

Traffic Impact Study

Widefield Recreation Center

El Paso County, Colorado

PCD File No. PPR-2213

Prepared for:

Widefield School District #3

Kimley»Horn

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

Traffic Engineer's Statement

The attached traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Jeffrey R. Planck, P.E., PE #53006

April 13, 2022
Date

Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Mr. Dave Gish
Widefield School District #3
1820 Main Street
Colorado Springs, CO 80911

Date

Widefield Recreation Center

PCD File No. PPR-2213

El Paso County, Colorado

Prepared for
Widefield School District #3
1820 Main Street
Colorado Springs, Colorado 80911

Prepared by
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April 2022

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1.0 EXECUTIVE SUMMARY

The Widefield Recreation Center expansion project is located at the southwest corner of the Widick Street and Modell Drive intersection in El Paso County, Colorado. The site currently consists of the existing Security Public Library, Widefield Parks and Recreation Pool, and existing ball fields and tennis courts. The Widefield Recreation Center is planning to demolish an existing baseball field and construct an approximately 63,196 square foot recreation center. For analysis purposes, it was assumed that the Widefield Recreation Center will be completed in the next year; therefore, analysis was conducted for the 2023 buildout year. However, the buildout year is not critical as the studied intersections are in a fully built out area and future traffic growth is not expected along the local streets other than the new recreation center; therefore, only a buildout scenario was evaluated in this traffic study.

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 El Paso County standards and requirements:

- Aspen Drive/Hackberry Drive Access (#1)
- Modell Drive/Access and Widick Street (#2)

It should be noted that the adjacent intersections connecting with the surrounding arterial street system and external major collector systems were evaluated to determine if they need to be incorporated for evaluation based on El Paso County Standards. The intersections of Wageman Drive/Grinnell Boulevard and Crawford Avenue/Grinnell Boulevard do not meet the County criteria of project traffic contributing a 30 percent increase in traffic volumes. Further, project traffic is not anticipated to contribute an increase of 30 percent at the intersections of Crawford Avenue/Security Boulevard and Norman Drive/Main Street. The project site currently primarily serves the neighborhoods surrounding the site; therefore, limited regional access is currently provided from Interstate 25 (I-25), US-85, and Powers Boulevard (SH-21). Primary access is provided by Bradley Road and Crawford Avenue while direct access is provided by Aspen Drive, Hackberry Drive, Widick Street, and Modell Drive.

The Widefield Recreation Center expansion is expected to generate approximately 1,822 weekday daily trips, with 121 of these trips occurring during the morning peak hour and 158 of these trips occurring during the afternoon peak hour.

Based on the analysis presented in this report, Kimley-Horn believes the Widefield Recreation Center expansion project 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 conclusions and recommendations:

- With the addition of project traffic, the study area intersections are expected to operate acceptably with the existing lane configurations and control. Therefore, no offsite improvements are recommended in association with the Widefield Recreation Center expansion.
- Based on the El Paso County road impact fee schedule guidelines, the fee per thousand square feet is \$3,372 for public or institutional uses. Therefore, the road impact fee for the proposed 63,196 square feet of recreation center is expected to be \$213,097.

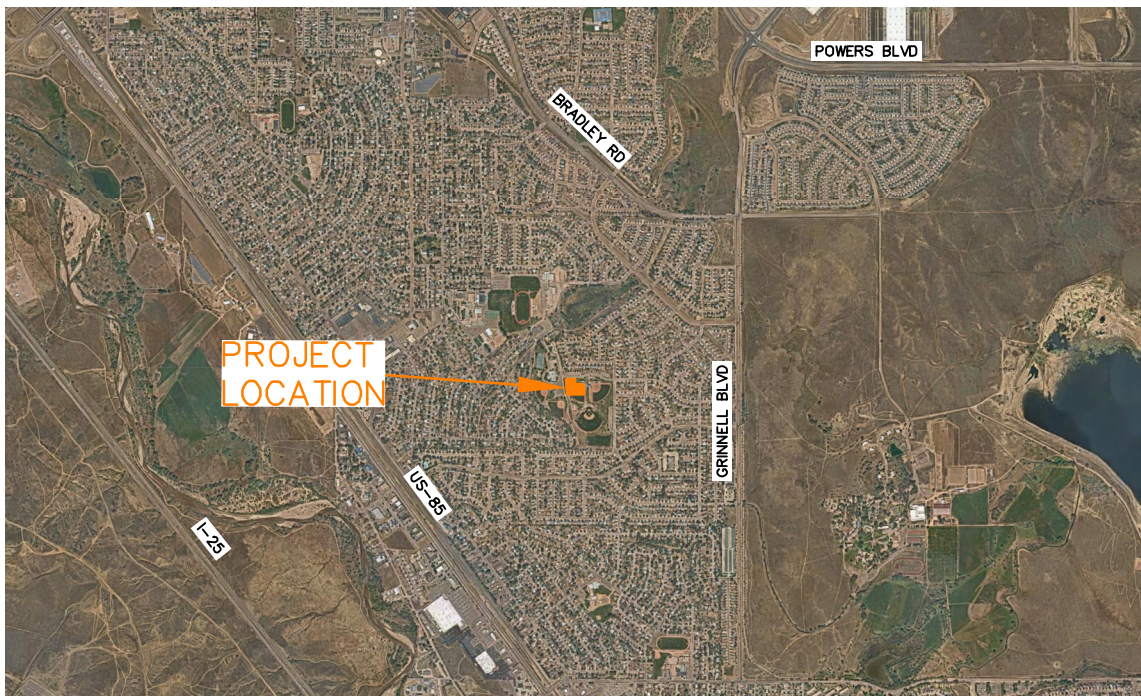
2.0 INTRODUCTION

Kimley-Horn and Associates, Inc. has prepared this report to document the results of a Traffic Impact Study for the proposed Widefield Recreation Center expansion project located at the southwest corner of the Widick Street and Modell Drive intersection in El Paso County, Colorado. A vicinity map illustrating the Widefield Recreation Center location is shown in **Figure 1**. The site currently consists of the existing Security Public Library, Widefield Parks and Recreation Pool, and existing ball fields and tennis courts. Widefield Recreation Center is planning to demolish an existing baseball field and construct an approximately 63,196 square foot recreation center. A conceptual site plan is attached in **Appendix D**. For analysis purposes, it was assumed that the Widefield Recreation Center will be completed in the next year; therefore, analysis was conducted for the 2023 buildout year. However, the buildout year is not critical as the studied intersections are in a fully built out area and future traffic growth is not expected along the local streets other than the new recreation center; therefore, only a buildout scenario was evaluated in this traffic study.

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 El Paso County standards and requirements:

- Aspen Drive/Hackberry Drive Access (#1)
- Modell Drive/Access and Widick Street (#2)

The Widefield Parks and Recreation site currently primarily serves the neighborhoods surrounding the site; therefore, limited regional access is currently provided from Interstate 25 (I-25), US-85, and Powers Boulevard (SH-21). Primary access is provided by Bradley Road and Crawford Avenue while direct access is provided by Aspen Drive, Hackberry Drive, Widick Street, and Modell Drive.



WIDEFIELD RECREATION CENTER
EL PASO COUNTY, COLORADO
VICINITY MAP

FIGURE 1

3.0 EXISTING AND FUTURE CONDITIONS

3.1 Existing Study Area

The site currently consists of the existing Security Public Library, Widefield Parks and Recreation Pool, and existing ball fields and tennis courts. Widefield Recreation Center is planning to demolish an existing baseball field and construct an approximately 63,196 square foot recreation center. Single family residential homes are located in the immediate surrounding area. Widefield High School is located to the north of the site. Santa Fe Avenue (US-85) is located in the extended area to the west while Powers Boulevard (SH-21) is located in the extended area to the north.

3.2 Existing and Future Roadway Network

Hackberry Drive, Aspen Drive, and Widick Street primarily extend in the north-south direction as two-lane roadways. Modell Drive extends eastbound and westbound and provides one through lane in each direction with a posted speed limit of 25 miles per hour. The access road internal to the Widefield Parks and Recreation site has one through lane in each direction and a speed limit of 15 miles per hour. Based on the average daily traffic volumes and the roadway characteristics of the aforementioned roadways, they are all classified as urban local roadways according to the El Paso County Engineering Criteria Manual. It should be noted that the El Paso County Major Transportation Corridors Plan does not identify any improvements at the study area roadways.

The surrounding streets of Crawford Avenue, Main Street, and Wageman Drive are all categorized as collector streets in the El Paso County Major Transportation Corridors Plan (MTCP). Grinnell Boulevard is classified as a minor arterial in the MTCP. The MTCP does not identify any roadway improvements at aforementioned collector streets. However, Grinnell Boulevard between Powers Boulevard and Bradley Road is planned to be widened from two lanes to four lanes by 2040.

The unsignalized 'T'- intersection of the Aspen Drive/Hackberry Drive Access (#1) operates with stop control on the westbound access approach. For purposes of providing configurations that align with HCM methodologies, the northwest Hackberry Drive leg of this intersection is defined as the north leg in this traffic study. As such, the westbound access approach consists of a shared left/right turn lane. The northbound Aspen Drive approach consists of a shared through/right turn lane while the southbound Hackberry Drive approach consists of a shared left turn/through lane. An aerial photo of the existing intersection configuration is below (north is up - typical).



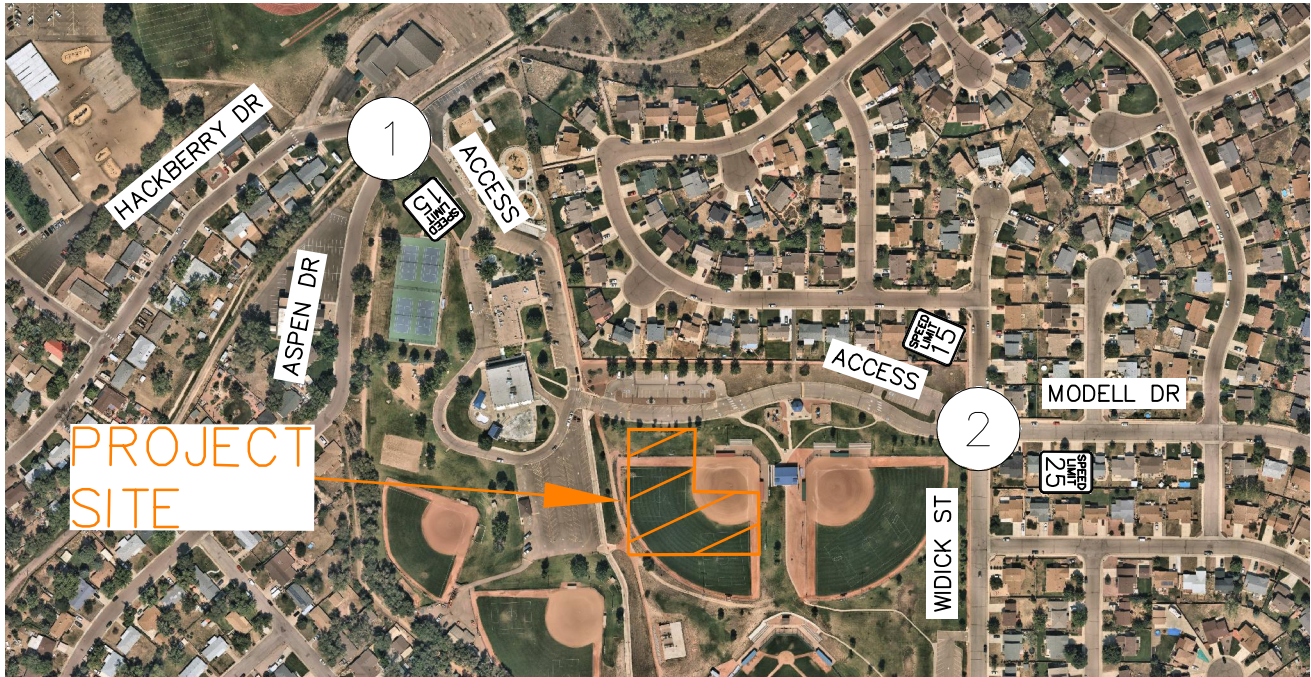
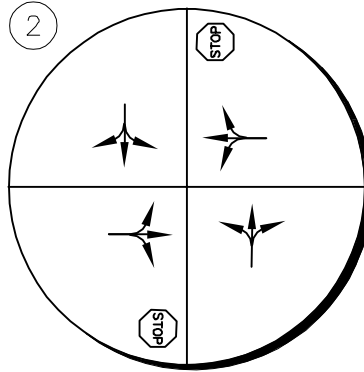
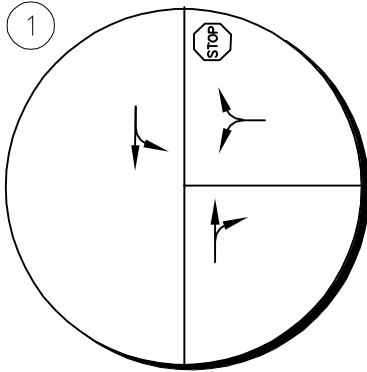
Aspen Drive/Hackberry Drive Access (#1)

The unsignalized intersection of Modell Drive/Access and Widick Street (#2) operates with stop control on the eastbound and westbound approaches. All four approaches provide a single lane shared with all movements. An aerial photo of the existing intersection configuration is below.



Modell Drive/Access & Widick Street (#2)

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



| LEGEND | |
|--------|-----------------------------|
| | Study Area Key Intersection |
| | Stop Controlled Approach |
| | Roadway Speed Limit |

WIDEFIELD RECREATION CENTER
EL PASO COUNTY, COLORADO
EXISTING GEOMETRY AND CONTROL

FIGURE 2

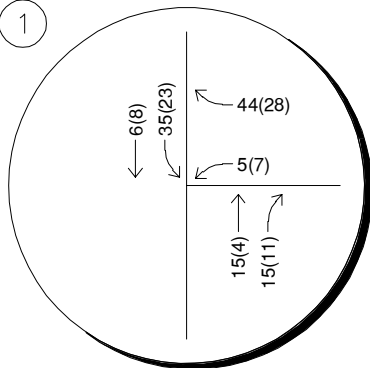
3.3 Existing Traffic Volumes

Existing turning movement counts were conducted at the study area key intersections on Tuesday, January 11, 2022 during the morning and afternoon peak hours. 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 intersection traffic volumes are shown in **Figure 3** with count sheets provided in **Appendix A**.

3.4 Unspecified Development Traffic Growth

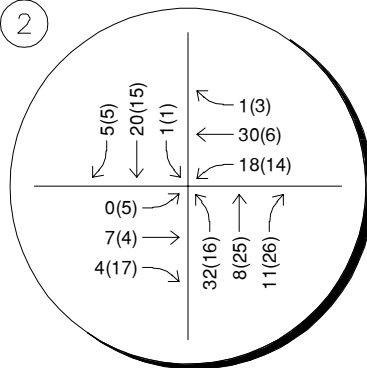
The buildout year is not critical as the studied intersections are in a fully built out area and future traffic growth is not expected along the local streets other than the Widefield Recreation Center expansion; therefore, future volumes at the studied intersections consist of existing plus net increase of recreation center traffic.

1

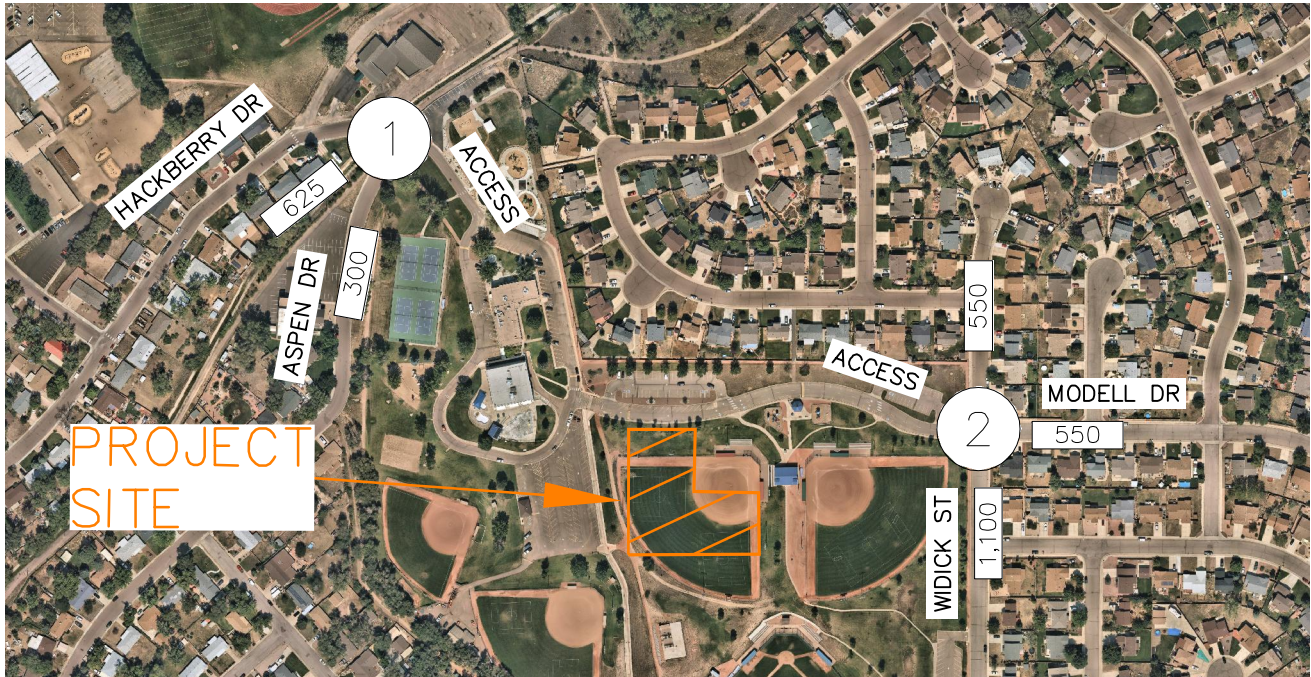


Tuesday, January 11, 2022
8:00 to 9:00AM (4:30 to 5:30PM)

2



Tuesday, January 11, 2022
7:00 to 8:00AM (4:15 to 5:15PM)



LEGEND

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

WIDEFIELD RECREATION CENTER
EL PASO COUNTY, COLORADO
2022 EXISTING TRAFFIC VOLUMES

FIGURE 3



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 average rate equations that apply to Recreational Community Center (ITE Land Use Code 495), for traffic associated with the development.

The Widefield Recreation Center expansion project is expected to generate approximately 1,822 weekday daily trips, with 121 of these trips occurring during the morning peak hour and 158 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 1** summarizes the estimated trip generation for the Widefield Recreation Center. The trip generation worksheets are included in **Appendix B**.

Table 1 – Widefield Recreation Center Traffic Generation

| Land Use and Size | Weekday Vehicle Trips | | | | | | |
|--|-----------------------|--------------|-----|-------|--------------|-----|-------|
| | Daily | AM Peak Hour | | | PM Peak Hour | | |
| | | In | Out | Total | In | Out | Total |
| Recreational Community Center (ITE 495) – 63,196 Square Feet | 1,822 | 80 | 41 | 121 | 74 | 84 | 158 |

It should be noted that typical traffic engineering practices are to evaluate the 30th highest design hour. ITE provides average trip rates for the land use identified. It is not anticipated that the recreation center will have more than thirty events higher than the peak hour counts. The existing baseball fields are not part of the project and previously went through a site development plan application process. Of note, there is significant amount of reserved capacity (documented later in Section 5) at the study area key intersections as all movements operate at level of service B or better.

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

4.2 Trip Distribution

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 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. It should be noted that facilities for the Widefield Recreation Center expansion are expected to primarily serve the local neighborhoods and nominal trips are expected to and from the surrounding arterial street system. The small number of project trips traveling to and from external arterial street system are expected to be near a net neutral with number of trips previously traveling outside of the community for recreational uses now remaining within the community at the new facility. The project trip distribution for the proposed development is illustrated in **Figure 4**.

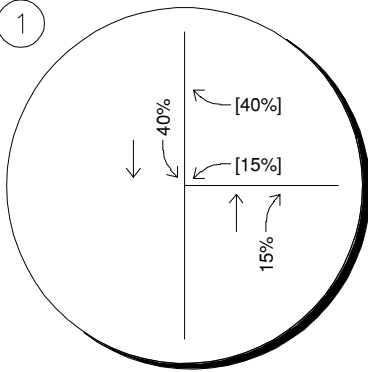
4.3 Traffic Assignment

Widefield Recreation Center traffic assignment was obtained by applying the project trip distribution to the estimated traffic generation of the development shown in **Table 1**. Traffic assignment is shown in **Figure 5**.

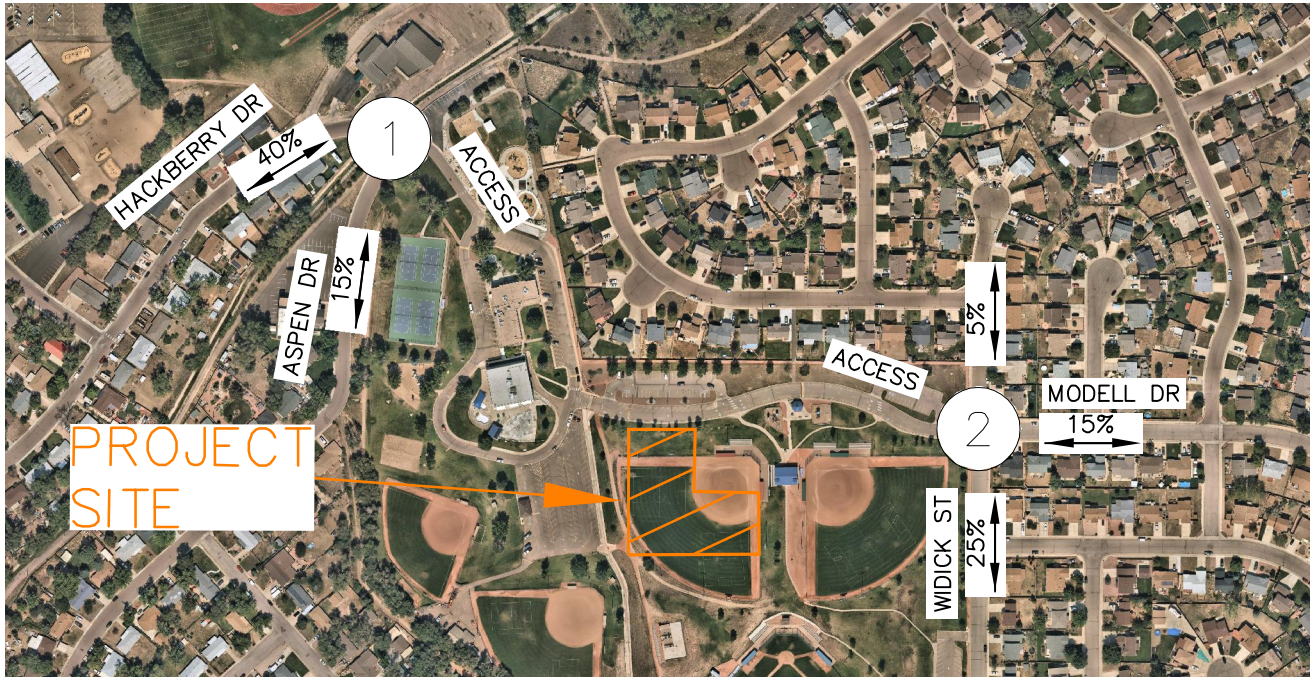
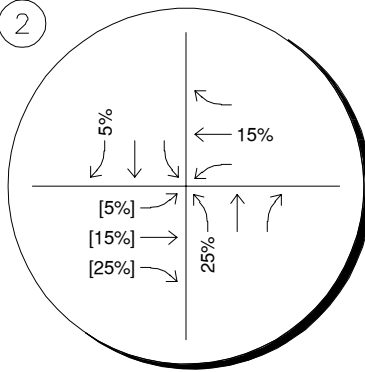
4.4 Total (Background Plus Project) Traffic

Site generated traffic volumes associated with the Widefield Recreation Center expansion were added to the existing traffic volumes to represent estimated traffic conditions for 2023 buildout. These total vehicle traffic volumes for the study area are illustrated for the opening 2023 year in **Figure 6**.

1



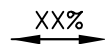
2



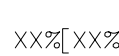
LEGEND



Study Area Key Intersection



External Trip Distribution Percentage

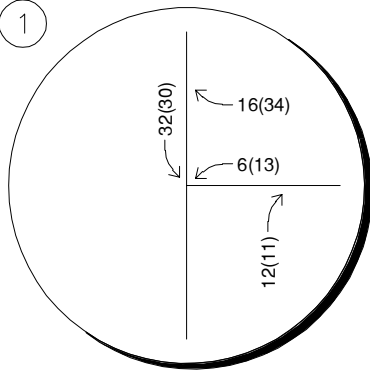


Entering[Exiting]
Trip Distribution Percentage

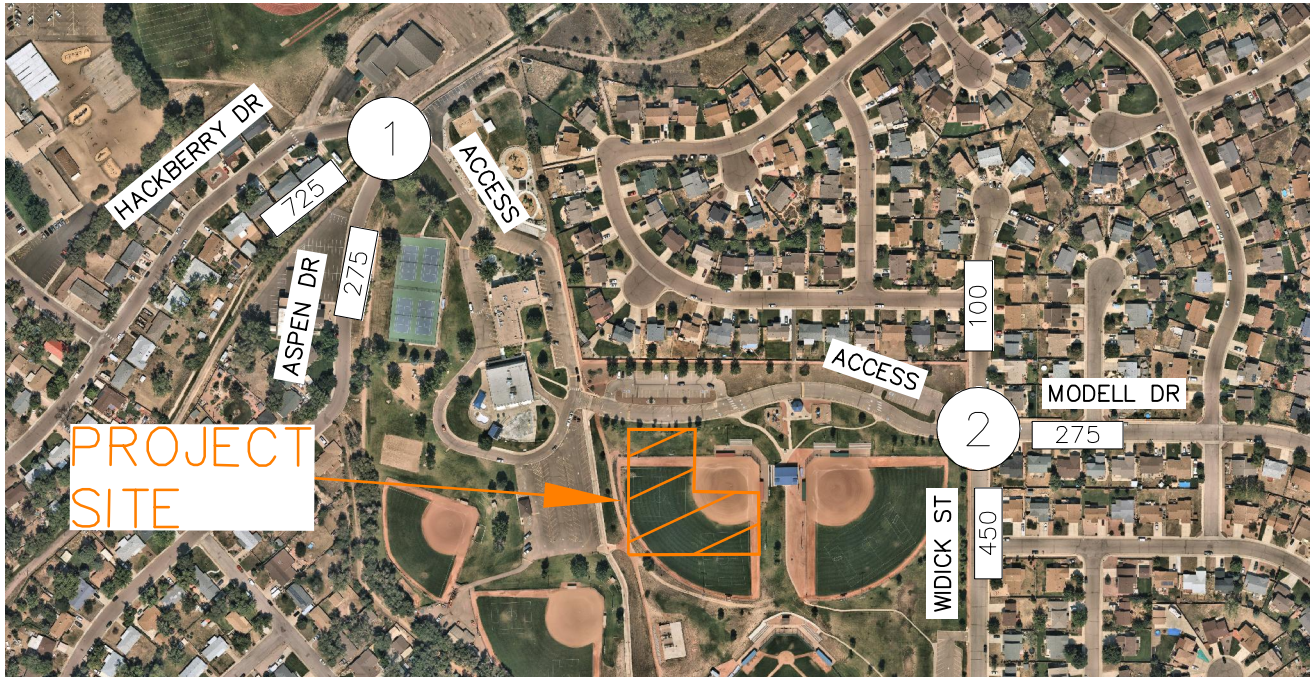
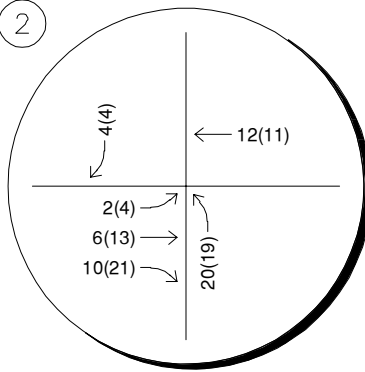
WIDEFIELD RECREATION CENTER
EL PASO COUNTY, COLORADO
PROJECT TRIP DISTRIBUTION

FIGURE 4

1



2



LEGEND

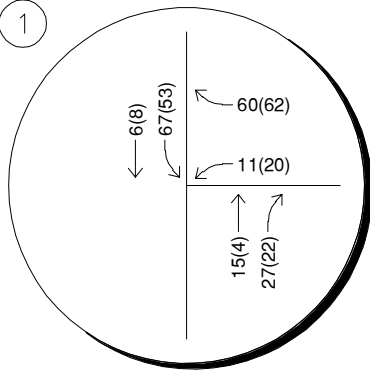
- (X) Study Area Key Intersection
- XXX(XXX) Weekday AM(PM)
Peak Hour Traffic Volumes
- [XX,X00] Estimated Daily Traffic Volume

WIDEFIELD RECREATION CENTER
EL PASO COUNTY, COLORADO
PROJECT TRAFFIC ASSIGNMENT

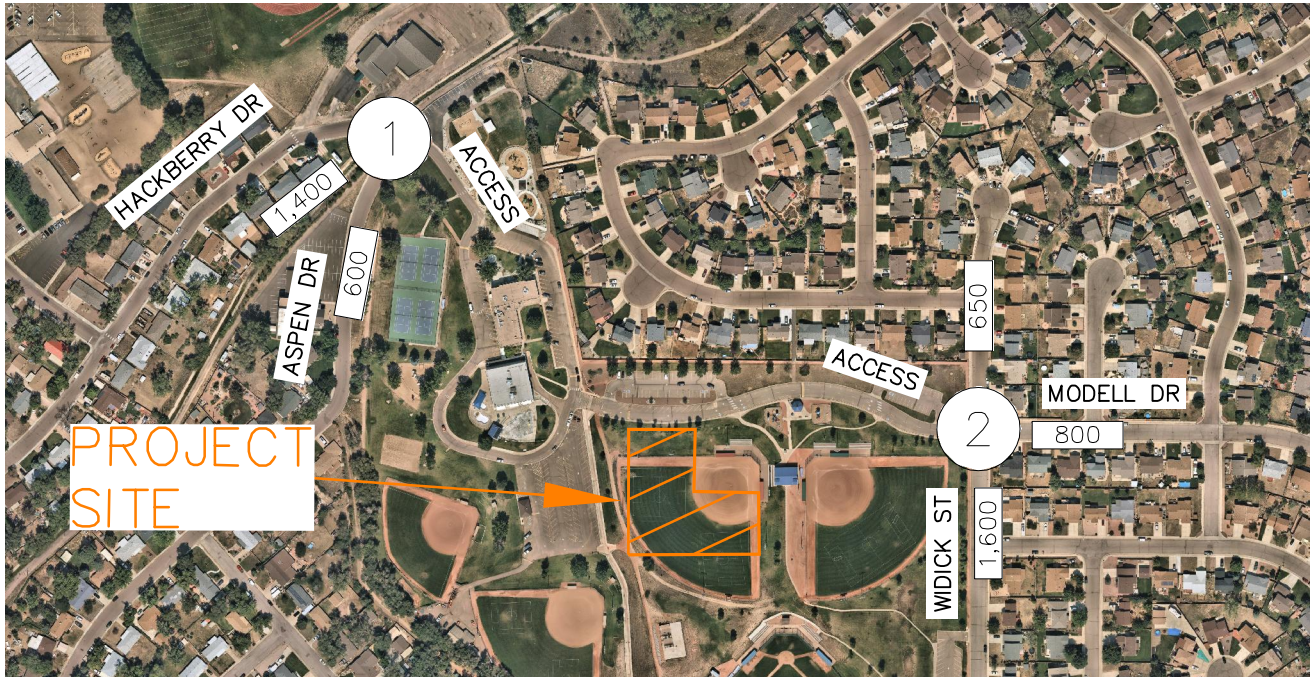
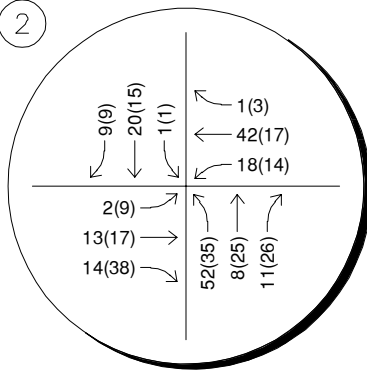
FIGURE 5



1



2



LEGEND

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

WIDEFIELD RECREATION CENTER
EL PASO COUNTY, COLORADO
2023 TOTAL TRAFFIC VOLUMES

FIGURE 6



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 2023 development horizon at the identified key intersections. The acknowledged source for determining overall capacity is the current edition of 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). Based on El Paso County standards, the threshold for acceptable LOS is not less than LOS D during peak hours. **Table 2** shows the definition of level of service for signalized and unsignalized intersections.

Table 2 – 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, Sixth Edition, Transportation Research Board, 2016.

Study area intersections were analyzed based on average total delay analysis 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*, Sixth Edition, Washington DC, 2016.

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 C**. 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 2023 horizon analysis years. Synchro traffic analysis software was used to analyze the unsignalized key intersections for HCM level of service.

Aspen Drive/Hackberry Drive Access (#1)

The unsignalized 'T'- intersection of the Aspen Drive/Hackberry Drive Access (#1) operates with stop control on the westbound access approach. For purposes of providing configurations that align with HCM methodologies, the northwest Hackberry Drive leg of this intersection is defined as the north leg in this traffic study. As such, the westbound access approach consists of a shared left/right turn lane. The northbound Aspen Drive approach consists of a shared through/right turn lane while the southbound Hackberry Drive approach consists of a shared left turn/through lane. The east leg of this intersection currently provides access to the project site. The intersection movements operate acceptably at LOS A during both peak hours under existing conditions. With project traffic, all movements are anticipated to continue operating at an acceptable LOS A during the peak hours throughout the 2023 horizon. Therefore, no modifications to the existing control or lane configurations are proposed at this intersection. **Table 3** provides the results of the LOS analysis conducted at this intersection.

Table 3 – Aspen Drive/Hackberry Drive Access (#1) LOS Results

| Scenario | AM Peak Hour | | PM Peak Hour | |
|-------------------------------------|-----------------|-----|-----------------|-----|
| | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| 2022 Existing | | | | |
| Westbound Approach | 8.8 | A | 8.6 | A |
| Southbound Left | 7.4 | A | 7.3 | A |
| 2023 Background Plus Project | | | | |
| Westbound Approach | 9.2 | A | 9.1 | A |
| Southbound Left | 7.5 | A | 7.4 | A |

Widick Street and Modell Drive/Access (#2)

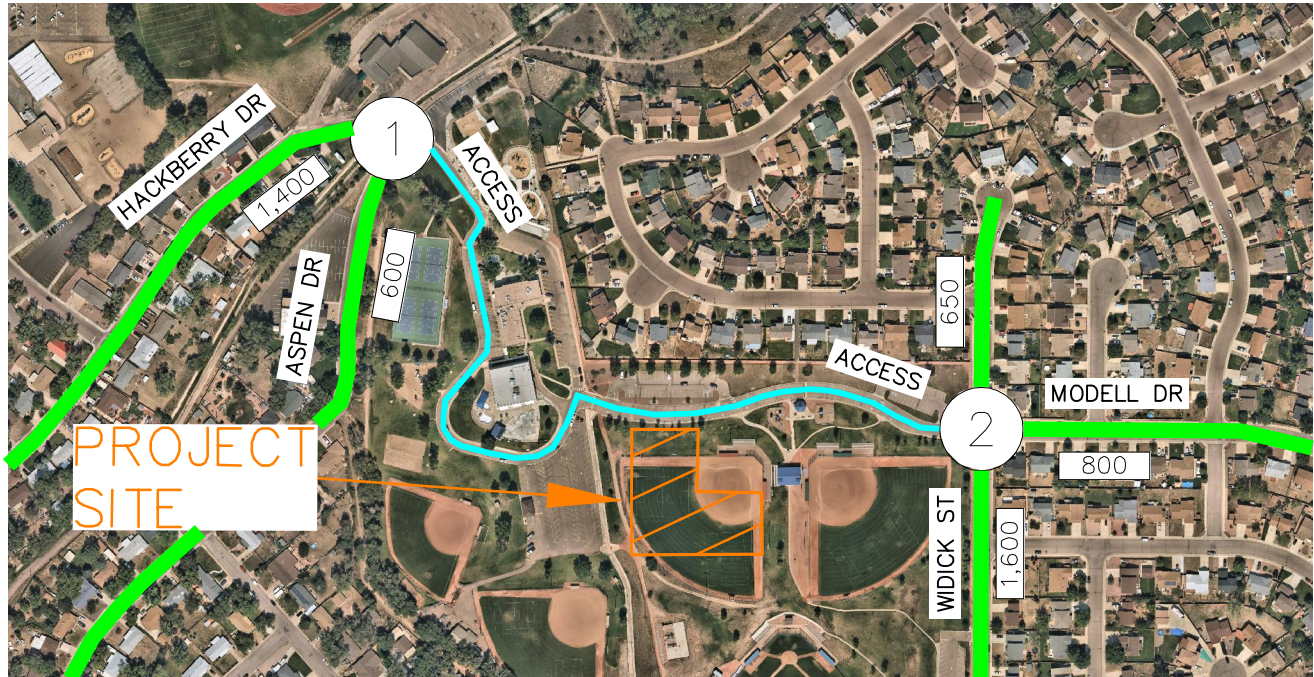
The unsignalized intersection of Modell Drive/Access and Widick Street (#2) operates with stop control on the eastbound and westbound approaches. The west leg currently provides access to the project site. The intersection movements operate acceptably at LOS B or better during both peak hours under existing conditions. With project traffic, all movements are anticipated to continue operating at an acceptable LOS B or better during the peak hours throughout the 2023 horizon. Therefore, no modifications to the existing control or lane configurations are recommended at this intersection. **Table 4** provides the results of the LOS analysis conducted at this intersection.

Table 4 – Widick Street & Modell Drive/Access (#2) LOS Results

| Scenario | AM Peak Hour | | PM Peak Hour | |
|-------------------------------------|-----------------|-----|-----------------|-----|
| | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| 2022 Existing | | | | |
| Northbound Left | 7.4 | A | 7.3 | A |
| Eastbound Approach | 9.6 | A | 9.0 | A |
| Westbound Approach | 10.4 | B | 9.7 | A |
| Southbound Left | 7.3 | A | 7.4 | A |
| 2023 Background Plus Project | | | | |
| Northbound Left | 7.4 | A | 7.4 | A |
| Eastbound Approach | 9.9 | A | 9.7 | A |
| Westbound Approach | 11.5 | B | 10.6 | B |
| Southbound Left | 7.3 | A | 7.4 | A |

5.3 Internal Roadway Classifications and Turn Lane Evaluation

The studied roadways all meet the characteristics of an urban local street. The traffic volume threshold criteria for an urban local street within the El Paso County Engineering Criteria Manual (ECM) is less than 3,000 vehicles per day. The average daily traffic (ADT) among the studied roadways is expected to be less than 3,000 vehicles per day. **Figure 7** illustrates the street classification map for the surrounding area. In addition, exclusive left turn lanes are warranted for ingress turning volumes of 25 vehicles per hour or greater whereas exclusive right turn lanes are warranted for ingress turning volumes of 50 vph or greater along “Minor Arterial and Lower Classification”. Of note, the surrounding roadway network primarily consists of local streets without the implementation of any designated left and right turn lanes; therefore, auxiliary turn lanes are not recommended at the studied intersections. Further, all movements at studied intersections are expected to operate at LOS B or better during the peak hours.



WIDEFIELD RECREATION CENTER
EL PASO COUNTY, COLORADO
ROADWAY CLASSIFICATION MAP

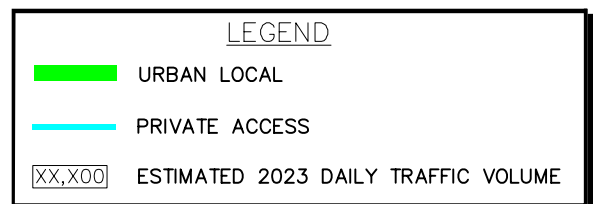


FIGURE 7

5.4 Sight Distance Evaluation

It is recommended that sight triangles be provided at all site access points to give drivers exiting the site a clear view of oncoming traffic. Landscaping and objects within sight triangles must not obstruct drivers' views of the adjacent travel lanes. ECM design intersection sight distances for left turn from stop at all the study intersection is recommended to provide an intersection sight distance of 280 feet. Of note, because the intersections are between two local roadways or a local and an access, the distance from the driver's eye to the edge of pavement can be reduced to 10 feet and the sight distance can be measured to the centerline of the road. It is believed that all existing intersections provide the necessary sight distance.

5.5 Bicycle and Pedestrian Access

Sidewalks are provided along both sides of Widick Street and Modell Drive. A sidewalk is provided on the east side of Hackberry Drive and on the west side of Aspen Drive. Sidewalks are provided throughout the Widefield Parks and Recreation site. Adjacent to the site, there are not any designated bicycle lanes along Widick Street, Modell Drive, Aspen Drive, or Hackberry Drive. Widefield High School and the Widefield Elementary School of the Arts are located northwest of the proposed site. The sidewalks along Widefield Drive and Hackberry Drive will provide access from the proposed recreation center to the schools. Additionally, there is a gated sidewalk that extends behind the schools and provides access from Hackberry Drive to the schools. There is a small portion of the west access that does not provide sidewalks on either side of the roadway and interrupts the sidewalk connection from the two schools to the proposed recreation center. Crosswalks are provided along Widefield Drive to access the two schools.

5.6 Road Impact Fees

Road impact fees were evaluated based on the El Paso County Road Impact Fee Schedule. Based on these fee schedule guidelines, the fee per thousand square feet is \$3,372 for public or institutional uses. Therefore, the road impact fee for the proposed 63,196 square feet of recreation center is expected to be \$213,097. Road impact fee calculations are shown in **Table 5**. The project team will determine payment methods with the final plat.

Table 5 – Road Impact Fees

| Use | Square Feet | Fee / KSF | Total Fee |
|----------------------|-------------|-----------|-----------|
| Public/Institutional | 63,196 | \$3,372 | \$213,097 |

6.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the analysis presented in this report, Kimley-Horn believes the Widefield Recreation Center expansion project 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 conclusions and recommendations:

- With the addition of project traffic, the study area intersections are expected to operate acceptably with the existing lane configurations and control. Therefore, no offsite improvements are recommended in association with the Widefield Recreation Center expansion.
- Based on the El Paso County road impact fee schedule guidelines, the fee per thousand square feet is \$3,372 for public or institutional uses. Therefore, the road impact fee for the proposed 63,196 square feet of recreation center is expected to be \$213,097.

APPENDICES

APPENDIX A

Intersection Count Sheets



Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
AM Peak
Hackberry Dr and Aspen Dr

File Name : Hackberry and Aspen AM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

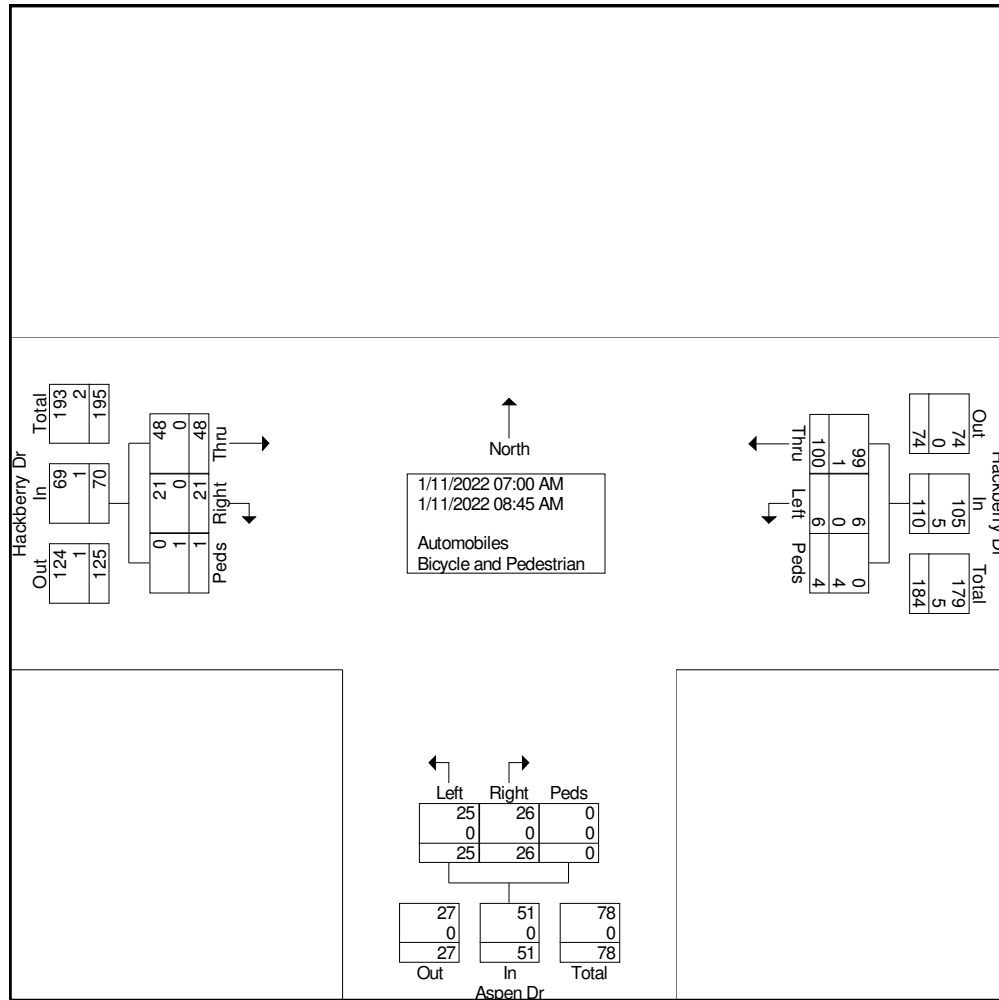
| Start Time | Hackberry Dr Eastbound | | | | Hackberry Dr Westbound | | | | Aspen Dr Northbound | | | | Int. Total |
|--------------------------|------------------------|-------|------|------------|------------------------|------|------|------------|---------------------|-------|------|------------|------------|
| | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | |
| 07:00 AM | 5 | 0 | 1 | 6 | 0 | 35 | 0 | 35 | 4 | 0 | 0 | 4 | 45 |
| 07:15 AM | 5 | 5 | 0 | 10 | 0 | 13 | 1 | 14 | 2 | 1 | 0 | 3 | 27 |
| 07:30 AM | 1 | 8 | 0 | 9 | 1 | 1 | 2 | 4 | 1 | 5 | 0 | 6 | 19 |
| 07:45 AM | 2 | 2 | 0 | 4 | 0 | 7 | 1 | 8 | 3 | 5 | 0 | 8 | 20 |
| Total | 13 | 15 | 1 | 29 | 1 | 56 | 4 | 61 | 10 | 11 | 0 | 21 | 111 |
| 08:00 AM | 17 | 3 | 0 | 20 | 0 | 13 | 0 | 13 | 2 | 8 | 0 | 10 | 43 |
| 08:15 AM | 8 | 2 | 0 | 10 | 1 | 13 | 0 | 14 | 1 | 1 | 0 | 2 | 26 |
| 08:30 AM | 7 | 0 | 0 | 7 | 2 | 10 | 0 | 12 | 0 | 3 | 0 | 3 | 22 |
| 08:45 AM | 3 | 1 | 0 | 4 | 2 | 8 | 0 | 10 | 12 | 3 | 0 | 15 | 29 |
| Total | 35 | 6 | 0 | 41 | 5 | 44 | 0 | 49 | 15 | 15 | 0 | 30 | 120 |
| Grand Total | 48 | 21 | 1 | 70 | 6 | 100 | 4 | 110 | 25 | 26 | 0 | 51 | 231 |
| Apprch % | 68.6 | 30 | 1.4 | | 5.5 | 90.9 | 3.6 | | 49 | 51 | 0 | | |
| Total % | 20.8 | 9.1 | 0.4 | 30.3 | 2.6 | 43.3 | 1.7 | 47.6 | 10.8 | 11.3 | 0 | 22.1 | |
| Automobiles | 48 | 21 | 0 | 69 | 6 | 99 | 0 | 105 | 25 | 26 | 0 | 51 | 225 |
| % Automobiles | 100 | 100 | 0 | 98.6 | 100 | 99 | 0 | 95.5 | 100 | 100 | 0 | 100 | 97.4 |
| Bicycle and Pedestrian | 0 | 0 | 1 | 1 | 0 | 1 | 4 | 5 | 0 | 0 | 0 | 0 | 6 |
| % Bicycle and Pedestrian | 0 | 0 | 100 | 1.4 | 0 | 1 | 100 | 4.5 | 0 | 0 | 0 | 0 | 2.6 |



Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
AM Peak
Hackberry Dr and Aspen Dr

File Name : Hackberry and Aspen AM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 2



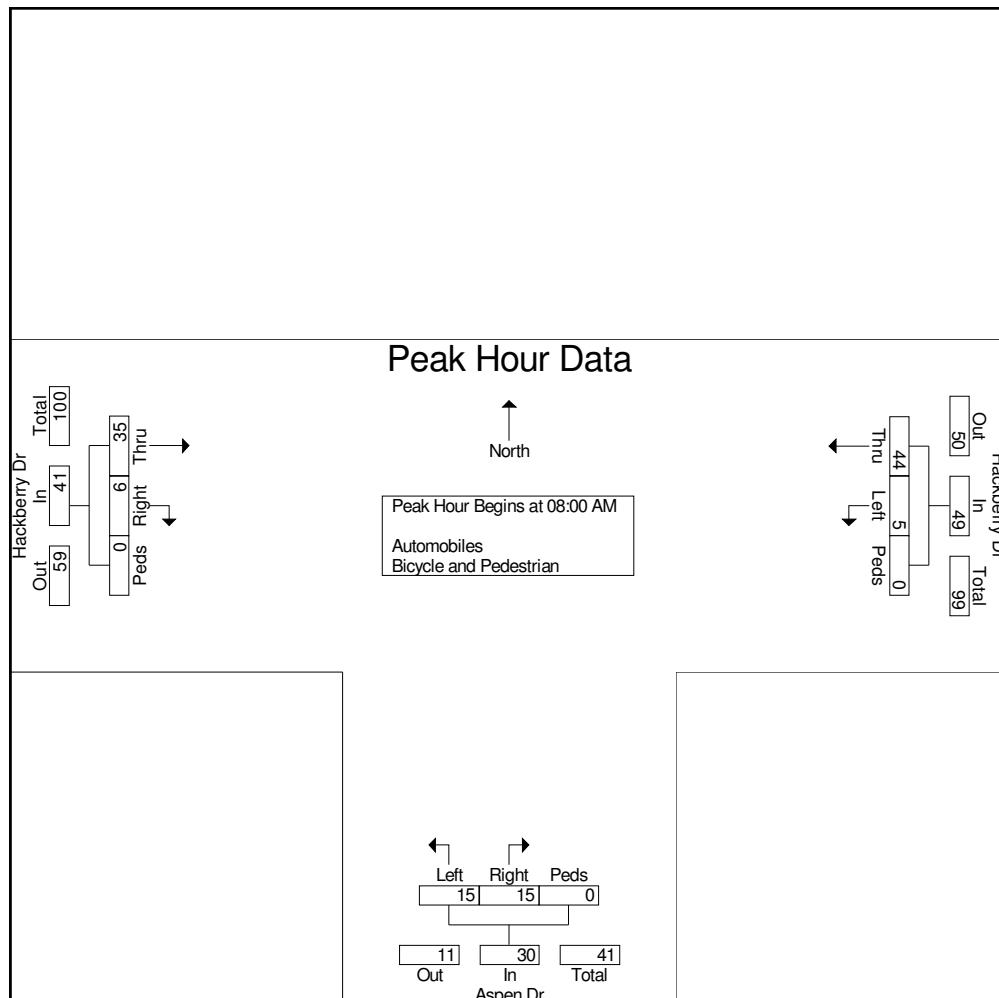


Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
AM Peak
Hackberry Dr and Aspen Dr

File Name : Hackberry and Aspen AM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 3

| | Hackberry Dr Eastbound | | | | Hackberry Dr Westbound | | | | Aspen Dr Northbound | | | | |
|--|------------------------|-------|------|------------|------------------------|------|------|------------|---------------------|-------|------|------------|------------|
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 08:00 AM | | | | | | | | | | | | | |
| 08:00 AM | 17 | 3 | 0 | 20 | 0 | 13 | 0 | 13 | 2 | 8 | 0 | 10 | 43 |
| 08:15 AM | 8 | 2 | 0 | 10 | 1 | 13 | 0 | 14 | 1 | 1 | 0 | 2 | 26 |
| 08:30 AM | 7 | 0 | 0 | 7 | 2 | 10 | 0 | 12 | 0 | 3 | 0 | 3 | 22 |
| 08:45 AM | 3 | 1 | 0 | 4 | 2 | 8 | 0 | 10 | 12 | 3 | 0 | 15 | 29 |
| Total Volume | 35 | 6 | 0 | 41 | 5 | 44 | 0 | 49 | 15 | 15 | 0 | 30 | 120 |
| % App. Total | 85.4 | 14.6 | 0 | | 10.2 | 89.8 | 0 | | 50 | 50 | 0 | | |
| PHF | .515 | .500 | .000 | .513 | .625 | .846 | .000 | .875 | .313 | .469 | .000 | .500 | .698 |





Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
PM Peak
Hackberry Dr and Aspen Dr

File Name : Hackberry and Aspen PM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

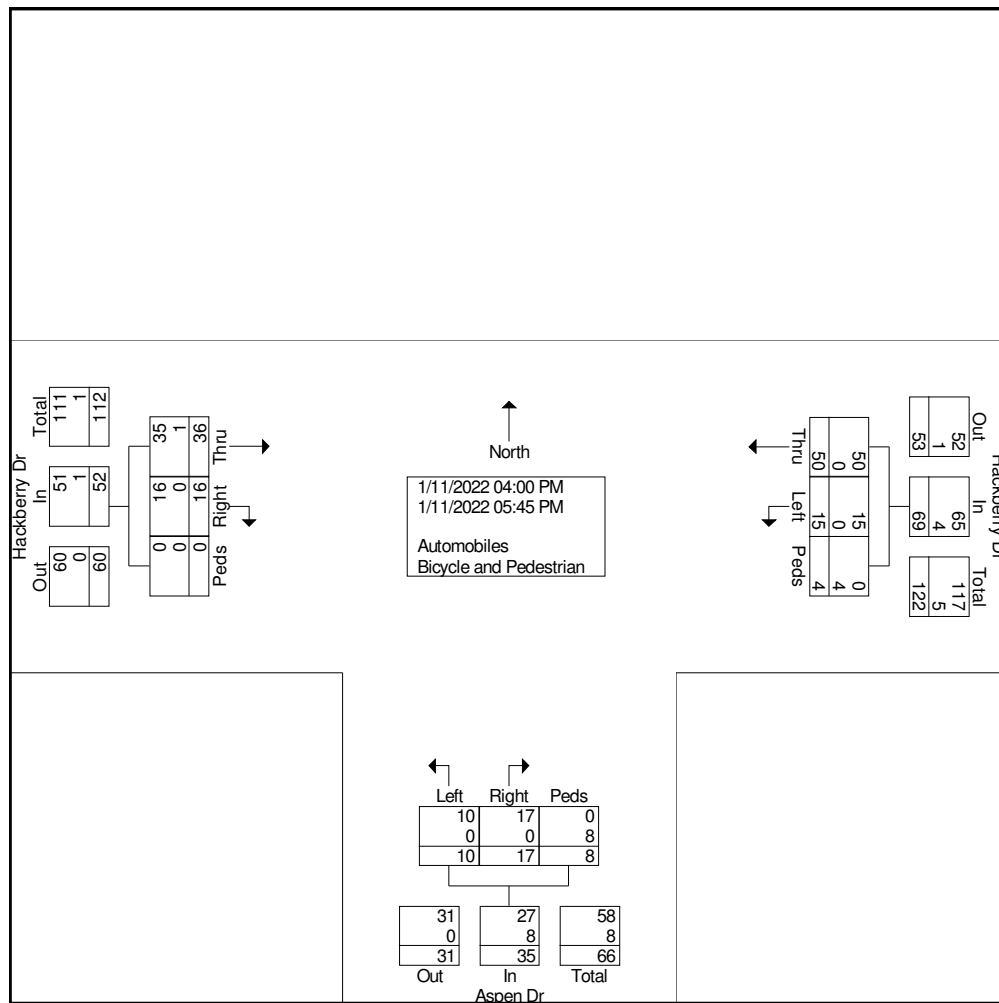
| | Hackberry Dr Eastbound | | | | Hackberry Dr Westbound | | | | Aspen Dr Northbound | | | | |
|--------------------------|---------------------------|-------|------|------------|---------------------------|------|------|------------|------------------------|-------|------|------------|------------|
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| 04:00 PM | 3 | 2 | 0 | 5 | 1 | 7 | 0 | 8 | 2 | 1 | 3 | 6 | 19 |
| 04:15 PM | 4 | 3 | 0 | 7 | 0 | 7 | 0 | 7 | 0 | 2 | 2 | 4 | 18 |
| 04:30 PM | 2 | 4 | 0 | 6 | 0 | 3 | 2 | 5 | 2 | 0 | 0 | 2 | 13 |
| 04:45 PM | 9 | 0 | 0 | 9 | 2 | 4 | 0 | 6 | 0 | 4 | 2 | 6 | 21 |
| Total | 18 | 9 | 0 | 27 | 3 | 21 | 2 | 26 | 4 | 7 | 7 | 18 | 71 |
| 05:00 PM | 9 | 1 | 0 | 10 | 0 | 6 | 0 | 6 | 1 | 7 | 0 | 8 | 24 |
| 05:15 PM | 3 | 3 | 0 | 6 | 5 | 15 | 0 | 20 | 1 | 0 | 0 | 1 | 27 |
| 05:30 PM | 0 | 2 | 0 | 2 | 2 | 3 | 1 | 6 | 3 | 0 | 1 | 4 | 12 |
| 05:45 PM | 6 | 1 | 0 | 7 | 5 | 5 | 1 | 11 | 1 | 3 | 0 | 4 | 22 |
| Total | 18 | 7 | 0 | 25 | 12 | 29 | 2 | 43 | 6 | 10 | 1 | 17 | 85 |
| Grand Total | 36 | 16 | 0 | 52 | 15 | 50 | 4 | 69 | 10 | 17 | 8 | 35 | 156 |
| Apprch % | 69.2 | 30.8 | 0 | | 21.7 | 72.5 | 5.8 | | 28.6 | 48.6 | 22.9 | | |
| Total % | 23.1 | 10.3 | 0 | 33.3 | 9.6 | 32.1 | 2.6 | 44.2 | 6.4 | 10.9 | 5.1 | 22.4 | |
| Automobiles | 35 | 16 | 0 | 51 | 15 | 50 | 0 | 65 | 10 | 17 | 0 | 27 | 143 |
| % Automobiles | 97.2 | 100 | 0 | 98.1 | 100 | 100 | 0 | 94.2 | 100 | 100 | 0 | 77.1 | 91.7 |
| Bicycle and Pedestrian | 1 | 0 | 0 | 1 | 0 | 0 | 4 | 4 | 0 | 0 | 8 | 8 | 13 |
| % Bicycle and Pedestrian | 2.8 | 0 | 0 | 1.9 | 0 | 0 | 100 | 5.8 | 0 | 0 | 100 | 22.9 | 8.3 |



Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
PM Peak
Hackberry Dr and Aspen Dr

File Name : Hackberry and Aspen PM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 2



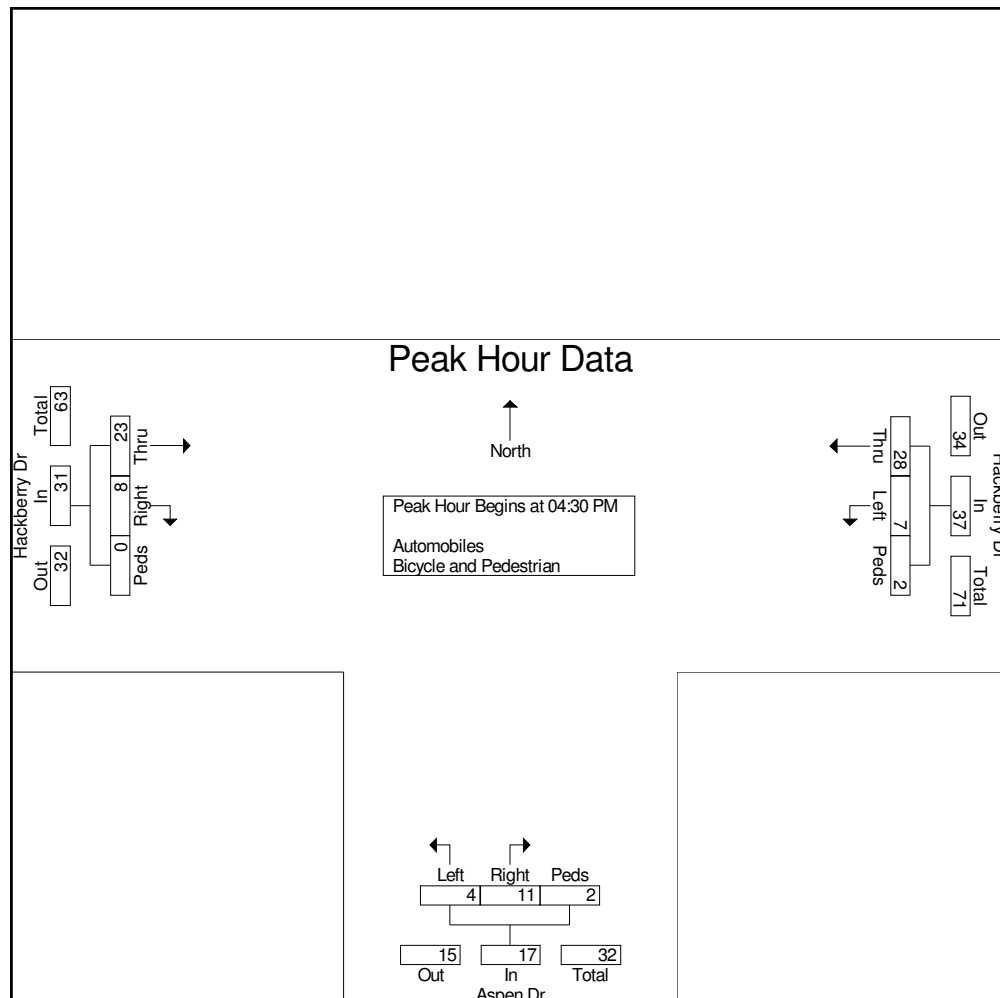


Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
PM Peak
Hackberry Dr and Aspen Dr

File Name : Hackberry and Aspen PM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 3

| | Hackberry Dr Eastbound | | | | Hackberry Dr Westbound | | | | Aspen Dr Northbound | | | | |
|--|------------------------|-------|------|------------|------------------------|------|------|------------|---------------------|-------|------|------------|------------|
| Start Time | Thru | Right | Peds | App. Total | Left | Thru | Peds | App. Total | Left | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:30 PM | | | | | | | | | | | | | |
| 04:30 PM | 2 | 4 | 0 | 6 | 0 | 3 | 2 | 5 | 2 | 0 | 0 | 2 | 13 |
| 04:45 PM | 9 | 0 | 0 | 9 | 2 | 4 | 0 | 6 | 0 | 4 | 2 | 6 | 21 |
| 05:00 PM | 9 | 1 | 0 | 10 | 0 | 6 | 0 | 6 | 1 | 7 | 0 | 8 | 24 |
| 05:15 PM | 3 | 3 | 0 | 6 | 5 | 15 | 0 | 20 | 1 | 0 | 0 | 1 | 27 |
| Total Volume | 23 | 8 | 0 | 31 | 7 | 28 | 2 | 37 | 4 | 11 | 2 | 17 | 85 |
| % App. Total | 74.2 | 25.8 | 0 | | 18.9 | 75.7 | 5.4 | | 23.5 | 64.7 | 11.8 | | |
| PHF | .639 | .500 | .000 | .775 | .350 | .467 | .250 | .463 | .500 | .393 | .250 | .531 | .787 |





Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
AM Peak
Modell Dr and Widick St

File Name : Modell and Widick AM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

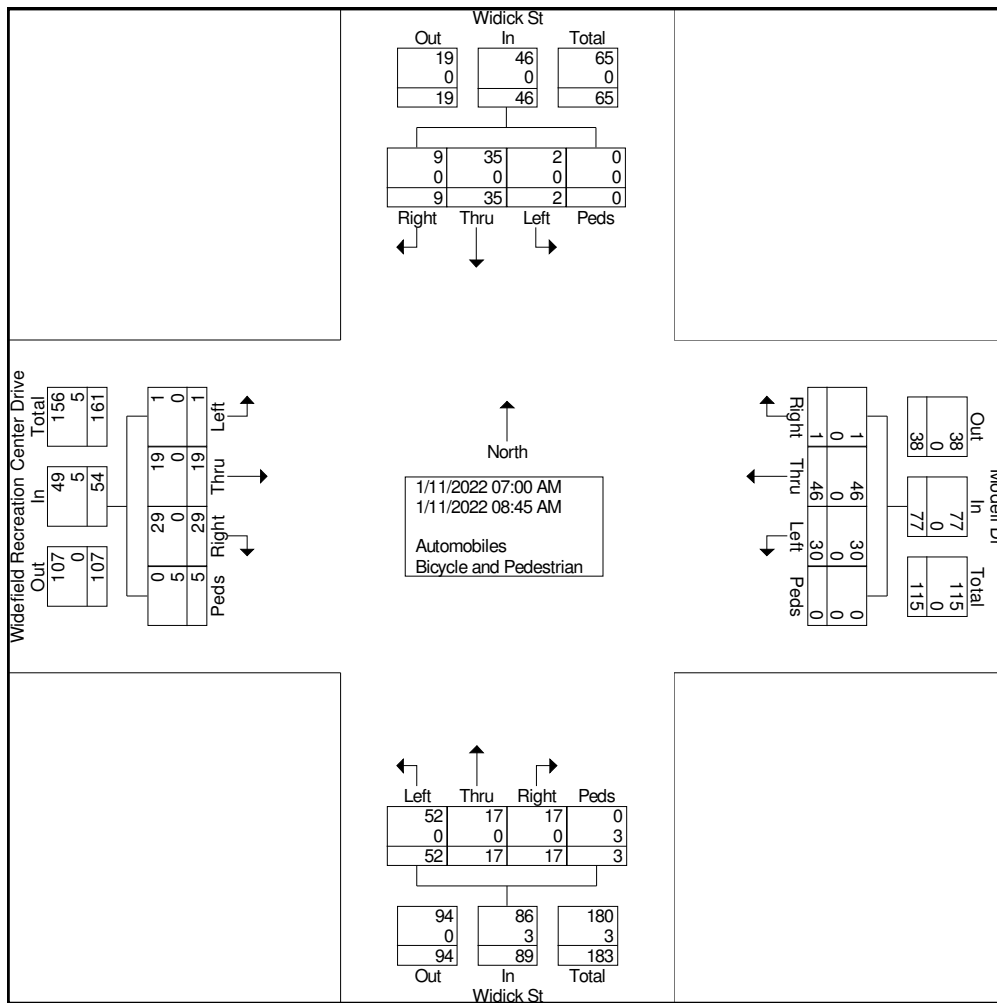
| | Widefield Recreation Center Drive Eastbound | | | | | Modell Dr Westbound | | | | | Widick St Northbound | | | | | Widick St Southbound | | | | | |
|--------------------------|---|------|-------|------|------------|------------------------|------|-------|------|------------|-------------------------|------|-------|------|------------|-------------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 07:00 AM | 0 | 3 | 1 | 0 | 4 | 4 | 15 | 1 | 0 | 20 | 17 | 1 | 2 | 0 | 20 | 1 | 7 | 2 | 0 | 10 | 54 |
| 07:15 AM | 0 | 4 | 1 | 2 | 7 | 3 | 5 | 0 | 0 | 8 | 6 | 4 | 6 | 1 | 17 | 0 | 4 | 2 | 0 | 6 | 38 |
| 07:30 AM | 0 | 0 | 0 | 1 | 1 | 6 | 3 | 0 | 0 | 9 | 6 | 1 | 3 | 0 | 10 | 0 | 4 | 0 | 0 | 4 | 24 |
| 07:45 AM | 0 | 0 | 2 | 1 | 3 | 5 | 7 | 0 | 0 | 12 | 3 | 2 | 0 | 1 | 6 | 0 | 5 | 1 | 0 | 6 | 27 |
| Total | 0 | 7 | 4 | 4 | 15 | 18 | 30 | 1 | 0 | 49 | 32 | 8 | 11 | 2 | 53 | 1 | 20 | 5 | 0 | 26 | 143 |
| 08:00 AM | 0 | 6 | 3 | 0 | 9 | 4 | 9 | 0 | 0 | 13 | 13 | 2 | 3 | 0 | 18 | 1 | 8 | 2 | 0 | 11 | 51 |
| 08:15 AM | 0 | 3 | 13 | 0 | 16 | 5 | 3 | 0 | 0 | 8 | 4 | 2 | 2 | 0 | 8 | 0 | 4 | 1 | 0 | 5 | 37 |
| 08:30 AM | 1 | 3 | 7 | 0 | 11 | 1 | 1 | 0 | 0 | 2 | 2 | 2 | 1 | 0 | 5 | 0 | 2 | 0 | 0 | 2 | 20 |
| 08:45 AM | 0 | 0 | 2 | 1 | 3 | 2 | 3 | 0 | 0 | 5 | 1 | 3 | 0 | 1 | 5 | 0 | 1 | 1 | 0 | 2 | 15 |
| Total | 1 | 12 | 25 | 1 | 39 | 12 | 16 | 0 | 0 | 28 | 20 | 9 | 6 | 1 | 36 | 1 | 15 | 4 | 0 | 20 | 123 |
| Grand Total | 1 | 19 | 29 | 5 | 54 | 30 | 46 | 1 | 0 | 77 | 52 | 17 | 17 | 3 | 89 | 2 | 35 | 9 | 0 | 46 | 266 |
| Apprch % | 1.9 | 35.2 | 53.7 | 9.3 | | 39 | 59.7 | 1.3 | 0 | | 58.4 | 19.1 | 19.1 | 3.4 | | 4.3 | 76.1 | 19.6 | 0 | | |
| Total % | 0.4 | 7.1 | 10.9 | 1.9 | 20.3 | 11.3 | 17.3 | 0.4 | 0 | 28.9 | 19.5 | 6.4 | 6.4 | 1.1 | 33.5 | 0.8 | 13.2 | 3.4 | 0 | 17.3 | |
| Automobiles | 1 | 19 | 29 | 0 | 49 | 30 | 46 | 1 | 0 | 77 | 52 | 17 | 17 | 0 | 86 | 2 | 35 | 9 | 0 | 46 | 258 |
| % Automobiles | 100 | 100 | 100 | 0 | 90.7 | 100 | 100 | 100 | 0 | 100 | 100 | 100 | 100 | 0 | 96.6 | 100 | 100 | 100 | 0 | 100 | 97 |
| Bicycle and Pedestrian | 0 | 0 | 0 | 5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 0 | 0 | 0 | 8 |
| % Bicycle and Pedestrian | 0 | 0 | 0 | 100 | 9.3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100 | 3.4 | 0 | 0 | 0 | 0 | 0 | 3 |



Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
AM Peak
Modell Dr and Widick St

File Name : Modell and Widick AM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 2



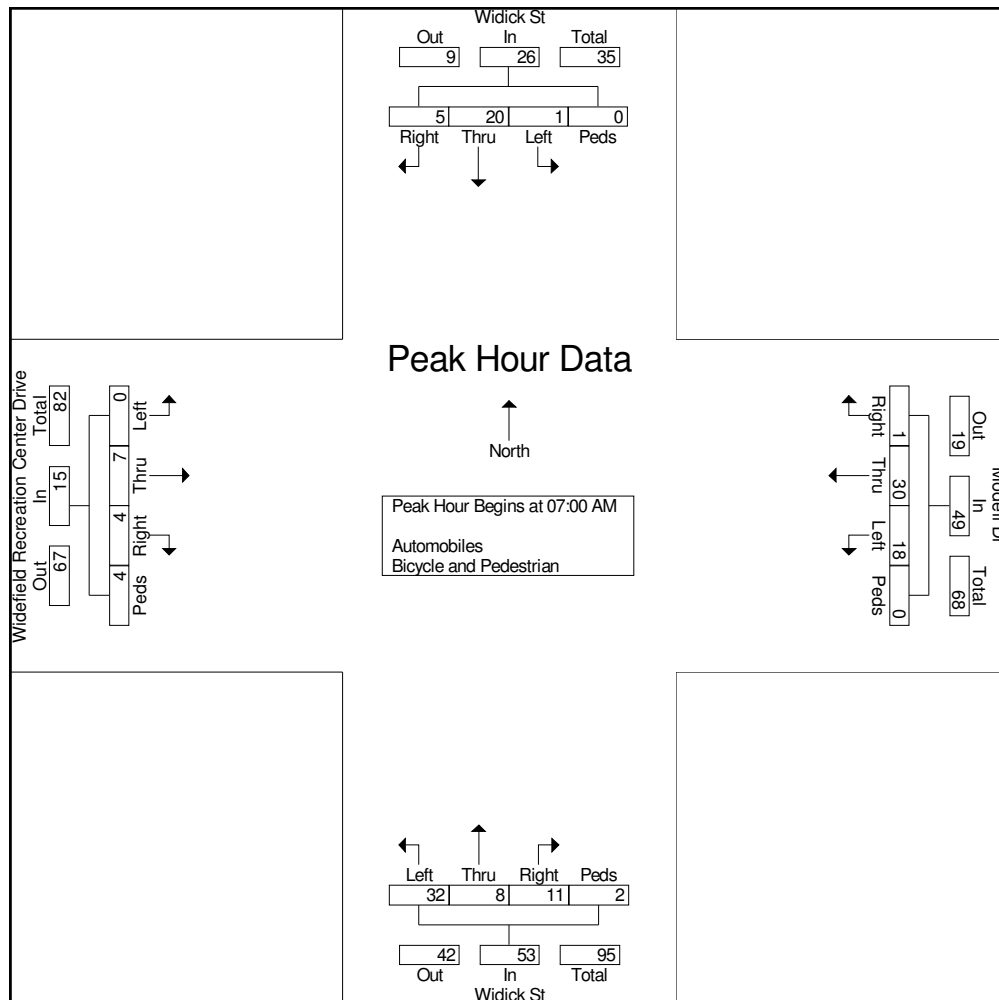


Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
AM Peak
Modell Dr and Widick St

File Name : Modell and Widick AM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 3

| | Widefield Recreation Center Drive Eastbound | | | | | Modell Dr Westbound | | | | | Widick St Northbound | | | | | Widick St Southbound | | | | | |
|--|---|------|-------|------|------------|---------------------|------|-------|------|------------|----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 07:00 AM | | | | | | | | | | | | | | | | | | | | | |
| 07:00 AM | 0 | 3 | 1 | 0 | 4 | 4 | 15 | 1 | 0 | 20 | 17 | 1 | 2 | 0 | 20 | 1 | 7 | 2 | 0 | 10 | 54 |
| 07:15 AM | 0 | 4 | 1 | 2 | 7 | 3 | 5 | 0 | 0 | 8 | 6 | 4 | 6 | 1 | 17 | 0 | 4 | 2 | 0 | 6 | 38 |
| 07:30 AM | 0 | 0 | 0 | 1 | 1 | 6 | 3 | 0 | 0 | 9 | 6 | 1 | 3 | 0 | 10 | 0 | 4 | 0 | 0 | 4 | 24 |
| 07:45 AM | 0 | 0 | 2 | 1 | 3 | 5 | 7 | 0 | 0 | 12 | 3 | 2 | 0 | 1 | 6 | 0 | 5 | 1 | 0 | 6 | 27 |
| Total Volume | 0 | 7 | 4 | 4 | 15 | 18 | 30 | 1 | 0 | 49 | 32 | 8 | 11 | 2 | 53 | 1 | 20 | 5 | 0 | 26 | 143 |
| % App. Total | 0 | 46.7 | 26.7 | 26.7 | | 36.7 | 61.2 | 2 | 0 | | 60.4 | 15.1 | 20.8 | 3.8 | | 3.8 | 76.9 | 19.2 | 0 | | |
| PHF | .000 | .438 | .500 | .500 | .536 | .750 | .500 | .250 | .000 | .613 | .471 | .500 | .458 | .500 | .663 | .250 | .714 | .625 | .000 | .650 | .662 |





Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
PM Peak
Modell Dr and Widick St

File Name : Modell and Widick PM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 1

Groups Printed- Automobiles - Bicycle and Pedestrian

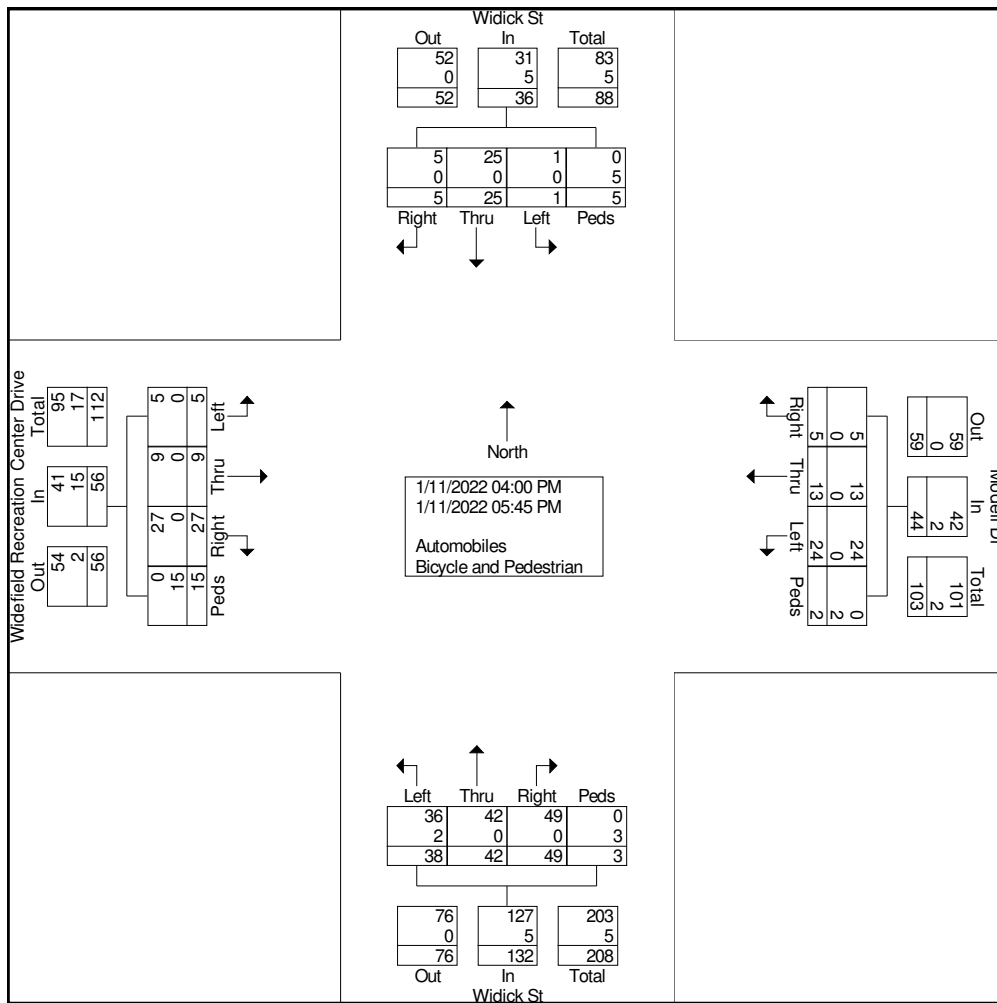
| | Widefield Recreation Center Drive Eastbound | | | | | Modell Dr Westbound | | | | | Widick St Northbound | | | | | Widick St Southbound | | | | | |
|--------------------------|---|------|-------|------|------------|------------------------|------|-------|------|------------|-------------------------|------|-------|------|------------|-------------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| 04:00 PM | 0 | 1 | 2 | 6 | 9 | 1 | 1 | 1 | 0 | 3 | 4 | 4 | 10 | 1 | 19 | 0 | 3 | 0 | 2 | 5 | 36 |
| 04:15 PM | 1 | 0 | 4 | 3 | 8 | 4 | 1 | 1 | 0 | 6 | 2 | 6 | 2 | 0 | 10 | 1 | 6 | 1 | 2 | 10 | 34 |
| 04:30 PM | 0 | 3 | 3 | 0 | 6 | 2 | 0 | 0 | 0 | 2 | 1 | 3 | 8 | 0 | 12 | 0 | 1 | 1 | 0 | 2 | 22 |
| 04:45 PM | 2 | 0 | 4 | 4 | 10 | 5 | 3 | 2 | 0 | 10 | 8 | 8 | 9 | 0 | 25 | 0 | 5 | 1 | 1 | 7 | 52 |
| Total | 3 | 4 | 13 | 13 | 33 | 12 | 5 | 4 | 0 | 21 | 15 | 21 | 29 | 1 | 66 | 1 | 15 | 3 | 5 | 24 | 144 |
| 05:00 PM | 2 | 1 | 6 | 0 | 9 | 3 | 2 | 0 | 0 | 5 | 5 | 8 | 7 | 0 | 20 | 0 | 3 | 2 | 0 | 5 | 39 |
| 05:15 PM | 0 | 3 | 4 | 2 | 9 | 2 | 4 | 0 | 2 | 8 | 4 | 4 | 4 | 2 | 14 | 0 | 2 | 0 | 0 | 2 | 33 |
| 05:30 PM | 0 | 1 | 0 | 0 | 1 | 7 | 1 | 0 | 0 | 8 | 4 | 5 | 4 | 0 | 13 | 0 | 1 | 0 | 0 | 1 | 23 |
| 05:45 PM | 0 | 0 | 4 | 0 | 4 | 0 | 1 | 1 | 0 | 2 | 10 | 4 | 5 | 0 | 19 | 0 | 4 | 0 | 0 | 4 | 29 |
| Total | 2 | 5 | 14 | 2 | 23 | 12 | 8 | 1 | 2 | 23 | 23 | 21 | 20 | 2 | 66 | 0 | 10 | 2 | 0 | 12 | 124 |
| Grand Total | 5 | 9 | 27 | 15 | 56 | 24 | 13 | 5 | 2 | 44 | 38 | 42 | 49 | 3 | 132 | 1 | 25 | 5 | 5 | 36 | 268 |
| Apprch % | 8.9 | 16.1 | 48.2 | 26.8 | | 54.5 | 29.5 | 11.4 | 4.5 | | 28.8 | 31.8 | 37.1 | 2.3 | | 2.8 | 69.4 | 13.9 | 13.9 | | |
| Total % | 1.9 | 3.4 | 10.1 | 5.6 | 20.9 | 9 | 4.9 | 1.9 | 0.7 | 16.4 | 14.2 | 15.7 | 18.3 | 1.1 | 49.3 | 0.4 | 9.3 | 1.9 | 1.9 | 13.4 | |
| Automobiles | 5 | 9 | 27 | 0 | 41 | 24 | 13 | 5 | 0 | 42 | 36 | 42 | 49 | 0 | 127 | 1 | 25 | 5 | 0 | 31 | 241 |
| % Automobiles | 100 | 100 | 100 | 0 | 73.2 | 100 | 100 | 100 | 0 | 95.5 | 94.7 | 100 | 100 | 0 | 96.2 | 100 | 100 | 100 | 0 | 86.1 | 89.9 |
| Bicycle and Pedestrian | 0 | 0 | 0 | 15 | 15 | 0 | 0 | 0 | 2 | 2 | 2 | 0 | 0 | 3 | 5 | 0 | 0 | 0 | 5 | 5 | 27 |
| % Bicycle and Pedestrian | 0 | 0 | 0 | 100 | 26.8 | 0 | 0 | 0 | 100 | 4.5 | 5.3 | 0 | 0 | 100 | 3.8 | 0 | 0 | 0 | 100 | 13.9 | 10.1 |



Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
PM Peak
Modell Dr and Widick St

File Name : Modell and Widick PM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 2



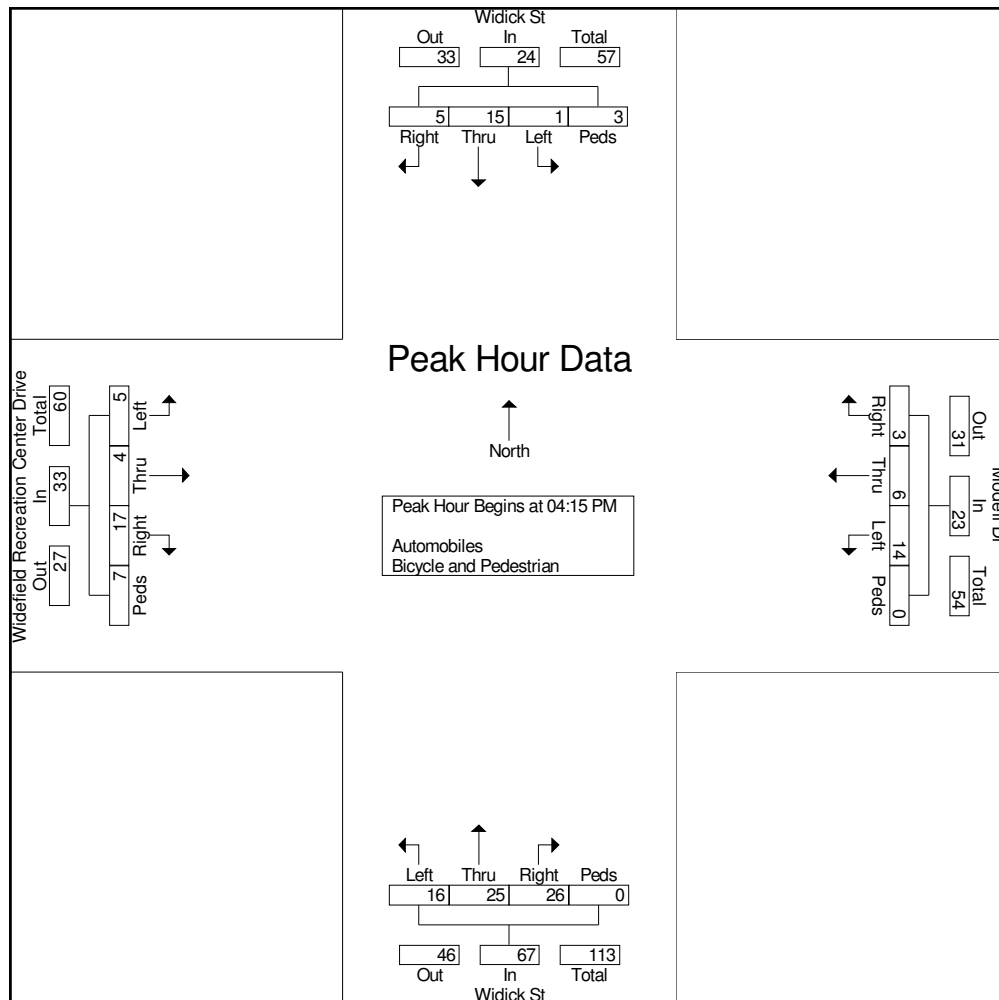


Ridgeview Data
Collection

El Paso County, CO
Widefield Recreation Center
PM Peak
Modell Dr and Widick St

File Name : Modell and Widick PM
Site Code : IPO 586
Start Date : 1/11/2022
Page No : 3

| | Widefield Recreation Center Drive Eastbound | | | | | Modell Dr Westbound | | | | | Widick St Northbound | | | | | Widick St Southbound | | | | | |
|--|---|------|-------|------|------------|---------------------|------|-------|------|------------|----------------------|------|-------|------|------------|----------------------|------|-------|------|------------|------------|
| Start Time | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Left | Thru | Right | Peds | App. Total | Int. Total |
| Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1 | | | | | | | | | | | | | | | | | | | | | |
| Peak Hour for Entire Intersection Begins at 04:15 PM | | | | | | | | | | | | | | | | | | | | | |
| 04:15 PM | 1 | 0 | 4 | 3 | 8 | 4 | 1 | 1 | 0 | 6 | 2 | 6 | 2 | 0 | 10 | 1 | 6 | 1 | 2 | 10 | 34 |
| 04:30 PM | 0 | 3 | 3 | 0 | 6 | 2 | 0 | 0 | 0 | 2 | 1 | 3 | 8 | 0 | 12 | 0 | 1 | 1 | 0 | 2 | 22 |
| 04:45 PM | 2 | 0 | 4 | 4 | 10 | 5 | 3 | 2 | 0 | 10 | 8 | 8 | 9 | 0 | 25 | 0 | 5 | 1 | 1 | 7 | 52 |
| 05:00 PM | 2 | 1 | 6 | 0 | 9 | 3 | 2 | 0 | 0 | 5 | 5 | 8 | 7 | 0 | 20 | 0 | 3 | 2 | 0 | 5 | 39 |
| Total Volume | 5 | 4 | 17 | 7 | 33 | 14 | 6 | 3 | 0 | 23 | 16 | 25 | 26 | 0 | 67 | 1 | 15 | 5 | 3 | 24 | 147 |
| % App. Total | 15.2 | 12.1 | 51.5 | 21.2 | | 60.9 | 26.1 | 13 | 0 | | 23.9 | 37.3 | 38.8 | 0 | | 4.2 | 62.5 | 20.8 | 12.5 | | |
| PHF | .625 | .333 | .708 | .438 | .825 | .700 | .500 | .375 | .000 | .575 | .500 | .781 | .722 | .000 | .670 | .250 | .625 | .625 | .375 | .600 | .707 |



APPENDIX B

Trip Generation Worksheets

Project Widefield Recreation Center
 Subject Trip Generation - Recreational Community Center
 Designed by TES Date January 25, 2022 Job No. 196341001
 Checked by _____ Date _____ Sheet No. _____ of _____

TRIP GENERATION MANUAL TECHNIQUES

ITE Trip Generation Manual 11th Edition, Average Rate Equations

Land Use Code - Recreational Community Center (495)

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

Gross Leasable Area = 63,196 Square Feet

X = 63.196

T = Average Vehicle Trip Ends

Peak Hour of Adjacent Street Traffic, One Hour Between 7 and 9 a.m. (400 Series Page 284)

Directional Distribution: 66% ent. 34% exit.
 (T) = 1.91 (X)
 (T) = 1.91 * (63.2)
 T = 121 Average Vehicle Trip Ends
 80 entering 41 exiting
 80 + 41 = 121

Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m. (400 Series Page 285)

Directional Distribution: 47% ent. 53% exit.
 (T) = 2.50 (X)
 (T) = 2.50 * (63.2)
 T = 158 Average Vehicle Trip Ends
 74 entering 84 exiting
 74 + 84 = 158

Weekday (400 Series Page 307)




Directional Distribution: 50% ent. 50% exit.
 Daily Weekday
 (T) = 28.82 (X)
 (T) = 28.82 * (63.2)
 T = 1822 Average Vehicle Trip Ends
 911 entering 911 exiting
 911 + 911 = 1822

APPENDIX C

Intersection Analysis Worksheets

Intersection

Int Delay, s/veh 5.7

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|---|------|---|------|------|---|
| Lane Configurations |  | |  | | |  |
| Traffic Vol, veh/h | 5 | 44 | 15 | 15 | 35 | 6 |
| Future Vol, veh/h | 5 | 44 | 15 | 15 | 35 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 70 | 70 | 70 | 70 | 70 | 70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 63 | 21 | 21 | 50 | 9 |




| Major/Minor | Minor1 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 141 | 32 | 0 |
| Stage 1 | 32 | - | - |
| Stage 2 | 109 | - | - |
| 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 | 852 | 1042 | - |
| Stage 1 | 991 | - | - |
| Stage 2 | 916 | - | - |
| Platoon blocked, % | | - | - |
| Mov Cap-1 Maneuver | 825 | 1042 | - |
| Mov Cap-2 Maneuver | 825 | - | - |
| Stage 1 | 991 | - | - |
| Stage 2 | 887 | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.8 | 0 | 6.3 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 1015 | 1567 |
| HCM Lane V/C Ratio | - | - | 0.069 | 0.032 |
| HCM Control Delay (s) | - | - | 8.8 | 7.4 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.2 | 0.1 |

Intersection

Int Delay, s/veh 5.8

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|---|------|---|------|------|---|
| Lane Configurations |  | |  | | |  |
| Traffic Vol, veh/h | 7 | 28 | 4 | 11 | 23 | 8 |
| Future Vol, veh/h | 7 | 28 | 4 | 11 | 23 | 8 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 9 | 35 | 5 | 14 | 29 | 10 |




| Major/Minor | Minor1 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 80 | 12 | 0 |
| Stage 1 | 12 | - | - |
| Stage 2 | 68 | - | - |
| 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 | 922 | 1069 | - |
| Stage 1 | 1011 | - | - |
| Stage 2 | 955 | - | - |
| Platoon blocked, % | | - | - |
| Mov Cap-1 Maneuver | 905 | 1069 | - |
| Mov Cap-2 Maneuver | 905 | - | - |
| Stage 1 | 1011 | - | - |
| Stage 2 | 938 | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 8.6 | 0 | 5.4 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 1032 | 1597 |
| HCM Lane V/C Ratio | - | - | 0.043 | 0.018 |
| HCM Control Delay (s) | - | - | 8.6 | 7.3 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.1 | 0.1 |

HCM 6th TWSC
1: Aspen Dr/Hackberry Dr & Access

2023 Total AM
02/11/2022




| Intersection | | | | | | |
|--------------------------|---|----------|---|--------|-------|---|
| Int Delay, s/veh | 6.2 | | | | | |
| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
| Lane Configurations |  | |  | | |  |
| Traffic Vol, veh/h | 11 | 60 | 15 | 27 | 67 | 6 |
| Future Vol, veh/h | 11 | 60 | 15 | 27 | 67 | 6 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 70 | 70 | 70 | 70 | 70 | 70 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 16 | 86 | 21 | 39 | 96 | 9 |
| Major/Minor | Minor1 | Major1 | | Major2 | | |
| Conflicting Flow All | 242 | 41 | 0 | 0 | 60 | 0 |
| Stage 1 | 41 | - | - | - | - | - |
| Stage 2 | 201 | - | - | - | - | - |
| 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 | 746 | 1030 | - | - | 1544 | - |
| Stage 1 | 981 | - | - | - | - | - |
| Stage 2 | 833 | - | - | - | - | - |
| Platoon blocked, % | | | - | - | | - |
| Mov Cap-1 Maneuver | 700 | 1030 | - | - | 1544 | - |
| Mov Cap-2 Maneuver | 700 | - | - | - | - | - |
| Stage 1 | 981 | - | - | - | - | - |
| Stage 2 | 781 | - | - | - | - | - |
| Approach | WB | NB | | SB | | |
| HCM Control Delay, s | 9.2 | 0 | | 6.9 | | |
| HCM LOS | A | | | | | |
| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | | SBL | SBT | |
| Capacity (veh/h) | - | - 960 | | 1544 | - | |
| HCM Lane V/C Ratio | - | - 0.106 | | 0.062 | - | |
| HCM Control Delay (s) | - | - 9.2 | | 7.5 | 0 | |
| HCM Lane LOS | - | - A | | A | A | |
| HCM 95th %tile Q(veh) | - | - 0.4 | | 0.2 | - | |

HCM 6th TWSC
1: Aspen Dr/Hackberry Dr & Access

2023 Total PM
02/11/2022

Intersection

Int Delay, s/veh 6.7

| Movement | WBL | WBR | NBT | NBR | SBL | SBT |
|--------------------------|---|------|---|------|------|---|
| Lane Configurations |  | |  | | |  |
| Traffic Vol, veh/h | 20 | 62 | 4 | 22 | 53 | 8 |
| Future Vol, veh/h | 20 | 62 | 4 | 22 | 53 | 8 |
| Conflicting Peds, #/hr | 0 | 0 | 0 | 0 | 0 | 0 |
| Sign Control | Stop | Stop | Free | Free | Free | Free |
| RT Channelized | - | None | - | None | - | None |
| Storage Length | 0 | - | - | - | - | - |
| Veh in Median Storage, # | 0 | - | 0 | - | - | 0 |
| Grade, % | 0 | - | 0 | - | - | 0 |
| Peak Hour Factor | 79 | 79 | 79 | 79 | 79 | 79 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 25 | 78 | 5 | 28 | 67 | 10 |

| Major/Minor | Minor1 | Major1 | Major2 |
|----------------------|--------|--------|--------|
| Conflicting Flow All | 163 | 19 | 0 |
| Stage 1 | 19 | - | - |
| Stage 2 | 144 | - | - |
| 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 | 828 | 1059 | - |
| Stage 1 | 1004 | - | - |
| Stage 2 | 883 | - | - |
| Platoon blocked, % | | - | - |
| Mov Cap-1 Maneuver | 792 | 1059 | - |
| Mov Cap-2 Maneuver | 792 | - | - |
| Stage 1 | 1004 | - | - |
| Stage 2 | 845 | - | - |

| Approach | WB | NB | SB |
|----------------------|-----|----|-----|
| HCM Control Delay, s | 9.1 | 0 | 6.4 |
| HCM LOS | A | | |

| Minor Lane/Major Mvmt | NBT | NBRWBLn1 | SBL | SBT |
|-----------------------|-----|----------|-------|-------|
| Capacity (veh/h) | - | - | 979 | 1579 |
| HCM Lane V/C Ratio | - | - | 0.106 | 0.042 |
| HCM Control Delay (s) | - | - | 9.1 | 7.4 |
| HCM Lane LOS | - | - | A | A |
| HCM 95th %tile Q(veh) | - | - | 0.4 | 0.1 |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6.3 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 0 | 7 | 4 | 18 | 30 | 1 | 32 | 8 | 11 | 1 | 20 | 5 |
| Future Vol, veh/h | 0 | 7 | 4 | 18 | 30 | 1 | 32 | 8 | 11 | 1 | 20 | 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 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 0 | 11 | 6 | 27 | 45 | 2 | 48 | 12 | 17 | 2 | 30 | 8 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 178 | 163 | 34 | 164 | 159 | 21 | 38 | 0 | 0 | 29 | 0 | 0 |
| Stage 1 | 38 | 38 | - | 117 | 117 | - | - | - | - | - | - | - |
| Stage 2 | 140 | 125 | - | 47 | 42 | - | - | - | - | - | - | - |
| 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 | 784 | 729 | 1039 | 801 | 733 | 1056 | 1572 | - | - | 1584 | - | - |
| Stage 1 | 977 | 863 | - | 888 | 799 | - | - | - | - | - | - | - |
| Stage 2 | 863 | 792 | - | 967 | 860 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 727 | 706 | 1039 | 768 | 710 | 1056 | 1572 | - | - | 1584 | - | - |
| Mov Cap-2 Maneuver | 727 | 706 | - | 768 | 710 | - | - | - | - | - | - | - |
| Stage 1 | 947 | 862 | - | 860 | 774 | - | - | - | - | - | - | - |
| Stage 2 | 786 | 767 | - | 949 | 859 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|-----|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 9.6 | | 10.4 | | 4.6 | | 0.3 | |
| HCM LOS | A | | B | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1572 | - | - | 799 | 735 | 1584 | - |
| HCM Lane V/C Ratio | 0.031 | - | - | 0.021 | 0.101 | 0.001 | - |
| HCM Control Delay (s) | 7.4 | 0 | - | 9.6 | 10.4 | 7.3 | 0 |
| HCM Lane LOS | A | A | - | A | B | A | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.1 | 0.3 | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 4.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 5 | 4 | 17 | 14 | 6 | 3 | 16 | 25 | 26 | 1 | 15 | 5 |
| Future Vol, veh/h | 5 | 4 | 17 | 14 | 6 | 3 | 16 | 25 | 26 | 1 | 15 | 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 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 7 | 6 | 24 | 20 | 8 | 4 | 23 | 35 | 37 | 1 | 21 | 7 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 133 | 145 | 25 | 142 | 130 | 54 | 28 | 0 | 0 | 72 | 0 | 0 |
| Stage 1 | 27 | 27 | - | 100 | 100 | - | - | - | - | - | - | - |
| Stage 2 | 106 | 118 | - | 42 | 30 | - | - | - | - | - | - | - |
| 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 | 839 | 746 | 1051 | 828 | 761 | 1013 | 1585 | - | - | 1528 | - | - |
| Stage 1 | 990 | 873 | - | 906 | 812 | - | - | - | - | - | - | - |
| Stage 2 | 900 | 798 | - | 972 | 870 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 818 | 734 | 1051 | 795 | 749 | 1013 | 1585 | - | - | 1528 | - | - |
| Mov Cap-2 Maneuver | 818 | 734 | - | 795 | 749 | - | - | - | - | - | - | - |
| Stage 1 | 975 | 872 | - | 892 | 800 | - | - | - | - | - | - | - |
| Stage 2 | 873 | 786 | - | 943 | 869 | - | - | - | - | - | - | - |

| Approach | EB | WB | NB | SB |
|----------------------|----|-----|-----|-----|
| HCM Control Delay, s | 9 | 9.7 | 1.7 | 0.4 |
| HCM LOS | A | A | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|------|-------|-----|
| Capacity (veh/h) | 1585 | - | - | 937 | 805 | 1528 | - |
| HCM Lane V/C Ratio | 0.014 | - | - | 0.039 | 0.04 | 0.001 | - |
| HCM Control Delay (s) | 7.3 | 0 | - | 9 | 9.7 | 7.4 | 0 |
| HCM Lane LOS | A | A | - | A | A | A | - |
| HCM 95th %tile Q(veh) | 0 | - | - | 0.1 | 0.1 | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 7.2 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↔ | | | ↔ | | | ↔ | | | ↔ | |
| Traffic Vol, veh/h | 2 | 13 | 14 | 18 | 42 | 1 | 52 | 8 | 11 | 1 | 20 | 9 |
| Future Vol, veh/h | 2 | 13 | 14 | 18 | 42 | 1 | 52 | 8 | 11 | 1 | 20 | 9 |
| 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 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 | 66 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 3 | 20 | 21 | 27 | 64 | 2 | 79 | 12 | 17 | 2 | 30 | 14 |

| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 253 | 228 | 37 | 241 | 227 | 21 | 44 | 0 | 0 | 29 | 0 | 0 |
| Stage 1 | 41 | 41 | - | 179 | 179 | - | - | - | - | - | - | - |
| Stage 2 | 212 | 187 | - | 62 | 48 | - | - | - | - | - | - | - |
| 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 | 700 | 671 | 1035 | 713 | 672 | 1056 | 1564 | - | - | 1584 | - | - |
| Stage 1 | 974 | 861 | - | 823 | 751 | - | - | - | - | - | - | - |
| Stage 2 | 790 | 745 | - | 949 | 855 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 620 | 636 | 1035 | 655 | 637 | 1056 | 1564 | - | - | 1584 | - | - |
| Mov Cap-2 Maneuver | 620 | 636 | - | 655 | 637 | - | - | - | - | - | - | - |
| Stage 1 | 924 | 860 | - | 781 | 713 | - | - | - | - | - | - | - |
| Stage 2 | 682 | 707 | - | 907 | 854 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|-----|--|------|--|-----|--|-----|--|
| HCM Control Delay, s | 9.9 | | 11.5 | | 5.4 | | 0.2 | |
| HCM LOS | A | | B | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1564 | - | - | 780 | 646 | 1584 | - |
| HCM Lane V/C Ratio | 0.05 | - | - | 0.056 | 0.143 | 0.001 | - |
| HCM Control Delay (s) | 7.4 | 0 | - | 9.9 | 11.5 | 7.3 | 0 |
| HCM Lane LOS | A | A | - | A | B | A | A |
| HCM 95th %tile Q(veh) | 0.2 | - | - | 0.2 | 0.5 | 0 | - |

| Intersection | | | | | | | | | | | | |
|--------------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Int Delay, s/veh | 6 | | | | | | | | | | | |
| Movement | EBL | EBT | EBR | WBL | WBT | WBR | NBL | NBT | NBR | SBL | SBT | SBR |
| Lane Configurations | | ↕ | | | ↕ | | | ↕ | | | ↕ | |
| Traffic Vol, veh/h | 9 | 17 | 38 | 14 | 17 | 3 | 35 | 25 | 26 | 1 | 15 | 9 |
| Future Vol, veh/h | 9 | 17 | 38 | 14 | 17 | 3 | 35 | 25 | 26 | 1 | 15 | 9 |
| 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 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 | 71 |
| Heavy Vehicles, % | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| Mvmt Flow | 13 | 24 | 54 | 20 | 24 | 4 | 49 | 35 | 37 | 1 | 21 | 13 |

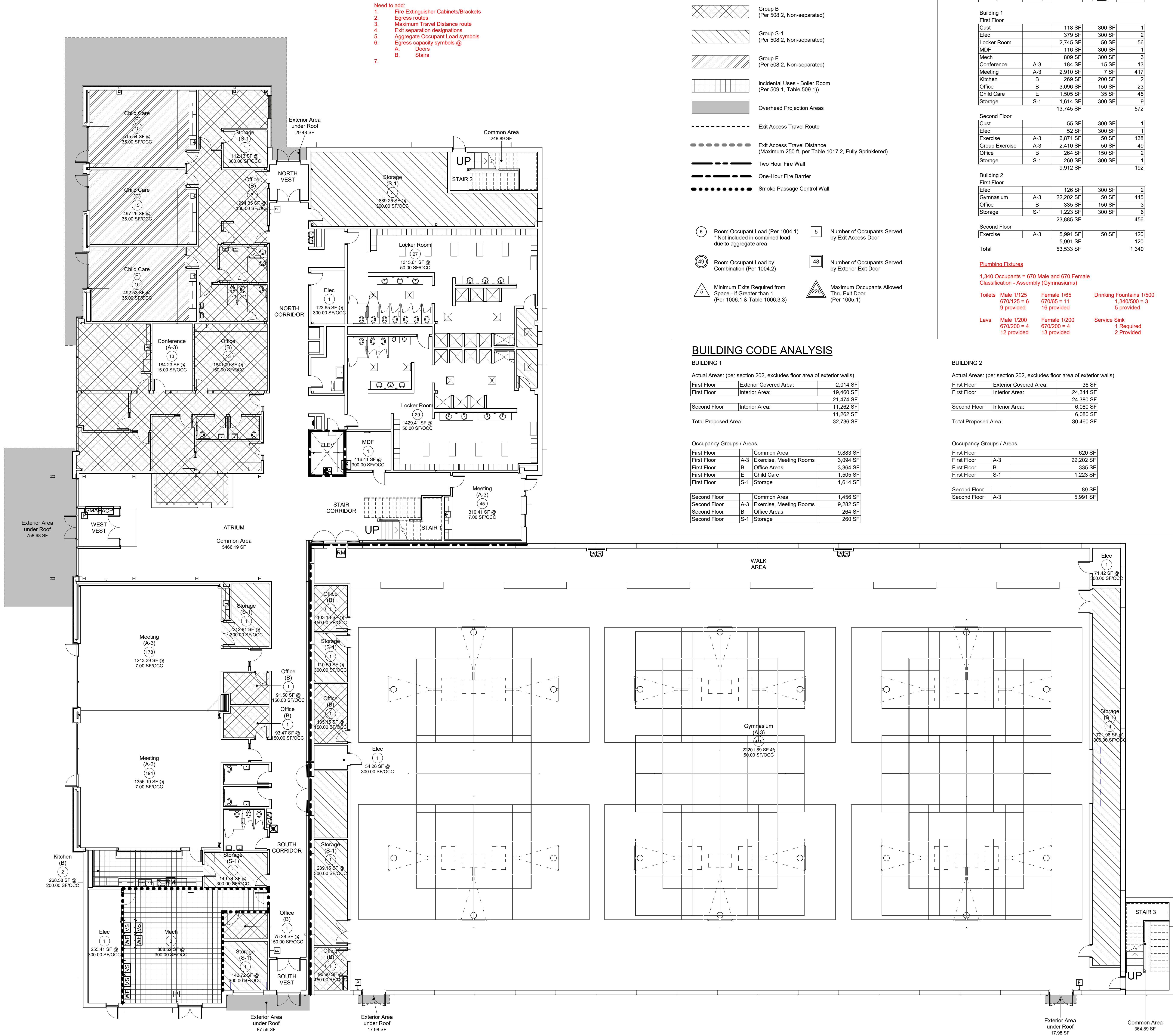
| Major/Minor | Minor2 | | Minor1 | | Major1 | | Major2 | | | | | |
|----------------------|--------|-------|--------|-------|--------|-------|--------|---|---|-------|---|---|
| Conflicting Flow All | 196 | 200 | 28 | 221 | 188 | 54 | 34 | 0 | 0 | 72 | 0 | 0 |
| Stage 1 | 30 | 30 | - | 152 | 152 | - | - | - | - | - | - | - |
| Stage 2 | 166 | 170 | - | 69 | 36 | - | - | - | - | - | - | - |
| 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 | 763 | 696 | 1047 | 735 | 707 | 1013 | 1578 | - | - | 1528 | - | - |
| Stage 1 | 987 | 870 | - | 850 | 772 | - | - | - | - | - | - | - |
| Stage 2 | 836 | 758 | - | 941 | 865 | - | - | - | - | - | - | - |
| Platoon blocked, % | | | | | | | | - | - | - | - | - |
| Mov Cap-1 Maneuver | 721 | 673 | 1047 | 662 | 684 | 1013 | 1578 | - | - | 1528 | - | - |
| Mov Cap-2 Maneuver | 721 | 673 | - | 662 | 684 | - | - | - | - | - | - | - |
| Stage 1 | 955 | 869 | - | 823 | 747 | - | - | - | - | - | - | - |
| Stage 2 | 780 | 734 | - | 867 | 864 | - | - | - | - | - | - | - |

| Approach | EB | | WB | | NB | | SB | |
|----------------------|-----|--|------|--|----|--|-----|--|
| HCM Control Delay, s | 9.7 | | 10.6 | | 3 | | 0.3 | |
| HCM LOS | A | | B | | | | | |

| Minor Lane/Major Mvmt | NBL | NBT | NBR | EBLn1WBLn1 | SBL | SBT | SBR |
|-----------------------|-------|-----|-----|------------|-------|-------|-----|
| Capacity (veh/h) | 1578 | - | - | 864 | 694 | 1528 | - |
| HCM Lane V/C Ratio | 0.031 | - | - | 0.104 | 0.069 | 0.001 | - |
| HCM Control Delay (s) | 7.4 | 0 | - | 9.7 | 10.6 | 7.4 | 0 |
| HCM Lane LOS | A | A | - | A | B | A | A |
| HCM 95th %tile Q(veh) | 0.1 | - | - | 0.3 | 0.2 | 0 | - |

APPENDIX D

Conceptual Site Plan



GENERAL BUILDING INFORMATION

CODE BASIS: 2021 INTERNATIONAL BUILDING CODE (IBC)
2021 INTERNATIONAL FIRE CODE (IFC)
2018 INTERNATIONAL PLUMBING CODE (IPC)
2021 INTERNATIONAL MECHANICAL CODE (IMC)
2021 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
2020 NATIONAL ELECTRICAL CODE (NEC)

CH 3 Occupancy Types: (Non-Separated)
A-3 Exercise, Meeting Rooms
B Office areas
E Child Care
S-1 Storage

CH 5 Building Height and Areas
Table 504.3 Allowable Height
A 75 ft Actual Height: 34 ft
Table 504.4 Allowable Stories
A-3 3 Actual Stories: 2
506.2 Allowable Area determination
506.2.2 Non-Separated Mixed Occupancy, single story buildings.
Table 506.2 Allowable Area Factor (A_f per story):
A 38,000 sf (One Story)
28,500 sf (Multi-story)
Equation 5-3:
A_a = [A_f + (N_s x f)]
A_a = [28,500 + (9,500 x 0.50)] = 33,250 sf
A_a: Allowable Area (sf) per floor
A_f: Tabular area factor - Sprinklered building 28,500 sf
N_s: Tabular area - Non-sprinklered building 9,500 sf
f: Area Factor increase due to frontage (per Table 506.3.3)
50-75% open for 30 ft or greater 0.50

NOTE: Total Area of 63,196 sf exceeds allowable area. A fire wall shall be included in order to create separate buildings: Building 1 and Building 2. See Building Code Analysis for each Building.

Section 508 - Mixed Use and Occupancy
• Each portion of a building shall be individually classified in accordance with Section 302.1.
• 508.3 Nonseparated Occupancies. The requirements of the Code shall apply to each portion of the building based on the occupancy classification of that space.
• The most restrictive provisions of Chapter 9 that apply to the nonseparated occupancies shall apply to the total area.
• Section 508.3 - Nonseparated occupancies. Allowable area and height shall be based on the most restrictive occupancy group: A-3.
• 508.3.3 No separation is required between nonseparated occupancies.

CH 6 Types of Construction
Construction Type: Type II-B, Fully Sprinklered
An automatic sprinkler system shall be installed in accordance with IBC Section 903, the International Fire Code and local codes.
Table 601 Fire resistance rating requirements for building elements (hours)
Type II-B Primary Structural Frame 0
Bearing Walls Non-bearing walls and partitions (interior) 0
Floor Construction and secondary members 0
Roof Construction and secondary members 0

CH 8 Interior Finishes
Table 803.13 Interior Wall and Ceiling Finish Requirements by Occupancy
Exit Stairways Corridors Rooms
Group A-3 B B C
Group B, E B B C
Group S C C C

CH 9 Fire Protection Systems
Section 906 - Portable fire extinguishers
• Portable fire extinguishers shall be installed
Section 912 - Fire Department Connections
• Fire Department Connections shall be installed in accordance with the NFPA

CH 10 Means of Egress
Occupant Loads and required Egress (Table 1004.5 and Table 1006.3.3)
• See Building Code Analysis for each Building
Section 1005 - Egress Width factor per occupant
• Stairways: 0.20 inches
• Other components: 0.15 inches
Section 1006 - Exit Access
• Common Path of Travel
A, E 75'
B, S 100'
• Maximum occupant load for one exit or exit access:
A, B, E 49
S 29
Section 1007 - Exit and exit access doorway configuration
• 1007.1.1, Exception 2: Exit access doorways shall be placed a distance apart equal to not less than 1/3 the length of the maximum overall diagonal of the space served.
Table 1017.2 Exit Access Travel Distance:
A, E, S 250 feet
B 300 feet
Table 1020.2 Corridor Fire Resistance Rating in Sprinklered Buildings
A, B, E, S 0 hours required.
Section 1021
• All spaces within each story shall have access to the minimum number of approved independent exits as specified in Table 1021.1. The required number of exits from any story shall be maintained until arrival at grade.
CH 16 Structural Design
Table 1604.5 - Structural Design Risk
• Category III

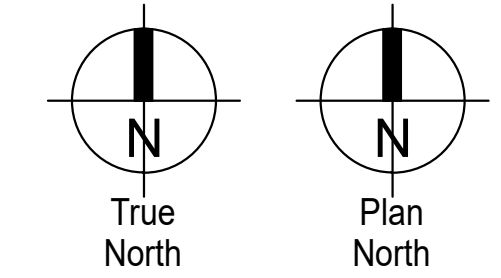
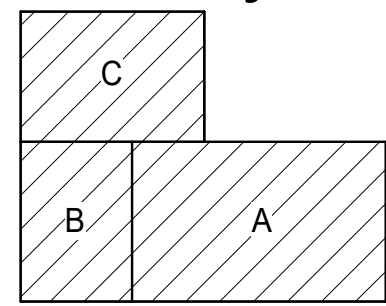
Widefield Parks and Recreation
Facility Expansion
705 Aspen Drive, Colorado Springs, CO 80911
Widefield School District 3
1820 Main Street Colorado Springs, Colorado 80911



Bid Set
Not for Construction

Drawn: _____ Author
Checked: _____ Checker
Issued: 28 January 2022
Revised: _____

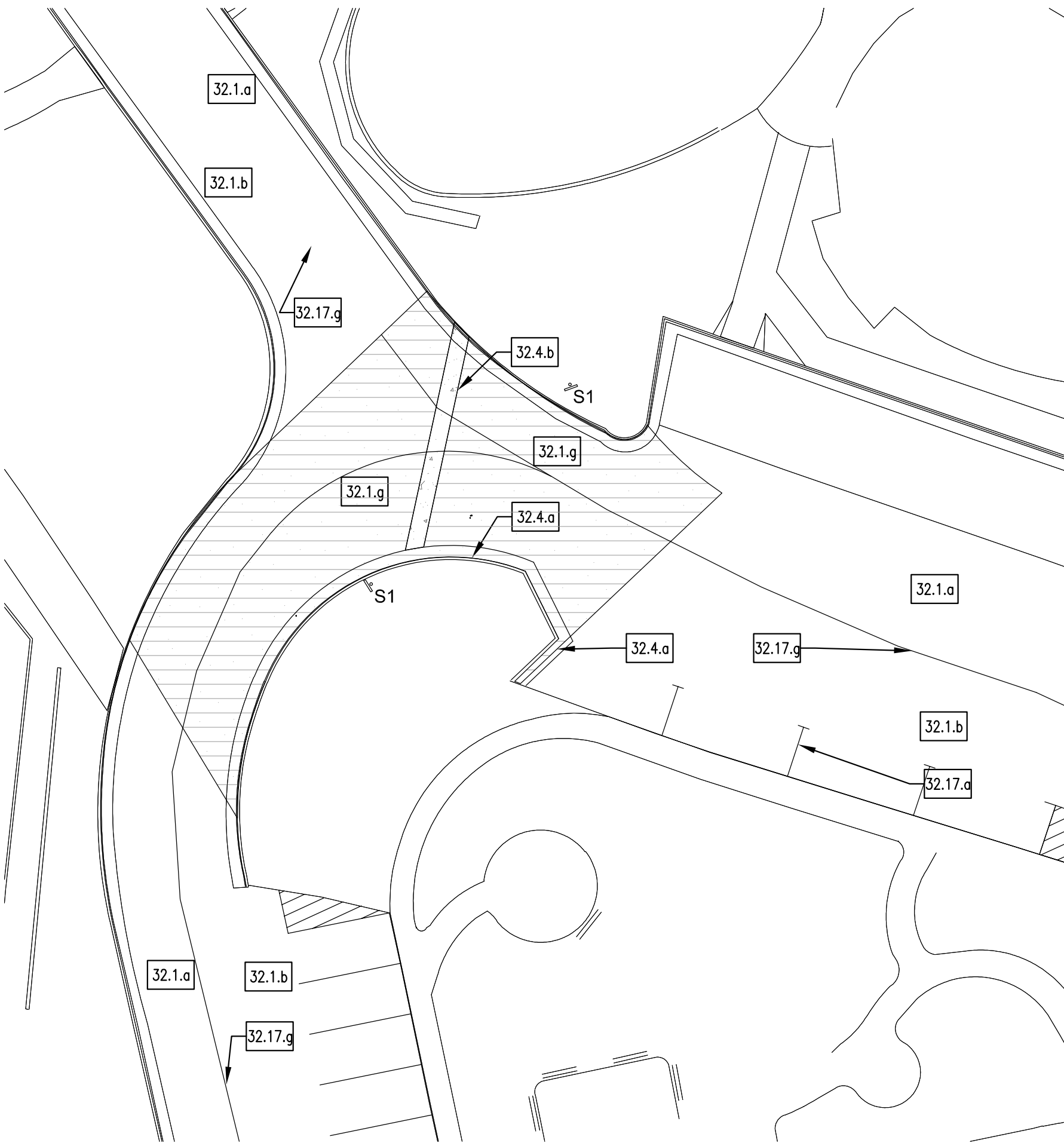
Area Key Plan



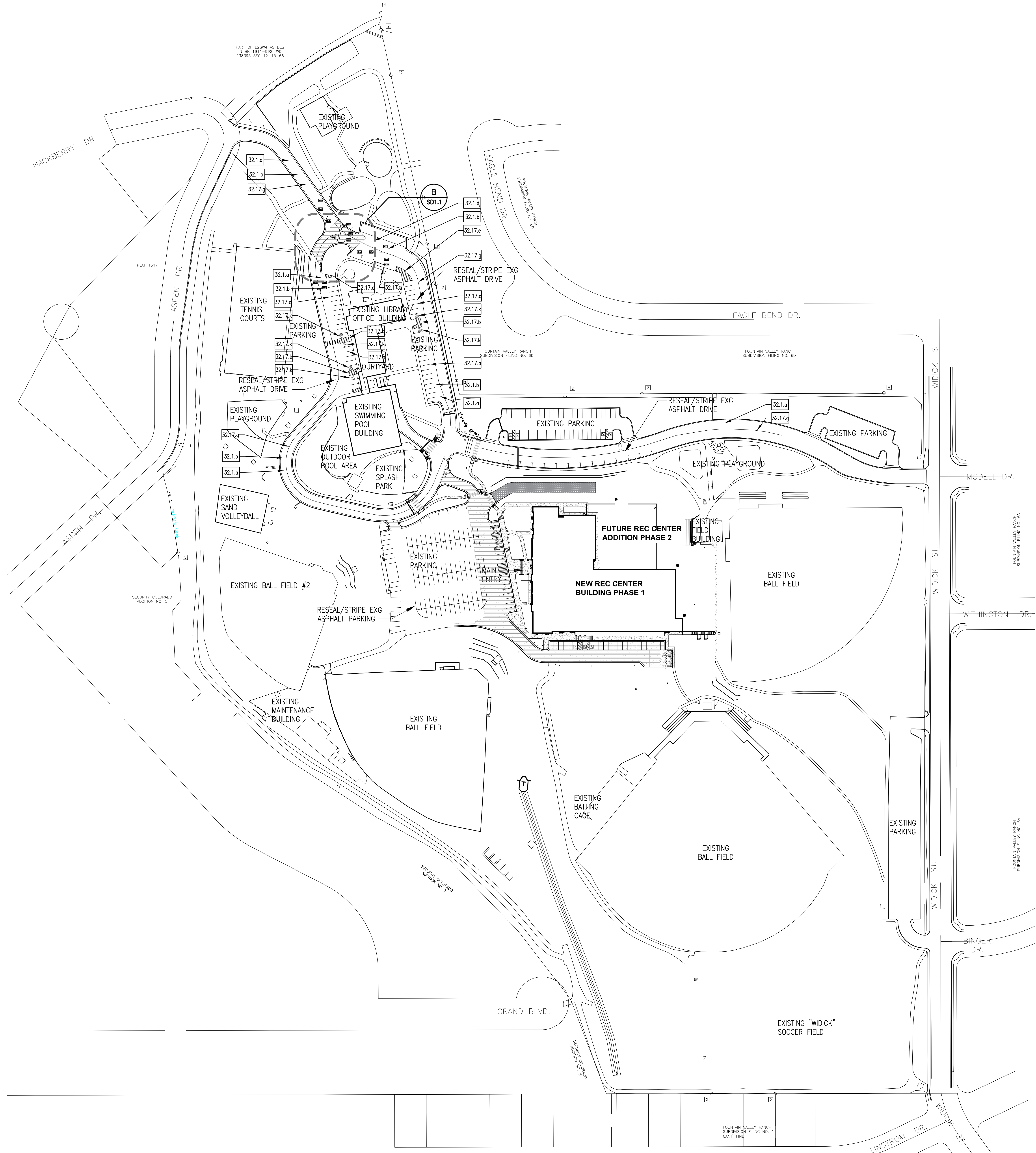
CODE PLAN

TS2.1
Project No. 21-004
The LKA Partners Incorporated

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B ENLARGED SITE PLAN – NORTH DRIVE REVISIONS
1" = 20'-0"



A OVERALL SITE PLAN – BASE BID
1" = 80'-0"

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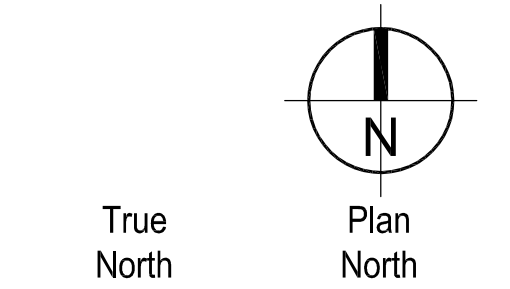
Widefield Parks and Recreation Facility Expansion
705 Aspen Drive, Colorado Springs, CO 80911
Widefield School District 3
1820 Main Street
Colorado Springs, CO. 80911



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Area Key Plan

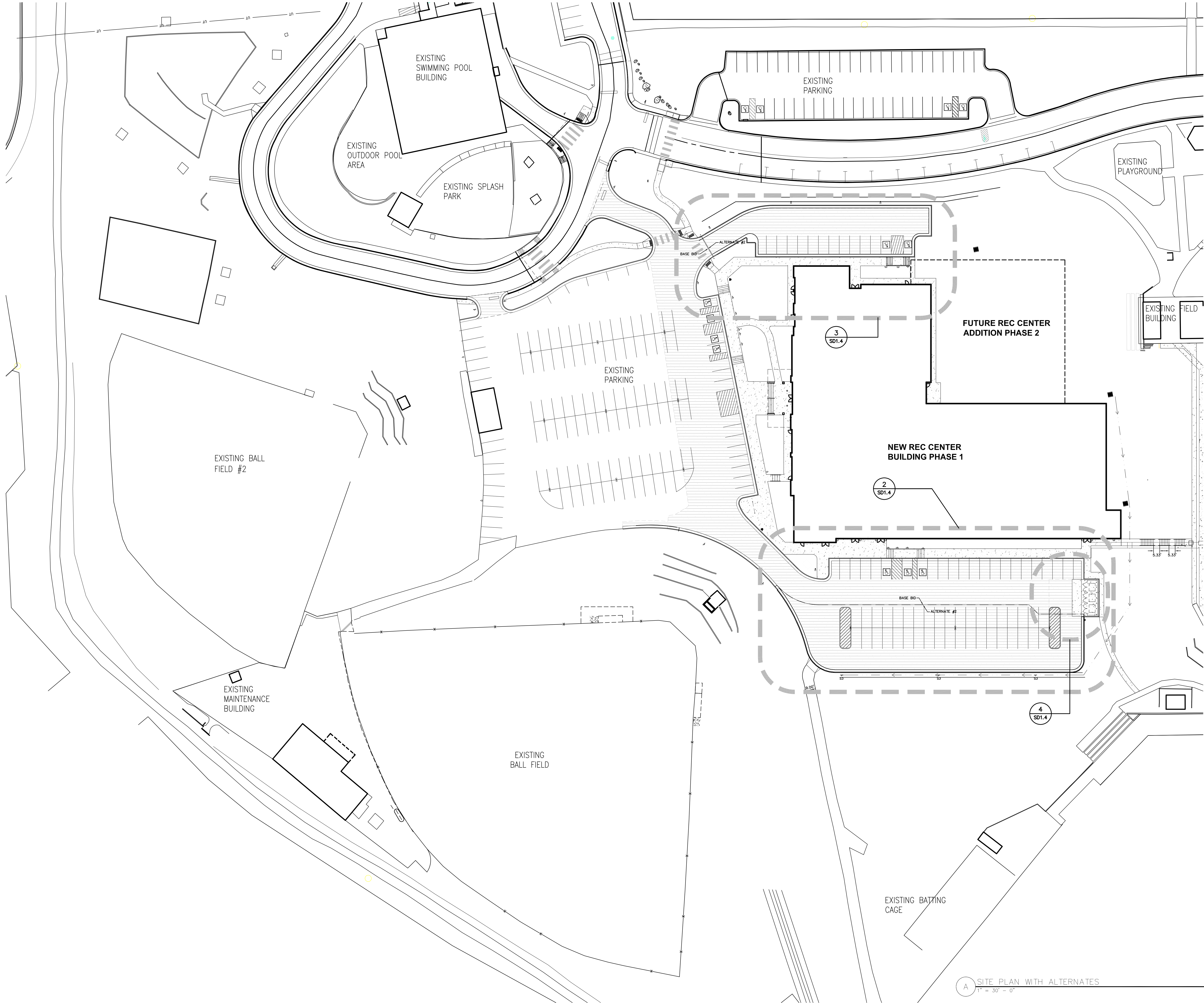


Base Site Plan

SD1.1

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Area Key Plan