional Distribution:	88% ent.	12% exit.
(T) = 1.52 *	(35.0)	T = 53	Average Vehicle Trip Ends	
		47 entering	6 exiting	
		47 + 6 = 53		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (700 Series Page 711)

(T) = 1.44 (X)		Directional Distribution:	17% ent.	83% exit.
(T) = 1.44 *	(35.0)	T = 50	Average Vehicle Trip Ends	
		9 entering	42 exiting	
		9 + 41 = 50		

Weekday (700 Series Page 709)

(T) = 10.84 (X)		Directional Distribution:	50% ent.	50% exit.
(T) = 10.84 *	(35.0)	T = 380	Average Vehicle Trip Ends	
		190 entering	190 exiting	
		190 + 190 = 380		

Project Parklands Village 2 - Filing 2
 Subject Trip Generation for Shopping Plaza (40-150k) - Supermarket-No
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Shopping Plaza (40-150k) - Supermarket-No (821)

Independent Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 95,000 Square Feet

X = 95

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 213)

Average Weekday	Directional Distribution:	62% ent.	38% exit.
T = 1.73 * (X)	T = 164	Average Vehicle Trip Ends	
T = 1.73 * 95	102 entering	62 exiting	
	102 + 62 = 164		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series page 214)

Average Weekday	Directional Distribution:	49% ent.	51% exit.
T = 5.19 * (X)	T = 493	Average Vehicle Trip Ends	
T = 5.19 * 95	242 entering	251 exiting	
	242 + 251 = 493		

Weekday (800 Series page 212)

Average Weekday	Directional Distribution:	50% entering, 50% exiting
T = 67.52 * (X)	T = 6414	Average Vehicle Trip Ends
T = 67.52 * 95	3207 entering	3207 exiting
	3207 + 3207 = 6414	

Non Pass-By Trip Volumes (Between 40 and 150k) (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour = 60% Non-Pass By	PM Peak Hour = 60% Non-Pass By
IN Out Total	
AM Peak 61 37 98	PM Peak Hour Rate Applied to AM Peak Hour
PM Peak 145 151 296	
Daily 1924 1924 3848	PM Peak Hour Rate Applied to Daily

Pass-By Trip Volumes (Between 40 and 150k) (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour = 40% Pass By	PM Peak Hour = 40% Pass By
IN Out Total	
AM Peak 41 25 66	PM Peak Hour Rate Applied to AM Peak Hour
PM Peak 97 100 197	
Daily 1283 1283 2566	PM Peak Hour Rate Applied to Daily

Project Parklands Village 2 - Filing 3
 Subject Trip Generation for Single-Family Detached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independent Variable - Dwelling Units (X)

$$X = 359$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 220)

$$\ln(T) = 0.91 \ln(X) + 0.12$$

$$\ln(T) = 0.91 * \ln(359) + 0.12$$

Directional Distribution: 26% ent. 74% exit.

T = 238 Average Vehicle Trip Ends

62 entering 176 exiting

$$62 + 176 = 238$$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 221)

$$\ln(T) = 0.94 \ln(X) + 0.27$$

$$\ln(T) = 0.94 * \ln(359) + 0.27$$

Directional Distribution: 63% ent. 37% exit.

T = 330 Average Vehicle Trip Ends

208 entering 122 exiting

$$208 + 122 = 330$$

Weekday (200 Series Page 219)

$$\ln(T) = 0.92 \ln(X) + 2.68$$

$$\ln(T) = 0.92 * \ln(359) + 2.68$$

Directional Distribution: 50% entering, 50% exiting

T = 3270 Average Vehicle Trip Ends

1635 entering 1635 exiting

$$1635 + 1635 = 3270$$

Project Parklands Village 2 - Filing 3
 Subject Trip Generation for Single-Family Attached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Attached Housing (215)

Independent Variable - Dwelling Units (X)

$$X = 76$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 239)

$(T) = 0.52 (X) - 5.70$	Directional Distribution:	31% ent.	69% exit.
$(T) = 0.52 * (76) - 5.70$	T = 34	Average Vehicle Trip Ends	
	11 entering	23 exiting	
	11 + 23 = 34		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 240)

$(T) = 0.60 (X) - 3.93$	Directional Distribution:	57% ent.	43% exit.
$(T) = 0.60 * (76) - 3.93$	T = 42	Average Vehicle Trip Ends	
	24 entering	18 exiting	
	24 + 18 = 42		

Weekday (200 Series Page 238)

$(T) = 7.62 (X) - 50.48$	Directional Distribution:	50% entering, 50% exiting
$(T) = 7.62 * (76) + 50.48$	T = 530	Average Vehicle Trip Ends
	265 entering	265 exiting
	265 + 265 = 530	

Project Parklands Village 2 - Filing 3
 Subject Trip Generation - Public Park
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations
 Land Use Code - Public Park (411)
 Independent Variable - Acres (X)

Acres 3.6
 $X = 3.6$
 T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 3)

Directional Distribution: 59% ent. 41% exit.
 $(T) = 0.02 (X)$
 $(T) = 0.02 * (3.6)$
 $T = 0$ Average Vehicle Trip Ends
 0 entering 0 exiting
 0 + 0 = 0

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 4)

Directional Distribution: 55% ent. 45% exit.
 $(T) = 0.06 (X) + 22.60$
 $(T) = 0.06 * (3.6) + 22.60$
 $T = 23$ Average Vehicle Trip Ends
 13 entering 10 exiting
 13 + 10 = 23

Weekday (400 Series page 2)

Average Weekday
 $T = 0.64 * (X) + 88.46$
 $T = 0.64 * (3.6) + 88.46$
 Directional Distribution: 50% entering, 50% exiting
 $T = 92$ Average Vehicle Trip Ends
 46 entering 46 exiting
 46 + 46 = 92

Project Parklands Village 2 - Filing 4
 Subject Trip Generation for Single-Family Detached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Detached Housing (210)

Independent Variable - Dwelling Units (X)

$$X = 383$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 220)

$$\ln(T) = 0.91 \ln(X) + 0.12$$

$$\ln(T) = 0.91 * \ln(383) + 0.12$$

Directional Distribution: 26% ent. 74% exit.

T = 252 Average Vehicle Trip Ends

66 entering 186 exiting

$$66 + 186 = 252$$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 221)

$$\ln(T) = 0.94 \ln(X) + 0.27$$

$$\ln(T) = 0.94 * \ln(383) + 0.27$$

Directional Distribution: 63% ent. 37% exit.

T = 351 Average Vehicle Trip Ends

221 entering 130 exiting

$$221 + 130 = 351$$

Weekday (200 Series Page 219)

$$\ln(T) = 0.92 \ln(X) + 2.68$$

$$\ln(T) = 0.92 * \ln(383) + 2.68$$

Directional Distribution: 50% entering, 50% exiting

T = 3470 Average Vehicle Trip Ends

1735 entering 1735 exiting

$$1735 + 1735 = 3470$$

Project Parklands Village 2 - Filing 4
 Subject Trip Generation for Single-Family Attached Housing
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Single-Family Attached Housing (215)

Independent Variable - Dwelling Units (X)

$$X = 92$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 239)

$(T) = 0.52 (X) - 5.70$	Directional Distribution:	31% ent.	69% exit.
$(T) = 0.52 * (92) - 5.70$	T = 42	Average Vehicle Trip Ends	
	13 entering	29 exiting	
	13 + 29 = 42		

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 240)

$(T) = 0.60 (X) - 3.93$	Directional Distribution:	57% ent.	43% exit.
$(T) = 0.60 * (92) - 3.93$	T = 51	Average Vehicle Trip Ends	
	29 entering	22 exiting	
	29 + 22 = 51		

Weekday (200 Series Page 238)

$(T) = 7.62 (X) - 50.48$	Directional Distribution:	50% entering, 50% exiting
$(T) = 7.62 * (92) + 50.48$	T = 652	Average Vehicle Trip Ends
	326 entering	326 exiting
	326 + 326 = 652	

Project Parklands Village 2 - Filing 4
 Subject Trip Generation for Multifamily Housing (Mid-Rise)
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations

Land Use Code - Multifamily Housing (Mid-Rise) (221)

Independent Variable - Dwelling Units (X)

$$X = 300$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (200 Series Page 275)

$(T) = 0.44 (X) - 11.61$ $(T) = 0.44 * (300.0) - 11.61$	Directional Distribution: 23% ent. 77% exit. T = 122 Average Vehicle Trip Ends 28 entering 94 exiting 28 + 94 = 122
---	--

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (200 Series Page 276)

$(T) = 0.39 (X) + 0.34$ $(T) = 0.39 * (300.0) + 0.34$	Directional Distribution: 61% ent. 39% exit. T = 118 Average Vehicle Trip Ends 72 entering 46 exiting 72 + 46 = 118
---	--

Weekday (200 Series Page 274)

$(T) = 4.77 (X) - 46.46$ $(T) = 4.77 * (300.0) - 46.46$	Directional Distribution: 50% ent. 50% exit. T = 1386 Average Vehicle Trip Ends 693 entering 693 exiting 693 + 693 = 1386
---	--

Project Parklands Village 2 - Filing 4
 Subject Trip Generation - Public Park
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Fitted Curve Equations
 Land Use Code - Public Park (411)
 Independent Variable - Acres (X)

Acres 47.7
 $X = 47.7$
 T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 3)

Directional Distribution: 59% ent. 41% exit.
 $(T) = 0.02 (X)$
 $(T) = 0.02 * (47.7)$
 $T = 1$ Average Vehicle Trip Ends
 1 entering 0 exiting
 1 + 0 = 1

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 4)

Directional Distribution: 55% ent. 45% exit.
 $(T) = 0.06 (X) + 22.60$
 $(T) = 0.06 * (47.7) + 22.60$
 $T = 25$ Average Vehicle Trip Ends
 14 entering 11 exiting
 14 + 11 = 25

Weekday (400 Series page 2)

Average Weekday
 $T = 0.64 * (X) + 88.46$
 $T = 0.64 * (47.7) + 88.46$
 Directional Distribution: 50% entering, 50% exiting
 $T = 120$ Average Vehicle Trip Ends
 60 entering 60 exiting
 60 + 60 = 120

Project Parklands Village 2 - Filing 4
 Subject Trip Generation for Elementary School
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Elementary School (520)

Independent Variable - Students (X)

$$X = 715$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (500 Series Page 327)

Average Weekday

$$(T) = 0.74 (X)$$

$$(T) = 0.74 * (715.0)$$

Directional Distribution: 54% ent. 46% exit.

T = 529 Average Vehicle Trip Ends

286 entering 243 exiting

$$286 + 243 = 529$$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (500 Series Page 328)

Average Weekday

$$(T) = 0.16(X)$$

$$(T) = 0.16 * (715.0)$$

Directional Distribution: 46% ent. 54% exit.

T = 114 Average Vehicle Trip Ends

52 entering 62 exiting

$$52 + 62 = 114$$

Weekday (500 Series Page 326)

Average Weekday

$$(T) = 2.27 (X)$$

$$(T) = 2.27 * (715.0)$$

Directional Distribution: 50% entering, 50% exiting

T = 1624 Average Vehicle Trip Ends

812 entering 812 exiting

$$812 + 812 = 1624$$

Project Parklands Village 2 - Filing 4
 Subject Trip Generation for Middle School/Junior High School
 Designed by TJD Date May 16, 2023 Job No. 196480000
 Checked by Date Sheet No. of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Middle School/Junior High School (522)

Independent Variable - Students (X)

$$X = 339$$

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (500 Series Page 342)

Average Weekday

$$(T) = 0.67 (X)$$

$$(T) = 0.67 * (339.0)$$

Directional Distribution: 54% ent. 46% exit.

T = 227 Average Vehicle Trip Ends

123 entering 104 exiting

$$123 + 104 = 227$$

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (500 Series Page 343)

Average Weekday

$$(T) = 0.15(X)$$

$$(T) = 0.15 * (339.0)$$

Directional Distribution: 48% ent. 52% exit.

T = 51 Average Vehicle Trip Ends

24 entering 27 exiting

$$24 + 27 = 51$$

Weekday (500 Series Page 341)

Average Weekday

$$(T) = 2.10 (X)$$

$$(T) = 2.10 * (339.0)$$

Directional Distribution: 50% entering, 50% exiting

T = 712 Average Vehicle Trip Ends

356 entering 356 exiting

$$356 + 356 = 712$$

Project Parklands Village 2 - Filing 4
Subject Trip Generation for Strip Retail Plaza (<40k)
Designed by TJD Date May 16, 2023 Job No. 196480000
Checked by Date Sheet No. of

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Strip Retail Plaza (<40k) (822)

Independent Variable - 1000 Square Feet Gross Leasable Area (X)

Gross Leasable Area = 15,000 Square Feet
X = 15.000
T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (800 Series Page 230)

Average Weekday Directional Distribution: 60% ent. 40% exit.
T = 2.36 * (X) T = 35 Average Vehicle Trip Ends
T = 2.36 * 15 21 entering 14 exiting
21 + 14 = 35

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (800 Series page 231)

Average Weekday Directional Distribution: 50% ent. 50% exit.
T = 6.59 * (X) T = 99 Average Vehicle Trip Ends
T = 6.59 * 15 49 entering 50 exiting
49 + 50 = 99

Weekday (800 Series page 229)

Average Weekday Directional Distribution: 50% entering, 50% exiting
T = 54.45 * (X) T = 816 Average Vehicle Trip Ends
T = 54.45 * 15 408 entering 408 exiting
408 + 408 = 816

Non Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	60%	Non-Pass By	PM Peak Hour =	60%	Non-Pass By
	IN	Out	Total	Pass-By Rates from ITE 821	
AM Peak	13	8	21	PM Peak Hour Rate Applied to AM Peak Hour	
PM Peak	29	30	60		
Daily	245	245	490	PM Peak Hour Rate Applied to Daily	

Pass-By Trip Volumes (Per ITE Trip Generation Manual, 11th Edition)

AM Peak Hour =	40%	Pass By	PM Peak Hour =	40%	Pass By
	IN	Out	Total	PM Peak Hour Rate Applied to AM Peak Hour	
AM Peak	8	6	14		
PM Peak	20	20	40		
Daily	163	163	326	PM Peak Hour Rate Applied to Daily	

APPENDIX D

Trip Distribution and Assignment by Intersection Figures

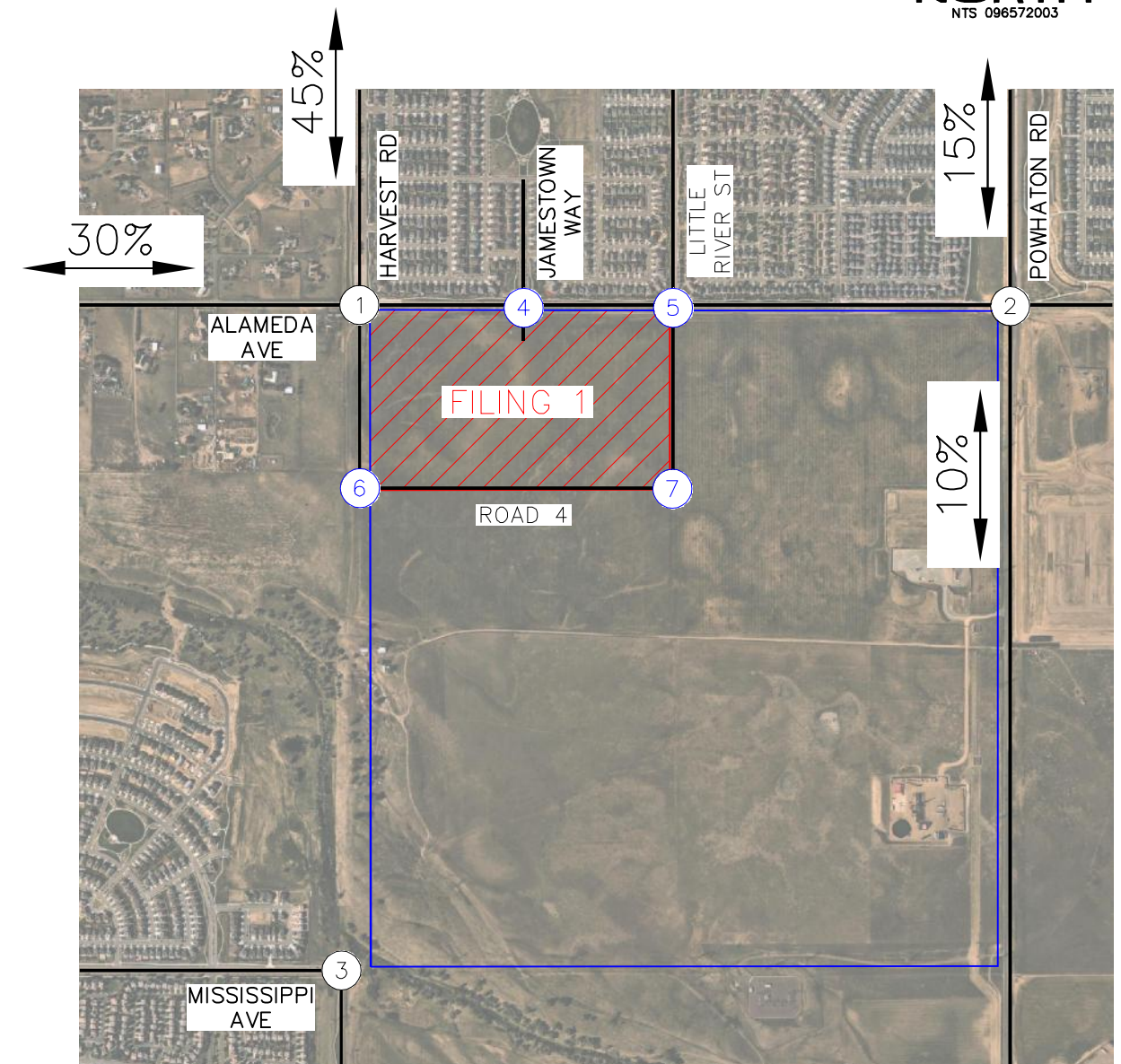
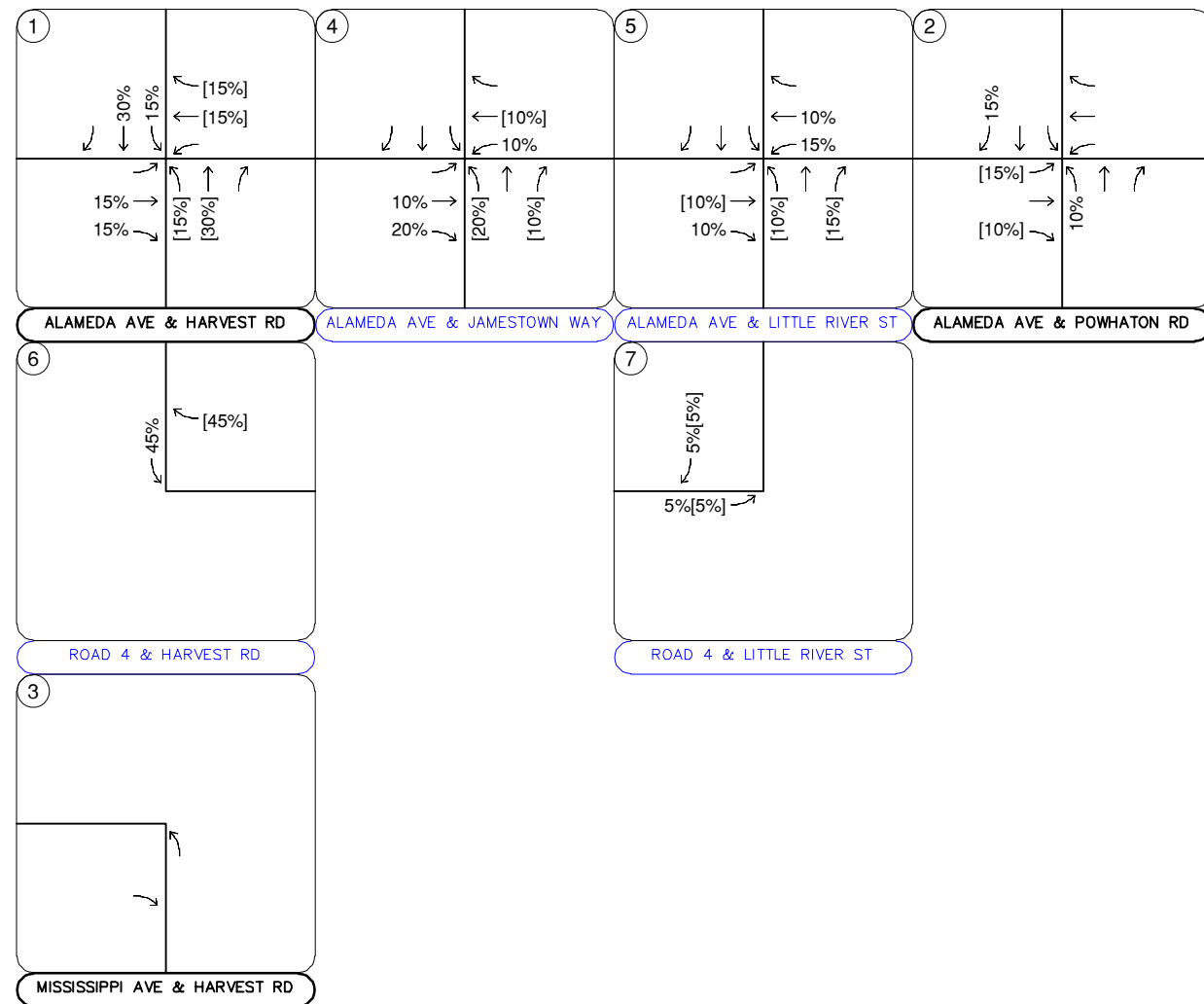
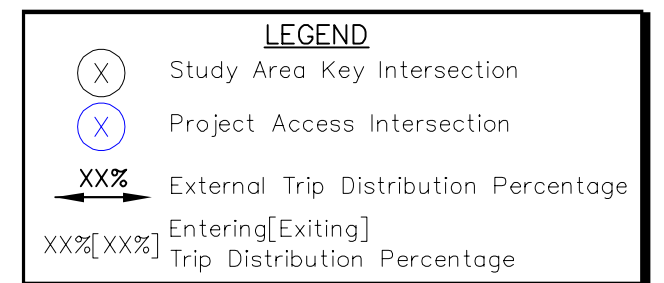


FIGURE D1
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 1 TRIP DISTRIBUTION



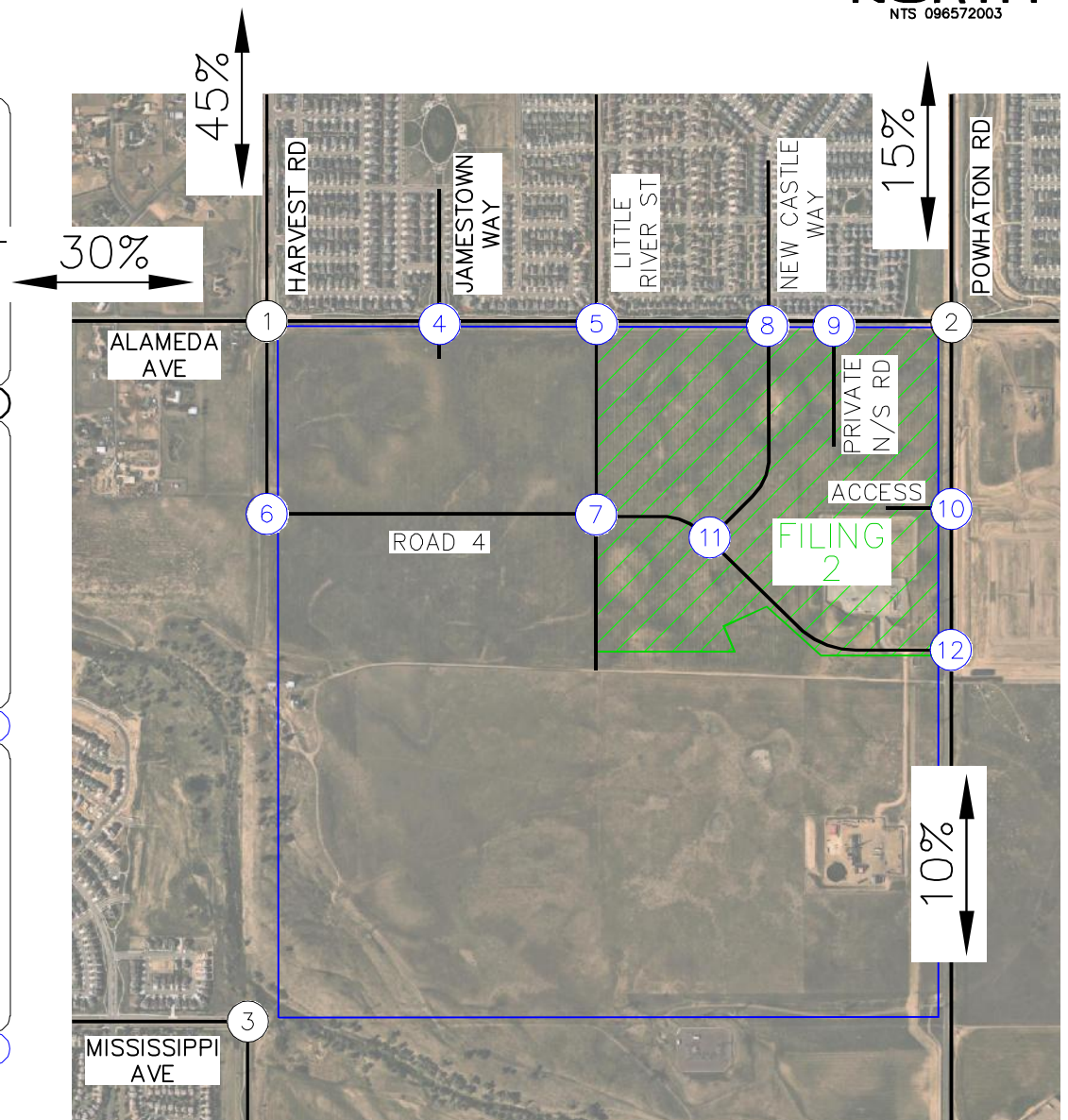
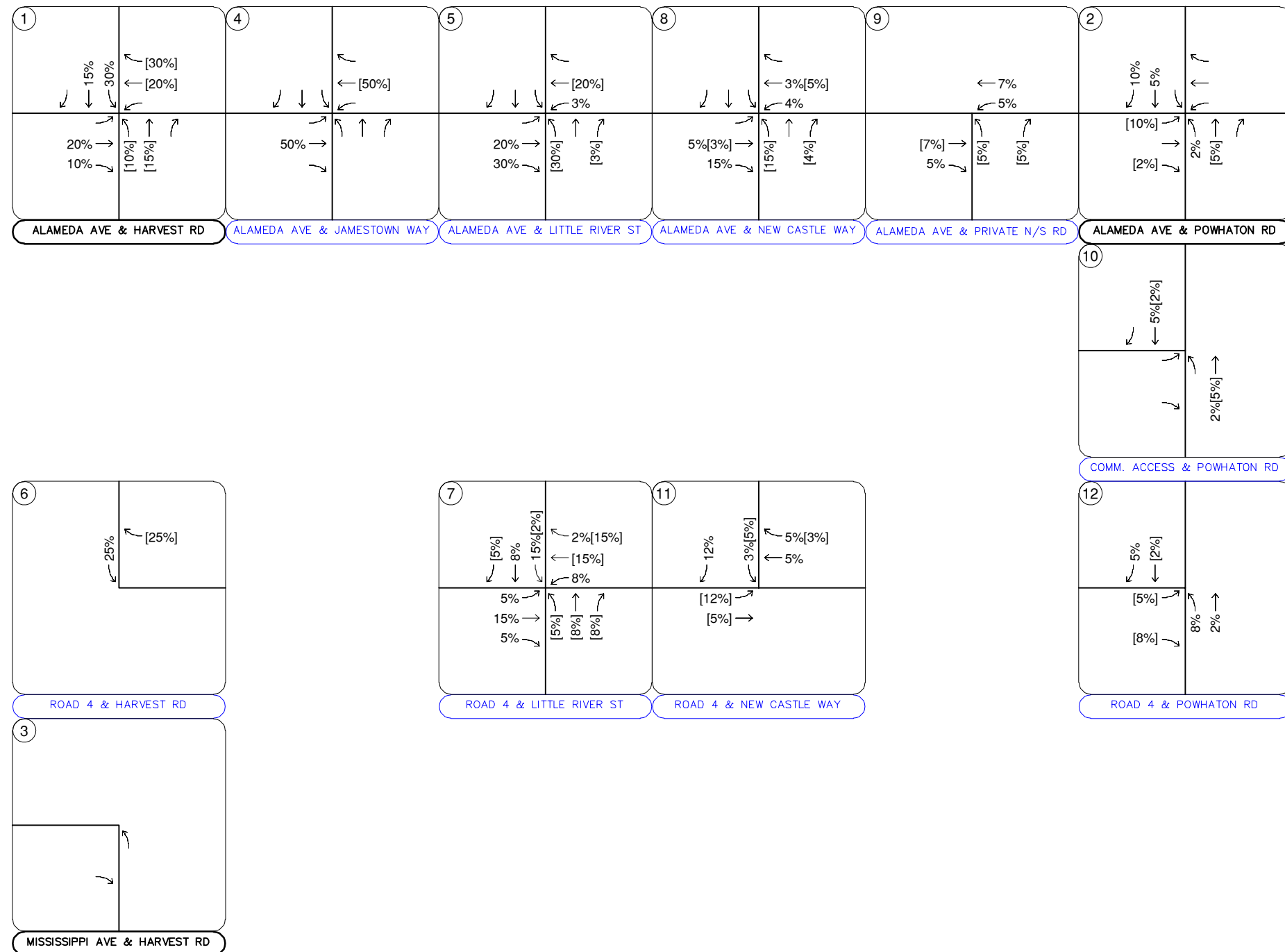


FIGURE D2
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 2 EXTERNAL TRIP DISTRIBUTION – RESIDENTIAL

Note:

15% of total project residential trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Residential Trips only—85% of the total project residential trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

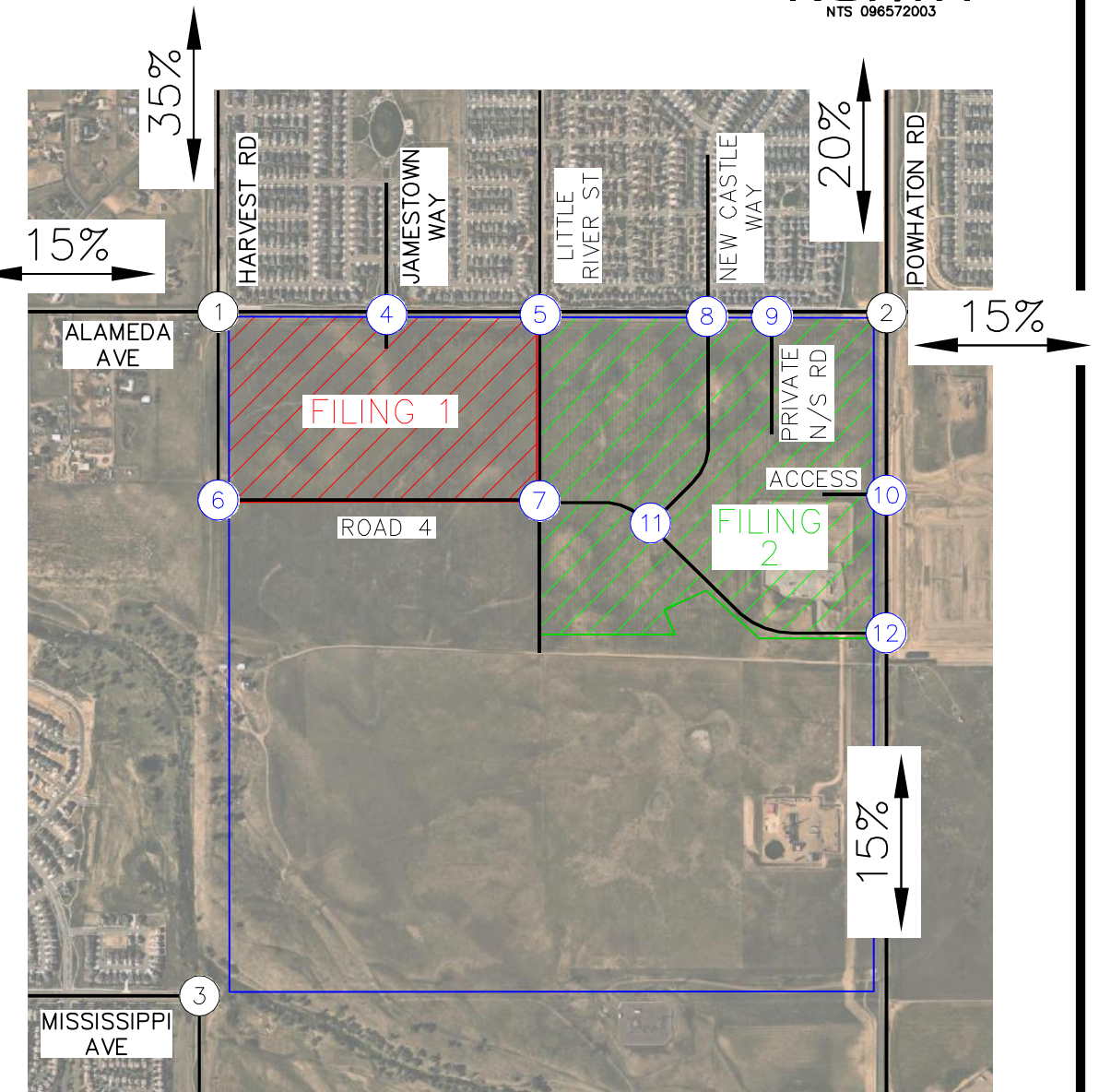
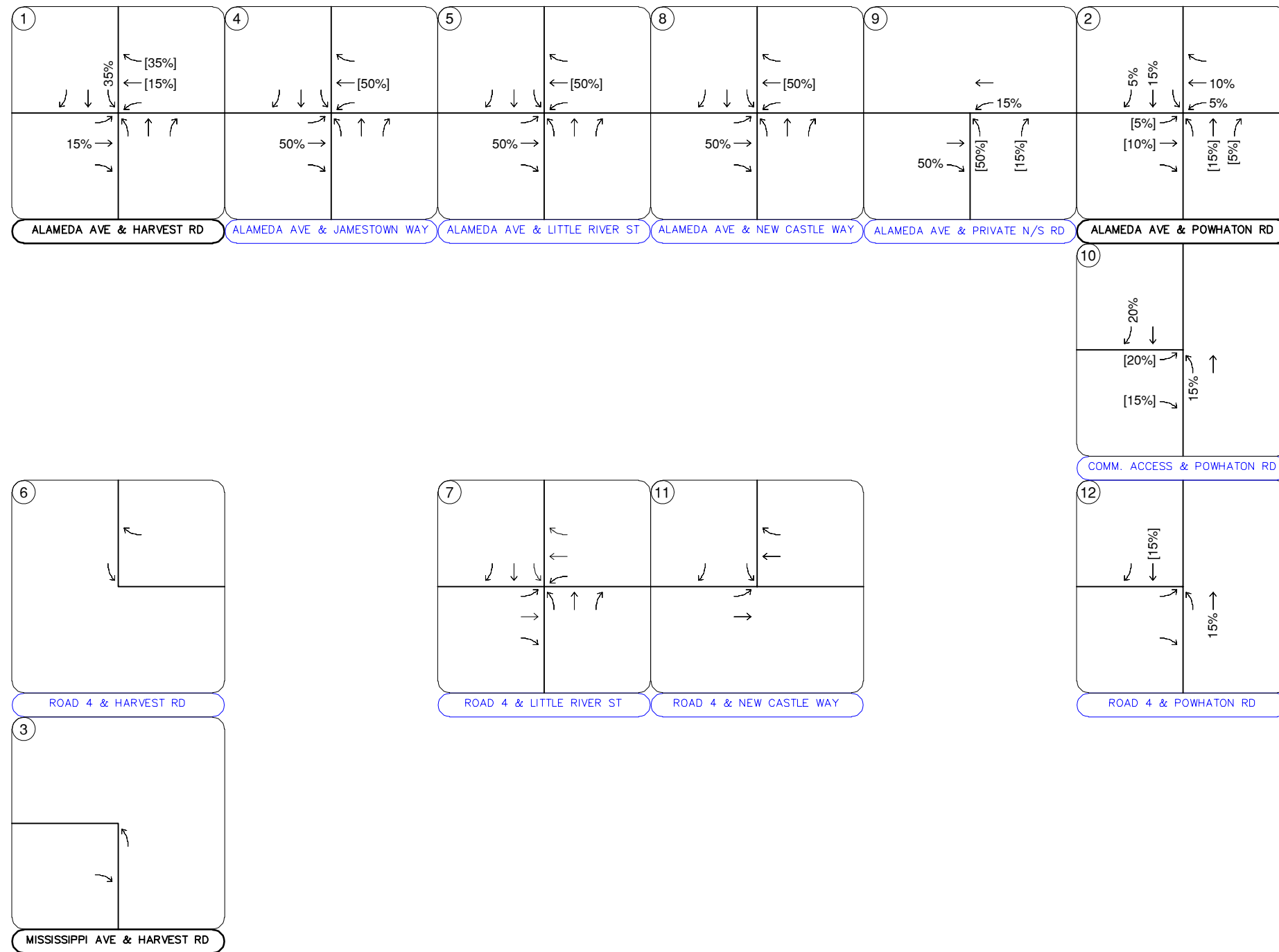
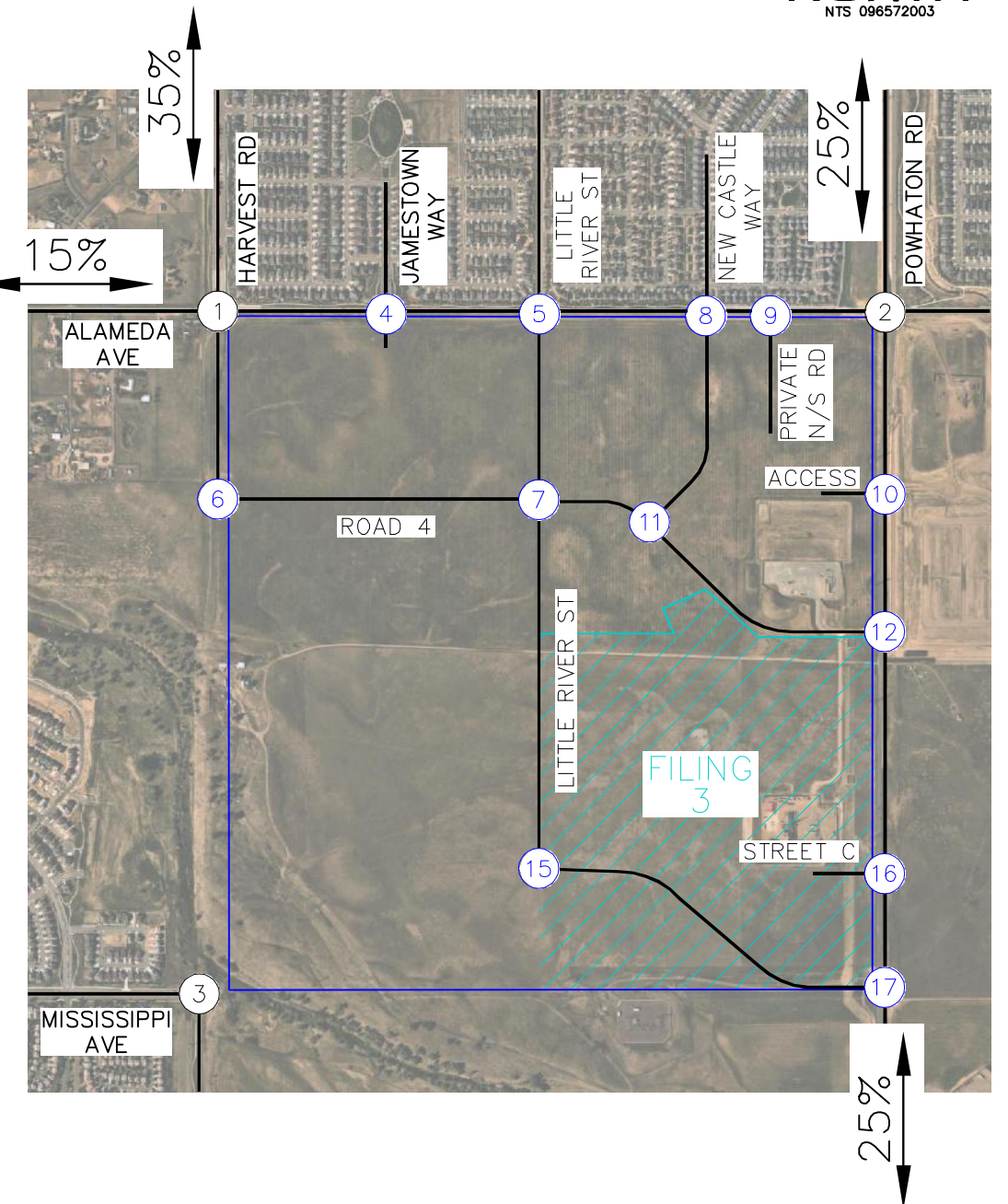
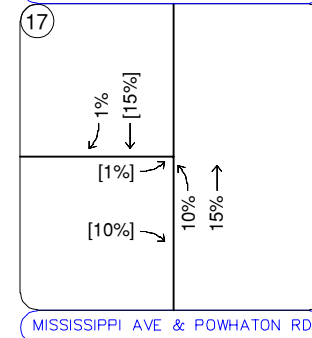
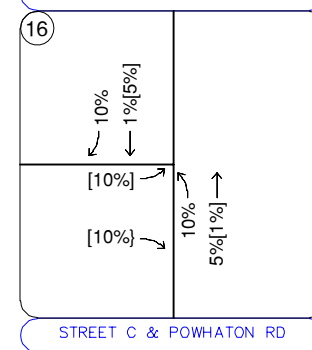
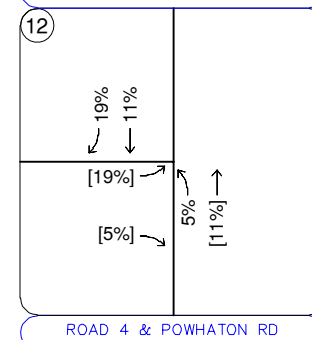
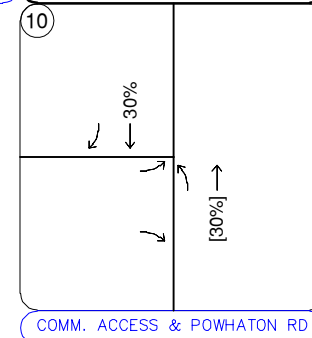
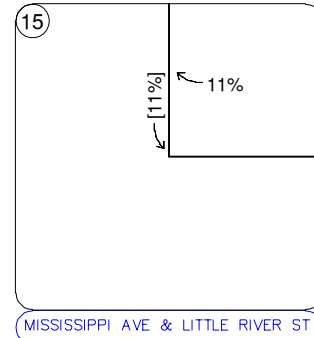
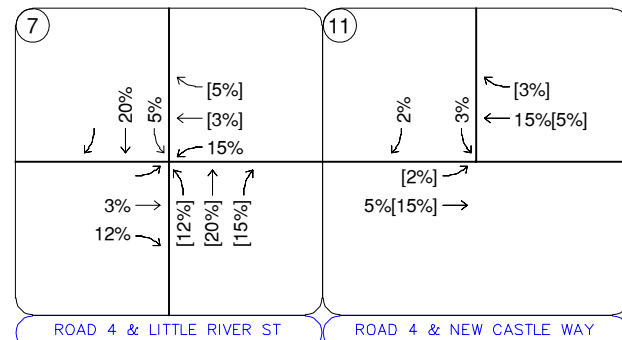
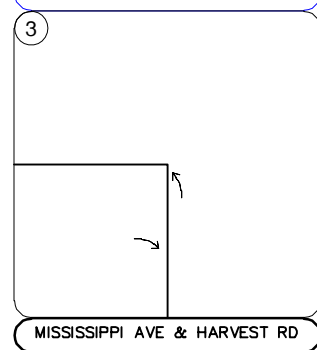
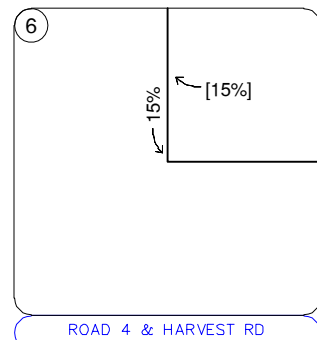
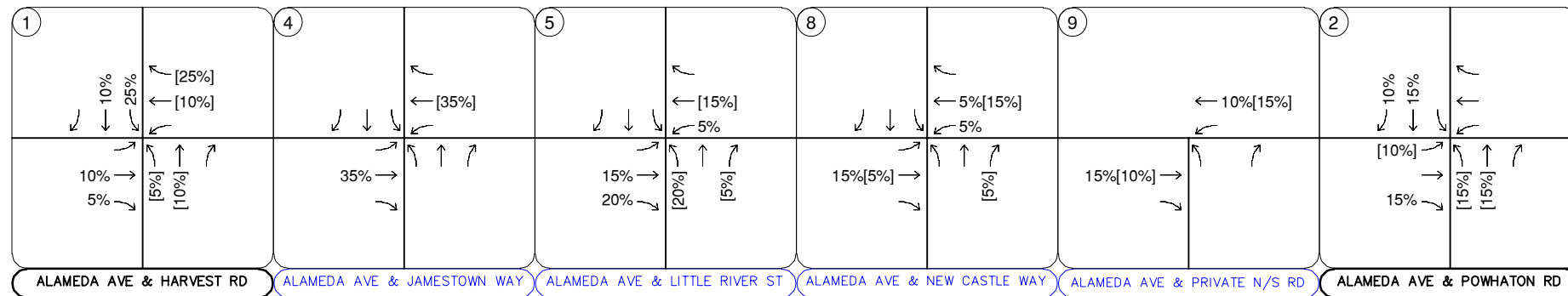


FIGURE D3
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 2 EXTERNAL TRIP DISTRIBUTION – COMMERCIAL

Note:
30% of total project commercial trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Commercial Trips only—70% of the total project commercial trips.

LEGEND	
(X)	Study Area Key Intersection
(X)	Project Access Intersection
XX%	External Trip Distribution Percentage
XX%[XX%]	Entering[Exiting] Trip Distribution Percentage



Note:
15% of total project residential trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Residential Trips only—85% of the total project residential trips.

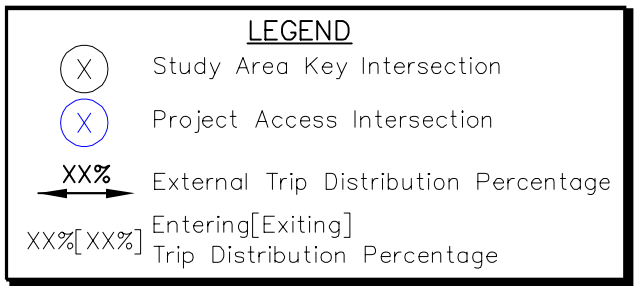


FIGURE D4
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 3 EXTERNAL TRIP DISTRIBUTION

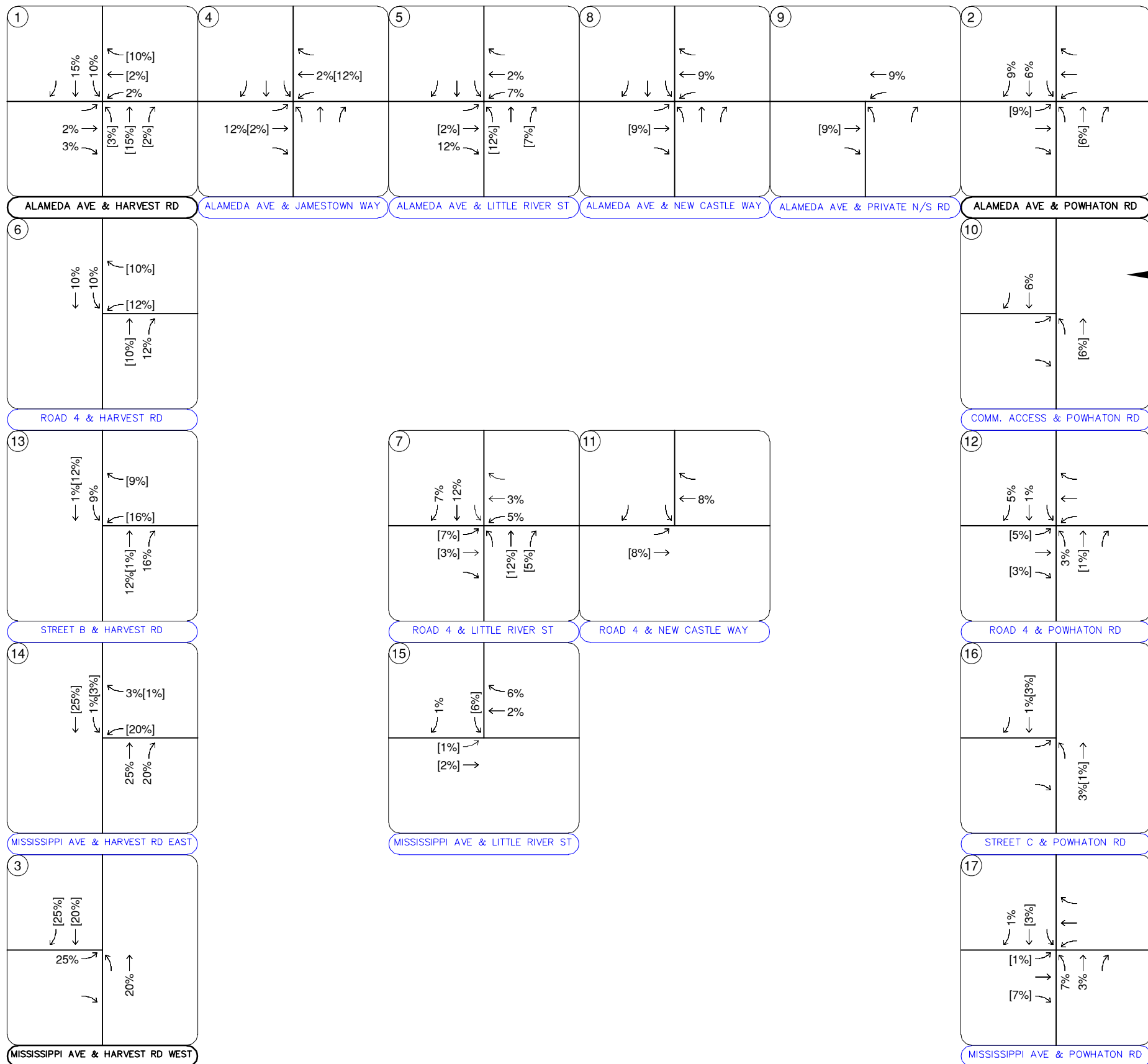
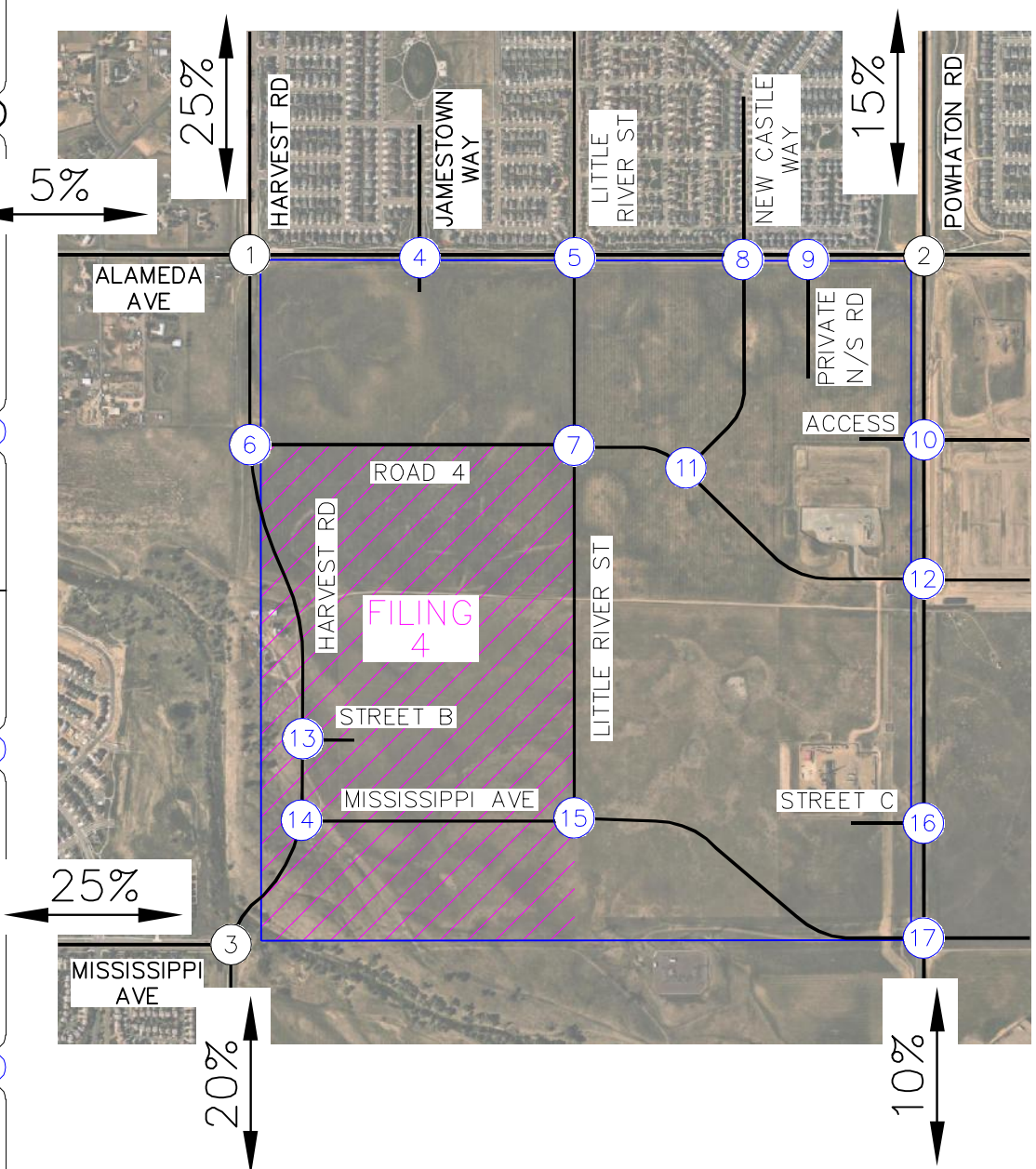


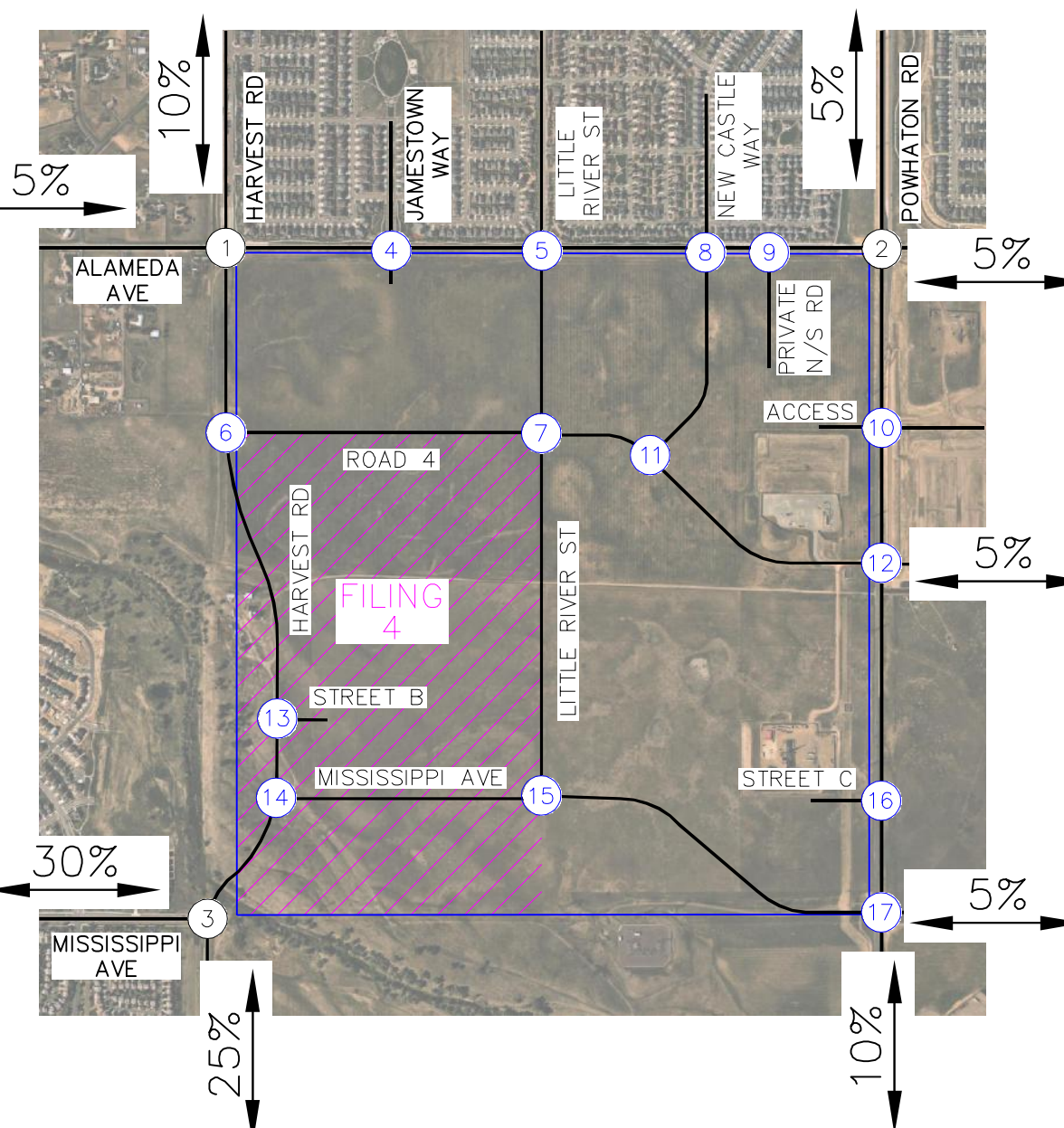
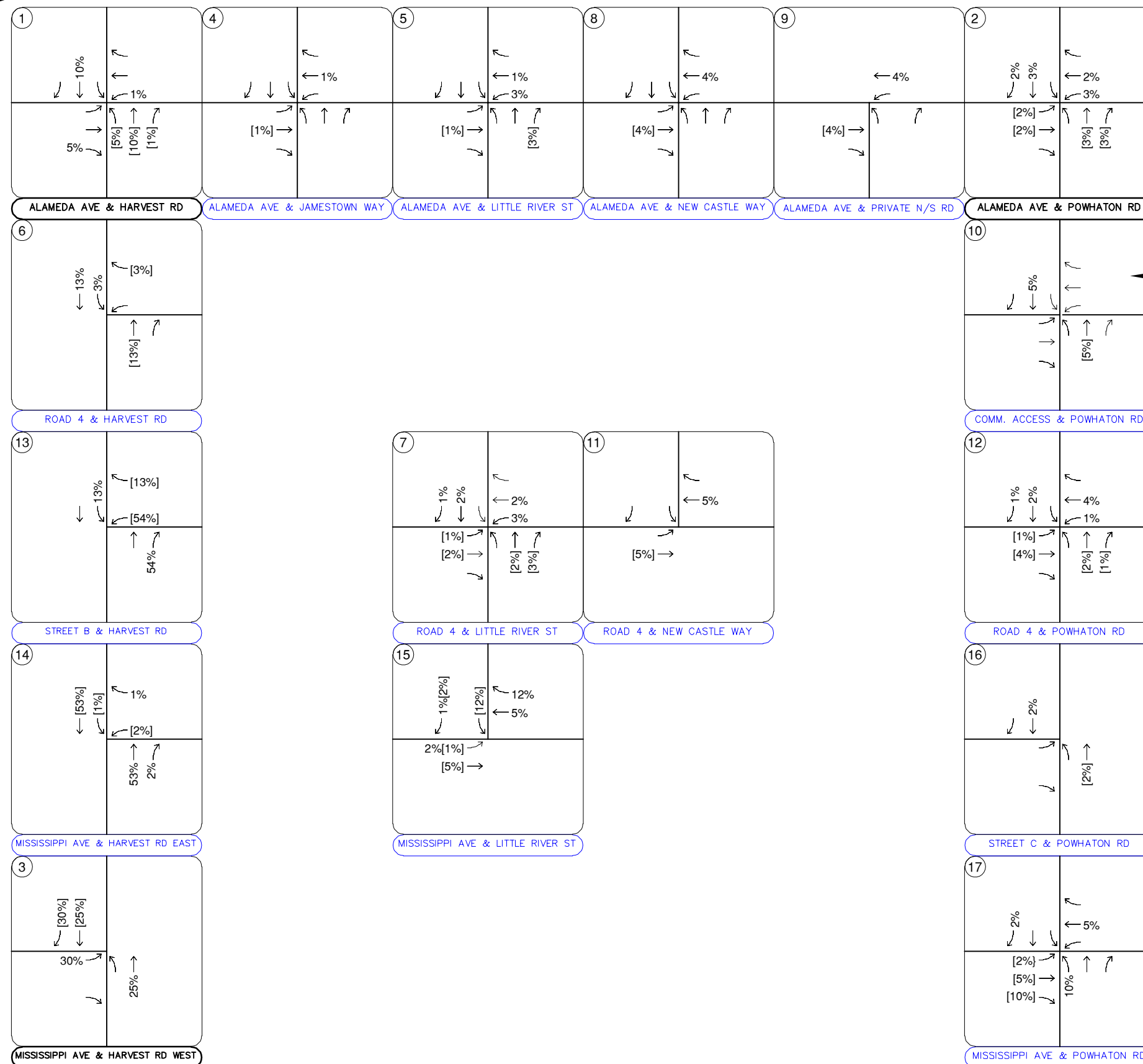
FIGURE D5
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 FILING 4 EXTERNAL TRIP DISTRIBUTION – RESIDENTIAL



Note:
 15% of total project residential trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Residential Trips only—85% of the total project residential trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage



Note:
30% of total project commercial trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Commercial Trips only—85% of the total project commercial trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

FIGURE D6
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 4 EXTERNAL TRIP DISTRIBUTION – COMMERCIAL

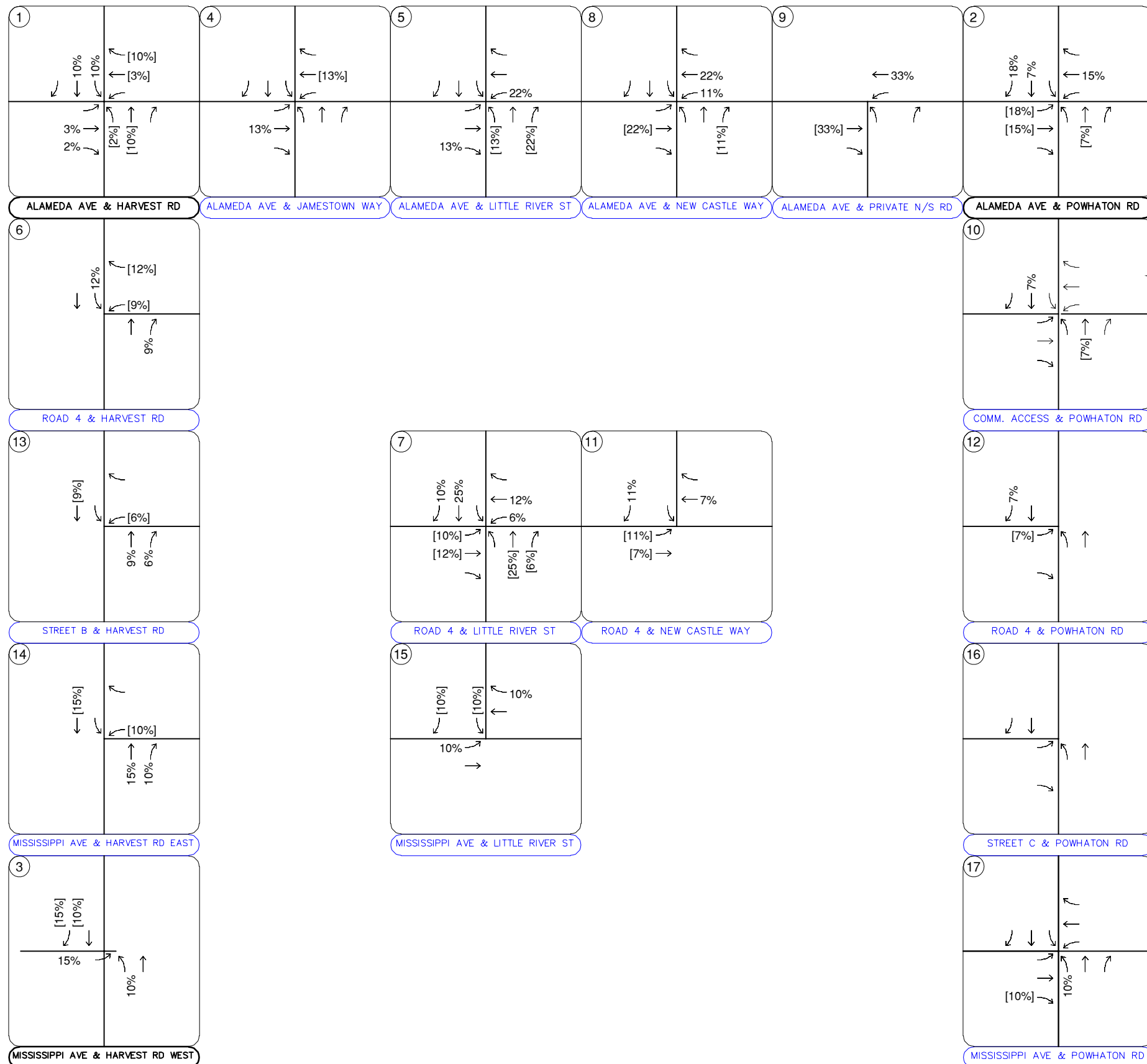
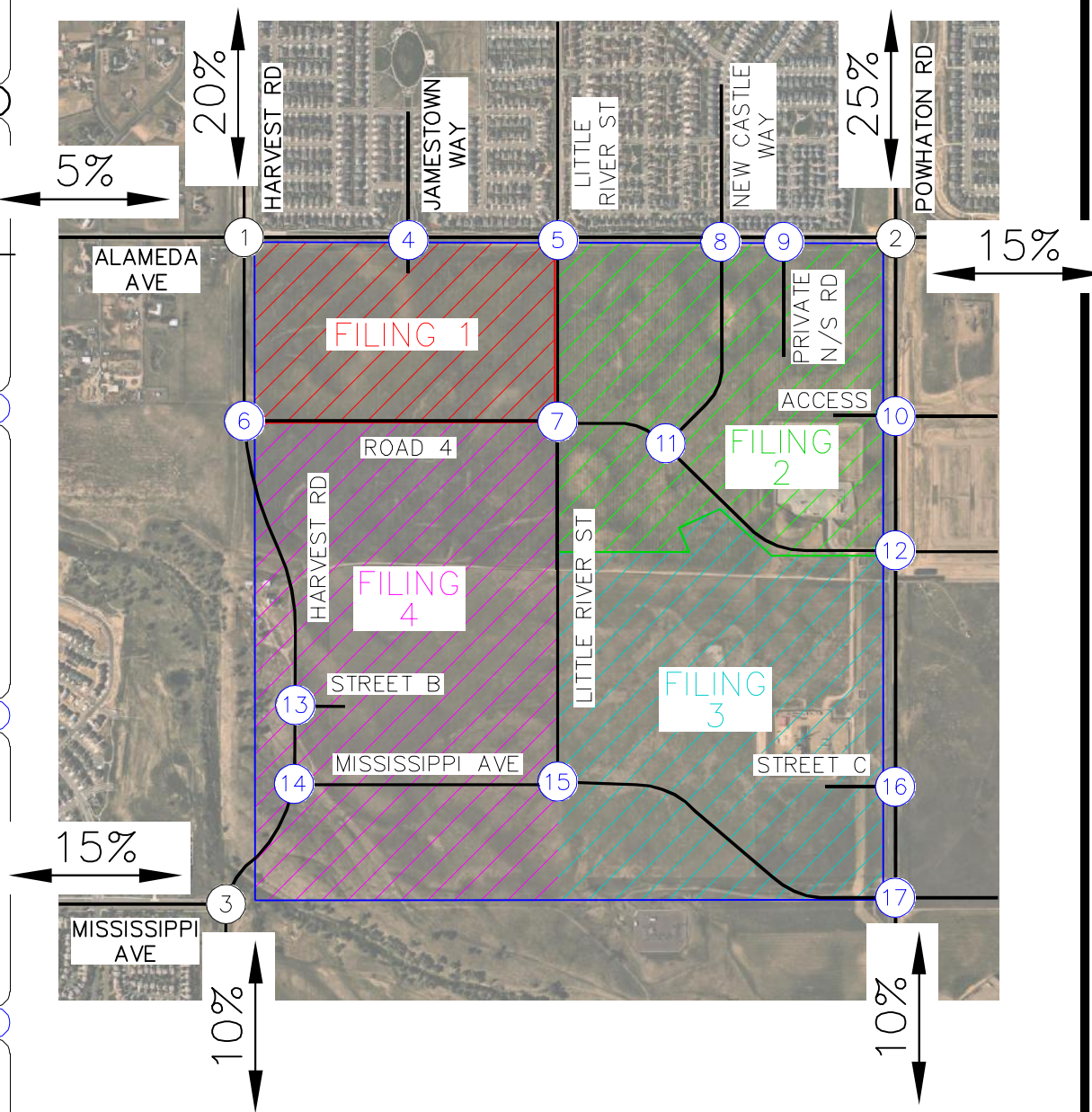


FIGURE D7
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 FILING 4 EXTERNAL TRIP DISTRIBUTION – SCHOOL



Note:
 90% of total project school trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project School Trips only—10% of the total project school trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

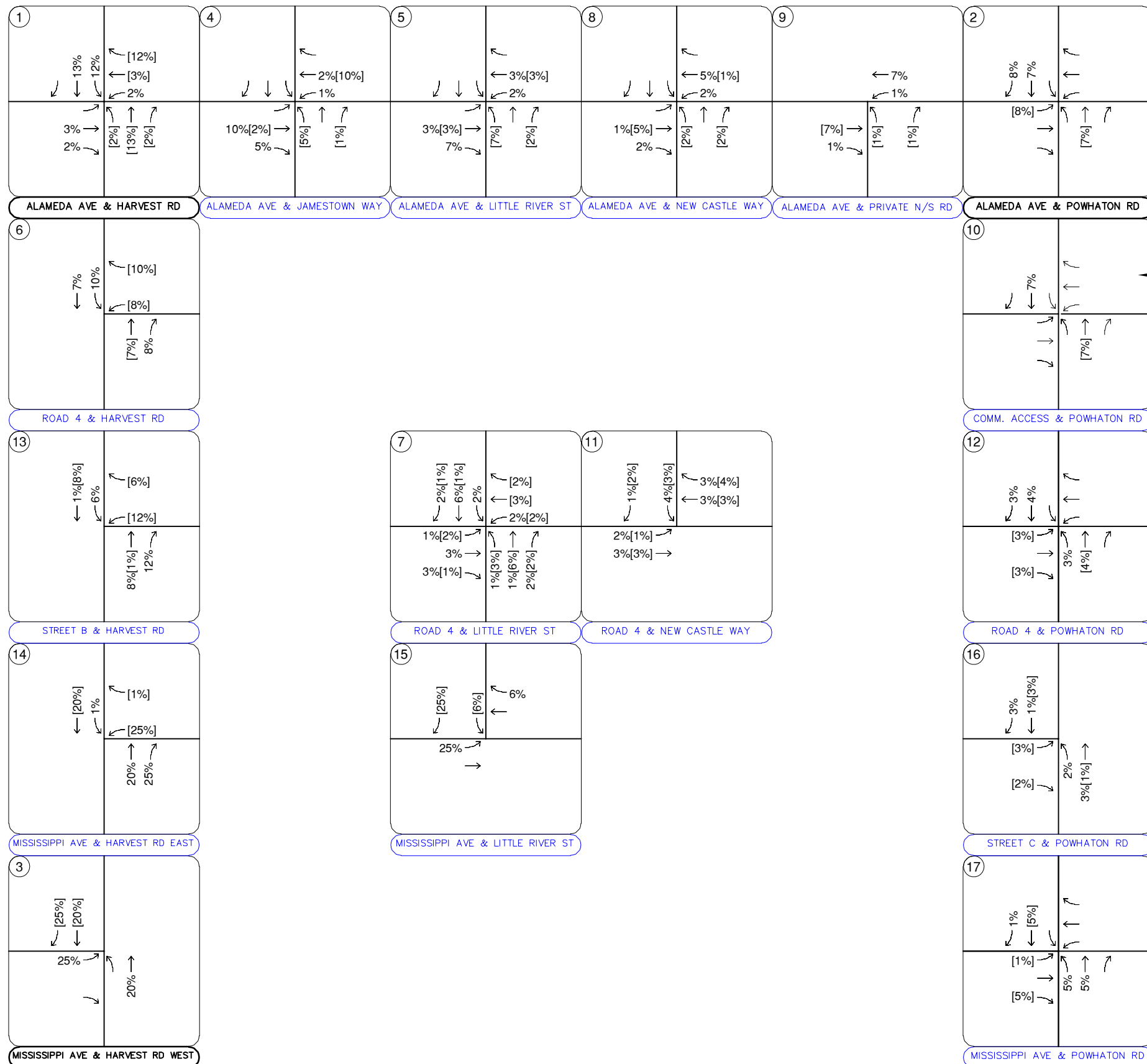
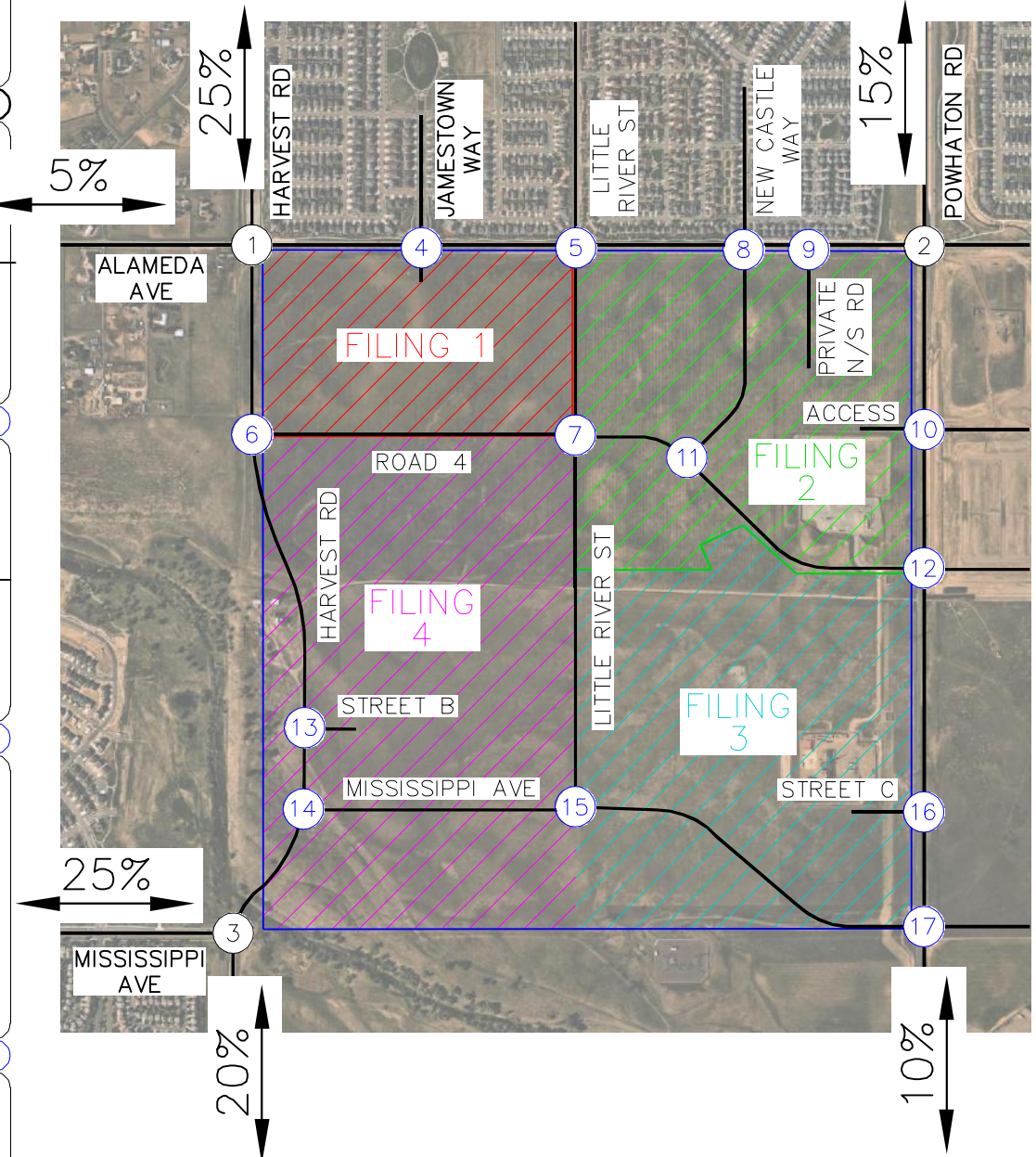


FIGURE D8
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 FULL PROJECT BUILDOUT EXTERNAL TRIP DISTRIBUTION – RESIDENTIAL



Note:
 15% of total project residential trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Residential Trips only—85% of the total project residential trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

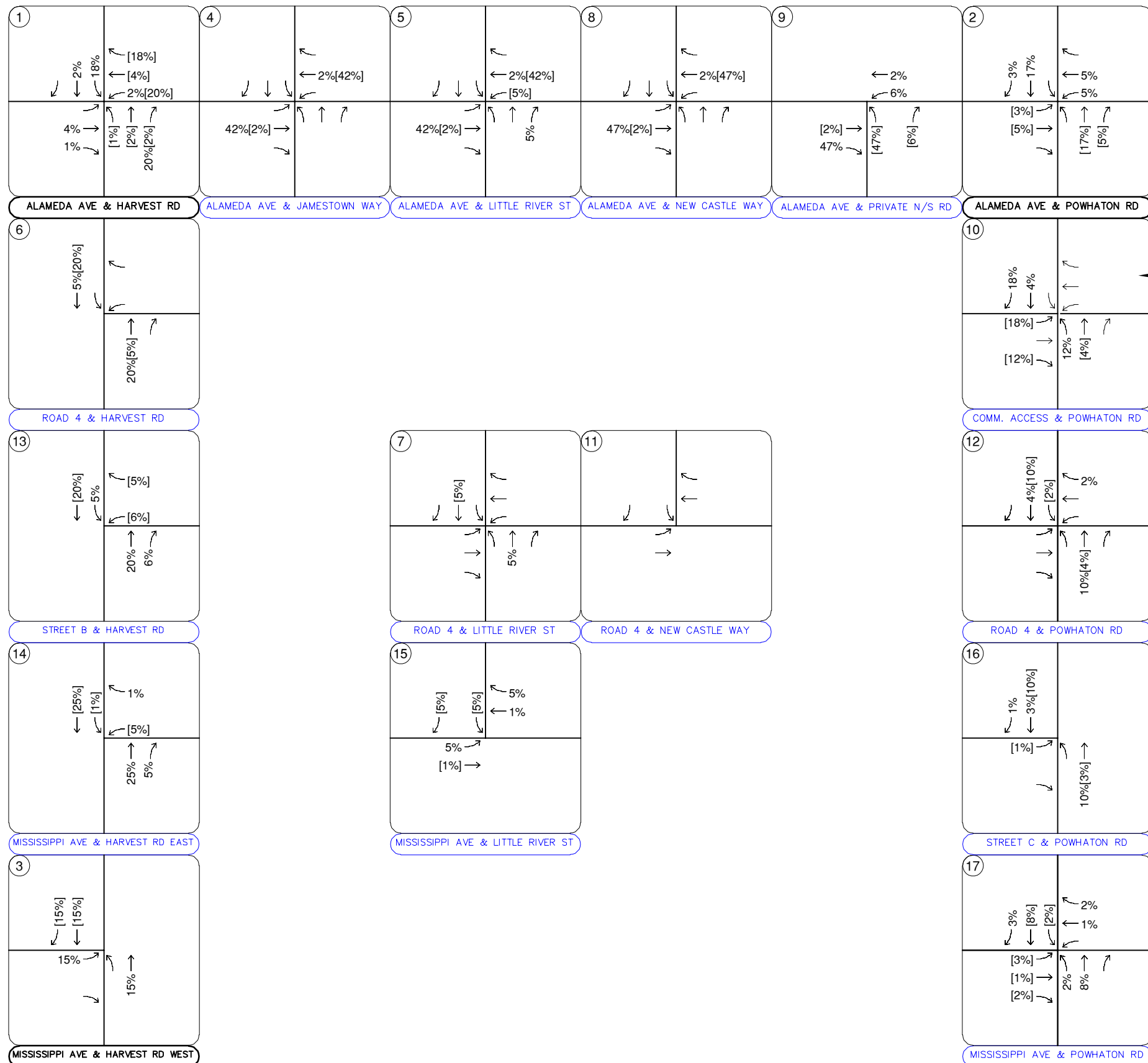
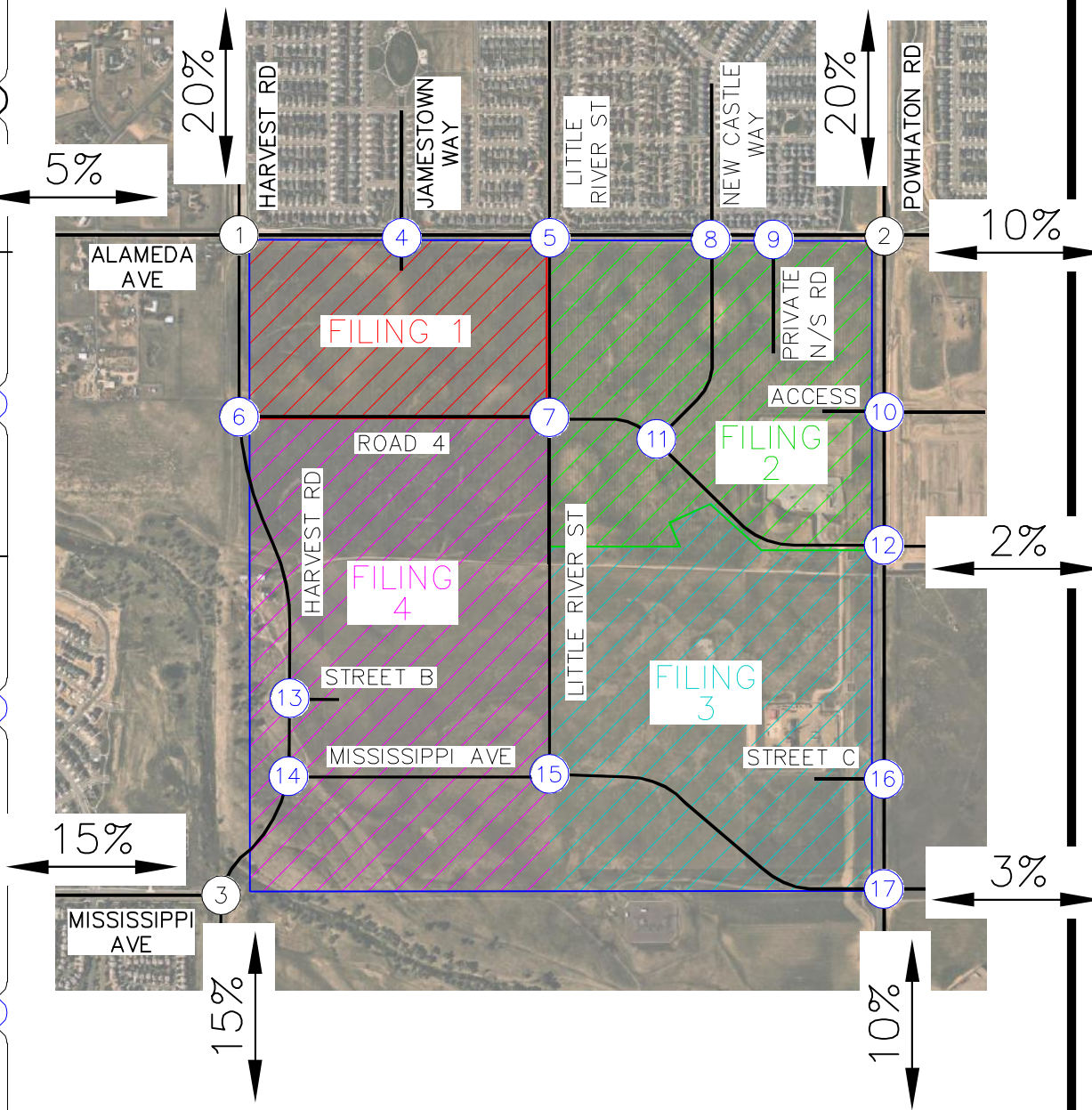


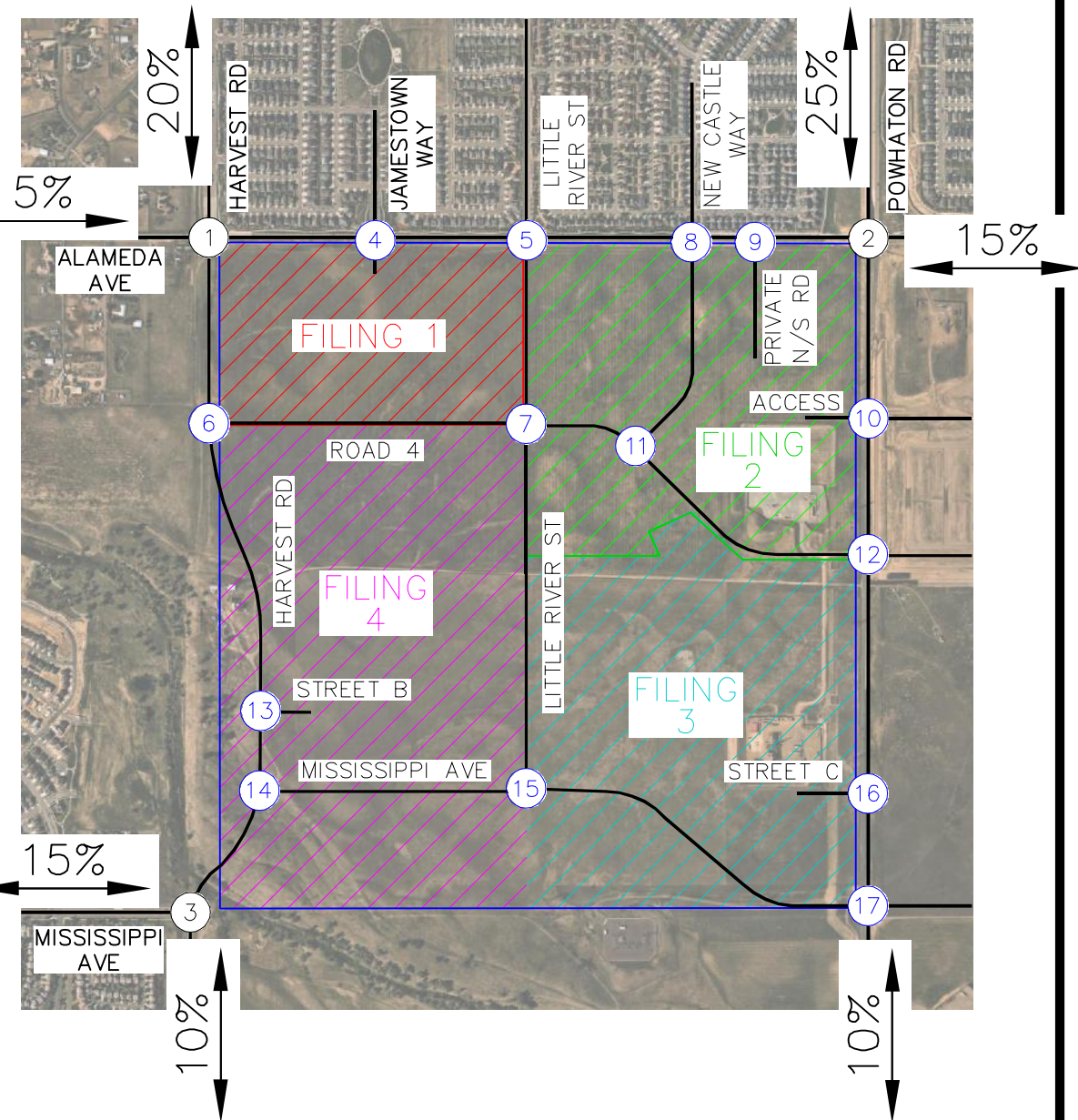
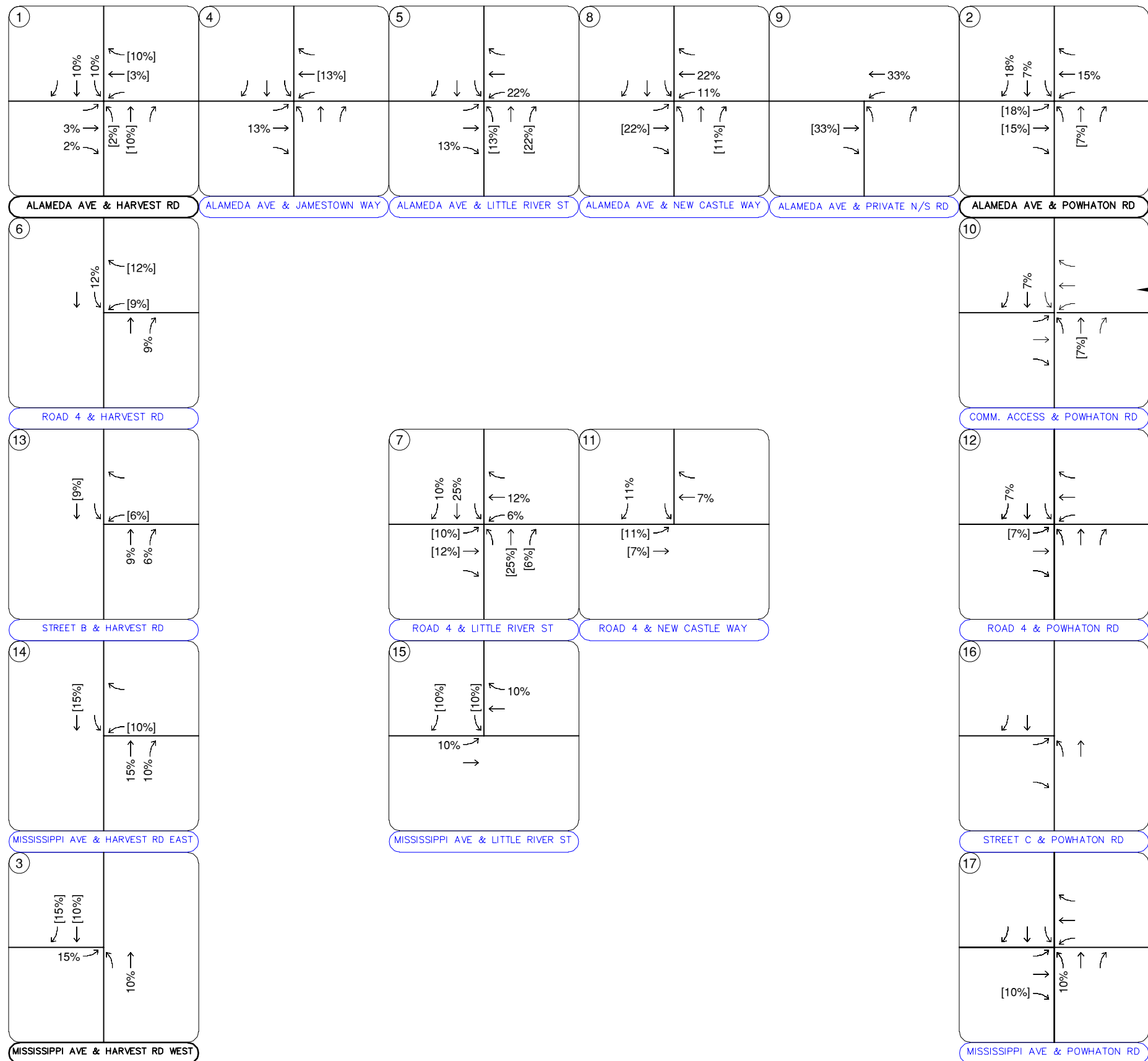
FIGURE D9
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FULL PROJECT BUILDOUT EXTERNAL TRIP DISTRIBUTION – COMMERCIAL



Note:
 30% of total project commercial trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project Commercial Trips only—70% of the total project commercial trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage



Note:
90% of total project school trips are assumed to be internal to Parklands. The external trip distributions shown in this figure are applied to External Project School Trips only—10% of the total project school trips.

LEGEND

- (X) Study Area Key Intersection
- (X) Project Access Intersection
- XX% External Trip Distribution Percentage
- XX%[XX%] Entering[Exiting] Trip Distribution Percentage

FIGURE D10
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FULL PROJECT BUILDOUT EXTERNAL TRIP DISTRIBUTION – SCHOOL

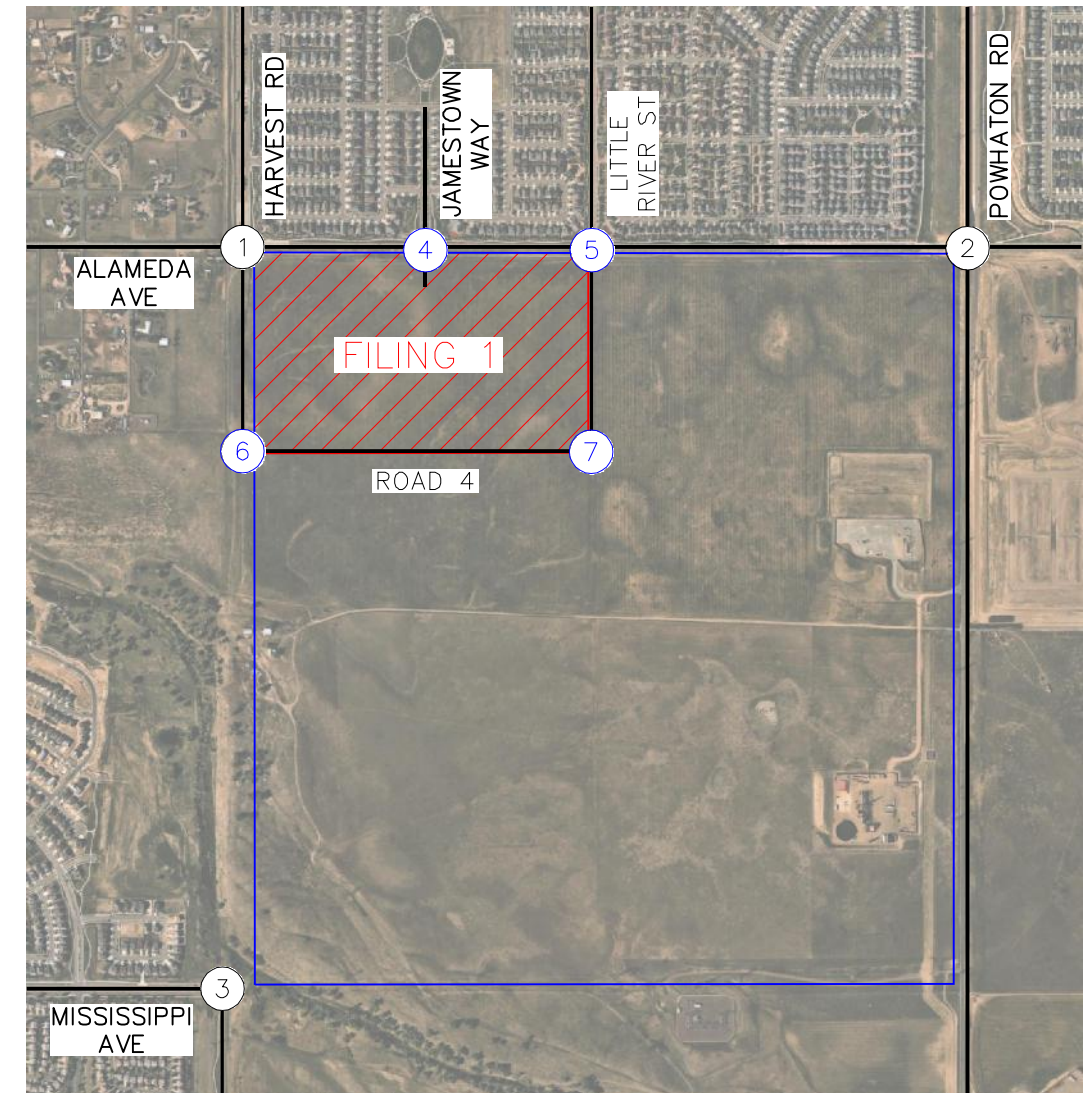
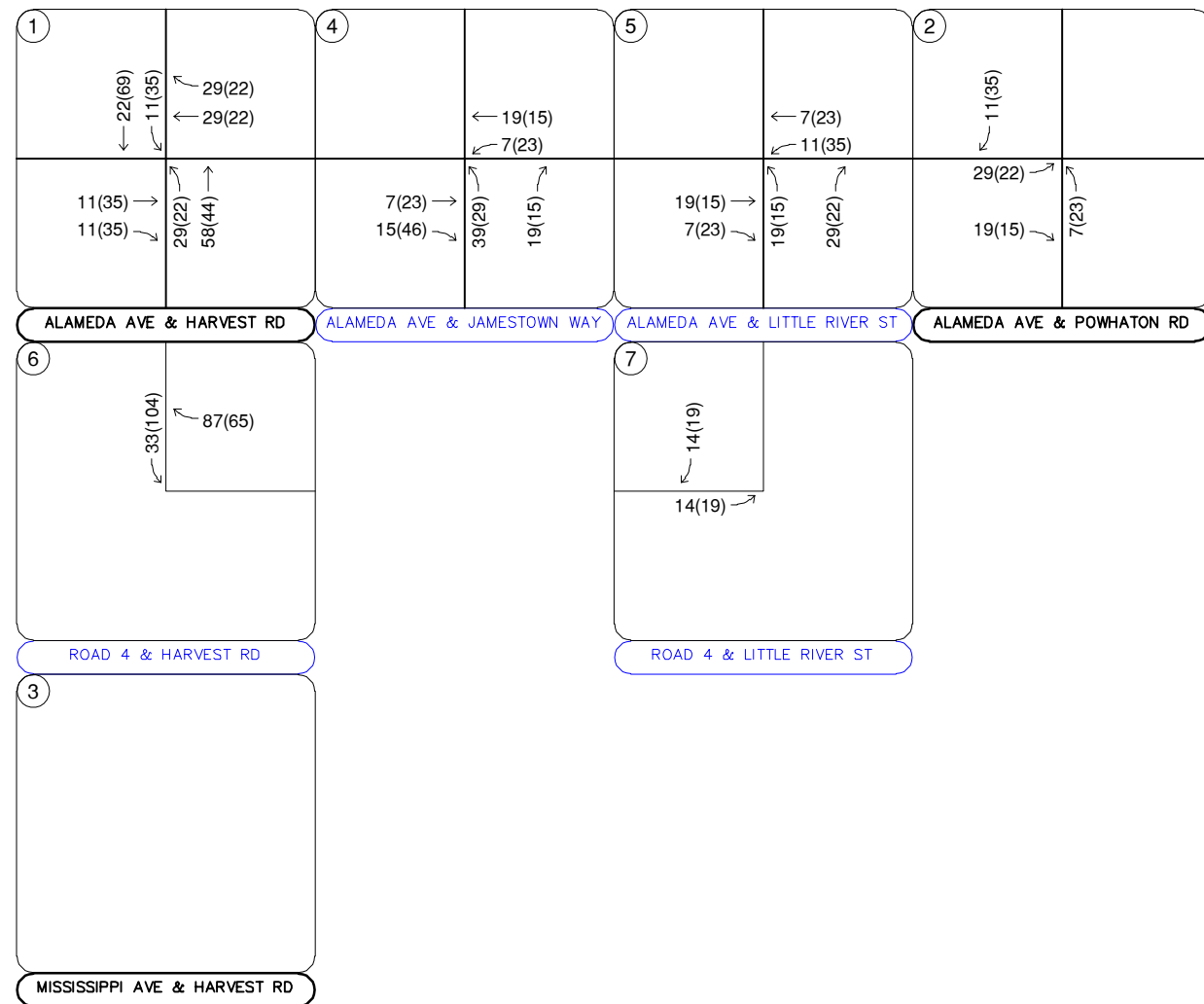


FIGURE D11
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 1 TRAFFIC ASSIGNMENT

LEGEND	
(X)	Study Area Key Intersection
xxx(yyy)	Weekday AM(PM) Peak Hour Traffic Volumes

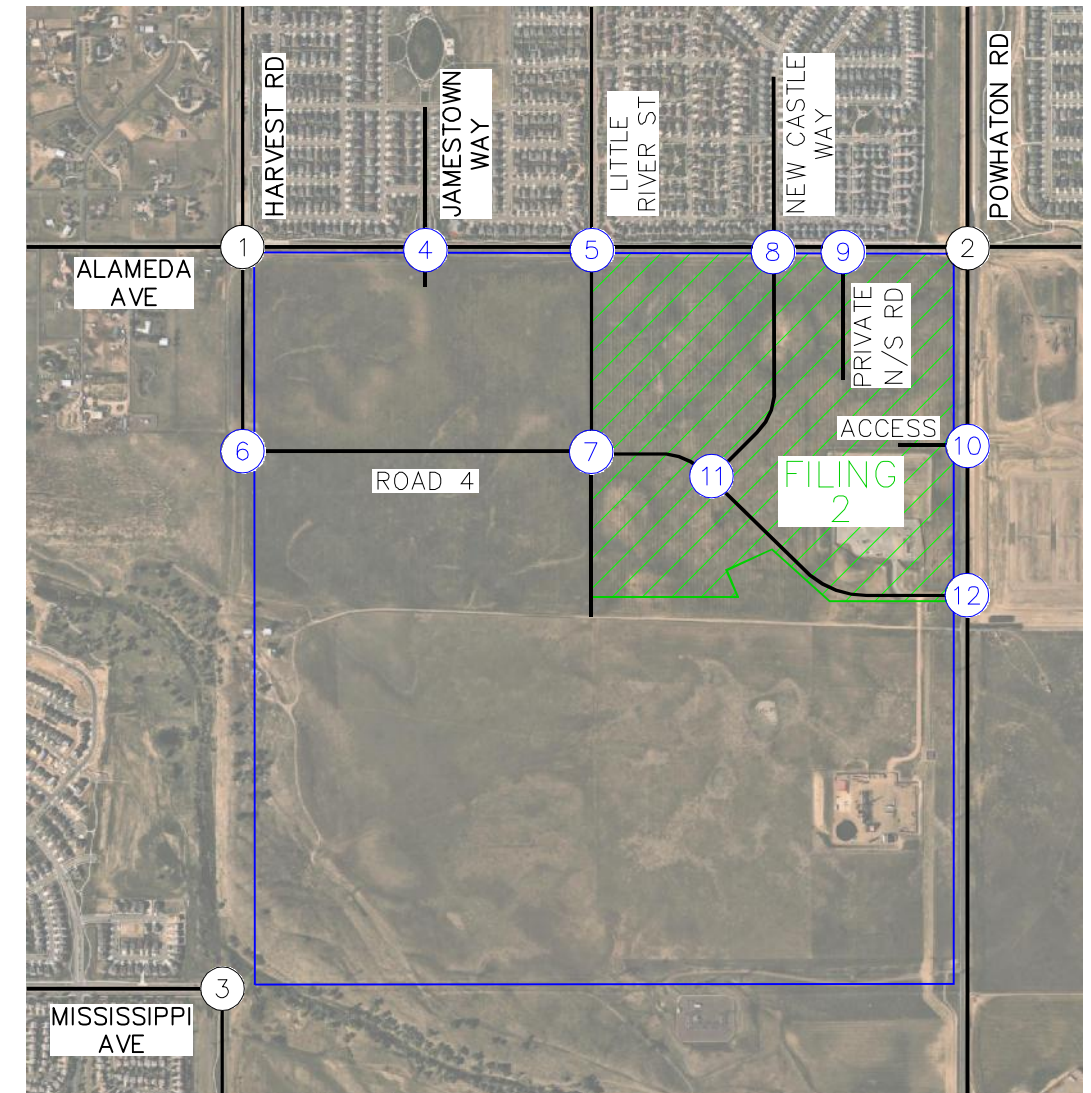
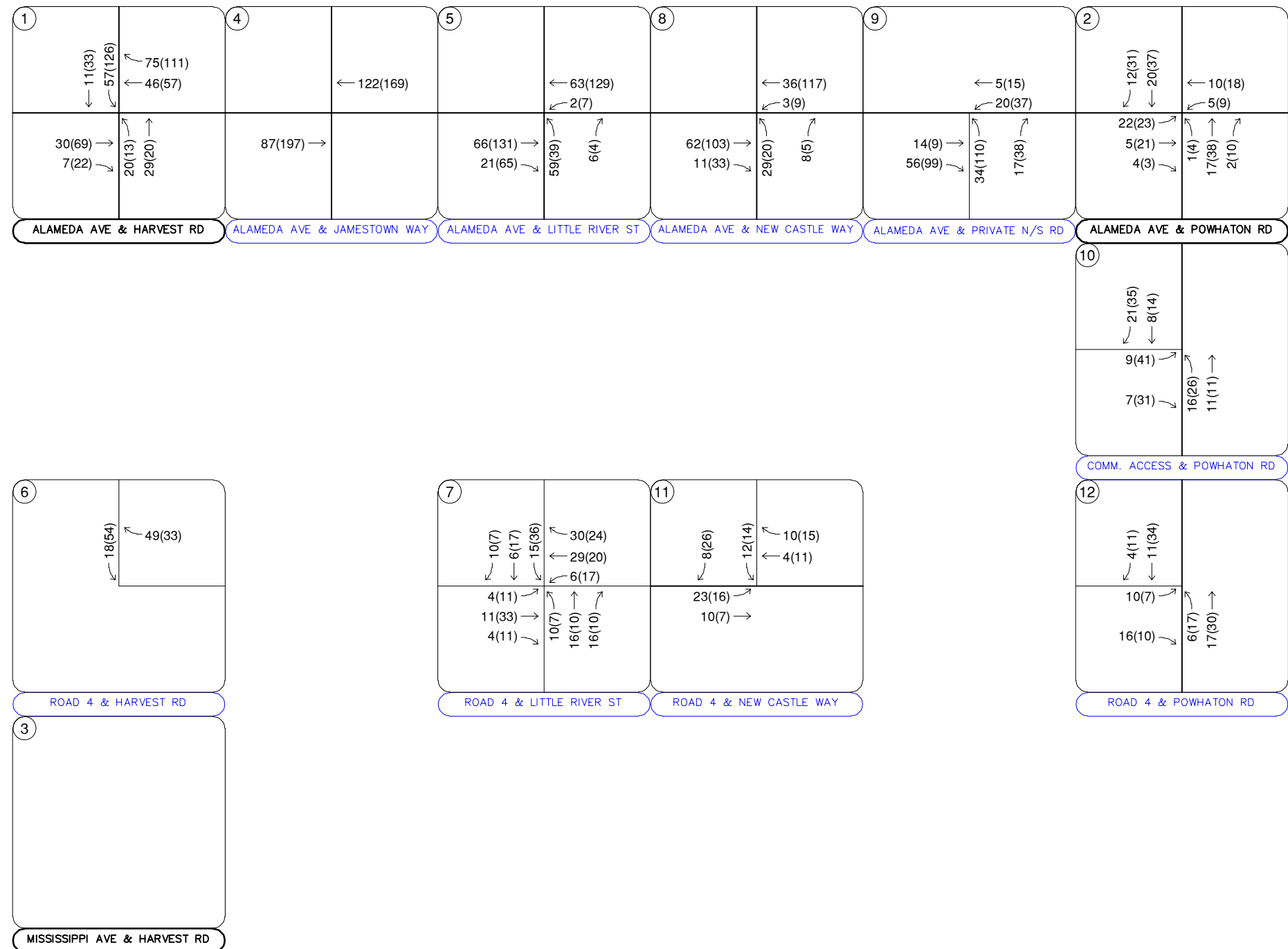
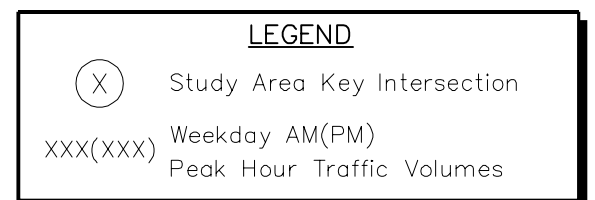


FIGURE D12
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 2 EXTERNAL TRAFFIC ASSIGNMENT



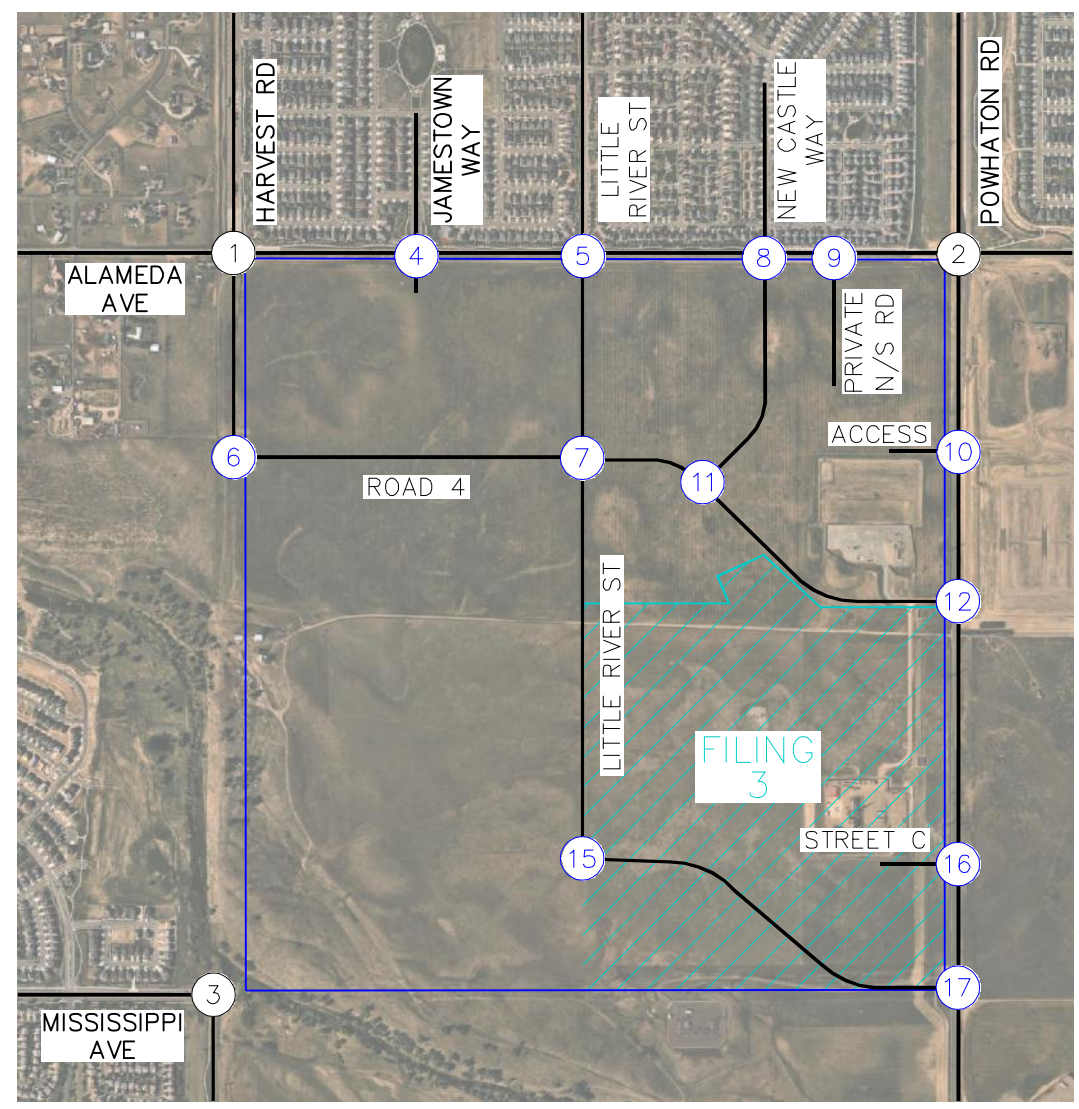
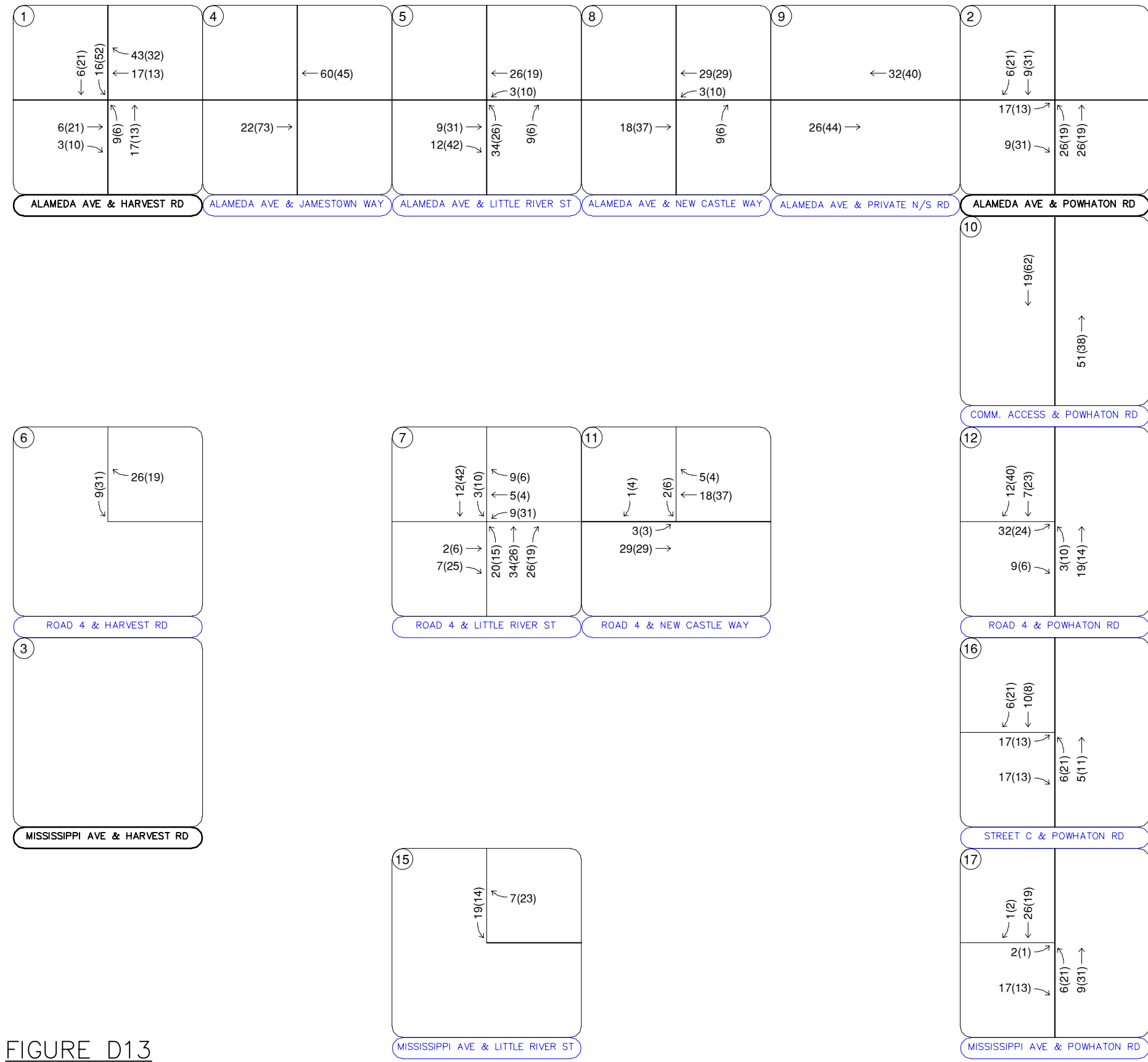
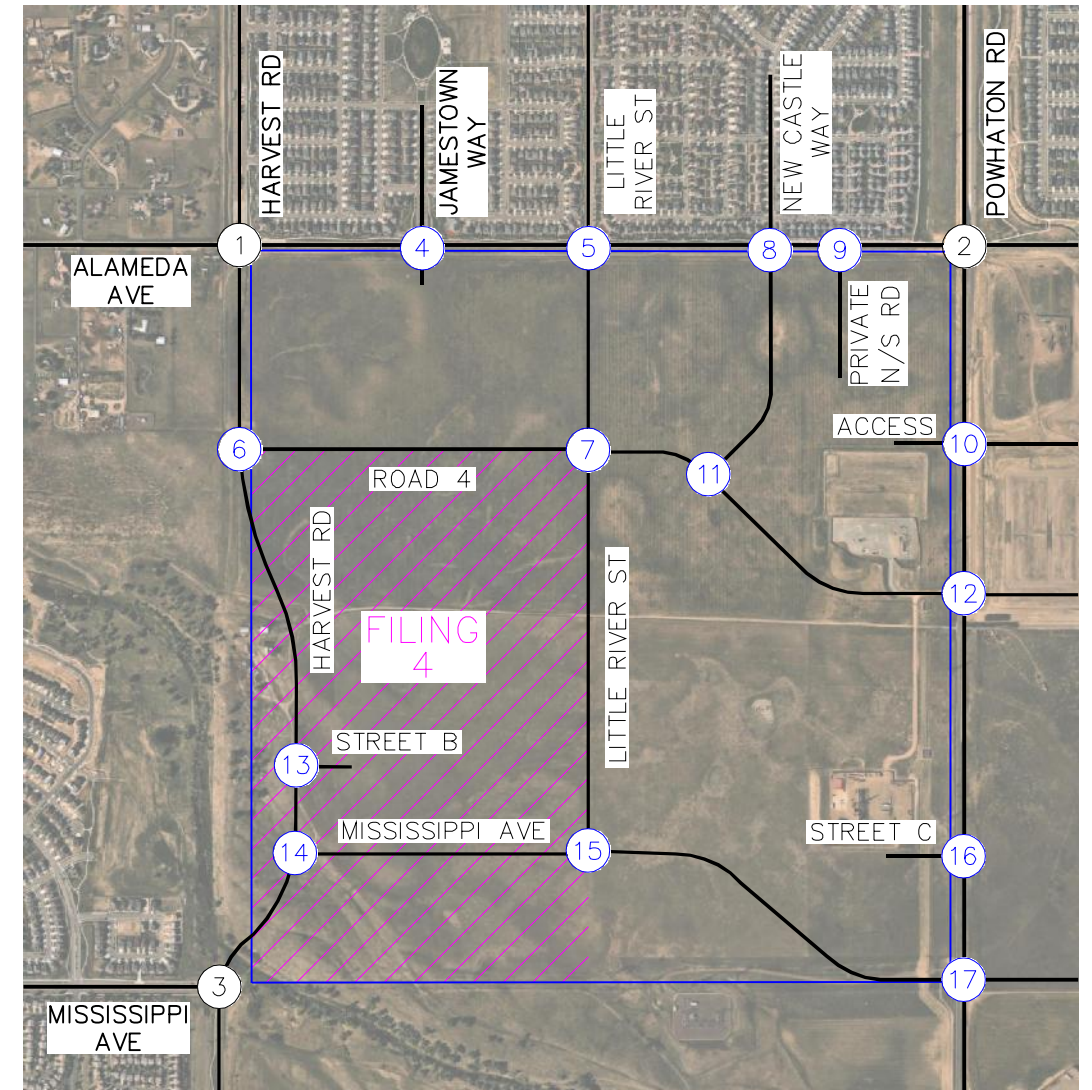
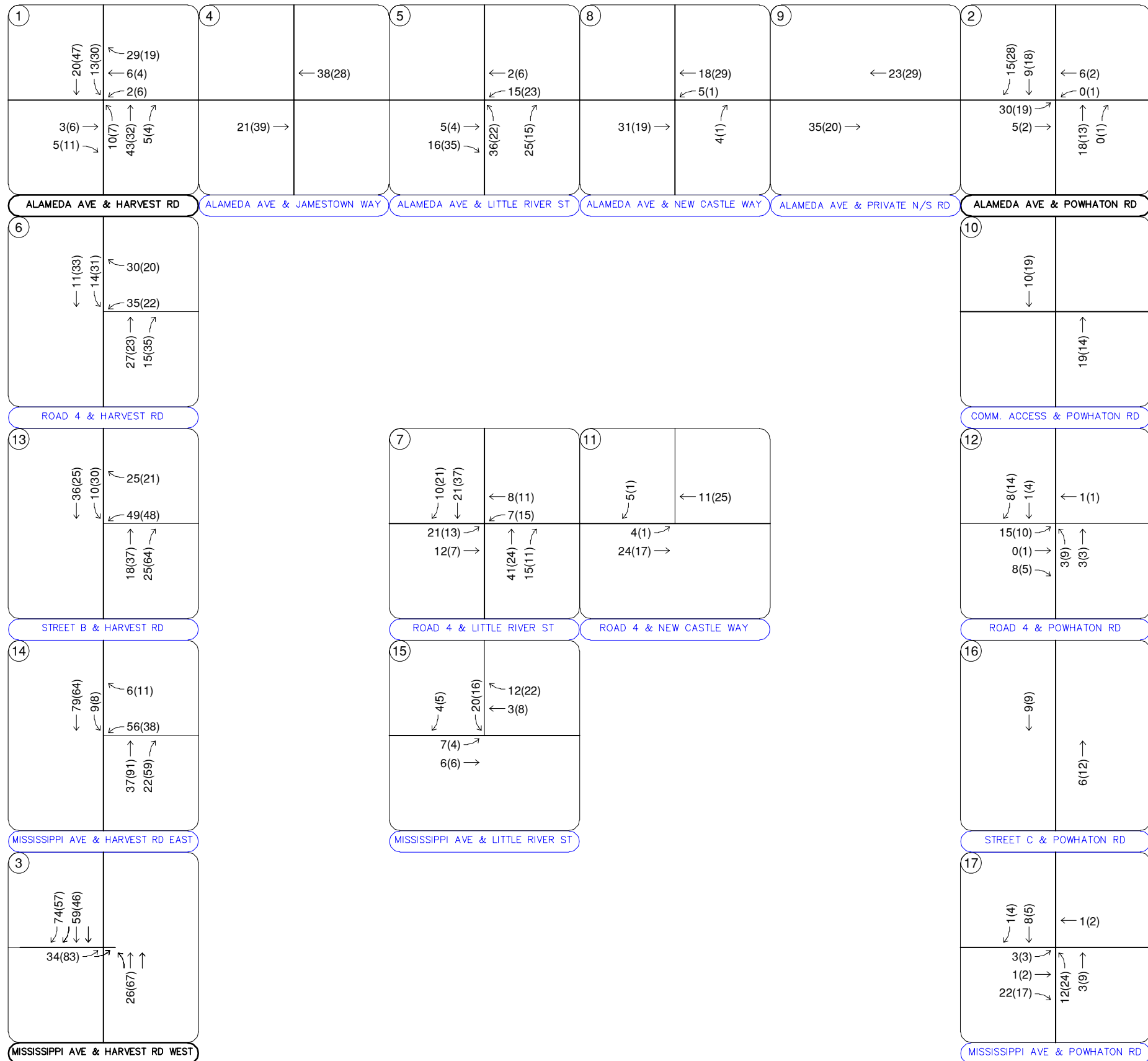


FIGURE D13
 PARKLANDS VILLAGE 2 – DOMINIUM
 AURORA, COLORADO
 FILING 3 EXTERNAL TRAFFIC ASSIGNMENT

LEGEND

- (X) Study Area Key Intersection
- xxx(xxx) Weekday AM(PM) Peak Hour Traffic Volumes



LEGEND

(X) Study Area Key Intersection

xxx(xxx) Weekday AM(PM)
 Peak Hour Traffic Volumes

FIGURE D14
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FILING 4 EXTERNAL TRAFFIC ASSIGNMENT

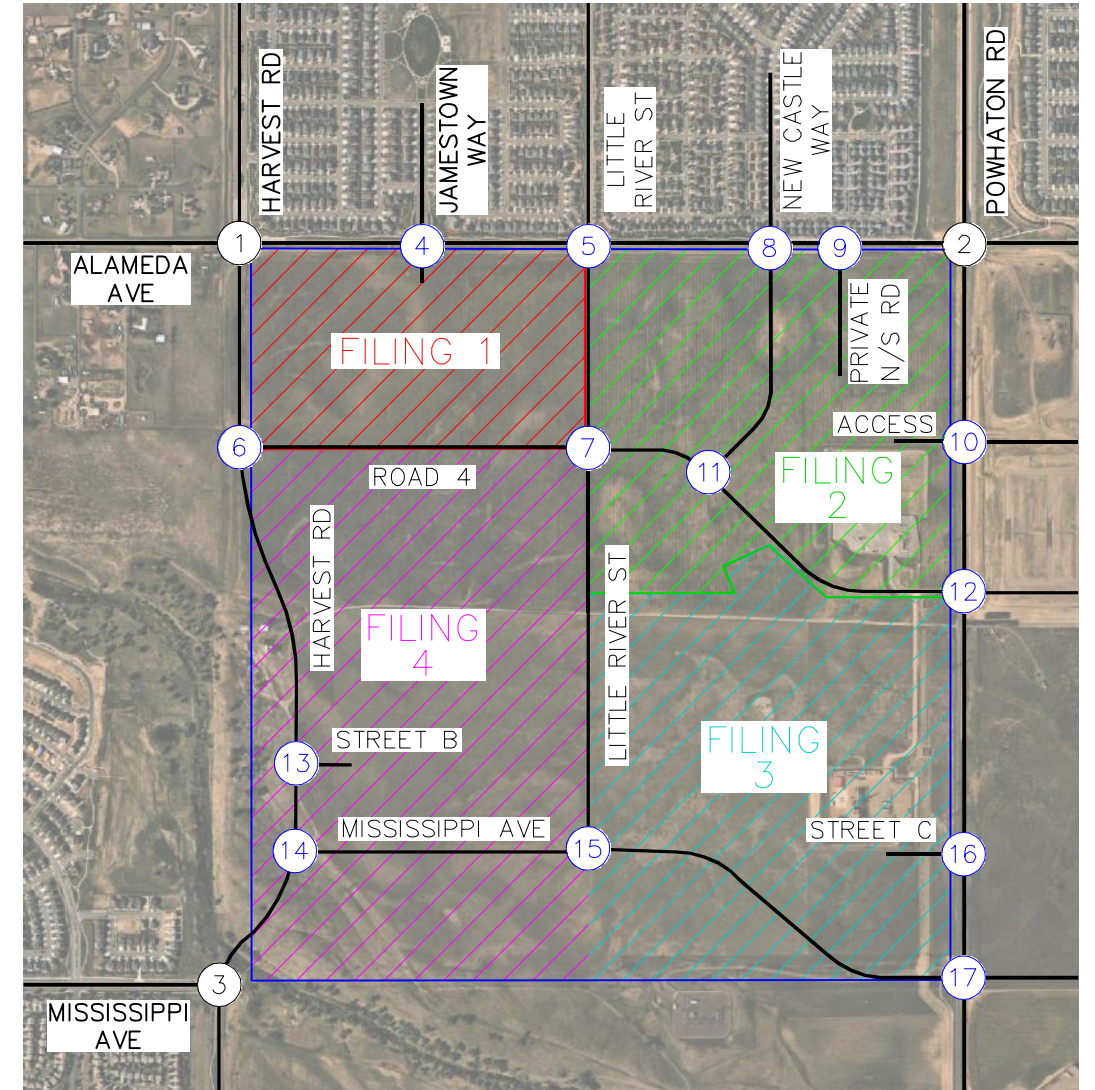
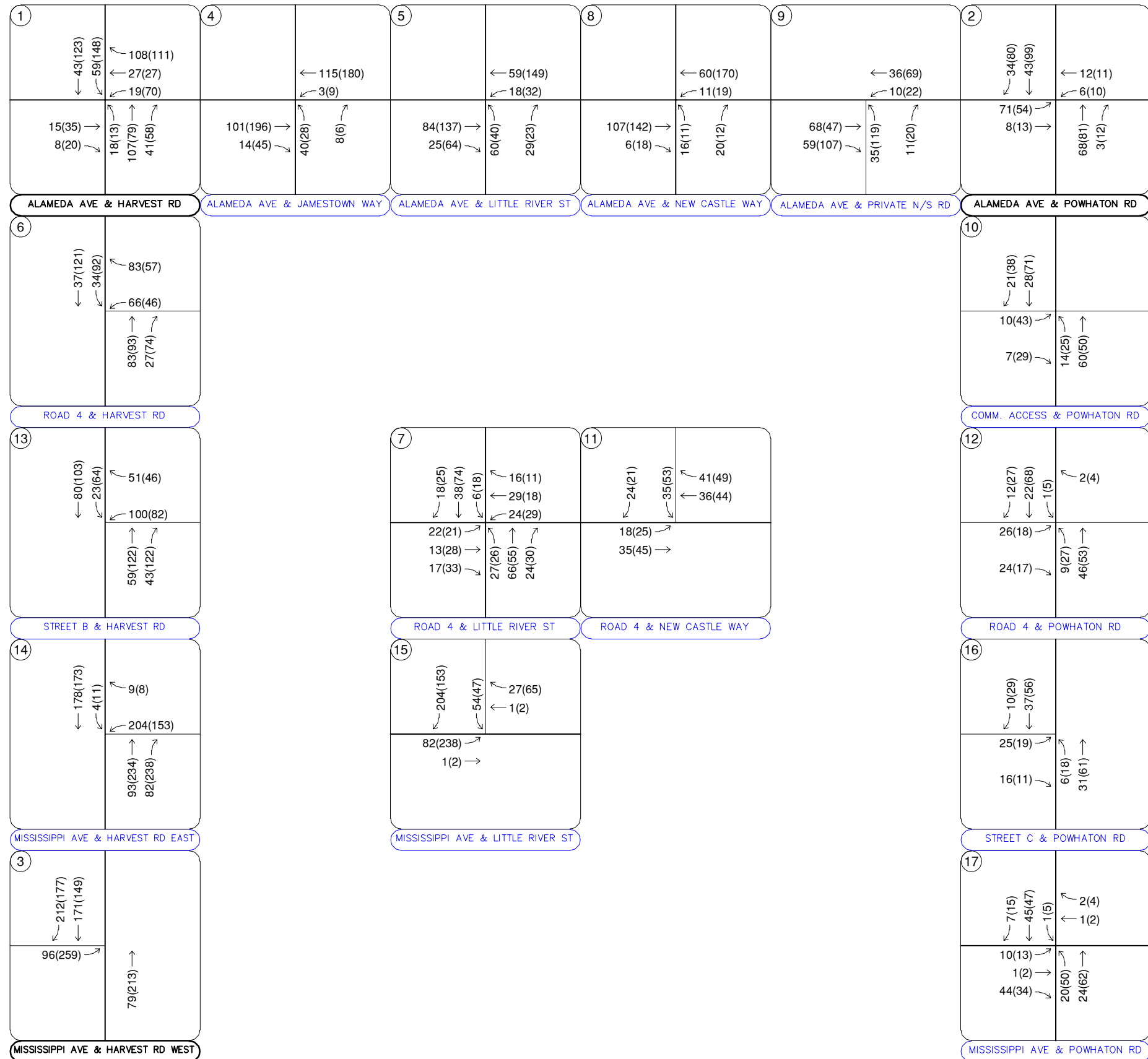
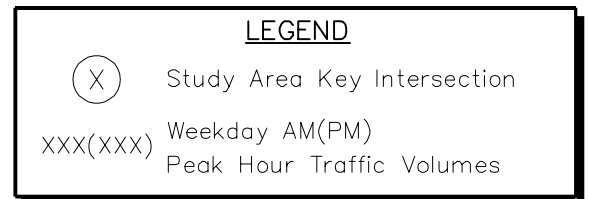






FIGURE D15
PARKLANDS VILLAGE 2 – DOMINIUM
AURORA, COLORADO
FULL PROJECT BUILDOUT EXTERNAL TRAFFIC ASSIGNMENT

















APPENDIX E

Intersection Analysis Worksheets

Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	50	121	6	8	35
Future Vol, veh/h	20	50	121	6	8	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	8	8	7	7	5	5
Mvmt Flow	23	58	141	7	9	41
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	148	0	-	0	249	145
Stage 1	-	-	-	-	145	-
Stage 2	-	-	-	-	104	-
Critical Hdwy	4.18	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.272	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1398	-	-	-	733	894
Stage 1	-	-	-	-	875	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1398	-	-	-	721	894
Mov Cap-2 Maneuver	-	-	-	-	721	-
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	913	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.2	0		9.4		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1398	-	-	-	721	894
HCM Lane V/C Ratio	0.017	-	-	-	0.013	0.046
HCM Control Delay (s)	7.6	0	-	-	10.1	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.1





Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	66	183	93	3	8	32
Future Vol, veh/h	66	183	93	3	8	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	197	100	3	9	34
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	103	0	-	0	441	102
Stage 1	-	-	-	-	102	-
Stage 2	-	-	-	-	339	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1489	-	-	-	574	953
Stage 1	-	-	-	-	922	-
Stage 2	-	-	-	-	722	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1489	-	-	-	543	953
Mov Cap-2 Maneuver	-	-	-	-	543	-
Stage 1	-	-	-	-	872	-
Stage 2	-	-	-	-	722	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		9.5		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1489	-	-	-	543	953
HCM Lane V/C Ratio	0.048	-	-	-	0.016	0.036
HCM Control Delay (s)	7.5	0	-	-	11.7	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.1





Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	51	122	6	8	36
Future Vol, veh/h	20	51	122	6	8	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	8	8	7	7	5	5
Mvmt Flow	23	59	142	7	9	42
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	149	0	-	0	251	146
Stage 1	-	-	-	-	146	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	4.18	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.272	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1396	-	-	-	731	893
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	912	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1396	-	-	-	719	893
Mov Cap-2 Maneuver	-	-	-	-	719	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	912	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.1	0		9.4		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1396	-	-	-	719	893
HCM Lane V/C Ratio	0.017	-	-	-	0.013	0.047
HCM Control Delay (s)	7.6	0	-	-	10.1	9.2
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.1









Intersection						
Int Delay, s/veh	2.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	67	185	94	3	8	32
Future Vol, veh/h	67	185	94	3	8	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	72	199	101	3	9	34
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	104	0	-	0	446	103
Stage 1	-	-	-	-	103	-
Stage 2	-	-	-	-	343	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1488	-	-	-	570	952
Stage 1	-	-	-	-	921	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1488	-	-	-	539	952
Mov Cap-2 Maneuver	-	-	-	-	539	-
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	719	-
Approach	EB	WB		SB		
HCM Control Delay, s	2	0		9.5		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1488	-	-	-	539	952
HCM Lane V/C Ratio	0.048	-	-	-	0.016	0.036
HCM Control Delay (s)	7.5	0	-	-	11.8	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0	0.1









Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	20	62	11	5	151	35	29	58	5	19	22	36
Future Vol, veh/h	20	62	11	5	151	35	29	58	5	19	22	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	86	86	86	86	86	86	86	86	86	86	86	86
Heavy Vehicles, %	8	8	2	2	7	7	2	2	2	5	2	5
Mvmt Flow	23	72	13	6	176	41	34	67	6	22	26	42
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	85	0	0	368	354	79	370	340	197
Stage 1	-	-	-	-	-	-	125	125	-	209	209	-
Stage 2	-	-	-	-	-	-	243	229	-	161	131	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.15	6.52	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.545	4.018	3.345
Pot Cap-1 Maneuver	1318	-	-	1512	-	-	588	571	981	581	582	837
Stage 1	-	-	-	-	-	-	879	792	-	786	729	-
Stage 2	-	-	-	-	-	-	761	715	-	834	788	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1318	-	-	1512	-	-	530	558	981	515	569	837
Mov Cap-2 Maneuver	-	-	-	-	-	-	530	558	-	515	569	-
Stage 1	-	-	-	-	-	-	863	778	-	772	725	-
Stage 2	-	-	-	-	-	-	694	711	-	744	774	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.7			0.2			12.9			11		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	562	1318	-	-	1512	-	-	515	710			
HCM Lane V/C Ratio	0.19	0.018	-	-	0.004	-	-	0.043	0.095			
HCM Control Delay (s)	12.9	7.8	0	-	7.4	0	-	12.3	10.6			
HCM Lane LOS	B	A	A	-	A	A	-	B	B			
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0	-	-	0.1	0.3			

Intersection												
Int Delay, s/veh	5.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	67	220	35	5	116	25	22	44	5	43	69	32
Future Vol, veh/h	67	220	35	5	116	25	22	44	5	43	69	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	93	93	93	93	93	93	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	72	237	38	5	125	27	24	47	5	46	74	34
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	275	0	0	603	562	256	575	568	139
Stage 1	-	-	-	-	-	-	400	400	-	149	149	-
Stage 2	-	-	-	-	-	-	203	162	-	426	419	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1429	-	-	1288	-	-	411	436	783	429	432	909
Stage 1	-	-	-	-	-	-	626	602	-	854	774	-
Stage 2	-	-	-	-	-	-	799	764	-	606	590	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1429	-	-	1288	-	-	323	408	783	370	404	909
Mov Cap-2 Maneuver	-	-	-	-	-	-	323	408	-	370	404	-
Stage 1	-	-	-	-	-	-	588	566	-	803	771	-
Stage 2	-	-	-	-	-	-	692	761	-	518	555	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.6			0.3			16.5			14.9		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2			
Capacity (veh/h)	389	1429	-	-	1288	-	-	370	490			
HCM Lane V/C Ratio	0.196	0.05	-	-	0.004	-	-	0.125	0.222			
HCM Control Delay (s)	16.5	7.7	0	-	7.8	0	-	16.1	14.4			
HCM Lane LOS	C	A	A	-	A	A	-	C	B			
HCM 95th %tile Q(veh)	0.7	0.2	-	-	0	-	-	0.4	0.8			

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	52	124	9	9	38
Future Vol, veh/h	22	52	124	9	9	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	8	8	7	7	5	5
Mvmt Flow	26	60	144	10	10	44
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	154	0	-	0	261	149
Stage 1	-	-	-	-	149	-
Stage 2	-	-	-	-	112	-
Critical Hdwy	4.18	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.272	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1391	-	-	-	721	890
Stage 1	-	-	-	-	871	-
Stage 2	-	-	-	-	905	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1391	-	-	-	707	890
Mov Cap-2 Maneuver	-	-	-	-	707	-
Stage 1	-	-	-	-	854	-
Stage 2	-	-	-	-	905	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.3	0		9.5		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1391	-	-	-	707	890
HCM Lane V/C Ratio	0.018	-	-	-	0.015	0.05
HCM Control Delay (s)	7.6	0	-	-	10.2	9.3
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0	0.2

Intersection						
Int Delay, s/veh	2.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	188	96	5	11	33
Future Vol, veh/h	70	188	96	5	11	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	202	103	5	12	35
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	108	0	-	0	458	106
Stage 1	-	-	-	-	106	-
Stage 2	-	-	-	-	352	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1483	-	-	-	561	948
Stage 1	-	-	-	-	918	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1483	-	-	-	529	948
Mov Cap-2 Maneuver	-	-	-	-	529	-
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	712	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.1	0		9.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1483	-	-	-	529	948
HCM Lane V/C Ratio	0.051	-	-	-	0.022	0.037
HCM Control Delay (s)	7.6	0	-	-	12	8.9
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.1





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	22	93	18	9	199	113	48	84	13	77	30	38
Future Vol, veh/h	22	93	18	9	199	113	48	84	13	77	30	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	150	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	2	2	7	7	2	2	2	5	2	5
Mvmt Flow	24	101	20	10	216	123	52	91	14	84	33	41
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	339	0	0	121	0	0	494	518	111	510	467	278
Stage 1	-	-	-	-	-	-	159	159	-	298	298	-
Stage 2	-	-	-	-	-	-	335	359	-	212	169	-
Critical Hdwy	4.18	-	-	4.12	-	-	7.12	6.52	6.22	7.15	6.52	6.25
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.15	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.15	5.52	-
Follow-up Hdwy	2.272	-	-	2.218	-	-	3.518	4.018	3.318	3.545	4.018	3.345
Pot Cap-1 Maneuver	1187	-	-	1467	-	-	486	462	942	469	493	754
Stage 1	-	-	-	-	-	-	843	766	-	704	667	-
Stage 2	-	-	-	-	-	-	679	627	-	783	759	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1187	-	-	1467	-	-	429	450	942	389	480	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	492	502	-	484	535	-
Stage 1	-	-	-	-	-	-	826	751	-	690	662	-
Stage 2	-	-	-	-	-	-	606	623	-	664	744	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0.2			13.3			12.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	492	536	1187	-	-	1467	-	-	484	639		
HCM Lane V/C Ratio	0.106	0.197	0.02	-	-	0.007	-	-	0.173	0.116		
HCM Control Delay (s)	13.2	13.4	8.1	-	-	7.5	-	-	14	11.4		
HCM Lane LOS	B	B	A	-	-	A	-	-	B	B		
HCM 95th %tile Q(veh)	0.4	0.7	0.1	-	-	0	-	-	0.6	0.4		

Intersection												
Int Delay, s/veh	8.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	70	292	55	12	175	138	35	60	10	172	97	33
Future Vol, veh/h	70	292	55	12	175	138	35	60	10	172	97	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	150	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	76	317	60	13	190	150	38	65	11	187	105	36

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	340	0	0	377	0	0	861	865	347	828	820	265
Stage 1	-	-	-	-	-	-	499	499	-	291	291	-
Stage 2	-	-	-	-	-	-	362	366	-	537	529	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1219	-	-	1181	-	-	276	292	696	290	310	774
Stage 1	-	-	-	-	-	-	554	544	-	717	672	-
Stage 2	-	-	-	-	-	-	657	623	-	528	527	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1219	-	-	1181	-	-	196	271	696	233	288	774
Mov Cap-2 Maneuver	-	-	-	-	-	-	307	363	-	329	379	-
Stage 1	-	-	-	-	-	-	520	510	-	673	665	-
Stage 2	-	-	-	-	-	-	521	616	-	425	494	-





Approach	EB	WB	NB	SB
HCM Control Delay, s	1.4	0.3	17.1	24.1
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	307	390	1219	-	-	1181	-	-	329	435
HCM Lane V/C Ratio	0.124	0.195	0.062	-	-	0.011	-	-	0.568	0.325
HCM Control Delay (s)	18.4	16.5	8.2	-	-	8.1	-	-	29.4	17.2
HCM Lane LOS	C	C	A	-	-	A	-	-	D	C
HCM 95th %tile Q(veh)	0.4	0.7	0.2	-	-	0	-	-	3.3	1.4

Intersection						
Int Delay, s/veh	2.7					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	57	129	21	22	40
Future Vol, veh/h	24	57	129	21	22	40
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	86	86	86	86
Heavy Vehicles, %	8	8	7	7	5	5
Mvmt Flow	28	66	150	24	26	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	174	0	-	0	284	162
Stage 1	-	-	-	-	162	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	4.18	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.272	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1367	-	-	-	700	875
Stage 1	-	-	-	-	860	-
Stage 2	-	-	-	-	896	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1367	-	-	-	685	875
Mov Cap-2 Maneuver	-	-	-	-	685	-
Stage 1	-	-	-	-	842	-
Stage 2	-	-	-	-	896	-
Approach	EB	WB		SB		
HCM Control Delay, s	2.3	0		9.7		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1367	-	-	-	685	875
HCM Lane V/C Ratio	0.02	-	-	-	0.037	0.053
HCM Control Delay (s)	7.7	0	-	-	10.5	9.3
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2

Intersection

Int Delay, s/veh 2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	72	190	107	34	33	35
Future Vol, veh/h	72	190	107	34	33	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	300	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	93	93	93	93	93	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	204	115	37	35	38

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	152	0	0 492 134
Stage 1	-	-	- 134 -
Stage 2	-	-	- 358 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1429	-	- 536 915
Stage 1	-	-	- 892 -
Stage 2	-	-	- 707 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1429	-	- 503 915
Mov Cap-2 Maneuver	-	-	- 503 -
Stage 1	-	-	- 838 -
Stage 2	-	-	- 707 -

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	10.8
HCM LOS			B

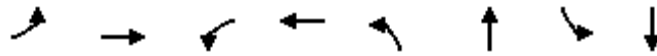
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1429	-	-	-	503	915
HCM Lane V/C Ratio	0.054	-	-	-	0.071	0.041
HCM Control Delay (s)	7.7	0	-	-	12.7	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.1

Timings

1: Harvest Rd & Alameda Ave

2029 Total AM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	24	104	10	221	57	101	106	39
Future Volume (vph)	24	104	10	221	57	101	106	39
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	50.0	50.0	50.0	50.0	11.0	26.0	14.0	29.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	12.2%	28.9%	15.6%	32.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	Max	None	Max

Intersection Summary

Cycle Length: 90

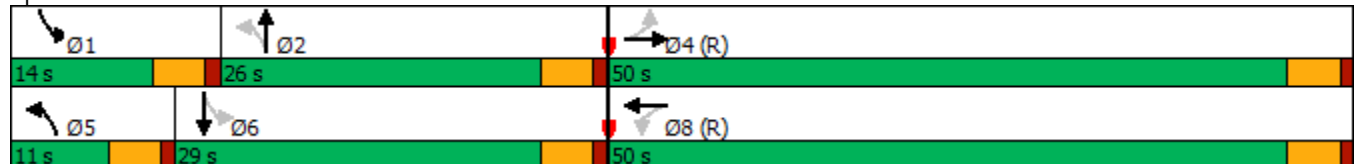
Actuated Cycle Length: 90

Offset: 61 (68%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 1: Harvest Rd & Alameda Ave























HCM 6th Signalized Intersection Summary

2029 Total AM

1: Harvest Rd & Alameda Ave

11/18/2024

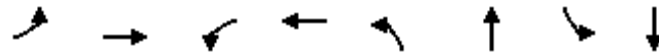
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	104	21	10	221	168	57	101	14	106	39	40
Future Volume (veh/h)	24	104	21	10	221	168	57	101	14	106	39	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	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	1781	1781	1870	1870	1796	1796	1870	1870	1870	1826	1870	1826
Adj Flow Rate, veh/h	26	113	23	11	240	183	62	110	15	115	42	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	2	2	7	7	2	2	2	5	2	5
Cap, veh/h	425	767	156	699	505	385	465	401	55	436	231	236
Arrive On Green	0.53	0.53	0.53	0.53	0.53	0.53	0.04	0.25	0.25	0.07	0.27	0.27
Sat Flow, veh/h	918	1436	292	1253	946	721	1781	1611	220	1739	847	867
Grp Volume(v), veh/h	26	0	136	11	0	423	62	0	125	115	0	85
Grp Sat Flow(s),veh/h/ln	918	0	1729	1253	0	1666	1781	0	1831	1739	0	1714
Q Serve(g_s), s	1.6	0.0	3.6	0.4	0.0	14.3	2.3	0.0	5.0	4.4	0.0	3.4
Cycle Q Clear(g_c), s	15.9	0.0	3.6	4.0	0.0	14.3	2.3	0.0	5.0	4.4	0.0	3.4
Prop In Lane	1.00		0.17	1.00		0.43	1.00		0.12	1.00		0.51
Lane Grp Cap(c), veh/h	425	0	923	699	0	890	465	0	455	436	0	467
V/C Ratio(X)	0.06	0.00	0.15	0.02	0.00	0.48	0.13	0.00	0.27	0.26	0.00	0.18
Avail Cap(c_a), veh/h	425	0	923	699	0	890	516	0	455	503	0	467
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	10.6	11.6	0.0	13.1	23.4	0.0	27.3	22.7	0.0	25.1
Incr Delay (d2), s/veh	0.3	0.0	0.3	0.0	0.0	1.8	0.1	0.0	1.5	0.3	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.4	0.1	0.0	5.4	1.0	0.0	2.3	1.7	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.3	0.0	10.9	11.7	0.0	14.9	23.5	0.0	28.8	23.0	0.0	25.9
LnGrp LOS	B	A	B	B	A	B	C	A	C	C	A	C
Approach Vol, veh/h	162			434			187			200		
Approach Delay, s/veh	12.1			14.8			27.0			24.3		
Approach LOS	B			B			C			C		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.6	26.9		52.6	8.4	29.0		52.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	21.5		45.5	6.5	24.5		45.5				
Max Q Clear Time (g_c+l1), s	6.4	7.0		17.9	4.3	5.4		16.3				
Green Ext Time (p_c), s	0.1	0.5		0.9	0.0	0.3		3.1				
Intersection Summary												
HCM 6th Ctrl Delay	18.6											
HCM 6th LOS	B											

Timings

1: Harvest Rd & Alameda Ave

2029 Total PM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	72	315	13	199	41	74	246	120
Future Volume (vph)	72	315	13	199	41	74	246	120
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	44.0	44.0	44.0	44.0	10.0	24.0	22.0	36.0
Total Split (%)	48.9%	48.9%	48.9%	48.9%	11.1%	26.7%	24.4%	40.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	C-Max	C-Max	C-Max	C-Max	None	Max	None	Max

Intersection Summary

Cycle Length: 90

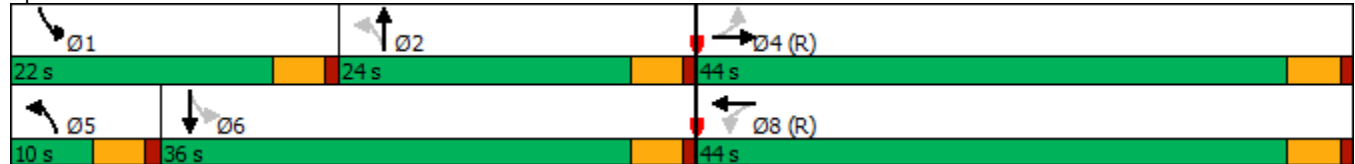
Actuated Cycle Length: 90

Offset: 64 (71%), Referenced to phase 4:EBTL and 8:WBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 1: Harvest Rd & Alameda Ave































HCM 6th Signalized Intersection Summary









2029 Total PM

1: Harvest Rd & Alameda Ave

11/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	315	66	13	199	199	41	74	11	246	120	35
Future Volume (veh/h)	72	315	66	13	199	199	41	74	11	246	120	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	342	72	14	216	216	45	80	12	267	130	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	349	693	146	375	397	397	460	408	61	596	487	142
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.04	0.26	0.26	0.13	0.35	0.35
Sat Flow, veh/h	956	1498	315	972	858	858	1781	1589	238	1781	1391	407
Grp Volume(v), veh/h	78	0	414	14	0	432	45	0	92	267	0	168
Grp Sat Flow(s),veh/h/ln	956	0	1814	972	0	1716	1781	0	1827	1781	0	1797
Q Serve(g_s), s	5.7	0.0	14.3	0.9	0.0	16.3	1.6	0.0	3.5	9.4	0.0	6.0
Cycle Q Clear(g_c), s	22.0	0.0	14.3	15.2	0.0	16.3	1.6	0.0	3.5	9.4	0.0	6.0
Prop In Lane	1.00		0.17	1.00		0.50	1.00		0.13	1.00		0.23
Lane Grp Cap(c), veh/h	349	0	839	375	0	794	460	0	470	596	0	629
V/C Ratio(X)	0.22	0.00	0.49	0.04	0.00	0.54	0.10	0.00	0.20	0.45	0.00	0.27
Avail Cap(c_a), veh/h	349	0	839	375	0	794	502	0	470	710	0	629
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.3	0.0	16.8	22.2	0.0	17.4	23.0	0.0	26.2	18.7	0.0	21.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.2	0.0	2.7	0.1	0.0	0.9	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	6.1	0.2	0.0	6.7	0.7	0.0	1.6	3.6	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.8	0.0	18.9	22.3	0.0	20.1	23.1	0.0	27.1	19.2	0.0	22.0
LnGrp LOS	C	A	B	C	A	C	C	A	C	B	A	C
Approach Vol, veh/h	492			446			137			435		
Approach Delay, s/veh	20.2			20.1			25.8			20.3		
Approach LOS	C			C			C			C		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	16.2	27.6	46.1		7.9	36.0	46.1					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	17.5	19.5	39.5		5.5	31.5	39.5					
Max Q Clear Time (g_c+l1), s	11.4	5.5	24.0		3.6	8.0	18.3					
Green Ext Time (p_c), s	0.4	0.3	2.7		0.0	0.8	2.9					
Intersection Summary												
HCM 6th Ctrl Delay	20.7											
HCM 6th LOS	C											

Intersection												
Int Delay, s/veh	6.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	37	38	75	52	22	65	330	25	13	245	51
Future Vol, veh/h	25	37	38	75	52	22	65	330	25	13	245	51
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	150	-	-	150	-	-	150	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	7	7	7	5	5	5	5	5	5
Mvmt Flow	27	40	41	82	57	24	71	359	27	14	266	55
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	877	850	294	877	864	373	321	0	0	386	0	0
Stage 1	322	322	-	515	515	-	-	-	-	-	-	-
Stage 2	555	528	-	362	349	-	-	-	-	-	-	-
Critical Hdwy	7.18	6.58	6.28	7.17	6.57	6.27	4.15	-	-	4.15	-	-
Critical Hdwy Stg 1	6.18	5.58	-	6.17	5.57	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.18	5.58	-	6.17	5.57	-	-	-	-	-	-	-
Follow-up Hdwy	3.572	4.072	3.372	3.563	4.063	3.363	2.245	-	-	2.245	-	-
Pot Cap-1 Maneuver	262	291	731	264	287	662	1222	-	-	1156	-	-
Stage 1	677	640	-	534	527	-	-	-	-	-	-	-
Stage 2	506	518	-	646	625	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	201	271	731	209	267	662	1222	-	-	1156	-	-
Mov Cap-2 Maneuver	201	271	-	209	267	-	-	-	-	-	-	-
Stage 1	638	632	-	503	496	-	-	-	-	-	-	-
Stage 2	407	488	-	564	618	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	18.7		26.3		1.3		0.3					
HCM LOS	C		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1222	-	-	201	398	209	325	1156	-	-		
HCM Lane V/C Ratio	0.058	-	-	0.135	0.205	0.39	0.247	0.012	-	-		
HCM Control Delay (s)	8.1	-	-	25.7	16.4	32.8	19.7	8.2	-	-		
HCM Lane LOS	A	-	-	D	C	D	C	A	-	-		
HCM 95th %tile Q(veh)	0.2	-	-	0.5	0.8	1.7	1	0	-	-		

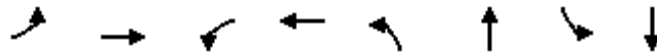
Intersection												
Int Delay, s/veh	8.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	72	140	40	30	37	14	40	330	38	12	205	52
Future Vol, veh/h	72	140	40	30	37	14	40	330	38	12	205	52
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	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	150	-	-	150	-	-	150	-	-	300	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	78	152	43	33	40	15	43	359	41	13	223	57
Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	771	764	252	841	772	380	280	0	0	400	0	0
Stage 1	278	278	-	466	466	-	-	-	-	-	-	-
Stage 2	493	486	-	375	306	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	317	334	787	284	330	667	1283	-	-	1159	-	-
Stage 1	728	680	-	577	562	-	-	-	-	-	-	-
Stage 2	558	551	-	646	662	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	270	319	787	163	315	667	1283	-	-	1159	-	-
Mov Cap-2 Maneuver	270	319	-	163	315	-	-	-	-	-	-	-
Stage 1	703	673	-	557	543	-	-	-	-	-	-	-
Stage 2	488	532	-	467	655	-	-	-	-	-	-	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	24.9			22.4			0.8			0.4		
HCM LOS	C			C								
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1283	-	-	270	368	163	368	1159	-	-		
HCM Lane V/C Ratio	0.034	-	-	0.29	0.532	0.2	0.151	0.011	-	-		
HCM Control Delay (s)	7.9	-	-	23.7	25.4	32.5	16.5	8.1	-	-		
HCM Lane LOS	A	-	-	C	D	D	C	A	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	1.2	3	0.7	0.5	0	-	-		

Timings

1: Harvest Rd & Alameda Ave

2031 Total AM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	25	52	94	79	83	437	72	288
Future Volume (vph)	25	52	94	79	83	437	72	288
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	27.0	27.0	27.0	27.0	10.2	51.9	11.1	52.8
Total Split (%)	30.0%	30.0%	30.0%	30.0%	11.3%	57.7%	12.3%	58.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 3 (3%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 1: Harvest Rd & Alameda Ave





















Ø1	Ø2 (R)	Ø4
11.1 s	51.9 s	27 s
Ø5	Ø6 (R)	Ø8
10.2 s	52.8 s	27 s

HCM 6th Signalized Intersection Summary

2031 Total AM

1: Harvest Rd & Alameda Ave

11/18/2024

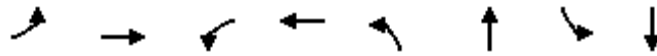
												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	52	46	94	79	130	83	437	66	72	288	51
Future Volume (veh/h)	25	52	46	94	79	130	83	437	66	72	288	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		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	1781	1781	1870	1870	1796	1796	1870	1870	1870	1826	1870	1826
Adj Flow Rate, veh/h	27	57	50	102	86	141	90	475	72	78	313	55
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	2	2	7	7	2	2	2	5	2	5
Cap, veh/h	134	160	140	242	112	184	696	983	149	546	956	168
Arrive On Green	0.18	0.18	0.18	0.18	0.18	0.18	0.05	0.62	0.62	0.05	0.62	0.62
Sat Flow, veh/h	1099	875	768	1287	612	1004	1781	1587	240	1739	1549	272
Grp Volume(v), veh/h	27	0	107	102	0	227	90	0	547	78	0	368
Grp Sat Flow(s),veh/h/ln	1099	0	1643	1287	0	1616	1781	0	1827	1739	0	1821
Q Serve(g_s), s	2.2	0.0	5.1	6.8	0.0	12.0	1.6	0.0	14.6	1.4	0.0	8.7
Cycle Q Clear(g_c), s	14.2	0.0	5.1	11.9	0.0	12.0	1.6	0.0	14.6	1.4	0.0	8.7
Prop In Lane	1.00		0.47	1.00		0.62	1.00		0.13	1.00		0.15
Lane Grp Cap(c), veh/h	134	0	301	242	0	296	696	0	1132	546	0	1124
V/C Ratio(X)	0.20	0.00	0.36	0.42	0.00	0.77	0.13	0.00	0.48	0.14	0.00	0.33
Avail Cap(c_a), veh/h	208	0	411	328	0	404	721	0	1132	591	0	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
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	41.7	0.0	32.1	37.3	0.0	35.0	5.7	0.0	9.3	6.6	0.0	8.3
Incr Delay (d2), s/veh	0.7	0.0	0.7	1.2	0.0	6.0	0.1	0.0	1.5	0.1	0.0	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(50%),veh/ln	0.6	0.0	2.1	2.2	0.0	5.1	0.5	0.0	5.6	0.4	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.4	0.0	32.8	38.5	0.0	40.9	5.8	0.0	10.8	6.7	0.0	9.0
LnGrp LOS	D	A	C	D	A	D	A	A	B	A	A	A
Approach Vol, veh/h	134			329			637			446		
Approach Delay, s/veh	34.8			40.2			10.1			8.6		
Approach LOS	C			D			B			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	60.2		21.0	9.0	60.1		21.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	6.6	47.4		22.5	5.7	48.3		22.5				
Max Q Clear Time (g_c+I1), s	3.4	16.6		16.2	3.6	10.7		14.0				
Green Ext Time (p_c), s	0.0	4.0		0.3	0.0	2.2		1.1				
Intersection Summary												
HCM 6th Ctrl Delay	18.2											
HCM 6th LOS	B											

Timings

1: Harvest Rd & Alameda Ave

2031 Total PM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Configurations								
Traffic Volume (vph)	72	175	100	64	53	409	160	328
Future Volume (vph)	72	175	100	64	53	409	160	328
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA
Protected Phases		4		8	5	2	1	6
Permitted Phases	4		8		2		6	
Detector Phase	4	4	8	8	5	2	1	6
Switch Phase								
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5
Total Split (s)	29.1	29.1	29.1	29.1	9.8	45.5	15.4	51.1
Total Split (%)	32.3%	32.3%	32.3%	32.3%	10.9%	50.6%	17.1%	56.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 7 (8%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 1: Harvest Rd & Alameda Ave























HCM 6th Signalized Intersection Summary

2031 Total PM

1: Harvest Rd & Alameda Ave

11/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	175	60	100	64	125	53	409	96	160	328	52
Future Volume (veh/h)	72	175	60	100	64	125	53	409	96	160	328	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	78	190	65	109	70	136	58	445	104	174	357	57
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	246	329	113	217	140	272	575	787	184	486	882	141
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.04	0.54	0.54	0.07	0.56	0.56
Sat Flow, veh/h	1176	1332	456	1125	568	1104	1781	1466	343	1781	1574	251
Grp Volume(v), veh/h	78	0	255	109	0	206	58	0	549	174	0	414
Grp Sat Flow(s),veh/h/ln	1176	0	1788	1125	0	1672	1781	0	1809	1781	0	1825
Q Serve(g_s), s	5.5	0.0	11.3	8.5	0.0	9.5	1.3	0.0	18.2	3.9	0.0	11.6
Cycle Q Clear(g_c), s	15.0	0.0	11.3	19.8	0.0	9.5	1.3	0.0	18.2	3.9	0.0	11.6
Prop In Lane	1.00		0.25	1.00		0.66	1.00		0.19	1.00		0.14
Lane Grp Cap(c), veh/h	246	0	441	217	0	413	575	0	971	486	0	1023
V/C Ratio(X)	0.32	0.00	0.58	0.50	0.00	0.50	0.10	0.00	0.57	0.36	0.00	0.40
Avail Cap(c_a), veh/h	277	0	489	247	0	457	605	0	971	583	0	1023
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	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	35.6	0.0	29.8	38.5	0.0	29.1	8.8	0.0	13.9	10.2	0.0	11.2
Incr Delay (d2), s/veh	0.7	0.0	1.4	1.8	0.0	0.9	0.1	0.0	2.4	0.4	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	4.9	2.4	0.0	3.8	0.5	0.0	7.5	1.3	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	36.3	0.0	31.2	40.3	0.0	30.1	8.8	0.0	16.2	10.6	0.0	12.4
LnGrp LOS	D	A	C	D	A	C	A	A	B	B	A	B
Approach Vol, veh/h	333			315			607			588		
Approach Delay, s/veh	32.4			33.6			15.5			11.9		
Approach LOS	C			C			B			B		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	52.8		26.7	8.3	55.0		26.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.9	41.0		24.6	5.3	46.6		24.6				
Max Q Clear Time (g_c+I1), s	5.9	20.2		17.0	3.3	13.6		21.8				
Green Ext Time (p_c), s	0.2	3.7		1.1	0.0	2.5		0.5				
Intersection Summary												
HCM 6th Ctrl Delay				20.5								
HCM 6th LOS				C								

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	5	20	5	13	25	2	15	64	13	15	103	5
Future Vol, veh/h	5	20	5	13	25	2	15	64	13	15	103	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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	4	4	4	6	6	6
Mvmt Flow	5	21	5	14	26	2	16	67	14	16	108	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	222	256	57	203	251	41	113	0	0	81	0	0
Stage 1	143	143	-	106	106	-	-	-	-	-	-	-
Stage 2	79	113	-	97	145	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.64	6.64	7.04	4.18	-	-	4.22	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.57	4.07	3.37	2.24	-	-	2.26	-	-
Pot Cap-1 Maneuver	701	635	981	724	639	1005	1460	-	-	1486	-	-
Stage 1	831	766	-	874	795	-	-	-	-	-	-	-
Stage 2	906	789	-	884	764	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	666	621	981	690	625	1005	1460	-	-	1486	-	-
Mov Cap-2 Maneuver	685	631	-	701	632	-	-	-	-	-	-	-
Stage 1	822	758	-	864	786	-	-	-	-	-	-	-
Stage 2	864	780	-	846	756	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.6		10.8		1.2		0.9					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1460	-	-	680	666	1486	-	-				
HCM Lane V/C Ratio	0.011	-	-	0.046	0.063	0.011	-	-				
HCM Control Delay (s)	7.5	-	-	10.6	10.8	7.4	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	5	25	5	9	15	4	5	125	14	5	127	5
Future Vol, veh/h	5	25	5	9	15	4	5	125	14	5	127	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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	8	8	8	8	8	8	2	2	2	6	6	6
Mvmt Flow	5	26	5	9	16	4	5	130	15	5	132	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	228	300	69	237	295	73	137	0	0	145	0	0
Stage 1	145	145	-	148	148	-	-	-	-	-	-	-
Stage 2	83	155	-	89	147	-	-	-	-	-	-	-
Critical Hdwy	7.66	6.66	7.06	7.66	6.66	7.06	4.14	-	-	4.22	-	-
Critical Hdwy Stg 1	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.08	3.38	3.58	4.08	3.38	2.22	-	-	2.26	-	-
Pot Cap-1 Maneuver	692	598	961	682	601	955	1445	-	-	1406	-	-
Stage 1	826	762	-	822	759	-	-	-	-	-	-	-
Stage 2	899	754	-	891	760	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	672	594	961	653	597	955	1445	-	-	1406	-	-
Mov Cap-2 Maneuver	692	615	-	678	617	-	-	-	-	-	-	-
Stage 1	824	759	-	820	757	-	-	-	-	-	-	-
Stage 2	874	752	-	853	757	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	10.8		10.6		0.3		0.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1445	-	-	659	670	1406	-
HCM Lane V/C Ratio	0.004	-	-	0.055	0.044	0.004	-
HCM Control Delay (s)	7.5	-	-	10.8	10.6	7.6	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0	-

Intersection												
Int Delay, s/veh	4.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	25	25	14	14	25	27	16	68	14	16	108	5
Future Vol, veh/h	25	25	14	14	25	27	16	68	14	16	108	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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	4	4	4	6	6	6
Mvmt Flow	26	26	15	15	26	28	17	72	15	17	114	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	234	272	60	218	267	44	119	0	0	87	0	0
Stage 1	151	151	-	114	114	-	-	-	-	-	-	-
Stage 2	83	121	-	104	153	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.64	6.64	7.04	4.18	-	-	4.22	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.57	4.07	3.37	2.24	-	-	2.26	-	-
Pot Cap-1 Maneuver	688	622	977	706	626	1001	1452	-	-	1478	-	-
Stage 1	822	759	-	864	789	-	-	-	-	-	-	-
Stage 2	901	783	-	876	758	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	636	607	977	661	611	1001	1452	-	-	1478	-	-
Mov Cap-2 Maneuver	662	621	-	679	622	-	-	-	-	-	-	-
Stage 1	812	750	-	854	780	-	-	-	-	-	-	-
Stage 2	836	774	-	823	749	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	10.8		10.3		1.2		0.9					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1452	-	-	693	752	1478	-	-				
HCM Lane V/C Ratio	0.012	-	-	0.097	0.092	0.011	-	-				
HCM Control Delay (s)	7.5	-	-	10.8	10.3	7.5	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0	-	-				

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	21	64	32	10	57	24	5	132	15	5	134	5
Future Vol, veh/h	21	64	32	10	57	24	5	132	15	5	134	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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	8	8	8	8	8	8	2	2	2	6	6	6
Mvmt Flow	22	67	33	10	59	25	5	138	16	5	140	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	262	317	73	270	311	77	145	0	0	154	0	0
Stage 1	153	153	-	156	156	-	-	-	-	-	-	-
Stage 2	109	164	-	114	155	-	-	-	-	-	-	-
Critical Hdwy	7.66	6.66	7.06	7.66	6.66	7.06	4.14	-	-	4.22	-	-
Critical Hdwy Stg 1	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.08	3.38	3.58	4.08	3.38	2.22	-	-	2.26	-	-
Pot Cap-1 Maneuver	654	584	955	646	589	949	1435	-	-	1395	-	-
Stage 1	817	756	-	813	753	-	-	-	-	-	-	-
Stage 2	867	747	-	861	754	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	586	580	955	568	585	949	1435	-	-	1395	-	-
Mov Cap-2 Maneuver	628	605	-	613	609	-	-	-	-	-	-	-
Stage 1	815	753	-	811	751	-	-	-	-	-	-	-
Stage 2	775	745	-	755	751	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	11.5		11.2		0.2		0.3					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1435	-	-	677	673	1395	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.18	0.141	0.004	-	-				
HCM Control Delay (s)	7.5	-	-	11.5	11.2	7.6	-	-				
HCM Lane LOS	A	-	-	B	B	A	-	-				
HCM 95th %tile Q(veh)	0	-	-	0.7	0.5	0	-	-				

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	54	25	33	14	25	27	23	68	14	16	108	16
Future Vol, veh/h	54	25	33	14	25	27	23	68	14	16	108	16
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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	4	4	4	6	6	6
Mvmt Flow	57	26	35	15	26	28	24	72	15	17	114	17

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	254	292	66	232	293	44	131	0	0	87	0	0
Stage 1	157	157	-	128	128	-	-	-	-	-	-	-
Stage 2	97	135	-	104	165	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.64	6.64	7.04	4.18	-	-	4.22	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.57	4.07	3.37	2.24	-	-	2.26	-	-
Pot Cap-1 Maneuver	665	606	968	690	605	1001	1437	-	-	1478	-	-
Stage 1	815	755	-	848	777	-	-	-	-	-	-	-
Stage 2	884	772	-	876	749	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	611	588	968	629	587	1001	1437	-	-	1478	-	-
Mov Cap-2 Maneuver	644	608	-	654	604	-	-	-	-	-	-	-
Stage 1	801	746	-	834	764	-	-	-	-	-	-	-
Stage 2	815	759	-	805	740	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.1		10.4		1.7		0.9	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1437	-	-	704	735	1478	-
HCM Lane V/C Ratio	0.017	-	-	0.167	0.095	0.011	-
HCM Control Delay (s)	7.5	-	-	11.1	10.4	7.5	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.3	0	-

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	43	64	47	10	57	24	28	132	15	5	134	40
Future Vol, veh/h	43	64	47	10	57	24	28	132	15	5	134	40
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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	8	8	8	8	8	8	2	2	2	6	6	6
Mvmt Flow	45	67	49	10	59	25	29	138	16	5	140	42

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	328	383	91	318	396	77	182	0	0	154	0	0
Stage 1	171	171	-	204	204	-	-	-	-	-	-	-
Stage 2	157	212	-	114	192	-	-	-	-	-	-	-
Critical Hdwy	7.66	6.66	7.06	7.66	6.66	7.06	4.14	-	-	4.22	-	-
Critical Hdwy Stg 1	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.08	3.38	3.58	4.08	3.38	2.22	-	-	2.26	-	-
Pot Cap-1 Maneuver	586	536	930	596	526	949	1391	-	-	1395	-	-
Stage 1	797	742	-	762	717	-	-	-	-	-	-	-
Stage 2	812	711	-	861	726	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	514	523	930	504	513	949	1391	-	-	1395	-	-
Mov Cap-2 Maneuver	570	564	-	562	553	-	-	-	-	-	-	-
Stage 1	780	739	-	746	702	-	-	-	-	-	-	-
Stage 2	709	696	-	739	723	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.5		11.8		1.2		0.2	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1391	-	-	643	623	1395	-
HCM Lane V/C Ratio	0.021	-	-	0.249	0.152	0.004	-
HCM Control Delay (s)	7.6	-	-	12.5	11.8	7.6	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1	0.5	0	-

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	30	34	24	22	41	37	35	171	22	35	214	12
Future Vol, veh/h	30	34	24	22	41	37	35	171	22	35	214	12
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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	4	4	4	6	6	6
Mvmt Flow	32	36	25	23	43	39	37	180	23	37	225	13

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	492	583	119	471	578	102	238	0	0	203	0	0
Stage 1	306	306	-	266	266	-	-	-	-	-	-	-
Stage 2	186	277	-	205	312	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.64	6.64	7.04	4.18	-	-	4.22	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.57	4.07	3.37	2.24	-	-	2.26	-	-
Pot Cap-1 Maneuver	449	412	894	465	415	918	1312	-	-	1337	-	-
Stage 1	665	648	-	702	675	-	-	-	-	-	-	-
Stage 2	784	668	-	764	644	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	383	389	894	407	392	918	1312	-	-	1337	-	-
Mov Cap-2 Maneuver	469	461	-	488	461	-	-	-	-	-	-	-
Stage 1	646	630	-	682	656	-	-	-	-	-	-	-
Stage 2	682	649	-	681	626	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.1		12.7		1.2		1	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1312	-	-	535	574	1337	-
HCM Lane V/C Ratio	0.028	-	-	0.173	0.183	0.028	-
HCM Control Delay (s)	7.8	-	-	13.1	12.7	7.8	-
HCM Lane LOS	A	-	-	B	B	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.6	0.7	0.1	-

Intersection												
Int Delay, s/veh	5.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Vol, veh/h	39	77	46	28	69	34	28	222	34	39	239	5
Future Vol, veh/h	39	77	46	28	69	34	28	222	34	39	239	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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	8	8	8	8	8	8	2	2	2	6	6	6
Mvmt Flow	41	80	48	29	72	35	29	231	35	41	249	5

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	544	658	127	554	643	133	254	0	0	266	0	0
Stage 1	334	334	-	307	307	-	-	-	-	-	-	-
Stage 2	210	324	-	247	336	-	-	-	-	-	-	-
Critical Hdwy	7.66	6.66	7.06	7.66	6.66	7.06	4.14	-	-	4.22	-	-
Critical Hdwy Stg 1	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.08	3.38	3.58	4.08	3.38	2.22	-	-	2.26	-	-
Pot Cap-1 Maneuver	409	371	881	402	378	873	1308	-	-	1266	-	-
Stage 1	637	627	-	661	645	-	-	-	-	-	-	-
Stage 2	756	633	-	718	626	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	329	351	881	313	358	873	1308	-	-	1266	-	-
Mov Cap-2 Maneuver	426	430	-	409	438	-	-	-	-	-	-	-
Stage 1	623	607	-	646	631	-	-	-	-	-	-	-
Stage 2	628	619	-	570	606	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	15.8		15		0.8		1.1	
HCM LOS	C		C					










Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1308	-	-	502	494	1266	-
HCM Lane V/C Ratio	0.022	-	-	0.336	0.276	0.032	-
HCM Control Delay (s)	7.8	-	-	15.8	15	7.9	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0.1	-	-	1.5	1.1	0.1	-

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱↱		↰	↱↱	↰
Traffic Vol, veh/h	81	39	47	27	51	37	43	188	24	35	234	35
Future Vol, veh/h	81	39	47	27	51	37	43	188	24	35	234	35
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	150	-	-	150	-	-	150	-	150	150	-	150
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	7	7	7	7	7	4	4	4	6	6	6
Mvmt Flow	88	42	51	29	55	40	47	204	26	38	254	38

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	554	654	127	535	679	115	292	0	0	230	0	0
Stage 1	330	330	-	311	311	-	-	-	-	-	-	-
Stage 2	224	324	-	224	368	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.64	6.64	7.04	4.18	-	-	4.22	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.57	4.07	3.37	2.24	-	-	2.26	-	-
Pot Cap-1 Maneuver	404	375	884	418	362	900	1252	-	-	1306	-	-
Stage 1	643	632	-	660	644	-	-	-	-	-	-	-
Stage 2	744	636	-	744	607	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	330	350	884	346	338	900	1252	-	-	1306	-	-
Mov Cap-2 Maneuver	425	430	-	436	417	-	-	-	-	-	-	-
Stage 1	619	614	-	635	620	-	-	-	-	-	-	-
Stage 2	623	612	-	634	589	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.8		13.3		1.3		0.9	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1252	-	-	425	598	436	539	1306	-	-
HCM Lane V/C Ratio	0.037	-	-	0.207	0.156	0.067	0.177	0.029	-	-
HCM Control Delay (s)	8	-	-	15.7	12.1	13.9	13.1	7.8	-	-
HCM Lane LOS	A	-	-	C	B	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.8	0.6	0.2	0.6	0.1	-	-

Intersection												
Int Delay, s/veh	7.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	84	98	64	37	87	34	55	260	44	39	276	71
Future Vol, veh/h	84	98	64	37	87	34	55	260	44	39	276	71
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	150	-	-	150	-	-	150	-	150	150	-	150
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	8	8	8	2	2	2	6	6	6
Mvmt Flow	91	107	70	40	95	37	60	283	48	42	300	77

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	693	835	150	715	888	166	377	0	0	331	0	0
Stage 1	384	384	-	427	427	-	-	-	-	-	-	-
Stage 2	309	451	-	288	461	-	-	-	-	-	-	-
Critical Hdwy	7.66	6.66	7.06	7.66	6.66	7.06	4.14	-	-	4.22	-	-
Critical Hdwy Stg 1	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.08	3.38	3.58	4.08	3.38	2.22	-	-	2.26	-	-
Pot Cap-1 Maneuver	319	291	851	307	271	831	1178	-	-	1197	-	-
Stage 1	595	595	-	560	569	-	-	-	-	-	-	-
Stage 2	659	555	-	679	549	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	225	267	851	204	248	831	1178	-	-	1197	-	-
Mov Cap-2 Maneuver	329	360	-	308	341	-	-	-	-	-	-	-
Stage 1	565	574	-	531	540	-	-	-	-	-	-	-
Stage 2	493	527	-	490	530	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	18.3		18		1.3		0.8	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1178	-	-	329	466	308	409	1197	-	-
HCM Lane V/C Ratio	0.051	-	-	0.278	0.378	0.131	0.322	0.035	-	-
HCM Control Delay (s)	8.2	-	-	20.1	17.3	18.4	17.9	8.1	-	-
HCM Lane LOS	A	-	-	C	C	C	C	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	1.1	1.7	0.4	1.4	0.1	-	-

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	29	39	46	35	66	53	60	369	32	50	403	24
Future Vol, veh/h	29	39	46	35	66	53	60	369	32	50	403	24
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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	7	7	7	7	7	7	4	4	4	6	6	6
Mvmt Flow	31	41	48	37	69	56	63	388	34	53	424	25

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	898	1091	225	870	1086	211	449	0	0	422	0	0
Stage 1	543	543	-	531	531	-	-	-	-	-	-	-
Stage 2	355	548	-	339	555	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.64	6.64	7.04	4.18	-	-	4.22	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.57	4.07	3.37	2.24	-	-	2.26	-	-
Pot Cap-1 Maneuver	227	206	763	238	207	779	1094	-	-	1106	-	-
Stage 1	479	506	-	487	512	-	-	-	-	-	-	-
Stage 2	622	503	-	635	499	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	158	185	763	183	186	779	1094	-	-	1106	-	-
Mov Cap-2 Maneuver	269	289	-	292	287	-	-	-	-	-	-	-
Stage 1	451	482	-	459	482	-	-	-	-	-	-	-
Stage 2	466	474	-	518	475	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	19		22.2		1.1		0.9	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1094	-	-	376	369	1106	-
HCM Lane V/C Ratio	0.058	-	-	0.319	0.439	0.048	-
HCM Control Delay (s)	8.5	-	-	19	22.2	8.4	-
HCM Lane LOS	A	-	-	C	C	A	-
HCM 95th %tile Q(veh)	0.2	-	-	1.3	2.2	0.1	-

Intersection												
Int Delay, s/veh	10.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕		↙	↕	
Traffic Vol, veh/h	49	88	59	33	88	49	74	446	38	52	455	11
Future Vol, veh/h	49	88	59	33	88	49	74	446	38	52	455	11
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	-	-	-	-	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	96	96	96	96	96	96	96	96	96	96	96	96
Heavy Vehicles, %	8	8	8	8	8	8	2	2	2	6	6	6
Mvmt Flow	51	92	61	34	92	51	77	465	40	54	474	11
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	1021	1247	243	1030	1232	253	485	0	0	505	0	0
Stage 1	588	588	-	639	639	-	-	-	-	-	-	-
Stage 2	433	659	-	391	593	-	-	-	-	-	-	-
Critical Hdwy	7.66	6.66	7.06	7.66	6.66	7.06	4.14	-	-	4.22	-	-
Critical Hdwy Stg 1	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.08	3.38	3.58	4.08	3.38	2.22	-	-	2.26	-	-
Pot Cap-1 Maneuver	182	164	740	180	168	729	1074	-	-	1028	-	-
Stage 1	448	480	-	417	454	-	-	-	-	-	-	-
Stage 2	555	444	-	589	477	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	110	144	740	107	148	729	1074	-	-	1028	-	-
Mov Cap-2 Maneuver	214	247	-	212	248	-	-	-	-	-	-	-
Stage 1	416	455	-	387	421	-	-	-	-	-	-	-
Stage 2	375	412	-	409	452	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	40.7		34.2			1.1			0.9			
HCM LOS	E		D									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1074	-	-	295	294	1028	-	-				
HCM Lane V/C Ratio	0.072	-	-	0.692	0.602	0.053	-	-				
HCM Control Delay (s)	8.6	-	-	40.7	34.2	8.7	-	-				
HCM Lane LOS	A	-	-	E	D	A	-	-				
HCM 95th %tile Q(veh)	0.2	-	-	4.8	3.6	0.2	-	-				

Timings

2: Powhaton Rd & Alameda Ave

2029 Total AM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	97	44	40	76	94	412	50	432	53
Future Volume (vph)	97	44	40	76	94	412	50	432	53
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	34.0	34.0	34.0	34.0	17.0	41.0	15.0	39.0	39.0
Total Split (%)	37.8%	37.8%	37.8%	37.8%	18.9%	45.6%	16.7%	43.3%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 2: Powhaton Rd & Alameda Ave






















Ø1	Ø2 (R)	Ø4
15 s	41 s	34 s
Ø5	Ø6 (R)	Ø8
17 s	39 s	34 s

HCM 6th Signalized Intersection Summary

2029 Total AM

2: Powhaton Rd & Alameda Ave

11/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	44	78	40	76	53	94	412	34	50	432	53
Future Volume (veh/h)	97	44	78	40	76	53	94	412	34	50	432	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1796	1796	1796	1796	1796	1796	1841	1841	1841	1811	1811	1811
Adj Flow Rate, veh/h	105	48	85	43	83	58	102	448	37	54	470	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	4	4	4	6	6	6
Cap, veh/h	220	111	197	223	189	132	639	2020	166	642	2090	932
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.05	0.62	0.62	0.04	0.61	0.61
Sat Flow, veh/h	1198	581	1030	1207	984	688	1753	3272	269	1725	3441	1535
Grp Volume(v), veh/h	105	0	133	43	0	141	102	239	246	54	470	58
Grp Sat Flow(s),veh/h/ln	1198	0	1611	1207	0	1672	1753	1749	1792	1725	1721	1535
Q Serve(g_s), s	7.6	0.0	6.5	2.9	0.0	6.7	1.9	5.4	5.5	1.0	5.6	1.4
Cycle Q Clear(g_c), s	14.3	0.0	6.5	9.5	0.0	6.7	1.9	5.4	5.5	1.0	5.6	1.4
Prop In Lane	1.00		0.64	1.00		0.41	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	220	0	308	223	0	320	639	1080	1106	642	2090	932
V/C Ratio(X)	0.48	0.00	0.43	0.19	0.00	0.44	0.16	0.22	0.22	0.08	0.22	0.06
Avail Cap(c_a), veh/h	384	0	528	388	0	548	793	1080	1106	772	2090	932
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	0.0	32.1	36.2	0.0	32.1	5.8	7.6	7.6	5.9	8.0	7.2
Incr Delay (d2), s/veh	1.6	0.0	1.0	0.4	0.0	1.0	0.1	0.5	0.5	0.1	0.2	0.1
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(50%),veh/ln	2.3	0.0	2.6	0.9	0.0	2.8	0.6	1.9	1.9	0.3	1.8	0.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.0	0.0	33.0	36.7	0.0	33.1	5.9	8.1	8.1	5.9	8.3	7.3
LnGrp LOS	D	A	C	D	A	C	A	A	A	A	A	A
Approach Vol, veh/h	238			184			587			582		
Approach Delay, s/veh	36.1			33.9			7.7			8.0		
Approach LOS	D			C			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.2	60.1		21.7	9.1	59.2		21.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	36.5		29.5	12.5	34.5		29.5				
Max Q Clear Time (g_c+I1), s	3.0	7.5		16.3	3.9	7.6		11.5				
Green Ext Time (p_c), s	0.0	2.8		0.9	0.1	3.2		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	15.1											
HCM 6th LOS	B											

Timings

2: Powhaton Rd & Alameda Ave

2029 Total PM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	107	109	42	106	120	503	52	523	98
Future Volume (vph)	107	109	42	106	120	503	52	523	98
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	33.0	33.0	33.0	33.0	18.0	44.0	13.0	39.0	39.0
Total Split (%)	36.7%	36.7%	36.7%	36.7%	20.0%	48.9%	14.4%	43.3%	43.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 0 (0%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 2: Powhaton Rd & Alameda Ave






















Ø1	Ø2 (R)	Ø4	
13 s	44 s	33 s	
Ø5	Ø6 (R)	Ø8	
18 s	39 s	33 s	

HCM 6th Signalized Intersection Summary

2029 Total PM

2: Powhaton Rd & Alameda Ave

11/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	107	109	108	42	106	49	120	503	48	52	523	98
Future Volume (veh/h)	107	109	108	42	106	49	120	503	48	52	523	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1781	1781	1781	1781	1781	1781	1870	1870	1870	1811	1811	1811
Adj Flow Rate, veh/h	116	118	117	46	115	53	130	547	52	57	568	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	8	8	8	2	2	2	6	6	6
Cap, veh/h	235	180	179	177	254	117	552	1929	183	554	1985	885
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.59	0.59	0.04	0.58	0.58
Sat Flow, veh/h	1159	821	814	1091	1154	532	1781	3280	311	1725	3441	1535
Grp Volume(v), veh/h	116	0	235	46	0	168	130	296	303	57	568	107
Grp Sat Flow(s),veh/h/ln	1159	0	1635	1091	0	1686	1781	1777	1814	1725	1721	1535
Q Serve(g_s), s	8.7	0.0	11.8	3.6	0.0	7.8	2.6	7.4	7.4	1.2	7.5	2.9
Cycle Q Clear(g_c), s	16.4	0.0	11.8	15.4	0.0	7.8	2.6	7.4	7.4	1.2	7.5	2.9
Prop In Lane	1.00		0.50	1.00		0.32	1.00		0.17	1.00		1.00
Lane Grp Cap(c), veh/h	235	0	359	177	0	370	552	1045	1067	554	1985	885
V/C Ratio(X)	0.49	0.00	0.65	0.26	0.00	0.45	0.24	0.28	0.28	0.10	0.29	0.12
Avail Cap(c_a), veh/h	347	0	518	283	0	534	724	1045	1067	644	1985	885
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.6	0.0	32.0	39.0	0.0	30.4	7.0	9.2	9.2	7.0	9.6	8.7
Incr Delay (d2), s/veh	1.6	0.0	2.0	0.8	0.0	0.9	0.2	0.7	0.7	0.1	0.4	0.3
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(50%),veh/ln	2.5	0.0	4.8	1.0	0.0	3.2	0.9	2.7	2.7	0.4	2.6	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.2	0.0	34.0	39.8	0.0	31.3	7.2	9.8	9.8	7.1	10.0	8.9
LnGrp LOS	D	A	C	D	A	C	A	A	A	A	B	A
Approach Vol, veh/h	351				214				729			
Approach Delay, s/veh	35.7				33.1				9.4			
Approach LOS	D				C				A			
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.3	57.4		24.3	9.3	56.4		24.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	39.5		28.5	13.5	34.5		28.5				
Max Q Clear Time (g_c+I1), s	3.2	9.4		18.4	4.6	9.5		17.4				
Green Ext Time (p_c), s	0.0	3.6		1.3	0.2	4.1		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	16.5											
HCM 6th LOS	B											









Intersection												
Int Delay, s/veh	20											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱		↰	↱		↰	↱		↰	↱	
Traffic Vol, veh/h	58	39	23	44	79	46	41	484	30	55	523	48
Future Vol, veh/h	58	39	23	44	79	46	41	484	30	55	523	48
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	150	-	-	150	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	7	7	7	7	7	7	4	4	4	6	6	6
Mvmt Flow	63	42	25	48	86	50	45	526	33	60	568	52

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1110	1363	310	1058	1373	280	620	0	0	559	0	0
Stage 1	714	714	-	633	633	-	-	-	-	-	-	-
Stage 2	396	649	-	425	740	-	-	-	-	-	-	-
Critical Hdwy	7.64	6.64	7.04	7.64	6.64	7.04	4.18	-	-	4.22	-	-
Critical Hdwy Stg 1	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.64	5.64	-	6.64	5.64	-	-	-	-	-	-	-
Follow-up Hdwy	3.57	4.07	3.37	3.57	4.07	3.37	2.24	-	-	2.26	-	-
Pot Cap-1 Maneuver	158	140	671	172	138	702	943	-	-	981	-	-
Stage 1	377	421	-	422	459	-	-	-	-	-	-	-
Stage 2	587	452	-	564	410	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 59	125	671	113	123	702	943	-	-	981	-	-
Mov Cap-2 Maneuver	~ 59	125	-	113	123	-	-	-	-	-	-	-
Stage 1	359	395	-	402	437	-	-	-	-	-	-	-
Stage 2	417	430	-	455	385	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	141.5		68.3		0.7		0.8	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	943	-	-	59	179	113	177	981	-	-
HCM Lane V/C Ratio	0.047	-	-	1.069	0.376	0.423	0.768	0.061	-	-
HCM Control Delay (s)	9	-	-	253.4	36.8	58.4	71.8	8.9	-	-
HCM Lane LOS	A	-	-	F	E	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	5.1	1.6	1.8	5	0.2	-	-

Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

Intersection												
Int Delay, s/veh	34.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	95	83	39	23	70	48	39	506	29	54	508	40
Future Vol, veh/h	95	83	39	23	70	48	39	506	29	54	508	40
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	150	-	-	150	-	-	150	-	200	225	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	8	8	8	8	8	8	2	2	2	6	6	6
Mvmt Flow	103	90	42	25	76	52	42	550	32	59	552	43

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1089	1358	298	1089	1363	291	595	0	0	582	0	0
Stage 1	692	692	-	650	650	-	-	-	-	-	-	-
Stage 2	397	666	-	439	713	-	-	-	-	-	-	-
Critical Hdwy	7.66	6.66	7.06	7.66	6.66	7.06	4.14	-	-	4.22	-	-
Critical Hdwy Stg 1	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.66	5.66	-	6.66	5.66	-	-	-	-	-	-	-
Follow-up Hdwy	3.58	4.08	3.38	3.58	4.08	3.38	2.22	-	-	2.26	-	-
Pot Cap-1 Maneuver	162	140	681	162	139	688	977	-	-	961	-	-
Stage 1	387	429	-	410	449	-	-	-	-	-	-	-
Stage 2	584	441	-	551	419	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	~ 72	126	681	59	125	688	977	-	-	961	-	-
Mov Cap-2 Maneuver	~ 72	126	-	59	125	-	-	-	-	-	-	-
Stage 1	370	403	-	392	430	-	-	-	-	-	-	-
Stage 2	425	422	-	376	393	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	199.2		65.8		0.6		0.8	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	977	-	-	72	170	59	187	961	-	-
HCM Lane V/C Ratio	0.043	-	-	1.434	0.78	0.424	0.686	0.061	-	-
HCM Control Delay (s)	8.9	-	-	\$ 357.2	76.1	105	58.2	9	-	-
HCM Lane LOS	A	-	-	F	F	F	F	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	8.5	5.1	1.6	4.2	0.2	-	-

Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

Timings

2: Powhatan Rd & Alameda Ave

2031 Total AM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	129	47	50	91	41	552	55	566	82
Future Volume (vph)	129	47	50	91	41	552	55	566	82
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	35.0	35.0	35.0	35.0	12.0	42.0	13.0	43.0	43.0
Total Split (%)	38.9%	38.9%	38.9%	38.9%	13.3%	46.7%	14.4%	47.8%	47.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 76 (84%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 2: Powhatan Rd & Alameda Ave






















	Ø1		Ø2 (R)		Ø4
13 s		42 s			35 s
	Ø5		Ø6 (R)		Ø8
12 s		43 s			35 s

HCM 6th Signalized Intersection Summary

2: Powhaton Rd & Alameda Ave

2031 Total AM

11/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	47	23	50	91	46	41	552	33	55	566	82
Future Volume (veh/h)	129	47	23	50	91	46	41	552	33	55	566	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1796	1796	1796	1796	1796	1796	1841	1841	1841	1811	1811	1811
Adj Flow Rate, veh/h	140	51	25	54	99	50	45	600	36	60	615	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	7	7	7	7	7	7	4	4	4	6	6	6
Cap, veh/h	251	249	122	312	247	125	515	1970	118	536	2042	911
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.04	0.59	0.59	0.04	0.59	0.59
Sat Flow, veh/h	1190	1138	558	1271	1126	568	1753	3352	201	1725	3441	1535
Grp Volume(v), veh/h	140	0	76	54	0	149	45	313	323	60	615	89
Grp Sat Flow(s),veh/h/ln	1190	0	1696	1271	0	1694	1753	1749	1805	1725	1721	1535
Q Serve(g_s), s	10.3	0.0	3.3	3.3	0.0	6.8	0.9	8.1	8.1	1.2	8.0	2.3
Cycle Q Clear(g_c), s	17.1	0.0	3.3	6.6	0.0	6.8	0.9	8.1	8.1	1.2	8.0	2.3
Prop In Lane	1.00		0.33	1.00		0.34	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	251	0	372	312	0	371	515	1028	1061	536	2042	911
V/C Ratio(X)	0.56	0.00	0.20	0.17	0.00	0.40	0.09	0.30	0.30	0.11	0.30	0.10
Avail Cap(c_a), veh/h	394	0	575	464	0	574	595	1028	1061	625	2042	911
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.4	0.0	28.7	31.4	0.0	30.1	6.8	9.3	9.3	6.7	9.1	7.9
Incr Delay (d2), s/veh	1.9	0.0	0.3	0.3	0.0	0.7	0.1	0.8	0.7	0.1	0.4	0.2
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(50%),veh/ln	3.1	0.0	1.4	1.0	0.0	2.8	0.3	2.9	3.0	0.4	2.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	39.3	0.0	29.0	31.7	0.0	30.8	6.9	10.1	10.1	6.8	9.4	8.1
LnGrp LOS	D	A	C	C	A	C	A	B	B	A	A	A
Approach Vol, veh/h	216			203			681			764		
Approach Delay, s/veh	35.7			31.0			9.9			9.1		
Approach LOS	D			C			A			A		
Timer - Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	8.4	57.4	24.2		7.9	57.9	24.2					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	8.5	37.5	30.5		7.5	38.5	30.5					
Max Q Clear Time (g_c+I1), s	3.2	10.1	19.1		2.9	10.0	8.8					
Green Ext Time (p_c), s	0.0	3.8	0.7		0.0	4.5	1.0					
Intersection Summary												
HCM 6th Ctrl Delay	14.8											
HCM 6th LOS	B											

Timings

2: Powhatan Rd & Alameda Ave

2031 Total PM

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Traffic Volume (vph)	149	96	33	81	39	587	54	607	120
Future Volume (vph)	149	96	33	81	39	587	54	607	120
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	pm+pt	NA	Perm
Protected Phases		4		8	5	2	1	6	
Permitted Phases	4		8		2		6		6
Detector Phase	4	4	8	8	5	2	1	6	6
Switch Phase									
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	9.5	22.5	22.5
Total Split (s)	36.0	36.0	36.0	36.0	11.0	41.0	13.0	43.0	43.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	12.2%	45.6%	14.4%	47.8%	47.8%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 90

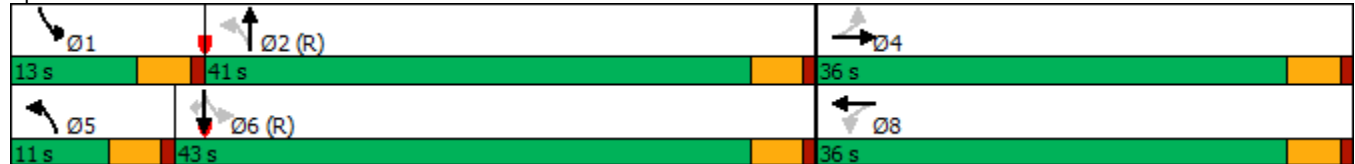
Actuated Cycle Length: 90

Offset: 48 (53%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55

Control Type: Actuated-Coordinated

Splits and Phases: 2: Powhatan Rd & Alameda Ave






























HCM 6th Signalized Intersection Summary







2031 Total PM

2: Powhaton Rd & Alameda Ave

11/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	96	39	33	81	48	39	587	41	54	607	120
Future Volume (veh/h)	149	96	39	33	81	48	39	587	41	54	607	120
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1781	1781	1781	1781	1781	1781	1870	1870	1870	1811	1811	1811
Adj Flow Rate, veh/h	162	104	42	36	88	52	42	638	45	59	660	130
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	8	8	8	8	8	8	2	2	2	6	6	6
Cap, veh/h	277	284	115	274	247	146	472	1924	136	500	1989	887
Arrive On Green	0.24	0.24	0.24	0.24	0.24	0.24	0.04	0.57	0.57	0.04	0.58	0.58
Sat Flow, veh/h	1189	1206	487	1183	1050	620	1781	3367	237	1725	3441	1535
Grp Volume(v), veh/h	162	0	146	36	0	140	42	336	347	59	660	130
Grp Sat Flow(s),veh/h/ln	1189	0	1694	1183	0	1670	1781	1777	1828	1725	1721	1535
Q Serve(g_s), s	11.8	0.0	6.5	2.4	0.0	6.3	0.9	9.0	9.0	1.2	9.0	3.5
Cycle Q Clear(g_c), s	18.1	0.0	6.5	8.9	0.0	6.3	0.9	9.0	9.0	1.2	9.0	3.5
Prop In Lane	1.00		0.29	1.00		0.37	1.00		0.13	1.00		1.00
Lane Grp Cap(c), veh/h	277	0	399	274	0	394	472	1015	1044	500	1989	887
V/C Ratio(X)	0.58	0.00	0.37	0.13	0.00	0.36	0.09	0.33	0.33	0.12	0.33	0.15
Avail Cap(c_a), veh/h	413	0	593	409	0	584	537	1015	1044	589	1989	887
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.3	0.0	28.8	32.5	0.0	28.7	7.5	10.2	10.2	7.4	9.9	8.7
Incr Delay (d2), s/veh	2.0	0.0	0.6	0.2	0.0	0.5	0.1	0.9	0.9	0.1	0.4	0.3
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(50%),veh/ln	3.5	0.0	2.7	0.7	0.0	2.5	0.3	3.3	3.4	0.4	3.1	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.2	0.0	29.3	32.7	0.0	29.2	7.6	11.1	11.1	7.5	10.4	9.1
LnGrp LOS	D	A	C	C	A	C	A	B	B	A	B	A
Approach Vol, veh/h	308			176			725			849		
Approach Delay, s/veh	34.0			29.9			10.9			10.0		
Approach LOS	C			C			B			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.4	55.9		25.7	7.8	56.5		25.7				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	36.5		31.5	6.5	38.5		31.5				
Max Q Clear Time (g_c+I1), s	3.2	11.0		20.1	2.9	11.0		10.9				
Green Ext Time (p_c), s	0.0	4.1		1.1	0.0	5.0		0.8				
Intersection Summary												
HCM 6th Ctrl Delay	15.6											
HCM 6th LOS	B											

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	75	77	92	340	265	50
Future Vol, veh/h	75	77	92	340	265	50
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	40	40	48	48	48	48
Mvmt Flow	82	84	100	370	288	54
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	858	288	342	0	-	0
Stage 1	288	-	-	-	-	-
Stage 2	570	-	-	-	-	-
Critical Hdwy	6.8	6.6	4.58	-	-	-
Critical Hdwy Stg 1	5.8	-	-	-	-	-
Critical Hdwy Stg 2	5.8	-	-	-	-	-
Follow-up Hdwy	3.86	3.66	2.632	-	-	-
Pot Cap-1 Maneuver	282	669	1001	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	254	669	1001	-	-	-
Mov Cap-2 Maneuver	254	-	-	-	-	-
Stage 1	614	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	18.3	1.9		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1001	-	254	669	-	-
HCM Lane V/C Ratio	0.1	-	0.321	0.125	-	-
HCM Control Delay (s)	9	-	25.7	11.1	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.3	0.4	-	-

Intersection						
Int Delay, s/veh	4.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	80	128	116	310	268	42
Future Vol, veh/h	80	128	116	310	268	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	150
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	27	27	5	5	5	5
Mvmt Flow	87	139	126	337	291	46
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	880	291	337	0	-	0
Stage 1	291	-	-	-	-	-
Stage 2	589	-	-	-	-	-
Critical Hdwy	6.67	6.47	4.15	-	-	-
Critical Hdwy Stg 1	5.67	-	-	-	-	-
Critical Hdwy Stg 2	5.67	-	-	-	-	-
Follow-up Hdwy	3.743	3.543	2.245	-	-	-
Pot Cap-1 Maneuver	287	693	1206	-	-	-
Stage 1	705	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	257	693	1206	-	-	-
Mov Cap-2 Maneuver	257	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	509	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.1	2.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1206	-	257	693	-	-
HCM Lane V/C Ratio	0.105	-	0.338	0.201	-	-
HCM Control Delay (s)	8.3	-	26	11.5	-	-
HCM Lane LOS	A	-	D	B	-	-
HCM 95th %tile Q(veh)	0.3	-	1.4	0.7	-	-

Timings

3: Mississippi Ave & Harvest Rd

2031 Total AM

11/18/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	171	77	92	419	436	262
Future Volume (vph)	171	77	92	419	436	262
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	27.0	27.0	12.0	63.0	51.0	51.0
Total Split (%)	30.0%	30.0%	13.3%	70.0%	56.7%	56.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 90

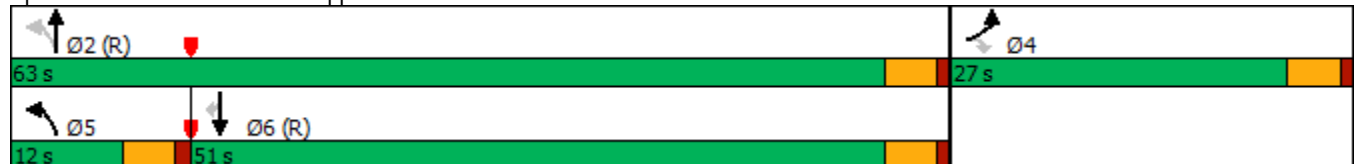
Actuated Cycle Length: 90

Offset: 6 (7%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 3: Mississippi Ave & Harvest Rd









HCM 6th Signalized Intersection Summary

3: Mississippi Ave & Harvest Rd

2031 Total AM

11/18/2024



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	171	77	92	419	436	262
Future Volume (veh/h)	171	77	92	419	436	262
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	84	100	455	474	285
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	232	206	564	1440	1251	1060
Arrive On Green	0.13	0.13	0.05	0.77	0.67	0.67
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	186	84	100	455	474	285
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	9.1	4.4	1.4	6.7	10.1	6.5
Cycle Q Clear(g_c), s	9.1	4.4	1.4	6.7	10.1	6.5
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	232	206	564	1440	1251	1060
V/C Ratio(X)	0.80	0.41	0.18	0.32	0.38	0.27
Avail Cap(c_a), veh/h	445	396	621	1440	1251	1060
HCM Platoon Ratio	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	1.00
Uniform Delay (d), s/veh	38.0	35.9	4.1	3.2	6.6	6.0
Incr Delay (d2), s/veh	6.3	1.3	0.1	0.6	0.9	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	4.0	0.4	2.0	3.7	2.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	44.3	37.2	4.3	3.7	7.5	6.6
LnGrp LOS	D	D	A	A	A	A
Approach Vol, veh/h	270			555	759	
Approach Delay, s/veh	42.1			3.8	7.2	
Approach LOS	D			A	A	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	73.8			16.2	9.1	64.7
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	58.5			22.5	7.5	46.5
Max Q Clear Time (g_c+I1), s	8.7			11.1	3.4	12.1
Green Ext Time (p_c), s	3.3			0.6	0.1	4.5
Intersection Summary						
HCM 6th Ctrl Delay			12.0			
HCM 6th LOS			B			

Timings

2031 Total PM

3: Mississippi Ave & Harvest Rd

11/18/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	339	128	116	523	417	219
Future Volume (vph)	339	128	116	523	417	219
Turn Type	Prot	Perm	pm+pt	NA	NA	Perm
Protected Phases	4		5	2	6	
Permitted Phases		4	2			6
Detector Phase	4	4	5	2	6	6
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	9.5	22.5	22.5	22.5
Total Split (s)	36.0	36.0	12.0	54.0	42.0	42.0
Total Split (%)	40.0%	40.0%	13.3%	60.0%	46.7%	46.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag			Lead		Lag	Lag
Lead-Lag Optimize?			Yes		Yes	Yes
Recall Mode	None	None	None	C-Max	C-Max	C-Max

Intersection Summary

Cycle Length: 90

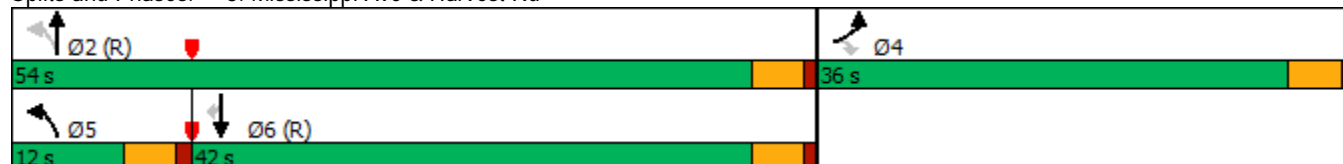
Actuated Cycle Length: 90

Offset: 15 (17%), Referenced to phase 2:NBTL and 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Splits and Phases: 3: Mississippi Ave & Harvest Rd









HCM 6th Signalized Intersection Summary

2031 Total PM

11/18/2024





3: Mississippi Ave & Harvest Rd



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	339	128	116	523	417	219
Future Volume (veh/h)	339	128	116	523	417	219
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	368	139	126	568	453	238
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	420	374	569	1242	1049	889
Arrive On Green	0.24	0.24	0.05	0.66	0.56	0.56
Sat Flow, veh/h	1781	1585	1781	1870	1870	1585
Grp Volume(v), veh/h	368	139	126	568	453	238
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1870	1870	1585
Q Serve(g_s), s	17.9	6.6	2.5	13.2	12.6	7.0
Cycle Q Clear(g_c), s	17.9	6.6	2.5	13.2	12.6	7.0
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	420	374	569	1242	1049	889
V/C Ratio(X)	0.88	0.37	0.22	0.46	0.43	0.27
Avail Cap(c_a), veh/h	623	555	623	1242	1049	889
HCM Platoon Ratio	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	1.00
Uniform Delay (d), s/veh	33.1	28.8	7.8	7.3	11.5	10.2
Incr Delay (d2), s/veh	9.2	0.6	0.2	1.2	1.3	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.6	6.2	0.9	4.9	5.2	2.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	42.4	29.4	8.0	8.5	12.7	10.9
LnGrp LOS	D	C	A	A	B	B
Approach Vol, veh/h	507			694	691	
Approach Delay, s/veh	38.8			8.4	12.1	
Approach LOS	D			A	B	
Timer - Assigned Phs	2			4	5	6
Phs Duration (G+Y+Rc), s	64.3			25.7	9.3	55.0
Change Period (Y+Rc), s	4.5			4.5	4.5	4.5
Max Green Setting (Gmax), s	49.5			31.5	7.5	37.5
Max Q Clear Time (g_c+I1), s	15.2			19.9	4.5	14.6
Green Ext Time (p_c), s	4.2			1.3	0.1	3.8
Intersection Summary						
HCM 6th Ctrl Delay			17.9			
HCM 6th LOS			B			

HCM 6th TWSC
4: Jamestown Way & Alameda Ave

2025 Total AM
05/31/2023

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	43	15	7	101	21	39	0	19	28	0	38
Future Vol, veh/h	20	43	15	7	101	21	39	0	19	28	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	47	16	8	110	23	42	0	21	30	0	41
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	133	0	0	63	0	0	257	248	55	248	245	122
Stage 1	-	-	-	-	-	-	99	99	-	138	138	-
Stage 2	-	-	-	-	-	-	158	149	-	110	107	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1452	-	-	1540	-	-	696	655	1012	706	657	929
Stage 1	-	-	-	-	-	-	907	813	-	865	782	-
Stage 2	-	-	-	-	-	-	844	774	-	895	807	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1452	-	-	1540	-	-	654	641	1012	680	643	929
Mov Cap-2 Maneuver	-	-	-	-	-	-	654	641	-	680	643	-
Stage 1	-	-	-	-	-	-	892	800	-	851	777	-
Stage 2	-	-	-	-	-	-	802	769	-	863	794	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			0.4			10.3			9.9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	740	1452	-	-	1540	-	-	804				
HCM Lane V/C Ratio	0.085	0.015	-	-	0.005	-	-	0.089				
HCM Control Delay (s)	10.3	7.5	0	-	7.3	0	-	9.9				
HCM Lane LOS	B	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.3	0	-	-	0	-	-	0.3				







HCM 6th TWSC
4: Jamestown Way & Alameda Ave

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Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	33	179	46	23	78	28	29	0	15	16	0	28
Future Vol, veh/h	33	179	46	23	78	28	29	0	15	16	0	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	195	50	25	85	30	32	0	16	17	0	30
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	115	0	0	245	0	0	457	457	220	450	467	100
Stage 1	-	-	-	-	-	-	292	292	-	150	150	-
Stage 2	-	-	-	-	-	-	165	165	-	300	317	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1474	-	-	1321	-	-	514	500	820	519	493	956
Stage 1	-	-	-	-	-	-	716	671	-	853	773	-
Stage 2	-	-	-	-	-	-	837	762	-	709	654	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1474	-	-	1321	-	-	480	477	820	490	470	956
Mov Cap-2 Maneuver	-	-	-	-	-	-	480	477	-	490	470	-
Stage 1	-	-	-	-	-	-	696	652	-	829	758	-
Stage 2	-	-	-	-	-	-	794	747	-	675	636	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			1.4			12			10.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	559	1474	-	-	1321	-	-	710				
HCM Lane V/C Ratio	0.086	0.024	-	-	0.019	-	-	0.067				
HCM Control Delay (s)	12	7.5	0	-	7.8	0	-	10.4				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.2				







HCM 6th TWSC
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Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	138	17	11	234	24	39	5	19	32	5	42
Future Vol, veh/h	25	138	17	11	234	24	39	5	19	32	5	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	150	18	12	254	26	42	5	21	35	5	46
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	280	0	0	168	0	0	530	517	159	517	513	267
Stage 1	-	-	-	-	-	-	213	213	-	291	291	-
Stage 2	-	-	-	-	-	-	317	304	-	226	222	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1283	-	-	1410	-	-	460	462	886	469	465	772
Stage 1	-	-	-	-	-	-	789	726	-	717	672	-
Stage 2	-	-	-	-	-	-	694	663	-	777	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1283	-	-	1410	-	-	420	448	886	444	451	772
Mov Cap-2 Maneuver	-	-	-	-	-	-	498	507	-	528	516	-
Stage 1	-	-	-	-	-	-	772	711	-	702	666	-
Stage 2	-	-	-	-	-	-	642	657	-	737	705	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			0.3			12.1			11.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	575	1283	-	-	1410	-	-	634				
HCM Lane V/C Ratio	0.119	0.021	-	-	0.008	-	-	0.135				
HCM Control Delay (s)	12.1	7.9	-	-	7.6	-	-	11.6				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.5				

HCM 6th TWSC
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Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	389	48	23	260	32	29	5	15	20	5	32
Future Vol, veh/h	38	389	48	23	260	32	29	5	15	20	5	32
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	423	52	25	283	35	32	5	16	22	5	35







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	318	0	0	475	0	0	902	899	449	893	908	301
Stage 1	-	-	-	-	-	-	531	531	-	351	351	-
Stage 2	-	-	-	-	-	-	371	368	-	542	557	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1242	-	-	1087	-	-	259	279	610	262	275	739
Stage 1	-	-	-	-	-	-	532	526	-	666	632	-
Stage 2	-	-	-	-	-	-	649	621	-	525	512	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1242	-	-	1087	-	-	234	264	610	242	260	739
Mov Cap-2 Maneuver	-	-	-	-	-	-	351	364	-	351	358	-
Stage 1	-	-	-	-	-	-	514	509	-	644	617	-
Stage 2	-	-	-	-	-	-	599	607	-	489	495	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.6			15.2			13.2		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	405	1242	-	-	1087	-	-	499
HCM Lane V/C Ratio	0.132	0.033	-	-	0.023	-	-	0.124
HCM Control Delay (s)	15.2	8	-	-	8.4	-	-	13.2
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.4

HCM 6th TWSC
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Intersection												
Int Delay, s/veh	3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	173	18	12	315	25	39	5	19	35	5	45
Future Vol, veh/h	25	173	18	12	315	25	39	5	19	35	5	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	27	188	20	13	342	27	42	5	21	38	5	49







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	369	0	0	208	0	0	661	647	198	647	644	356
Stage 1	-	-	-	-	-	-	252	252	-	382	382	-
Stage 2	-	-	-	-	-	-	409	395	-	265	262	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1190	-	-	1386	-	-	392	398	917	401	400	688
Stage 1	-	-	-	-	-	-	806	723	-	640	613	-
Stage 2	-	-	-	-	-	-	619	605	-	792	716	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1190	-	-	1386	-	-	352	385	917	379	387	688
Mov Cap-2 Maneuver	-	-	-	-	-	-	440	460	-	479	469	-
Stage 1	-	-	-	-	-	-	787	706	-	625	607	-
Stage 2	-	-	-	-	-	-	564	600	-	750	699	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.3			12.9			12.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	524	1190	-	-	1386	-	-	570
HCM Lane V/C Ratio	0.131	0.023	-	-	0.009	-	-	0.162
HCM Control Delay (s)	12.9	8.1	-	-	7.6	-	-	12.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.6

HCM 6th TWSC
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Intersection												
Int Delay, s/veh	2.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	493	49	23	344	35	29	5	15	22	5	36
Future Vol, veh/h	40	493	49	23	344	35	29	5	15	22	5	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	536	53	25	374	38	32	5	16	24	5	39







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	412	0	0	589	0	0	1114	1111	563	1102	1118	393
Stage 1	-	-	-	-	-	-	649	649	-	443	443	-
Stage 2	-	-	-	-	-	-	465	462	-	659	675	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1147	-	-	975	-	-	167	180	665	172	177	656
Stage 1	-	-	-	-	-	-	533	485	-	594	576	-
Stage 2	-	-	-	-	-	-	578	565	-	523	466	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1147	-	-	975	-	-	148	169	665	157	166	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	294	299	-	303	294	-
Stage 1	-	-	-	-	-	-	514	467	-	572	561	-
Stage 2	-	-	-	-	-	-	524	550	-	485	449	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.5			16.9			14.8		
HCM LOS							C			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	355	1147	-	-	975	-	-	436
HCM Lane V/C Ratio	0.15	0.038	-	-	0.026	-	-	0.157
HCM Control Delay (s)	16.9	8.3	-	-	8.8	-	-	14.8
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0.1	-	-	0.1	-	-	0.6

HCM 6th TWSC
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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	35	147	18	13	239	27	40	5	9	36	5	46
Future Vol, veh/h	35	147	18	13	239	27	40	5	9	36	5	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	160	20	14	260	29	43	5	10	39	5	50







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	289	0	0	180	0	0	576	563	170	557	559	275
Stage 1	-	-	-	-	-	-	246	246	-	303	303	-
Stage 2	-	-	-	-	-	-	330	317	-	254	256	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1273	-	-	1422	-	-	453	450	954	468	453	764
Stage 1	-	-	-	-	-	-	812	728	-	706	664	-
Stage 2	-	-	-	-	-	-	683	654	-	803	720	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1273	-	-	1422	-	-	407	432	954	445	435	764
Mov Cap-2 Maneuver	-	-	-	-	-	-	484	492	-	529	504	-
Stage 1	-	-	-	-	-	-	788	706	-	685	657	-
Stage 2	-	-	-	-	-	-	627	647	-	765	698	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.4			0.4			12.7			11.7		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	528	1273	-	-	1422	-	-	630
HCM Lane V/C Ratio	0.111	0.03	-	-	0.01	-	-	0.15
HCM Control Delay (s)	12.7	7.9	-	-	7.6	-	-	11.7
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.5

HCM 6th TWSC
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Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	42	348	51	23	224	36	28	5	6	26	5	35
Future Vol, veh/h	42	348	51	23	224	36	28	5	6	26	5	35
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	46	378	55	25	243	39	30	5	7	28	5	38







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	282	0	0	433	0	0	832	830	406	817	838	263
Stage 1	-	-	-	-	-	-	498	498	-	313	313	-
Stage 2	-	-	-	-	-	-	334	332	-	504	525	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1280	-	-	1146	-	-	308	310	787	318	305	776
Stage 1	-	-	-	-	-	-	637	576	-	698	657	-
Stage 2	-	-	-	-	-	-	680	644	-	631	555	-
Platoon blocked, %		-	-	1	-	-	1	1	1	1	1	
Mov Cap-1 Maneuver	1280	-	-	1146	-	-	277	292	787	298	288	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	399	393	-	417	388	-
Stage 1	-	-	-	-	-	-	614	556	-	673	643	-
Stage 2	-	-	-	-	-	-	627	630	-	598	535	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			0.7			14.3			12.6		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	431	1280	-	-	1146	-	-	548
HCM Lane V/C Ratio	0.098	0.036	-	-	0.022	-	-	0.131
HCM Control Delay (s)	14.3	7.9	-	-	8.2	-	-	12.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.4

Intersection												
Int Delay, s/veh	4.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	30	50	7	11	65	16	19	0	29	28	0	38
Future Vol, veh/h	30	50	7	11	65	16	19	0	29	28	0	38
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	54	8	12	71	17	21	0	32	30	0	41
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	88	0	0	62	0	0	248	236	58	244	232	80
Stage 1	-	-	-	-	-	-	124	124	-	104	104	-
Stage 2	-	-	-	-	-	-	124	112	-	140	128	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1508	-	-	1541	-	-	706	665	1008	710	668	980
Stage 1	-	-	-	-	-	-	880	793	-	902	809	-
Stage 2	-	-	-	-	-	-	880	803	-	863	790	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1508	-	-	1541	-	-	660	644	1008	672	647	980
Mov Cap-2 Maneuver	-	-	-	-	-	-	660	644	-	672	647	-
Stage 1	-	-	-	-	-	-	860	775	-	881	803	-
Stage 2	-	-	-	-	-	-	836	797	-	817	772	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.6			0.9			9.6			9.8		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	834	1508	-	-	1541	-	-	820				
HCM Lane V/C Ratio	0.063	0.022	-	-	0.008	-	-	0.087				
HCM Control Delay (s)	9.6	7.4	0	-	7.4	0	-	9.8				
HCM Lane LOS	A	A	A	-	A	A	-	A				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-	-	0.3				







Intersection												
Int Delay, s/veh	3.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	38	141	23	35	69	33	15	0	22	21	0	36
Future Vol, veh/h	38	141	23	35	69	33	15	0	22	21	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	153	25	38	75	36	16	0	24	23	0	39
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	111	0	0	178	0	0	437	435	166	429	429	93
Stage 1	-	-	-	-	-	-	248	248	-	169	169	-
Stage 2	-	-	-	-	-	-	189	187	-	260	260	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1479	-	-	1398	-	-	530	514	878	536	518	964
Stage 1	-	-	-	-	-	-	756	701	-	833	759	-
Stage 2	-	-	-	-	-	-	813	745	-	745	693	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1479	-	-	1398	-	-	485	484	878	498	487	964
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	484	-	498	487	-
Stage 1	-	-	-	-	-	-	733	679	-	807	737	-
Stage 2	-	-	-	-	-	-	757	723	-	702	672	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.4			2			10.8			10.5		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	661	1479	-	-	1398	-	-	717				
HCM Lane V/C Ratio	0.061	0.028	-	-	0.027	-	-	0.086				
HCM Control Delay (s)	10.8	7.5	0	-	7.6	0	-	10.5				
HCM Lane LOS	B	A	A	-	A	A	-	B				
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0.1	-	-	0.3				

Intersection												
Int Delay, s/veh	4.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	36	123	28	23	144	20	78	5	35	32	5	42
Future Vol, veh/h	36	123	28	23	144	20	78	5	35	32	5	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	39	134	30	25	157	22	85	5	38	35	5	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	179	0	0	164	0	0	471	456	149	467	460	168
Stage 1	-	-	-	-	-	-	227	227	-	218	218	-
Stage 2	-	-	-	-	-	-	244	229	-	249	242	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1397	-	-	1414	-	-	503	501	898	506	498	876
Stage 1	-	-	-	-	-	-	776	716	-	784	723	-
Stage 2	-	-	-	-	-	-	760	715	-	755	705	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1397	-	-	1414	-	-	457	478	898	464	476	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	528	528	-	535	529	-
Stage 1	-	-	-	-	-	-	754	696	-	762	710	-
Stage 2	-	-	-	-	-	-	702	702	-	697	685	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.9	12.6	11.1
HCM LOS			B	B







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	602	1397	-	-	1414	-	-	674
HCM Lane V/C Ratio	0.213	0.028	-	-	0.018	-	-	0.127
HCM Control Delay (s)	12.6	7.7	-	-	7.6	-	-	11.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.4

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	44	293	88	42	217	33	54	5	26	25	5	40
Future Vol, veh/h	44	293	88	42	217	33	54	5	26	25	5	40
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	318	96	46	236	36	59	5	28	27	5	43

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	272	0	0	414	0	0	832	826	366	825	856	254
Stage 1	-	-	-	-	-	-	462	462	-	346	346	-
Stage 2	-	-	-	-	-	-	370	364	-	479	510	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1291	-	-	1145	-	-	288	307	679	292	295	785
Stage 1	-	-	-	-	-	-	580	565	-	670	635	-
Stage 2	-	-	-	-	-	-	650	624	-	568	538	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1291	-	-	1145	-	-	253	284	679	261	273	785
Mov Cap-2 Maneuver	-	-	-	-	-	-	365	379	-	363	363	-
Stage 1	-	-	-	-	-	-	559	544	-	645	610	-
Stage 2	-	-	-	-	-	-	584	599	-	519	518	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1.2	15.8	13
HCM LOS			C	B







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	426	1291	-	-	1145	-	-	524
HCM Lane V/C Ratio	0.217	0.037	-	-	0.04	-	-	0.145
HCM Control Delay (s)	15.8	7.9	-	-	8.3	-	-	13
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.8	0.1	-	-	0.1	-	-	0.5

Intersection												
Int Delay, s/veh	5.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	155	40	26	201	21	112	0	44	35	0	45
Future Vol, veh/h	40	155	40	26	201	21	112	0	44	35	0	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	168	43	28	218	23	122	0	48	38	0	49

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	241	0	0	211	0	0	586	573	190	586	583	230
Stage 1	-	-	-	-	-	-	276	276	-	286	286	-
Stage 2	-	-	-	-	-	-	310	297	-	300	297	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1353	-	-	1382	-	-	500	478	928	500	470	904
Stage 1	-	-	-	-	-	-	780	704	-	789	705	-
Stage 2	-	-	-	-	-	-	762	697	-	755	688	-
Platoon blocked, %	1	-	-	1	-	-	1	1	1	1	1	1
Mov Cap-1 Maneuver	1353	-	-	1382	-	-	454	454	928	455	446	904
Mov Cap-2 Maneuver	-	-	-	-	-	-	454	454	-	455	446	-
Stage 1	-	-	-	-	-	-	755	681	-	764	691	-
Stage 2	-	-	-	-	-	-	707	683	-	693	666	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.3			0.8			15			11.6		
HCM LOS							C			B		







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	530	1353	-	-	1382	-	-	631
HCM Lane V/C Ratio	0.32	0.032	-	-	0.02	-	-	0.138
HCM Control Delay (s)	15	7.7	-	-	7.7	-	-	11.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0.1	-	-	0.5

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	347	130	52	274	34	80	5	32	27	5	43
Future Vol, veh/h	48	347	130	52	274	34	80	5	32	27	5	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	52	377	141	57	298	37	87	5	35	29	5	47

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	335	0	0	518	0	0	1009	1001	448	1003	1053	317
Stage 1	-	-	-	-	-	-	552	552	-	431	431	-
Stage 2	-	-	-	-	-	-	457	449	-	572	622	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1253	-	-	1040	-	-	227	232	731	232	204	846
Stage 1	-	-	-	-	-	-	582	535	-	671	611	-
Stage 2	-	-	-	-	-	-	645	597	-	563	487	-
Platoon blocked, %	1	-	-	1	-	-	1	1	1	1	1	1
Mov Cap-1 Maneuver	1253	-	-	1040	-	-	197	210	731	202	185	846
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	330	-	330	299	-
Stage 1	-	-	-	-	-	-	558	513	-	643	577	-
Stage 2	-	-	-	-	-	-	571	564	-	509	466	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			1.3			18.5			13.6		
HCM LOS							C			B		







Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	393	1253	-	-	1040	-	-	502
HCM Lane V/C Ratio	0.324	0.042	-	-	0.054	-	-	0.162
HCM Control Delay (s)	18.5	8	-	-	8.7	-	-	13.6
HCM Lane LOS	C	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	1.4	0.1	-	-	0.2	-	-	0.6







Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	124	35	33	175	21	65	5	39	37	5	47
Future Vol, veh/h	43	124	35	33	175	21	65	5	39	37	5	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	135	38	36	190	23	71	5	42	40	5	51







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	213	0	0	173	0	0	550	533	154	546	541	202
Stage 1	-	-	-	-	-	-	248	248	-	274	274	-
Stage 2	-	-	-	-	-	-	302	285	-	272	267	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1379	-	-	1420	-	-	495	484	947	498	478	912
Stage 1	-	-	-	-	-	-	791	717	-	782	706	-
Stage 2	-	-	-	-	-	-	752	697	-	766	702	-
Platoon blocked, %	1	-	-	1	-	-	1	1	1	1	1	1
Mov Cap-1 Maneuver	1379	-	-	1420	-	-	442	456	947	451	450	912
Mov Cap-2 Maneuver	-	-	-	-	-	-	515	508	-	526	508	-
Stage 1	-	-	-	-	-	-	764	693	-	755	688	-
Stage 2	-	-	-	-	-	-	687	679	-	701	678	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	1.1	12.2	11.2
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	615	1379	-	-	1420	-	-	676
HCM Lane V/C Ratio	0.193	0.034	-	-	0.025	-	-	0.143
HCM Control Delay (s)	12.2	7.7	-	-	7.6	-	-	11.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.7	0.1	-	-	0.1	-	-	0.5

Intersection												
Int Delay, s/veh	3.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	279	64	41	208	42	40	5	33	31	5	45
Future Vol, veh/h	52	279	64	41	208	42	40	5	33	31	5	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	57	303	70	45	226	46	43	5	36	34	5	49
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	272	0	0	373	0	0	818	814	338	812	826	249
Stage 1	-	-	-	-	-	-	452	452	-	339	339	-
Stage 2	-	-	-	-	-	-	366	362	-	473	487	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1314	-	-	1203	-	-	334	328	819	338	320	879
Stage 1	-	-	-	-	-	-	651	595	-	732	664	-
Stage 2	-	-	-	-	-	-	705	647	-	630	569	-
Platoon blocked, %	1	-	-	1	-	-	1	1	1	1	1	1
Mov Cap-1 Maneuver	1314	-	-	1203	-	-	293	303	819	301	295	879
Mov Cap-2 Maneuver	-	-	-	-	-	-	407	397	-	406	387	-
Stage 1	-	-	-	-	-	-	623	569	-	701	640	-
Stage 2	-	-	-	-	-	-	635	623	-	571	545	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			1.1			13.3			12.4		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	516	1314	-	-	1203	-	-	577				
HCM Lane V/C Ratio	0.164	0.043	-	-	0.037	-	-	0.153				
HCM Control Delay (s)	13.3	7.9	-	-	8.1	-	-	12.4				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.6	0.1	-	-	0.1	-	-	0.5				

Intersection						
Int Delay, s/veh	2.4					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	71	88	493	32	39	389
Future Vol, veh/h	71	88	493	32	39	389
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	77	96	536	35	42	423
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1043	536	0	0	571	0
Stage 1	536	-	-	-	-	-
Stage 2	507	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	232	545	-	-	1002	-
Stage 1	587	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %	1	-	-	-	-	-
Mov Cap-1 Maneuver	223	545	-	-	1002	-
Mov Cap-2 Maneuver	379	-	-	-	-	-
Stage 1	587	-	-	-	-	-
Stage 2	631	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	14.7	0	0.8			
HCM LOS	B					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 379 545 1002	-	-		
HCM Lane V/C Ratio	-	- 0.204 0.176 0.042	-	-		
HCM Control Delay (s)	-	- 16.9 13 8.8	-	-		
HCM Lane LOS	-	- C B A	-	-		
HCM 95th %tile Q(veh)	-	- 0.8 0.6 0.1	-	-		

Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	51	62	496	74	92	384
Future Vol, veh/h	51	62	496	74	92	384
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	55	67	539	80	100	417
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	1156	539	0	0	619	0
Stage 1	539	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	187	542	-	-	961	-
Stage 1	585	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Platoon blocked, %	1	-	-	-	-	-
Mov Cap-1 Maneuver	167	542	-	-	961	-
Mov Cap-2 Maneuver	322	-	-	-	-	-
Stage 1	585	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	15.3	0	1.8			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 322 542	961	-		
HCM Lane V/C Ratio	-	- 0.172 0.124	0.104	-		
HCM Control Delay (s)	-	- 18.5 12.6	9.2	-		
HCM Lane LOS	-	- C B	A	-		
HCM 95th %tile Q(veh)	-	- 0.6 0.4	0.3	-		

Intersection				
Intersection Delay, s/veh	2.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	15	0	0	15
Demand Flow Rate, veh/h	15	0	0	15
Vehicles Circulating, veh/h	0	15	15	0
Vehicles Exiting, veh/h	15	0	0	15
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	2.7	0.0	0.0	2.7
Approach LOS	A	-	-	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	15	0	0	15
Cap Entry Lane, veh/h	1380	1359	1359	1380
Entry HV Adj Factor	1.000	1.000	1.000	1.000
Flow Entry, veh/h	15	0	0	15
Cap Entry, veh/h	1380	1359	1359	1380
V/C Ratio	0.011	0.000	0.000	0.011
Control Delay, s/veh	2.7	2.6	2.6	2.7
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	2.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	21	0	0	21
Demand Flow Rate, veh/h	21	0	0	21
Vehicles Circulating, veh/h	0	21	21	0
Vehicles Exiting, veh/h	21	0	0	21
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	2.7	0.0	0.0	2.7
Approach LOS	A	-	-	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	21	0	0	21
Cap Entry Lane, veh/h	1380	1351	1351	1380
Entry HV Adj Factor	1.000	1.000	1.000	1.000
Flow Entry, veh/h	21	0	0	21
Cap Entry, veh/h	1380	1351	1351	1380
V/C Ratio	0.015	0.000	0.000	0.015
Control Delay, s/veh	2.7	2.7	2.7	2.7
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	79	121	122	69
Demand Flow Rate, veh/h	80	123	124	70
Vehicles Circulating, veh/h	52	97	92	106
Vehicles Exiting, veh/h	124	119	40	114
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.3	3.7	3.7	3.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	80	123	124	70
Cap Entry Lane, veh/h	1309	1250	1256	1238
Entry HV Adj Factor	0.989	0.981	0.984	0.981
Flow Entry, veh/h	79	121	122	69
Cap Entry, veh/h	1294	1226	1236	1215
V/C Ratio	0.061	0.098	0.099	0.057
Control Delay, s/veh	3.3	3.7	3.7	3.4
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

Intersection				
Intersection Delay, s/veh	3.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	113	111	84	104
Demand Flow Rate, veh/h	115	114	86	107
Vehicles Circulating, veh/h	99	90	145	98
Vehicles Exiting, veh/h	106	141	69	105
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	3.7	3.7	3.7	3.7
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	115	114	86	107
Cap Entry Lane, veh/h	1247	1259	1190	1249
Entry HV Adj Factor	0.981	0.973	0.981	0.976
Flow Entry, veh/h	113	111	84	104
Cap Entry, veh/h	1224	1225	1167	1219
V/C Ratio	0.092	0.091	0.072	0.086
Control Delay, s/veh	3.7	3.7	3.7	3.7
LOS	A	A	A	A
95th %tile Queue, veh	0	0	0	0

HCM 6th Roundabout
7: Little River St & Road 4

2029 Total AM

11/18/2024

Intersection				
Intersection Delay, s/veh	4.6			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	150	188	252	114
Demand Flow Rate, veh/h	153	192	257	117
Vehicles Circulating, veh/h	143	193	115	209
Vehicles Exiting, veh/h	183	179	181	176
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.2	4.7	4.8	4.2
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	153	192	257	117
Cap Entry Lane, veh/h	1193	1133	1227	1115
Entry HV Adj Factor	0.979	0.981	0.981	0.974
Flow Entry, veh/h	150	188	252	114
Cap Entry, veh/h	1168	1112	1203	1086
V/C Ratio	0.128	0.169	0.209	0.105
Control Delay, s/veh	4.2	4.7	4.8	4.2
LOS	A	A	A	A
95th %tile Queue, veh	0	1	1	0

HCM 6th Roundabout
7: Little River St & Road 4

2029 Total PM

11/18/2024







Intersection				
Intersection Delay, s/veh	4.7			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	186	182	182	176
Demand Flow Rate, veh/h	189	186	185	180
Vehicles Circulating, veh/h	232	160	179	194
Vehicles Exiting, veh/h	142	204	242	152
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.9	4.5	4.6	4.7
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	189	186	185	180
Cap Entry Lane, veh/h	1089	1172	1150	1132
Entry HV Adj Factor	0.982	0.978	0.981	0.980
Flow Entry, veh/h	186	182	182	176
Cap Entry, veh/h	1069	1146	1128	1109
V/C Ratio	0.174	0.159	0.161	0.159
Control Delay, s/veh	4.9	4.5	4.6	4.7
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Intersection				
Intersection Delay, s/veh	5.8			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	236	254	355	157
Demand Flow Rate, veh/h	241	259	362	160
Vehicles Circulating, veh/h	240	295	141	354
Vehicles Exiting, veh/h	274	208	340	200
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.5	6.1	5.9	5.4
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	241	259	362	160
Cap Entry Lane, veh/h	1080	1021	1195	962
Entry HV Adj Factor	0.980	0.979	0.982	0.980
Flow Entry, veh/h	236	254	355	157
Cap Entry, veh/h	1059	1000	1173	942
V/C Ratio	0.223	0.254	0.303	0.166
Control Delay, s/veh	5.5	6.1	5.9	5.4
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1

Intersection				
Intersection Delay, s/veh	5.1			
Intersection LOS	A			
Approach	EB	WB	NB	SB
Entry Lanes	1	1	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	209	183	263	179
Demand Flow Rate, veh/h	214	186	268	183
Vehicles Circulating, veh/h	238	213	159	236
Vehicles Exiting, veh/h	181	214	293	163
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	5.2	4.8	5.2	4.9
Approach LOS	A	A	A	A
Lane	Left	Left	Left	Left
Designated Moves	LTR	LTR	LTR	LTR
Assumed Moves	LTR	LTR	LTR	LTR
RT Channelized				
Lane Util	1.000	1.000	1.000	1.000
Follow-Up Headway, s	2.609	2.609	2.609	2.609
Critical Headway, s	4.976	4.976	4.976	4.976
Entry Flow, veh/h	214	186	268	183
Cap Entry Lane, veh/h	1082	1110	1173	1085
Entry HV Adj Factor	0.978	0.981	0.981	0.977
Flow Entry, veh/h	209	183	263	179
Cap Entry, veh/h	1059	1090	1151	1060
V/C Ratio	0.198	0.168	0.228	0.169
Control Delay, s/veh	5.2	4.8	5.2	4.9
LOS	A	A	A	A
95th %tile Queue, veh	1	1	1	1







HCM 6th TWSC
8: New Castle Way & Alameda Ave

2027 Total AM
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Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	150	16	9	105	25	32	3	15	33	3	43
Future Vol, veh/h	30	150	16	9	105	25	32	3	15	33	3	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	163	17	10	114	27	35	3	16	36	3	47
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	141	0	0	180	0	0	411	399	172	395	394	128
Stage 1	-	-	-	-	-	-	238	238	-	148	148	-
Stage 2	-	-	-	-	-	-	173	161	-	247	246	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1442	-	-	1396	-	-	551	539	872	565	542	922
Stage 1	-	-	-	-	-	-	765	708	-	855	775	-
Stage 2	-	-	-	-	-	-	829	765	-	757	703	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1442	-	-	1396	-	-	509	523	872	540	526	922
Mov Cap-2 Maneuver	-	-	-	-	-	-	573	562	-	592	565	-
Stage 1	-	-	-	-	-	-	747	692	-	835	770	-
Stage 2	-	-	-	-	-	-	778	760	-	722	687	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.5			11.2			10.6		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	638	1442	-	-	1396	-	-	734				
HCM Lane V/C Ratio	0.085	0.023	-	-	0.007	-	-	0.117				
HCM Control Delay (s)	11.2	7.6	-	-	7.6	-	-	10.6				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.4				

HCM 6th TWSC
8: New Castle Way & Alameda Ave

2027 Total PM
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Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	40	267	38	15	240	37	23	3	12	26	3	26
Future Vol, veh/h	40	267	38	15	240	37	23	3	12	26	3	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	290	41	16	261	40	25	3	13	28	3	28







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	301	0	0	331	0	0	726	730	311	718	730	281
Stage 1	-	-	-	-	-	-	397	397	-	313	313	-
Stage 2	-	-	-	-	-	-	329	333	-	405	417	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1260	-	-	1228	-	-	340	349	729	344	349	758
Stage 1	-	-	-	-	-	-	629	603	-	698	657	-
Stage 2	-	-	-	-	-	-	684	644	-	622	591	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1260	-	-	1228	-	-	314	333	729	324	333	758
Mov Cap-2 Maneuver	-	-	-	-	-	-	420	420	-	428	423	-
Stage 1	-	-	-	-	-	-	608	582	-	674	648	-
Stage 2	-	-	-	-	-	-	647	636	-	587	571	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.4			13.1			12.5		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	485	1260	-	-	1228	-	-	538
HCM Lane V/C Ratio	0.085	0.035	-	-	0.013	-	-	0.111
HCM Control Delay (s)	13.1	8	-	-	8	-	-	12.5
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0	-	-	0.4

HCM 6th TWSC
8: New Castle Way & Alameda Ave

2029 Total AM
11/18/2024

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	33	192	18	17	178	29	33	4	28	36	4	46
Future Vol, veh/h	33	192	18	17	178	29	33	4	28	36	4	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	209	20	18	193	32	36	4	30	39	4	50







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	225	0	0	229	0	0	563	552	219	553	546	209
Stage 1	-	-	-	-	-	-	291	291	-	245	245	-
Stage 2	-	-	-	-	-	-	272	261	-	308	301	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1364	-	-	1339	-	-	462	457	821	471	461	903
Stage 1	-	-	-	-	-	-	717	672	-	814	729	-
Stage 2	-	-	-	-	-	-	784	716	-	702	665	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1364	-	-	1339	-	-	421	439	821	437	443	903
Mov Cap-2 Maneuver	-	-	-	-	-	-	509	503	-	515	506	-
Stage 1	-	-	-	-	-	-	698	655	-	793	720	-
Stage 2	-	-	-	-	-	-	727	706	-	654	648	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.6	11.7	11.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	608	1364	-	-	1339	-	-	668
HCM Lane V/C Ratio	0.116	0.026	-	-	0.014	-	-	0.14
HCM Control Delay (s)	11.7	7.7	-	-	7.7	-	-	11.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0	-	-	0.5

HCM 6th TWSC
8: New Castle Way & Alameda Ave

2029 Total PM
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Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	323	40	30	317	42	24	4	22	28	4	28
Future Vol, veh/h	44	323	40	30	317	42	24	4	22	28	4	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	351	43	33	345	46	26	4	24	30	4	30







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	391	0	0	394	0	0	920	926	373	917	924	368
Stage 1	-	-	-	-	-	-	469	469	-	434	434	-
Stage 2	-	-	-	-	-	-	451	457	-	483	490	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1190	-	-	1165	-	-	254	261	673	255	261	808
Stage 1	-	-	-	-	-	-	575	561	-	687	617	-
Stage 2	-	-	-	-	-	-	669	599	-	565	549	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1190	-	-	1165	-	-	229	243	673	231	244	808
Mov Cap-2 Maneuver	-	-	-	-	-	-	361	356	-	357	357	-
Stage 1	-	-	-	-	-	-	552	539	-	660	600	-
Stage 2	-	-	-	-	-	-	621	582	-	519	527	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.6			14			13.6		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	453	1190	-	-	1165	-	-	483
HCM Lane V/C Ratio	0.12	0.04	-	-	0.028	-	-	0.135
HCM Control Delay (s)	14	8.2	-	-	8.2	-	-	13.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	0.5

HCM 6th TWSC
8: New Castle Way & Alameda Ave

2031 Total AM
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Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	156	16	26	167	36	21	5	35	36	5	47
Future Vol, veh/h	38	156	16	26	167	36	21	5	35	36	5	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	170	17	28	182	39	23	5	38	39	5	51







Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	221	0	0	187	0	0	547	538	179	540	527	202
Stage 1	-	-	-	-	-	-	261	261	-	258	258	-
Stage 2	-	-	-	-	-	-	286	277	-	282	269	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1369	-	-	1387	-	-	476	466	864	481	474	912
Stage 1	-	-	-	-	-	-	744	692	-	800	718	-
Stage 2	-	-	-	-	-	-	769	703	-	725	687	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1369	-	-	1387	-	-	429	443	864	439	451	912
Mov Cap-2 Maneuver	-	-	-	-	-	-	511	503	-	515	510	-
Stage 1	-	-	-	-	-	-	722	671	-	776	704	-
Stage 2	-	-	-	-	-	-	706	689	-	667	666	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.4			0.9			11			11.3		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	666	1369	-	-	1387	-	-	671
HCM Lane V/C Ratio	0.1	0.03	-	-	0.02	-	-	0.143
HCM Control Delay (s)	11	7.7	-	-	7.7	-	-	11.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.5

HCM 6th TWSC
8: New Castle Way & Alameda Ave

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Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	47	283	28	34	250	46	16	5	27	31	5	31
Future Vol, veh/h	47	283	28	34	250	46	16	5	27	31	5	31
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	150	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	1	-	-	1	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	308	30	37	272	50	17	5	29	34	5	34

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	322	0	0	338	0	0	816	821	323	813	811	297
Stage 1	-	-	-	-	-	-	425	425	-	371	371	-
Stage 2	-	-	-	-	-	-	391	396	-	442	440	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1259	-	-	1221	-	-	305	309	718	306	314	844
Stage 1	-	-	-	-	-	-	607	586	-	717	649	-
Stage 2	-	-	-	-	-	-	696	629	-	594	578	-
Platoon blocked, %	1	-	-	-	-	-	1	1	-	1	1	1
Mov Cap-1 Maneuver	1259	-	-	1221	-	-	274	287	718	275	292	844
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	387	-	385	390	-
Stage 1	-	-	-	-	-	-	582	562	-	687	629	-
Stage 2	-	-	-	-	-	-	642	611	-	541	554	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			0.8			12.6			13.1		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	526	1259	-	-	1221	-	-	515
HCM Lane V/C Ratio	0.099	0.041	-	-	0.03	-	-	0.141
HCM Control Delay (s)	12.6	8	-	-	8	-	-	13.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-	-	0.5

Intersection







Int Delay, s/veh 1.8







Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	143	56	20	105	34	17
Future Vol, veh/h	143	56	20	105	34	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	100
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	155	61	22	114	37	18

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	216
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1354
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1354
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	10
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	700	891	-	-	1354	-
HCM Lane V/C Ratio	0.053	0.021	-	-	0.016	-
HCM Control Delay (s)	10.4	9.1	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.1	-	-	0	-

Intersection								
Int Delay, s/veh	3.1							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	207	99	37	179	110	38		
Future Vol, veh/h	207	99	37	179	110	38		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	150	150	-	0	100		
Veh in Median Storage, #	0	-	-	0	1	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	225	108	40	195	120	41		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	333	0	500	225		
Stage 1	-	-	-	-	225	-		
Stage 2	-	-	-	-	275	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1226	-	530	814		
Stage 1	-	-	-	-	812	-		
Stage 2	-	-	-	-	771	-		
Platoon blocked, %	-	-		-				
Mov Cap-1 Maneuver	-	-	1226	-	513	814		
Mov Cap-2 Maneuver	-	-	-	-	588	-		
Stage 1	-	-	-	-	812	-		
Stage 2	-	-	-	-	746	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		1.4		11.9			
HCM LOS					B			
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	588		814		-	-	1226	-
HCM Lane V/C Ratio	0.203		0.051		-	-	0.033	-
HCM Control Delay (s)	12.7		9.7		-	-	8	-
HCM Lane LOS	B		A		-	-	A	-
HCM 95th %tile Q(veh)	0.8		0.2		-	-	0.1	-

Intersection								
Int Delay, s/veh	1.3							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Vol, veh/h	198	56	20	196	34	17		
Future Vol, veh/h	198	56	20	196	34	17		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	150	150	-	0	100		
Veh in Median Storage, #	0	-	-	0	1	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	215	61	22	213	37	18		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	276	0	472	215		
Stage 1	-	-	-	-	215	-		
Stage 2	-	-	-	-	257	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1287	-	590	825		
Stage 1	-	-	-	-	821	-		
Stage 2	-	-	-	-	831	-		
Platoon blocked, %	-	-		-	1			
Mov Cap-1 Maneuver	-	-	1287	-	580	825		
Mov Cap-2 Maneuver	-	-	-	-	638	-		
Stage 1	-	-	-	-	821	-		
Stage 2	-	-	-	-	817	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.7		10.5			
HCM LOS					B			
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	638		825		-	-	1287	-
HCM Lane V/C Ratio	0.058		0.022		-	-	0.017	-
HCM Control Delay (s)	11		9.5		-	-	7.8	-
HCM Lane LOS	B		A		-	-	A	-
HCM 95th %tile Q(veh)	0.2		0.1		-	-	0.1	-







Intersection						
Int Delay, s/veh	2.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↘	↑	↘	↗
Traffic Vol, veh/h	276	99	37	279	110	38
Future Vol, veh/h	276	99	37	279	110	38
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	150	150	-	0	100
Veh in Median Storage, #	0	-	-	0	1	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	300	108	40	303	120	41
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	408	0	683	300
Stage 1	-	-	-	-	300	-
Stage 2	-	-	-	-	383	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1151	-	437	740
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	737	-
Platoon blocked, %	-	-		-	1	
Mov Cap-1 Maneuver	-	-	1151	-	421	740
Mov Cap-2 Maneuver	-	-	-	-	525	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	711	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1		13	
HCM LOS	B					
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	525	740	-	-	1151	-
HCM Lane V/C Ratio	0.228	0.056	-	-	0.035	-
HCM Control Delay (s)	13.9	10.2	-	-	8.2	-
HCM Lane LOS	B	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	0.2	-	-	0.1	-







Intersection								
Int Delay, s/veh	1.1							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑	↖	↗		
Traffic Vol, veh/h	178	59	10	199	35	11		
Future Vol, veh/h	178	59	10	199	35	11		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	150	150	-	0	100		
Veh in Median Storage, #	0	-	-	0	1	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	193	64	11	216	38	12		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	257	0	431	193		
Stage 1	-	-	-	-	193	-		
Stage 2	-	-	-	-	238	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1308	-	628	849		
Stage 1	-	-	-	-	840	-		
Stage 2	-	-	-	-	850	-		
Platoon blocked, %	-	-		-	1			
Mov Cap-1 Maneuver	-	-	1308	-	623	849		
Mov Cap-2 Maneuver	-	-	-	-	669	-		
Stage 1	-	-	-	-	840	-		
Stage 2	-	-	-	-	844	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.4		10.4			
HCM LOS					B			
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	669		849		-	-	1308	-
HCM Lane V/C Ratio	0.057		0.014		-	-	0.008	-
HCM Control Delay (s)	10.7		9.3		-	-	7.8	-
HCM Lane LOS	B		A		-	-	A	-
HCM 95th %tile Q(veh)	0.2		0		-	-	0	-

Intersection								
Int Delay, s/veh	2.6							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑	↖	↗		
Traffic Vol, veh/h	249	107	22	211	119	20		
Future Vol, veh/h	249	107	22	211	119	20		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	150	150	-	0	100		
Veh in Median Storage, #	0	-	-	0	1	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	271	116	24	229	129	22		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	387	0	548	271		
Stage 1	-	-	-	-	271	-		
Stage 2	-	-	-	-	277	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1171	-	525	768		
Stage 1	-	-	-	-	775	-		
Stage 2	-	-	-	-	812	-		
Platoon blocked, %	-	-		-	1			
Mov Cap-1 Maneuver	-	-	1171	-	515	768		
Mov Cap-2 Maneuver	-	-	-	-	593	-		
Stage 1	-	-	-	-	775	-		
Stage 2	-	-	-	-	795	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.8		12.4			
HCM LOS					B			
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	593		768		-	-	1171	-
HCM Lane V/C Ratio	0.218		0.028		-	-	0.02	-
HCM Control Delay (s)	12.8		9.8		-	-	8.1	-
HCM Lane LOS	B		A		-	-	A	-
HCM 95th %tile Q(veh)	0.8		0.1		-	-	0.1	-

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Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	7	16	246	287	21
Future Vol, veh/h	9	7	16	246	287	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	8	17	267	312	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	625	324	335	0	-	0
Stage 1	324	-	-	-	-	-
Stage 2	301	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	449	717	1224	-	-	-
Stage 1	733	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	443	717	1224	-	-	-
Mov Cap-2 Maneuver	538	-	-	-	-	-
Stage 1	723	-	-	-	-	-
Stage 2	751	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	11.1	0.5		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1224	-	538	717	-	-
HCM Lane V/C Ratio	0.014	-	0.018	0.011	-	-
HCM Control Delay (s)	8	-	11.8	10.1	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0	-	0.1	0	-	-

Intersection						
Int Delay, s/veh	1.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	31	26	319	343	35
Future Vol, veh/h	41	31	26	319	343	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	34	28	347	373	38
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	795	392	411	0	-	0
Stage 1	392	-	-	-	-	-
Stage 2	403	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	357	657	1148	-	-	-
Stage 1	683	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	348	657	1148	-	-	-
Mov Cap-2 Maneuver	465	-	-	-	-	-
Stage 1	667	-	-	-	-	-
Stage 2	675	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.4	0.6		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1148	-	465	657	-	-
HCM Lane V/C Ratio	0.025	-	0.096	0.051	-	-
HCM Control Delay (s)	8.2	-	13.6	10.8	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	0.2	-	-







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Intersection						
Int Delay, s/veh	0.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	9	7	16	531	531	21
Future Vol, veh/h	9	7	16	531	531	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	8	17	577	577	23
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1200	589	600	0	-	0
Stage 1	589	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	163	650	968	-	-	-
Stage 1	617	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	160	650	968	-	-	-
Mov Cap-2 Maneuver	334	-	-	-	-	-
Stage 1	606	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	13.7	0.3		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	968	-	334	650	-	-
HCM Lane V/C Ratio	0.018	-	0.029	0.012	-	-
HCM Control Delay (s)	8.8	-	16.1	10.6	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	0	-	-









HCM 6th TWSC
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Intersection						
Int Delay, s/veh	1.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	41	31	26	630	638	35
Future Vol, veh/h	41	31	26	630	638	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	100	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	34	28	685	693	38
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1453	712	731	0	-	0
Stage 1	712	-	-	-	-	-
Stage 2	741	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	*78	*552	*827	-	-	-
Stage 1	*521	-	-	-	-	-
Stage 2	*471	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*75	*552	*827	-	-	-
Mov Cap-2 Maneuver	*256	-	-	-	-	-
Stage 1	*503	-	-	-	-	-
Stage 2	*471	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	17.7	0.4		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	* 827	-	256	552	-	-
HCM Lane V/C Ratio	0.034	-	0.174	0.061	-	-
HCM Control Delay (s)	9.5	-	22	11.9	-	-
HCM Lane LOS	A	-	C	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.2	-	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

HCM 6th TWSC
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Intersection												
Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	7	25	0	15	14	599	20	15	618	21
Future Vol, veh/h	10	0	7	25	0	15	14	599	20	15	618	21
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	100	-	-	100	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	8	27	0	16	15	651	22	16	672	23

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1072	1419	348	1060	1419	337	695	0	0	673	0	0
Stage 1	716	716	-	692	692	-	-	-	-	-	-	-
Stage 2	356	703	-	368	727	-	-	-	-	-	-	-
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	347	199	*838	*356	199	659	1233	-	-	914	-	-
Stage 1	743	661	-	*400	443	-	-	-	-	-	-	-
Stage 2	634	438	-	*790	653	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	-	-	-	-	-	-
Mov Cap-1 Maneuver	331	193	*838	*345	193	659	1233	-	-	914	-	-
Mov Cap-2 Maneuver	448	313	-	*356	319	-	-	-	-	-	-	-
Stage 1	734	649	-	*395	438	-	-	-	-	-	-	-
Stage 2	611	433	-	*769	641	-	-	-	-	-	-	-









Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.6		13.9		0.2		0.2	
HCM LOS	B		B					





Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1233	-	-	448	838	356	659	914	-	-
HCM Lane V/C Ratio	0.012	-	-	0.024	0.009	0.076	0.025	0.018	-	-
HCM Control Delay (s)	8	-	-	13.2	9.3	15.9	10.6	9	-	-
HCM Lane LOS	A	-	-	B	A	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.2	0.1	0.1	-	-





Notes												
-: Volume exceeds capacity			\$: Delay exceeds 300s			+: Computation Not Defined			*: All major volume in platoon			





HCM 6th TWSC
10: Powhaton Rd & Commercial Access

2031 Total PM
11/18/2024

Intersection												
Int Delay, s/veh	1.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	0	29	20	0	10	25	611	30	25	616	38
Future Vol, veh/h	43	0	29	20	0	10	25	611	30	25	616	38
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	100	-	-	100	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	47	0	32	22	0	11	27	664	33	27	670	41
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1131	1496	356	1124	1500	349	711	0	0	697	0	0
Stage 1	745	745	-	735	735	-	-	-	-	-	-	-
Stage 2	386	751	-	389	765	-	-	-	-	-	-	-
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	315	176	*830	*320	175	647	1229	-	-	895	-	-
Stage 1	726	649	-	*377	424	-	-	-	-	-	-	-
Stage 2	609	416	-	*782	632	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	-	-	-	-	-	-
Mov Cap-1 Maneuver	298	167	*830	*295	166	647	1229	-	-	895	-	-
Mov Cap-2 Maneuver	418	286	-	*326	294	-	-	-	-	-	-	-
Stage 1	710	630	-	*369	415	-	-	-	-	-	-	-
Stage 2	586	407	-	*730	613	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	12.6		14.8		0.3		0.3					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR		
Capacity (veh/h)	1229	-	-	418	830	326	647	895	-	-		
HCM Lane V/C Ratio	0.022	-	-	0.112	0.038	0.067	0.017	0.03	-	-		
HCM Control Delay (s)	8	-	-	14.7	9.5	16.8	10.7	9.1	-	-		
HCM Lane LOS	A	-	-	B	A	C	B	A	-	-		
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.1	0.2	0.1	0.1	-	-		
Notes												
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined					*: All major volume in platoon			





Intersection						
Int Delay, s/veh	4.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	53	45	39	15	19	43
Future Vol, veh/h	53	45	39	15	19	43
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	58	49	42	16	21	47
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	58	0	-	0	215	50
Stage 1	-	-	-	-	50	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1546	-	-	-	773	1018
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1546	-	-	-	743	1018
Mov Cap-2 Maneuver	-	-	-	-	743	-
Stage 1	-	-	-	-	934	-
Stage 2	-	-	-	-	864	-
Approach	EB	WB		SB		
HCM Control Delay, s	4	0		9.1		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1546	-	-	-	743	1018
HCM Lane V/C Ratio	0.037	-	-	-	0.028	0.046
HCM Control Delay (s)	7.4	0	-	-	10	8.7
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.1

Intersection						
Int Delay, s/veh	4.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	46	32	31	28	22	56
Future Vol, veh/h	46	32	31	28	22	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	35	34	30	24	61
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	64	0	-	0	184	49
Stage 1	-	-	-	-	49	-
Stage 2	-	-	-	-	135	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1538	-	-	-	805	1020
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1538	-	-	-	778	1020
Mov Cap-2 Maneuver	-	-	-	-	778	-
Stage 1	-	-	-	-	941	-
Stage 2	-	-	-	-	891	-
Approach	EB	WB		SB		
HCM Control Delay, s	4.4	0		9.1		
HCM LOS				A		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1538	-	-	-	778	1020
HCM Lane V/C Ratio	0.033	-	-	-	0.031	0.06
HCM Control Delay (s)	7.4	0	-	-	9.8	8.8
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1	0.2

Intersection						
Int Delay, s/veh	4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	76	94	82	22	25	64
Future Vol, veh/h	76	94	82	22	25	64
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	83	102	89	24	27	70
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	113	0	-	0	369	101
Stage 1	-	-	-	-	101	-
Stage 2	-	-	-	-	268	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1476	-	-	-	631	954
Stage 1	-	-	-	-	923	-
Stage 2	-	-	-	-	777	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1476	-	-	-	593	954
Mov Cap-2 Maneuver	-	-	-	-	593	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	777	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.4	0		9.7		
HCM LOS	A					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1476	-	-	-	593	954
HCM Lane V/C Ratio	0.056	-	-	-	0.046	0.073
HCM Control Delay (s)	7.6	0	-	-	11.4	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1	0.2

Intersection





Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	69	76	78	35	33	70
Future Vol, veh/h	69	76	78	35	33	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	75	83	85	38	36	76

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	123	0	0 337 104
Stage 1	-	-	- 104 -
Stage 2	-	-	- 233 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1464	-	- 658 951
Stage 1	-	-	- 920 -
Stage 2	-	-	- 806 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1464	-	- 622 951
Mov Cap-2 Maneuver	-	-	- 622 -
Stage 1	-	-	- 870 -
Stage 2	-	-	- 806 -





Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	9.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1464	-	-	-	622	951
HCM Lane V/C Ratio	0.051	-	-	-	0.058	0.08
HCM Control Delay (s)	7.6	0	-	-	11.1	9.1
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2	0.3

Intersection						
Int Delay, s/veh	4.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	78	110	116	51	50	94
Future Vol, veh/h	78	110	116	51	50	94
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	85	120	126	55	54	102
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	181	0	-	0	444	154
Stage 1	-	-	-	-	154	-
Stage 2	-	-	-	-	290	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1394	-	-	-	571	892
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	759	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1394	-	-	-	534	892
Mov Cap-2 Maneuver	-	-	-	-	534	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	759	-
Approach	EB	WB		SB		
HCM Control Delay, s	3.2	0		10.6		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1394	-	-	-	534	892
HCM Lane V/C Ratio	0.061	-	-	-	0.102	0.115
HCM Control Delay (s)	7.8	0	-	-	12.5	9.6
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	0.4

Intersection






Int Delay, s/veh 4.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	95	89	72	69	86
Future Vol, veh/h	85	95	89	72	69	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	100	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	103	97	78	75	93

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	175	0	0 423 136
Stage 1	-	-	- 136 -
Stage 2	-	-	- 287 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1401	-	- 588 913
Stage 1	-	-	- 890 -
Stage 2	-	-	- 762 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1401	-	- 547 913
Mov Cap-2 Maneuver	-	-	- 547 -
Stage 1	-	-	- 828 -
Stage 2	-	-	- 762 -

Approach	EB	WB	SB
HCM Control Delay, s	3.7	0	10.8
HCM LOS			B






Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1401	-	-	-	547	913
HCM Lane V/C Ratio	0.066	-	-	-	0.137	0.102
HCM Control Delay (s)	7.8	0	-	-	12.6	9.4
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5	0.3

Intersection						
Int Delay, s/veh	0.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	18	19	6	237	282	13
Future Vol, veh/h	18	19	6	237	282	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	20	21	7	258	307	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	586	314	321
Stage 1	314	-	-
Stage 2	272	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	473	726	1239
Stage 1	741	-	-
Stage 2	774	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	470	726	1239
Mov Cap-2 Maneuver	559	-	-
Stage 1	737	-	-
Stage 2	774	-	-





Approach	EB	NB	SB
HCM Control Delay, s	11.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1239	-	634	-	-
HCM Lane V/C Ratio	0.005	-	0.063	-	-
HCM Control Delay (s)	7.9	-	11.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	15	10	17	330	353	20
Future Vol, veh/h	15	10	17	330	353	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	11	18	359	384	22
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	790	395	406	0	-	0
Stage 1	395	-	-	-	-	-
Stage 2	395	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	359	654	1153	-	-	-
Stage 1	681	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	353	654	1153	-	-	-
Mov Cap-2 Maneuver	469	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	681	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	12.2	0.4		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	1153	-	529	-	-	
HCM Lane V/C Ratio	0.016	-	0.051	-	-	
HCM Control Delay (s)	8.2	-	12.2	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.2	-	-	

Intersection





Int Delay, s/veh 1.2









Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	54	29	9	490	517	28
Future Vol, veh/h	54	29	9	490	517	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	32	10	533	562	30

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	1130	577	592
Stage 1	577	-	-
Stage 2	553	-	-
Critical Hdwy	6.42	6.22	4.12
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	2.218
Pot Cap-1 Maneuver	190	666	978
Stage 1	629	-	-
Stage 2	576	-	-
Platoon blocked, %	1	1	1
Mov Cap-1 Maneuver	189	666	978
Mov Cap-2 Maneuver	359	-	-
Stage 1	623	-	-
Stage 2	576	-	-

Approach	EB	NB	SB
HCM Control Delay, s	15.6	0.2	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	978	-	428	-	-
HCM Lane V/C Ratio	0.01	-	0.211	-	-
HCM Control Delay (s)	8.7	-	15.6	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0	-	0.8	-	-

Intersection						
Int Delay, s/veh	1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	16	27	613	606	63
Future Vol, veh/h	43	16	27	613	606	63
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	17	29	666	659	68
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1417	693	727	0	-	0
Stage 1	693	-	-	-	-	-
Stage 2	724	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	90	580	827	-	-	-
Stage 1	549	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	87	580	827	-	-	-
Mov Cap-2 Maneuver	270	-	-	-	-	-
Stage 1	530	-	-	-	-	-
Stage 2	480	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	19.3	0.4		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	827	-	316	-	-	
HCM Lane V/C Ratio	0.035	-	0.203	-	-	
HCM Control Delay (s)	9.5	-	19.3	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.7	-	-	









Intersection												
Int Delay, s/veh	1.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	24	29	40	19	22	11	561	50	41	587	27
Future Vol, veh/h	46	24	29	40	19	22	11	561	50	41	587	27
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	150	-	-	150	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	26	32	43	21	24	12	610	54	45	638	29

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1083	1431	334	1083	1418	332	667	0	0	664	0	0
Stage 1	743	743	-	661	661	-	-	-	-	-	-	-
Stage 2	340	688	-	422	757	-	-	-	-	-	-	-
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	*622	316	*872	*622	325	*872	1198	-	-	1202	-	-
Stage 1	*634	594	-	*727	657	-	-	-	-	-	-	-
Stage 2	*822	636	-	*822	583	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*561	301	*872	*549	310	*872	1198	-	-	1202	-	-
Mov Cap-2 Maneuver	*555	401	-	*578	412	-	-	-	-	-	-	-
Stage 1	*628	572	-	*719	651	-	-	-	-	-	-	-
Stage 2	*766	629	-	*728	562	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12	11.8	0.1	0.5
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1198	-	-	555	569	578	575	1202	-	-
HCM Lane V/C Ratio	0.01	-	-	0.09	0.101	0.075	0.078	0.037	-	-
HCM Control Delay (s)	8	-	-	12.1	12	11.7	11.8	8.1	-	-
HCM Lane LOS	A	-	-	B	B	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.3	0.3	0.2	0.3	0.1	-	-

Notes												
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon												







Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	34	17	50	32	14	29	610	30	120	503	42
Future Vol, veh/h	38	34	17	50	32	14	29	610	30	120	503	42
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	150	-	-	150	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	41	37	18	54	35	15	32	663	33	130	547	46







Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1243	1590	297	1296	1597	348	593	0	0	696	0	0
Stage 1	830	830	-	744	744	-	-	-	-	-	-	-
Stage 2	413	760	-	552	853	-	-	-	-	-	-	-
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	*558	235	*899	484	231	*830	1236	-	-	*1241	-	-
Stage 1	*505	505	-	728	650	-	-	-	-	-	-	-
Stage 2	*782	636	-	792	491	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*453	205	*899	389	202	*830	1236	-	-	*1241	-	-
Mov Cap-2 Maneuver	*441	308	-	473	311	-	-	-	-	-	-	-
Stage 1	*492	452	-	709	633	-	-	-	-	-	-	-
Stage 2	*707	619	-	638	439	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.9		14.7		0.3		1.5	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1236	-	-	441	394	473	384	*1241	-	-
HCM Lane V/C Ratio	0.026	-	-	0.094	0.141	0.115	0.13	0.105	-	-
HCM Control Delay (s)	8	-	-	14	15.6	13.6	15.8	8.2	-	-
HCM Lane LOS	A	-	-	B	C	B	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.5	0.4	0.4	0.4	-	-

Notes												
-: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon						

Intersection						
Int Delay, s/veh	2.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	51	469	48	23	427
Future Vol, veh/h	100	51	469	48	23	427
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	55	510	52	25	464
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1024	510	0	0	562	0
Stage 1	510	-	-	-	-	-
Stage 2	514	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	*240	*692	-	-	1010	-
Stage 1	*652	-	-	-	-	-
Stage 2	*600	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*234	*692	-	-	1010	-
Mov Cap-2 Maneuver	*388	-	-	-	-	-
Stage 1	*652	-	-	-	-	-
Stage 2	*585	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	15.5	0		0.4		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	388	692	1010	-
HCM Lane V/C Ratio	-	-	0.28	0.08	0.025	-
HCM Control Delay (s)	-	-	17.9	10.7	8.7	-
HCM Lane LOS	-	-	C	B	A	-
HCM 95th %tile Q(veh)	-	-	1.1	0.3	0.1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon







Intersection						
Int Delay, s/veh	2.2					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	82	46	525	122	64	386
Future Vol, veh/h	82	46	525	122	64	386
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	89	50	571	133	70	420







Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	1131	571	0
Stage 1	571	-	-
Stage 2	560	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	*190	*657	-
Stage 1	*619	-	-
Stage 2	*572	-	-
Platoon blocked, %	1	1	-
Mov Cap-1 Maneuver	*174	*657	-
Mov Cap-2 Maneuver	*338	-	-
Stage 1	*619	-	-
Stage 2	*525	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.3	0	1.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 338 657	841	-
HCM Lane V/C Ratio	-	- 0.264 0.076	0.083	-
HCM Control Delay (s)	-	- 19.4 10.9	9.7	-
HCM Lane LOS	-	- C B	A	-
HCM 95th %tile Q(veh)	-	- 1 0.2	0.3	-





Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	204	28	489	106	23	499
Future Vol, veh/h	204	28	489	106	23	499
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	222	30	532	115	25	542
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1124	532	0	0	647	0
Stage 1	532	-	-	-	-	-
Stage 2	592	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	*~ 195	*692	-	-	903	-
Stage 1	*652	-	-	-	-	-
Stage 2	*553	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*~ 189	*692	-	-	903	-
Mov Cap-2 Maneuver	*354	-	-	-	-	-
Stage 1	*652	-	-	-	-	-
Stage 2	*538	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	28.3	0		0.4		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	354	692	903	-
HCM Lane V/C Ratio	-	-	0.626	0.044	0.028	-
HCM Control Delay (s)	-	-	30.8	10.4	9.1	-
HCM Lane LOS	-	-	D	B	A	-
HCM 95th %tile Q(veh)	-	-	4	0.1	0.1	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection						
Int Delay, s/veh	4.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	174	33	619	255	36	447
Future Vol, veh/h	174	33	619	255	36	447
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	150	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	189	36	673	277	39	486
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1237	673	0	0	950	0
Stage 1	673	-	-	-	-	-
Stage 2	564	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	*~ 143	*587	-	-	584	-
Stage 1	*554	-	-	-	-	-
Stage 2	*569	-	-	-	-	-
Platoon blocked, %	1	1	-	-	1	-
Mov Cap-1 Maneuver	*~ 133	*587	-	-	584	-
Mov Cap-2 Maneuver	*308	-	-	-	-	-
Stage 1	*554	-	-	-	-	-
Stage 2	*531	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	30.1	0		0.9		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	308	587	584	-
HCM Lane V/C Ratio	-	-	0.614	0.061	0.067	-
HCM Control Delay (s)	-	-	33.6	11.5	11.6	-
HCM Lane LOS	-	-	D	B	B	-
HCM 95th %tile Q(veh)	-	-	3.8	0.2	0.2	-
Notes						
~: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined		*: All major volume in platoon

Intersection





Int Delay, s/veh 6.8





Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	89	50	34	47	59	204
Future Vol, veh/h	89	50	34	47	59	204
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	97	54	37	51	64	222






Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	88	0	0 311 63
Stage 1	-	-	- 63 -
Stage 2	-	-	- 248 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1511	-	- 686 1010
Stage 1	-	-	- 964 -
Stage 2	-	-	- 793 -
Platoon blocked, %	1	-	- 1 1
Mov Cap-1 Maneuver	1511	-	- 640 1010
Mov Cap-2 Maneuver	-	-	- 640 -
Stage 1	-	-	- 900 -
Stage 2	-	-	- 793 -

Approach	EB	WB	SB
HCM Control Delay, s	4.8	0	10
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1511	-	-	-	640	1010
HCM Lane V/C Ratio	0.064	-	-	-	0.1	0.22
HCM Control Delay (s)	7.5	0	-	-	11.3	9.6
HCM Lane LOS	A	A	-	-	B	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3	0.8

Intersection						
Int Delay, s/veh	6.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	238	72	55	70	52	153
Future Vol, veh/h	238	72	55	70	52	153
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	150	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	259	78	60	76	57	166
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	136	0	-	0	694	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	596	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1450	-	-	-	409	965
Stage 1	-	-	-	-	929	-
Stage 2	-	-	-	-	550	-
Platoon blocked, %	1	-	-	-	1	1
Mov Cap-1 Maneuver	1450	-	-	-	333	965
Mov Cap-2 Maneuver	-	-	-	-	333	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	550	-
Approach	EB	WB		SB		
HCM Control Delay, s	6.2	0		11.7		
HCM LOS	B					
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1450	-	-	-	333	965
HCM Lane V/C Ratio	0.178	-	-	-	0.17	0.172
HCM Control Delay (s)	8	0	-	-	18	9.5
HCM Lane LOS	A	A	-	-	C	A
HCM 95th %tile Q(veh)	0.6	-	-	-	0.6	0.6






Intersection						
Int Delay, s/veh	0.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	21	10	479	543	10
Future Vol, veh/h	21	21	10	479	543	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	23	11	521	590	11
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1139	596	601	0	-	0
Stage 1	596	-	-	-	-	-
Stage 2	543	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	223	504	976	-	-	-
Stage 1	550	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	221	504	976	-	-	-
Mov Cap-2 Maneuver	357	-	-	-	-	-
Stage 1	544	-	-	-	-	-
Stage 2	582	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	14.7	0.2		0		
HCM LOS	B					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	976	-	418	-	-	
HCM Lane V/C Ratio	0.011	-	0.109	-	-	
HCM Control Delay (s)	8.7	-	14.7	-	-	
HCM Lane LOS	A	-	B	-	-	
HCM 95th %tile Q(veh)	0	-	0.4	-	-	

Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	17	17	25	623	597	25
Future Vol, veh/h	17	17	25	623	597	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	18	27	677	649	27

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1394	663	676	0	-	0
Stage 1	663	-	-	-	-	-
Stage 2	731	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	156	461	915	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	476	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	151	461	915	-	-	-
Mov Cap-2 Maneuver	291	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	476	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.2	0.3	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	915	-	357	-	-
HCM Lane V/C Ratio	0.03	-	0.104	-	-
HCM Control Delay (s)	9.1	-	16.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-






Intersection						
Int Delay, s/veh	0.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	21	11	595	642	15
Future Vol, veh/h	30	21	11	595	642	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	23	12	647	698	16

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1054	357	714	0	-	0
Stage 1	706	-	-	-	-	-
Stage 2	348	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*357	639	882	-	-	-
Stage 1	*450	-	-	-	-	-
Stage 2	*822	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*352	639	882	-	-	-
Mov Cap-2 Maneuver	*392	-	-	-	-	-
Stage 1	*444	-	-	-	-	-
Stage 2	*822	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.8	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	882	-	466	-	-
HCM Lane V/C Ratio	0.014	-	0.119	-	-
HCM Control Delay (s)	9.1	-	13.8	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.4	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon






Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	24	16	23	650	546	34
Future Vol, veh/h	24	16	23	650	546	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	17	25	707	593	37

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1016	315	630	0	-	0
Stage 1	612	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*436	681	948	-	-	-
Stage 1	*504	-	-	-	-	-
Stage 2	*783	-	-	-	-	-
Platoon blocked, %	1			-	-	-
Mov Cap-1 Maneuver	*425	681	948	-	-	-
Mov Cap-2 Maneuver	*439	-	-	-	-	-
Stage 1	*491	-	-	-	-	-
Stage 2	*783	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.7	0.3	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	948	-	512	-	-
HCM Lane V/C Ratio	0.026	-	0.085	-	-
HCM Control Delay (s)	8.9	-	12.7	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-






Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	12	21	10	477	561	8
Future Vol, veh/h	12	21	10	477	561	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	13	23	11	518	610	9

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1155	615	619	0	-	0
Stage 1	615	-	-	-	-	-
Stage 2	540	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	218	491	961	-	-	-
Stage 1	539	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	216	491	961	-	-	-
Mov Cap-2 Maneuver	353	-	-	-	-	-
Stage 1	533	-	-	-	-	-
Stage 2	584	-	-	-	-	-





















Approach	EB	NB	SB
HCM Control Delay, s	14.1	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	961	-	430	-	-
HCM Lane V/C Ratio	0.011	-	0.083	-	-
HCM Control Delay (s)	8.8	-	14.1	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	17	25	637	605	9
Future Vol, veh/h	11	17	25	637	605	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	18	27	692	658	10
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1409	663	668	0	-	0
Stage 1	663	-	-	-	-	-
Stage 2	746	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	153	461	922	-	-	-
Stage 1	512	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	149	461	922	-	-	-
Mov Cap-2 Maneuver	288	-	-	-	-	-
Stage 1	497	-	-	-	-	-
Stage 2	469	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	15.5	0.3		0		
HCM LOS	C					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR	
Capacity (veh/h)	922	-	373	-	-	
HCM Lane V/C Ratio	0.029	-	0.082	-	-	
HCM Control Delay (s)	9	-	15.5	-	-	
HCM Lane LOS	A	-	C	-	-	
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-	

Timings 17: Powhaton Rd & Mississippi Ave

2031 Total AM
11/18/2024

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	44	21	30	21	25	517	100	86	568	25
Future Volume (vph)	44	21	30	21	25	517	100	86	568	25
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8	5	2		1	6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	28.0	28.0	28.0	28.0	13.0	45.0	45.0	17.0	49.0	49.0
Total Split (%)	31.1%	31.1%	31.1%	31.1%	14.4%	50.0%	50.0%	18.9%	54.4%	54.4%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 88 (98%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55























Control Type: Actuated-Coordinated

Splits and Phases: 17: Powhaton Rd & Mississippi Ave



HCM 6th Signalized Intersection Summary
17: Powhaton Rd & Mississippi Ave





















2031 Total AM
11/18/2024

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	21	54	30	21	47	25	517	100	86	568	25
Future Volume (veh/h)	44	21	54	30	21	47	25	517	100	86	568	25
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	48	23	59	33	23	51	27	562	109	93	617	27
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	162	48	124	155	54	119	647	2474	1103	659	2555	1140
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.70	0.70	0.05	0.72	0.72
Sat Flow, veh/h	1326	464	1191	1316	517	1147	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	48	0	82	33	0	74	27	562	109	93	617	27
Grp Sat Flow(s),veh/h/ln	1326	0	1656	1316	0	1664	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.2	0.0	4.2	2.2	0.0	3.8	0.4	5.1	2.0	1.3	5.3	0.4
Cycle Q Clear(g_c), s	6.9	0.0	4.2	6.4	0.0	3.8	0.4	5.1	2.0	1.3	5.3	0.4
Prop In Lane	1.00		0.72	1.00		0.69	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	162	0	172	155	0	173	647	2474	1103	659	2555	1140
V/C Ratio(X)	0.30	0.00	0.48	0.21	0.00	0.43	0.04	0.23	0.10	0.14	0.24	0.02
Avail Cap(c_a), veh/h	371	0	432	362	0	434	767	2474	1103	817	2555	1140
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.1	0.0	38.0	41.0	0.0	37.8	3.6	4.9	4.5	3.2	4.3	3.6
Incr Delay (d2), s/veh	1.0	0.0	2.0	0.7	0.0	1.7	0.0	0.2	0.2	0.1	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	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	1.8	0.7	0.0	1.6	0.1	1.5	0.6	0.3	1.4	0.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	42.1	0.0	40.1	41.7	0.0	39.5	3.6	5.1	4.6	3.3	4.5	3.7
LnGrp LOS	D	A	D	D	A	D	A	A	A	A	A	A
Approach Vol, veh/h		130			107			698			737	
Approach Delay, s/veh		40.8			40.2			5.0			4.3	
Approach LOS		D			D			A			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	67.2		13.8	7.0	69.2		13.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	12.5	40.5		23.5	8.5	44.5		23.5				
Max Q Clear Time (g_c+I1), s	3.3	7.1		8.9	2.4	7.3		8.4				
Green Ext Time (p_c), s	0.1	4.2		0.4	0.0	4.5		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			9.8									
HCM 6th LOS			A									

Timings
17: Powhatan Rd & Mississippi Ave

2031 Total PM

11/18/2024

										
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations										
Traffic Volume (vph)	48	49	95	27	55	596	40	65	462	45
Future Volume (vph)	48	49	95	27	55	596	40	65	462	45
Turn Type	Perm	NA	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4		8	5	2		1	6	
Permitted Phases	4		8		2		2	6		6
Detector Phase	4	4	8	8	5	2	2	1	6	6
Switch Phase										
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	22.5	22.5	22.5	22.5	9.5	22.5	22.5	9.5	22.5	22.5
Total Split (s)	31.0	31.0	31.0	31.0	14.0	44.0	44.0	15.0	45.0	45.0
Total Split (%)	34.4%	34.4%	34.4%	34.4%	15.6%	48.9%	48.9%	16.7%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
Lead/Lag					Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	C-Max	C-Max	None	C-Max	C-Max

Intersection Summary

Cycle Length: 90

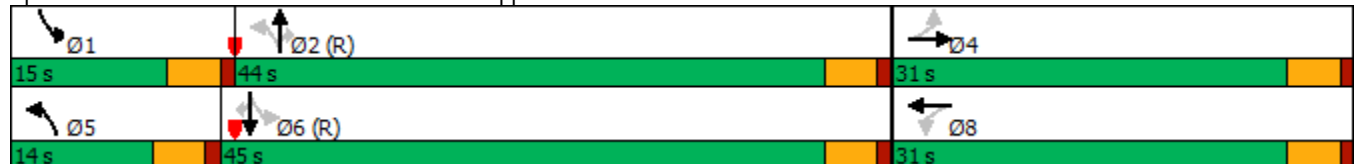
Actuated Cycle Length: 90

Offset: 5 (6%), Referenced to phase 2:NBTL and 6:SBTL, Start of Green

Natural Cycle: 55























Control Type: Actuated-Coordinated

Splits and Phases: 17: Powhatan Rd & Mississippi Ave



HCM 6th Signalized Intersection Summary
17: Powhaton Rd & Mississippi Ave

2031 Total PM
11/18/2024









												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	49	37	95	27	39	55	596	40	65	462	45
Future Volume (veh/h)	48	49	37	95	27	39	55	596	40	65	462	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
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	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	52	53	40	103	29	42	60	648	43	71	502	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	234	151	114	217	105	153	692	2314	1032	611	2324	1037
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.04	0.65	0.65	0.05	0.65	0.65
Sat Flow, veh/h	1329	989	747	1303	690	1000	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	52	0	93	103	0	71	60	648	43	71	502	49
Grp Sat Flow(s),veh/h/ln	1329	0	1736	1303	0	1690	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.2	0.0	4.3	6.9	0.0	3.3	1.0	7.0	0.9	1.1	5.1	1.0
Cycle Q Clear(g_c), s	6.6	0.0	4.3	11.2	0.0	3.3	1.0	7.0	0.9	1.1	5.1	1.0
Prop In Lane	1.00		0.43	1.00		0.59	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	234	0	265	217	0	258	692	2314	1032	611	2324	1037
V/C Ratio(X)	0.22	0.00	0.35	0.48	0.00	0.27	0.09	0.28	0.04	0.12	0.22	0.05
Avail Cap(c_a), veh/h	422	0	511	401	0	498	803	2314	1032	737	2324	1037
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	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.6	0.0	34.1	39.2	0.0	33.7	4.5	6.7	5.6	4.6	6.3	5.6
Incr Delay (d2), s/veh	0.5	0.0	0.8	1.6	0.0	0.6	0.1	0.3	0.1	0.1	0.2	0.1
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(50%),veh/ln	1.1	0.0	1.9	2.3	0.0	1.4	0.3	2.4	0.3	0.4	1.8	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.1	0.0	34.9	40.8	0.0	34.3	4.5	7.0	5.7	4.7	6.5	5.6
LnGrp LOS	D	A	C	D	A	C	A	A	A	A	A	A
Approach Vol, veh/h	145			174			751			622		
Approach Delay, s/veh	35.7			38.1			6.7			6.2		
Approach LOS	D			D			A			A		
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.7	63.1		18.3	8.4	63.4		18.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	39.5		26.5	9.5	40.5		26.5				
Max Q Clear Time (g_c+I1), s	3.1	9.0		8.6	3.0	7.1		13.2				
Green Ext Time (p_c), s	0.1	5.1		0.6	0.0	3.9		0.5				
Intersection Summary												
HCM 6th Ctrl Delay	12.3											
HCM 6th LOS	B											

Intersection								
Int Delay, s/veh	0.9							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↘	↑	↘	↗		
Traffic Vol, veh/h	365	60	10	265	35	15		
Future Vol, veh/h	365	60	10	265	35	15		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	150	150	-	0	100		
Veh in Median Storage, #	0	-	-	0	1	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	397	65	11	288	38	16		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	462	0	707	397		
Stage 1	-	-	-	-	397	-		
Stage 2	-	-	-	-	310	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1099	-	420	652		
Stage 1	-	-	-	-	679	-		
Stage 2	-	-	-	-	809	-		
Platoon blocked, %	-	-		-	1			
Mov Cap-1 Maneuver	-	-	1099	-	416	652		
Mov Cap-2 Maneuver	-	-	-	-	522	-		
Stage 1	-	-	-	-	679	-		
Stage 2	-	-	-	-	801	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.3		11.9			
HCM LOS	B							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	522		652		-	-	1099	-
HCM Lane V/C Ratio	0.073		0.025		-	-	0.01	-
HCM Control Delay (s)	12.4		10.7		-	-	8.3	-
HCM Lane LOS	B		B		-	-	A	-
HCM 95th %tile Q(veh)	0.2		0.1		-	-	0	-

Intersection								
Int Delay, s/veh	2.3							
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↘	↑	↘	↗		
Traffic Vol, veh/h	335	110	25	450	120	20		
Future Vol, veh/h	335	110	25	450	120	20		
Conflicting Peds, #/hr	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Stop	Stop		
RT Channelized	-	None	-	None	-	None		
Storage Length	-	150	150	-	0	100		
Veh in Median Storage, #	0	-	-	0	1	-		
Grade, %	0	-	-	0	0	-		
Peak Hour Factor	92	92	92	92	92	92		
Heavy Vehicles, %	2	2	2	2	2	2		
Mvmt Flow	364	120	27	489	130	22		
Major/Minor	Major1		Major2		Minor1			
Conflicting Flow All	0	0	484	0	907	364		
Stage 1	-	-	-	-	364	-		
Stage 2	-	-	-	-	543	-		
Critical Hdwy	-	-	4.12	-	6.42	6.22		
Critical Hdwy Stg 1	-	-	-	-	5.42	-		
Critical Hdwy Stg 2	-	-	-	-	5.42	-		
Follow-up Hdwy	-	-	2.218	-	3.518	3.318		
Pot Cap-1 Maneuver	-	-	1079	-	305	681		
Stage 1	-	-	-	-	703	-		
Stage 2	-	-	-	-	637	-		
Platoon blocked, %	-	-		-	1			
Mov Cap-1 Maneuver	-	-	1079	-	297	681		
Mov Cap-2 Maneuver	-	-	-	-	436	-		
Stage 1	-	-	-	-	703	-		
Stage 2	-	-	-	-	621	-		
Approach	EB		WB		NB			
HCM Control Delay, s	0		0.4		15.8			
HCM LOS	C							
Minor Lane/Major Mvmt	NBLn1		NBLn2		EBT	EBR	WBL	WBT
Capacity (veh/h)	436		681		-	-	1079	-
HCM Lane V/C Ratio	0.299		0.032		-	-	0.025	-
HCM Control Delay (s)	16.7		10.5		-	-	8.4	-
HCM Lane LOS	C		B		-	-	A	-
HCM 95th %tile Q(veh)	1.2		0.1		-	-	0.1	-

HCM 6th TWSC
10: Powhaton Rd & Commercial Access

2040 Total AM
11/19/2024

Intersection												
Int Delay, s/veh	0.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	0	10	35	0	25	15	640	30	25	665	25
Future Vol, veh/h	10	0	10	35	0	25	15	640	30	25	665	25
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	100	-	-	100	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	11	38	0	27	16	696	33	27	723	27

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1171	1552	375	1161	1549	365	750	0	0	729	0	0
Stage 1	791	791	-	745	745	-	-	-	-	-	-	-
Stage 2	380	761	-	416	804	-	-	-	-	-	-	-
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	*349	176	*838	*357	177	*838	1162	-	-	1189	-	-
Stage 1	*653	601	-	*707	637	-	-	-	-	-	-	-
Stage 2	*790	625	-	*790	591	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*328	170	*838	*342	171	*838	1162	-	-	1189	-	-
Mov Cap-2 Maneuver	*460	346	-	*485	348	-	-	-	-	-	-	-
Stage 1	*644	587	-	*697	628	-	-	-	-	-	-	-
Stage 2	*753	616	-	*762	577	-	-	-	-	-	-	-









Approach	EB		WB		NB		SB	
HCM Control Delay, s	11.2		11.6		0.2		0.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1162	-	-	460	838	485	838	1189	-	-
HCM Lane V/C Ratio	0.014	-	-	0.024	0.013	0.078	0.032	0.023	-	-
HCM Control Delay (s)	8.1	-	-	13	9.4	13.1	9.4	8.1	-	-
HCM Lane LOS	A	-	-	B	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0.3	0.1	0.1	-	-

Notes												
-: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th TWSC
10: Powhaton Rd & Commercial Access

2040 Total PM
11/19/2024

Intersection												
Int Delay, s/veh	1.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	0	30	30	0	20	25	715	40	35	905	40
Future Vol, veh/h	45	0	30	30	0	20	25	715	40	35	905	40
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	100	-	-	100	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	1	-	-	1	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	0	33	33	0	22	27	777	43	38	984	43

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	1525	1956	514	1421	1956	410	1027	0	0	820	0	0
Stage 1	1082	1082	-	853	853	-	-	-	-	-	-	-
Stage 2	443	874	-	568	1103	-	-	-	-	-	-	-
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	*458	169	*726	*458	169	*795	1037	-	-	1160	-	-
Stage 1	*571	524	-	*679	610	-	-	-	-	-	-	-
Stage 2	*750	593	-	*684	508	-	-	-	-	-	-	-
Platoon blocked, %	1	1	1	1	1	1	1	-	-	1	-	-
Mov Cap-1 Maneuver	*426	159	*726	*418	159	*795	1037	-	-	1160	-	-
Mov Cap-2 Maneuver	*466	311	-	*478	309	-	-	-	-	-	-	-
Stage 1	*556	507	-	*661	594	-	-	-	-	-	-	-
Stage 2	*710	578	-	*632	491	-	-	-	-	-	-	-







Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.2		11.7		0.3		0.3	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1037	-	-	466	726	478	795	1160	-	-
HCM Lane V/C Ratio	0.026	-	-	0.105	0.045	0.068	0.027	0.033	-	-
HCM Control Delay (s)	8.6	-	-	13.6	10.2	13.1	9.7	8.2	-	-
HCM Lane LOS	A	-	-	B	B	B	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.1	0.2	0.1	0.1	-	-

Notes												
-: Volume exceeds capacity		\$: Delay exceeds 300s		+: Computation Not Defined				*: All major volume in platoon				

HCM 6th TWSC
13: Harvest Rd & Street B

2040 Total AM
11/19/2024







Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	100	55	1335	50	25	910
Future Vol, veh/h	100	55	1335	50	25	910
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	109	60	1451	54	27	989

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2000	726	0
Stage 1	1451	-	-
Stage 2	549	-	-
Critical Hdwy	6.84	6.94	-
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	-
Pot Cap-1 Maneuver	~ 52	*577	-
Stage 1	491	-	-
Stage 2	542	-	-
Platoon blocked, %		1	-
Mov Cap-1 Maneuver	~ 50	*577	-
Mov Cap-2 Maneuver	254	-	-
Stage 1	491	-	-
Stage 2	522	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.2	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 254 577	734	-
HCM Lane V/C Ratio	-	- 0.428 0.104	0.037	-
HCM Control Delay (s)	-	- 29.4 12	10.1	-
HCM Lane LOS	-	- D B	B	-
HCM 95th %tile Q(veh)	-	- 2 0.3	0.1	-

Notes			
-: Volume exceeds capacity	\$. Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon





Intersection						
Int Delay, s/veh	1.5					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	85	50	1315	125	65	1350
Future Vol, veh/h	85	50	1315	125	65	1350
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	150	0	-	150	150	-
Veh in Median Storage, #	1	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	92	54	1429	136	71	1467

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	2305	715	0
Stage 1	1429	-	-
Stage 2	876	-	-
Critical Hdwy	6.84	6.94	-
Critical Hdwy Stg 1	5.84	-	-
Critical Hdwy Stg 2	5.84	-	-
Follow-up Hdwy	3.52	3.32	-
Pot Cap-1 Maneuver	*~ 47	*552	-
Stage 1	*521	-	-
Stage 2	*368	-	-
Platoon blocked, %	1	1	-
Mov Cap-1 Maneuver	*~ 42	*552	-
Mov Cap-2 Maneuver	*203	-	-
Stage 1	*521	-	-
Stage 2	*331	-	-

Approach	WB	NB	SB
HCM Control Delay, s	27.6	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 203 552	707	-
HCM Lane V/C Ratio	-	- 0.455 0.098	0.1	-
HCM Control Delay (s)	-	- 36.7 12.2	10.7	-
HCM Lane LOS	-	- E B	B	-
HCM 95th %tile Q(veh)	-	- 2.2 0.3	0.3	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon





Intersection						
Int Delay, s/veh	0.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	30	25	15	730	835	15
Future Vol, veh/h	30	25	15	730	835	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	27	16	793	908	16

Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1345	462	924	0	-	0
Stage 1	916	-	-	-	-	-
Stage 2	429	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*470	*770	1079	-	-	-
Stage 1	*674	-	-	-	-	-
Stage 2	*758	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*463	*770	1079	-	-	-
Mov Cap-2 Maneuver	*532	-	-	-	-	-
Stage 1	*664	-	-	-	-	-
Stage 2	*758	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	11.4	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1079	-	619	-	-
HCM Lane V/C Ratio	0.015	-	0.097	-	-
HCM Control Delay (s)	8.4	-	11.4	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0	-	0.3	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection						
Int Delay, s/veh	0.4					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	20	25	930	995	35
Future Vol, veh/h	25	20	25	930	995	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	1	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	22	27	1011	1082	38

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	1661	560	1120	0	-	0
Stage 1	1101	-	-	-	-	-
Stage 2	560	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	*282	*691	989	-	-	-
Stage 1	*635	-	-	-	-	-
Stage 2	*652	-	-	-	-	-
Platoon blocked, %	1	1	1	-	-	-
Mov Cap-1 Maneuver	*274	*691	989	-	-	-
Mov Cap-2 Maneuver	*414	-	-	-	-	-
Stage 1	*618	-	-	-	-	-
Stage 2	*652	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	12.9	0.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	989	-	504	-	-
HCM Lane V/C Ratio	0.027	-	0.097	-	-
HCM Control Delay (s)	8.7	-	12.9	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC
18: New Castle Way & North Access

2040 Total AM
11/25/2024

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	4	0	20	5	56	1	8	34	5
Future Vol, veh/h	5	0	5	4	0	20	5	56	1	8	34	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	4	0	22	5	61	1	9	37	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	141	130	40	132	132	62	42	0	0	62	0	0
Stage 1	58	58	-	72	72	-	-	-	-	-	-	-
Stage 2	83	72	-	60	60	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	829	761	1031	840	759	1003	1567	-	-	1541	-	-
Stage 1	954	847	-	938	835	-	-	-	-	-	-	-
Stage 2	925	835	-	951	845	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	806	754	1031	830	752	1003	1567	-	-	1541	-	-
Mov Cap-2 Maneuver	806	754	-	830	752	-	-	-	-	-	-	-
Stage 1	951	842	-	935	832	-	-	-	-	-	-	-
Stage 2	902	832	-	940	840	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9		8.8		0.6		1.3					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1567	-	-	905	969	1541	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.012	0.027	0.006	-	-				
HCM Control Delay (s)	7.3	0	-	9	8.8	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	-	-				

HCM 6th TWSC
18: New Castle Way & North Access

2040 Total PM
11/25/2024

Intersection												
Int Delay, s/veh	3.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	0	5	3	0	13	5	43	4	26	36	5
Future Vol, veh/h	5	0	5	3	0	13	5	43	4	26	36	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	0	5	3	0	14	5	47	4	28	39	5
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	164	159	42	159	159	49	44	0	0	51	0	0
Stage 1	98	98	-	59	59	-	-	-	-	-	-	-
Stage 2	66	61	-	100	100	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	801	733	1029	807	733	1020	1564	-	-	1555	-	-
Stage 1	908	814	-	953	846	-	-	-	-	-	-	-
Stage 2	945	844	-	906	812	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	777	718	1029	790	718	1020	1564	-	-	1555	-	-
Mov Cap-2 Maneuver	777	718	-	790	718	-	-	-	-	-	-	-
Stage 1	905	799	-	950	843	-	-	-	-	-	-	-
Stage 2	929	841	-	885	797	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	9.1		8.8		0.7		2.9					
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1564	-	-	885	967	1555	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.012	0.018	0.018	-	-				
HCM Control Delay (s)	7.3	0	-	9.1	8.8	7.4	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0.1	-	-				

HCM 6th TWSC
19: New Castle Way & South Access

2040 Total AM
11/25/2024

Intersection												
Int Delay, s/veh	4.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	10	0	5	8	0	20	5	12	1	8	30	5
Future Vol, veh/h	10	0	5	8	0	20	5	12	1	8	30	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	5	9	0	22	5	13	1	9	33	5

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	89	78	36	80	80	14	38	0	0	14	0	0
Stage 1	54	54	-	24	24	-	-	-	-	-	-	-
Stage 2	35	24	-	56	56	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	896	812	1037	908	810	1066	1572	-	-	1604	-	-
Stage 1	958	850	-	994	875	-	-	-	-	-	-	-
Stage 2	981	875	-	956	848	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	872	805	1037	897	803	1066	1572	-	-	1604	-	-
Mov Cap-2 Maneuver	872	805	-	897	803	-	-	-	-	-	-	-
Stage 1	955	845	-	991	872	-	-	-	-	-	-	-
Stage 2	958	872	-	945	843	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	8.7	2	1.4
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1572	-	-	921 1012	1604	-	-
HCM Lane V/C Ratio	0.003	-	-	0.018 0.03	0.005	-	-
HCM Control Delay (s)	7.3	0	-	9 8.7	7.3	0	-
HCM Lane LOS	A	A	-	A A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.1	0	-	-

HCM 6th TWSC
19: New Castle Way & South Access

2040 Total PM
11/25/2024

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	10	0	5	5	0	13	5	9	4	26	13	5
Future Vol, veh/h	10	0	5	5	0	13	5	9	4	26	13	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	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	11	0	5	5	0	14	5	10	4	28	14	5
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	102	97	17	97	97	12	19	0	0	14	0	0
Stage 1	73	73	-	22	22	-	-	-	-	-	-	-
Stage 2	29	24	-	75	75	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	879	793	1062	885	793	1069	1597	-	-	1604	-	-
Stage 1	937	834	-	996	877	-	-	-	-	-	-	-
Stage 2	988	875	-	934	833	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	854	776	1062	866	776	1069	1597	-	-	1604	-	-
Mov Cap-2 Maneuver	854	776	-	866	776	-	-	-	-	-	-	-
Stage 1	934	819	-	993	874	-	-	-	-	-	-	-
Stage 2	972	872	-	912	818	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	9		8.7			2			4.3			
HCM LOS	A		A									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1597	-	-	914	1004	1604	-	-				
HCM Lane V/C Ratio	0.003	-	-	0.018	0.019	0.018	-	-				
HCM Control Delay (s)	7.3	0	-	9	8.7	7.3	0	-				
HCM Lane LOS	A	A	-	A	A	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	-	-				

APPENDIX F

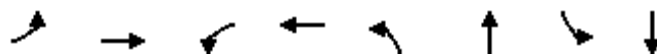
Queue Analysis Worksheets

Queues

2029 Total AM

1: Harvest Rd & Alameda Ave

11/18/2024



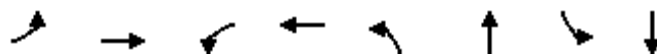
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	26	136	11	423	62	125	115	85
v/c Ratio	0.07	0.15	0.02	0.49	0.13	0.25	0.24	0.16
Control Delay	12.2	11.0	10.8	13.6	18.3	27.4	19.3	15.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	12.2	11.0	10.8	13.6	18.3	27.4	19.3	15.0
Queue Length 50th (ft)	7	34	3	113	22	55	42	18
Queue Length 95th (ft)	21	66	11	192	47	103	78	53
Internal Link Dist (ft)		1136		1208		1340		968
Turn Bay Length (ft)	150		150		150		300	
Base Capacity (vph)	360	883	630	869	466	505	487	533
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.07	0.15	0.02	0.49	0.13	0.25	0.24	0.16
Intersection Summary								

Queues

2029 Total PM

1: Harvest Rd & Alameda Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	78	414	14	432	45	92	267	168
v/c Ratio	0.27	0.51	0.05	0.54	0.11	0.19	0.44	0.23
Control Delay	19.5	20.4	14.2	16.9	15.5	26.6	18.0	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.5	20.4	14.2	16.9	15.5	26.6	18.0	18.6
Queue Length 50th (ft)	27	159	4	130	14	37	93	60
Queue Length 95th (ft)	62	245	m14	235	33	81	149	109
Internal Link Dist (ft)		1136		1208		1340		968
Turn Bay Length (ft)	150		150		150		300	
Base Capacity (vph)	284	804	299	796	419	474	637	720
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.51	0.05	0.54	0.11	0.19	0.42	0.23

Intersection Summary

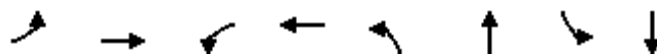
m Volume for 95th percentile queue is metered by upstream signal.

Queues

2031 Total AM

1: Harvest Rd & Alameda Ave

11/18/2024



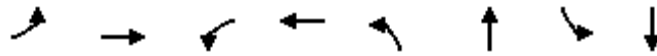
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	27	107	102	227	90	547	78	368
v/c Ratio	0.31	0.36	0.54	0.71	0.12	0.46	0.14	0.31
Control Delay	41.0	22.3	42.3	31.9	3.7	9.0	4.7	9.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	22.3	42.3	31.9	3.7	9.0	4.7	9.3
Queue Length 50th (ft)	14	30	50	65	9	100	9	85
Queue Length 95th (ft)	36	70	92	134	25	250	28	170
Internal Link Dist (ft)		1136		1208		1340		968
Turn Bay Length (ft)	150		150		150		300	
Base Capacity (vph)	142	455	313	468	726	1184	568	1180
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.24	0.33	0.49	0.12	0.46	0.14	0.31
Intersection Summary								

Queues

2031 Total PM

1: Harvest Rd & Alameda Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	78	255	109	206	58	549	174	414
v/c Ratio	0.47	0.70	0.87	0.50	0.09	0.54	0.34	0.37
Control Delay	40.1	40.9	85.1	18.0	5.7	13.3	7.1	11.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.1	40.9	85.1	18.0	5.7	13.3	7.1	11.4
Queue Length 50th (ft)	40	127	62	50	6	99	27	111
Queue Length 95th (ft)	77	187	#130	98	m24	337	64	206
Internal Link Dist (ft)		1136		1208		1340		968
Turn Bay Length (ft)	150		150		150		300	
Base Capacity (vph)	231	503	176	536	630	1022	560	1118
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.51	0.62	0.38	0.09	0.54	0.31	0.37

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Queues

2029 Total AM

2: Powhaton Rd & Alameda Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	105	133	43	141	102	485	54	470	58
v/c Ratio	0.70	0.42	0.27	0.49	0.15	0.22	0.08	0.21	0.06
Control Delay	57.6	16.9	36.2	29.2	4.4	7.8	4.3	8.4	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.6	16.9	36.2	29.2	4.4	7.8	4.3	8.4	2.0
Queue Length 50th (ft)	53	20	22	52	12	54	6	55	0
Queue Length 95th (ft)	95	62	49	100	33	98	20	102	13
Internal Link Dist (ft)		540		792		872		1032	
Turn Bay Length (ft)	150		150		150		150		150
Base Capacity (vph)	330	583	344	574	766	2241	726	2193	1007
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.23	0.13	0.25	0.13	0.22	0.07	0.21	0.06
Intersection Summary									

Queues

2029 Total PM

2: Powhaton Rd & Alameda Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	116	235	46	168	130	599	57	568	107
v/c Ratio	0.73	0.71	0.43	0.54	0.21	0.27	0.10	0.28	0.11
Control Delay	55.5	33.6	43.7	33.3	5.5	9.3	5.3	10.7	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	55.5	33.6	43.7	33.3	5.5	9.3	5.3	10.7	2.0
Queue Length 50th (ft)	56	83	24	73	18	75	8	75	0
Queue Length 95th (ft)	102	137	53	122	47	136	24	140	20
Internal Link Dist (ft)		540		792		872		1032	
Turn Bay Length (ft)	150		150		150		150		150
Base Capacity (vph)	289	554	195	549	693	2193	607	2014	953
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.42	0.24	0.31	0.19	0.27	0.09	0.28	0.11
Intersection Summary									

Queues

2031 Total AM

2: Powhaton Rd & Alameda Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	140	76	54	149	45	636	60	615	89
v/c Ratio	0.75	0.23	0.24	0.45	0.08	0.30	0.11	0.28	0.09
Control Delay	57.8	21.9	31.5	28.6	4.8	8.0	5.5	9.3	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	57.8	21.9	31.5	28.6	4.8	8.0	5.5	9.3	2.8
Queue Length 50th (ft)	76	24	27	60	6	66	8	82	0
Queue Length 95th (ft)	127	56	54	105	19	94	26	144	22
Internal Link Dist (ft)		540		792		792		1032	
Turn Bay Length (ft)	150		150		150		150		150
Base Capacity (vph)	346	588	425	592	592	2128	565	2191	1012
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.40	0.13	0.13	0.25	0.08	0.30	0.11	0.28	0.09
Intersection Summary									

Queues

2031 Total PM

2: Powhaton Rd & Alameda Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	162	146	36	140	42	683	59	660	130
v/c Ratio	0.75	0.41	0.17	0.39	0.08	0.33	0.12	0.31	0.13
Control Delay	50.8	24.7	28.7	24.3	2.6	9.1	6.4	10.5	2.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	50.8	24.7	28.7	24.3	2.6	9.1	6.4	10.5	2.7
Queue Length 50th (ft)	87	57	17	51	2	109	9	94	0
Queue Length 95th (ft)	138	98	38	92	6	190	28	167	29
Internal Link Dist (ft)		540		792		792		1032	
Turn Bay Length (ft)	150		150		150		150		150
Base Capacity (vph)	375	605	367	604	547	2098	525	2125	999
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.24	0.10	0.23	0.08	0.33	0.11	0.31	0.13
Intersection Summary									

Queues

2031 Total AM

3: Mississippi Ave & Harvest Rd

11/18/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	186	84	100	455	474	285
v/c Ratio	0.65	0.26	0.16	0.33	0.40	0.26
Control Delay	45.1	9.1	4.6	5.4	10.1	1.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	45.1	9.1	4.6	5.4	10.1	1.3
Queue Length 50th (ft)	100	0	13	74	136	0
Queue Length 95th (ft)	157	36	33	145	223	23
Internal Link Dist (ft)	586			563	802	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	442	458	629	1372	1175	1104
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.42	0.18	0.16	0.33	0.40	0.26
Intersection Summary						

Queues

2031 Total PM

3: Mississippi Ave & Harvest Rd

11/18/2024



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	368	139	126	568	453	238
v/c Ratio	0.78	0.27	0.25	0.48	0.49	0.26
Control Delay	42.0	5.3	9.1	11.6	16.5	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.0	5.3	9.1	11.6	16.5	2.3
Queue Length 50th (ft)	193	0	26	154	157	8
Queue Length 95th (ft)	262	38	60	290	240	33
Internal Link Dist (ft)	586			563	802	
Turn Bay Length (ft)			150			150
Base Capacity (vph)	619	644	509	1180	931	910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.59	0.22	0.25	0.48	0.49	0.26
Intersection Summary						

Queues

2031 Total AM

17: Powhaton Rd & Mississippi Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	48	82	33	74	27	562	109	93	617	27
v/c Ratio	0.38	0.38	0.26	0.36	0.04	0.22	0.09	0.13	0.22	0.02
Control Delay	43.5	18.7	41.5	21.1	2.5	5.6	1.5	1.1	1.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	43.5	18.7	41.5	21.1	2.5	5.6	1.5	1.1	1.4	0.0
Queue Length 50th (ft)	25	10	18	12	2	54	0	2	8	0
Queue Length 95th (ft)	56	49	45	51	8	92	18	6	23	0
Internal Link Dist (ft)	2852		277		1028		1894			
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	344	477	342	474	717	2600	1192	777	2787	1262
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.17	0.10	0.16	0.04	0.22	0.09	0.12	0.22	0.02

Intersection Summary

Queues

2031 Total PM

17: Powhaton Rd & Mississippi Ave

11/18/2024



Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	52	93	103	71	60	648	43	71	502	49
v/c Ratio	0.29	0.34	0.57	0.26	0.08	0.26	0.04	0.12	0.20	0.04
Control Delay	35.8	22.4	47.9	18.8	3.9	7.6	0.9	2.2	4.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.8	22.4	47.9	18.8	3.9	7.6	0.9	2.2	4.6	0.7
Queue Length 50th (ft)	25	25	56	15	7	76	0	2	63	2
Queue Length 95th (ft)	m54	m65	101	49	20	131	6	6	42	0
Internal Link Dist (ft)		2852		277		1028			1894	
Turn Bay Length (ft)	100		100		150		150	150		150
Base Capacity (vph)	389	541	382	529	761	2466	1125	685	2471	1127
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.17	0.27	0.13	0.08	0.26	0.04	0.10	0.20	0.04

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

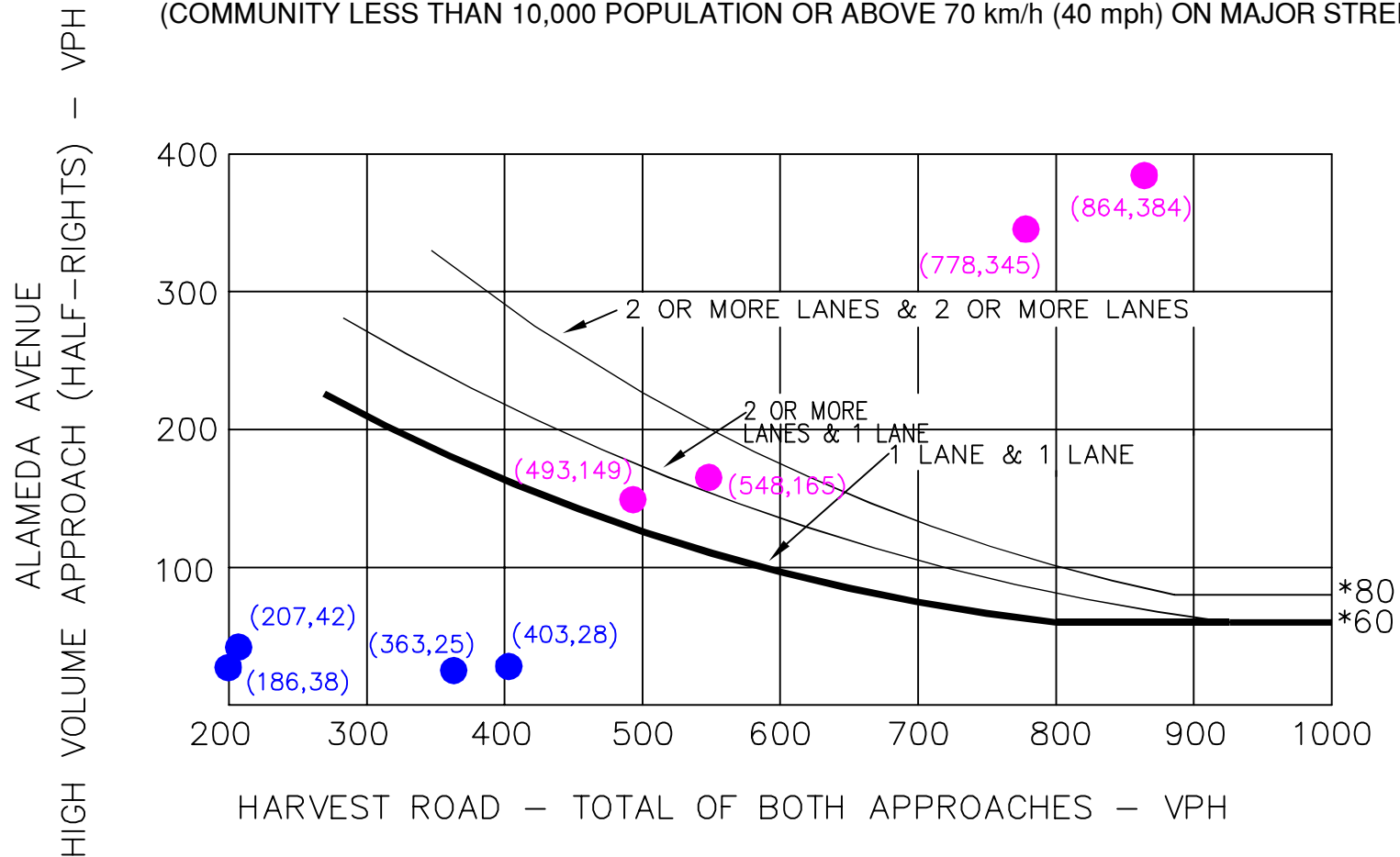


APPENDIX G

Signal Warrant Analysis Worksheets

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



* NOTE: 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 60 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

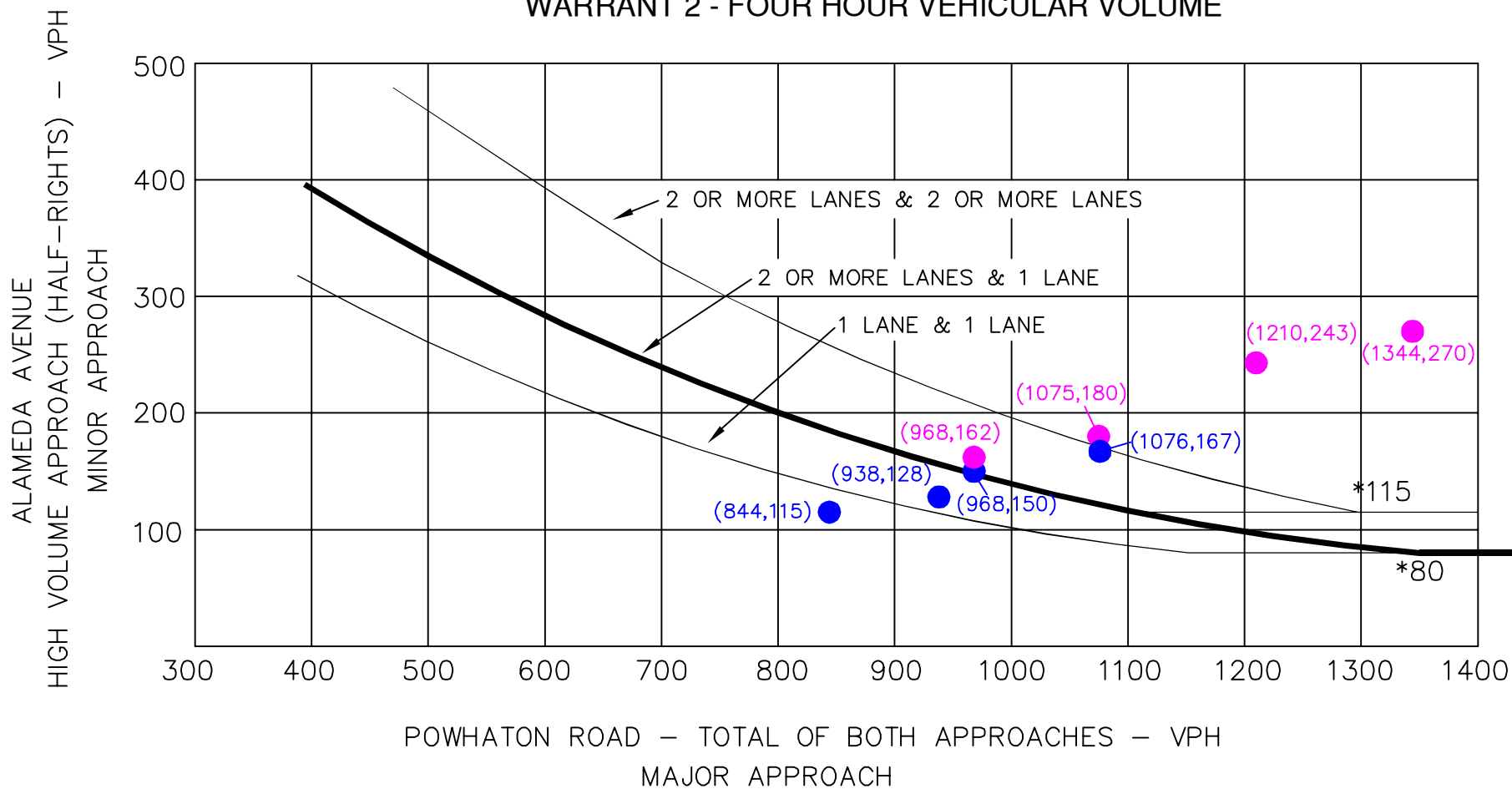
SIGNAL WARRANT ANALYSIS
ALAMEDA AVE & HARVEST RD (#1)
FOUR HOUR VOLUME WARRANT

- 2029 BACKGROUND TRAFFIC DATA POINT
- 2029 TOTAL TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009

FIGURE A

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SIGNAL WARRANT ANALYSIS

ALAMEDA AVE & POWHATON RD (#2)

FOUR HOUR VOLUME WARRANT

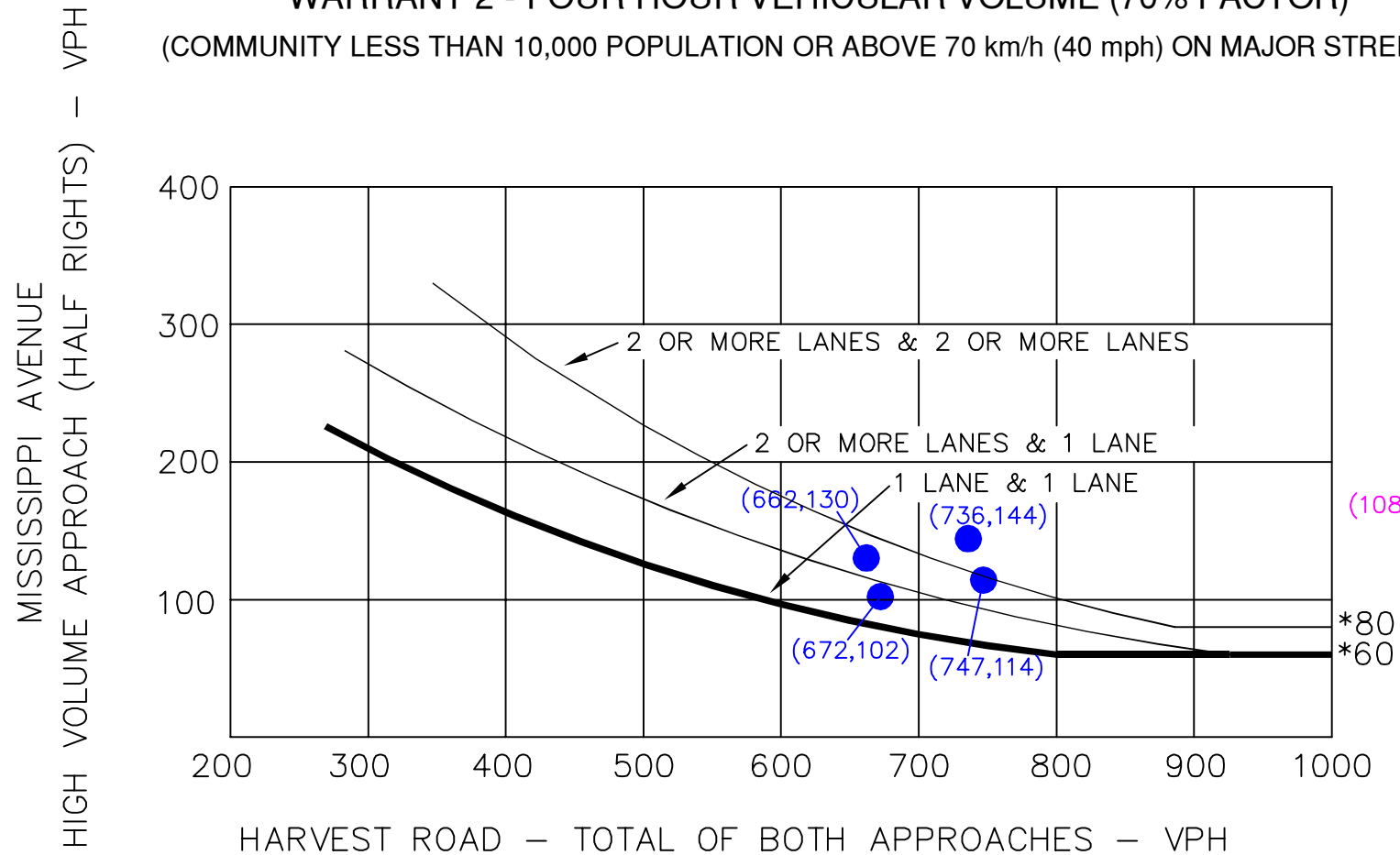
- 2029 BACKGROUND TRAFFIC DATA POINT
- 2029 TOTAL TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009

FIGURE B

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME (70% FACTOR)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 70 km/h (40 mph) ON MAJOR STREET)



* NOTE: 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 60 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SIGNAL WARRANT ANALYSIS

MISSISSIPPI AVE & HARVEST RD (#3)

FOUR HOUR VOLUME WARRANT

● 2031 BACKGROUND TRAFFIC DATA POINT

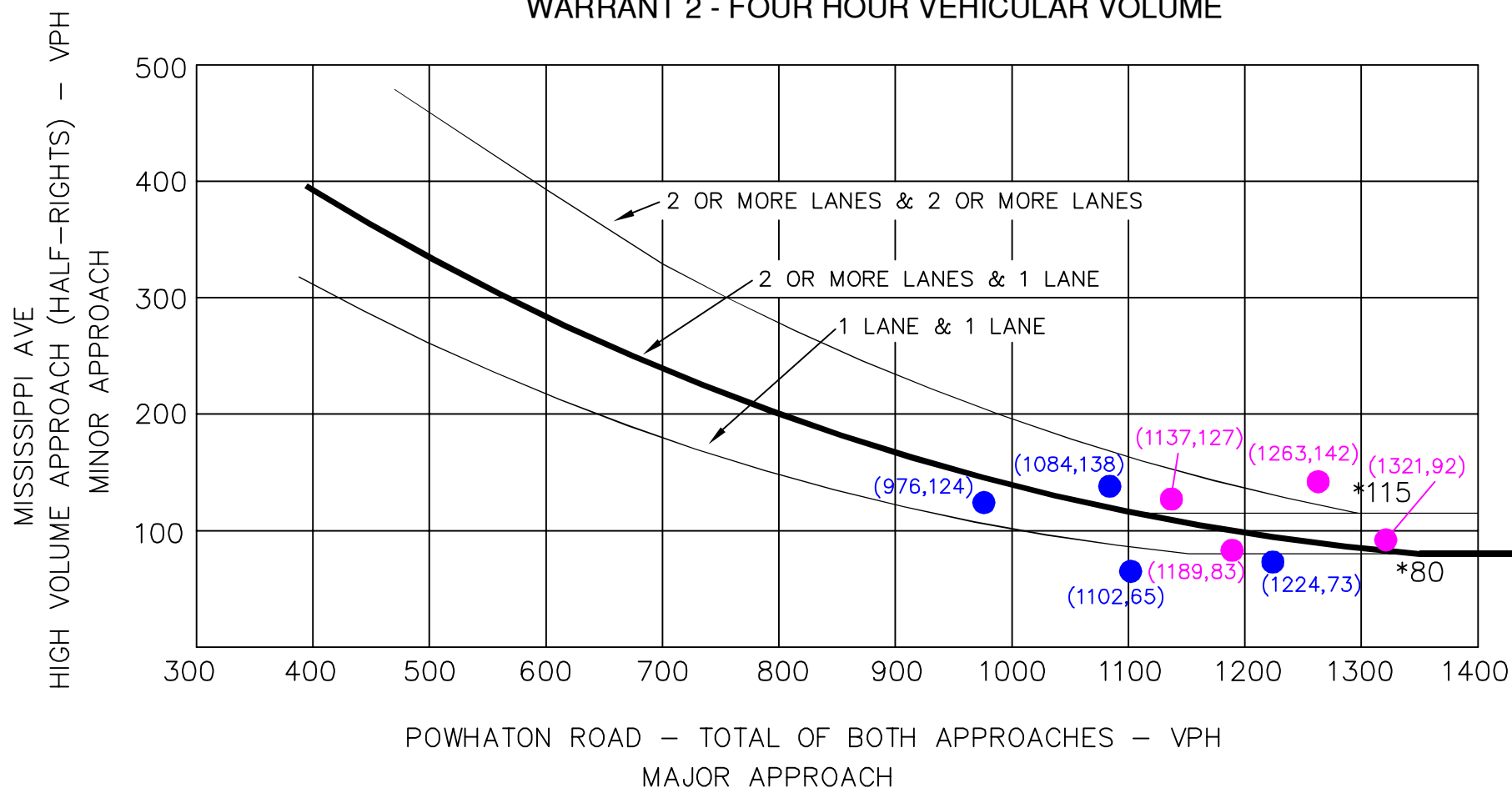
● 2031 TOTAL TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009

FIGURE C

Kimley»Horn

WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

SIGNAL WARRANT ANALYSIS

MISSISSIPPI AVE & POWHATON RD (#17)

FOUR HOUR VOLUME WARRANT

● 2031 BACKGROUND TRAFFIC DATA POINT

● 2031 TOTAL TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009

FIGURE D

APPENDIX H

Conceptual Site Plan

SINGLE
FAMILY
2B
RESIDENTIAL

SITE DATA
ASSESSOR'S PARCEL NUMBER 46517

SITE AREA:
GROSS SITE AREA +/- 13.59 A.C. (591,805 S.F.)
NET SITE AREA +/- 12.00 A.C. (522,720 S.F.)

ZONING:
EXISTING ZONING R-2 AAC (MU-C/R-3)

DENSITY:
DENSITY ALLOWED N/A (GROSS)
DENSITY PROVIDED 20.08 D.U./A.C. (GROSS)

BUILDING HEIGHT:
BUILDING HT. - MAX. ALLOWED 45'
BUILDING HT. - PROVIDED 36'
"THE VERTICAL DISTANCE ABOVE A REFERENCE POINT MEASURED TO A POINT HALFWAY BETWEEN THE EAVE & THE HIGHEST POINT ON A PITCHED OR HIPPED ROOF"

SETBACKS:
FRONT LOT SETBACK 15' (NORTH - ALAMEDA AVENUE)
SIDE LOT SETBACK 10' (EAST - COMMERCIAL)
SIDE LOT SETBACK 10' (WEST - NEWCASTLE STREET)
REAR LOT SETBACK 12' (SOUTH - OIL & GAS)
REAR LOT SETBACK 25' (RESIDENTIAL - TOWNHOUSES)

UNIT MIX:		
UNIT TYPE	RATIO	#D.U.
2BR/2BA	43%	(5 TYPE A)117
3BR/2BA	39%	(6 TYPE A)108
4BR/2BA	18%	(3 TYPE A) 48
TOTAL	100.0%	273

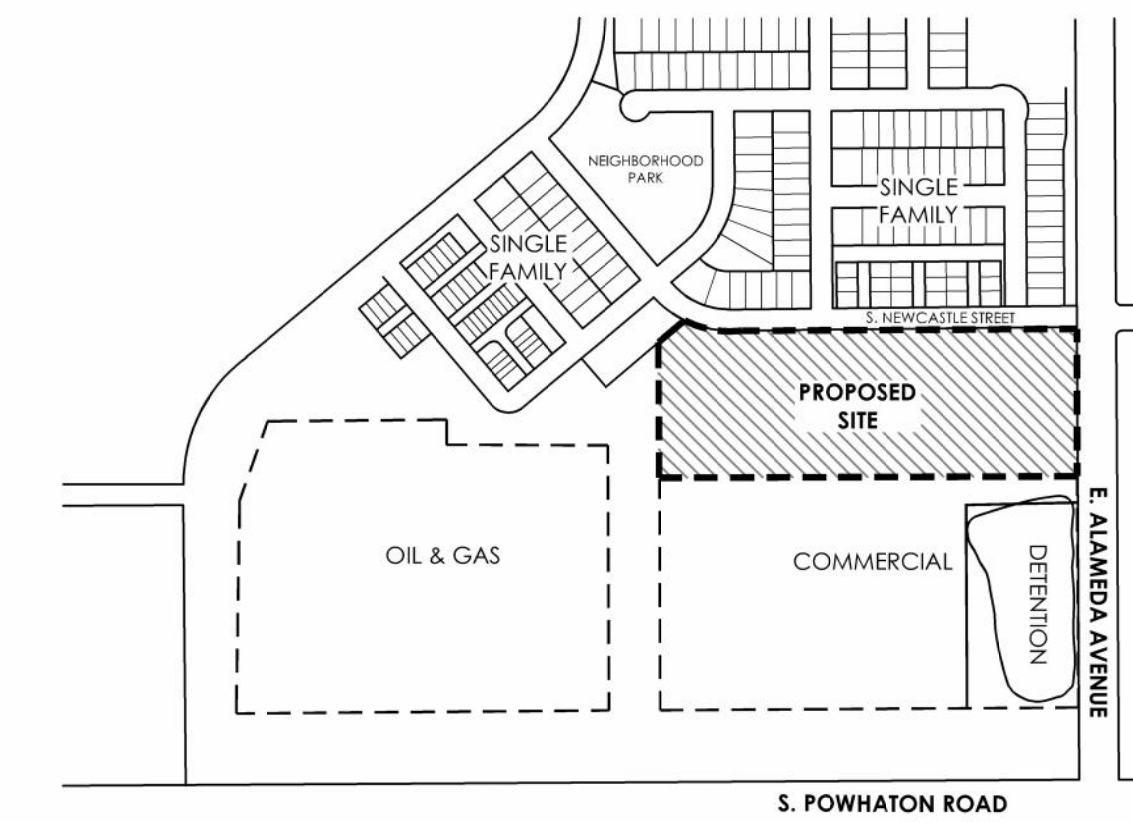
PARKING:
PARKING REQUIRED (9' x 19' TYP. P.S.)
MINIMUM REQUIRED: 273 D.U. x .85 P.S./D.U. = 232 P.S.
(GUEST) 273 D.U./5 P.S. = 55 P.S.
TOTAL: 287 P.S.
(1.05 P.S./ D.U.)

PARKING PROVIDED :
SURFACE PARKING : 285 P.S.
CARPORT PARKING : 173 P.S.
TOTAL: 458 P.S.
(1.68 P.S./ D.U.)

ACCESSIBLE PARKING PROVIDED : (3.9%) 18 P.S.

OPEN SPACE:
REQUIRED : 20% OF 522,720 S.F. = 104,544 S.F.
(2.4 A.C.)
PROVIDED : 140,787 S.F. (27%)
(3.33 A.C.)

LEGEND:
FIRE TRUCK TURNING RADIUS
TURNING RADIUS 26'-0" INSIDE
TURNING RADIUS 52'-0" OUTSIDE
ASSUMED PROPERTY LINE
ACCESSIBLE PARKING SPACE
BLDG 6
BLDG 5
BUILDING NUMBER
BUILDING TYPE



SINGLE
FAMILY
2B
RESIDENTIAL

OIL & GAS
O&G-2

NOTE:
ALL BUILDINGS WILL BE PROVIDED WITH AUTOMATIC FIRE SPRINKLERS. THIS SITE PLAN LAYOUT IS BASED UPON RECEIVING AUTHORIZATION FROM THE FIRE OFFICIAL TO INCREASE THE HOSE PULL LENGTH FROM THE REQUIRED 150' TO 200'.

APPENDIX D FIRE CODE COMPLIANCE
APPENDIX D FIRE CODE COMPLIANCE REQUIRED FOR ANY BUILDINGS OVER 30'-0" IN HEIGHT. (ALL TEN RESIDENTIAL BUILDINGS ON THIS SITE EXCEED 30'-0" IN HEIGHT)

FIRE APPARATUS ACCESS LANES PROVIDED ARE A MINIMUM 26'-0" WIDTH WITH OVERHEAD CLEARANCE.

26'-0" INSIDE TURNING RADIUS AND 52'-0" OUTSIDE TURNING RADIUS FOR FIRE APPARATUS TURNING CLEARANCE. REQUIRED PER CITY OF AURORA FIRE DEPARTMENT.

BUILDING DISTANCE FROM THE 26'-0" WIDE FIRE APPARATUS ACCESS LANE TO BE MINIMUM 15'-0" AND MAXIMUM 30'-0" PER FIRE CODE (ALL BUILDINGS).

TODD +
ASSOCIATES

602-952-8280 / TODDASSOC.COM

24-2027-00

DOMINIUM

PROJECT TEAM
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PHOENIX, AZ 85014
OFFICE: 949-753-1553
CONTACT: VICTOR BECERRA

0" 30' 60' 120'
SCALE: 1" = 60'-0"

NOTES
REFER TO CIVIL ENGINEERING DOCUMENTS FOR ADDITIONAL INFORMATION ON FINISHED FLOOR ELEVATIONS, UTILITY SERVICES, ON-SITE RETENTION, OFF-SITE RIGHT OF WAYS,
REFER TO ELECTRICAL ENGINEERING DOCUMENTS FOR ADDITIONAL INFORMATION ON LIGHT FIXTURE LOCATIONS AND PHOTOMETRICS.

ALL MECHANICAL EQUIPMENT SHALL BE FULLY SCREENED FROM PUBLIC VIEW.

APARTMENTS - SWC ALAMEDA AVE & POWHATON RD

AURORA, CO

SITE PLAN DRAFT

October 14, 2024

EXHIBIT 2

CONCEPTUAL SITE PLAN 14

Preliminary Not For Construction

Northwest - Filing 1

Product	Units	Percentage	Small Lot Units
60x110 SFD	36	8.18%	-
50x110 SFD	117	26.59%	-
45x110 SFD	123	27.95%	123
Motor Court	0	0.00%	0
Duplex	58	13.18%	58
Townhome	52	11.82%	-
Greencourt (Duplex)	0	0.00%	0
Greencourt (Townhome)	54	12.27%	-
TOTAL	440	100.00%	181 41.14%

Northeast - Filing 2

Product	Units	Percentage	Small Lot Units
60x110 SFD	78	23.64%	-
50x110 SFD	93	28.18%	-
45x110 SFD	55	16.67%	55
Motor Court	0	0.00%	0
Duplex	38	11.52%	38
Townhome	26	7.88%	-
Greencourt (Duplex)	14	4.24%	14
Greencourt (Townhome)	26	7.88%	-
TOTAL	330	100.00%	107 32.42%

Southwest - Filing 3

Product	Units	Percentage	Small Lot Units
60x110 SFD	54	12.41%	-
50x110 SFD	119	27.36%	-
45x110 SFD	150	34.48%	150
Motor Court	36	8.28%	36
Duplex	0	0.00%	0
Townhome	6	1.38%	-
Greencourt (Duplex)	40	9.20%	40
Greencourt (Townhome)	30	6.90%	-
TOTAL	435	100.00%	226 51.95%

Southeast - Filing 4

Product	Units	Percentage	Small Lot Units
60x110 SFD	0	0.00%	-
50x110 SFD	163	34.32%	-
45x110 SFD	184	38.74%	184
Motor Court	36	7.58%	36
Duplex	12	2.53%	12
Townhome	6	1.26%	-
Greencourt (Duplex)	20	4.21%	20
Greencourt (Townhome)	54	11.37%	-
TOTAL	475	100.00%	252 53.05%

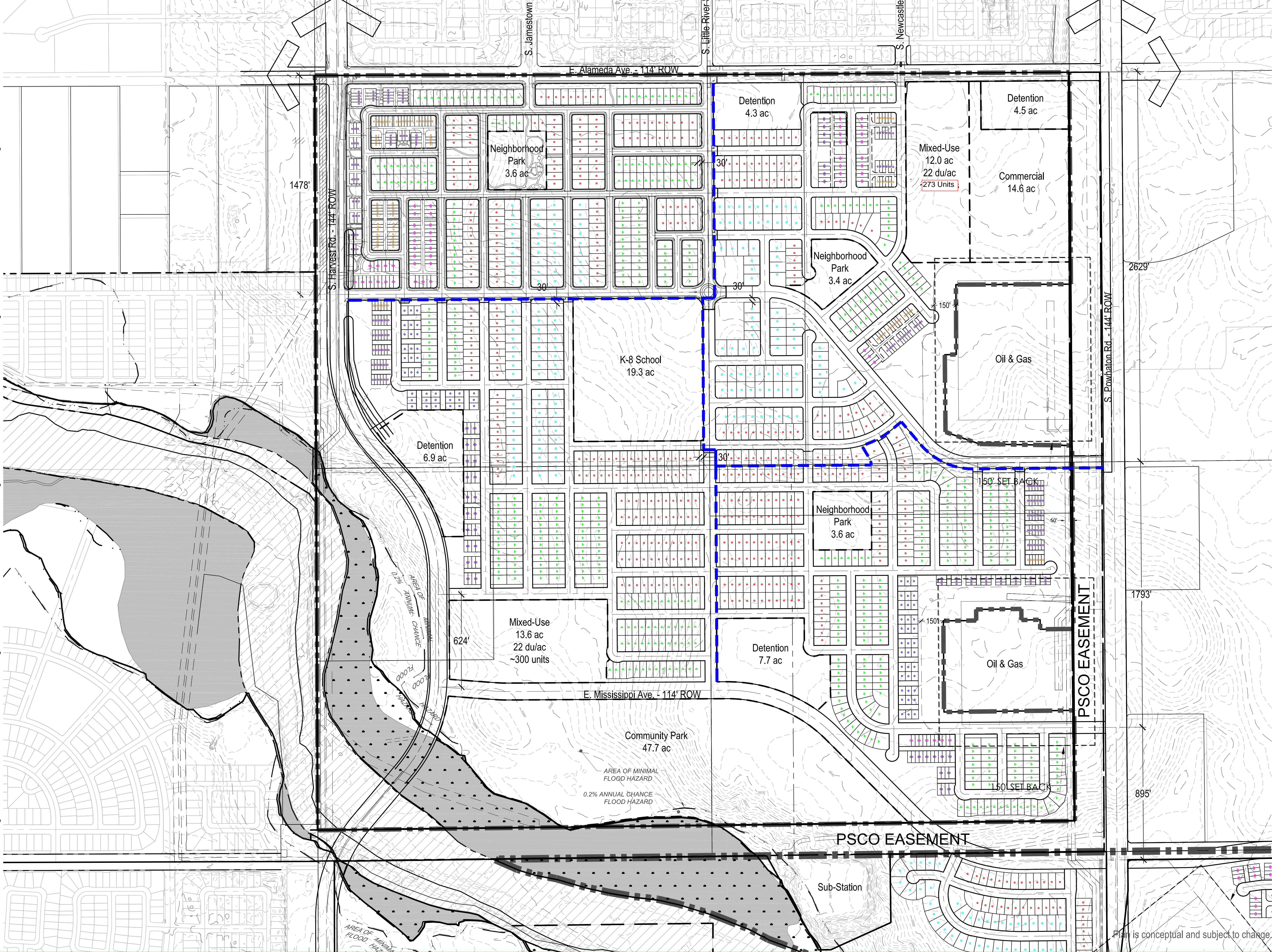
OVERALL SINGLE-FAMILY

Product	Units	Percentage	Small Lot Units
60x110 SFD	168	10.00%	-
50x110 SFD	492	29.29%	-
45x110 SFD	512	30.48%	512
Motor Court	72	4.29%	72
Duplex	108	6.43%	108
Townhome	90	5.36%	-
Greencourt (Duplex)	74	4.40%	74
Greencourt (Townhome)	164	9.76%	-
TOTAL	1680	100.00%	766 45.60%

NE Multi-Family	273
SW Multi-Family	300
Multi-Family TOTAL	573

GRAND TOTAL	2253 units
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*Greencourt townhomes able to be removed from Small Lot count per recent conversations with City.



THE PARKLANDS | VILLAGE 2 CONCEPTUAL LOTTING

April 11, 2023