PLANNING & ZONING COMMISSION REGULAR MEETING

450 S. Parish, Johnstown, CO
Wednesday, November 01, 2023 at 7:00 PM

MISSION STATEMENT: Enhancing the quality of life of our residents, businesses, and visitors through community focused leadership.

AGENDA

CALL TO ORDER

ROLL CALL

APPROVAL OF AGENDA

APPROVAL OF MINUTES

1. 8-23-23 Meeting Minutes

PUBLIC COMMENTS - *Regarding items and issues not included as a Public Hearing on this Agenda (limited to 3 minutes each)*

NEW BUSINESS

2. SUB23-0003 Settler's Crossing
3. SUB23-0008 Blue Sky Prairie
4. ZON23-0001 Massey Square
5. ZON23-0002 Vista Commons

DEPARTMENTAL REPORT

COMMISSIONER REPORTS AND COMMENTS

ADJOURN

AMERICANS WITH DISABILITIES ACT NOTICE

In accordance with the Americans with Disabilities Act and other applicable laws, persons who need accommodation in order to attend or participate in this meeting should contact Town Hall at 970-587-4664 no later than 48 hours before the meeting in order to request such assistance.

De conformidad con la Ley de Discapacitados Estadounidenses y otras leyes vigentes, los individuos que necesitan adaptaciones funcionales para asistir o participar en esta reunión deberán comunicarse con la Municipalidad marcando el 970 587- 4664 a lo más tardar 48 horas antes de dicha reunión para solicitarla.

PLANNING & ZONING COMMISSION
REGULAR MEETING

7:00 PM, Wednesday, August 23, 2023

SUMMARY MINUTES

The meeting was called to order by Chair Grentz at 7:00 P.M. Roll call attendance was taken. Present were Commissioners Flores, Hatfield, Hayward, Jeanneret, Urban, and Chairman Grentz. Campell was absent and excused.

Agenda was approved 6/0.

Minutes of the regular meetings held on July 26, 2023. Flores abstained rest of the members approved.

No public comment.

The Public Hearing for **Final Development Plan for Southridge Subdivision** was opened. Tyler Smith, Planner II Planning & Development, presented a presentation and overview of the proposed 72-acre subdivision in The Ridge PUD. Commissioners inquired about the size of the streets in the plat, which Meyer clarified. Commissioners also questioned the detention pond which Smith clarified that the detention ponds. Smith noted that this would be a question for the engineers. Commissioners also questioned overall site accessibility. Meyer clarified these questions.

Morgan Kidder represented the Applicant and was available to answer any questions. Commission had questions involving pricing, long term relationships with Johnstown, and the material of the fields in the dentation pond. 6683 E CR 16, resident brought up concerns in relation to the fencing that South Ridge is to offer for the safety of their cattle. Commission asked questions of the fencing plan which was to be supplied with the Final Development Plan. Micheal asked about the home buyer programs that were going to be offered. Kidder clarified that he was not a part of the sales team but ensured that they had plans.

M: Hatfield / 2nd: Flores
Vote: 6/0 to Recommend Approval with conditions

The Public Hearing for **Preliminary Plat & Development Plan for Revere North was** opened. Tyler Smith, Planner II, Planning & Development, presented a presentation and synopsis of the proposed 309.4-acre subdivision for townhomes in the Great Plains Village ODP located North of Veteran's Parkway and East of I-25. Commissioners inquired about parking requirements and garage styles present on elevations, along with detention and open spaces. Meyer clarified these questions.

James Hayes, VP with Forester, the Applicant was available to answer questions. The Commissioners had questions for the Applicant as for the retail opportunities that may occur in this development along with the size of the plat and traffic concerns. Kevin Lovelace, the applicants engineer answered

questions regarding the drainage plan. Meyer responded to the traffic concern due to neighboring developments. Wendy Chase, 8445 E CR 13 concerns with weeds fire hazard, traffic hazards, along with the concern for trespassers and protection of her own property.

Mario Herrera, concerns about weeds and the fire hazard that this brought on, the traffic that is not able to meet the volume that Johnstown supplies, along with concerns with irrigation around his property for his use. Herrera also brought concerns with buffers and privacy that were brought along with the Development. The applicant answered questions involving weeds and shared irrigation use with Carrera's property.

Sandra Stoner, 4998 County Road location of Grassland Rd from Hyles driveway and property, traffic volume concerns, and overall speeding concerns with the presence of where these homes are located. Along with the concerns with the property values.

Jonah Heil, 4998 CR 50, concerns about the drainage points, with the impact of the properties that were there before the development due to flooding issues that have occurred.

Debroa Garcia, 4786 CR 50, concerns with the ROW extension to widen sections and who is responsible to supplying the land and the trees on the property. Meyer clarified these points.

Kevin Lovelace along with Jeff Mark, who represented the applicant supplied information on the Traffic concerns and processes to address concerns from the Commission and public.

Discussion occurred among Commission about the development before vote.

M: Grentz / 2nd: Flores
Vote: Planning and Zoning Commission recommends approval 4/2

Kim Meyer
Town Staff in attendance: Kim Meyer, Lilly Cory, Tyler Smith, Tony LeFevere

Kim Meyer noted the plans that were referenced during the meeting to further inform council.

Commissioners had no reports but asked an array of procedural, conduct, and general process questions. Meyer indicated there is some training intended for the commission and Staff will work on making that available to the full commission. Meeting was adjourned.

Respectfully Submitted
Lilly Cory, Planner I

Accepted by Chair:

_____

Planning & Zoning Commission
Staff Analysis Report

ITEM:	**Public Hearing and Consideration of Settler's Crossing Preliminary/Final Subdivision Plat**
PROJECT:	SUB23-0003
PARCEL NO:	**106102100021**
DESCRPTION:	Commercial Subdivision of approximately 13.7 acres, in Mountain View West PD (2017)
LOCATION:	South of Settler's Way & East of Parish Ave
DEVELOPER:	Parish, LLC
STAFF:	Lilly Cory, Planner I
HEARING DATE:	November 1, 2023

ATTACHMENTS:

1. Vicinity Map
2. Final Plat
3. Traffic Impact Study
4. Mountain View West PUD (2017)

EXECUTIVE SUMMARY:

The Developer, Parish, LLC, with Land One Engineering is requesting approval of the Final Subdivision Plat within the Mountain View West PD. The subdivision will consist of 11 lots, dedicated right-of-way (ROW), and commercial signage. It is anticipated that this will act as neighborhood commercial with access to the surrounding residential community.

ZONING: PD- Mountain View West PUD (2017)

ADJACENT ZONING & LAND USE:

North: Mountain View West PUD - Residential
East: Mountain View West PUD – Residential
South: Johnstown Farm PD – Residential
West: Johnstown Town Hall & Johnstown Farms - Residential

PROPERTY HISTORY
The subject property was annexed in 2013 as a part of the Parish LLC annexation (Ordinance 2014-133). Zoning was done concurrently and (PUD B) was monumented by ordinance 2014-134 and updated in 2017. Most of this PD has already been developed for residential use as Mountain View West Townhomes.

SUBMITTAL AND REFERRALS
This project submittal included the proposed final subdivision plat, as well as required engineering plans and reports for the site. The project was referred to and reviewed by:

+ Weld County
+ IMEG (Town Engineer)
+ Little Thompson Water District
+ Front Range Fire District
+ Helton & Williamsen (Water Engineer)
+ NOCO Water Conservation District
+ TOJ Public Works & Utilities
+ FHU (Town Traffic Engineer)

PROJECT DESCRIPITON & ANALYSIS
The proposed subdivision would create 11 total lots for commercial businesses. The project is located East of Parish Ave, North of Centennial Dr or WCR 46.5, South of Settler's Way with one main access to the lots through Meadowlark Dr.

ROW will be landscaped and maintained by Parish LLC, as the WSSA will monument the total amount of water required. Other landscaping is to be maintained by the tenants as lots are developed.

At this time there are no public improvements that have been proposed or otherwise stated in the Development Agreement at this time.

The staff has no outstanding concerns with this subdivision and believes that it will promote the Town's housing diversity and local economy. There are no concerns of incompatibility with surrounding Town Developments & Zoning.

PUBLIC NOTICE
Notice for the Planning and Zoning Meeting and Public Hearing was published in the Johnstown Breeze on Thursday October 5, 2023. This notice provided the date, time, and location of the hearing along with a description of the project. Notices were mailed out on Thursday September 28, 2023, to all landowners in an 800ft radius from the property. Notification was sent out once again due to previously cancelled meeting for both the Johnstown Breeze and property owners on October 19th, 2023.

RECOMMENDED FINDINGS AND MOTIONS

Recommended Findings

It is recommended that the Planning and Zoning Commission send a recommendation for approval to Town Council for the Preliminary/Final Subdivision Plat based upon the following findings:

1.) The proposed subdivision is consistent with the town comprehensive plan and is in compliance with the Town's codes, regulations, and requirements along with the Mountain View West PD.

Recommended Motion to Approve

I move to approve Settler's Crossing Preliminary/Final Subdivision Plat, based on the application received, information provided, and findings noted at this hearing.

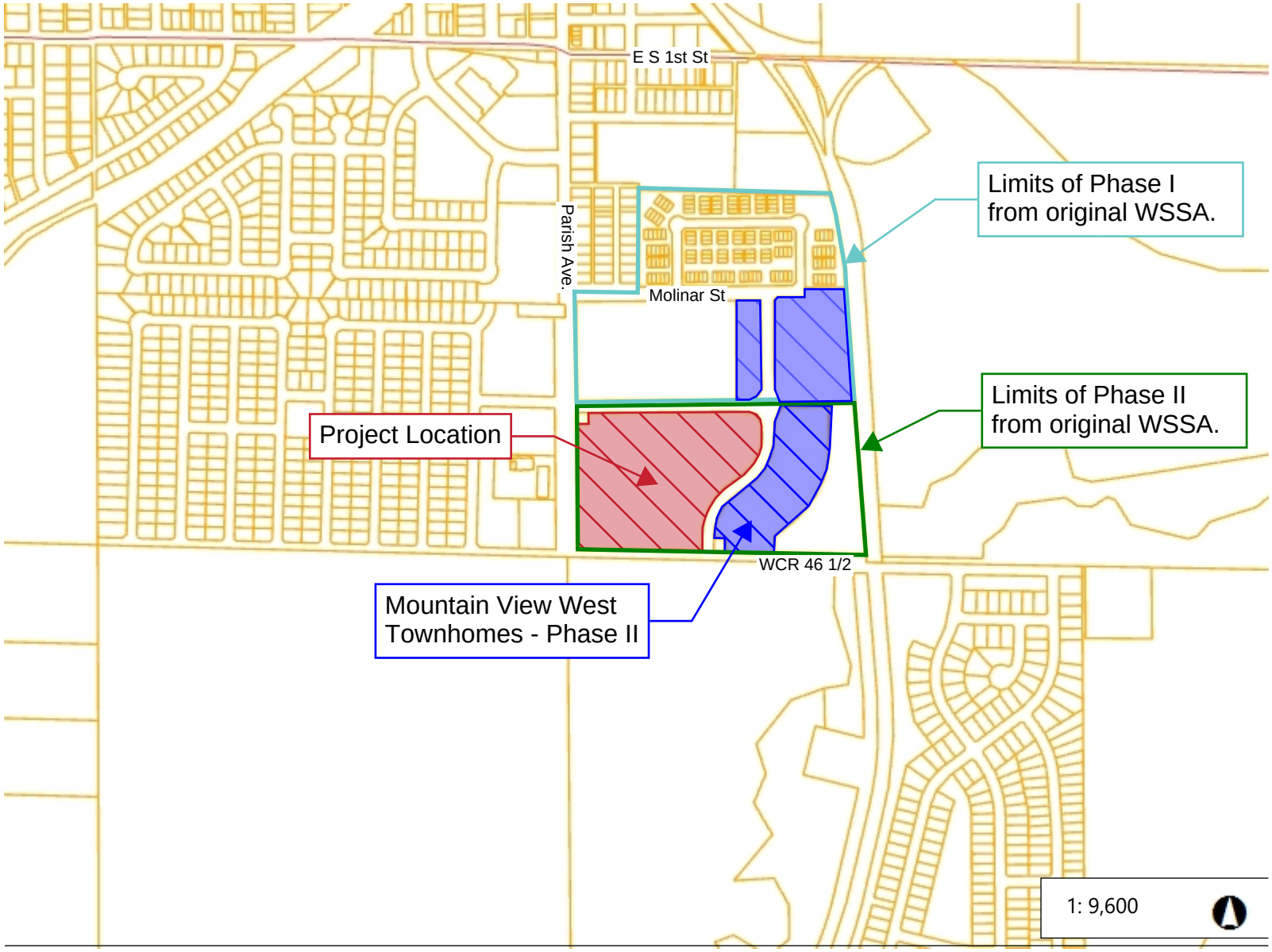
Alternative Motions:

Motion to Recommend Approval with Conditions

I move to approve Settler's Crossing Preliminary/Final Subdivision Plat with conditions, based on the application received, information provided, and findings noted at this hearing. The conditions are listed as such:

Motion to Recommend Denial

I move that the Commission recommend to Town Council Denial of the Settler's Crossing Preliminary/Final Subdivision Plat, based on the following findings.



WGS_1984_Web_Mercator_Auxiliary_Sphere

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

22-016 Settler's Crossing	Exhibit A - Vicinity Map	LANDONE engineering 970-632-2311

SETTLER'S CROSSING SUBDIVISION

Being a Replat of Block 3 of Mountain View West Subdivision Replat Amendment No. 1
Situate in the Northwest Quarter of Section 9, Township 4 North, Range 67 West of the 6th P.M.,
Town of Johnstown, County of Weld, State of Colorado

CERTIFICATE OF DEDICATION

Know all persons by these presents that Parish, LLC, a Colorado limited liability company, being the owners of the following described property:

Block 3, Mountain View West Subdivision Replat, Amendment No. 1 recorded July 22, 2021 at Reception No. 4738024 within the records of the Weld County Clerk and Recorder, situate in the Northwest Quarter (NW1/4) of Section Nine (9), Township Four North (T.4N.), Range Sixty-seven West (R.67W.) of the Sixth Principal Meridian (6th P.M.), Town of Johnstown, County of Weld, State of Colorado.

Containing an area of 13.64 Acres (±594,169 sq.ft.), more or less, together with and subject to all easements and rights-of-way existing and/or of public record, subject to approval by the Town Council of the Town of Johnstown, County of Weld, State of Colorado.

Do hereby subdivide the same into the lots, tracts, rights-of-way and easements as shown on this map to be known as: **SETTLER'S CROSSING SUBDIVISION** and do hereby designate and dedicate all rights-of-way and easements to the Town of Johnstown, unless noted otherwise.

OWNER'S APPROVAL

Know All Men By These Presents, that we, Parish, LLC, being the sole owner(s) of the land described hereon, and are all of the mortgagees and holders of liens upon the property, and each and all hereby consent to this Plat and join the conveyance and dedication of all streets, roads, alleys, easements, public ways and places shown hereon.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this _____ day of _____, 20____.

Owner: Parish, LLC, a Colorado limited liability company

_____

By: David S. Gilbert as Managing Member/President/CEO

A notary public or other officer completing this certificate verifies only the indentity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California)
)ss
County of _____)

On _____ before me, _____.

personally appeared _____, who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____
Signature of Notary Public

Place Notary Seal Above

TOWN COUNCIL

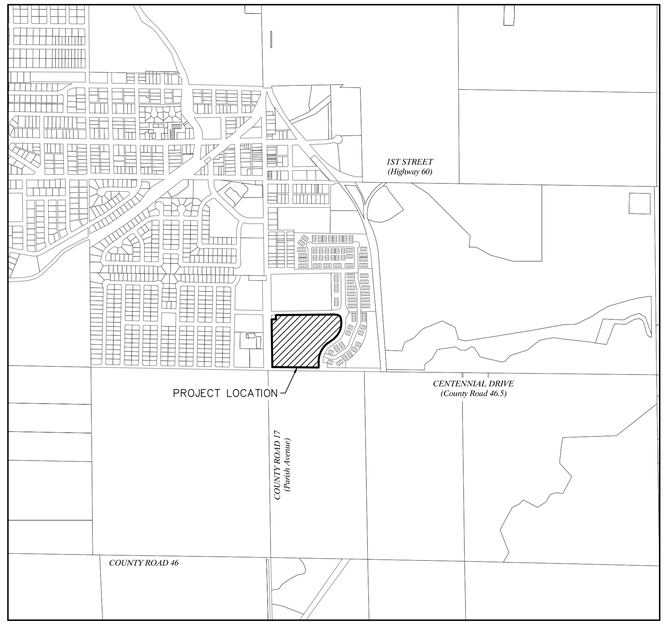
This Plat, to be known as **SETTLER'S CROSSING SUBDIVISION**, is approved and accepted by

the Town of Johnstown, by Resolution Number _____, passed and adopted at a regular meeting of the Town Council of the Town of Johnstown, Colorado.

Held on the _____ day of _____, 20_____.

By: _____
Mayor

Attest: _____
Town Clerk
(Seal)



VICINITY MAP
SCALE: 1"=1000'

VICINITY MAP LEGEND

GIS PARCEL LINE
SUBJECT PROPERTY

LAND USE SUMMARY - MOUNTAIN VIEW WEST SUBDIVISION FOURTH REPLAT

PORTION	AREA (± Sq.Ft.)	AREA (Acres)	OWNERSHIP	MAINTENANCE	% OF TOTAL AREA
LOT 1	61,119	1.40	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	10.3%
LOT 2	41,478	0.95	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	7.0%
LOT 3	38,254	0.88	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	6.4%
LOT 4	39,761	0.91	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	6.7%
LOT 5	86,737	1.99	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	14.6%
LOT 6	35,260	0.81	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	5.9%
LOT 7	39,443	0.91	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	6.6%
LOT 8	39,216	0.90	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	6.6%
LOT 9	86,887	1.99	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	14.6%
LOT 10	36,130	0.83	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	6.1%
LOT 11	29,379	0.67	PRIVATE OWNERSHIP	PRIVATE OWNERSHIP	4.9%
RIGHT-OF-WAY (PUBLIC)	60,505	1.39	PUBLIC	TOWN OF JOHNSTOWN	10.2%
OVERALL	594,169	13.64	-	-	100.0%

TITLE COMMITMENT NOTE

This survey does not constitute a title search by Lat40, Inc. to determine ownership or easements of record. For all information regarding easements, rights-of-way and title of records, Lat40, Inc. relied upon ALTA Commitment Order Number FCOF25202507, having an effective date of January 3, 2023 at 5:00 P.M.. as prepared by Old Republic National Title Insurance Company, to delineate the aforesaid information.

SURVEYOR'S NOTES:

1. Basis of Bearings and Lineal Units Statement: Assuming the South line of the Northwest Quarter of Section 9, T.4N., R.67W., monumented by a #6 rebar with a 2.5" aluminum cap stamped LS 23513 at the West end and a #6 rebar with a 2.5" aluminum cap stamped LS 37908 at the East end, as bearing South 89°24'42" East being a Grid Bearing of the Colorado State Plane Coordinate System, North Zone, North American Datum 1983 (2011), a distance of 2711.77' feet with all other bearings contained herein relative thereto.

The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

2. According to Colorado law, you must commence any legal action based upon any defect in this survey within three years after you discover such defect. In no event, may any action based upon any defect in this survey be commenced more than ten years after the date of the certificate shown hereon. (13-80-105 C.R.S.)

PLAT NOTES:

1. MAINTENANCE NOTE: The Town of Johnstown requires that maintenance access be provided to all storm drainage facilities to assure continuous operational capability of the system. The property owner shall be responsible for the maintenance of all drainage facilities including inlets, pipes, culverts, channels, ditches, hydraulic structures, and detention basins located on their land unless modified by the subdividers agreement. should the owner fail to adequately maintain said facilities, the town shall have the right to enter said land for the purposes of operations and maintenance. all such maintenance costs will be assessed to the property owner.

2. GENERAL OVERLOT DRAINAGE NOTE: Lots and tracts as platted herein may be required to convey surface drainage from other lots and tracts in this filing, in accordance with Town requirements and the approved drainage plan for this filing. No alterations to the grading of the lots and tracts may be made that would disrupt the approved drainage plan, without prior approval from the Town. All natural and improved drainage ways or drainage systems in said lots and tracts shall be maintained by the lot or tract owner in accordance with Town criteria. Should the owner fail to adequately maintain said facilities, the Town shall have the right to enter said land for the purposes of operations and maintenance of the drainage ways or drainage systems. All such maintenance costs will be assessed to the property owner.

3. MAINTENANCE AND ACCESS: The site will be able to be accessed via the Public Right-of-Way that is being dedicated throughout the property. All private outlots are hereby dedicated as blanket Utility, Drainage, Access and Emergency Access Easements.

4. Ten (10) foot Utility Easements are dedicated along all public rights-of-way.

5. The clear vision zone of a corner lot shall be free from shrubs, ground covers, berms, fences, signs, structures, parked vehicles or other materials or items greater than thirty-six (36) inches in height from the street level, in accordance with current AASHTO sight lines.

6. It is mutually understood and agreed that the dedicated roadways shown on this plat will not be maintained by the Town until and unless the streets are constructed in accordance with the standards and specifications of the Town of Johnstown in effect at the date construction plans are approved by the Town Engineer, and provided that construction of said roadway(s) is started within two (2) years of the construction plan approval. The owner(s), developer(s) and/or subdivider(s), their successors and/or assigns in interest, shall be responsible for street maintenance until such time as the Town accepts the responsibility for maintenance as stated above.

7. The owners of this subdivision, their successors and/or assigns in interest, the adjacent property owner(s), homeowners' association, metropolitan districts, or other entity other than the Town is responsible for maintenance and upkeep of any and all private drives, parking areas and easements (cross-access easements, drainage easements, etc.)

8. The owners of this subdivision, their successors and/or assigns in interest, the adjacent property owner(s), homeowners' association, metropolitan districts, or entity other than the Town is responsible for maintenance and upkeep of perimeter fencing or walls, landscaping and landscaped areas and sidewalks between the property line and any paved roadways. The owners of this subdivision, their successors and/or assigns in interest or an entity other than the Town, agree to the responsibility of maintaining all other open space areas associated with this development.

9. Public safety access, whether for emergency or non-emergency purposes, is granted over and across all access ways for police, fire and emergency vehicles. If any or all of the access ways in this subdivision are private, the homeowners' association or metropolitan district will be responsible for ensuring that such access ways are passable at all times, for police, fire and emergency vehicles.

10. The property is in Flood Zone X, Area of Minimal Flood Hazard, per FEMA Flood Map No. 08123C1684E having an effective date of January 20, 2016.

SURVEYOR'S STATEMENT

I, Jason S. Allee, a duly Registered Professional Land Surveyor in the State of Colorado, do hereby certify that this Plat truly and correctly represents the results of a field survey completed on March 21, 2023, by me or under my direct supervisions and that all monuments existing as shown hereon; that the mathematical closure errors are less than 1:50,000 (second order); and that said plat has been prepared in full compliance with all applicable laws of the State of Colorado dealing with monuments, subdivisions or surveying of land an all applicable provisions of the Town of Johnstown.

I attest the above on this _____ day of _____, 20_____.

Sheet 1 of 2

PRELIMINARY

Jason S. Allee-On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

PROJECT TEAM

OWNER/DEVELOPER
Parish LLC
8714 State Highway 60
Johnstown, Colorado 805349
David S. Gilbert as
Managing Member/President/CEO

ENGINEER
LandOne Engineering LLC
361 71st Avenue
Greeley, Colorado 80634
Phone: 970-443-9547
Jeremy Goetsch, PE

SURVEYOR
Lat40°, Inc. Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, Colorado 80634
Phone: 970-515-5294
Jason Allee, PLS

SHEET SIZE: 24X36

LAT40°, Inc.
Professional Land Surveyors
6250 W. 10th Street, Unit 2
Greeley, CO 80634
O: 970-515-5294

REVISIONS		
DESCRIPTION:		DATE:
ADDRESS TOWN COMMENTS	SR	6/21/2023
ADDRESS COMMENTS		8/14/2023
REMOVED OUTLOT A, UPDATED LOTS 6-11		9/28/2023

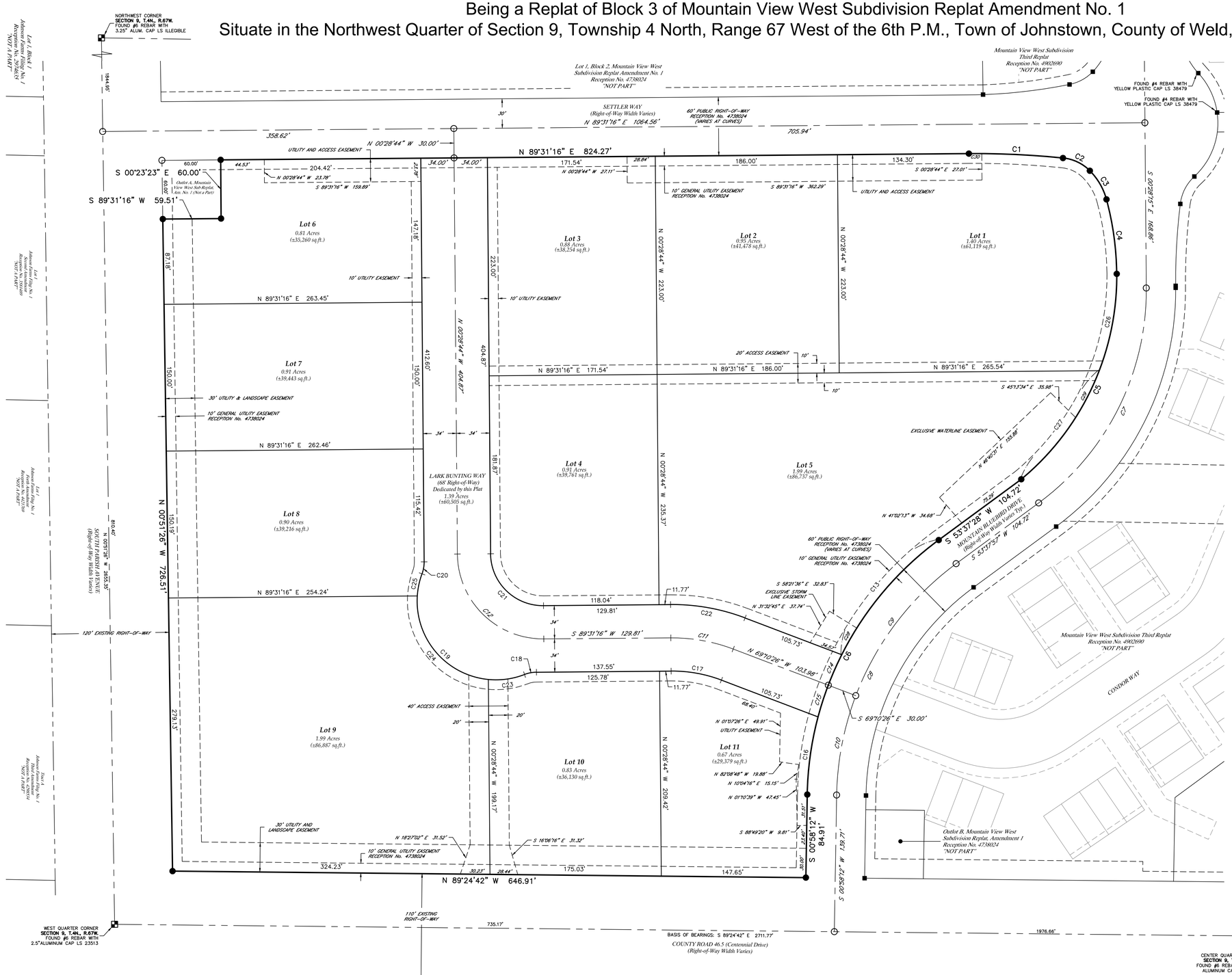
SETTLER'S CROSSING SUBDIVISION
MOUNTAIN VIEW WEST SUBDIVISION - JOHNSTOWN, CO
WELD COUNTY - SECTION 9, T4N, R67W.
CLIENT: PARISH LLC
1540 MAIN STREET #218, WINDSOR, CO 80550

DRAWN BY: SLR	SCALE: AS NOTED	DATE: 4/13/2023
CHECKED BY: JSA	PROJECT #: 2023086.1	SHEET: 1 OF 2

SETTLER'S CROSSING SUBDIVISION

Being a Replat of Block 3 of Mountain View West Subdivision Replat Amendment No. 1

Situate in the Northwest Quarter of Section 9, Township 4 North, Range 67 West of the 6th P.M., Town of Johnstown, County of Weld, State of Colorado



CURVE TABLE					
CURVE	ARC LENGTH	RADIUS	DELTA ANGLE	CHORD BEARING	CHORD LENGTH
C1	96.26'	870.50'	6°20'09"	S 87°18'39" E	96.21'
C2	30.97'	45.50'	39°00'17"	S 64°38'14" E	30.38'
C3	34.23'	65.50'	29°56'27"	S 30°09'40" E	33.84'
C4	77.03'	300.00'	14°42'43"	S 07°50'05" E	76.82'
C5	239.26'	269.90'	50°47'27"	S 24°55'00" W	231.50'
C6	303.27'	330.00'	52°39'16"	S 27°17'50" W	292.71'
C7	255.00'	270.03'	54°06'24"	S 26°34'40" W	245.63'
C8	275.70'	300.00'	52°39'16"	S 27°18'19" W	266.10'
C9	171.74'	300.00'	32°47'57"	S 37°13'59" W	169.40'
C10	103.96'	300.00'	19°51'19"	S 10°54'21" W	103.44'
C11	65.07'	175.00'	21°18'17"	N 79°49'35" W	64.70'
C12	137.44'	87.50'	90°00'00"	N 45°28'44" W	123.74'
C13	154.85'	330.00'	26°53'06"	S 40°10'56" W	153.43'
C14	34.06'	330.00'	5°54'49"	S 23°46'58" W	34.05'
C15	34.06'	330.00'	5°54'49"	S 17°52'09" W	34.05'
C16	80.30'	330.00'	13°56'32"	S 07°56'28" W	80.10'
C17	52.43'	141.00'	21°18'17"	N 79°49'35" W	52.13'
C18	12.48'	34.50'	20°43'58"	S 79°09'17" W	12.42'
C19	184.71'	80.50'	131°27'56"	S 45°28'44" E	146.77'
C20	12.48'	34.50'	20°43'58"	N 09°53'15" E	12.42'
C21	84.04'	53.50'	90°00'00"	S 45°28'44" E	75.66'
C22	77.71'	209.00'	21°18'17"	N 79°49'35" W	77.27'
C23	37.65'	80.50'	26°47'59"	S 82°11'18" W	37.31'
C24	123.88'	80.50'	88°10'11"	N 40°19'37" W	112.01'
C25	23.18'	80.50'	16°29'46"	N 12°00'22" E	23.10'
C26	101.21'	269.90'	21°29'06"	S 10°15'50" W	100.62'
C27	138.05'	269.90'	29°18'21"	S 35°39'34" W	136.55'
C28	31.29'	330.00'	5°25'58"	S 29°27'22" W	31.28'
C29	53.62'	269.90'	11°22'59"	S 26°41'53" W	53.53'
C30	13.16'	870.50'	0°51'57"	N 89°57'16" E	13.16'

LEGEND

- SURVEYED BOUNDARY LINE
- INCLUSIVE LOT LINE
- EASEMENT LINE
- SECTION LINE
- PUBLIC RIGHT-OF-WAY
- CENTERLINE
- ADJACENT PARCEL LINE
- FOUND ALIQUOT CORNER AS DESCRIBED
- FOUND #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40 LS 38479 UNLESS OTHERWISE DESCRIBED
- SET 24" OF #4 REBAR WITH A PINK PLASTIC CAP STAMPED LAT40 LS 38479
- CALCULATED POSITION

NOTE:

Configuration of lots may necessitate the need for shared accesses and drives to meet fire code.

N

0 50 100 150

SCALE - 1"=50'

SHEET SIZE: 24X36

Sheet 2 of 2

PRELIMINARY

Jason S. Allee–On behalf of Lat40°, Inc.
Colorado Licensed Professional
Land Surveyor No. 38479

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DRAWN BY: SLR	SCALE: AS NOTED	DATE: 4/13/2023
CHECKED BY: JSA	PROJECT #: 2023086.1	SHEET: 2 OF 2

TOWN OF JOHNSTOWN
REPORT ACCEPTANCE
REVIEWED AND ACCEPTED: Jenny L. Grote June 2, 2023
For FHU, as Town Traffic Engineer Date

Traffic Impact Study

To: **David Gilbert, Parish, LLC**

From: **Eli Farney, PE, PTOE**

Date: **May 1, 2023**

Mountain View Commercial Development

Johnstown, Colorado

Prepared By:

J·R ENGINEERING

Eli Farney, PE, PTOE
efarney@jrengineering.com
JR Engineering
7200 South Alton Way, Suite C400
Centennial, CO 80112

Table of Contents

List of Figures

List of Tables

List of Appendices

Executive Summary

JR Engineering (JR) has completed a review of the traffic impacts resulting from the proposed Mountain View Commercial Development (Project) in Johnstown, Colorado (Town).

The objectives of this Traffic Impact Study (TIS, Study) are:

- Estimate site-generated traffic and route trips onto adjacent streets
- Analyze 2024 (Opening Day) and 2045 (Future Year) traffic operations
- Make recommendations for improvements to accommodate future traffic volumes

The methodology, content, and findings of this TIS are consistent with the following documents:

- **Weld County Engineering and Construction Criteria** – *Chapter 8.1 – Traffic Impact Studies*

Key Findings of this TIS

- Levels of Service
  - All movements operate at LOS C or better in 2022.
  - Most movements are expected to operate at LOS D or better in 2024 with both background traffic and total traffic.
  - In 2045, most movements are expected to operate at LOS D or better with total traffic. A few movements are expected to fail at the Parish Avenue intersections.
- Queue Lengths
  - Queue lengths are mostly anticipated to be satisfactory in 2045. Queuing at Parish & Settler for the NBT and SBT movement may block access to driveways. Queuing for the SBL movement at this intersection may exceed the existing storage length.
- Improvements
  - The Parish & Settler intersection may become signalized in the future.
  - WCR 46.5 may be widened in the future.
  - Additional turn lanes along WCR 46.5 may be needed to improve traffic operations.

Introduction

JR has completed a review of the existing and forecasted traffic operations in the vicinity of the Mountain View Commercial Development. A vicinity map is included in **Figure 1**.

Figure 1: Vicinity Map

Land Uses

The development is anticipated to contain the following land uses:

- Shopping Plaza (40-150k) – ITE 821
  - 110,000 square feet
  - No supermarket

Study Intersections

JR analyzed four intersections external to the Project site. These intersections are listed below and shown in **Figure 2**.

Study intersections:

1. Parish Avenue & Molinar Street
2. Parish Avenue & Settler Way
3. Parish Avenue & WCR 46.5/Centennial Drive
4. WCR 46.5 & Mountain Bluebird Drive

Figure 2: Study Intersections and Site Plan

Lane Geometry and Intersection Control

Assumptions

For the purposes of this Study, JR assumed that existing lane geometry would remain for the future scenarios, with the following exceptions:

- The intersection of WCR 46.5 & Mountain Bluebird Dr is currently a T-intersection, but was modeled with a south leg in the future scenarios.
- Additional turn lanes were modeled along WCR 46.5 in 2045.

Future Widening of WCR 46.5

WCR 46.5 to the south of the Project site may be widened in the future. This would be a Town project. In this Study, it was assumed that additional turn lanes along WCR 46.5 would be provided by 2045.

Signalization of Parish & Settler

JR conducted a signal warrant analysis determining that signalization may be warranted at the Parish & Settler intersection by 2045. For the purposes of this Study, it is assumed that this intersection will become signalized by 2045.

Traffic Volumes and Distribution

Existing Traffic Volumes

Existing traffic volumes were obtained on Thursday, October 6, 2022 by All Traffic Data Services for each of the Study intersections. Existing traffic volumes are included in **Figure 4**. Traffic counts are included in **Appendix A**.

Background Traffic

JR estimated background traffic volumes by applying a 3% growth rate to the existing traffic volumes to account for future regional development. This growth rate is based on data from the NFRMPO regional travel demand model.

Background traffic also includes estimated site-generated traffic from the Mountain View Residential Development (analyzed by JR on October 28, 2022), as well as a planned 143-unit multi-family development to the north of Molinar Street.

Future background traffic volumes are shown in **Figure 6** (2024) and **Figure 8** (2045).

Site-Generated Traffic Volumes

Site-generated traffic volumes were estimated using ITE Trip Generation Manual, 11th Edition. The development is expected to produce the following trips:

- Average Daily Trips: 7,427
- AM Peak Entering Site: 118
- AM Peak Exiting Site: 72
- PM Peak Entering Site: 280
- PM Peak Exiting Site: 291

Site-generated traffic volumes are shown in **Figure 5**. A trip generation report is included in **Appendix B**.

Distribution of Site-Generated Traffic

Site-generated traffic was routed onto adjacent streets according to the distribution in **Figure 3**. The distribution is based on existing traffic volumes.

Figure 3: Site-Generated Traffic Distribution

Total Traffic

Total traffic is the sum of background and site-generated traffic. JR forecasted total traffic volumes at the Study intersections in the years 2024 (Opening Day) and 2045 (Future Year). Total traffic volumes are shown in **Figure 7** (2024) and **Figure 9** (2045).

Existing (2022) Traffic Volumes

Existing traffic volumes at the study intersections are included in **Figure 4**. Existing lane geometry is shown.

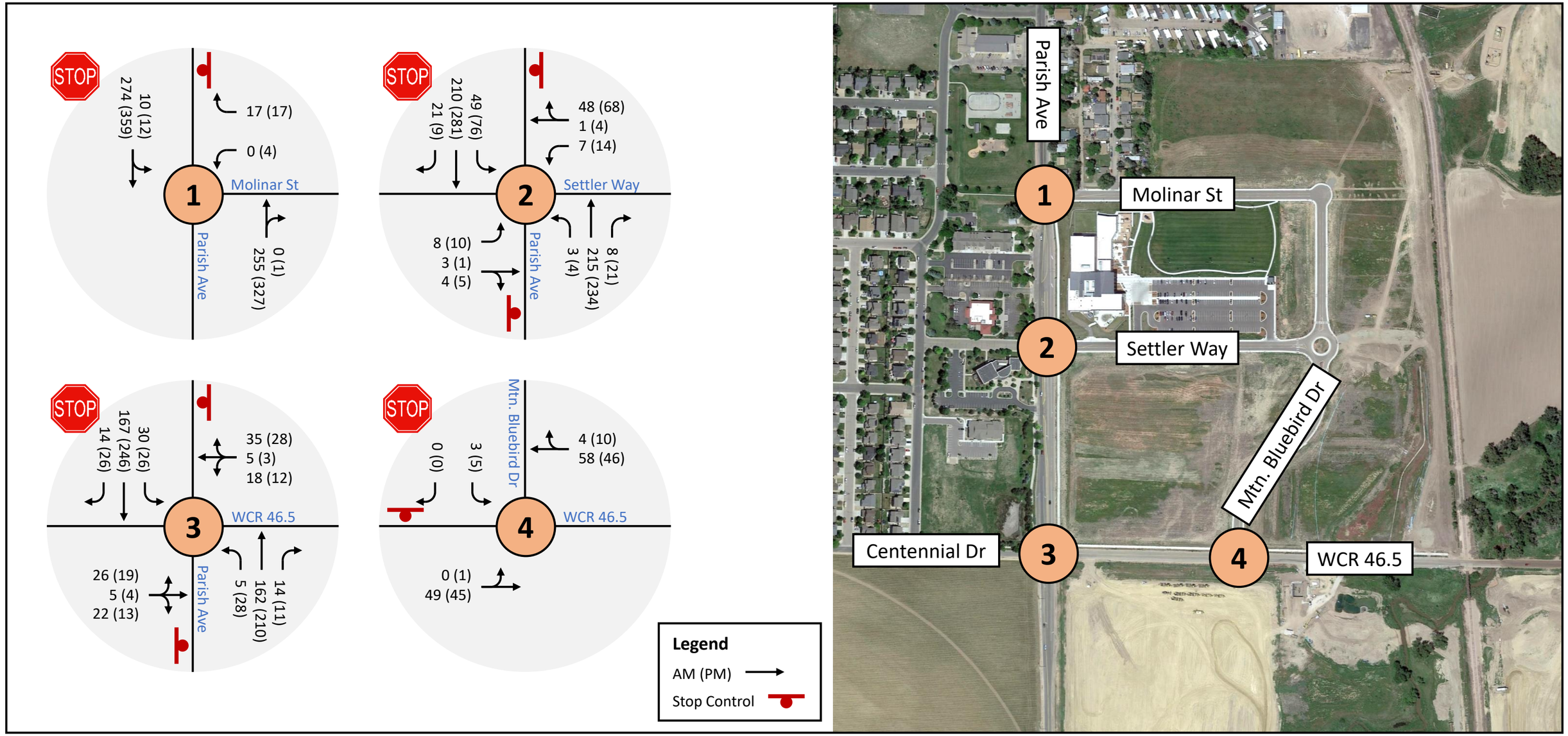


Figure 4: Existing (2022) Traffic Volumes

Site-Generated Traffic Volumes

Site-generated traffic volumes at the study intersections are included in **Figure 5**.

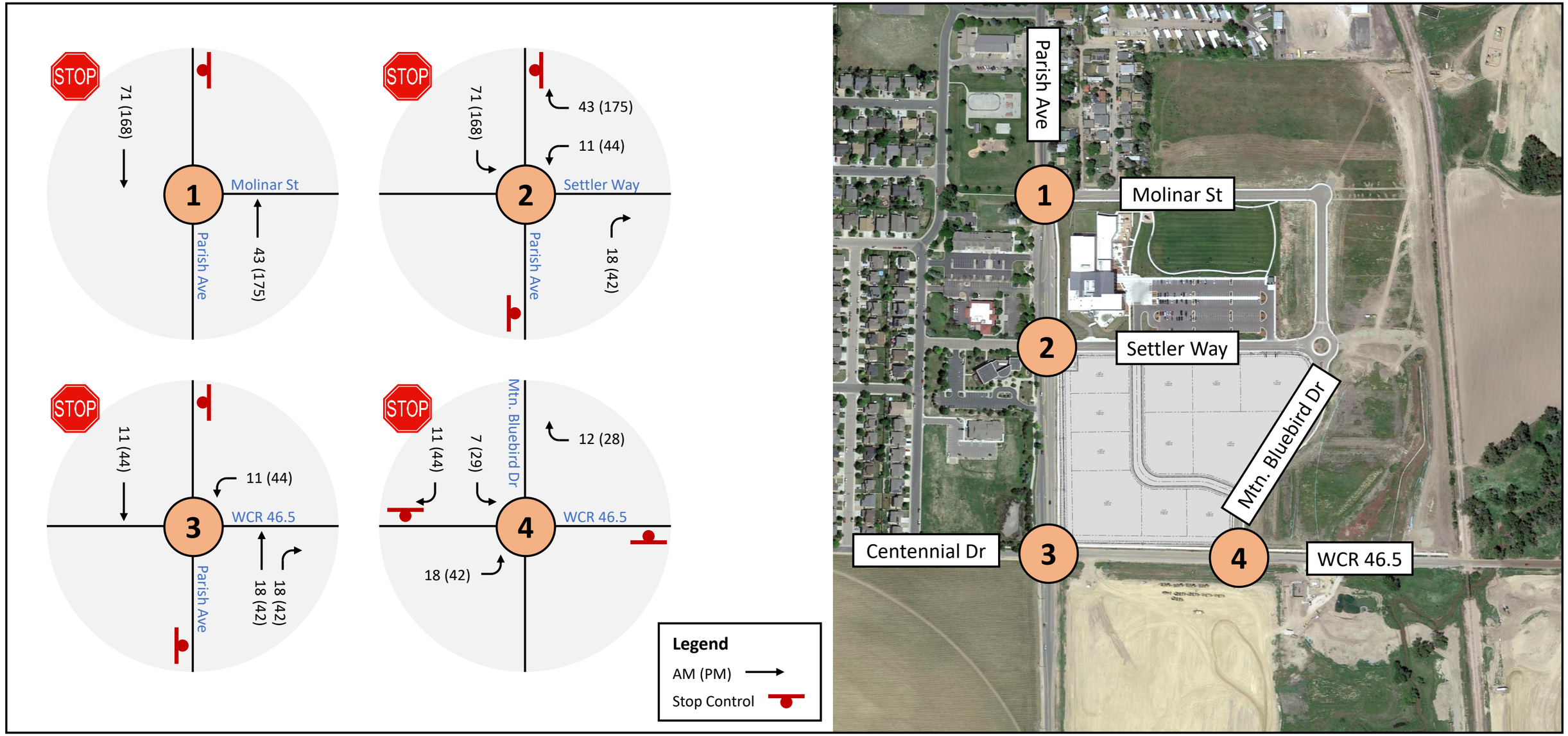


Figure 5: Site-Generated Traffic Volumes

Opening Day (2024) Background Traffic Volumes

2024 background traffic volumes at the study intersections are included in **Figure 6**. Lane geometry is shown.

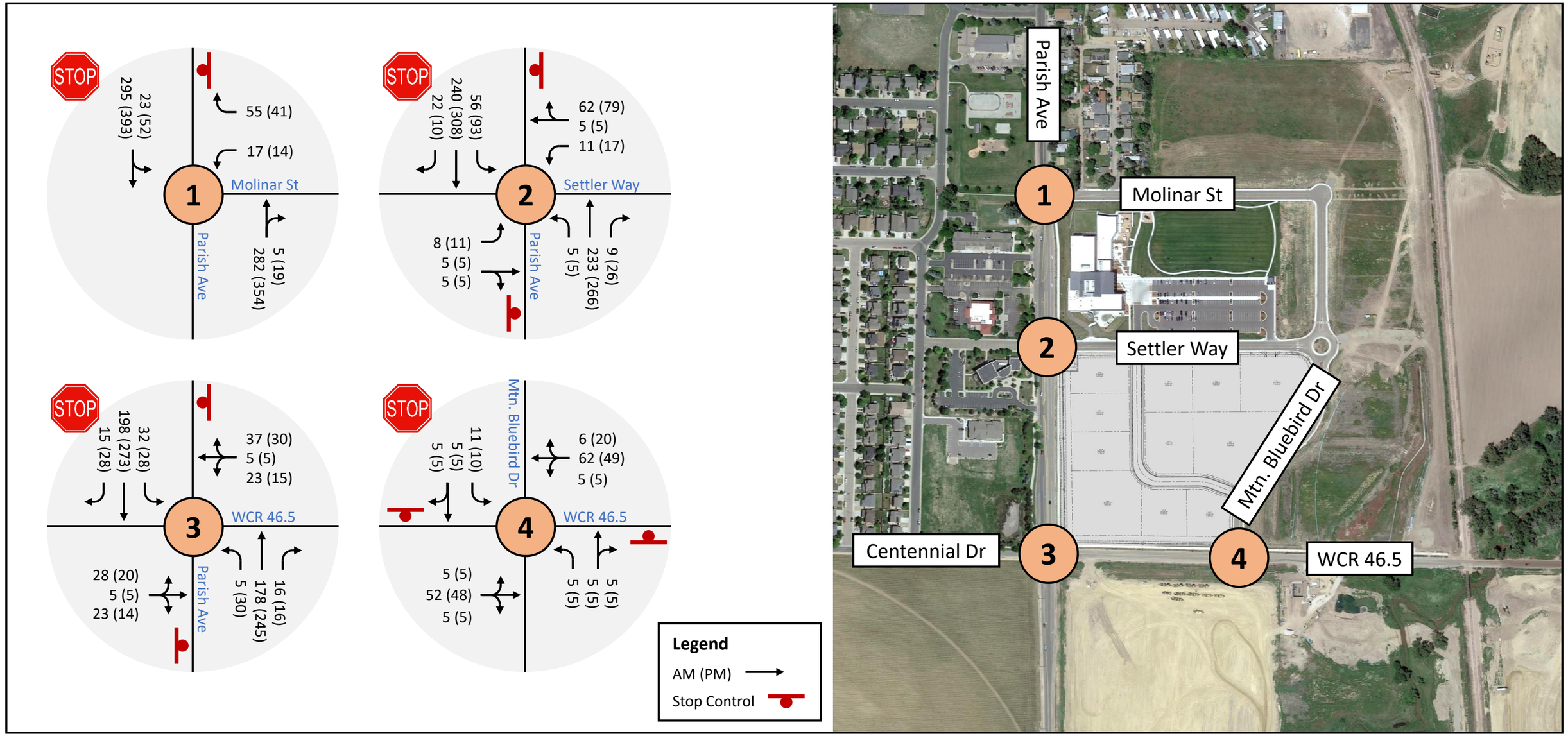


Figure 6: Opening Day (2024) Background Traffic Volumes

Opening Day (2024) Total Traffic Volumes

2024 total traffic volumes at the study intersections are included in **Figure 7**. Lane geometry is shown.

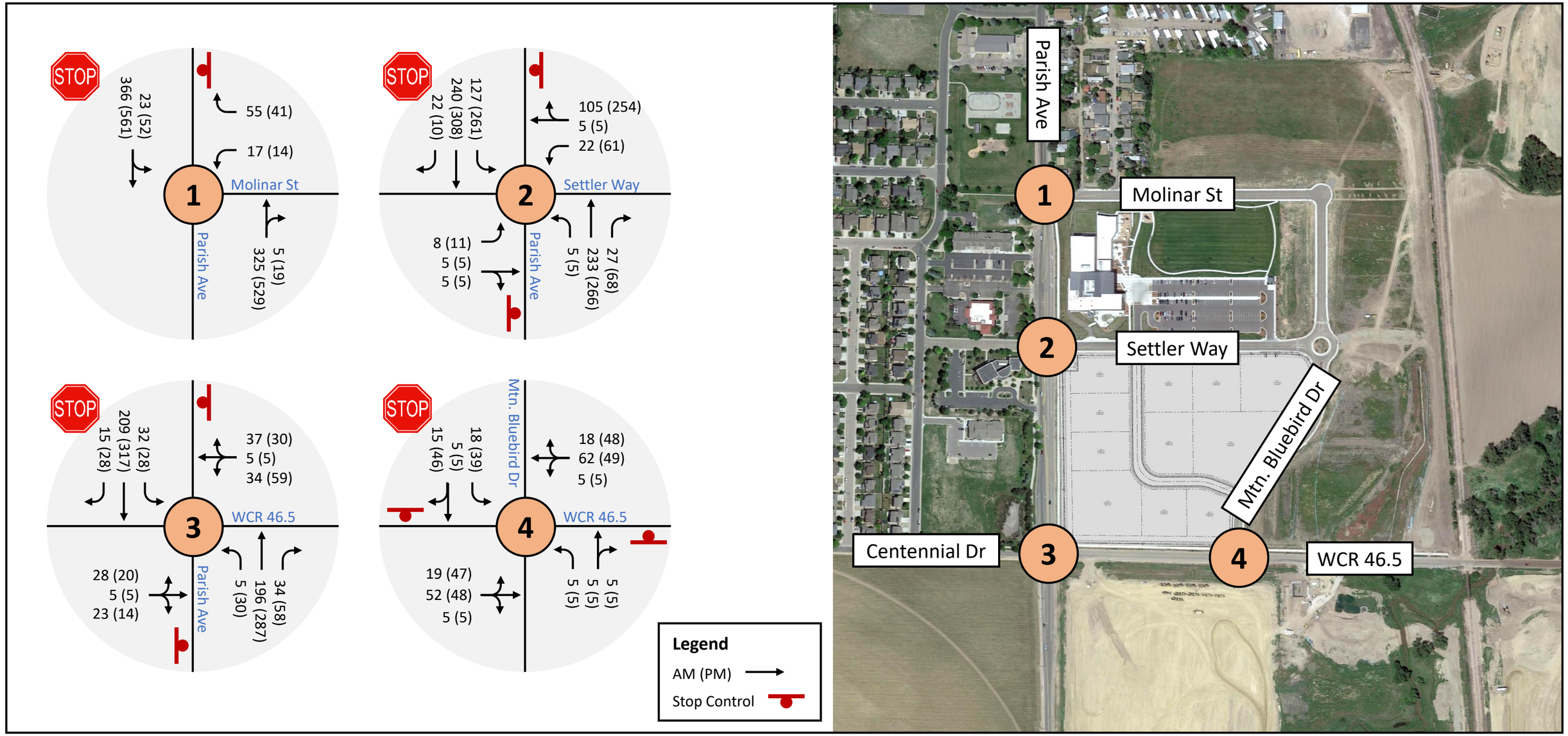


Figure 7: Opening Day (2024) Total Traffic Volumes

Future Year (2045) Background Traffic Volumes

2045 background traffic volumes at the study intersections are included in **Figure 8**. Lane geometry is shown.

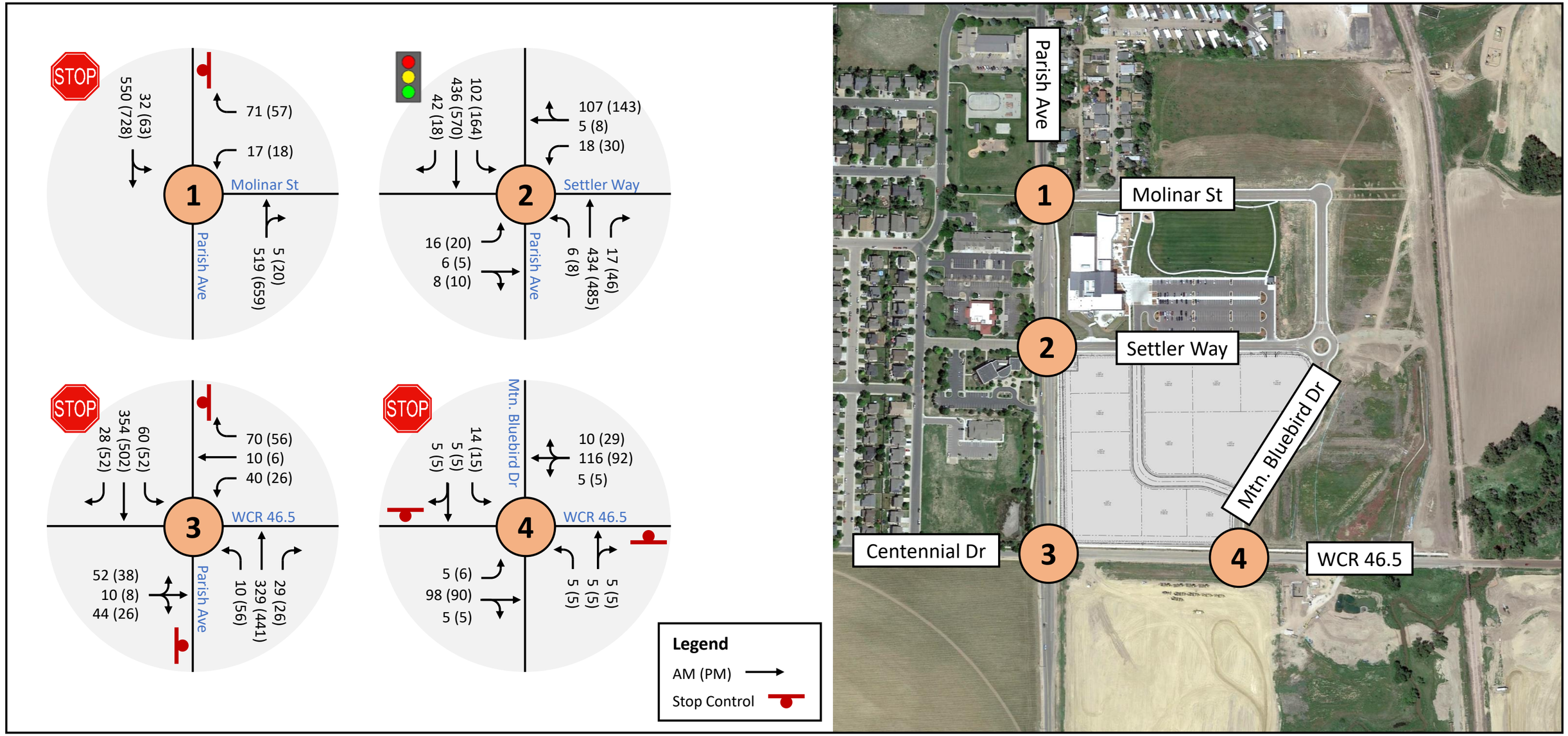


Figure 8: Future Year (2045) Background Traffic Volumes

Future Year (2045) Total Traffic Volumes

2045 total traffic volumes at the study intersections are included in **Figure 9**. Lane geometry is shown.

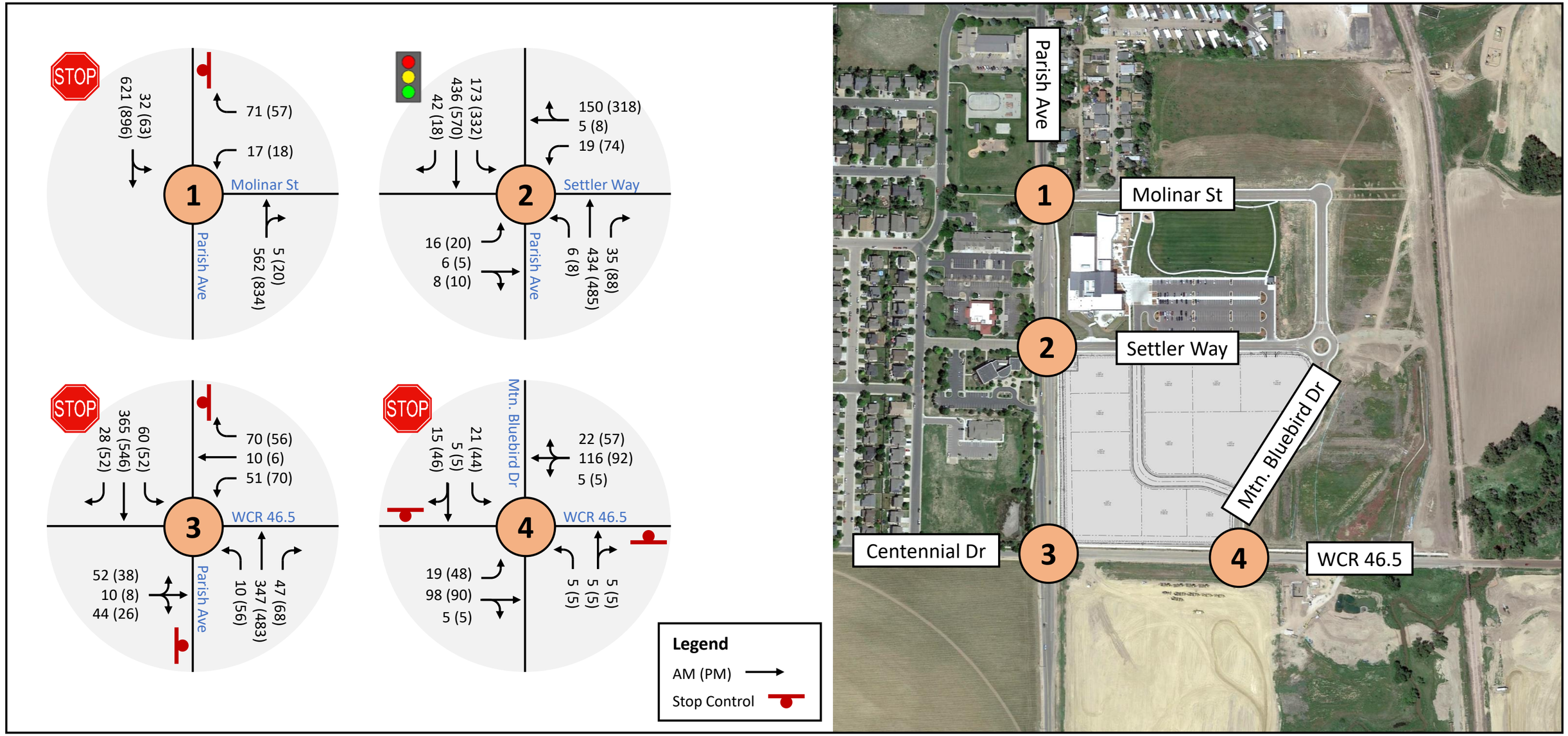


Figure 9: Future Year (2045) Total Traffic Volumes

Traffic Operations Analysis

Traffic operations were analyzed using HCM 6th Edition methodology. Synchro reports are included in **Appendix C**.

Traffic Modeling Parameters

JR considered traffic modeling parameters such as peak hour factor and heavy vehicle percentage. **Table 1** summarizes the parameters considered, and the justification for values used. The values for these parameters are contained within the Synchro reports in **Appendix C**.

Table 1: Traffic Modeling Parameters

Parameter	Justification
Peak Hour Factor (existing)	For existing traffic volumes (2022), JR used peak hour factors counted by All Traffic Data Services.
Peak Hour Factor (future)	For future traffic volumes (2024 and 2045), JR used values suggested by the Synchro 11 software, which are based on a Poisson distribution.
Heavy Vehicle Percentage	JR assumed 2% heavy vehicles at all Study intersections, which is consistent with the values counted by All Traffic Data Services.
Saturated Flow Rate (protected)	JR used values calculated in the Synchro 11 software, which are based on HCM 6th Edition.
Saturated Flow Rate (permitted)	JR used values calculated in the Synchro 11 software, which are based on HCM 6th Edition.

Levels of Service

JR analyzed each of the Study intersections for peak hour level of service (LOS). **Table 2** includes the LOS for each movement in the existing condition (2022). **Table 3** includes the forecasted LOS for background traffic and total traffic in the year 2024. **Table 4** includes the forecasted LOS for background traffic and total traffic in the year 2045. In each table, seconds of delay are shown in parentheses for movements operating at LOS F.

Table 2: 2022 (Existing) Levels of Service

Intersection	Movement/Approach	AM Peak LOS	PM Peak LOS
1: Parish Avenue & Molinar Street	WB Left	A	C
	WB Right	B	B
	SB Approach	A	A
2: Parish Avenue & Settler Way	EB Left	C	C
	EB Through/Right	B	B
	WB Left	C	C
	WB Through/Right	B	B
	NB Left	A	A
	SB Left	A	A
3: Parish Avenue & WCR 46.5 / Centennial Drive	EB Approach	B	B
	WB Approach	B	B
	NB Left	A	A
	SB Left	A	A
4: WCR 46.5 & Mountain Bluebird Drive	EB Approach	A	A
	SB Left	A	A
	SB Right	A	A

Table 3: 2024 (Opening Day) Levels of Service

Intersection	Movement/ Approach	AM Peak LOS		PM Peak LOS	
		Background Traffic	Total Traffic	Background Traffic	Total Traffic
1: Parish Avenue & Molinar Street	WB Left	B	C	C	D
	WB Right	B	B	B	B
	SB Approach	A	A	A	A
2: Parish Avenue & Settler Way	EB Left	C	D	D	F (98s)
	EB Through/Right	B	B	B	B
	WB Left	C	C	C	F (84s)
	WB Through/Right	B	B	B	B
	NB Left	A	A	A	A
	SB Left	A	A	A	A
3: Parish Avenue & WCR 46.5 / Centennial Drive	EB Approach	B	B	C	C
	WB Approach	B	B	B	C
	NB Left	A	A	A	A
	SB Left	A	A	A	A
4: WCR 46.5 & Mountain Bluebird Drive	EB Approach	A	A	A	A
	WB Approach	A	A	A	A
	NB Left	A	A	A	A
	NB Through/Right	A	A	A	A
	SB Left	A	B	A	B
	SB Through/Right	A	A	A	A

Table 4: 2045 (Future Year) Levels of Service

Intersection	Movement/ Approach	AM Peak LOS		PM Peak LOS	
		Background Traffic	Total Traffic	Background Traffic	Total Traffic
1: Parish Avenue & Molinar Street	WB Left	D	D	F (61s)	F (136s)
	WB Right	B	B	C	C
	SB Approach	A	A	A	B
2: Parish Avenue & Settler Way	EB Left	B	C	C	C
	EB Through/Right	B	C	C	C
	WB Left	B	B	C	C
	WB Through/Right	C	C	C	F (88s)
	NB Left	B	B	B	B
	NB Through	B	B	C	D
	NB Right	B	B	B	C
	SB Left	B	B	B	D
	SB Through	B	B	B	B
	SB Right	A	A	A	B
	Overall	B	B	B	D
3: Parish Avenue & WCR 46.5 / Centennial Drive	EB Approach	D	E	F (70s)	F (105s)
	WB Left	D	E	F (59s)	F (199s)
	WB Through	C	C	E	E
	WB Right	B	B	B	B
	NB Left	A	A	A	A
	SB Left	A	A	A	A
4: WCR 46.5 & Mountain Bluebird Drive	EB Left	A	A	A	A
	WB Approach	A	A	A	A
	NB Left	A	A	A	A
	NB Through/Right	A	A	A	A
	SB Left	B	B	B	B
	SB Through/Right	A	A	A	A

Discussion on Levels of Service

In the existing condition, all movements operate at LOS C or better.

In the 2024 condition, most movements are expected to operate at LOS D or better with both background traffic and total traffic. At the Parish & Settler intersection, the EBL and WBL movements are expected to operate at LOS F in the PM peak hour with total traffic.

In the 2045 condition, most movements are expected to operate at LOS D or better. At the Parish & Settler intersection, some movements are likely to improve as a result of signalization.

A few failing movements are anticipated at the Study intersections in 2045. These failures occur on east/west approaches to the intersections along Parish Avenue. Particularly long delays are expected at WCR 46.5 & Parish due to this being an arterial-arterial intersection with two-way stop control. This intersection could become signalized in the future to improve levels of service.

Queue Lengths

JR analyzed each of the Study intersections for 95th percentile queue lengths using HCM 6th Edition methodology. **Table 5** includes the queue lengths for the year 2022 with existing traffic. **Table 6** includes the queue lengths for the year 2024 with total traffic. **Table 7** includes the queue lengths for the year 2045 with total traffic.

Table 5: 2022 (Existing) 95th Percentile Queue Lengths

Intersection	Movement/Approach	AM Peak Queue (ft)	PM Peak Queue (ft)
1: Parish Avenue & Molinar Street	WB Left	<25	<25
	WB Right	<25	<25
	SB Approach	<25	<25
2: Parish Avenue & Settler Way	EB Left	<25	<25
	EB Through/Right	<25	<25
	WB Left	<25	<25
	WB Through/Right	<25	<25
	NB Left	<25	<25
	SB Left	<25	<25
3: Parish Avenue & WCR 46.5 / Centennial Drive	EB Approach	<25	<25
	WB Approach	<25	<25
	NB Left	<25	<25
	SB Left	<25	<25
4: WCR 46.5 & Mountain Bluebird Drive	EB Approach	<25	<25
	SB Left	<25	<25
	SB Right	<25	<25

Table 6: 2024 (Opening Day) 95th Percentile Queue Lengths

Intersection	Movement/Approach	AM Peak Queue (ft)	PM Peak Queue (ft)
1: Parish Avenue & Molinar Street	WB Left	<25	<25
	WB Right	<25	<25
	SB Approach	<25	<25
2: Parish Avenue & Settler Way	EB Left	<25	<25
	EB Through/Right	<25	<25
	WB Left	<25	88
	WB Through/Right	<25	60
	NB Left	<25	<25
	SB Left	<25	25
3: Parish Avenue & WCR 46.5 / Centennial Drive	EB Approach	<25	<25
	WB Approach	<25	40
	NB Left	<25	<25
	SB Left	<25	<25
4: WCR 46.5 & Mountain Bluebird Drive	EB Approach	<25	<25
	WB Approach	<25	<25
	NB Left	<25	<25
	NB Through/Right	<25	<25
	SB Left	<25	<25
	SB Through/Right	<25	<25

Table 7: 2045 (Future Year) 95th Percentile Queue Lengths

Intersection	Movement/Approach	AM Peak Queue (ft)	PM Peak Queue (ft)
1: Parish Avenue & Molinar Street	WB Left	<25	45
	WB Right	<25	<25
	SB Approach	<25	<25
2: Parish Avenue & Settler Way	EB Left	<25	25
	EB Through/Right	<25	<25
	WB Left	32	65
	WB Through/Right	37	41
	NB Left	<25	<25
	NB Through	294	458
	NB Right	<25	<25
	SB Left	70	252
	SB Through	259	419
	SB Right	<25	<25
3: Parish Avenue & WCR 46.5 / Centennial Drive	EB Approach	80	115
	WB Left	40	150
	WB Through	<25	<25
	WB Right	<25	<25
	NB Left	<25	<25
	SB Left	<25	<25
4: WCR 46.5 & Mountain Bluebird Drive	EB Left	<25	<25
	WB Approach	<25	<25
	NB Left	<25	<25
	NB Through/Right	<25	<25
	SB Left	<25	<25
	SB Through/Right	<25	<25

Discussion on Queue Lengths

Queue lengths are expected to be nominal in 2024 with total traffic. In 2045, most queue lengths are expected to be satisfactory. At Parish & Settler, queuing for the SBT movement may block access to the driveway serving the police department in both peak hours. Similarly, queuing for the NBT movement may block access to the driveway serving Town Hall in the PM peak hour.

Most queue lengths for turning movements are expected to fit within existing storage. However, queuing for the SBL movement at Parish & Settler is expected to exceed the current storage length of about 170 feet in the PM peak hour. Modification to this turn lane may be needed.

Traffic Signal Warrant Analysis

JR performed a preliminary traffic signal warrant analysis on the intersection of Parish & Settler. Specifically, JR checked the peak hour signal warrant according to the MUTCD. Traffic volumes were plotted on Figure 4C-3 of the MUTCD, which is shown in **Figure 10**. JR considered all volumes on the westbound approach and used the "2 or more lanes & 2 or more lanes" curve on the graph.

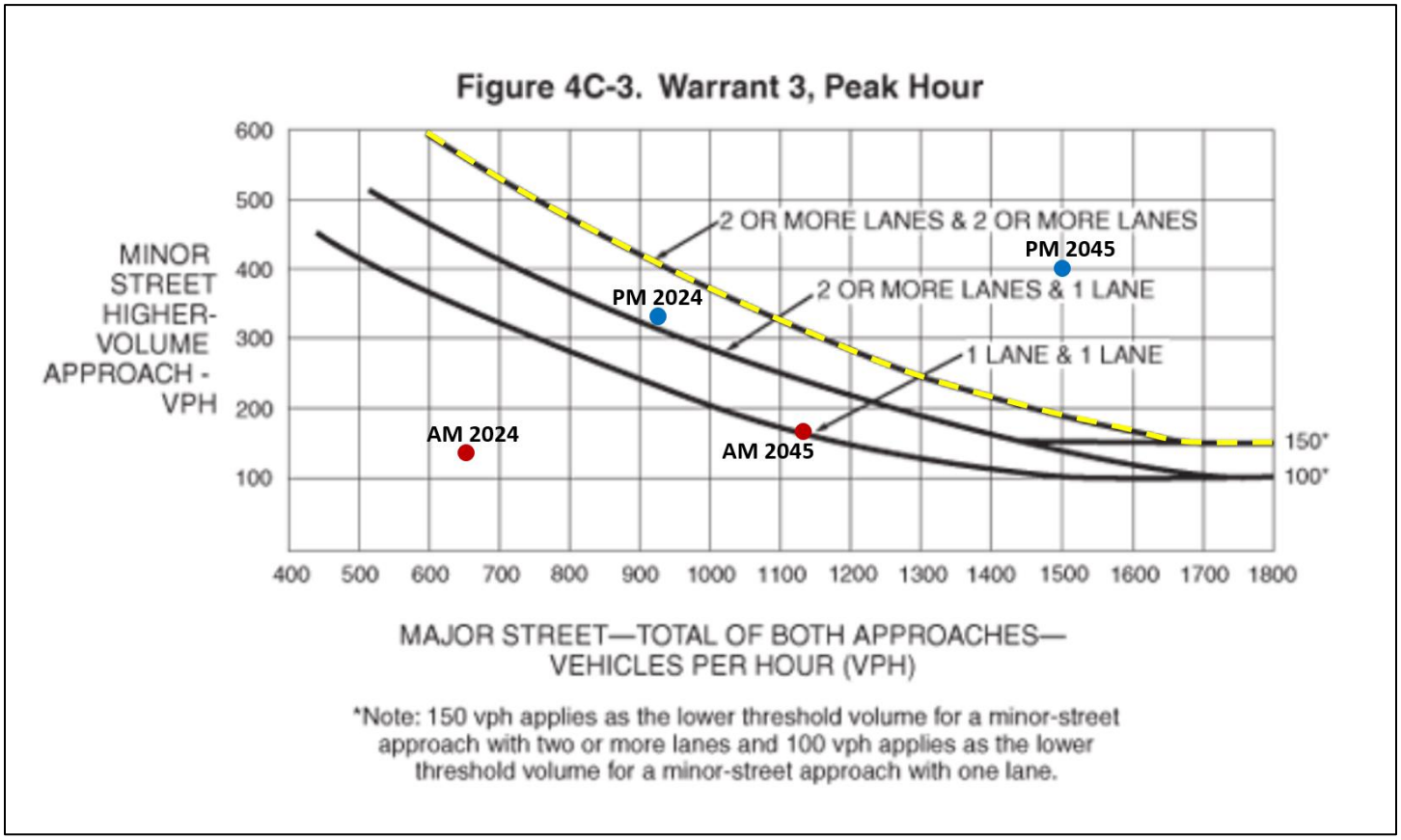


Figure 10: Peak Hour Traffic Signal Warrant

With 2024 total traffic volumes, the intersection is not expected to meet the peak hour warrant for signalization. With 2045 total traffic volumes, the intersection is expected to meet the warrant. Therefore, the warrant is anticipated to be met sometime between 2024 and 2045.

Due to the limited applicability of the peak hour warrant, JR also considered the potential to meet the 4-hour warrant. JR estimated hourly traffic volumes by using ITE data for hourly distribution of vehicle trips. Based on a preliminary analysis of the 4-hour warrant, JR concludes that that the warrant is unlikely to be met by 2024. However, the 4-hour warrant is anticipated to be met sometime before 2045.

JR believes that Parish & Settler is an ideal location for a signal, as it could improve safety for accessing Town Hall, police department, library, and YMCA. Ongoing warrant studies should be conducted to monitor traffic conditions at this intersection. It should become signalized once warrants are met. Future coordination with Town staff will be necessary to determine responsibilities for signal construction costs.

Turn Lanes along WCR 46.5

JR gave consideration to the need for turn lanes along WCR 46.5 in the future. At the intersection of WCR 46.5 & Parish, turning movement volumes are higher than through movement volumes along WCR 46.5. Therefore, additional turn lanes may improve traffic operations.

JR reviewed the CDOT *State Highway Access Code* to determine whether turn lanes may be necessary. For non-rural arterials, left turn lanes are required when the turning volume is greater than 25 vehicles in the peak hour. Right turn lanes are required when the turning volume is greater than 50 vehicles in the peak hour.

Based on these standards, the following movements would require auxiliary lanes by 2045:

- WCR 46.5 & Parish Avenue
  - Eastbound left
  - Westbound left
  - Westbound right
- WCR 46.5 & Mountain Bluebird Drive
  - Eastbound left
  - Westbound right

Based on consideration of both traffic operations and CDOT *Access Code* requirements, JR recommends the following turn lanes be installed in the future:

- Westbound left at WCR 46.5 & Parish
- Westbound right at WCR 46.5 & Parish
- Eastbound left at WCR 46.5 & Mountain Bluebird

These improvements would be jointly funded between the Town and the future development to the south, since the north half of WCR 46.5 is built.

Conclusion

Below is a summary of the conclusions and findings of this TIS.

Levels of Service

All movements operate at LOS C or better in 2022. Most movements are expected to operate at LOS D or better in 2024 with both background traffic and total traffic. In 2045, most movements are expected to operate at LOS D or better, with a few movements anticipated to fail at the Parish Avenue intersections.

Queue Lengths

Queue lengths are mostly expected to be satisfactory in year 2045. The NBT and SBT movements at Parish & Settler may limit access to driveways. Also, queuing for the SBL movement at this intersection may exceed the existing storage length.

Improvements

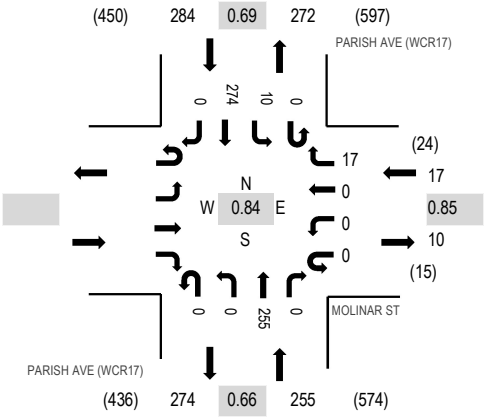
A few proposed improvements may help traffic operations at the Study intersections. Specifically, JR assumed that the intersection of Parish & Settler would become signalized by 2045. Also, WCR 46.5 may be widened in the future, possibly with additional turn lanes. Improvements to WCR 46.5 would be jointly funded between the Town and the future development to the south.

Appendix A
Traffic Counts

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

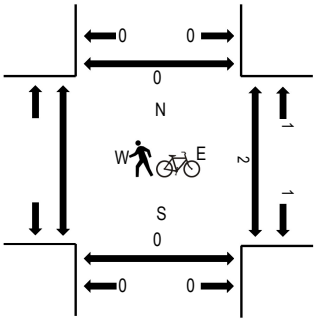
Location: 1 PARISH AVE (WCR17) & MOLINAR ST AM
Date: Thursday, October 6, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



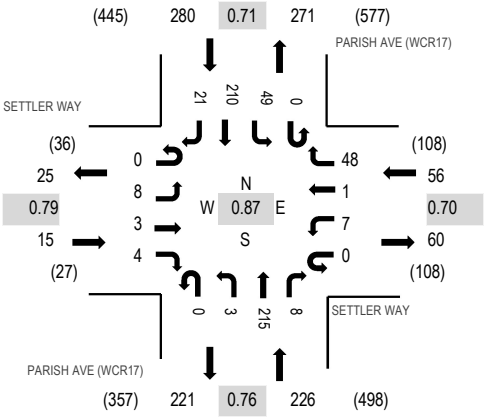
Traffic Counts

Interval Start Time	MOLINAR ST Eastbound				MOLINAR ST Westbound				PARISH AVE (WCR17) Northbound				PARISH AVE (WCR17) Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM					0	0	0	1	0	0	118	0	0	0	39	0	158	548	0	0	0	0
7:15 AM					0	0	0	4	0	0	67	0	0	2	55	0	128	556	0	0	0	0
7:30 AM					0	0	0	5	0	0	74	0	0	2	62	0	143	535	0	0	0	0
7:45 AM					0	0	0	5	0	0	54	0	0	3	57	0	119	525	0	0	0	0
8:00 AM					0	0	0	3	0	0	60	0	0	3	100	0	166	500	2	0	0	0
8:15 AM					0	0	0	0	0	0	65	0	0	3	39	0	107		1	0	0	0
8:30 AM					0	1	0	2	0	0	84	0	0	0	46	0	133		0	0	0	0
8:45 AM					0	0	0	3	0	0	52	0	0	2	37	0	94		0	0	0	0
Count Total					0	1	0	23	0	0	574	0	0	15	435	0	1,048		3	0	0	0
Peak Hour					0	0	0	17	0	0	255	0	0	10	274	0	556		2	0	0	0

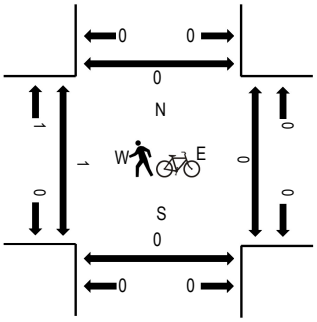
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 PARISH AVE (WCR17) & SETTLER WAY AM
Date: Thursday, October 6, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 08:00 AM - 08:15 AM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

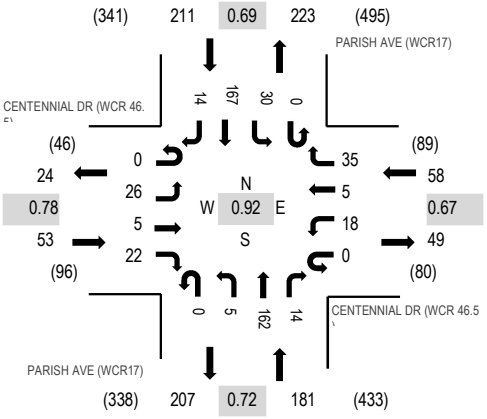
Traffic Counts

Interval Start Time	SETTLER WAY Eastbound				SETTLER WAY Westbound				PARISH AVE (WCR17) Northbound				PARISH AVE (WCR17) Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	3	1	2	0	0	0	13	0	1	89	1	0	11	28	2	151	562	0	1	0	0
7:15 AM	0	4	1	1	0	1	1	4	0	1	65	2	0	9	46	3	138	577	0	0	0	0
7:30 AM	0	2	1	2	0	1	0	9	0	1	62	3	0	9	54	5	149	548	0	0	0	0
7:45 AM	0	1	1	0	0	3	0	13	0	0	48	2	0	15	35	6	124	543	0	0	0	0
8:00 AM	0	1	0	1	0	2	0	22	0	1	40	1	0	16	75	7	166	516	1	0	0	0
8:15 AM	0	2	1	1	0	6	1	7	0	1	45	1	0	4	37	3	109		0	2	1	0
8:30 AM	0	1	0	0	0	3	0	10	0	0	79	6	0	10	33	2	144		2	0	0	0
8:45 AM	0	1	0	0	0	1	0	11	0	0	45	4	0	9	25	1	97		0	0	0	0
Count Total	0	15	5	7	0	17	2	89	0	5	473	20	0	83	333	29	1,078		3	3	1	0
Peak Hour	0	8	3	4	0	7	1	48	0	3	215	8	0	49	210	21	577		1	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

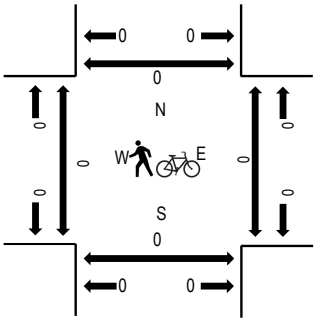
Location: 3 PARISH AVE (WCR17) & CENTENNIAL DR (WCR 46.5) AM
Date: Thursday, October 6, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:30 AM - 07:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



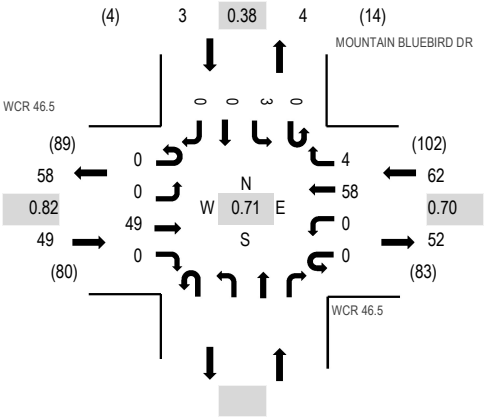
Traffic Counts

Interval Start Time	CENTENNIAL DR (WCR 46.5) Eastbound				CENTENNIAL DR (WCR 46.5) Westbound				PARISH AVE (WCR17) Northbound				PARISH AVE (WCR17) Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	7	3	6	0	3	0	9	0	0	75	4	0	4	19	2	132	501	0	0	0	0
7:15 AM	0	5	2	11	0	6	1	15	0	0	44	4	0	8	40	0	136	503	0	0	0	0
7:30 AM	0	8	1	4	0	7	3	10	0	2	51	4	0	4	39	4	137	477	0	0	0	0
7:45 AM	0	6	2	1	0	1	1	3	0	1	39	3	0	8	27	4	96	472	0	0	0	0
8:00 AM	0	7	0	6	0	4	0	7	0	2	28	3	0	10	61	6	134	458	0	0	0	0
8:15 AM	0	8	0	7	0	5	0	3	0	2	39	2	0	5	37	2	110		0	0	1	0
8:30 AM	0	2	1	3	0	0	1	5	0	7	77	3	0	4	26	3	132		0	0	0	0
8:45 AM	0	2	2	2	0	3	0	2	0	0	43	0	0	3	20	5	82		0	0	0	0
Count Total	0	45	11	40	0	29	6	54	0	14	396	23	0	46	269	26	959		0	0	1	0
Peak Hour	0	26	5	22	0	18	5	35	0	5	162	14	0	30	167	14	503		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

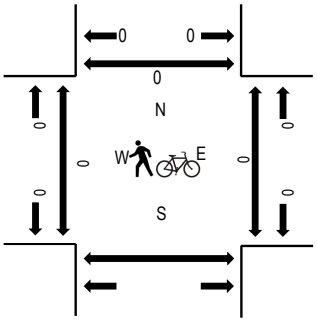
Location: 4 MOUNTAIN BLUEBIRD DR & WCR 46.5 AM
Date: Thursday, October 6, 2022
Peak Hour: 07:15 AM - 08:15 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	WCR 46.5 Eastbound				WCR 46.5 Westbound				Northbound				MOUNTAIN BLUEBIRD DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	9	0	0	0	12	2					0	0	0	0	24	112	0	0		0
7:15 AM	0	0	15	0	0	0	22	1					0	2	0	0	40	114	0	0		0
7:30 AM	0	0	9	0	0	0	20	2					0	0	0	0	31	90	0	0		0
7:45 AM	0	0	12	0	0	0	5	0					0	0	0	0	17	79	0	0		0
8:00 AM	0	0	13	0	0	0	11	1					0	1	0	0	26	74	0	0		0
8:15 AM	0	0	7	0	0	0	8	1					0	0	0	0	16		0	0		0
8:30 AM	0	0	9	0	0	0	6	4					0	1	0	0	20		0	0		0
8:45 AM	0	0	5	0	0	0	5	2					0	0	0	0	12		0	0		0
Count Total	0	1	79	0	0	0	89	13					0	4	0	0	186		0	0		0
Peak Hour	0	0	49	0	0	0	58	4					0	3	0	0	114		0	0		0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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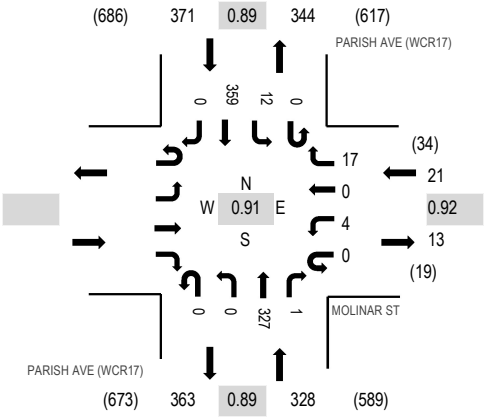
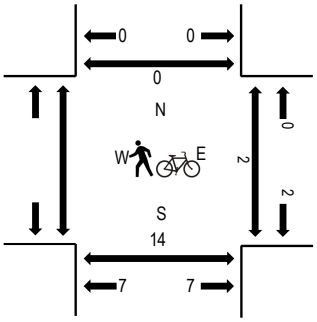
Location: 1 PARISH AVE (WCR17) & MOLINAR ST PM
Date: Thursday, October 6, 2022
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	MOLINAR ST Eastbound				MOLINAR ST Westbound				PARISH AVE (WCR17) Northbound				PARISH AVE (WCR17) Southbound					Rolling Hour	Pedestrian Crossings		
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM					0	0	0	6	0	0	56	0	0	2	84	0	148	591	0	0	0
4:15 PM					0	1	0	1	0	0	56	0	0	1	81	0	140	641	0	4	0
4:30 PM					0	0	0	4	0	0	80	0	0	2	66	0	152	692	0	0	0
4:45 PM					0	1	0	5	0	0	81	0	0	1	63	0	151	720	0	5	0
5:00 PM					0	0	0	6	0	0	94	1	0	2	95	0	198	718	2	4	0
5:15 PM					0	2	0	4	0	0	83	0	0	2	100	0	191		0	0	0
5:30 PM					0	1	0	2	0	0	69	0	0	7	101	0	180		0	5	0
5:45 PM					0	0	0	1	0	0	69	0	0	1	78	0	149		0	1	0
Count Total					0	5	0	29	0	0	588	1	0	18	668	0	1,309		2	19	0
Peak Hour					0	4	0	17	0	0	327	1	0	12	359	0	720		2	14	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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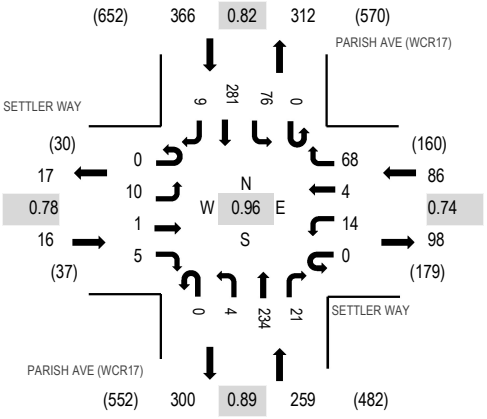
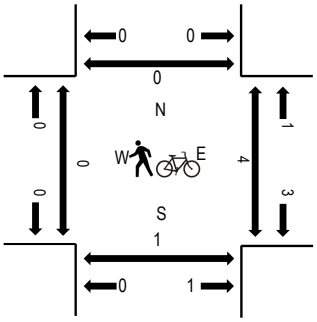
Location: 2 PARISH AVE (WCR17) & SETTLER WAY PM
Date: Thursday, October 6, 2022
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	SETTLER WAY Eastbound				SETTLER WAY Westbound				PARISH AVE (WCR17) Northbound				PARISH AVE (WCR17) Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	1	0	0	2	0	12	0	1	37	1	0	16	58	0	129	604	0	0	0	0
4:15 PM	0	1	6	1	0	2	1	9	0	1	46	3	0	12	67	1	150	664	0	2	0	0
4:30 PM	0	3	1	0	0	14	2	16	0	0	59	6	0	18	47	1	167	704	0	0	0	0
4:45 PM	0	6	1	0	0	6	1	9	0	3	59	7	0	9	55	2	158	725	2	0	0	0
5:00 PM	0	6	1	2	0	5	0	14	0	2	71	3	0	20	63	2	189	727	0	0	0	0
5:15 PM	0	1	0	2	0	3	1	30	0	0	52	8	0	23	68	2	190		0	0	0	0
5:30 PM	0	1	0	1	0	3	0	16	0	2	50	4	0	17	91	3	188		0	0	1	0
5:45 PM	0	2	0	0	0	3	3	8	0	0	61	6	0	16	59	2	160		0	4	0	0
Count Total	0	21	10	6	0	38	8	114	0	9	435	38	0	131	508	13	1,331		2	6	1	0
Peak Hour	0	10	1	5	0	14	4	68	0	4	234	21	0	76	281	9	727		0	4	1	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
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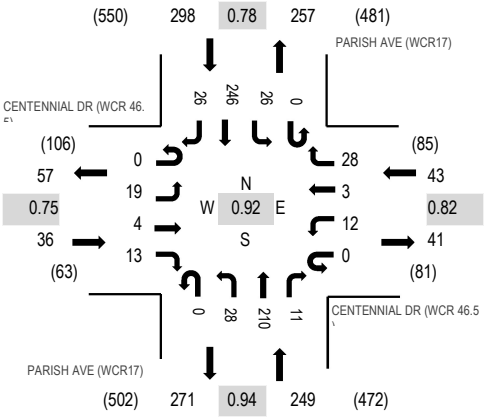
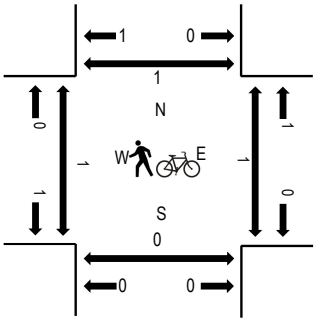
Location: 3 PARISH AVE (WCR17) & CENTENNIAL DR (WCR 46.5) PM
Date: Thursday, October 6, 2022
Peak Hour: 04:45 PM - 05:45 PM
Peak 15-Minutes: 05:30 PM - 05:45 PM

Peak Hour - All Vehicles



Peak Hour - Pedestrians/Bicycles on Crosswalk



Note: Total study counts contained in parentheses.

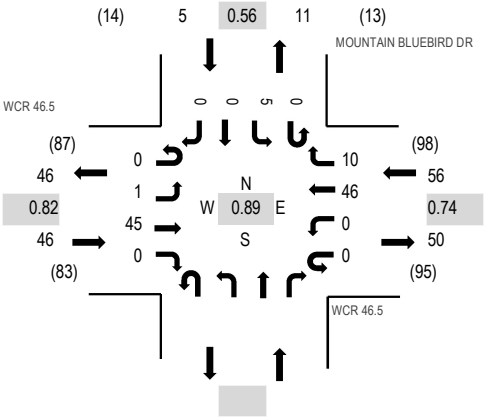
Traffic Counts

Interval Start Time	CENTENNIAL DR (WCR 46.5) Eastbound				CENTENNIAL DR (WCR 46.5) Westbound				PARISH AVE (WCR17) Northbound				PARISH AVE (WCR17) Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	1	5	1	0	1	8	0	3	33	2	0	5	49	7	115	549	0	0	0	0
4:15 PM	0	3	0	3	0	5	1	5	0	6	42	8	0	5	60	3	141	599	0	3	2	0
4:30 PM	0	6	1	3	0	2	0	6	0	7	54	7	0	6	49	8	149	605	0	0	1	0
4:45 PM	0	5	1	1	0	2	2	11	0	5	52	3	0	6	48	8	144	626	0	0	0	0
5:00 PM	0	6	1	4	0	5	1	9	0	7	60	2	0	5	61	4	165	621	0	0	0	0
5:15 PM	0	1	0	5	0	2	0	5	0	8	53	2	0	8	58	5	147		0	0	0	0
5:30 PM	0	7	2	3	0	3	0	3	0	8	45	4	0	7	79	9	170		1	1	0	1
5:45 PM	0	4	0	1	0	1	1	11	0	6	52	3	0	1	53	6	139		1	3	0	0
Count Total	0	32	6	25	1	20	6	58	0	50	391	31	0	43	457	50	1,170		2	7	3	1
Peak Hour	0	19	4	13	0	12	3	28	0	28	210	11	0	26	246	26	626		1	1	0	1

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

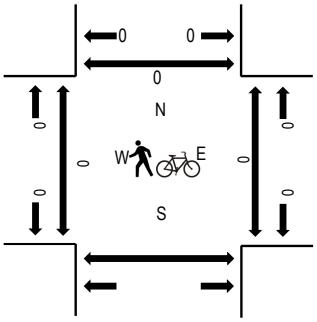
Location: 4 MOUNTAIN BLUEBIRD DR & WCR 46.5 PM
Date: Thursday, October 6, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	WCR 46.5 Eastbound				WCR 46.5 Westbound				Northbound				MOUNTAIN BLUEBIRD DR Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	9	0	0	0	10	4					0	1	0	0	24	107	0	0		0
4:15 PM	0	1	12	0	0	0	11	3					0	2	0	0	29	107	0	0		0
4:30 PM	0	0	14	0	0	0	7	2					0	1	0	0	24	100	0	0		0
4:45 PM	0	0	10	0	0	0	18	1					0	1	0	0	30	97	0	0		0
5:00 PM	0	0	8	0	0	0	13	1					0	1	0	1	24	88	0	0		0
5:15 PM	0	0	10	0	0	0	7	1					0	4	0	0	22		0	0		0
5:30 PM	0	0	13	0	0	0	6	0					0	2	0	0	21		0	0		1
5:45 PM	0	0	6	0	0	0	14	0					0	1	0	0	21		0	0		0
Count Total	0	1	82	0	0	0	86	12					0	13	0	1	195		0	0		1
Peak Hour	0	1	45	0	0	0	46	10					0	5	0	0	107		0	0		0

Appendix B
Trip Generation

Trip Generation Summary

Alternative: Alternative 1
Phase:
Project: Mountain View

Open Date: 4/18/2023
Analysis Date: 4/18/2023

ITE	Land Use	*	Weekday Average Daily Trips Enter	Exit	Total	*	Weekday AM Peak Hour of Adjacent Street Traffic Enter	Exit	Total	*	Weekday PM Peak Hour of Adjacent Street Traffic Enter	Exit	Total
820	SHOPPING PLAZA (ITE 821)	✓	3714	3713	7427	✓	118	72	190	✓	280	291	571
	110 1000 Sq. Ft. GLA												
Unadjusted Volume			3714	3713	7427		118	72	190		280	291	571
Internal Capture Trips			0	0	0		0	0	0		0	0	0
Pass-By Trips			0	0	0		0	0	0		97	97	194
Volume Added to Adjacent Streets			3714	3713	7427		118	72	190		183	194	377

Total Weekday Average Daily Trips Internal Capture = 0 Percent
Total Weekday AM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent
Total Weekday PM Peak Hour of Adjacent Street Traffic Internal Capture = 0 Percent

* - Custom rate used for selected time period.

Source: Institute of Transportation Engineers, Trip Generation Manual 10th Edition
TRIP GENERATION 10, TRAFFICWARE, LLC

Detailed Land Use Data

For 110 1000 Sq. Ft. GLA of SHOPPING PLAZA (ITE 821)

(820) Shopping Center

Project: Mountain View

Open Date: 4/18/2023

Analysis Date: 4/18/2023

Day / Period	Total Trips	Pass-By Trips	Avg Rate	Min Rate	Max Rate	Std Dev	Avg Size	% Enter	% Exit	Use Eq.	Equation	R2
Weekday Average Daily Trips	7427	0	67.52	43.29	91.06	19.25	59	50	50	False	T = 0.0(X) + 0.0	0
Source : ITE 11 - 821 - Custom												
Weekday AM Peak Hour of Adjacent Street Traffic	190	0	1.73	0.29	3.77	1.06	67	62	38	False	T = 0.0(X) + 0.0	0
Source : ITE 11 - 821 - Custom												
Weekday PM Peak Hour of Adjacent Street Traffic	571	194	5.19	2.55	15.31	2.28	79	49	51	False	T = 0.0(X) + 0.0	0
Source : ITE 11 - 821 - Custom												

Appendix C
Synchro Reports

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	17	255	0	10	274
Future Volume (vph)	0	17	255	0	10	274
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected						0.998
Satd. Flow (prot)	1863	1583	1863	0	0	1859
Flt Permitted						0.998
Satd. Flow (perm)	1863	1583	1863	0	0	1859
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.85	0.85	0.66	0.66	0.69	0.69
Adj. Flow (vph)	0	20	386	0	14	397
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	20	386	0	0	411
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.8%		ICU Level of Service A	
Analysis Period (min) 15			

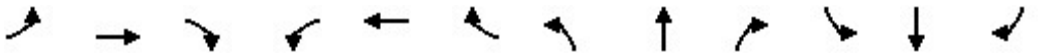
Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	17	255	0	10	274
Future Vol, veh/h	0	17	255	0	10	274
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	85	85	66	66	69	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	20	386	0	14	397

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	811	386	0	0	386	0
Stage 1	386	-	-	-	-	-
Stage 2	425	-	-	-	-	-
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	349	662	-	-	1172	-
Stage 1	687	-	-	-	-	-
Stage 2	659	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	344	662	-	-	1172	-
Mov Cap-2 Maneuver	344	-	-	-	-	-
Stage 1	687	-	-	-	-	-
Stage 2	649	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	-	662	1172	-
HCM Lane V/C Ratio	-	-	-	0.03	0.012	-
HCM Control Delay (s)	-	-	0	10.6	8.1	0
HCM Lane LOS	-	-	A	B	A	A
HCM 95th %tile Q(veh)	-	-	-	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	3	4	7	1	48	3	215	8	49	210	21
Future Volume (vph)	8	3	4	7	1	48	3	215	8	49	210	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.917			0.852				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1708	0	1770	1587	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1708	0	1770	1587	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.79	0.79	0.79	0.70	0.70	0.70	0.76	0.76	0.76	0.71	0.71	0.71
Adj. Flow (vph)	10	4	5	10	1	69	4	283	11	69	296	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	9	0	10	70	0	4	283	11	69	296	30
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.3%		ICU Level of Service A	
Analysis Period (min) 15			

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	8	3	4	7	1	48	3	215	8	49	210	21
Future Vol, veh/h	8	3	4	7	1	48	3	215	8	49	210	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	200	-	-	80	-	-	180	-	230	140	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	79	79	79	70	70	70	76	76	76	71	71	71
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	4	5	10	1	69	4	283	11	69	296	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	766	736	296	745	755	283	326	0	0	294	0	0
Stage 1	434	434	-	291	291	-	-	-	-	-	-	-
Stage 2	332	302	-	454	464	-	-	-	-	-	-	-
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	320	346	743	330	338	756	1234	-	-	1268	-	-
Stage 1	600	581	-	717	672	-	-	-	-	-	-	-
Stage 2	681	664	-	586	564	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	277	326	743	311	319	756	1234	-	-	1268	-	-
Mov Cap-2 Maneuver	277	326	-	311	319	-	-	-	-	-	-	-
Stage 1	598	550	-	715	670	-	-	-	-	-	-	-
Stage 2	616	662	-	547	534	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.7	11.2	0.1	1.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1234	-	-	277	480	311	735	1268	-	-
HCM Lane V/C Ratio	0.003	-	-	0.037	0.018	0.032	0.095	0.054	-	-
HCM Control Delay (s)	7.9	-	-	18.5	12.6	17	10.4	8	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	0.3	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	5	22	18	5	35	5	162	14	30	167	14
Future Volume (vph)	26	5	22	18	5	35	5	162	14	30	167	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	240		290	260		200
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.944			0.918				0.850			0.850
Flt Protected		0.976			0.985		0.950			0.950		
Satd. Flow (prot)	0	1716	0	0	1684	0	1770	1863	1583	1770	1863	1583
Flt Permitted		0.976			0.985		0.950			0.950		
Satd. Flow (perm)	0	1716	0	0	1684	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.67	0.67	0.67	0.72	0.72	0.72	0.69	0.69	0.69
Adj. Flow (vph)	33	6	28	27	7	52	7	225	19	43	242	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	67	0	0	86	0	7	225	19	43	242	20
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.1%		ICU Level of Service A	
Analysis Period (min) 15			

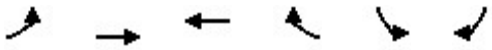
Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	5	22	18	5	35	5	162	14	30	167	14
Future Vol, veh/h	26	5	22	18	5	35	5	162	14	30	167	14
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	-	-	-	-	-	-	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	67	67	67	72	72	72	69	69	69
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	6	28	27	7	52	7	225	19	43	242	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	606	586	242	594	587	225	262	0	0	244	0	0
Stage 1	328	328	-	239	239	-	-	-	-	-	-	-
Stage 2	278	258	-	355	348	-	-	-	-	-	-	-
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	409	422	797	417	422	814	1302	-	-	1322	-	-
Stage 1	685	647	-	764	708	-	-	-	-	-	-	-
Stage 2	728	694	-	662	634	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	366	406	797	386	406	814	1302	-	-	1322	-	-
Mov Cap-2 Maneuver	366	406	-	386	406	-	-	-	-	-	-	-
Stage 1	682	626	-	760	704	-	-	-	-	-	-	-
Stage 2	670	691	-	611	613	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.8	12.5	0.2	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1302	-	-	478	569	1322	-	-
HCM Lane V/C Ratio	0.005	-	-	0.142	0.152	0.033	-	-
HCM Control Delay (s)	7.8	-	-	13.8	12.5	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	0.1	-	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	49	58	4	3	0
Future Volume (vph)	0	49	58	4	3	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	90	0
Storage Lanes	0			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.991			
Flt Protected					0.950	
Satd. Flow (prot)	0	1863	1846	0	1770	1863
Flt Permitted					0.950	
Satd. Flow (perm)	0	1863	1846	0	1770	1863
Link Speed (mph)		30	30		30	
Link Distance (ft)		716	677		714	
Travel Time (s)		16.3	15.4		16.2	
Peak Hour Factor	0.82	0.82	0.70	0.70	0.38	0.38
Adj. Flow (vph)	0	60	83	6	8	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	60	89	0	8	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	49	58	4	3	0
Future Vol, veh/h	0	49	58	4	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	90	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	70	70	38	38
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	60	83	6	8	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	146	86
Stage 1	-	-	-	-	86	-
Stage 2	-	-	-	-	60	-
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	1506	-	-	-	846	973
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	963	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	846	973
Mov Cap-2 Maneuver	-	-	-	-	846	-
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	963	-

Approach	EB	WB	SB
HCM Control Delay, s	0	0	9.3
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1506	-	-	-	846	-
HCM Lane V/C Ratio	-	-	-	-	0.009	-
HCM Control Delay (s)	0	-	-	-	9.3	0
HCM Lane LOS	A	-	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	4	17	327	1	12	359
Future Volume (vph)	4	17	327	1	12	359
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950					0.998
Satd. Flow (prot)	1770	1583	1863	0	0	1859
Flt Permitted	0.950					0.998
Satd. Flow (perm)	1770	1583	1863	0	0	1859
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.92	0.92	0.89	0.89	0.89	0.89
Adj. Flow (vph)	4	18	367	1	13	403
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	18	368	0	0	416
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	4	17	327	1	12	359
Future Vol, veh/h	4	17	327	1	12	359
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	89	89	89	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	4	18	367	1	13	403

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	797	368	0	0	368	0
Stage 1	368	-	-	-	-	-
Stage 2	429	-	-	-	-	-
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	356	677	-	-	1191	-
Stage 1	700	-	-	-	-	-
Stage 2	657	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	351	677	-	-	1191	-
Mov Cap-2 Maneuver	351	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	648	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.4	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	351	677	1191	-
HCM Lane V/C Ratio	-	-	0.012	0.027	0.011	-
HCM Control Delay (s)	-	-	15.4	10.5	8.1	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0	0.1	0	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1	5	14	4	68	4	234	21	76	281	9
Future Volume (vph)	10	1	5	14	4	68	4	234	21	76	281	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871			0.858				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1622	0	1770	1598	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1622	0	1770	1598	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.74	0.74	0.74	0.89	0.89	0.89	0.82	0.82	0.82
Adj. Flow (vph)	13	1	6	19	5	92	4	263	24	93	343	11
Shared Lane Traffic (%)												
Lane Group Flow (vph)	13	7	0	19	97	0	4	263	24	93	343	11
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	10	1	5	14	4	68	4	234	21	76	281	9
Future Vol, veh/h	10	1	5	14	4	68	4	234	21	76	281	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	200	-	-	80	-	-	180	-	230	140	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	74	74	74	89	89	89	82	82	82
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	1	6	19	5	92	4	263	24	93	343	11

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	861	824	343	809	811	263	354	0	0	287	0	0
Stage 1	529	529	-	271	271	-	-	-	-	-	-	-
Stage 2	332	295	-	538	540	-	-	-	-	-	-	-
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	276	308	700	299	313	776	1205	-	-	1275	-	-
Stage 1	533	527	-	735	685	-	-	-	-	-	-	-
Stage 2	681	669	-	527	521	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	226	285	700	278	289	776	1205	-	-	1275	-	-
Mov Cap-2 Maneuver	226	285	-	278	289	-	-	-	-	-	-	-
Stage 1	531	489	-	733	683	-	-	-	-	-	-	-
Stage 2	594	667	-	483	483	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18	12.2	0.1	1.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1205	-	-	226	563	278	710	1275	-	-
HCM Lane V/C Ratio	0.004	-	-	0.057	0.014	0.068	0.137	0.073	-	-
HCM Control Delay (s)	8	-	-	21.9	11.5	18.9	10.9	8	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.2	0.5	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	4	13	12	3	28	28	210	11	26	246	26
Future Volume (vph)	19	4	13	12	3	28	28	210	11	26	246	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	240		290	260		200
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.951			0.913				0.850			0.850
Flt Protected		0.974			0.986		0.950			0.950		
Satd. Flow (prot)	0	1725	0	0	1677	0	1770	1863	1583	1770	1863	1583
Flt Permitted		0.974			0.986		0.950			0.950		
Satd. Flow (perm)	0	1725	0	0	1677	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.75	0.75	0.75	0.82	0.82	0.82	0.94	0.94	0.94	0.78	0.78	0.78
Adj. Flow (vph)	25	5	17	15	4	34	30	223	12	33	315	33
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	47	0	0	53	0	30	223	12	33	315	33
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.0%		ICU Level of Service A	
Analysis Period (min) 15			

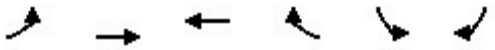
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	19	4	13	12	3	28	28	210	11	26	246	26
Future Vol, veh/h	19	4	13	12	3	28	28	210	11	26	246	26
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	-	-	-	-	-	-	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	75	75	75	82	82	82	94	94	94	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	25	5	17	15	4	34	30	223	12	33	315	33

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	689	676	315	692	697	223	348	0	0	235	0	0
Stage 1	381	381	-	283	283	-	-	-	-	-	-	-
Stage 2	308	295	-	409	414	-	-	-	-	-	-	-
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	360	375	725	358	365	817	1211	-	-	1332	-	-
Stage 1	641	613	-	724	677	-	-	-	-	-	-	-
Stage 2	702	669	-	619	593	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	329	357	725	333	347	817	1211	-	-	1332	-	-
Mov Cap-2 Maneuver	329	357	-	333	347	-	-	-	-	-	-	-
Stage 1	625	598	-	706	660	-	-	-	-	-	-	-
Stage 2	652	652	-	584	578	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.8	12.3	0.9	0.7
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1211	-	-	414	545	1332	-	-
HCM Lane V/C Ratio	0.025	-	-	0.116	0.096	0.025	-	-
HCM Control Delay (s)	8	-	-	14.8	12.3	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.3	0.1	-	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	45	46	10	5	0
Future Volume (vph)	1	45	46	10	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			0	90	0
Storage Lanes	0			0	1	1
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.975			
Flt Protected		0.999			0.950	
Satd. Flow (prot)	0	1861	1816	0	1770	1863
Flt Permitted		0.999			0.950	
Satd. Flow (perm)	0	1861	1816	0	1770	1863
Link Speed (mph)		30	30		30	
Link Distance (ft)		716	677		714	
Travel Time (s)		16.3	15.4		16.2	
Peak Hour Factor	0.82	0.82	0.74	0.74	0.56	0.56
Adj. Flow (vph)	1	55	62	14	9	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	56	76	0	9	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	1	45	46	10	5	0
Future Vol, veh/h	1	45	46	10	5	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	90	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	82	82	74	74	56	56
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1	55	62	14	9	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	76	0	-	0	126	69
Stage 1	-	-	-	-	69	-
Stage 2	-	-	-	-	57	-
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	1523	-	-	-	869	994
Stage 1	-	-	-	-	954	-
Stage 2	-	-	-	-	966	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1523	-	-	-	868	994
Mov Cap-2 Maneuver	-	-	-	-	868	-
Stage 1	-	-	-	-	953	-
Stage 2	-	-	-	-	966	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	9.2
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1523	-	-	-	868	-
HCM Lane V/C Ratio	0.001	-	-	-	0.01	-
HCM Control Delay (s)	7.4	0	-	-	9.2	0
HCM Lane LOS	A	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	-	0	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	55	282	5	23	295
Future Volume (vph)	17	55	282	5	23	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.998			
Flt Protected	0.950					0.996
Satd. Flow (prot)	1770	1583	1859	0	0	1855
Flt Permitted	0.950					0.996
Satd. Flow (perm)	1770	1583	1859	0	0	1855
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.79	0.88	0.78	0.78	0.89
Adj. Flow (vph)	22	70	320	6	29	331
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	70	326	0	0	360
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

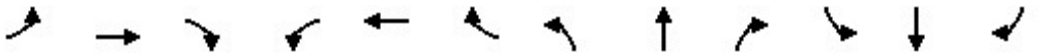
Intersection	
Int Delay, s/veh	1.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	55	282	5	23	295
Future Vol, veh/h	17	55	282	5	23	295
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	79	88	78	78	89
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	70	320	6	29	331

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	712	323	0	0	326	0
Stage 1	323	-	-	-	-	-
Stage 2	389	-	-	-	-	-
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	399	718	-	-	1234	-
Stage 1	734	-	-	-	-	-
Stage 2	685	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	387	718	-	-	1234	-
Mov Cap-2 Maneuver	387	-	-	-	-	-
Stage 1	734	-	-	-	-	-
Stage 2	665	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	11.6	0	0.7
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	387	718	1234	-
HCM Lane V/C Ratio	-	-	0.056	0.097	0.024	-
HCM Control Delay (s)	-	-	14.9	10.6	8	0
HCM Lane LOS	-	-	B	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	3	4	11	1	62	3	233	9	56	240	22
Future Volume (vph)	8	3	4	11	1	62	3	233	9	56	240	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.917			0.852				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1708	0	1770	1587	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1708	0	1770	1587	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.79	0.78	0.88	0.78	0.79	0.88	0.78
Adj. Flow (vph)	10	4	5	14	1	78	4	265	12	71	273	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	9	0	14	79	0	4	265	12	71	273	28
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	4	11	1	62	3	233	9	56	240	22
Future Vol, veh/h	8	3	4	11	1	62	3	233	9	56	240	22
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	200	-	-	80	-	-	180	-	230	140	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	79	78	88	78	79	88	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	4	5	14	1	78	4	265	12	71	273	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	734	700	273	707	716	265	301	0	0	277	0	0
Stage 1	415	415	-	273	273	-	-	-	-	-	-	-
Stage 2	319	285	-	434	443	-	-	-	-	-	-	-
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	336	363	766	350	356	774	1260	-	-	1286	-	-
Stage 1	615	592	-	733	684	-	-	-	-	-	-	-
Stage 2	693	676	-	600	576	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	288	342	766	329	335	774	1260	-	-	1286	-	-
Mov Cap-2 Maneuver	288	342	-	329	335	-	-	-	-	-	-	-
Stage 1	613	559	-	731	682	-	-	-	-	-	-	-
Stage 2	620	674	-	559	544	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	11.2	0.1	1.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1260	-	-	288	500	329	758	1286	-	-
HCM Lane V/C Ratio	0.003	-	-	0.036	0.018	0.043	0.105	0.055	-	-
HCM Control Delay (s)	7.9	-	-	18	12.3	16.4	10.3	8	-	-
HCM Lane LOS	A	-	-	C	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0.1	0.4	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	5	23	23	5	37	5	178	16	32	198	15
Future Volume (vph)	28	5	23	23	5	37	5	178	16	32	198	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	240		290	260		200
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.945			0.923				0.850			0.850
Flt Protected		0.975			0.983		0.950			0.950		
Satd. Flow (prot)	0	1716	0	0	1690	0	1770	1863	1583	1770	1863	1583
Flt Permitted		0.975			0.983		0.950			0.950		
Satd. Flow (perm)	0	1716	0	0	1690	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.86	0.78	0.78	0.87	0.78
Adj. Flow (vph)	36	6	29	29	6	47	6	207	21	41	228	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	71	0	0	82	0	6	207	21	41	228	19
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.7%		ICU Level of Service A	
Analysis Period (min) 15			

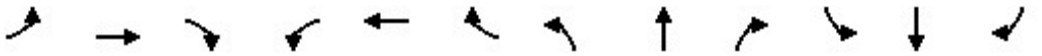
Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	28	5	23	23	5	37	5	178	16	32	198	15
Future Vol, veh/h	28	5	23	23	5	37	5	178	16	32	198	15
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	-	-	-	-	-	-	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	86	78	78	87	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	6	29	29	6	47	6	207	21	41	228	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	566	550	228	556	548	207	247	0	0	228	0	0
Stage 1	310	310	-	219	219	-	-	-	-	-	-	-
Stage 2	256	240	-	337	329	-	-	-	-	-	-	-
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	435	443	811	442	444	833	1319	-	-	1340	-	-
Stage 1	700	659	-	783	722	-	-	-	-	-	-	-
Stage 2	749	707	-	677	646	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	395	427	811	410	428	833	1319	-	-	1340	-	-
Mov Cap-2 Maneuver	395	427	-	410	428	-	-	-	-	-	-	-
Stage 1	697	639	-	779	718	-	-	-	-	-	-	-
Stage 2	697	703	-	626	626	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.3	12.3	0.2	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1319	-	-	505	579	1340	-	-
HCM Lane V/C Ratio	0.005	-	-	0.142	0.144	0.031	-	-
HCM Control Delay (s)	7.7	-	-	13.3	12.3	7.8	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.5	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	52	0	0	62	6	0	0	0	11	0	4
Future Volume (vph)	1	52	0	0	62	6	0	0	0	11	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	90		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.987						0.850	
Flt Protected		0.999								0.950		
Satd. Flow (prot)	0	1861	0	0	1839	0	1863	1863	0	1770	1583	0
Flt Permitted		0.999								0.950		
Satd. Flow (perm)	0	1861	0	0	1839	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	1	67	0	0	78	8	0	0	0	14	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	86	0	0	0	0	14	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.6%		ICU Level of Service A	
Analysis Period (min) 15			

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	1	52	0	0	62	6	0	0	0	11	0	4
Future Vol, veh/h	1	52	0	0	62	6	0	0	0	11	0	4
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	-	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	79	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	67	0	0	78	8	0	0	0	14	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	86	0	0	67	0	0	154	155	67	151	151	82
Stage 1	-	-	-	-	-	-	69	69	-	82	82	-
Stage 2	-	-	-	-	-	-	85	86	-	69	69	-
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	1510	-	-	1535	-	-	813	737	997	816	741	978
Stage 1	-	-	-	-	-	-	941	837	-	926	827	-
Stage 2	-	-	-	-	-	-	923	824	-	941	837	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1510	-	-	1535	-	-	808	736	997	815	740	978
Mov Cap-2 Maneuver	-	-	-	-	-	-	808	736	-	815	740	-
Stage 1	-	-	-	-	-	-	940	836	-	925	827	-
Stage 2	-	-	-	-	-	-	918	824	-	940	836	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	0	9.3
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1510	-	-	1535	-	-	815	978
HCM Lane V/C Ratio	-	-	0.001	-	-	-	-	-	0.017	0.005
HCM Control Delay (s)	0	0	7.4	0	-	0	-	-	9.5	8.7
HCM Lane LOS	A	A	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.1	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	14	41	354	19	52	393
Future Volume (vph)	14	41	354	19	52	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.992			
Flt Protected	0.950					0.993
Satd. Flow (prot)	1770	1583	1848	0	0	1850
Flt Permitted	0.950					0.993
Satd. Flow (perm)	1770	1583	1848	0	0	1850
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.78	0.89	0.78	0.78	0.90
Adj. Flow (vph)	18	53	398	24	67	437
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	53	422	0	0	504
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.7%		ICU Level of Service B	
Analysis Period (min) 15			

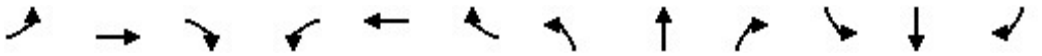
Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	41	354	19	52	393
Future Vol, veh/h	14	41	354	19	52	393
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	89	78	78	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	53	398	24	67	437

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	981	410	0	0	422	0
Stage 1	410	-	-	-	-	-
Stage 2	571	-	-	-	-	-
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	277	642	-	-	1137	-
Stage 1	670	-	-	-	-	-
Stage 2	565	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	255	642	-	-	1137	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	670	-	-	-	-	-
Stage 2	521	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.4	0	1.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	255	642	1137	-
HCM Lane V/C Ratio	-	-	0.07	0.082	0.059	-
HCM Control Delay (s)	-	-	20.2	11.1	8.4	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1	5	17	4	79	4	266	26	93	308	10
Future Volume (vph)	11	1	5	17	4	79	4	266	26	93	308	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871			0.857				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1622	0	1770	1596	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1622	0	1770	1596	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.81	0.78	0.88	0.78	0.82	0.89	0.78
Adj. Flow (vph)	14	1	6	22	5	98	5	302	33	113	346	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	7	0	22	103	0	5	302	33	113	346	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.2%		ICU Level of Service A	
Analysis Period (min) 15			

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	11	1	5	17	4	79	4	266	26	93	308	10
Future Vol, veh/h	11	1	5	17	4	79	4	266	26	93	308	10
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	200	-	-	80	-	-	180	-	230	140	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	81	78	88	78	82	89	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	1	6	22	5	98	5	302	33	113	346	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	952	917	346	894	897	302	359	0	0	335	0	0
Stage 1	572	572	-	312	312	-	-	-	-	-	-	-
Stage 2	380	345	-	582	585	-	-	-	-	-	-	-
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	239	272	697	262	279	738	1200	-	-	1224	-	-
Stage 1	505	504	-	699	658	-	-	-	-	-	-	-
Stage 2	642	636	-	499	498	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	189	246	697	239	252	738	1200	-	-	1224	-	-
Mov Cap-2 Maneuver	189	246	-	239	252	-	-	-	-	-	-	-
Stage 1	503	458	-	696	655	-	-	-	-	-	-	-
Stage 2	550	633	-	448	452	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	20.7	13.1	0.1	2
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1200	-	-	189	534	239	673	1224	-	-
HCM Lane V/C Ratio	0.004	-	-	0.075	0.014	0.091	0.153	0.093	-	-
HCM Control Delay (s)	8	-	-	25.6	11.8	21.6	11.3	8.2	-	-
HCM Lane LOS	A	-	-	D	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0	0.3	0.5	0.3	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	4	14	15	3	30	30	245	16	28	273	28
Future Volume (vph)	20	4	14	15	3	30	30	245	16	28	273	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	240		290	260		200
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.916				0.850			0.850
Flt Protected		0.974			0.985		0.950			0.950		
Satd. Flow (prot)	0	1724	0	0	1681	0	1770	1863	1583	1770	1863	1583
Flt Permitted		0.974			0.985		0.950			0.950		
Satd. Flow (perm)	0	1724	0	0	1681	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.88	0.78	0.78	0.88	0.78
Adj. Flow (vph)	26	5	18	19	4	38	38	278	21	36	310	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	61	0	38	278	21	36	310	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.4%		ICU Level of Service A	
Analysis Period (min) 15			

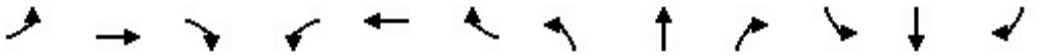
Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	20	4	14	15	3	30	30	245	16	28	273	28
Future Vol, veh/h	20	4	14	15	3	30	30	245	16	28	273	28
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	-	-	-	-	-	-	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	88	78	78	88	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	5	18	19	4	38	38	278	21	36	310	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	768	757	310	766	772	278	346	0	0	299	0	0
Stage 1	382	382	-	354	354	-	-	-	-	-	-	-
Stage 2	386	375	-	412	418	-	-	-	-	-	-	-
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	319	337	730	320	330	761	1213	-	-	1262	-	-
Stage 1	640	613	-	663	630	-	-	-	-	-	-	-
Stage 2	637	617	-	617	591	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	286	317	730	294	311	761	1213	-	-	1262	-	-
Mov Cap-2 Maneuver	286	317	-	294	311	-	-	-	-	-	-	-
Stage 1	620	595	-	642	610	-	-	-	-	-	-	-
Stage 2	582	598	-	580	574	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.1	13.6	0.9	0.7
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1213	-	-	374	480	1262	-	-
HCM Lane V/C Ratio	0.032	-	-	0.13	0.128	0.028	-	-
HCM Control Delay (s)	8.1	-	-	16.1	13.6	7.9	-	-
HCM Lane LOS	A	-	-	C	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.4	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	48	0	0	49	20	0	0	0	10	0	2
Future Volume (vph)	5	48	0	0	49	20	0	0	0	10	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	90		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.961						0.850	
Flt Protected		0.996								0.950		
Satd. Flow (prot)	0	1855	0	0	1790	0	1863	1863	0	1770	1583	0
Flt Permitted		0.996								0.950		
Satd. Flow (perm)	0	1855	0	0	1790	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	6	62	0	0	63	26	0	0	0	13	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	68	0	0	89	0	0	0	0	13	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.7%		ICU Level of Service A	
Analysis Period (min) 15			

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	5	48	0	0	49	20	0	0	0	10	0	2
Future Vol, veh/h	5	48	0	0	49	20	0	0	0	10	0	2
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	-	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	6	62	0	0	63	26	0	0	0	13	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	89	0	0	62	0	0	152	163	62	150	150	76
Stage 1	-	-	-	-	-	-	74	74	-	76	76	-
Stage 2	-	-	-	-	-	-	78	89	-	74	74	-
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	1506	-	-	1541	-	-	815	729	1003	818	742	985
Stage 1	-	-	-	-	-	-	935	833	-	933	832	-
Stage 2	-	-	-	-	-	-	931	821	-	935	833	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1506	-	-	1541	-	-	810	726	1003	816	739	985
Mov Cap-2 Maneuver	-	-	-	-	-	-	810	726	-	816	739	-
Stage 1	-	-	-	-	-	-	931	830	-	929	832	-
Stage 2	-	-	-	-	-	-	929	821	-	931	830	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	0	0	9.4
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1506	-	-	1541	-	-	816	985
HCM Lane V/C Ratio	-	-	0.004	-	-	-	-	-	0.016	0.003
HCM Control Delay (s)	0	0	7.4	0	-	0	-	-	9.5	8.7
HCM Lane LOS	A	A	A	A	-	A	-	-	A	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	55	282	5	23	295
Future Volume (vph)	17	55	325	5	23	366
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.998			
Flt Protected	0.950					0.997
Satd. Flow (prot)	1770	1583	1859	0	0	1857
Flt Permitted	0.950					0.997
Satd. Flow (perm)	1770	1583	1859	0	0	1857
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.79	0.89	0.78	0.78	0.90
Adj. Flow (vph)	22	70	365	6	29	407
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	70	371	0	0	436
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	44.5%	ICU Level of Service	A
Analysis Period (min)	15		

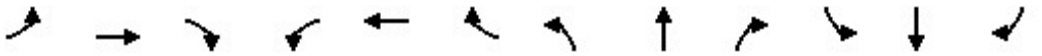
Intersection	
Int Delay, s/veh	1.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	55	282	5	23	295
Future Vol, veh/h	17	55	325	5	23	366
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	79	89	78	78	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	70	365	6	29	407

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	833	368	0	0	371	0
Stage 1	368	-	-	-	-	-
Stage 2	465	-	-	-	-	-
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	339	677	-	-	1188	-
Stage 1	700	-	-	-	-	-
Stage 2	632	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	328	677	-	-	1188	-
Mov Cap-2 Maneuver	328	-	-	-	-	-
Stage 1	700	-	-	-	-	-
Stage 2	612	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.3	0	0.5
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	328	677	1188	-
HCM Lane V/C Ratio	-	-	0.066	0.103	0.025	-
HCM Control Delay (s)	-	-	16.8	10.9	8.1	0
HCM Lane LOS	-	-	C	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.3	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	3	4	11	1	62	3	233	9	56	240	22
Future Volume (vph)	8	3	4	22	1	105	3	233	27	127	240	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.917			0.851				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1708	0	1770	1585	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1708	0	1770	1585	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.83	0.78	0.89	0.78	0.84	0.89	0.78
Adj. Flow (vph)	10	4	5	28	1	127	4	262	35	151	270	28
Shared Lane Traffic (%)												
Lane Group Flow (vph)	10	9	0	28	128	0	4	262	35	151	270	28
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.2%		ICU Level of Service A	
Analysis Period (min) 15			

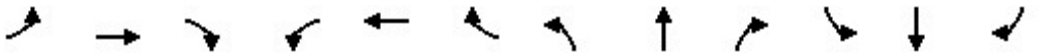
Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	3	4	11	1	62	3	233	9	56	240	22
Future Vol, veh/h	8	3	4	22	1	105	3	233	27	127	240	22
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	200	-	-	80	-	-	180	-	230	140	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	83	78	89	78	84	89	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	10	4	5	28	1	127	4	262	35	151	270	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	924	877	270	861	870	262	298	0	0	297	0	0
Stage 1	572	572	-	270	270	-	-	-	-	-	-	-
Stage 2	352	305	-	591	600	-	-	-	-	-	-	-
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	250	287	769	276	290	777	1263	-	-	1264	-	-
Stage 1	505	504	-	736	686	-	-	-	-	-	-	-
Stage 2	665	662	-	493	490	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	189	252	769	246	255	777	1263	-	-	1264	-	-
Mov Cap-2 Maneuver	189	252	-	246	255	-	-	-	-	-	-	-
Stage 1	503	444	-	734	684	-	-	-	-	-	-	-
Stage 2	554	660	-	427	432	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	19.9	12.7	0.1	2.8
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1263	-	-	189	409	246	761	1264	-	-
HCM Lane V/C Ratio	0.003	-	-	0.054	0.022	0.115	0.168	0.12	-	-
HCM Control Delay (s)	7.9	-	-	25.1	14	21.5	10.7	8.2	-	-
HCM Lane LOS	A	-	-	D	B	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.2	0.1	0.4	0.6	0.4	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	28	5	23	23	5	37	5	178	16	32	198	15
Future Volume (vph)	28	5	23	34	5	37	5	196	34	32	209	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	240		290	260		200
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.945			0.935				0.850			0.850
Flt Protected		0.975			0.978		0.950			0.950		
Satd. Flow (prot)	0	1716	0	0	1703	0	1770	1863	1583	1770	1863	1583
Flt Permitted		0.975			0.978		0.950			0.950		
Satd. Flow (perm)	0	1716	0	0	1703	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.87	0.78	0.78	0.87	0.78
Adj. Flow (vph)	36	6	29	44	6	47	6	225	44	41	240	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	71	0	0	97	0	6	225	44	41	240	19
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.7%		ICU Level of Service A	
Analysis Period (min) 15			

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	28	5	23	23	5	37	5	178	16	32	198	15
Future Vol, veh/h	28	5	23	34	5	37	5	196	34	32	209	15
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	-	-	-	-	-	-	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	87	78	78	87	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	36	6	29	44	6	47	6	225	44	41	240	19

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	608	603	240	586	578	225	259	0	0	269	0	0
Stage 1	322	322	-	237	237	-	-	-	-	-	-	-
Stage 2	286	281	-	349	341	-	-	-	-	-	-	-
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	408	413	799	422	427	814	1306	-	-	1295	-	-
Stage 1	690	651	-	766	709	-	-	-	-	-	-	-
Stage 2	721	678	-	667	639	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	369	398	799	390	411	814	1306	-	-	1295	-	-
Mov Cap-2 Maneuver	369	398	-	390	411	-	-	-	-	-	-	-
Stage 1	687	630	-	762	705	-	-	-	-	-	-	-
Stage 2	670	675	-	616	619	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	13.4	0.2	1.1
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1306	-	-	478	525	1295	-	-
HCM Lane V/C Ratio	0.005	-	-	0.15	0.186	0.032	-	-
HCM Control Delay (s)	7.8	-	-	13.9	13.4	7.9	-	-
HCM Lane LOS	A	-	-	B	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.7	0.1	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	52	0	0	62	6	0	0	0	11	0	4
Future Volume (vph)	19	52	0	0	62	18	0	0	0	18	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	90		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.969						0.850	
Flt Protected		0.987								0.950		
Satd. Flow (prot)	0	1839	0	0	1805	0	1863	1863	0	1770	1583	0
Flt Permitted		0.987								0.950		
Satd. Flow (perm)	0	1839	0	0	1805	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.79	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	24	67	0	0	78	23	0	0	0	23	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	91	0	0	101	0	0	0	0	23	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 13.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	52	0	0	62	6	0	0	0	11	0	4
Future Vol, veh/h	19	52	0	0	62	18	0	0	0	18	0	15
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	-	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	79	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	67	0	0	78	23	0	0	0	23	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	101	0	0	67	0	0	214	216	67	205	205	90
Stage 1	-	-	-	-	-	-	115	115	-	90	90	-
Stage 2	-	-	-	-	-	-	99	101	-	115	115	-
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	1491	-	-	1535	-	-	743	682	997	753	691	968
Stage 1	-	-	-	-	-	-	890	800	-	917	820	-
Stage 2	-	-	-	-	-	-	907	811	-	890	800	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1491	-	-	1535	-	-	718	670	997	743	679	968
Mov Cap-2 Maneuver	-	-	-	-	-	-	718	670	-	743	679	-
Stage 1	-	-	-	-	-	-	875	786	-	901	820	-
Stage 2	-	-	-	-	-	-	889	811	-	875	786	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2	0	0	9.5
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1491	-	-	1535	-	-	743	968
HCM Lane V/C Ratio	-	-	0.016	-	-	-	-	-	0.031	0.02
HCM Control Delay (s)	0	0	7.5	0	-	0	-	-	10	8.8
HCM Lane LOS	A	A	A	A	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.1	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	14	41	354	19	52	393
Future Volume (vph)	14	41	529	19	52	561
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.995			
Flt Protected	0.950					0.995
Satd. Flow (prot)	1770	1583	1853	0	0	1853
Flt Permitted	0.950					0.995
Satd. Flow (perm)	1770	1583	1853	0	0	1853
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.78	0.92	0.78	0.78	0.92
Adj. Flow (vph)	18	53	575	24	67	610
Shared Lane Traffic (%)						
Lane Group Flow (vph)	18	53	599	0	0	677
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 56.7%		ICU Level of Service B	
Analysis Period (min) 15			

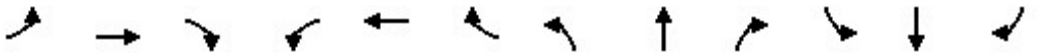
Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	41	354	19	52	393
Future Vol, veh/h	14	41	529	19	52	561
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	78	92	78	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	53	575	24	67	610

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1331	587	0	0	599	0
Stage 1	587	-	-	-	-	-
Stage 2	744	-	-	-	-	-
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	170	510	-	-	978	-
Stage 1	556	-	-	-	-	-
Stage 2	470	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	152	510	-	-	978	-
Mov Cap-2 Maneuver	152	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	421	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0.9
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	152	510	978	-
HCM Lane V/C Ratio	-	-	0.118	0.103	0.068	-
HCM Control Delay (s)	-	-	31.8	12.9	8.9	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.3	0.2	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1	5	17	4	79	4	266	26	93	308	10
Future Volume (vph)	11	1	5	61	4	254	4	266	68	261	308	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.871			0.853				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1622	0	1770	1589	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1622	0	1770	1589	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.88	0.78	0.88	0.80	0.88	0.89	0.78
Adj. Flow (vph)	14	1	6	78	5	289	5	302	85	297	346	13
Shared Lane Traffic (%)												
Lane Group Flow (vph)	14	7	0	78	294	0	5	302	85	297	346	13
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 37.2%		ICU Level of Service A	
Analysis Period (min) 15			

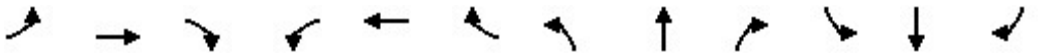
Intersection	
Int Delay, s/veh	10.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	1	5	17	4	79	4	266	26	93	308	10
Future Vol, veh/h	11	1	5	61	4	254	4	266	68	261	308	10
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	200	-	-	80	-	-	180	-	230	140	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	88	78	88	80	88	89	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	1	6	78	5	289	5	302	85	297	346	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1442	1337	346	1262	1265	302	359	0	0	387	0	0
Stage 1	940	940	-	312	312	-	-	-	-	-	-	-
Stage 2	502	397	-	950	953	-	-	-	-	-	-	-
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	110	153	697	147	169	738	1200	-	-	1171	-	-
Stage 1	316	342	-	699	658	-	-	-	-	-	-	-
Stage 2	552	603	-	312	338	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	52	114	697	116	126	738	1200	-	-	1171	-	-
Mov Cap-2 Maneuver	52	114	-	116	126	-	-	-	-	-	-	-
Stage 1	315	255	-	696	655	-	-	-	-	-	-	-
Stage 2	332	601	-	230	252	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	68.8	29	0.1	4.1
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1200	-	-	52	376	116	680	1171	-	-
HCM Lane V/C Ratio	0.004	-	-	0.271	0.02	0.674	0.432	0.253	-	-
HCM Control Delay (s)	8	-	-	98.2	14.8	84.3	14.3	9.1	-	-
HCM Lane LOS	A	-	-	F	B	F	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.9	0.1	3.5	2.2	1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	4	14	15	3	30	30	245	16	28	273	28
Future Volume (vph)	20	4	14	59	3	30	30	287	58	28	317	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	240		290	260		200
Storage Lanes	0		0	0		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.950			0.956				0.850			0.850
Flt Protected		0.974			0.969		0.950			0.950		
Satd. Flow (prot)	0	1724	0	0	1726	0	1770	1863	1583	1770	1863	1583
Flt Permitted		0.974			0.969		0.950			0.950		
Satd. Flow (perm)	0	1724	0	0	1726	0	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.79	0.78	0.78	0.78	0.88	0.79	0.78	0.89	0.78
Adj. Flow (vph)	26	5	18	75	4	38	38	326	73	36	356	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	117	0	38	326	73	36	356	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.4%		ICU Level of Service A	
Analysis Period (min) 15			

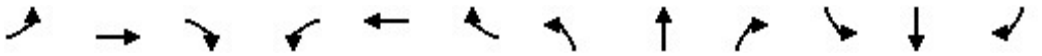
Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↰	↑	↱	↰	↑	↱
Traffic Vol, veh/h	20	4	14	15	3	30	30	245	16	28	273	28
Future Vol, veh/h	20	4	14	59	3	30	30	287	58	28	317	28
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	-	-	-	-	-	-	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	79	78	78	78	88	79	78	89	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	5	18	75	4	38	38	326	73	36	356	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	888	903	356	860	866	326	392	0	0	399	0	0
Stage 1	428	428	-	402	402	-	-	-	-	-	-	-
Stage 2	460	475	-	458	464	-	-	-	-	-	-	-
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	264	277	688	276	291	715	1167	-	-	1160	-	-
Stage 1	605	585	-	625	600	-	-	-	-	-	-	-
Stage 2	581	557	-	583	564	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	235	260	688	252	273	715	1167	-	-	1160	-	-
Mov Cap-2 Maneuver	235	260	-	252	273	-	-	-	-	-	-	-
Stage 1	585	567	-	604	580	-	-	-	-	-	-	-
Stage 2	528	539	-	545	547	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	18.6	22.5	0.7	0.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1167	-	-	314	321	1160	-	-
HCM Lane V/C Ratio	0.033	-	-	0.155	0.364	0.031	-	-
HCM Control Delay (s)	8.2	-	-	18.6	22.5	8.2	-	-
HCM Lane LOS	A	-	-	C	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.5	1.6	0.1	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	48	0	0	49	20	0	0	0	10	0	2
Future Volume (vph)	47	48	0	0	49	48	0	0	0	39	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	90		0	90		0
Storage Lanes	0		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.933						0.850	
Flt Protected		0.976								0.950		
Satd. Flow (prot)	0	1818	0	0	1738	0	1863	1863	0	1770	1583	0
Flt Permitted		0.976								0.950		
Satd. Flow (perm)	0	1818	0	0	1738	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	60	62	0	0	63	62	0	0	0	50	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	122	0	0	125	0	0	0	0	50	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	48	0	0	49	20	0	0	0	10	0	2
Future Vol, veh/h	47	48	0	0	49	48	0	0	0	39	0	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	-	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	60	62	0	0	63	62	0	0	0	50	0	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	125	0	0	62	0	0	306	307	62	276	276	94
Stage 1	-	-	-	-	-	-	182	182	-	94	94	-
Stage 2	-	-	-	-	-	-	124	125	-	182	182	-
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	1462	-	-	1541	-	-	646	607	1003	676	632	963
Stage 1	-	-	-	-	-	-	820	749	-	913	817	-
Stage 2	-	-	-	-	-	-	880	792	-	820	749	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1462	-	-	1541	-	-	587	582	1003	654	605	963
Mov Cap-2 Maneuver	-	-	-	-	-	-	587	582	-	654	605	-
Stage 1	-	-	-	-	-	-	786	718	-	875	817	-
Stage 2	-	-	-	-	-	-	826	792	-	786	718	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.7	0	0	9.9
HCM LOS			A	A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1462	-	-	1541	-	-	654	963
HCM Lane V/C Ratio	-	-	0.041	-	-	-	-	-	0.076	0.061
HCM Control Delay (s)	0	0	7.6	0	-	0	-	-	11	9
HCM Lane LOS	A	A	A	A	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.2	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	71	519	5	32	550
Future Volume (vph)	17	71	519	5	32	550
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.999			
Flt Protected	0.950					0.997
Satd. Flow (prot)	1770	1583	1861	0	0	1857
Flt Permitted	0.950					0.997
Satd. Flow (perm)	1770	1583	1861	0	0	1857
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.80	0.92	0.78	0.78	0.92
Adj. Flow (vph)	22	89	564	6	41	598
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	89	570	0	0	639
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			

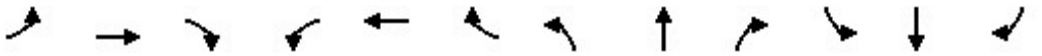
Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	71	519	5	32	550
Future Vol, veh/h	17	71	519	5	32	550
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	80	92	78	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	89	564	6	41	598

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1247	567	0	0	570	0
Stage 1	567	-	-	-	-	-
Stage 2	680	-	-	-	-	-
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	192	523	-	-	1002	-
Stage 1	568	-	-	-	-	-
Stage 2	503	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	180	523	-	-	1002	-
Mov Cap-2 Maneuver	180	-	-	-	-	-
Stage 1	568	-	-	-	-	-
Stage 2	472	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.1	0	0.6
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	180	523	1002	-
HCM Lane V/C Ratio	-	-	0.121	0.17	0.041	-
HCM Control Delay (s)	-	-	27.7	13.3	8.7	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0.6	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	6	8	18	2	107	6	434	17	102	436	42
Future Volume (vph)	16	6	8	18	2	107	6	434	17	102	436	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.917			0.853				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1708	0	1770	1589	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.605			0.746			0.482			0.312		
Satd. Flow (perm)	1127	1708	0	1390	1589	0	898	1863	1583	581	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			129				164			164
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.83	0.78	0.91	0.78	0.83	0.91	0.78
Adj. Flow (vph)	21	8	10	23	3	129	8	477	22	123	479	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	18	0	23	132	0	8	477	22	123	479	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	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)	10.5	23.5		10.5	23.5		10.5	23.5	23.5	10.5	43.5	43.5
Total Split (s)	10.5	23.5		10.5	23.5		10.5	40.0	40.0	16.0	45.5	45.5
Total Split (%)	11.7%	26.1%		11.7%	26.1%		11.7%	44.4%	44.4%	17.8%	50.6%	50.6%
Maximum Green (s)	5.0	18.0		5.0	18.0		5.0	34.5	34.5	10.5	40.0	40.0
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)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	9.4	8.9		8.5	7.2		29.2	27.1	27.1	35.3	35.8	35.8
Actuated g/C Ratio	0.17	0.16		0.16	0.13		0.54	0.50	0.50	0.65	0.66	0.66
v/c Ratio	0.08	0.06		0.09	0.41		0.01	0.51	0.03	0.22	0.39	0.05
Control Delay	21.7	19.3		21.9	11.5		6.5	17.4	0.1	6.7	9.6	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	19.3		21.9	11.5		6.5	17.4	0.1	6.7	9.6	0.1
LOS	C	B		C	B		A	B	A	A	A	A
Approach Delay		20.6			13.1			16.4			8.3	
Approach LOS		C			B			B			A	

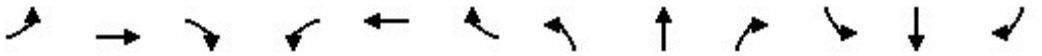
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 54.2			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.51			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Parish Ave & Settler Way

Queues
2: Parish Ave & Settler Way

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	18	23	132	8	477	22	123	479	54
v/c Ratio	0.08	0.06	0.09	0.41	0.01	0.51	0.03	0.22	0.39	0.05
Control Delay	21.7	19.3	21.9	11.5	6.5	17.4	0.1	6.7	9.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.7	19.3	21.9	11.5	6.5	17.4	0.1	6.7	9.6	0.1
Queue Length 50th (ft)	5	2	6	1	1	102	0	10	48	0
Queue Length 95th (ft)	22	19	23	34	6	285	0	42	252	0
Internal Link Dist (ft)		546		578		726			498	
Turn Bay Length (ft)	200		80		180		230	140		130
Base Capacity (vph)	261	642	257	672	573	1298	1153	637	1446	1265
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	0.08	0.03	0.09	0.20	0.01	0.37	0.02	0.19	0.33	0.04

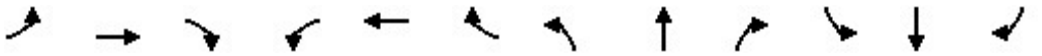
Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	6	8	18	2	107	6	434	17	102	436	42
Future Volume (veh/h)	16	6	8	18	2	107	6	434	17	102	436	42
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	21	8	10	23	3	129	8	477	22	123	479	54
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.83	0.78	0.91	0.78	0.83	0.91	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	239	88	110	343	4	184	334	616	522	382	751	636
Arrive On Green	0.03	0.12	0.12	0.03	0.12	0.12	0.01	0.33	0.33	0.08	0.40	0.40
Sat Flow, veh/h	1781	756	945	1781	36	1554	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	21	0	18	23	0	132	8	477	22	123	479	54
Grp Sat Flow(s),veh/h/ln	1781	0	1700	1781	0	1591	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.5	0.0	0.5	0.6	0.0	4.0	0.1	11.4	0.5	2.2	10.2	1.0
Cycle Q Clear(g_c), s	0.5	0.0	0.5	0.6	0.0	4.0	0.1	11.4	0.5	2.2	10.2	1.0
Prop In Lane	1.00		0.56	1.00		0.98	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	239	0	198	343	0	188	334	616	522	382	751	636
V/C Ratio(X)	0.09	0.00	0.09	0.07	0.00	0.70	0.02	0.77	0.04	0.32	0.64	0.08
Avail Cap(c_a), veh/h	374	0	618	474	0	578	495	1303	1104	613	1511	1280
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	18.6	0.0	19.5	18.4	0.0	21.0	11.3	14.9	11.3	10.7	11.9	9.2
Incr Delay (d2), s/veh	0.2	0.0	0.2	0.1	0.0	4.7	0.0	2.1	0.0	0.5	0.9	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	0.2	0.0	0.2	0.2	0.0	1.6	0.1	4.3	0.1	0.7	3.5	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.8	0.0	19.7	18.5	0.0	25.7	11.3	17.1	11.3	11.2	12.8	9.2
LnGrp LOS	B	A	B	B	A	C	B	B	B	B	B	A
Approach Vol, veh/h		39			155			507			656	
Approach Delay, s/veh		19.2			24.6			16.7			12.2	
Approach LOS		B			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.6	21.8	6.9	11.3	6.0	25.4	6.8	11.4
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	10.5	34.5	5.0	18.0	5.0	40.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	4.2	13.4	2.6	2.5	2.1	12.2	2.5	6.0
Green Ext Time (p_c), s	0.1	3.0	0.0	0.0	0.0	3.3	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	15.5
HCM 6th LOS	B



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	10	44	40	10	70	10	329	29	60	354	28
Future Volume (vph)	52	10	44	40	10	70	10	329	29	60	354	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		150	240		290	260		200
Storage Lanes	0		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.944				0.850			0.850			0.850
Flt Protected		0.976		0.950			0.950			0.950		
Satd. Flow (prot)	0	1716	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted		0.976		0.950			0.950			0.950		
Satd. Flow (perm)	0	1716	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.80	0.78	0.89	0.78	0.79	0.90	0.78
Adj. Flow (vph)	67	13	56	51	13	88	13	370	37	76	393	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	51	13	88	13	370	37	76	393	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	6.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	10	44	40	10	70	10	329	29	60	354	28
Future Vol, veh/h	52	10	44	40	10	70	10	329	29	60	354	28
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	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	80	78	89	78	79	90	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	13	56	51	13	88	13	370	37	76	393	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1010	978	393	994	977	370	429	0	0	407	0	0
Stage 1	545	545	-	396	396	-	-	-	-	-	-	-
Stage 2	465	433	-	598	581	-	-	-	-	-	-	-
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	218	250	656	224	251	676	1130	-	-	1152	-	-
Stage 1	523	519	-	629	604	-	-	-	-	-	-	-
Stage 2	578	582	-	489	500	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	171	231	656	185	232	676	1130	-	-	1152	-	-
Mov Cap-2 Maneuver	171	231	-	185	232	-	-	-	-	-	-	-
Stage 1	517	485	-	621	597	-	-	-	-	-	-	-
Stage 2	487	575	-	406	467	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	33.9	19	0.3	1.3
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1130	-	-	256	185	232	676	1152	-	-
HCM Lane V/C Ratio	0.011	-	-	0.531	0.277	0.055	0.129	0.066	-	-
HCM Control Delay (s)	8.2	-	-	33.9	31.8	21.4	11.1	8.3	-	-
HCM Lane LOS	A	-	-	D	D	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	2.9	1.1	0.2	0.4	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	98	0	0	116	10	0	0	0	14	0	4
Future Volume (vph)	1	98	0	0	116	10	0	0	0	14	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	90		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.988						0.850	
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	1863	0	0	1840	0	1863	1863	0	1770	1583	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	1863	0	0	1840	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.83	0.78	0.78	0.84	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	1	118	0	0	138	13	0	0	0	18	0	5
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1	118	0	0	151	0	0	0	0	18	5	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.7%		ICU Level of Service A	
Analysis Period (min) 15			

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	1	98	0	0	116	10	0	0	0	14	0	4
Future Vol, veh/h	1	98	0	0	116	10	0	0	0	14	0	4
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	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	83	78	78	84	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	118	0	0	138	13	0	0	0	18	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	151	0	0	118	0	0	267	271	118	265	265	145
Stage 1	-	-	-	-	-	-	120	120	-	145	145	-
Stage 2	-	-	-	-	-	-	147	151	-	120	120	-
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	1430	-	-	1470	-	-	686	636	934	688	640	902
Stage 1	-	-	-	-	-	-	884	796	-	858	777	-
Stage 2	-	-	-	-	-	-	856	772	-	884	796	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1430	-	-	1470	-	-	682	635	934	687	639	902
Mov Cap-2 Maneuver	-	-	-	-	-	-	682	635	-	687	639	-
Stage 1	-	-	-	-	-	-	883	795	-	857	777	-
Stage 2	-	-	-	-	-	-	851	772	-	883	795	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0	0	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1430	-	-	1470	-	-	687	902
HCM Lane V/C Ratio	-	-	0.001	-	-	-	-	-	0.026	0.006
HCM Control Delay (s)	0	0	7.5	-	-	0	-	-	10.4	9
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.1	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	57	659	20	63	728
Future Volume (vph)	18	57	659	20	63	728
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.995			
Flt Protected	0.950					0.995
Satd. Flow (prot)	1770	1583	1853	0	0	1853
Flt Permitted	0.950					0.995
Satd. Flow (perm)	1770	1583	1853	0	0	1853
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.79	0.92	0.78	0.79	0.92
Adj. Flow (vph)	23	72	716	26	80	791
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	72	742	0	0	871
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		

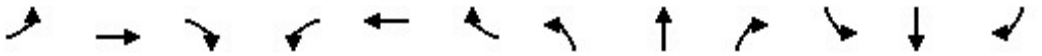
Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	57	659	20	63	728
Future Vol, veh/h	18	57	659	20	63	728
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	79	92	78	79	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	72	716	26	80	791

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1680	729	0	0	742	0
Stage 1	729	-	-	-	-	-
Stage 2	951	-	-	-	-	-
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	104	423	-	-	865	-
Stage 1	477	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	87	423	-	-	865	-
Mov Cap-2 Maneuver	87	-	-	-	-	-
Stage 1	477	-	-	-	-	-
Stage 2	313	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	26.3	0	0.9
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	87	423	865	-
HCM Lane V/C Ratio	-	-	0.265	0.171	0.092	-
HCM Control Delay (s)	-	-	60.7	15.3	9.6	0
HCM Lane LOS	-	-	F	C	A	A
HCM 95th %tile Q(veh)	-	-	1	0.6	0.3	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2	10	30	8	143	8	485	46	164	570	18
Future Volume (vph)	20	2	10	30	8	143	8	485	46	164	570	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.878			0.858				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1635	0	1770	1598	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.656			0.549			0.377			0.235		
Satd. Flow (perm)	1222	1635	0	1023	1598	0	702	1863	1583	438	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			168				230			164
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.85	0.78	0.92	0.78	0.86	0.92	0.78
Adj. Flow (vph)	26	3	13	38	10	168	10	527	59	191	620	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	16	0	38	178	0	10	527	59	191	620	23
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	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)	10.5	23.5		10.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	10.5	23.5		10.5	23.5		10.5	35.0	35.0	21.0	45.5	45.5
Total Split (%)	11.7%	26.1%		11.7%	26.1%		11.7%	38.9%	38.9%	23.3%	50.6%	50.6%
Maximum Green (s)	5.0	18.0		5.0	18.0		5.0	29.5	29.5	15.5	40.0	40.0
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)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	7.6	7.1		9.8	7.4		28.5	23.1	23.1	37.8	36.3	36.3
Actuated g/C Ratio	0.13	0.12		0.16	0.12		0.47	0.38	0.38	0.63	0.60	0.60
v/c Ratio	0.13	0.08		0.15	0.52		0.02	0.74	0.08	0.41	0.55	0.02
Control Delay	27.4	19.3		23.6	12.9		7.1	25.0	0.2	8.4	11.9	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	19.3		23.6	12.9		7.1	25.0	0.2	8.4	11.9	0.1
LOS	C	B		C	B		A	C	A	A	B	A
Approach Delay		24.3			14.8			22.2			10.8	
Approach LOS		C			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 60.2			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 15.7		Intersection LOS: B	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

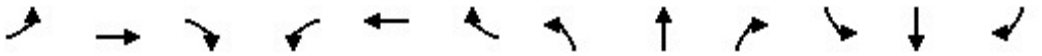
Splits and Phases: 2: Parish Ave & Settler Way

Queues
2: Parish Ave & Settler Way

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	16	38	178	10	527	59	191	620	23
v/c Ratio	0.13	0.08	0.15	0.52	0.02	0.74	0.08	0.41	0.55	0.02
Control Delay	27.4	19.3	23.6	12.9	7.1	25.0	0.2	8.4	11.9	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	19.3	23.6	12.9	7.1	25.0	0.2	8.4	11.9	0.1
Queue Length 50th (ft)	7	1	11	3	1	122	0	16	71	0
Queue Length 95th (ft)	25	15	33	40	7	#370	0	67	372	0
Internal Link Dist (ft)		546		578		726			498	
Turn Bay Length (ft)	200		80		180		230	140		130
Base Capacity (vph)	202	532	260	626	427	985	945	642	1351	1193
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	0.03	0.15	0.28	0.02	0.54	0.06	0.30	0.46	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	10	30	8	143	8	485	46	164	570	18
Future Volume (veh/h)	20	2	10	30	8	143	8	485	46	164	570	18
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	26	3	13	38	10	168	10	527	59	191	620	23
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.85	0.78	0.92	0.78	0.86	0.92	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	43	184	377	13	225	261	639	541	371	801	679
Arrive On Green	0.03	0.14	0.14	0.04	0.15	0.15	0.01	0.34	0.34	0.10	0.43	0.43
Sat Flow, veh/h	1781	306	1326	1781	90	1509	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	26	0	16	38	0	178	10	527	59	191	620	23
Grp Sat Flow(s),veh/h/ln	1781	0	1632	1781	0	1599	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.7	0.0	0.5	1.0	0.0	6.2	0.2	14.9	1.5	3.7	16.4	0.5
Cycle Q Clear(g_c), s	0.7	0.0	0.5	1.0	0.0	6.2	0.2	14.9	1.5	3.7	16.4	0.5
Prop In Lane	1.00		0.81	1.00		0.94	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	0	227	377	0	238	261	639	541	371	801	679
V/C Ratio(X)	0.11	0.00	0.07	0.10	0.00	0.75	0.04	0.82	0.11	0.51	0.77	0.03
Avail Cap(c_a), veh/h	330	0	508	461	0	497	392	953	808	671	1293	1096
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	20.6	0.0	21.7	20.0	0.0	23.6	13.3	17.5	13.0	12.2	14.1	9.6
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.1	0.0	4.6	0.1	3.8	0.1	1.1	1.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.2	0.4	0.0	2.5	0.1	6.2	0.5	1.3	6.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.8	0.0	21.8	20.1	0.0	28.2	13.3	21.2	13.1	13.3	15.8	9.6
LnGrp LOS	C	A	C	C	A	C	B	C	B	B	B	A
Approach Vol, veh/h		42			216			596			834	
Approach Delay, s/veh		21.2			26.8			20.3			15.0	
Approach LOS		C			C			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	25.3	7.8	13.5	6.2	30.3	7.2	14.1
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	15.5	29.5	5.0	18.0	5.0	40.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.7	16.9	3.0	2.5	2.2	18.4	2.7	8.2
Green Ext Time (p_c), s	0.3	2.8	0.0	0.0	0.0	4.2	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	8	26	26	6	56	56	441	26	52	502	52
Future Volume (vph)	38	8	26	26	6	56	56	441	26	52	502	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		150	240		290	260		200
Storage Lanes	0		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952				0.850			0.850			0.850
Flt Protected		0.974		0.950			0.950			0.950		
Satd. Flow (prot)	0	1727	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted		0.974		0.950			0.950			0.950		
Satd. Flow (perm)	0	1727	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.79	0.79	0.91	0.78	0.78	0.92	0.78
Adj. Flow (vph)	49	10	33	33	8	71	71	485	33	67	546	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	33	8	71	71	485	33	67	546	67
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.5%		ICU Level of Service A	
Analysis Period (min) 15			

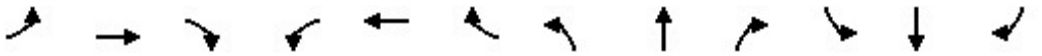
Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	8	26	26	6	56	56	441	26	52	502	52
Future Vol, veh/h	38	8	26	26	6	56	56	441	26	52	502	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	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	79	79	91	78	78	92	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	10	33	33	8	71	71	485	33	67	546	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1363	1340	546	1362	1374	485	613	0	0	518	0	0
Stage 1	680	680	-	627	627	-	-	-	-	-	-	-
Stage 2	683	660	-	735	747	-	-	-	-	-	-	-
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	125	153	538	125	145	582	966	-	-	1048	-	-
Stage 1	441	451	-	471	476	-	-	-	-	-	-	-
Stage 2	439	460	-	411	420	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	94	133	538	99	126	582	966	-	-	1048	-	-
Mov Cap-2 Maneuver	94	133	-	99	126	-	-	-	-	-	-	-
Stage 1	409	422	-	437	441	-	-	-	-	-	-	-
Stage 2	351	426	-	352	393	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	70.3	27.5	1.1	0.9
HCM LOS	F	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	966	-	-	140	99	126	582	1048	-	-
HCM Lane V/C Ratio	0.073	-	-	0.659	0.337	0.061	0.122	0.064	-	-
HCM Control Delay (s)	9	-	-	70.3	58.8	35.4	12	8.7	-	-
HCM Lane LOS	A	-	-	F	F	E	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	3.6	1.3	0.2	0.4	0.2	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	90	0	0	92	29	0	0	0	15	0	2
Future Volume (vph)	6	90	0	0	92	29	0	0	0	15	0	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	90		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.966						0.850	
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	1863	0	0	1799	0	1863	1863	0	1770	1583	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	1863	0	0	1799	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.82	0.78	0.78	0.82	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	8	110	0	0	112	37	0	0	0	19	0	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	8	110	0	0	149	0	0	0	0	19	3	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	6	90	0	0	92	29	0	0	0	15	0	2
Future Vol, veh/h	6	90	0	0	92	29	0	0	0	15	0	2
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	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	82	78	78	82	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	110	0	0	112	37	0	0	0	19	0	3

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	149	0	0	110	0	0	258	275	110	257	257	131
Stage 1	-	-	-	-	-	-	126	126	-	131	131	-
Stage 2	-	-	-	-	-	-	132	149	-	126	126	-
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	1432	-	-	1480	-	-	695	632	943	696	647	919
Stage 1	-	-	-	-	-	-	878	792	-	873	788	-
Stage 2	-	-	-	-	-	-	871	774	-	878	792	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1432	-	-	1480	-	-	690	628	943	693	643	919
Mov Cap-2 Maneuver	-	-	-	-	-	-	690	628	-	693	643	-
Stage 1	-	-	-	-	-	-	873	787	-	868	788	-
Stage 2	-	-	-	-	-	-	869	774	-	873	787	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0	0	10.1
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1432	-	-	1480	-	-	693	919
HCM Lane V/C Ratio	-	-	0.005	-	-	-	-	-	0.028	0.003
HCM Control Delay (s)	0	0	7.5	-	-	0	-	-	10.3	8.9
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0	-	-	0	-	-	0.1	0

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	71	519	5	32	550
Future Volume (vph)	17	71	562	5	32	621
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.999			
Flt Protected	0.950					0.997
Satd. Flow (prot)	1770	1583	1861	0	0	1857
Flt Permitted	0.950					0.997
Satd. Flow (perm)	1770	1583	1861	0	0	1857
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.81	0.92	0.78	0.78	0.92
Adj. Flow (vph)	22	88	611	6	41	675
Shared Lane Traffic (%)						
Lane Group Flow (vph)	22	88	617	0	0	716
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 65.1%		ICU Level of Service C	
Analysis Period (min) 15			

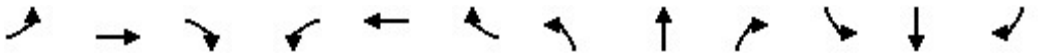
Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	17	71	519	5	32	550
Future Vol, veh/h	17	71	562	5	32	621
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	81	92	78	78	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	22	88	611	6	41	675

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1371	614	0	0	617	0
Stage 1	614	-	-	-	-	-
Stage 2	757	-	-	-	-	-
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	161	492	-	-	963	-
Stage 1	540	-	-	-	-	-
Stage 2	463	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	150	492	-	-	963	-
Mov Cap-2 Maneuver	150	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	432	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	17.7	0	0.5
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	150	492	963	-
HCM Lane V/C Ratio	-	-	0.145	0.178	0.043	-
HCM Control Delay (s)	-	-	33	13.9	8.9	0
HCM Lane LOS	-	-	D	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.6	0.1	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	6	8	18	2	107	6	434	17	102	436	42
Future Volume (vph)	16	6	8	29	2	150	6	434	35	173	436	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.917			0.853				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1708	0	1770	1589	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.667			0.552			0.490			0.263		
Satd. Flow (perm)	1242	1708	0	1028	1589	0	913	1863	1583	490	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10			176				164			164
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.85	0.78	0.91	0.78	0.86	0.91	0.78
Adj. Flow (vph)	21	8	10	37	3	176	8	477	45	201	479	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	21	18	0	37	179	0	8	477	45	201	479	54
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	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)	10.5	23.5		10.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	10.5	23.5		10.5	23.5		10.5	40.0	40.0	16.0	45.5	45.5
Total Split (%)	11.7%	26.1%		11.7%	26.1%		11.7%	44.4%	44.4%	17.8%	50.6%	50.6%
Maximum Green (s)	5.0	18.0		5.0	18.0		5.0	34.5	34.5	10.5	40.0	40.0
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)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	7.5	7.0		9.6	7.3		26.1	20.6	20.6	35.2	33.7	33.7
Actuated g/C Ratio	0.13	0.12		0.17	0.13		0.45	0.36	0.36	0.61	0.59	0.59
v/c Ratio	0.10	0.08		0.14	0.51		0.02	0.71	0.07	0.41	0.44	0.05
Control Delay	26.3	22.2		22.7	11.7		6.8	23.5	0.2	8.5	10.3	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	22.2		22.7	11.7		6.8	23.5	0.2	8.5	10.3	0.1
LOS	C	C		C	B		A	C	A	A	B	A
Approach Delay		24.4			13.6			21.3			9.1	
Approach LOS		C			B			C			A	

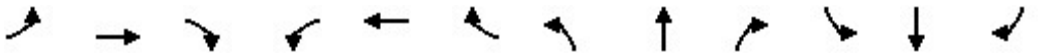
Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 57.5			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 14.4		Intersection LOS: B	
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 2: Parish Ave & Settler Way

Queues
2: Parish Ave & Settler Way

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	21	18	37	179	8	477	45	201	479	54
v/c Ratio	0.10	0.08	0.14	0.51	0.02	0.71	0.07	0.41	0.44	0.05
Control Delay	26.3	22.2	22.7	11.7	6.8	23.5	0.2	8.5	10.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	22.2	22.7	11.7	6.8	23.5	0.2	8.5	10.3	0.1
Queue Length 50th (ft)	5	2	10	1	1	106	0	17	48	0
Queue Length 95th (ft)	22	19	32	37	6	294	0	70	259	0
Internal Link Dist (ft)		546		578		726			498	
Turn Bay Length (ft)	200		80		180		230	140		130
Base Capacity (vph)	211	587	270	656	494	1214	1088	553	1419	1245
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	0.10	0.03	0.14	0.27	0.02	0.39	0.04	0.36	0.34	0.04

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	6	8	18	2	107	6	434	17	102	436	42
Future Volume (veh/h)	16	6	8	29	2	150	6	434	35	173	436	42
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	21	8	10	37	3	176	8	477	45	201	479	54
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.85	0.78	0.91	0.78	0.86	0.91	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	104	130	379	4	237	335	602	510	395	777	659
Arrive On Green	0.02	0.14	0.14	0.04	0.15	0.15	0.01	0.32	0.32	0.10	0.42	0.42
Sat Flow, veh/h	1781	756	945	1781	27	1562	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	21	0	18	37	0	179	8	477	45	201	479	54
Grp Sat Flow(s),veh/h/ln	1781	0	1700	1781	0	1589	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.6	0.0	0.5	1.0	0.0	6.0	0.2	12.9	1.1	3.8	11.1	1.1
Cycle Q Clear(g_c), s	0.6	0.0	0.5	1.0	0.0	6.0	0.2	12.9	1.1	3.8	11.1	1.1
Prop In Lane	1.00		0.56	1.00		0.98	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	228	0	234	379	0	241	335	602	510	395	777	659
V/C Ratio(X)	0.09	0.00	0.08	0.10	0.00	0.74	0.02	0.79	0.09	0.51	0.62	0.08
Avail Cap(c_a), veh/h	344	0	552	470	0	516	478	1165	987	546	1350	1144
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	19.9	0.0	20.8	19.2	0.0	22.5	12.7	17.1	13.1	11.7	12.7	9.8
Incr Delay (d2), s/veh	0.2	0.0	0.1	0.1	0.0	4.5	0.0	2.4	0.1	1.0	0.8	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	0.2	0.0	0.2	0.4	0.0	2.3	0.1	5.1	0.4	1.3	4.0	0.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.1	0.0	21.0	19.3	0.0	26.9	12.8	19.5	13.2	12.7	13.5	9.8
LnGrp LOS	C	A	C	B	A	C	B	B	B	B	B	A
Approach Vol, veh/h		39			216			530			734	
Approach Delay, s/veh		20.5			25.6			18.9			13.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.3	23.3	7.7	13.1	6.1	28.5	6.9	13.9
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	10.5	34.5	5.0	18.0	5.0	40.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	5.8	14.9	3.0	2.5	2.2	13.1	2.6	8.0
Green Ext Time (p_c), s	0.2	3.0	0.0	0.0	0.0	3.3	0.0	0.7

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	10	44	40	10	70	10	329	29	60	354	28
Future Volume (vph)	52	10	44	51	10	70	10	347	47	60	365	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		150	240		290	260		200
Storage Lanes	0		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.944				0.850			0.850			0.850
Flt Protected		0.976		0.950			0.950			0.950		
Satd. Flow (prot)	0	1716	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted		0.976		0.950			0.950			0.950		
Satd. Flow (perm)	0	1716	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.78	0.78	0.80	0.78	0.89	0.78	0.79	0.90	0.78
Adj. Flow (vph)	67	13	56	65	13	88	13	390	60	76	406	36
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	136	0	65	13	88	13	390	60	76	406	36
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 44.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	10	44	40	10	70	10	329	29	60	354	28
Future Vol, veh/h	52	10	44	51	10	70	10	347	47	60	365	28
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	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	78	78	80	78	89	78	79	90	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	13	56	65	13	88	13	390	60	76	406	36

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1055	1034	406	1027	1010	390	442	0	0	450	0	0
Stage 1	558	558	-	416	416	-	-	-	-	-	-	-
Stage 2	497	476	-	611	594	-	-	-	-	-	-	-
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	204	232	645	213	240	658	1118	-	-	1110	-	-
Stage 1	514	512	-	614	592	-	-	-	-	-	-	-
Stage 2	555	557	-	481	493	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	159	214	645	174	221	658	1118	-	-	1110	-	-
Mov Cap-2 Maneuver	159	214	-	174	221	-	-	-	-	-	-	-
Stage 1	508	477	-	607	585	-	-	-	-	-	-	-
Stage 2	465	550	-	398	459	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	37.9	22.5	0.2	1.2
HCM LOS	E	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	1118	-	-	240	174	221	658	1110	-	-
HCM Lane V/C Ratio	0.011	-	-	0.566	0.376	0.058	0.133	0.068	-	-
HCM Control Delay (s)	8.3	-	-	37.9	37.6	22.3	11.3	8.5	-	-
HCM Lane LOS	A	-	-	E	E	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	3.2	1.6	0.2	0.5	0.2	-	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	98	0	0	116	10	0	0	0	14	0	4
Future Volume (vph)	19	98	0	0	116	22	0	0	0	21	0	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	90		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.977						0.850	
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	1863	0	0	1820	0	1863	1863	0	1770	1583	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	1863	0	0	1820	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.83	0.78	0.78	0.84	0.78	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	24	118	0	0	138	28	0	0	0	27	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	24	118	0	0	166	0	0	0	0	27	19	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	98	0	0	116	10	0	0	0	14	0	4
Future Vol, veh/h	19	98	0	0	116	22	0	0	0	21	0	15
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	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	83	78	78	84	78	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	118	0	0	138	28	0	0	0	27	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	166	0	0	118	0	0	328	332	118	318	318	152
Stage 1	-	-	-	-	-	-	166	166	-	152	152	-
Stage 2	-	-	-	-	-	-	162	166	-	166	166	-
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	1412	-	-	1470	-	-	625	588	934	635	598	894
Stage 1	-	-	-	-	-	-	836	761	-	850	772	-
Stage 2	-	-	-	-	-	-	840	761	-	836	761	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1412	-	-	1470	-	-	604	578	934	627	588	894
Mov Cap-2 Maneuver	-	-	-	-	-	-	604	578	-	627	588	-
Stage 1	-	-	-	-	-	-	822	748	-	836	772	-
Stage 2	-	-	-	-	-	-	822	761	-	822	748	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0	0	10.2
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1412	-	-	1470	-	-	627	894
HCM Lane V/C Ratio	-	-	0.017	-	-	-	-	-	0.043	0.022
HCM Control Delay (s)	0	0	7.6	-	-	0	-	-	11	9.1
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.1	0.1

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	57	659	20	63	728
Future Volume (vph)	18	57	834	20	63	896
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	90	0		0	0	
Storage Lanes	1	1		0	0	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850	0.996			
Flt Protected	0.950					0.996
Satd. Flow (prot)	1770	1583	1855	0	0	1855
Flt Permitted	0.950					0.996
Satd. Flow (perm)	1770	1583	1855	0	0	1855
Link Speed (mph)	30		35			35
Link Distance (ft)	725		578			580
Travel Time (s)	16.5		11.3			11.3
Peak Hour Factor	0.78	0.79	0.93	0.78	0.79	0.93
Adj. Flow (vph)	23	72	897	26	80	963
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	72	923	0	0	1043
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	91.0%	ICU Level of Service	F
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	2.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	18	57	659	20	63	728
Future Vol, veh/h	18	57	834	20	63	896
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	90	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	78	79	93	78	79	93
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	72	897	26	80	963

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	2033	910	0	0	923	0
Stage 1	910	-	-	-	-	-
Stage 2	1123	-	-	-	-	-
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	63	333	-	-	740	-
Stage 1	393	-	-	-	-	-
Stage 2	311	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	48	333	-	-	740	-
Mov Cap-2 Maneuver	48	-	-	-	-	-
Stage 1	393	-	-	-	-	-
Stage 2	239	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	47.2	0	0.8
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	WBLn2	SBL	SBT
Capacity (veh/h)	-	-	48	333	740	-
HCM Lane V/C Ratio	-	-	0.481	0.217	0.108	-
HCM Control Delay (s)	-	-	136	18.8	10.5	0
HCM Lane LOS	-	-	F	C	B	A
HCM 95th %tile Q(veh)	-	-	1.8	0.8	0.4	-

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	2	10	30	8	143	8	485	46	164	570	18
Future Volume (vph)	20	2	10	74	8	318	8	485	88	332	570	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	200		0	80		0	180		230	140		130
Storage Lanes	1		0	1		0	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.878			0.854				0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1635	0	1770	1591	0	1770	1863	1583	1770	1863	1583
Flt Permitted	0.952			0.426			0.430			0.201		
Satd. Flow (perm)	1773	1635	0	794	1591	0	801	1863	1583	374	1863	1583
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		13			357				230			164
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		626			658			806			578	
Travel Time (s)		14.2			15.0			15.7			11.3	
Peak Hour Factor	0.78	0.78	0.78	0.80	0.78	0.89	0.78	0.92	0.82	0.89	0.92	0.78
Adj. Flow (vph)	26	3	13	93	10	357	10	527	107	373	620	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	26	16	0	93	367	0	10	527	107	373	620	23
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2	1	1	2	1
Detector Template	Left	Thru		Left	Thru		Left	Thru	Right	Left	Thru	Right
Leading Detector (ft)	20	100		20	100		20	100	20	20	100	20
Trailing Detector (ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0	0	0	0	0
Detector 1 Size(ft)	20	6		20	6		20	6	20	20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases	4			8			2		2	6		6

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Detector Phase	7	4		3	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)	10.5	23.5		10.5	23.5		10.5	23.5	23.5	10.5	23.5	23.5
Total Split (s)	10.5	23.5		10.5	23.5		10.5	35.0	35.0	21.0	45.5	45.5
Total Split (%)	11.7%	26.1%		11.7%	26.1%		11.7%	38.9%	38.9%	23.3%	50.6%	50.6%
Maximum Green (s)	5.0	18.0		5.0	18.0		5.0	29.5	29.5	15.5	40.0	40.0
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)	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
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)	5.5	5.5		5.5	5.5		5.5	5.5	5.5	5.5	5.5	5.5
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None		None	None		None	Min	Min	None	Min	Min
Walk Time (s)		7.0			7.0			7.0	7.0		7.0	7.0
Flash Dont Walk (s)		11.0			11.0			11.0	11.0		11.0	11.0
Pedestrian Calls (#/hr)		0			0			0	0		0	0
Act Effct Green (s)	8.1	7.8		11.1	8.6		29.5	24.3	24.3	45.1	43.5	43.5
Actuated g/C Ratio	0.12	0.11		0.16	0.13		0.43	0.35	0.35	0.66	0.64	0.64
v/c Ratio	0.12	0.08		0.38	0.72		0.02	0.80	0.15	0.68	0.52	0.02
Control Delay	28.9	19.0		29.7	13.1		8.8	32.6	0.5	17.5	12.4	0.1
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	19.0		29.7	13.1		8.8	32.6	0.5	17.5	12.4	0.1
LOS	C	B		C	B		A	C	A	B	B	A
Approach Delay		25.1			16.5			26.9			14.0	
Approach LOS		C			B			C			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 68.5			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.80			
Intersection Signal Delay: 18.6		Intersection LOS: B	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 2: Parish Ave & Settler Way

Queues
2: Parish Ave & Settler Way

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	26	16	93	367	10	527	107	373	620	23
v/c Ratio	0.12	0.08	0.38	0.72	0.02	0.80	0.15	0.68	0.52	0.02
Control Delay	28.9	19.0	29.7	13.1	8.8	32.6	0.5	17.5	12.4	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.9	19.0	29.7	13.1	8.8	32.6	0.5	17.5	12.4	0.1
Queue Length 50th (ft)	9	1	35	4	1	163	0	36	71	0
Queue Length 95th (ft)	25	15	65	41	8	#458	0	#252	419	0
Internal Link Dist (ft)		546		578		726			498	
Turn Bay Length (ft)	200		80		180		230	140		130
Base Capacity (vph)	209	460	244	697	419	841	840	577	1231	1101
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	0.12	0.03	0.38	0.53	0.02	0.63	0.13	0.65	0.50	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	2	10	30	8	143	8	485	46	164	570	18
Future Volume (veh/h)	20	2	10	74	8	318	8	485	88	332	570	18
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	26	3	13	92	10	357	10	527	107	373	620	23
Peak Hour Factor	0.78	0.78	0.78	0.80	0.78	0.89	0.78	0.92	0.82	0.89	0.92	0.78
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	138	59	256	450	10	345	268	591	501	414	869	737
Arrive On Green	0.03	0.19	0.19	0.06	0.22	0.22	0.01	0.32	0.32	0.16	0.46	0.46
Sat Flow, veh/h	1781	306	1326	1781	43	1548	1781	1870	1585	1781	1870	1585
Grp Volume(v), veh/h	26	0	16	92	0	367	10	527	107	373	620	23
Grp Sat Flow(s),veh/h/ln	1781	0	1632	1781	0	1592	1781	1870	1585	1781	1870	1585
Q Serve(g_s), s	0.9	0.0	0.6	3.3	0.0	18.0	0.3	21.7	4.0	10.7	21.4	0.6
Cycle Q Clear(g_c), s	0.9	0.0	0.6	3.3	0.0	18.0	0.3	21.7	4.0	10.7	21.4	0.6
Prop In Lane	1.00		0.81	1.00		0.97	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	315	450	0	355	268	591	501	414	869	737
V/C Ratio(X)	0.19	0.00	0.05	0.20	0.00	1.03	0.04	0.89	0.21	0.90	0.71	0.03
Avail Cap(c_a), veh/h	200	0	364	458	0	355	356	684	579	469	927	785
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	26.4	0.0	26.5	23.9	0.0	31.4	18.9	26.3	20.3	17.2	17.3	11.7
Incr Delay (d2), s/veh	0.7	0.0	0.1	0.2	0.0	56.8	0.1	12.8	0.2	18.9	2.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.3	1.4	0.0	12.2	0.1	11.1	1.5	6.0	8.9	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	27.0	0.0	26.6	24.1	0.0	88.2	18.9	39.1	20.5	36.0	19.7	11.8
LnGrp LOS	C	A	C	C	A	F	B	D	C	D	B	B
Approach Vol, veh/h		42			459			644			1016	
Approach Delay, s/veh		26.9			75.4			35.7			25.5	
Approach LOS		C			E			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.5	31.0	10.1	21.1	6.5	43.0	7.7	23.5
Change Period (Y+Rc), s	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
Max Green Setting (Gmax), s	15.5	29.5	5.0	18.0	5.0	40.0	5.0	18.0
Max Q Clear Time (g_c+I1), s	12.7	23.7	5.3	2.6	2.3	23.4	2.9	20.0
Green Ext Time (p_c), s	0.4	1.8	0.0	0.0	0.0	3.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.2
HCM 6th LOS	D

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	8	26	26	6	56	56	441	26	52	502	52
Future Volume (vph)	38	8	26	70	6	56	56	483	68	52	546	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	150		150	240		290	260		200
Storage Lanes	0		0	1		1	1		1	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.952				0.850			0.850			0.850
Flt Protected		0.974		0.950			0.950			0.950		
Satd. Flow (prot)	0	1727	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Flt Permitted		0.974		0.950			0.950			0.950		
Satd. Flow (perm)	0	1727	0	1770	1863	1583	1770	1863	1583	1770	1863	1583
Link Speed (mph)		30			30			35			35	
Link Distance (ft)		516			716			680			806	
Travel Time (s)		11.7			16.3			13.2			15.7	
Peak Hour Factor	0.78	0.78	0.78	0.80	0.78	0.79	0.79	0.92	0.80	0.78	0.92	0.78
Adj. Flow (vph)	49	10	33	88	8	71	71	525	85	67	593	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	92	0	88	8	71	71	525	85	67	593	67
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 50.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	17.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	8	26	26	6	56	56	441	26	52	502	52
Future Vol, veh/h	38	8	26	70	6	56	56	483	68	52	546	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	240	-	290	260	-	200
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	78	78	80	78	79	79	92	80	78	92	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	10	33	88	8	71	71	525	85	67	593	67

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1476	1479	593	1449	1461	525	660	0	0	610	0	0
Stage 1	727	727	-	667	667	-	-	-	-	-	-	-
Stage 2	749	752	-	782	794	-	-	-	-	-	-	-
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	104	126	506	109	129	552	928	-	-	969	-	-
Stage 1	415	429	-	448	457	-	-	-	-	-	-	-
Stage 2	404	418	-	387	400	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	77	108	506	~ 84	111	552	928	-	-	969	-	-
Mov Cap-2 Maneuver	77	108	-	~ 84	111	-	-	-	-	-	-	-
Stage 1	383	399	-	414	422	-	-	-	-	-	-	-
Stage 2	319	386	-	328	372	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	105.1	112.2	1	0.8
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	WBLn3	SBL	SBT	SBR
Capacity (veh/h)	928	-	-	116	84	111	552	969	-	-
HCM Lane V/C Ratio	0.076	-	-	0.796	1.042	0.069	0.128	0.069	-	-
HCM Control Delay (s)	9.2	-	-	105.1	199.3	39.8	12.5	9	-	-
HCM Lane LOS	A	-	-	F	F	E	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	4.6	6	0.2	0.4	0.2	-	-

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

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	90	0	0	92	29	0	0	0	15	0	2
Future Volume (vph)	48	90	0	0	92	57	0	0	0	44	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	150		0	0		0	90		0	90		0
Storage Lanes	1		0	0		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.947						0.850	
Flt Protected	0.950									0.950		
Satd. Flow (prot)	1770	1863	0	0	1764	0	1863	1863	0	1770	1583	0
Flt Permitted	0.950									0.950		
Satd. Flow (perm)	1770	1863	0	0	1764	0	1863	1863	0	1770	1583	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		716			677			727			714	
Travel Time (s)		16.3			15.4			16.5			16.2	
Peak Hour Factor	0.78	0.82	0.78	0.78	0.82	0.79	0.78	0.78	0.78	0.78	0.78	0.78
Adj. Flow (vph)	62	110	0	0	112	72	0	0	0	56	0	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	110	0	0	184	0	0	0	0	56	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		60	60		9	60		60	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 16.6%		ICU Level of Service A	
Analysis Period (min) 15			

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	6	90	0	0	92	29	0	0	0	15	0	2
Future Vol, veh/h	48	90	0	0	92	57	0	0	0	44	0	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	-	-	-	-	-	90	-	-	90	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	78	82	78	78	82	79	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	110	0	0	112	72	0	0	0	56	0	59

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	184	0	0	110	0	0	412	418	110	382	382	148
Stage 1	-	-	-	-	-	-	234	234	-	148	148	-
Stage 2	-	-	-	-	-	-	178	184	-	234	234	-
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	1391	-	-	1480	-	-	550	526	943	576	551	899
Stage 1	-	-	-	-	-	-	769	711	-	855	775	-
Stage 2	-	-	-	-	-	-	824	747	-	769	711	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1391	-	-	1480	-	-	497	502	943	556	526	899
Mov Cap-2 Maneuver	-	-	-	-	-	-	497	502	-	556	526	-
Stage 1	-	-	-	-	-	-	734	679	-	817	775	-
Stage 2	-	-	-	-	-	-	770	747	-	735	679	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0	0	10.7
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	-	1391	-	-	1480	-	-	556	899
HCM Lane V/C Ratio	-	-	0.044	-	-	-	-	-	0.101	0.066
HCM Control Delay (s)	0	0	7.7	-	-	0	-	-	12.2	9.3
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	-	-	0.1	-	-	0	-	-	0.3	0.2

MOUNTAIN VIEW WEST P.U.D.

Design Guidelines

Parish LLC
8714 State Highway 60
Johnstown, CO 80534
Developer

November 2017

TABLE OF CONTENTS

*NOTICE TO APPLICANTS, DEVELOPERS, BUILDERS, BUYERS, TENANTS AND OTHER OCCUPANTS OF MOUNTAIN VIEW WEST SUBDIVISION…THESE MOUNTAIN VIEW WEST GUIDELINES SHOULD BE USED IN CONNECTION WITH OTHER TOWN OF JOHNSTOWN ADOPTED PLANS, REGULATIONS AND STANDARDS, INCLUDING, BUT NOT LIMITED TO:

JOHNSTOWN'S MUNICIPAL CODE (AS IT MAY BE AMENDED)
JOHNSTOWN'S AREA COMPREHENSIVE PLAN NOVEMBER 2006
JOHNSTOWN'S DESIGN GUIDELINES, AS AMENDED
JOHNSTOWN'S ZONING AND SIGNAGE CODES
JOHNSTOWN'S TRANSPORTATION PLAN FEBRUARY 2008
JOHNSTOWN'S CRITERIA AND CONSTRUCTION REGULATIONS APRIL 2004
JOHNSTOWN/MILLIKEN PARKS, TRAILS, RECREATION AND OPEN SPACE PLAN MAY 03
JOHNSTOWN'S LANDSCAPE STANDARDS AND SPECIFICATIONS 2004
ANNEXATION AGREEMENT DATED APRIL 7, 2014
MOUNTAIN VIEW WEST MASTER AND RESIDENTIAL HOA COVENANTS (CC&Rs)
MOUNTAIN VIEW WEST PLAT NOTATIONS
MOUNTAIN VIEW WEST DEVELOPMENT AGREEMENT AND EXHIBITS THERETO

Guideline Sections within these MVW Design Guidelines include the following Sections;

1.0 Introduction
2.0 Purpose and Intent of these Guidelines, Vision and Description
3.0 Proposed Land Uses, Approval Committees and Processes, Additional Criteria, Variances, Final Plan Amendments, CC&Rs and JRC Acknowledgement by Council
4.0 Architectural Design Guidelines In General for the MVW Subdivision
5.0 Guidelines Specific for each Planned Land Use Including Single and Multifamily residences, Commercial Office, Commercial Retail and Special Commercial as well as Flex Space, Light Industrial and Xeriscape Landscaping
6.0 Open Space and Trails
7.0 Signs
8.0 Streetscapes, Furniture and Street Lighting
9.0 Storm Water
10.0 Utilities, Easements and Rights of Way
11.0 Grading
12.0 Screening Walls and Use of Berms
13.0 Emergency Access
14.0 Parking Lots, Transportation and Transit Stops
15.0 Irrigation
16.0 Irrigation Maintenance
17.0 Bicycles
18.0 Definitions

Exhibits A-C

1.0 Introduction

In accordance with the Johnstown Area Comprehensive Plan, Mountain View West (MVW) subdivision is a covenant controlled master-planned community that is located in the northeast corner of the intersection of Parish Avenue (WCR 17) and Centennial Drive (WCR 46 ½). The subdivision located just south of Johnstown's existing downtown is to provide an extension to the existing downtown corridor of Johnstown by extending both commercial and residential uses blended within a harmonious mix of neo traditional craftsmen style designs throughout the water wise subdivision.

2.0 Statement of Purpose and Intent of these Guidelines

The purpose and intent of these guidelines is to provide design guidelines for developers, builders and property owners by establishing timeless design guidelines and concepts that maintain the unique character planned for MVW by Parish, LLC in creating a "community within a community" providing MVW residents and business owners a feeling of pride that they have invested in a unique place in which to reside, work, play and shop all within easy walking distance of the existing downtown, and near many Town service facilities. MVW is extending the existing downtown corridor southerly to Centennial. These guidelines will help to insure that the unique character and intent planned for MVW is carried out by future developers and builders choosing to build within MVW assuring consistent design elements and characteristics are maintained throughout the MVW community. These guidelines along with other documents referenced herein provide a basis to ensure that the character of MVW is maintained throughout the subdivision, providing overseers consistency on acceptable site planning, landscaping, streetscapes, parking, signs and signage, and architecture on an ongoing basis. The guidelines also ensure MVW residents and occupants a feeling they are safe and secure in their living and working environments while preserving real estate values in a comfortable community reminiscent of days gone by.

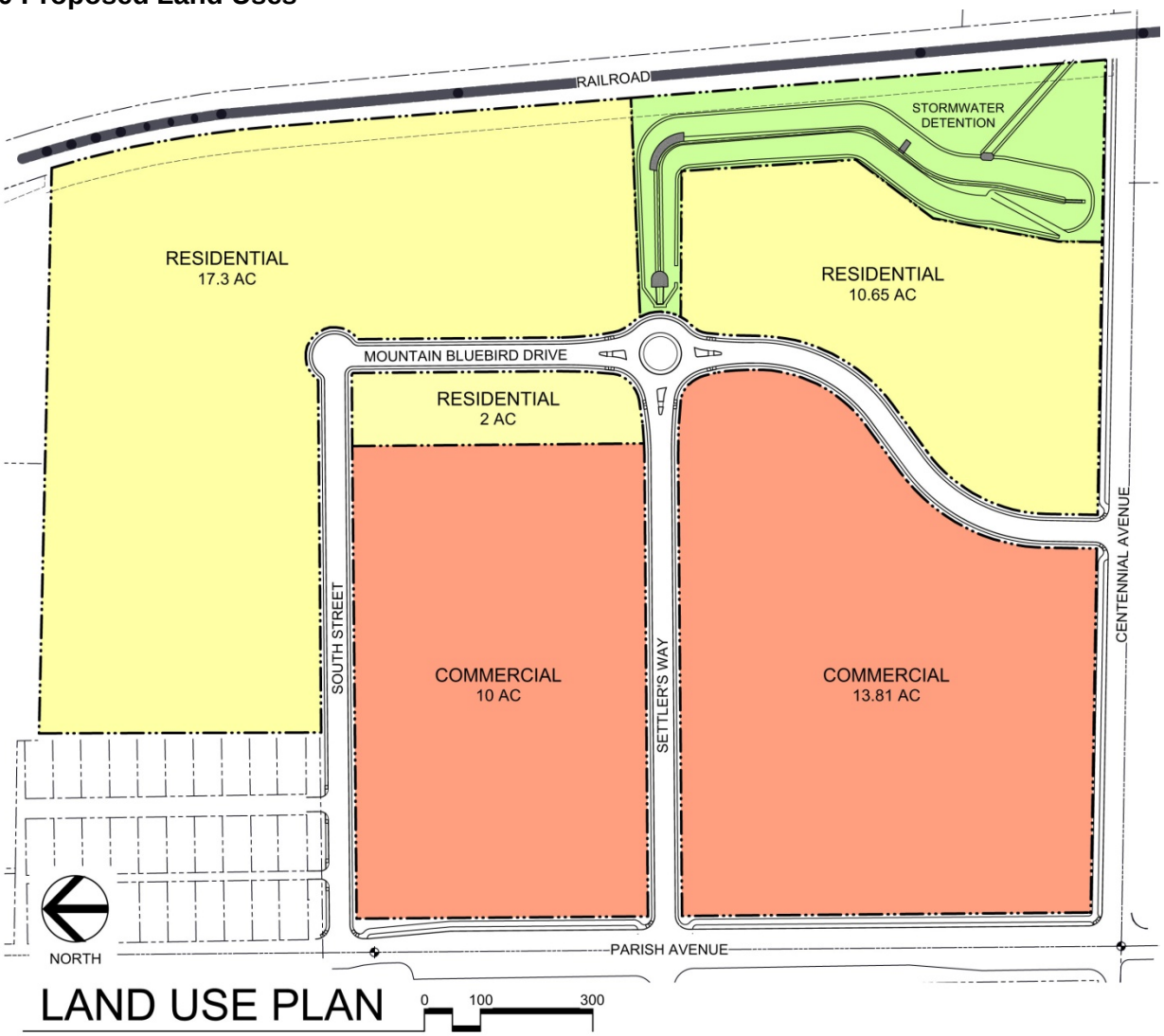
2.1 The Vision for Mountain View West

MVW is located in close proximity to the Johnstown Downtown Corridor. As such MVW will have extra wide sidewalks along Parish Avenue to encourage walkability to and from the downtown. The retail office areas will have excellent curb appeal from Parish whether visitors are coming to the center by foot, bicycle or motorized vehicle. Throughout the subdivision MVW is designed to incorporate neo traditional craftsman styled architecture throughout the community keeping in character with the roots of Johnstown. Residential areas will display tree lined streets and front porches will be encouraged within the architectural guidelines for residential areas featuring moderate to high densities as called out in the Town's Design Guidelines. The entire MVW community will be under landscaping guidelines that are based upon xeriscape landscape techniques and plant species providing for a water wise community. Xeriscaping landscape guidelines are a part of these guidelines as is a list of suggested planting materials.

2.2 Mountain View West Site Description

MVW is located in the northeast corner of the intersection of Parish Avenue (WCR 17) and Centennial Drive (WCR 46 ½) and contains approximately 62 acres of land area. The site is gently sloping from the northwest to the southeast, where the subdivision's detention pond is planned. From the detention pond water will be released into the Little Thompson. The land has been used for agricultural uses for many decades. The land was annexed into the Town on or about April 7, 2014 and has been entitled as a Planned Unit Development (PUD). MVW is bounded on the west by Parish Avenue; on the south by Centennial Drive; on the east by Great Western Railway right of way; and on the north by The Colony and land owned by Weld County.

3.0 Proposed Land Uses



MVW is a Planned Unit Development that will generally consist of approximately 30 acres of commercial office, employment and retail uses and 32 acres of residential uses. MVW is a phased subdivision with two phases. Phase I encompasses approximately 32 acres to the north of the planned easterly extension of Settler's Way. Phase II will contain approximately 30 acres lying south of the easterly extension of Settler's Way. Some utility connections and the MVW subdivision's storm water detention facility are located within the boundary of Phase II, but will be completed as part of the Phase I improvements. Several land uses have been identified as appropriate uses at this time for MVW and they are listed herein. Phase I will have 11 acres of commercial property including retail, office and employment uses that may be located within flex space. Phase I may also accommodate up to 17 acres of residential land uses. In accordance with Goal DT 4 of Johnstown's Design Guidelines MVW residential will be planned for 8 to 10 dwelling units per acre. Residential and commercial areas within MVW will be complementary. Wide sidewalks with street trees and benches and public art displays will guide and invite people from downtown Johnstown to MVW. Phase II of MVW will contain an additional 24.46 acres of land area. Commercial and Special Commercial uses will occupy 13.81 acres of Phase II with medium density residential uses taking up the additional 10.65 acres. In those cases where these guidelines are in conflict with the Town of Johnstown standards and regulations

within the Town's Design Guidelines, then the Town's Design Guidelines shall prevail. The provisions of these MVW Guidelines shall supersede any conflicting provision(s) of the then prevailing Johnstown Municipal Code and may only be modified to protect the health, safety, and welfare of the general public by the Town's Council following at least thirty (30) days written notice to the record owner(s) of real property that will be affected by the intended modification.

3.1 GENERAL PROCEDURES FOR SUBMITTALS AND APPROVALS

MVW shall establish a Design Review Committee (DRC) in order to assure that all of the MVW Master and Residential Home Owner Association (HOA) Covenants, Conditions & Restrictions (CC&Rs) design standards are followed and adhered to before a final plan is submitted to the Town of Johnstown for administrative review and approval by the Johnstown Review Committee (JRC). An applicant shall first start with discussing its planned project with the DRC.

3.1.1 Design Review Committee

The Design Review Committee is established to ensure that all proposed development projects to be constructed meet the standards established in these MVW Design Guidelines. Guidelines have been established to ensure consistency with character and design throughout the MVW community. These MVW Design Guidelines have been promulgated and adopted by MVW and the Town of Johnstown for the sole purpose of providing land use regulations which will form the basis for decisions made by the DRC as well as the JRC as they review all planned project that are submitted to them for review and approval. The DRC and JRC will review and approve all site, building and landscape plans for the MVW subdivision. Planned projects that do not meet these adopted MVW Design Guidelines will not be approved. The DRC will be made up of an architect or engineer, a landscape architect and a representative of the subdivision's Owner. The DRC shall meet regularly to review plans submitted to it, but shall only review submittals that are complete with all required documents submitted as required by the DRC. Applicants are encouraged to have pre-application meetings with the DRC or its members.

3.1.2 Design Review Committee Approval Process

Any time a party wished to build, demolish, or substantially modify an improvement within MVW that party must first have their plans approved by the DRC prior to commencement of any work related to such construction, demolition or modification. The party must thereafter also receive a similar approval from the JRC before commencement of work. Items under the purview of the DRC include, but are not limited to, building elevations, site plans, site photometric plans, site engineering, landscape designs, signage, and other similar items as identified by the DRC. The DRC will require applicants to submit complete packages for DRC review at least 10 days prior to scheduled DRC meeting so that the submittal documents can be dispersed to DRC members for their review prior to the meeting date. Submittals shall be made with electronically in a pdf format, unless otherwise directed by the DRC. Submittals shall not be considered complete unless and until any required submittal fee is received by the DRC. A formal presentation to the DRC may be requested at any time by the DRC by providing the applicant advance notice. Upon notice to the applicant that the DRC has approved the applicant's submittal the applicant may submit the project to the JRC, so long as the submittal documents are consistent with those that were approved by the DRC with no changes or modifications thereto.

3.1.3 Johnstown Review Committee (JRC)

The Johnstown Review Committee may be made up of the Town's Planner and Town Manager, or other professionals engaged by the Town. The JRC shall review the documents that have been previously approved by the DRC that are thereafter submitted to the JRC in their exact same format without any changes or modifications. All Town of Johnstown building codes,

subdivision regulations, fees and permits as adopted from time to time by the Town shall apply. See NOTICE TO APPLICANTS above for additional controlling documents.

3.1.4 Johnstown Review Committee (JRC) Approval Process

Applicants after having their project reviewed and approved by the DRC must then have their application approved by the JRC, after it has been reviewed and approved by the DRC. The applicant shall submit their project to the JRC pursuant to the following approval process:

1. Pre-application Discussion
   Applicants may and are encouraged to schedule a pre-application meeting with the Town Planner for Johnstown to informally discuss and review the applicant's planned use of the site in question. This shall include the applicant's interpretation of the MVW Design Guidelines as they relate to the applicant's project. Review of a sketch plan along with elevations and other items as have been addressed and approved by the DRC will be instrumental in assuring good communication of the intended use.
2. Final Development Plan Submittal and Process
   Projects being submitted to the JRC as a Final Development Plan Submittal shall be made on the appropriate forms accompanied by the appropriate fees as charged by the Town. A letter from the DRC should accompany the submittal indicating that the applicant has received the approval of the DRC. The Town will review the submittal within seven (7) days of it being submitted for completeness of the submittal. If the Town deems the submittal to be complete the JRC will review the applicant's project submittal. If the submittal is deemed incomplete then the JRC shall inform the applicant in writing as to how the applicant can modify the submittal to make it complete. Once the JRC has a complete submittal for review it shall make its determination within forty five (45) days of the submittal date as to whether or not the application is in conformance to the MVW Design Guidelines as adopted. The JRC may elect to grant variances to the applicant upon the DRC's recommendation and the applicant's ability to provide and demonstrate to the JRC a better design solution. The Town however will not be able to grant a variance to a permitted use.
3. Johnstown Review Committee Approval
4. Once the JRC has determined that the applicant has complied with all of the MVW Design Guidelines, as well as other Town of Johnstown controlling documents and regulations, the JRC may grant its approval for the applicant's project. The JRC shall approve the application if it complies with the applicable terms and conditions of the MVW Guidelines and other Town guidelines, rules and regulations. The JRC may approve the application with conditions. Said conditions shall be specifically related to compliance with standards and guidelines as listed herein. In the event that the JRC determines that the proposed development in the application does not comply with the Design Guidelines, the JRC shall specify in writing the specific reasons in which the application does not meet applicable criteria.
5. Johnstown Review Committee Appeal
   The decision of the JRC may be appealed by the applicant to the Johnstown Town Council. The appeal shall be in writing, and shall be made within thirty (30) days of the date of the transmittal of the JRC's decision. The Johnstown Town Council shall hear the appeal within thirty (30) days of the filing of the appeal by the applicant. The decision of the Johnstown Town Council shall be final regarding the applicant's appeal.
6. Resubmittals: Resubmittals of applications that required modifications be made will be processed in the same manner and within the same time frame as the initial

application as shown in the JRC Approval Process 3.1.4 in paragraphs number 1 through 4 above.

3.1.5 ADDITIONAL CRITERIA AND UPDATES

In addition to the criteria herein the DRC and JRC may promulgate additional criteria that not inconsistent with the criteria set forth herein. From time to time, any of these additional criteria may be amended by action of the DRC and JRC. Change in land use or changes greater than the 20% dimensional criteria, that shall become a permanent part of the design guidelines document shall constitute a major change and shall be brought back to the Planning Commission and Town Council for review and approval.

3.1.6 VARIANCES

The DRC may authorize a variance to the MVW Design Guidelines when circumstances such as topography, natural obstructions, hardship, or aesthetic or environmental objectives or considerations may warrant, insofar as they are not superseded by applicable Town of Johnstown zoning regulations. Such variances must be approved by the DRC and JRC. A variation of up to 20% in a dimensional standard is allowed if it improves the project design or an unreasonable hardship can be demonstrated by the applicant.

3.1.7 FINAL PLAN AMENDMENTS

Amendments to Final Plan Documents must be approved in writing by both the DRC and JRC.

3.1.8 COVENANTS, CONDITIONS & RESTRICTIONS (CC&Rs)

MVW will submit to the Town of Johnstown at the time of recording of the Final Plat a complete copy of CC&Rs for MVW for review and recording. The CC&Rs may address other items that are not addressed within these MVW Design Guidelines. However, each and every covenant, condition and restriction within the CC&Rs shall be subordinate to the MVW Design Guidelines. CC&Rs shall conform to all State of Colorado statutes and regulations as well as any that may be established by local governmental bodies or the Town of Johnstown.

3.1.9 JRC APPROVAL OF GUIDELINES ACKNOWLEDGED BY COUNCIL

The Johnstown Review Committee (JRC) acknowledgement and approval of these Mountain View West (MVW) Design Guidelines shall be acknowledged and approved by the Johnstown Town Council by Resolution of the Town Council.

4.0 ARCHITECTURAL DESIGN GUIDELINES IN GENERAL

The architectural guidelines provided within this section provide specific design features and elements that MVW want to achieve in its overall design of a quality subdivision that is a new southerly extension to the downtown corridor of Johnstown. MVW intends to maintain the charm and character of the older parts of the Johnstown community and develop a new residential and activity center for retail, office and employment sectors within the community. The architectural style that has been selected by Parish LLC is the neo traditional craftsman style which is close in design to much of the existing buildings and homes located in the core area of Johnstown. Because MVW is only 62 acres in size and is located along Parish Avenue across from the Johnstown municipal complex, it is developing a large portion of the acreage, approximately 30 acres in total for commercial, office, health care and retail uses with the balance of the property developing as residential dwelling units at the rate of 8 to 10 units per acre as indicated in the Johnstown Design Guidelines as Downtown Goal #4. There will be approximately 32 acres of medium density residential dwellings constructed at MVW in several smaller communities, each with their own identity and some being age restricted communities. Temporary construction, sales and leasing offices of a free standing nature, for periods of less than one year, shall also

be allowed as an accessory use in MVW. Recreational uses shall be considered an allowable accessory use in MVW. Any other structure or use clearly incidental to or that is generally and commonly associated with the operation of any permitted use that is permitted within these MVW Design Guidelines.

Design goals and objectives at MVW shall include:

Attractive separation from neighboring projects
Buildings with multiple sided architecture not just street side architecture
Buildings located with interesting orientations in commercial areas
Trash enclosures that are fully screened so that dumpsters are not visible
Mailboxes will be located in well lighted accessible and safe areas
Regional materials should be encouraged and used as much as possible
Adjoining properties are encouraged to share access points and allow circulation
Projects need to provide for bicycle parking and safe circulation through the site
Routes shall be clearly delineated, visible and marked for safety
Safe zones for pedestrians at all intersections with vehicles
Open and unobstructed sight triangles
Roof mounted objects should be screened or place away from street sides
Lighting levels throughout MVW commercial areas shall be subdued, not bright
Use of building based lighting is encouraged
Where fences are used they should be open in nature
Privacy Fencing - Allowed but not in linear runs more than 20 feet in 1 direction
Drive thru restaurant service lanes shall be screened or bermed
Drive thru service menu boards shall not be visible to public streets
Enhancement of the scale and style of the central business district is encouraged

5.0 ARCHITECTURAL DESIGN GUIDELINES RESIDENTIAL

The submittal process for single family or multifamily residential projects in MVW will have an abbreviated submittal process as compared to commercial, office, retail, and flex projects, but shall parallel the process described in 3.1 to 3.1.7 above. Builders and owners should ask the MVW Residential HOA for details and proper application forms. Whether a project is being constructed as a residential or commercial project these MVW Design Guidelines will control and shall be enforced by the ARC and JRC. Home occupations shall be allowed within the residential areas of MVW subject to any restrictions placed upon such use by Johnstown.

5.1 ARCHITECTURAL DESIGN GUIDELINES SINGLE FAMILY RESIDENTIAL

Phase I of MVW may not have any detached single family housing as it is currently planned for medium density attached single family residences. See attached Exhibit A to the MVW Design Guidelines for more information and samples of acceptable Craftsman Style architecture to be constructed at MVW. Acceptable accessory uses would include garages, gazebos, gas grills, and patios. No storage sheds will be allowed that are not an attached part of the residence and designed to be compatible with the architecture of the residence.

5.2 ARCHITECTURAL DESIGN GUIDELINES MULTIFAMILY RESIDENTIAL

Multifamily dwellings will meet the same Craftsman Style architecture as described within the MVW Design Guidelines attached as Exhibit A to these Guidelines. Multifamily dwelling density shall range from 12 to 16 dwellings units per acre. At least one garage shall be available for occupants of the multifamily dwelling units, plus additional onsite parking as is required by the Johnstown Municipal Code. Acceptable accessory uses include garages and landscape and site features such as gazebos and private and shared outdoor patios and grill areas and hot tubs.

Maintenance structures shall also be a permitted accessory use as well as patio or deck storage units attached to the buildings.

5.3 ARCHITECTURAL DESIGN GUIDELINES COMMERCIAL OFFICE AND FLEX SPACE
Office buildings and hybrids such as flex space incorporating office and some lab space or inside storage or work space shall also meet similar Craftsman Style architecture so as to be compatible with MVW residences. Uses in these areas will include service businesses such as banks and medical and dental offices as well as standard professional office uses. Skilled care nursing facilities, independent living structures, assisted care living structures and other similar specialty housing types will also be allowed within this area. See attached Exhibit B to the MVW Design Guidelines for a depiction of the architectural style and design elements that are to be incorporated into the designs of office buildings and flex space at MVW. Acceptable accessory uses will include outdoor patios or other gathering areas, free standing signs, parking garages and other similar items that would be customary to these type facilities.

5.4 ARCHITECTURAL GUIDELINES RETAIL COMMERCIAL & SPECIAL COMMERCIAL
MVW considers that uses within these definitions if a Convenience Center and would include, but not be limited to, retail sales, service businesses, restaurants and restaurants with drive-thru lanes, bakeries, coffee shops, drug stores, food stores, specialty food stores, work-out gyms, laundromats, drug stores dry cleaners, hardware stores and many medical service facilities including emergency clinics, delis, salons and repair shops of all kinds. Many other similar businesses will fit into this same category, including brew pubs and convenience stores with gasoline sales. See attached Exhibit B to the MVW Design Guidelines for a depiction of the architectural style and elements to be incorporated into the designs of retail commercial and special commercial buildings at MVW. Acceptable accessory uses will include outdoor patios or other gathering areas, free standing signs, parking garages and other similar items that would be customary to these type facilities. Outdoor seating, benches and patio furniture shall also be allowed to provide gathering places.

5.5 ARCHITECTURAL DESIGN GUIDELINES LIGHT INDUSTRIAL OFFICE FLEX SPACE
MVW will accept certain clean assembly, processing and fabrication facilities, as well as printing and publishing businesses, but these kinds of business use should not be fronted out on Parish Avenue. Buildings housing these types of uses shall also be designed to fit with the Craftsman Style architecture as it is depicted on Exhibit B to these MVW Design Guidelines. Acceptable accessory uses will include outdoor patios or other gathering areas for employees, free standing signs, parking garages and other similar items that would be customary to these type facilities. Many of these same users could fit into flex space.

5.6 ARCHITECTURAL DESIGN GUIDELINES ADDITIONAL CRITERIA
In addition to the criteria set forth herein, the DRC and JRC may promulgate additional criteria from time to time that are not inconsistent with those that are set forth herein. Any of the new or additional criteria may be amended by action of the DRC and JRC. Changes in land use or changes to any criteria that is greater than the 20 percent dimensional criteria that shall become a permanent part of the design guideline document, shall constitute a major change and shall be brought back to the Planning Commission and Town Council for review and approval.

5.7 ARCHITECTURAL DESIGN GUIDELINES LANDSCAPING
MVW will be a water wise subdivision and has designed a complete set of xeriscape landscape regulations, including suggested planting materials for MVW. These Xeriscape Landscape Plans and Plant List are attached as Exhibit C to these MVW Design Guidelines.

6.0 Open Space and Trail

MVW dedicated open space at the time of its annexation into the Town of Johnstown that filled it requirement for open space dedication by providing a strip of land seventy five (75) feet in width either side of the Little Thompson River from the center line of the stream from the east side of the Great Western Railroad south all the way to WCR 19. The Town of Johnstown plans to improve this area with walking and biking paths leaving the bulk of the area open as a natural area. The large detention pond located in the southeast corner of MVW will be graded such that the bottom of the pond can be used for recreational activities when the pond is dry. Connections will be made from MVW to the Little Thompson open space trails when that area has been improved.

7.0 SIGNS

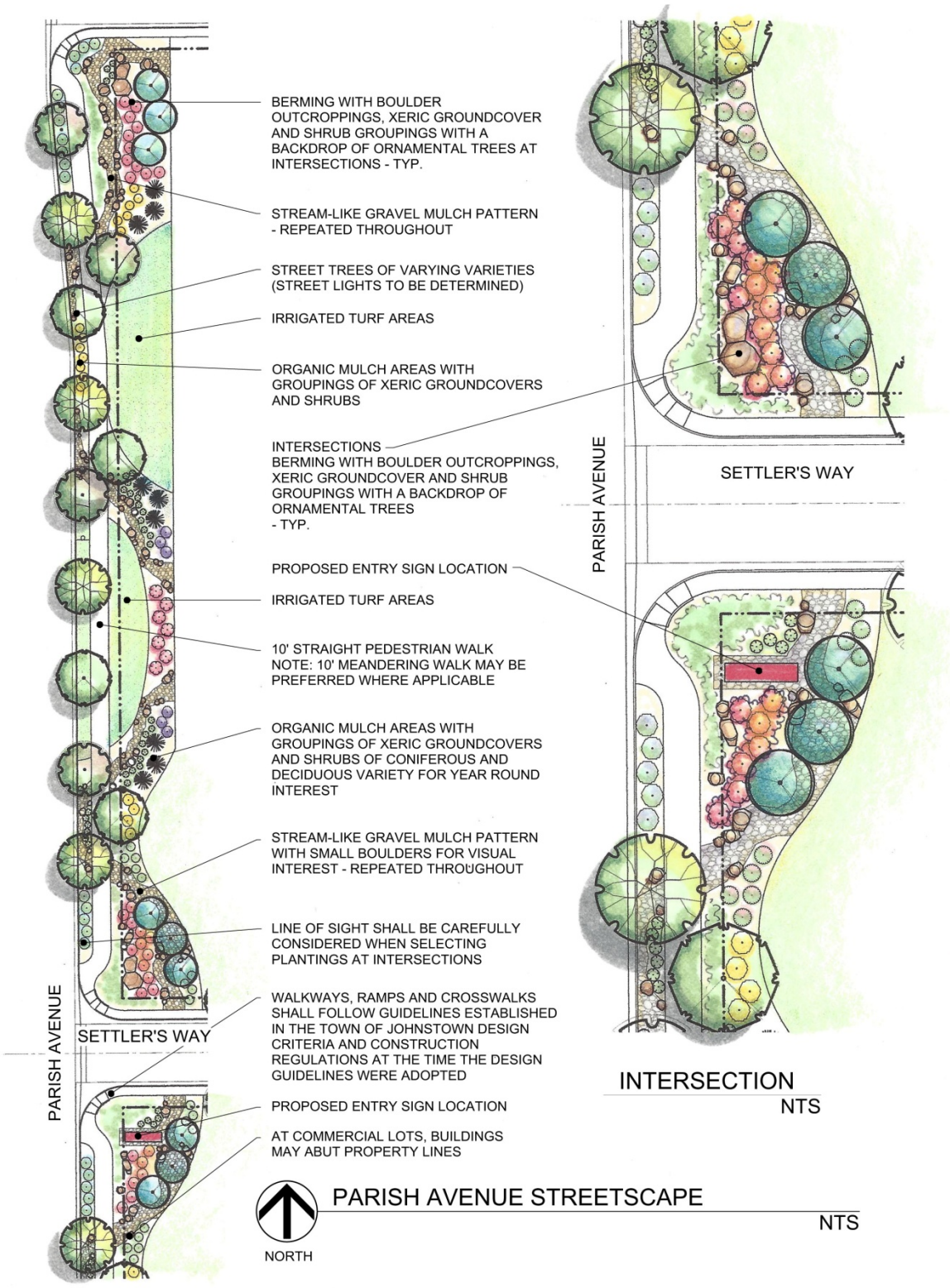
MVW will have two entry monument signs, see streetscape plans Section 8.1. One shall be located at the entrance to MVW off of Parish Avenue at the Settlers Way entrance in the southeast corner of the entrance. The other will be located along Centennial Drive at the future intersection of Mountain Bluebird Drive that is planned for Phase II of MVW. The entry monument signs will include native stone, a lighted sign and xeriscape landscaped areas with the addition of seasonal flowering plants during the summer months. Throughout the MVW subdivision all signage wherever possible shall be of a more human scale with lighted ground based monument signs used to identify tenants and users of commercial, office, flex and light industrial buildings and sites. Monument signs will be located in easements set aside for such. Façade signs will be allowed on retail buildings with back lit pan channel letters all sized in conformance with Town of Johnstown sign standards. Banners shall be allowed, but shall not be allowed to be displayed for more than one 7 day period of time during each 6 month period during a calendar year, those periods being January through June and July through December each year. Allowable sign areas and sizes shall be as allowed per the Town of Johnstown's Sign Code, at the time that the MVW Design Guidelines are adopted.

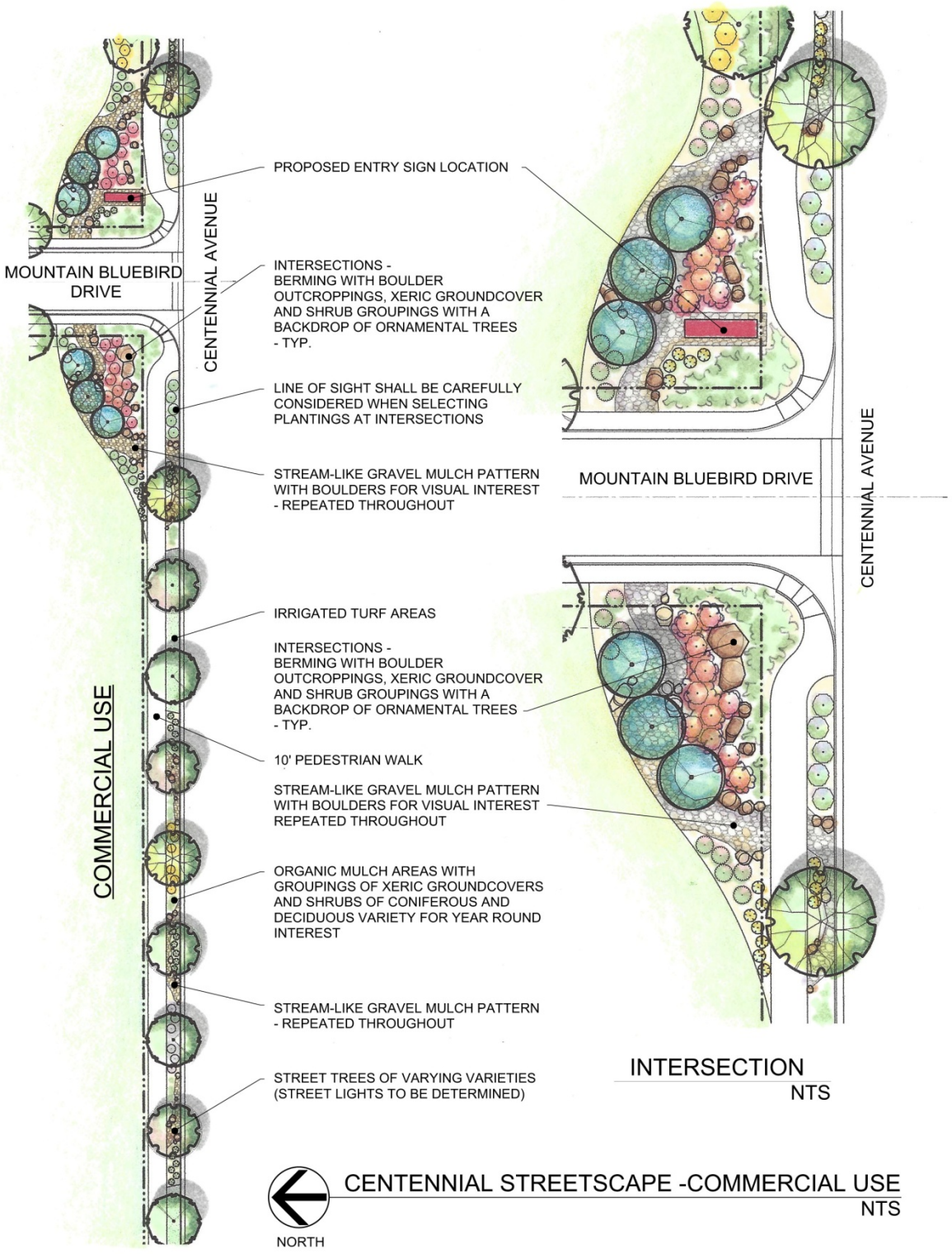
8.0 STREETSCAPES, FURNITURE & LIGHTING

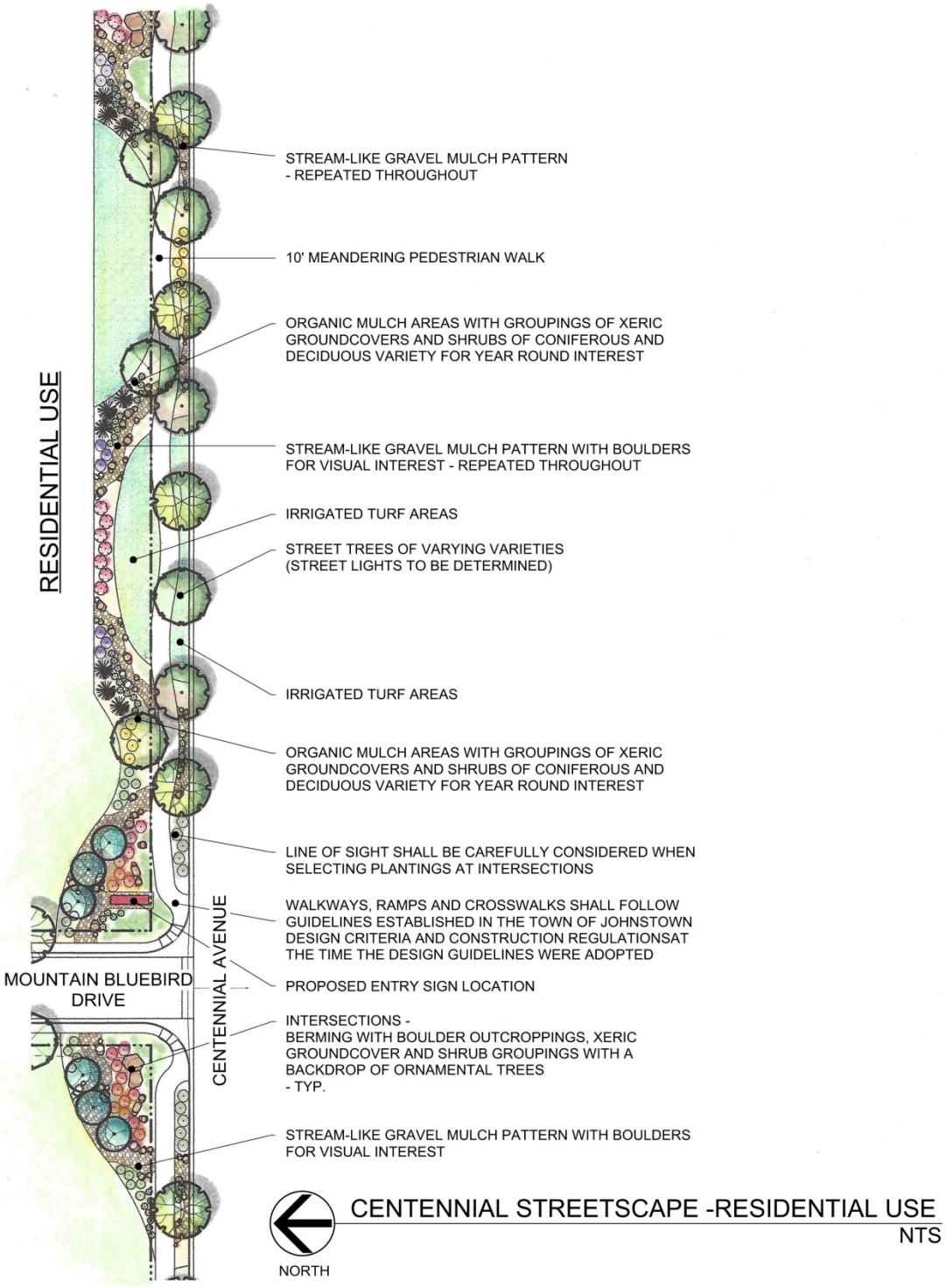
8.1 STREETSCAPES

MVW will have tree lined streets throughout using a mixture of deciduous trees and ornamental trees as well as coniferous varieties and evergreen shrubs. That area along Parish Avenue shall be designed to have a blend of all kinds of plant materials mentioned herein, but MVW will focus mostly on xeriscape varieties of plants and trees. The roundabout at the junction of Settlers Way and Mountain Bluebird Drive will also be heavily landscaped, but not so that sight line views are obstructed.

MVW commercial lots on Parish Avenue have the possibility to continue the downtown theme.


BERMING WITH BOULDER OUTCROPPINGS, XERIC GROUNDCOVER AND SHRUB GROUPINGS WITH A BACKDROP OF ORNAMENTAL TREES AT INTERSECTIONS - TYP.
STREAM-LIKE GRAVEL MULCH PATTERN - REPEATED THROUGHOUT
STREET TREES OF VARYING VARIETIES (STREET LIGHTS TO BE DETERMINED)
IRRIGATED TURF AREAS
ORGANIC MULCH AREAS WITH GROUPINGS OF XERIC GROUNDCOVERS AND SHRUBS
INTERSECTIONS BERMING WITH BOULDER OUTCROPPINGS, XERIC GROUNDCOVER AND SHRUB GROUPINGS WITH A BACKDROP OF ORNAMENTAL TREES - TYP.
PROPOSED ENTRY SIGN LOCATION
IRRIGATED TURF AREAS
10' STRAIGHT PEDESTRIAN WALK NOTE: 10' MEANDERING WALK MAY BE PREFERRED WHERE APPLICABLE
ORGANIC MULCH AREAS WITH GROUPINGS OF XERIC GROUNDCOVERS AND SHRUBS OF CONIFEROUS AND DECIDUOUS VARIETY FOR YEAR ROUND INTEREST
STREAM-LIKE GRAVEL MULCH PATTERN WITH SMALL BOULDERS FOR VISUAL INTEREST - REPEATED THROUGHOUT
LINE OF SIGHT SHALL BE CAREFULLY CONSIDERED WHEN SELECTING PLANTINGS AT INTERSECTIONS
WALKWAYS, RAMPS AND CROSSWALKS SHALL FOLLOW GUIDELINES ESTABLISHED IN THE TOWN OF JOHNSTOWN DESIGN CRITERIA AND CONSTRUCTION REGULATIONS AT THE TIME THE DESIGN GUIDELINES WERE ADOPTED
PROPOSED ENTRY SIGN LOCATION
AT COMMERCIAL LOTS, BUILDINGS MAY ABUT PROPERTY LINES
PARISH AVENUE
SETTLER'S WAY
NORTH
PARISH AVENUE STREETSCAPE
NTS
PARISH AVENUE
SETTLER'S WAY
INTERSECTION
NTS


PROPOSED ENTRY SIGN LOCATION
INTERSECTIONS - BERMING WITH BOULDER OUTCROPPINGS, XERIC GROUNDCOVER AND SHRUB GROUPINGS WITH A BACKDROP OF ORNAMENTAL TREES - TYP.
LINE OF SIGHT SHALL BE CAREFULLY CONSIDERED WHEN SELECTING PLANTINGS AT INTERSECTIONS
STREAM-LIKE GRAVEL MULCH PATTERN WITH BOULDERS FOR VISUAL INTEREST - REPEATED THROUGHOUT
IRRIGATED TURF AREAS
INTERSECTIONS - BERMING WITH BOULDER OUTCROPPINGS, XERIC GROUNDCOVER AND SHRUB GROUPINGS WITH A BACKDROP OF ORNAMENTAL TREES - TYP.
10' PEDESTRIAN WALK
STREAM-LIKE GRAVEL MULCH PATTERN WITH BOULDERS FOR VISUAL INTEREST REPEATED THROUGHOUT
ORGANIC MULCH AREAS WITH GROUPINGS OF XERIC GROUNDCOVERS AND SHRUBS OF CONIFEROUS AND DECIDUOUS VARIETY FOR YEAR ROUND INTEREST
STREAM-LIKE GRAVEL MULCH PATTERN - REPEATED THROUGHOUT
STREET TREES OF VARYING VARIETIES (STREET LIGHTS TO BE DETERMINED)
MOUNTAIN BLUEBIRD DRIVE
CENTENNIAL AVENUE
COMMERCIAL USE
MOUNTAIN BLUEBIRD DRIVE
CENTENNIAL AVENUE
INTERSECTION
NTS
NORTH
CENTENNIAL STREETSCAPE -COMMERCIAL USE
NTS


RESIDENTIAL USE
STREAM-LIKE GRAVEL MULCH PATTERN
- REPEATED THROUGHOUT
10' MEANDERING PEDESTRIAN WALK
ORGANIC MULCH AREAS WITH GROUPINGS OF XERIC GROUNDCOVERS AND SHRUBS OF CONIFEROUS AND DECIDUOUS VARIETY FOR YEAR ROUND INTEREST
STREAM-LIKE GRAVEL MULCH PATTERN WITH BOULDERS FOR VISUAL INTEREST - REPEATED THROUGHOUT
IRRIGATED TURF AREAS
STREET TREES OF VARYING VARIETIES (STREET LIGHTS TO BE DETERMINED)
IRRIGATED TURF AREAS
ORGANIC MULCH AREAS WITH GROUPINGS OF XERIC GROUNDCOVERS AND SHRUBS OF CONIFEROUS AND DECIDUOUS VARIETY FOR YEAR ROUND INTEREST
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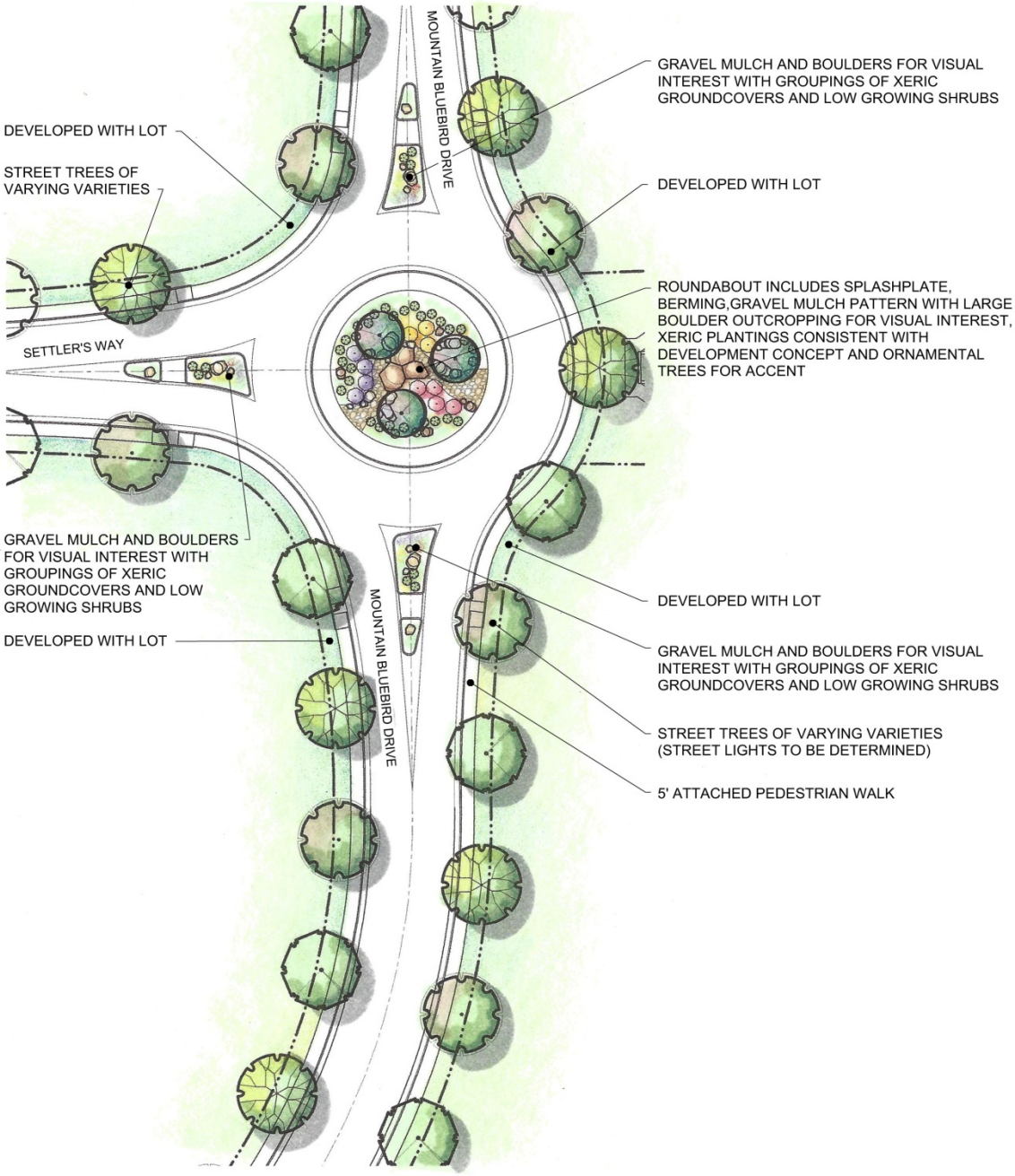
INTERSECTIONS -
BERMING WITH BOULDER OUTCROPPINGS, XERIC GROUNDCOVER AND SHRUB GROUPINGS WITH A BACKDROP OF ORNAMENTAL TREES
- TYP.
STREAM-LIKE GRAVEL MULCH PATTERN WITH BOULDERS FOR VISUAL INTEREST
MOUNTAIN BLUEBIRD DRIVE
CENTENNIAL AVENUE
NORTH
CENTENNIAL STREETSCAPE -RESIDENTIAL USE
NTS



at ROUNDABOUT
NTS

NORTH

8.2 STREET FURNITURE & STREET LIGHTING

At strategic locations along Parish Avenue and elsewhere throughout MVW along local streets decorative benches and paving and other outdoor furnishings will be strategically placed. Street lighting internal to MVW will be of a decorative nature and street lighting along Parish Avenue shall mirror that used in the downtown area of Johnstown. The visual character of the drive or walk southerly along Parish Avenue will provide a sense of continuity to the downtown.

Site furniture examples from Johnstown's downtown.

Examples of existing site & street lighting nearby.

Examples of possible pedestrian lighting styles to be considered.

8.3 FENCING & WALLS

All fencing should complement the project's architecture. Any walls should, in as much as possible, match the architecture of the project's buildings. Any fencing and walls shall be subject to JRC and DRC.

Examples of possible fencing styles.

9.0 STORM DRAINAGE AND DETENTION POND

The goal of each site design within MVW shall be to minimize runoff, to the subdivision's storm drainage pond located in the southeast corner of the subdivision which has been designed such that no on site detention or retention is required. MVW storm drainage pond and all calculations have been based upon the most recent data available from the proper authorities so that water being returned to the river is improved via the most recent technology to improve water quality. All sites and lots within MVW shall be designed to minimize the amount of storm water that goes from one site or lot onto a neighboring site or lot. Wherever possible water from parking lots and roof drains shall be directed toward and utilized by landscaped areas, reducing the need for irrigation water. Drainage water shall flow along driveways, dedicated street flow lines, swales and landscaped corridors on their way to the MVW detention pond where it will be introduced into the Little Thompson. Screen grates and trash grates shall be installed at outflow structures.

10. UTILITIES, EASEMENTS AND RIGHTS OF WAY

All existing easements and rights of way for existing utilities have been identified and located on the plat to be filed for MVW. MVW will also be dedicating certain utility easements and rights of way for future development of sites and lots throughout the subdivision. Developers and Builders shall not interfere with any such easements and rights of way and it shall be their sole responsibility to be aware of all such easements and rights of way on their site or lot prior to commencement of construction activity. Landscaping placed over the top of any easement or right of way is subject to future destruction and shall be the sole cost of the site or lot owner for any replacement.

11. GRADING

All construction activity on all sites and lots in MVW shall be constructed to provide positive drainage away from buildings and foundations, but not over sidewalks. No grading shall take place outside of the owner's site or lot without the proper authority from the neighboring land owner or Town when appropriate.

12. SCREEN WALLS AND USE OF BERMS

Within MVW all above ground utility boxes, meter banks, loading areas, and outside equipment storage areas shall be screened by a screen wall that matches the architectural nature of the adjacent building using the predominant materials and colors of the building or by the use of a landscaping berm. Screen walls and berms shall minimize the visual impact of the items being screened by at least seventy five percent (75%) from view of adjacent streets.

13. EMERGENCY ACCESS

All MVW site and street designs shall provide for safe and expeditious access for police, fire, ambulances and other emergency vehicles to residences and commercial buildings in line with the regulations set forth from time to time by the Johnstown Fire Department.

14. PARKING LOTS, TRANSPORTATION AND TRANSIT STOPS

As Johnstown continues to grow transportation will become an ever increasing topic of local conversation. To stay ahead of transportation issues MVW designs will allow for transit stops to be accommodated with retail and commercial areas of MVW as the need arises. In the interim most local residents will likely be using their vehicles when not walking or biking to MVW or within MVW to its commercial areas and tenant occupants. Parking lots in commercial areas will be designed to Town of Johnstown design criteria and construction regulations. Within all MVW residential areas it is anticipated that residences will have at least one parking garage with most having two parking garages. Apartments may not have enough covered parking in garages for all apartments, but they shall still meet the minimum parking requirement of 1.5 parking spaces per one bedroom dwelling and 2 parking spaces per two bedroom dwelling unit and 2.5 parking spaces per three bedroom dwelling unit. Commercial offices shall be designed with 1 parking space per 300 SF of gross leasable area and Commercial retail shall be designed with 1 parking space per 250 SF of gross leasable area. Medical offices shall be designed with 1 parking space per 200 SF of gross leasable area. Restaurants shall be required to have I parking space for each 100 SF of gross leasable area. Other uses not mentioned herein shall be as directed by the Town Johnstown Design Guidelines. All parking lots will be designed to current standards of designed to current Americans with Disabilities Act (ADA) standards. Interior rows of parking spaces will provide a landscape island at the end of each row of parking, and landscape islands will be provided within the row of parking spaces so that there is not more than 20 consecutive parking spaces without a minimum 9 foot wide landscape island separating the parking spaces. Bicycle parking shall be prominently made available throughout MVW within the commercial and office and retail areas. Bicycle parking areas shall be well lit to provide a safe environment for cyclists.

15. IRRIGATION AND IRRIGATION SYSTEMS

All landscaped areas at MVW shall have irrigation systems operated by time clocks which shall be operated at non high volume times, generally during the night time hours and set to turn off just before sun rise to minimize evaporative losses. Landscaped areas such as large urns and pots bearing live plant material will require hand irrigation if not set up with automatic sprinkler systems. Irrigations systems will be designed with adequate zones to minimize irrigation tap sizes. The irrigation line shall have an automatic controller to activate and operate the system. Remote control valves shall operate each zone valve. Patterns of sprinkler heads will be set to provide head-to-head coverage to all landscaped areas. The system operator shall manage the system so that no the sprinkler do not spray or irrigate impervious surfaces, including sidewalks, driveways, streets and parking lot areas. Backflow prevention devices shall be installed on all irrigation systems. Please see Exhibit C to these MVW Design Guidelines for further explanation of the xeriscape landscaping to be used at MVW and the water conservation benefit by the use of xeriscape methods and planting materials. MVW is a water wise xeriscape subdivision and as such all landscaped area shall be designed as per the Exhibit C Landscape Design criteria to these MVW Design Guidelines.

16. IRRIGATION MAINTENANCE

Maintenance of irrigation shall include all reasonable and regular irrigation, weeding, weed control, fertilizing, pruning, timely removal of tree wraps and staking, and bike path snow and ice removal per usual and standard horticultural practices and Town of Johnstown code. All plant

materials that show signs of insect infestation, diseases or other damage shall be appropriately and timely treated. Dead plant material will be replaced according to the approved landscape plan for MVW and the particular site or lot within MVW. An initial inspection of the landscaping installation will be completed at the time of completion of construction or at any time when there is a change in use. The original developer and any subsequent owner(s) shall be responsible for maintaining all on-site and common areas landscaping as shown on the approved landscape plan for the site or lot. MVW through its Master Association and Residential Association(s) shall be responsible for maintaining the landscaping of public improvements on all adjacent rights-of-way as shown on the approved landscape plan unless a maintenance agreement is existing with a third party. The Town, at its discretion, may add, remove, replace, or maintain landscape materials within any right of way per Town of Johnstown standards.

17. BICYCLES

Bicycles have become common place in today's society whether it be for recreation, work or for shopping. MVW recognizing this fact shall endeavor to accommodate bicycle riders within all commercial areas by providing bicycle routes and by providing adequate bicycle parking spaces in all commercial areas within MVW. Bicycle parking facilities shall be located to provide safety, security and convenience for bicycle riders. Such bicycle facilities shall not interfere with, and be located a safe distance from, pedestrian and motor vehicular traffic. It is highly recommended that bicycle parking facilities be designed and constructed to allow the bicycle frame and both wheels to be securely locked to the bicycle parking structure. The structure shall be of a metal or other permanent construction material and permanently attached to a concrete foundation.

Examples of possible parking device styles.

18. DEFINITIONS

1. Animated sign - A moving sign that utilizes motion in a horizontal or vertical plane or both.
2. Berm - An undulation in terrain creating a new landform within a landscape to be utilized for wind protection, screening or a point of focal interest.
3. Building - Any structure used, designed or intended for the roofed shelter, enclosure or protection of persons, animals or property.
4. Clinic…Medical, Dental or Other - Offices organized to provide medical, dental or other types of health services and/or supplies
5. Convenience Center - A small group of retail stores and service establishments which serve the local neighborhood, including, by way of example but not of limitation, a food store, drugstore, hardware store, barber shop, beauty salon, restaurant, shoe repair shop or laundromat.
6. Development - A single lot, parcel or tract of land or portions or combinations of lots, parcels or tracts of land which are held in single or common ownership and which exist as a distinct functional entity. Multi-use buildings and multiple building complexes which

are held in singular or common ownership, either by individuals, corporations or other legal entity, shall be considered a development for the purpose of the MVW Desgin Guidelines.

7. DRC – The MVW Design Review Committee
8. Flashing Sign - A sign that is illuminated with intermittent lighting, animated lighting or with varying intensities of light at intervals of fifteen (15) seconds or less, including a moving light or lights.
9. Flex Space - Flex space lends itself to multiple uses which is described by its name. A flex space building is designed for multiple tenants, divided in spaces generally running from front to back. Office space is usually located at the front of the building with other space to the rear that can be used for warehouse space, or assembly space that is typically accessed by delivery doors at the rear of the building. Flex space may include such uses for offices, retail, wholesale, warehousing, manufacturing, assembly, light industrial, or research and laboratory facilities, with residences on second floors.
10. Freestanding Sign – Also referred to as a ground sign. A sign that is permanent and self-supporting, being non-dependent upon support from a building or other type of structure, including signs placed upon fences or non-supporting walls.
11. Gross Floor Area – The total floor area of a commercial building that is inhabitable by the building's occupant or multiple occupants if the building is divided or divisible.
12. Gross Leasable Area (G.L.A.) - The total floor area of a commercial building, which floor area is designed for a tenant or tenants' occupancy and exclusive use, including basements, mezzanines and upper stories, expressed in square feet and measured from the center line of joint partitions and from outside wall faces.
13. Home Occupations – The legal use and occupation of a home, where permitted as an accessory use, for the purpose of doing business out of the home. Such use shall not change the character of the home and the home shall not be allowed exterior signage to promote such home occupation and not external storage shall be allowed. The home occupation shall not create any offensive noise, vibration, smoke, dust, odors, heat or glare noticeable to other area occupants.
14. JRC- The Johnstown Review Committee
15. Lot - A single parcel of land occupied or intended to be occupied by such structure or structures and uses as may be permitted by zoning.
16. Lot Area - The area of contiguous land bounded by lot lines, exclusive of land provided for public thoroughfare.
17. Lot Lines - The lines bounding a lot as defined above.
18. Office or Professional Office - The office of a doctor, dentist, architect, landscape or other architect, engineer, attorney or other similar recognized profession.
19. Open Space - The gross area of a lot or tract of land minus all streets, driveways, parking lots, and building areas, which is to be or has been landscaped or developed for use by the public or by the residents of the lot or tract of land for private, common or public enjoyment or recreational use.
20. Retail Store - A commercial establishment for the sale of material goods or commodities in relatively small quantities selling directly to local consumers and residents.
21. Screen or Screening - To use landscape materials, walls, fencing, berms, or other material to shield an area from view of the public and/or to mitigate noise impacts.
22. Sight Distance Triangle - That area formed by drawing a straight line back from intersecting property lines 25 feet from said intersection and connecting same with a separate line, creating a triangle.
23. Signs - Any structure or part thereof or any device attached to a structure, or any other form of visual communication applied by paint, illumination, embossing or other

technique to a building or other structure for the purpose of directing, advertising, informing, warning or otherwise conveying information visually to the viewer.

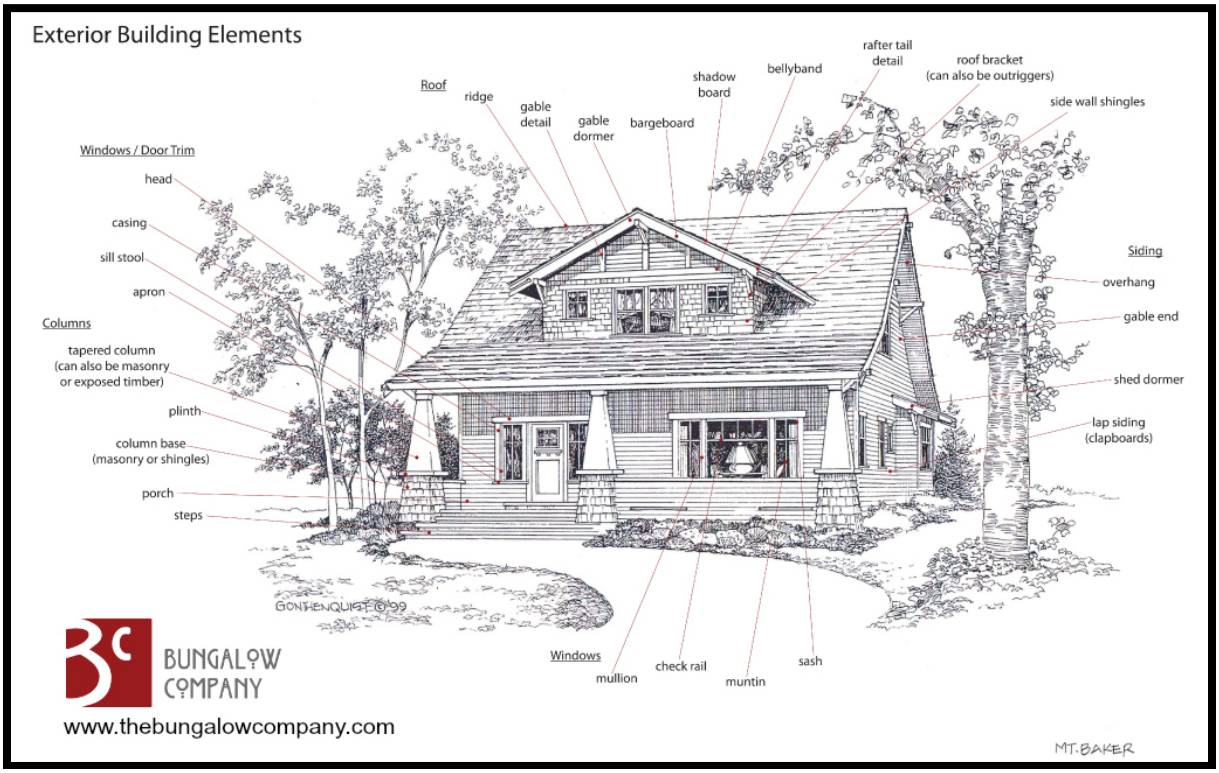
24. Stormwater Detention - Containment of controlled runoff temporarily for storage before discharging downstream. Typically the water is stored in a pond for a limited period of time.
25. Structure - A combination of materials other than natural terrain or plant growth erected or constructed to form a shelter, enclosure, retainer, container, support, base, pavement or decoration.
26. Xeriscape - An environmentally friendly and water wise landscape design approach where some or all of the following techniques are utilized; 1) selecting low water demand plantings, 2) grouping plants by their specific needs, 3) reducing turf areas, 4) using turf types with low water requirements, 5) using plants native to the region being designed, 6) using mulches to cover soil and save moisture, 7) irrigating by zoning those plants together with similar water needs and by using efficient sprinkler head layout and water distribution patterns, 8) and performing regular maintenance to preserve the landscape and conserve water.

EXHIBIT A
Architectural Design Guidelines Standards
Mountain View West – Residential and Multifamily Buildings

The following information is intended for use as an outline only. Please refer to the recorded Covenants, Conditions and Restrictions for Mountain View West Subdivision for additional detail. The Covenants require that all items are to be submitted to the Architectural Review Committee ("ARC") for review and approval before submittal to the Town of Johnstown Review Committee ("JRC") for their approval. Both approvals are required prior to construction commencing on any residential or multifamily building.

ITEM	GUIDELINE
Design Scheme	Neo-Traditional "Craftsman Style"
Roof Materials	Residential – Clay or concrete tile or Minimum 50 Year architectural asphalt shingle Commercial – May also add colored metal or flat roof with EPDM membrane
Roof Slopes/Overhang	Minimum 6/12 pitched roof. Sub roof structures may have less pitch to add character to the main roof. (i. e. dormers) Minimum 12 inch over hang on residential units.
Masonry	Brick, stone or faux stone materials wrapped a minimum 4 feet around sides on residential, multifamily and commercial facades. This shall include garages.
Siding	Cementous, Wood or Masonite lap siding is allowed. Maximum width allowed is 8 inches. Maximum exposure allowed is seven inches. Horizontal grooved is allowable. (Panelized siding such as T-111 is not allowed.)
Trim Widths Following are required:	Minimum 1" by 4" width required for all windows (front, rear and sides) Minimum 1" by 6" width required for all corners Minimum 1" by 10" width required at all floor changes and gable ends Minimum 1" by 10" width required at bottom of siding above foundation
Fascia	1" by 8" width with a 1" by 4" trim or gutter. Fascia must be wood or CTX only. Seven sixteenth inch (7/16") siding shall not be allowed to be used as fascia.
Exterior Vents	Must fit exterior design and be colored to match adjacent materials
Vertical Support Posts	Must be framed with a minimum 8" width on the street facing side, minimum 6" on the sides. Supports shall be wider at the bottom that at the top. Masonry or stone must be a minimum of 12" on any elevation when used.
Heat & Plumbing Vents	Must be located on the roof slope away from the street elevation or screened and hidden.
Colors	Traditional colors to blend with the character of the neighborhood are allowed. All exterior railings, wood, trim, etc. shall match in color. Clear finish is not allowed. Adequate representation of proposed colors will be submitted to the ARC and JRC
Windows	All windows must be wood or vinyl. Aluminum windows are not allowed. The exterior of windows shall be painted to match trim colors.
Fences	See "Fencing Standards" within the MVW Covenants (CC&Rs).
Landscaping	See "Landscape Plan" within the MVW Covenants (CC&Rs).
Antennas & Dishes	Antennas are allowed only in attic spaces. Satellite dishes are allowed per Covenants.
Items Allowable With Special Use Approval	Storm Doors, basketball hoops, playhouses, dog houses and dog runs, swing sets, signs, site lighting located off building structures, firewood storage, change in color scheme.

EXHIBIT A CONTINUED



Craftsman Detail Options

Identifying characteristics and features include such things as pitched and occasionally hipped roofs with wide, and sometimes unenclosed overhangs, roof rafters (exposed) or architectural characteristics shown that represent the look of exposed rafters or decorative false beams or braces, commonly added under gables, porches, either full or partial width, with roof support columns many times tapered as shown on these representative drawings. On these pages of Exhibit B are representative photos of styles and characteristics of architectural features the Mountain View West Architectural Design Review Committee would like to see incorporated within your design submittal.

EXHIBIT A CONTINUED

Craftsman Detail Options

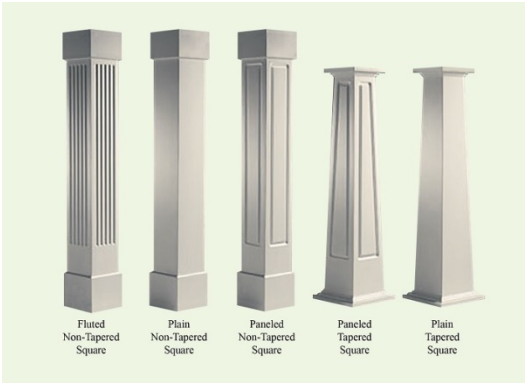


EXHIBIT A CONTINUED

Craftsman Detail Option

Exhibit B
MVW Commercial/Office & Flex Space Design Guidelines
Craftsman Detail Options

EXHIBIT C – MVW LANDSCAPE STANDARDS - XERISCAPE

What is Xeriscaping?

Xeriscape, pronounced (ZER-i-scape), is a landscape practice used to promote water conservation through the design of creative and attractive water efficient landscapes. Xeriscaping is not the same as "zero-scaping" where the designed landscape consists mostly of hard surfaces with very few plants. Xeriscaping is also different from "natural/native" landscaping because here the emphasis is on the selection of plants for water conservation, not necessarily selecting native plants.

It is not a specific look or style. Rather, xeriscape is a combination of seven common-sense horticulture principles that save water, time and resources while creating a beautiful landscape.

The Seven Principles of Xeriscape are:

1. **Planning and Design**: Whether you plan to design your own property or get help from a Landscape Architect/Designer. A plan is an important first step, a good design will provide direction and guidance to ensure that water-conserving techniques are coordinated and implemented in the landscape. Think about how you want to use your new Xeriscape, while considering maintenance.

   Perform a site analysis of your property, take into account existing site features such as the location and orientation of your home (north, south, east or west), commercial building or other project feature, such as open space or entry feature, slopes, soils, drainage, downspouts, prevailing winds, sun exposure, activity areas, desirable views, privacy/screening needs, future structures and site improvements. Draw a base map of your property to scale (i.e., 1"=10'-0" or 1/8"=1'-0", etc…) and begin to design your Xeriscape according to your future vision and needs.

2. **Improve the Soil:** A good soil, one that supports healthy plant life and conserves moisture is an important part of any healthy landscape. Before any planting, add organic matter such as compost or well-aged manure.

   For most soils, adding 3-5 cubic yards of organic matter per 1,000 square feet of area to your soil can be beneficial for plant health, soil infiltration and water retention. Rototill the organic matter into the soil at a depth of at least 6 inches.

3. **Appropriate Plant Selection**: Choose plant species according to their sun and water requirements as it pertains to your specific site and areas within your property. Each property has its own set of criteria when it comes to sun exposure (sunny and shady areas) as well as drainage areas (dry or wet areas). Group plants of similar sun and water requirements together and place them in an area of the site which matches these requirements.

   Provided with this document is a Plant List for guidance to get you started. Understand there are many plant varieties not provided on this list that could work in your Xeriscape, with approval. For additional plant options please reference the websites listed on page 4 of this document or visit local nurseries.

4. **Practical Turf Areas**: Thoughtful placement of turf areas of manageable size, shape and selection of appropriate drought tolerant turf species are a must. Consider limiting turf grass to high-traffic areas close to the house or other building, such as areas for play, recreation, and pets, with turf grasses that have been hybridized for arid conditions, such as Hybrid Bluegrass varieties and Turf-Type Tall Fescue. Native turf grasses such as Buffalo Grass or Blue Grama perform much better in low-traffic areas. Avoid narrow strips of turf grass which are hard to maintain and water. Consider planting landscape medians with low water, low maintenance plant material.

5. **Irrigation**: Establish hydrozones for water use. Group plant varieties and turf areas according to specific watering needs by dividing the Xeriscape into zones: High (regular watering), Moderate (occasional watering) and Low (little to no watering). Design an irrigation system to water appropriately and conserve water by zoning the irrigation system to serve plant groupings of similar water needs. This can be accomplished by irrigating turf areas separately (with a pop-up sprinkler system) apart from other planting bed/shrub areas (with low-volume drip irrigation). Irrigate areas according to their specific needs by applying the correct amount of water at the correct time of day, early morning or late evening.

   Consider the design of your irrigation system at the same time as the design is being completed of your planting plan to minimize the potential for water waste.

6. **Mulch Planting Beds**: Mulch shall be shredded bark, bark chips, rock, and/or gravel.

   Organic Mulch, such as shredded wood and bark chips, should be applied at a depth of at least 3-4 inches and will help keep plant roots cool, prevent water evaporation from the soil and will reduce weed growth. Keep in mind that Colorado winds tend to disperse dried out organic mulch.

   Inorganic Mulch, such as rock and gravel should be applied at a depth of approximately 2” thick over a weed barrier fabric. Keep in mind extensive use of rock on south and west exposures can raise temperatures near the house, building or other structure and result in wasteful water runoff. Because of the heat that radiates from rock mulch, consider only hardy shrubs and trees to be planted in these conditions. Mulch will give planting beds a finished look and increase the visual appeal of your landscape.

7. **Landscape Maintenance:** Properly mowing, weeding, pruning, watering and fertilizing at the correct time will preserve the beauty of the Xeriscape. A well-maintained landscape will be healthier and hardier to better withstand drought. Once established, Xeriscape Landscapes, require less maintenance and less irrigation than Traditional Landscapes.

MOUNTAIN VIEW WEST XERISCAPE PLAN REQUIREMENTS:

The Mountain View West Master & Homeowners Associations encourage and support tasteful Xeriscaping which will not only beautify our neighborhood, but also lower outdoor water use up to 50 percent. Current Design Guidelines state that all Xeriscape plans require Committee approval.

Xeriscaping does not involve creating a hot dry landscape by dumping truckloads of rock and gravel on to your property. Only aesthetically pleasing Xeriscape plans will be approved by the Mountain View West HOA Architectural Board. Prior to submitting an Architectural Review Request for your Xeriscape, consider the following:

Single Family Residential, Multi-Family Residential and Commercial Standards:

1. **Plan for Submittal**: Prior to installing the landscape of a property, the Owner must submit an ARC Approval Application. There must be an overall design which enhances the look of the home or other buildings and complies with the vision of the neighborhood. The request must include an outline of the project. Plan view designs must provide detailed information on the location of existing site features and all proposed site elements such as locations of hardscape, turf, mulch types and plant material drawn to their mature sizes. Plans must indicate location and types of mulch and rock. If detailed drawings are not included with the Architectural Review Committee Approval Application, the ARC Approval Application will be returned to the homeowner or building property owner.

2. **Ground Cover**: May include turf, native turf species, or perennial/shrub no-mow groundcovers. Wood mulch, rock mulch, decorative rock boulders, or other natural material over fabric to provide a neat, dust-free, weed-free appearance.

   Large areas may not be composed of a single material, i.e. bare mulch/rock unless interspersed with groupings of plants.

3. **Borders:** Edging may consist of metal edging and masonry products such as concrete edger. Turf/native turf areas must be bordered to clearly define turf from planting beds.

4. **Front Yard Standards**:
   a. The front yard must have a minimum of 30% and a maximum of 50% irrigated turf or alternative turf area, such as no-mow perennial groundcovers. Sprinkler controllers must be set to water turf and planting bed areas in compliance with the Town of Johnstown.
   b. The front yard must have a maximum of 25% tastefully organized inorganic coverings such as rock, stone, or gravel (or some combination thereof).
   c. The remaining area should be perennials, shrubs, trees, and organic mulched area.
   d. Once installed, the landscaping must be maintained in a neat, attractive, and well-kept manner. Remove dead trees and shrubs promptly. Do not allow weeds to grow in the mulched or rock areas.
   e. Turf grass must be watered sufficiently to prevent it from dying or going dormant while not exceeding water provider's limitations.

5. **Side Yard Standards:**
   a. In any location where the side yard of a corner lot is exposed to a street in front of a fence, the side yard landscaping shall be integrated with the front yard landscaping and subject to the same standards.

6. Back Yard Standards:
   a. The same seven water saving principles are to be applied to backyard designs.

7. **Committee Approval:** Does not constitute assurance that landscape improvements comply with the Landscape Standards and Specifications of the Town of Johnstown. Property owners are responsible for all permits and approvals required from the Town of Johnstown.

City of Johnstown Landscape Standards:
http://www.townofjohnstown.com/DocumentCenter/Home/View/170

Sources for further Xeriscape and Plant Selection information:
http://coloradowaterwise.org/page-645743
http://extension.colostate.edu/topic-areas/yard-garden/xeriscaping-creative-landscaping-7-228/
http://www.denverwater.org/Conservation/Xeriscape/XeriscapePlans/
http://www.fcgov.com/utilities/residential/conserve/water-efficiency/xeriscape
http://www.highcountrygardens.com/

EXHIBIT C CONTINUED – MVW LANDSCPAPE – PLANT LIST

PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
DECIDUOUS TREES			
Acer glabrum	Rocky Mountain Maple	L	PS-FS
Acer grandidentatum	Bigtooth Maple	VL-L	PS-FS
Acer tataricum	Tatarian Maple	L	PS-FS
Acer tataricum 'Garann'	Hot Wings Tatarian Maple	L	PS-FS
Aesculus glabra	Ohio Buckeye	M	PS-FS
Aesculus hippocastanum	Horsechestnut	M	PS-FS
Amelanchier x grandiflora	Autumn Brilliance Serviceberry	L	PS-FS
Amelanchier canadensis	Shadblow Serviceberry	L	PS-FS
Catalpa speciosa	Western Catalpa	L-M	FS
Chionanthus virginicus	White Fringe Tree	M	PS-FS
Crataegus spp.	Hawthorn	L	PS-FS
Celtis occidentalis	Hackberry	L	PS-FS
Gleditsia spp.	Honeylocust	L-M	PS-FS
Gymnocladus dioica	Kentucky Coffeetree	L	PS-FS
Koelreuteria paniculata	Golden Rain Tree	L	PS-FS
Malus spp.	Crabapple	M	PS-FS
Ptelea trifoliata	Wafer Ash (Hop Tree)	L-M	S-PS-SF
Pyrus spp.	Ornamental Pear	M	PS-FS
Quercus gambelli	Gambel Oak	VL-L	PS-FS
Quercus macrocarpa	Burr Oak	VL-L	FS
Quercus muehlenbergii	Chinkapin Oak	L-M	FS
Robina pseudoacacia 'Purple Robe'	Purple Robe Locust	VL-L	FS
Sophora japonica	Japanese Pagoda Tree	M	FS
Syringa reticulata	Japanese Tree Lilac	M	FS
Tilia spp.	Linden	M	PS-FS
Ulmus spp.	Elm	L-M	PS-FS

[1] **HYDROZONE:**
VL -Very Low Water Use - indicates a plant that requires little to no additional water once established.
L - Low Water Use - indicates a plant that requires an additional 3 gallons of water per square foot per season.
M - Moderate Water Use - indicates a plant that requires an additional 10 gallons of water per square foot per season.
H - High Water Use (None Selected) - indicates a plant that requires continual water.

[2] **EXPOSURE:** **S**-Shade **PS**-Part Shade **FS**-Full Sun

PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
EVERGREEN TREES			
Abies concolor	White Fir	L-M	PS-FS
Juniperus spp.	Juniper	L	PS-FS
Picea abies	Norway Spruce	M	PS-FS
Picea pungens	Colorado Spruce	L-M	PS-FS
Pinus aristata	Bristlecone Pine	L	FS
Pinus cembroides edulis	Pinyon Pine	L	PS-FS
Pinus flexilis	Limber Pine	L	FS
Pinus flexilis 'Vanderwolf Pyramid'	Vanderwolf's Pine	L	FS
Pinus heldrichi v. leucodermis	Bosnian Pine	M	FS
Pinus mugo 'Big Tuna'	Big Tuna Mugo Pine	L	FS
Pinus mugo 'Tannenbaum'	Tannenbaum Mugo Pine	L	FS
Pinus nigra	Austrian Pine	L-M	FS
Pinus ponderosa	Ponderosa Pine	L-M	FS
Pinus spp. 'character'	Character Pine	L	FS
DECIDUOUS SHRUBS			
Amelanchier spp.	Serviceberry	L	PS-FS
Amorpha spp.	Leadplant	L	FS
Aronis spp.	Chokeberry	L	FS
Artemisia spp.	Sage	VL-L	PS-FS
Atriplex spp.	Saltbush	VL-L	FS
Berberis spp.	Barberry	L	FS
Buddleia spp.	Butterfly Bush	L-M	FS
Caragana spp.	Peashrub	VL-L	PS-FS
Caryopteris spp.	Blue Mist, Dark Knight Spirea	L	FS
Cercocarpus spp.	Mahogany	VL	PS-FS

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H - High Water Use (None Selected) - indicates a plant that requires continual water.

[2] **EXPOSURE:** **S**-Shade **PS**-Part Shade **FS**-Full Sun

PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
Chamaebatiaria millefolium	Fernbush	VL-L	FS
Chrysothamnus spp.	Rabbitbrush	VL-L	FS
Cornus spp.	Dogwood	L-M	PS-FS
Cotoneaster spp.	Cotoneaster	L-M	S-PS
Cowania mexicana	Cliffrose	L	S-PS
Cytisus spp.	Broom	L	FS
Fallugia paradoxa	Apache Plume	VL-L	FS
Fendlera rupicola	Cliff Fendler Bush	L-M	FS
Forestiera neo-mexicana	New Mexican Privet	VL-L	FS
Holodiscus dumosus	Rock Spirea	L-M	PS-FS
James americana	Waxflower	VL-L	PS-FS
Kolkwitzia amabilis	Beauty Bush	L-M	PS-FS
Ligustrum spp.	Privet	L-M	PS-FS
Perovskia atriplicifolia	Russian Sage	L	PS-FS
Philadelphus spp.	Mockorange	L-M	PS-FS
Physocarpus spp.	Ninebark	L-M	PS-FS
Potentilla fruticosa spp.	Potentilla	L	PS-FS
Prunus besseyi spp.	Sandcherry	VL-L	PS-FS
Prunus tomentosa	Nanking Cherry	L	FS
Rhamnus	Buckthorn	L	PS-FS
Rhus glabra	Smooth Sumac	VL-L	PS-FS
Ribes spp.	Currant	L-M	S-PS-FS
Rosea spp.	Shrub Rose sp.	L-M	FS
Rubus deliciosus	Boulder Raspberry	VL-L	PS-FS
Shepherdia argentea	Silver Buffaloberry	VL-L	PS-FS
Sibiraea laevigata	Altai Spirea	L	PS-FS
Sibiraea altaiensis	Siberian Spirea	L	PS-FS
Sorbaria sorbifolia	Ash Leaf Spirea	L	PS-FS

[1] **HYDROZONE:**

VL -Very Low Water Use - indicates a plant that requires little to no additional water once established.

L - Low Water Use - indicates a plant that requires an additional 3 gallons of water per square foot per season.

M - Moderate Water Use - indicates a plant that requires an additional 10 gallons of water per square foot per season.

H - High Water Use (None Selected) - indicates a plant that requires continual water.

[2] **EXPOSURE:** **S**-Shade **PS**-Part Shade **FS**-Full Sun

PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
Symphoricarpos spp.	Snowberry, Coralberry	L	PS-FS
Syringa spp.	Lilac	L-M	PS-FS
Viburnum spp.	Viburnum	L-M	PS-FS
EVERGREEN SHRUBS			
Juniperus spp.	Dwarf Juniper	L-M	PS-FS
Picea spp.	Dwarf Spruce	L	PS-FS
Pinus spp.	Dwarf Pine	L	PS-FS
BROADLEAF EVERGREENS			
Agave parryi	Agave	VL-L	FS
Agave neomexicana	New Mexico Agave	VL-L	FS
Arctostaphylos spp.	Manzanita	L-M	S-PS
Euonymus fortunei 'Coloratus'	Wintercreeper	L-M	S-PS
Euonymus fortunei 'Emerald Gaiety'	Emerald Gaiety Euonymus	L-M	S-PS
Euonymus fortunei 'Emerald n' Gold'	Emerald 'n Gold Euonymus	L-M	S-PS
Hesperaloe parviflora	Red Yucca	VL-L	FS
Mahonia aquifolium spp.	Oregon Grape Holly	VL-L	S-PS
Yucca baccata	Banana Yucca	VL-L	FS
Yucca glauca	Soapweed Yucca	VL-L	FS
ORNAMENTAL GRASSES			
Andropogon gerardii	Big Bluestem	L-M	FS
Bouteloua gracilis 'Blonde Ambition'	Blonde Ambition Blue Grama	VL-L	PS-FS
Calamagrostis spp.	Reed Grass	VL-L	PS-FS
Erianthus ravennae	Hardy Pampas Grass	VL-L	PS-FS
Festuca spp.	Blue Fescue	VL-L	PS-FS
Hakonecbola spp.	Japanese Forest Grass	VL-L	S-PS
Helictotrichon sempervirens	Blue Avena Grass	L	PS-FS

[1] **HYDROZONE:**

VL -Very Low Water Use - indicates a plant that requires little to no additional water once established.

L - Low Water Use - indicates a plant that requires an additional 3 gallons of water per square foot per season.

M - Moderate Water Use - indicates a plant that requires an additional 10 gallons of water per square foot per season.

H - High Water Use (None Selected) - indicates a plant that requires continual water.

[2] **EXPOSURE:** **S**-Shade **PS**-Part Shade **FS**-Full Sun

PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
Miscanthus purpurascens	Maiden Grass	L-M	PS-FS
Muhlenbergia spp.	Muhly Grass	VL-L	FS
Pancium virgatum spp.	Switchgrass	VL-L	FS
Pennisetum alopecuroides	Dwarf Fountain Grass	L-M	FS
PERENNIALS			
Achillea spp.	Yarrow	VL-L	PS-FS
Agastache spp.	Agastache	L-M	FS
Alcea rosea	Hollyhock	L	PS-FS
Alyssum spp.	Alyssum	L	PS-FS
Antennaria parvifolia	Dwarf Pussytoes	VL-L	PS-FS
Aquilegia spp.	Columbine	L-M	PS-FS
Arctostaphylos uva-ursi	Kinnikinnick	L	FS
Artemisia spp.	Artemisia	VL	FS
Asclepias tuberosa	Orange Butterfly Weed	VL	FS
Aubrieta spp.	Rockcress	L	FS
Aurinia saxitile compactum	Basket of Gold	L-M	FS
Baptisa australis	False Indigo	L-M	FS
Berlandiera lyrata	Chocolate Flower	VL-L	FS
Callirhoe involucrata	Poppy Mallow	L-M	FS
Campanula spp.	Harebell	L	PS-FS
Centranthus ruber	Red Valerian	L-M	PS-FS
Ceratostigma plumbaginoides	Plumbago	L-M	PS-FS
Coreopsis spp.	Coreopsis	L	FS
Delosperma spp.	Ice Plant	L-M	FS
Diascia integerrima 'Coral Canyon'	Coral Canyon Twinspur	M	FS
Digitalis thapsi 'Spanish Peaks'	Dwarf Pink Foxglove	L-M	PS-FS
Duchesnea indica	Mock Strawberry	L-M	PS-FS
Echinacea spp.	Coneflower	M	FS

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[2] **EXPOSURE:** **S**-Shade **PS**-Part Shade **FS**-Full Sun

PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
Echium amoenum 'Red Feathers'	Red Feathers Echium	L	FS
Eriogonum umbellatum	Sulfur Buckwheat	L	FS
Gaillardia spp.	Gaillardia	L-M	FS
Galium odoratum	Sweet Woodruff	L	S-PS
Gaura lindheimeri	Whirling Butterfly Gaura	L	FS
Gazania linearis	Colorado Gold Gazania	L-M	FS
Geranium spp.	Geranium	L-M	PS-FS
Gypsophila paniculata	Baby's Breath	L	FS
Helianthus maximiliana	Sunflower	L	FS
Heuchera spp.	Coralbells	M	PS
Iberis sempervirens	Candytuft	M	PS
Iris spp.	Iris	M	FS
Kniphofia spp.	Torch Lily	L	FS
Lamium spp.	Nettle	L	S-PS
Lavendula spp.	Lavender	VL-L	FS
Liatris punctata	Dotted Gayfeather	VL-L	FS
Limonium latifolium	Sea Lavender	L-M	PS-FS
Linum spp.	Flax	L	FS
Lupinus argenteus	Silvery Lupine	L	PS-FS
Marrubium rotundifolia	Silver edged Horehound	VL-L	FS
Mirabilis multiflora	Showy Four O'Clock	VL-L	FS
Nepeta spp.	Catmint	L	FS
Oenothera macrocarpa	Ozark Sundrops	L	FS
Origanum spp.	Showy Oregano	M	PS-FS
Osteospermum spp.	Sun Daisy	L-M	FS
Papaver orientale	Oriental Poppy	L-M	PS-FS
Penstemon spp.	Penstemon	L	FS
Phlox subulate	Creeping Phlox	M	FS
Potentilla verna nana	Creeping Potentilla	L-M	FS

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[2] **EXPOSURE:** **S**-Shade **PS**-Part Shade **FS**-Full Sun

PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
Pulsatilla vulgaris	Pasqueflower	L	PS-FS
Ratibida columnifera 'Mexican Hat'	Prairie Coneflower	VL	FS
Rudbeckia spp.	Gloriosa Daisy	L	FS
Salvia spp.	Salvia	L-M	FS
Saponaria ocymoides 'Splendens'	Rock Soapwort	L	FS
Santolina chamaecyparissus	Lavender Cotton	L-M	FS
Scabiosa spp.	Pincushion Flower	L	PS-FS
Scutellaria resinosa	Prairie Skullcap	L-M	FS
Sedum spp.	Sedum	L	PS-FS
Sempervirum spp.	Hens and Chicks	VL-L	PS-FS
Sphaeralcea spp.	Orange Globemallow	VL-L	FS
Stachys byzantina 'Silver Carpet'	Silver Carpet Lamb's Ear	L	PS-FS
Tanacetum spp.	Partridge Feather	VL	FS
Teucrium spp.	Germander	L-M	FS
Thymus spp.	Thyme	L	PS-FS
Verbena bipinnatifida	Native Verbena	L	PS-FS
Veronica spp.	Veronica	L	PS-FS
Viola corsica	Corsican Violet	VL	PS-FS
Zauschneria spp.	Hummingbird Trumpet Flower	L	FS
Zinnia grandiflora	Rocky Mountain Zinnia	VL-L	FS
VINES			
Campsis radicals	Trumpet Vine	L-M	PS-FS
Clematis terniflora	Autumn Clematis	L-M	PS-FS
Lonicera spp.	Honeysuckle Vine	L-M	PS-FS
Polygonum aubertii	Silverlace Vine	L-M	PS-FS

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PLANT LIST

BOTANICAL NAME	COMMON NAME	HYDROZONE [1]	EXPOSURE [2]
TURF			
Agropyron spp.	Creasted Wheatgrass	L	FS
Agropyron cristatum	Ephraim Crested Wheatgrass	L	FS
Buchloe dactyloides	Buffalo Grass	VL-L	FS
Bouteloua gracilis	Blue Grama	L	FS
Bromus interims	Smooth Bromegrass	L	FS
Festuca arundinacea spp.	Turf-Type Tall Fescue	M	PS-FS
Festuca spp.	Fine Fescues	L-M	S-PS
Poa pratensis x Poa arachnifera	Texas Hybrid, Bandera/ Texas Hybrid, SPF30 Blend	M	FS

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[2] **EXPOSURE:** **S**-Shade **PS**-Part Shade **FS**-Full Sun

The Johnstown Review Committee (JRC) has adopted these Mountain View West (MVW) Design Guidelines as of this ____ day of _____ 2017 by Town Council Resolution.

Town of Johnstown

Settler's Crossing

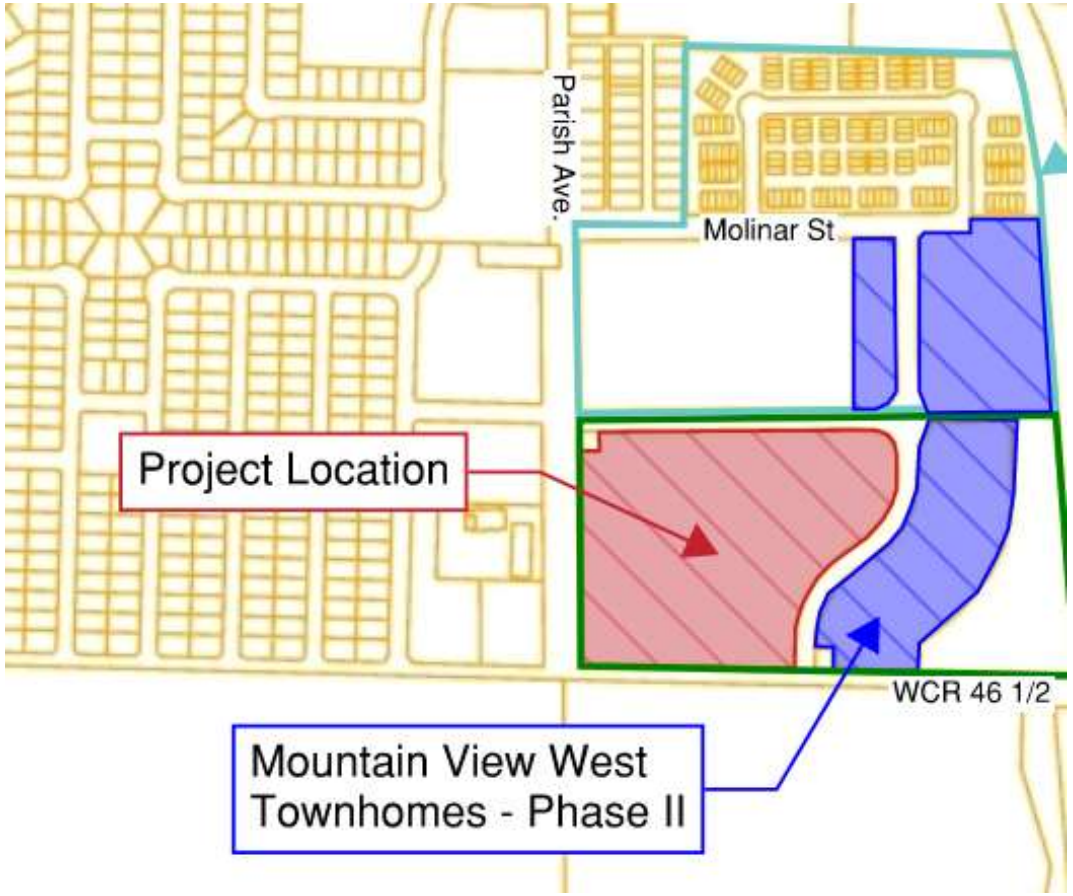
Preliminary/Final Subdivision Plat (SUB23-0003)

Planning and Zoning Commission Meeting
November 1, 2023

LOCATION & BACKGROUND

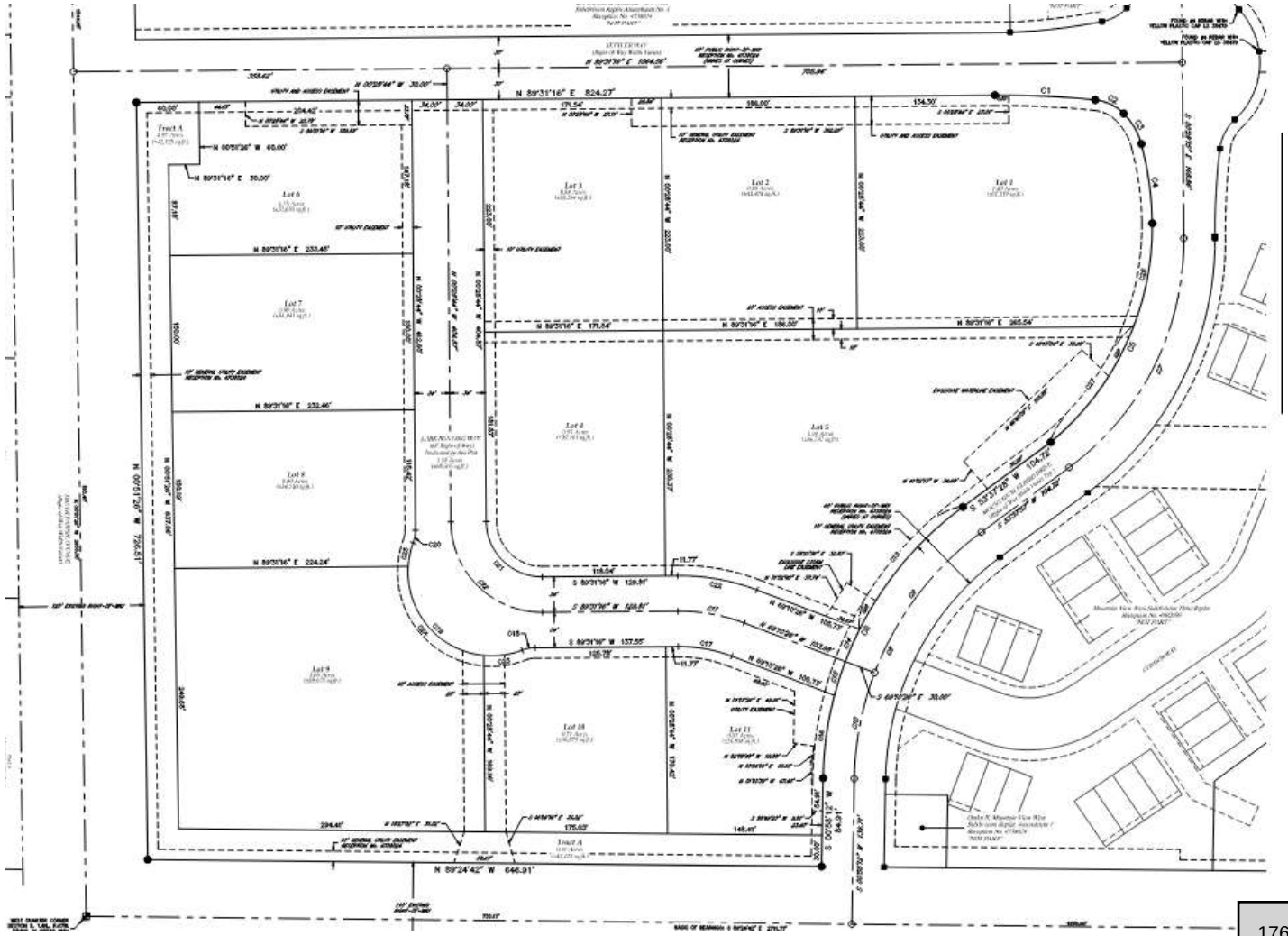
- General Location: East of Parish Ave & South of Settler's Way
  - Approx. 13.7 acres

- Previous Planning & Zoning Events
  - 2005- Johnstown Colony Annexation
  - 2017-Mountain View West PUD



Development & Subdivision

- 11 commercial lots
- Access Easement has been approved for lots 10 & 8 from CR 46.5
- Part of the Mountain View West Development



STAFF ANALYSIS & RECOMMENDATION

- Conforms to the Mountain View West Land Use Plan along with the Town's codes & compliances
- Recommendation for Approval

Planning & Zoning Commission
Staff Analysis Report

ITEM:	**Public Hearing and Consideration of the Blue-Sky Prairie Subdivision Preliminary Plat**
PROJECT:	SUB23-0008
PARCEL NO:	**106102100021 & 106102100031**
DESCRPTION:	Residential Subdivision of approximately 121 acres, in the recently Amended High Plains Village PD
LOCATION:	South of Veteran's Parkway & East of High Plains Blvd
DEVELOPER:	High Plains Estates JV, LLC
STAFF:	Lilly Cory, Planner I
HEARING DATE:	November 1, 2023

ATTACHMENTS:

1. Preliminary Plat
2. High Plains Village PD
3. Traffic Study Plan

EXECUTIVE SUMMARY:

The Developer, High Plains Estates JV, LLC, associated with Henry Design Group & LJA Engineering is requesting approval of the Preliminary Plat/Subdivision within the High Plains Village PD. The subdivision will consist of ~425 lots, dedicated right-of-way ROW, and connective out lots for drainage and open space. The internal collector road – Waterbirch Ave- will have a more heavily landscaped ROW to create a more open walkway in the community to make up for 0.6 acres of the open space requirement as per the land use code. The subdivision will outline the general overview of the expected development and use of the land.

ZONING: PD- High Plains Village PD Amendment 1 (*Attachment 2*)

ADJACENT ZONING & LAND USE:
North: Great Plains Village PD- Revere North Development, Residential
East: PD- Cito Property, Agriculture
South: R1- Rocksbury Ridge
West: Great Plains Village PD- Revere Development, Residential

PROPERTY LAND USE HISTORY
The subject property was historically used for farming and was annexed into Johnstown as part of the Klein 125 Annexation in 2008 by Ordinance #2004-720, reception #20043190851: PD High Plains Village by ordinance #2004-721, reception #20043190852. The subject property is currently unplatted. The High Plains Village PD was Amended in 203 by ordinance #2023-241, reception #20234902691(*Attachment 2*).

SUBMITTAL AND REFERRALS
This project submittal included the proposed preliminary subdivision plat, as well as required engineering plans and reports for the site. The project was referred to and reviewed by:

+ Weld County
+ IMEG (Town Engineer)
+ Little Thompson Water District
+ Front Range Fire District
+ Helton & Williamsen (Water Engineer)
+ NOCO Water Conservation District
+ Public Works & Utilities
+ FHU (Town Traffic Engineer)

PROJECT DESCRIPITON & ANALYSIS
The proposed subdivision would create 3 new Filings in the High Plains Village PD. This would outline 425 lots and 32 outlots for open space. The proposed plat will connect to High Plains Boulevard and Veteran's Parkway (WCR 50) with one entrance/exit on each road.

All outlets will be used in open space, spacing from oil wells (plugged & abandoned), or drainage (detention ponds) for the development. At this time a Water Sewar Service Agreement or a Development Agreement will not be required as no official lots will be made. When the official Final Development & Subdivision is to go through council this will occur.

At this time there are no public improvements that have been proposed. There is a reimbursement agreement with Forestar (Revere Development) for the expansion of High Plains Blvd.

The staff has no outstanding concerns with this subdivision and believes that it will promote the Town's housing diversity and local economy. There are no concerns of incompatibility with surrounding Town Developments & Zoning.

PUBLIC NOTICE

Notice for the Planning and Zoning Meeting and Public Hearing was published in the Johnstown Breeze on Thursday September 26, 2023. This notice provided the date, time, and location of the hearing along with a description of the project. Notices were mailed out on Tuesday September 24, 2023 to all landowners in an 800ft radius from the property. The meeting for October 18th was cancelled so all notifications for the landowners and the Johnstown Breeze were sent out on October 19th, 2023.

RECOMMENDED FINDINGS AND MOTIONS

Recommended Findings

It is recommended that the Planning and Zoning Commission send a recommendation for approval to Town Council for the Preliminary Plat for Blue-Sky Prairie based upon the following findings:

1.) The proposed subdivision is consistent with the town comprehensive plan and is in compliance with the Town's codes, regulations, and requirements along with the High Plains Village PD.
2.) The proposed subdivision meets the updated requirements of a PD by creating a unique neighborhood by using their landscaping and lot diversity.

Recommended Motion to Approve

I move to approve Blue Sky Prairie Subdivision Preliminary Plat/Development Plan, based on the application received, information provided , and findings noted at this hearing.

Alternative Motions:

Motion to Recommend Approval with Conditions

I move to approve Blue Sky Prairie Subdivision Preliminary Plat/Development Plan with conditions, based on the application received, information provided, and findings noted at this hearing. The conditions are listed as such:

Motion to Recommend Denial

I move that the Commission recommend to Town Council Denial of the Blue Sky Prairie Subdivision Preliminary Plat/Development Plan, based on the following findings.

BLUE SKY PRAIRIE

PRELIMINARY PLAT

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF JOHNSTOWN, COUNTY OF WELD, STATE OF COLORADO.

LEGAL DESCRIPTION

LOT B, RECORDED EXEMPTION NO. 1061-2-1-RE 1488, RECORDED JUNE 2, 1993, AT RECEPTION NO. 2335286, BEING A PART OF THE E 1/2 OF THE NE 1/4 OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO,

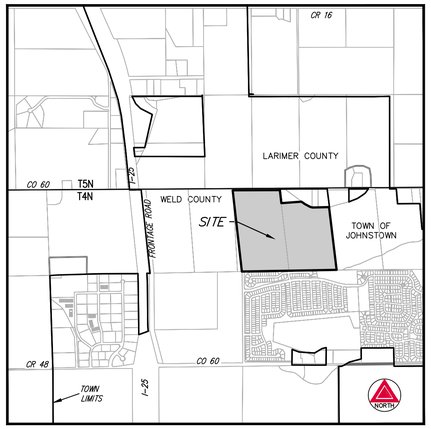
AND

THE W 1/2 OF THE NE 1/4 OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE 6TH P.M., LESS THAT PORTION CONTAINED IN THAT DEED RECORDED AUGUST 11, 2003, AT RECEPTION NO. 3094025, AND EXCEPT THAT PORTION CONVEYED TO THE TOWN OF JOHNSTOWN IN DEED RECORDED JULY 22, 2021, UNDER RECEPTION NO. 4738022, COUNTY OF WELD, STATE OF COLORADO

CONTAINING AN AREA OF 121.160 ACRES, (5,277,732 SQUARE FEET), MORE OR LESS.

GENERAL NOTES

1. PER C.R.S. 38-51-106, "ALL LINEAL UNITS DEPICTED ON THIS LAND SURVEY PLAT ARE U.S. SURVEY FEET. ONE METER EQUALS 39.37/12 U.S. SURVEY FEET, EXACTLY ACCORDING TO THE NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY".
2. ANY PERSON WHO KNOWINGLY REMOVES, ALTERS OR DEFACES ANY PUBLIC LAND SURVEY MONUMENT OR LAND BOUNDARY MONUMENT OR ACCESSORY COMMITS A CLASS TWO (2) MISDEMEANOR PURSUANT TO STATE STATUTE 18-4-508, OF THE COLORADO REVISED STATUTES.
3. BASIS OF BEARING: THE NORTH LINE OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE 6TH PRINCIPAL MERIDIAN, BEING MONUMENTED AS SHOWN HEREON AND HAVING A BEARING OF NORTH 89°47'55" EAST, A DISTANCE OF 2634.59 FEET.
4. THE SUBJECT PROPERTY SHOWN HEREIN LIES WITHIN OTHER AREAS – ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS SHOWN ON FEDERAL EMERGENCY MANAGEMENT AGENCY FLOOD INSURANCE RATE MAP INDEX NO. 08069C1405F, MAP REVISED DECEMBER 19, 2006.
5. GENERAL OVERLOT DRAINAGE NOTE: LOTS AND TRACTS AS PLATTED HEREIN MAY BE REQUIRED TO CONVEY SURFACE DRAINAGE FROM OTHER LOTS AND TRACTS IN THIS FILING, IN ACCORDANCE WITH TOWN REQUIREMENTS AND THE APPROVED DRAINAGE PLAN FOR THIS FILING. NO ALTERATIONS TO THE GRADING OF THE LOTS AND TRACTS MAY BE MADE THAT WOULD DISRUPT THE APPROVED DRAINAGE PLAN, WITHOUT PRIOR APPROVAL FROM THE TOWN. ALL NATURAL AND IMPROVED DRAINAGE WAYS OR DRAINAGE SYSTEMS IN SAID LOTS AND TRACTS SHALL BE MAINTAINED BY THE LOT OR TRACT OWNER IN ACCORDANCE WITH THE TOWN CRITERIA. SHOULD THE OWNER FAIL TO ADEQUATELY MAINTAIN SAID FACILITIES, THE TOWN SHALL HAVE THE RIGHT TO ENTER SAID LAND FOR THE PURPOSES OF OPERATIONS AND MAINTENANCE OF THE DRAINAGE WAYS OR DRAINAGE SYSTEMS. ALL SUCH MAINTENANCE COSTS WILL BE ASSESSED TO THE PROPERTY OWNER.
6. STORM SYSTEM MAINTENANCE: THE TOWN OF JOHNSTOWN REQUIRES THAT MAINTENANCE ACCESS BE PROVIDED TO ALL STORM DRAINAGE FACILITIES TO ASSURE CONTINUOUS OPERATIONAL CAPABILITY OF THE SYSTEM. THE PROPERTY OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL DRAINAGE FACILITIES INCLUDING INLETS, PIPES, CULVERTS, CHANNELS, DITCHES, HYDRAULIC STRUCTURES, AND DETENTION BASINS LOCATED ON THEIR LAND UNLESS MODIFIED BY THE SUBDIVIDERS AGREEMENT. SHOULD THE OWNER FAIL TO ADEQUATELY MAINTAIN SAID FACILITIES, THE TOWN SHALL HAVE THE RIGHT TO ENTER SAID LAND FOR THE PURPOSES OF OPERATIONS AND MAINTENANCE. ALL SUCH MAINTENANCE COSTS WILL BE ASSESS TO THE PROPERTY OWNER.



VICINITY MAP

SCALE 1" = 2,000'

OUTLOT SUMMARY CHART				
OUTLOT	ACREAGE	OWNERSHIP	MAINTENANCE	USE
A	2.335	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	FUTURE OPEN SPACE/DETENTION
B	1.135	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	ACCESS/UTILITY
C	0.386	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	ACCESS/UTILITY
D	0.590	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	ACCESS/UTILITY
E	0.466	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	PARK
F	0.586	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
G	0.686	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
H	0.204	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
I	0.487	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
J	0.525	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	PARK
K	0.422	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
M	0.234	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
N	0.375	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
O	0.031	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
P	1.067	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
Q	2.079	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	PARK
R	0.100	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
S	0.768	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
T	1.051	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
U	5.465	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/TRAIL/DETENTION
V	0.902	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	PARK
W	0.126	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
X	0.591	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/DETENTION/SS
Y	0.212	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/TRAIL/SS
Z	0.682	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
AA	3.709	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	PARK
BB	1.414	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	PARK
CC	0.227	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
DD	0.950	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
EE	0.411	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE/DRAINAGE
FF	0.327	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
GG	19.998	HIGH PLAINS METRO DISTRICT #2	HIGH PLAINS METRO DISTRICT #2	OPEN SPACE/LANDSCAPE
TOTALS	48.541			

LAND SUMMARY CHART			
	SQ. FT.	ACRES	%
LOTS (413 TOTAL)	2,077,213	47.688	39.36
RIGHT-OF-WAY	1,086,041	24.931	20.58
OUTLOTS (32 TOTAL)	2,114,478	48.541	40.06
TOTALS	5,277,732	121.160	100.00

APPROVALS

PLANNING AND ZONING COMMISSION

THIS PLAT, TO BE KNOWN AS BLUE SKY PRAIRIE PRELIMINARY PLAT, WAS APPROVED BY ACTION OF THE PLANNING AND ZONING COMMISSION OF THE TOWN OF JOHNSTOWN, COLORADO AT A REGULAR MEETING HELD ON THE _____ DAY OF _____, _____.

BY: _____
CHAIR, PLANNING AND ZONING COMMISSION

TOWN COUNCIL

THIS PLAT, TO BE KNOWN AS BLUE SKY PRAIRIE PRELIMINARY PLAT, IS APPROVED AND ACCEPTED BY THE TOWN OF JOHNSTOWN BY RESOLUTION NUMBER _____, PASSED AND ADOPTED ON FINAL READING AT A REGULAR MEETING OF THE TOWN COUNCIL OF THE TOWN OF JOHNSTOWN, COLORADO HELD ON THE _____ DAY OF _____, _____.

BY: _____ ATTEST: _____
MAYOR TOWN CLERK

TOWN ENGINEER

APPROVED THIS _____ DAY OF _____, _____.

TOWN ENGINEER, TOWN OF JOHNSTOWN

OWNER/APPLICANT

HIGH PLAINS ESTATE JV, LLC
36 SOUTH 18TH AVENUE, SUITE D
BRIGHTON, CO 80601

ENGINEER

LJA ENGINEERING
12071 TEJON STREET, SUITE 470
WESTMINSTER, COLORADO 80234
CONTACT: TESS HOGAN, PE
TESS@INNOVATIVELANDINC.COM
(303)-421-4224

PLANNER

HENRY DESIGN GROUP
1501 WAZEE STREET, SUITE 1-C
DENVER, CO 80202
CONTACT: KAREN HENRY
KHENRY@HENRYDESIGNGROUP.COM
(303)-446-2368

SURVEYOR

AZTEC CONSULTANTS, INC.
300 EAST MINERAL AVE, SUITE 1
LITTLETON, CO 80122
CONTACT: JIM LYNCH
JLYNCH@AZTECCONSULTANTS.COM
(303)-713-1897

LAST REVISED: 8/15/2023

AZTEC CONSULTANTS, INC.
300 East Mineral Ave., Suite 1
Littleton, Colorado 80122
Phone: (303) 713-1898
Fax: (303) 713-1897
www.aztecconsultants.com

AzTec Proj. No: 164021-01 Drawn By: BAM

DEVELOPER
COLA, LLC/VIEW HOMES, INC.
3033 E. 1ST AVENUE, SUITE 815
DENVER, CO 80206

DATE OF PREPARATION:	03-31-2023
SCALE:	N/A

SHEET 1 OF 3

BLUE SKY PRAIRIE

PRELIMINARY PLAT

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF JOHNSTOWN, COUNTY OF WELD, STATE OF COLORADO.

LEGEND

- SECTION CORNER MONUMENT AS DESCRIBED
- ROW RIGHT-OF-WAY
- (#) BLOCK NUMBER
- U.E. UTILITY EASEMENT

NORTH 1/4 COR., SEC. 2 T4N, R68W, 6TH P.M. FOUND NO. 6 REBAR WITH 2-1/2" ALUMINUM CAP STAMPING ILLEGIBLE

NE COR., SEC. 2 T4N, R68W, 6TH P.M. POSITION CALCULATED FROM FOUND REFERENCE MONUMENTS

S64°57'26"E 70.34'

VETERANS PARKWAY (60' WIDE PUBLIC ROW) BOOK 86 PAGE 273

20' WATER EASEMENT

(BASIS OF BEARINGS)

NORTH LINE OF THE NE 1/4 OF SEC. 2 N89°47'55"E 2634.59'

N89°47'55"E 1257.04'

30'

PROPOSED 20' DRAINAGE EASEMENT

30' ADDITIONAL RIGHT-OF-WAY TO BE DEDICATED

10' U.E. (TYP.)

HIGH PLAINS BLVD. (120' WIDE PUBLIC ROW) REC. NO. 4238028

LESS THAT PORTION REC. NO. 3094025

WEST LINE OF THE NE 1/4 OF SEC. 2

N06°25'27"W 2284.52'

60' R.O.W. DEDICATION REC. NO. 4738022

S03°12'34"E 2307.04'

OUTLOT A

OUTLOT C

OUTLOT F

OUTLOT GG

OUTLOT D

OUTLOT H

OUTLOT E

OUTLOT G

OUTLOT I

OUTLOT B

OUTLOT K

OUTLOT J

OUTLOT M

OUTLOT C

OUTLOT N

OUTLOT D

OUTLOT O

OUTLOT P

OUTLOT R

OUTLOT EE

OUTLOT DD

OUTLOT BB

OUTLOT CC

OUTLOT Y

OUTLOT S

OUTLOT Z

OUTLOT AA

NE 1/4 SEC. 2, T.4N., R.68W., SIXTH P.M.

NW 1/4 SEC. 2, T.4N., R.68W., SIXTH P.M.

50' GAS LINE EASEMENT REC NO. 3228257 TO BE VACATED

LARKSPUR DR. (80' WIDE PUBLIC ROW)

S06°39'05"E 366.32'

LOT A RECORDED EXEMPTION NO. 1061-2-1 RE-4879 REC. NO. 3616687

LOT B RECORDED EXEMPTION NO. 1061-2-1 RECX13-0103 REC. NO. 4110540

LOT A REC. NO. 4110540

LOT A RECORDED EXEMPTION NO. 1061-2-1-RE2427 REC. NO. 2693006

N85°51'58"E 562.80'

S55°23'44"E 109.84'

S61°02'33"E 160.32'

Δ=30°18'48" R=184.58' L=97.65'

N84°35'07"E 49.49'

15' DITCH EASEMENT TO BE DEDICATED BY SEPARATE DOCUMENT

N88°38'36"E 397.54'

PRAIRIE CLOVER CR. (60' WIDE PUBLIC ROW)

BLUESTEM AVENUE (30' WIDE PUBLIC ROW)

30' 25' WELL SETBACK

SEALOCK 1 API # 5-123-10765 STATUS - PA

WATERBIRCH AVE. (80' WIDE PUBLIC ROW) REC. NO. 4738028

WATERBIRCH AVE. (80' WIDE PUBLIC ROW)

WILD RYE DR. (60' WIDE PUBLIC ROW)

PRAIRIE SAGE AVENUE (30' WIDE PUBLIC ROW)

SWITCHGRASS AVE. (60' WIDE PUBLIC ROW)

FROSTWEED DR. (60' WIDE PUBLIC ROW)

BLUE ASTER AVE (60' WIDE PUBLIC ROW)

PRAIRIE CLOVER CR. (60' WIDE PUBLIC ROW)

PRAIRIE CONEFLOWER AVE

S06°52'16"E 1769.01'

20' DRAINAGE EASEMENT

TEMPORARY ACCESS EASEMENT

OIL AND GAS FACILITY WELL TANK SETBACK

OWNER: EXTRACTION OIL & GAS INC.

LOT B RECORDED EXEMPTION NO. 1061-01-2 RE-3835 REC. NO. 3287181

20' DRAINAGE EASEMENT

REVERE AT JOHNSTOWN FILING NO. 1 REC. NO. 4738028

LOT 6 BLOCK 10

LOT 7 BLOCK 10

WATERLINE EASEMENT REC NO. BK4662837

SEE SHEET 3

SEE SHEET 3

FOR AND ON BEHALF OF AZTEC CONSULTANTS, INC

SCALE: 1" = 100'

AzTec CONSULTANTS, INC.
300 East Mineral Ave., Suite 1
Littleton, Colorado 80122
Phone: (303) 713-1898
Fax: (303) 713-1897
www.aztecconsultants.com

AzTec Proj. No: 164021-01 Drawn By: BAM

DEVELOPER
COLA, LLC/VIEW HOMES, INC.
3033 E. 1ST AVENUE, SUITE 815
DENVER, CO 80206

DATE OF PREPARATION:	03-31-2023
SCALE:	1" = 100'
SHEET 2 OF 3	

BLUE SKY PRAIRIE

PRELIMINARY PLAT

A PARCEL OF LAND BEING A PORTION OF THE NORTHEAST QUARTER OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN, TOWN OF JOHNSTOWN, COUNTY OF WELD, STATE OF COLORADO.

SEE SHEET 2

SEE SHEET 2

NW 1/4 SEC. 2, T.4N., R.68W., SIXTH P.M.

S07°13'37"E 2307.04'

60' R.O.W. DEDICATION REC. NO. 4738022

OUTLOT D

REVERE AT JOHNSTOWN FILING NO. 1 REC. NO. 4738028

WATERBIRCH AVE. (80' WIDE PUBLIC ROW) REC. NO. 4738028

OUTLOT R

LOT 4 BLOCK 10 · LOT 5 BLOCK 10 · LOT 6 BLOCK 10 · LOT 7 BLOCK 10 · LOT 8 BLOCK 10 · LOT 9 BLOCK 10 · LOT 10 BLOCK 10 · LOT 11 BLOCK 10 · LOT 12 BLOCK 10 · LOT 13 BLOCK 10 · LOT 14 BLOCK 10 · LOT 15 BLOCK 10 · LOT 16 BLOCK 10 · LOT 17 BLOCK 10 · LOT 18 BLOCK 10 · LOT 19 BLOCK 10

OUTLOT U

LOT 15 BLOCK 8 · LOT 16 BLOCK 8 · LOT 17 BLOCK 8 · LOT 18 BLOCK 8

WEST LINE OF THE NE 1/4 OF SEC. 2

HIGH PLAINS BLVD. (120' WIDE PUBLIC ROW) REC. NO. 4738028

LESS THAT PORTION REC. NO. 3094025

OUTLOT E

REVERE AT JOHNSTOWN FILING NO. 1 REC. NO. 4738028

OUTLOT Q

CENTER 1/4 COR., SEC. 2 T4N, R68W, 6TH P.M. FOUND NO. 6 REBAR WITH 3-1/4" ALUMINUM CAP STAMPED "KSI JONES 1998 LS 22098"

N06°25'27"W 2284.52'

OUTLOT F · OUTLOT E · OUTLOT G · OUTLOT H · OUTLOT B · OUTLOT I · OUTLOT K · OUTLOT J

BLUESTEM AVENUE — 30' — (60' WIDE PUBLIC ROW)

30' 25' WELL SETBACK

SEALOCK 1 AP# 5-123-10765 STATUS - PA

LARKSPUR DR.

WATERBIRCH AVE. — (80' WIDE PUBLIC ROW)

OUTLOT M · OUTLOT N · OUTLOT C · OUTLOT D · OUTLOT O · OUTLOT P

WILD RYE DR.

PRAIRIE SAGE AVENUE — 30' — (60' WIDE PUBLIC ROW)

JUNE GRASS AVE. — (60' WIDE PUBLIC ROW)

OUTLOT Q

JUNE GRASS AVE. — (60' WIDE PUBLIC ROW)

DROPSEED ST. — (60' WIDE PUBLIC ROW)

OUTLOT R · OUTLOT T

GOLDEN ROD ST. — (60' WIDE PUBLIC ROW)

20' DRAINAGE EASEMENT

OUTLOT A

S88°58'49"W 2588.35'

BLOCK 1 CORRECTED - ROCKSBURY RIDGE SECOND FILING REC. NO. 3030592

LOT 1 · LOT 2 · LOT 3 · LOT 4 · LOT 5 · LOT 6 · LOT 7 · LOT 8 · LOT 9 · LOT 10 · LOT 11 · LOT 12 · LOT 13 · LOT 14 · LOT 15

ONYX PLACE (60' WIDE PUBLIC ROW) REC. NO. 4738028

SE 1/4 SEC. 2, T.4N., R.68W., SIXTH P.M.

TEMPORARY CONSTRUCTION EASEMENT REC. NO. _____

OUTLOT S · OUTLOT W · OUTLOT X · OUTLOT G

RIVER ROCK DR.

50' GAS LINE EASEMENT REC NO. 3228257 TO BE VACATED

RIVER ROCK DRIVE (60' WIDE PUBLIC ROW) REC. NO. 4738028

ONYX PLACE (60' WIDE PUBLIC ROW) REC. NO. 4738028

LOT 10 BLOCK 2

CORRECTED - ROCKSBURY RIDGE SECOND FILING REC. NO. 3030592

SWITCHGRASS AVE. — (60' WIDE PUBLIC ROW)

OUTLOT DD

FROSTWEED DR.

BLUE ASTER AVE (60' W...)

PRAIRIE CLOVER CR. (60' W...)

OUTLOT CC · OUTLOT AA

20' DRAINAGE EASEMENT

TEMPORARY ACCESS EASEMENT

S06°52'16"E 1769.01'

OWNER: EXTRACTION OIL & GAS INC.

LOT B RECORDED EXEMPTION NO. 1061-01-2 RE-3835 REC. NO. 3287181

20' DRAINAGE EASEMENT

ASSESSED OWNER: D & B CITO TRUST REC. NO. 3935009

WATERBIRCH AVE. — (80' WIDE PUBLIC ROW)

OUTLOT Y · OUTLOT Z

PRAIRIE CONEFLOWER AVE. — (60' WIDE PUBLIC ROW)

OUTLOT V

PRAIRIE PHLOX AVE. — (60' WIDE PUBLIC ROW)

YELLOW SUNDROP DR. — (60' WIDE PUBLIC ROW)

BLAZING STAR DR. — (60' WIDE PUBLIC ROW)

OUTLOT U

PROPOSED 20' DRAINAGE EASEMENT

OUTLOT E ROCKSBURY RIDGE FIRST FILING REC. NO. 2852701

EAST 1/4 COR., SEC. 2 T4N, R68W, 6TH P.M. POSITION CALCULATED FROM FOUND REFERENCE MONUMENTS

FOR AND ON BEHALF OF AZTEC CONSULTANTS, INC

LEGEND

- SECTION CORNER MONUMENT AS DESCRIBED
- ROW RIGHT-OF-WAY
- (#) BLOCK NUMBER
- U.E. UTILITY EASEMENT

N

0' 50' 100' 200'

SCALE: 1" = 100'

AzTEC CONSULTANTS, INC.
300 East Mineral Ave., Suite 1
Littleton, Colorado 80122
Phone: (303) 713-1898
Fax: (303) 713-1897
www.aztecconsultants.com

AzTec Proj. No.: 164021-01 Drawn By: BAM

DEVELOPER
COLA, LLC/VIEW HOMES, INC.
3033 E. 1ST AVENUE, SUITE 815
DENVER, CO 80206

DATE OF PREPARATION:	03-31-2023
SCALE:	1" = 100'

SHEET 3 OF 3

4902691 Pages: 1 of 11
06/08/2023 04:22 PM R Fee:$113.00
Carly Koppes, Clerk and Recorder, Weld County , CO

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

AMENDMENT NO. 1 TO KLEIN 125 ANNEXATION OUTLINE DEVELOPMENT PLAN

A PARCEL LOCATED IN THE NORTHEAST QUARTER OF SECTION 2,
TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

COVER SHEET

LEGAL DESCRIPTION

LOT B RECORDED EXEMPTION NO. 1061-2-1-RE 1488, RECORDED JUNE 2, 1993, AT RECEPTION NO. 2335286, BEING A PART OF THE E 1/2 OF THE NE 1/4 OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE 6TH P.M., COUNTY OF WELD, STATE OF COLORADO,

AND

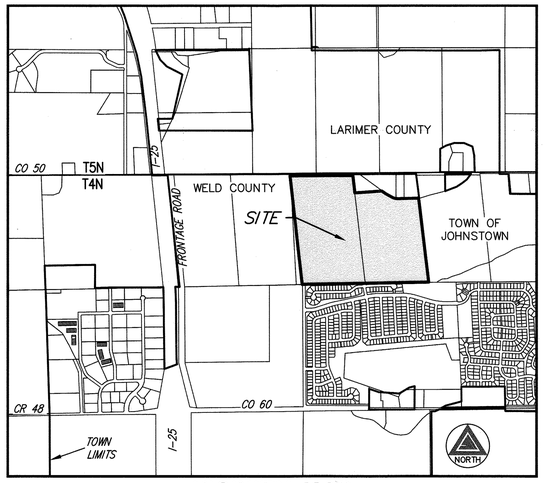
THE W 1/2 OF THE NE 1/4 OF SECTION 2, TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE 6TH P.M. LESS THAT PORTION CONTAINED IN THAT DEED RECORDED AUGUST 11, 2003, AT RECEPTION NO. 3094025, AND EXCEPT THAT PORTION CONVEYED TO THE TOWN OF JOHNSTOWN IN DEED RECORDED JULY 22, 2021, UNDER RECEPTION NO. 4738022, COUNTY OF WELD, STATE OF COLORADO

TOTAL ACREAGE: 121.160

GENERAL NOTES

1. ACCESS POINTS SHOWN ON THIS ODP ARE APPROXIMATE. EXACT LOCATION TO BE DETERMINED DURING THE PRELIMINARY AND FINAL PLATTING PROCESS BASED ON THE FINAL TRAFFIC IMPACT STUDY.
2. LOCAL AND COLLECTOR STREETS MAY CHANGE LOCATION, SIZE AND CONFIGURATION AT TIME OF PLATTING. LOCAL AND COLLECTOR STREETS SHALL CONFORM TO THE TOWN OF JOHNSTOWN STREET STANDARDS AT THE TIME OF PLATTING.
3. ALL DENSITIES AND UNIT COUNTS ARE PROJECTIONS. FINAL DENSITIES TO BE DETERMINED AT TIME OF PLATTING. DENSITY OF ANY GIVEN PHASE SHALL NOT EXCEED THE MAXIMUM DENSITY INDICATED WITHIN THE PLANNING AREA. ACTUAL NUMBER OF UNITS WILL BE DETERMINED AT TIME OF SUBDIVISION PLATTING.
4. GROSS DENSITY SHALL NOT EXCEED 5 DU/AC.
5. AREAS OF DEVELOPMENT PARCELS SHOWN ARE APPROXIMATE AND MAY VARY. EXACT LOT SIZES WILL BE DETERMINED WITH EACH PRELIMINARY AND FINAL SUBDIVISION SUBMITTAL.
6. FINAL CONFIGURATION OF PARCELS, OPEN SPACE AREAS AND STREETS MAY VARY FROM THAT SHOWN.
7. WHERE A PROPOSED USE IS NOT LISTED IN THE ODP, IT MAY BE ALLOWED IF DETERMINED BY THE TOWN OF JOHNSTOWN TO BE SIMILAR IN CHARACTER AND OPERATION, AND HAVING THE SAME OR LESSER IMPACT, AS USES THAT ARE ALLOWED.
8. ALL DRAINAGE ELEMENTS ARE CONCEPTUAL IN NATURE AND FINAL DETERMINATION OF THE DRAINAGE SYSTEM, TO INCLUDE THE PLACEMENT OF DETENTION/RETENTION PONDS, CHANNELS, AND STORM SEWER, WILL BE MADE DURING THE PRELIMINARY AND FINAL DRAINAGE REPORTS AND DURING THE PRELIMINARY DEVELOPMENT PLAN PROCESS AS A PART OF THE FINAL SUBDIVISION PLATTING.
9. LANDSCAPING, SIGNAGE, ARCHITECTURE, NON-RESIDENTIAL PARKING, FENCING AND LIGHTNING FOR DEVELOPMENT WITH THIS PUD SHALL EITHER FOLLOW THOSE APPLICABLE STANDARDS IN THE TOWN OF OF JOHNSTOWN MUNICIPAL CODE OR THE DEVELOPER MAY FORMULATE DESIGN STANDARDS REGULATING THE DESIGN, CHARACTER, LOCATION AND OTHER DETAILS OF THESE ELEMENTS PRIOR TO THEIR IMPLEMENTATION. THE DEVELOPER FORMULATED DESIGN STANDARDS MUST RECEIVE APPROVAL BY TOWN COUNCIL PRIOR TO IMPLEMENTATION.
10. NOISE STUDY: THE APPLICANT WILL CONDUCT A NOISE STUDY FOR THE OIL AND GAS FACILITY AT THE TIME OF FUTURE DEVELOPMENT PLANS THAT INCLUDE THE EASTERN PORTION OF THE HIGH PLAINS ESTATES PUD.

SHEET INDEX



VICINITY MAP

DEVELOPMENT PHASING

PHASING WILL OCCUR IN A LOGICAL AND COST EFFECTIVE MANNER BASED ON INFRASTRUCTURE EXTENSION, SITE ACCESS AVAILABILITY OF UTILITY SERVICE, AND MARKET CONDITIONS. THE PROJECT WILL BE BUILT IN MULTIPLE PHASES, AS CONDITIONS DICTATE.

RELATIONSHIP TO TOWN CODE & DEVELOPMENT STANDARDS

THE PROVISIONS OF THIS OUTLINE DEVELOPMENT PLAN (ODP) SHALL PREVAIL AND GOVERN DEVELOPMENT TO THE EXTENT PERMITTED BY THE TOWN OF JOHNSTOWN MUNICIPAL CODE. WHERE STANDARDS, DETAILS, AND GUIDELINES OF THE ODP, PRELIMINARY, OR FINAL DEVELOPMENT PLANS - DO NOT CLEARLY ADDRESS A SPECIFIC SUBJECT OR ARE SILENT, THE JOHNSTOWN MUNICIPAL AND OTHER STANDARDS, REGULATIONS, AND GUIDELINES SHALL BE USED. ALL PROPOSED DEVELOPMENT IS SUBJECT TO TOWN OF JOHNSTOWN REVIEW PROCEDURES.

APPROVALS

OWNERSHIP CERTIFICATION

HIGH PLAINS ESTATE JV, LLC
a Delaware limited liability company

By: View Homes Incorporated, a Texas corporation
Its Administrative Member

By: _____
Randy O'Leary, Chief Executive Officer

STATE OF COLORADO)
) ss.
COUNTY OF EL PASO)

The foregoing instrument was acknowledged before me this 25 day of April, 2023, by Randy O'Leary, as Chief Executive Officer of View Homes Incorporated, a Texas corporation, as the Administrative Member of High Plains Estate JV, LLC, a Delaware limited liability company.

Witness my hand and official seal
My commission expires: 10-17-2026

Sandra Hazelton
Notary Public

Sandra Hazelton
NOTARY PUBLIC
STATE OF COLORADO
NOTARY ID# 20224040127
MY COMMISSION EXPIRES 10/17/2026

ATTORNEY CERTIFICATION

I, JANE B. FREDMAN, ATTORNEY AT LAW, DULY QUALIFIED, INSURED OR LICENSED BY THE STATE OF COLORADO, DO HEREBY CERTIFY THAT I HAVE EXAMINED THE TITLE OF ALL LANDS DEPICTED AND DESCRIBED THEREON AND THAT TITLE TO SUCH LAND IS OWNED IN FEE SIMPLE BY HIGH PLAINS ESTATE JV, LLC AT THE TIME OF THIS APPLICATION.

JANE B. FREDMAN

_____ REGISTRATION NUMBER 16903

TOWN COUNCIL

THIS OUTLINE DEVELOPMENT PLAN, TO BE KNOWN AS High Plains Estates IS APPROVED AND ACCEPTED BY THE TOWN OF JOHNSTOWN, BY ORDINANCE NUMBER 2023-241 PASSED AND ADOPTED ON FINAL READING AT A REGULAR MEETING OF THE TOWN COUNCIL OF THE TOWN OF JOHNSTOWN, COLORADO HELD ON THE 20 DAY OF February, 2023.

BY: _____ MAYOR ATTEST: _____ TOWN CLERK

SEAL — THE TOWN OF JOHNSTOWN COLORADO

DEVELOPER
TIM BUSCHAR
COLA, LLC / VIEW HOMES
719-306-2976

ENGINEER
KEVIN LOVELACE
LJA ENGINEERING, INC
1765 WEST 121ST AVENUE
SUITE 300
WESTMINSTER, CO 80234
303-421-4224

PLANNER
KAREN HENRY
HENRY DESIGN GROUP
1501 WAZEE ST
UNIT 1-C
DENVER, CO 80202
303-446-2368

SURVEYOR
JIM LYNCH
AZTEC CONSULTANTS, INC
300 EAST MINERAL AVENUE
SUITE 1
LITTLETON, CO 80122
303-713-1898

henry design group — Landscape Architecture • Planning • Entitlements
COLA — Colorado Land Acquisition
LJA ENGINEERING

REVISION DESCRIPTION	DATE
2ND ODP SUBMITTAL	10-20-2022
3RD ODP SUBMITTAL	12-20-2022
4TH ODP SUBMITTAL	01-27-2023

HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
COVER

DESIGNED BY: AR
DRAWN BY: AR
CHECKED BY: KZH

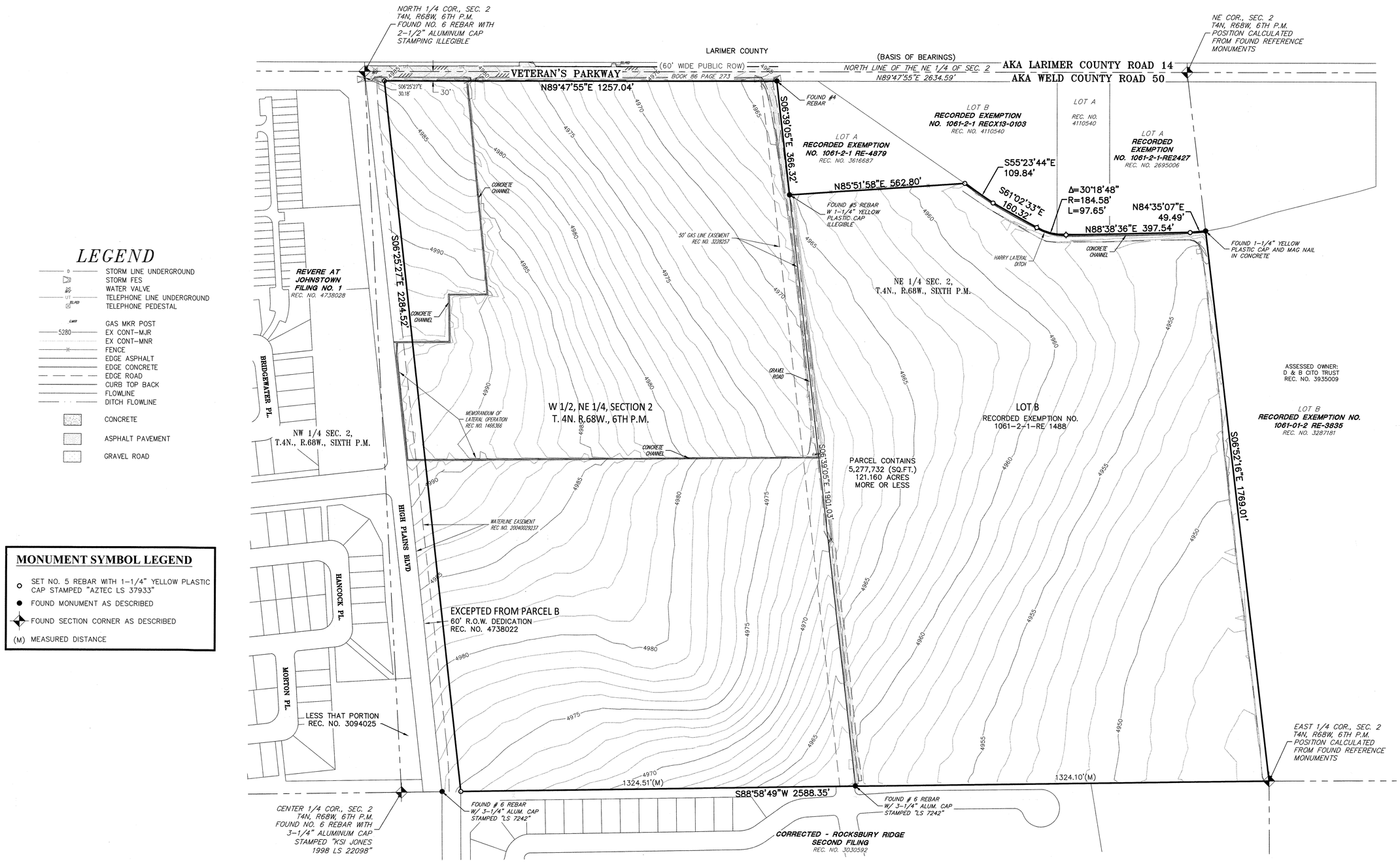
SHEET
1 OF 11

4902681 Pages: 2 of 11
06/08/2023 04:22 PM R Fee:$113.00
Carly Koppes, Clerk and Recorder, Weld County , CO

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

AMENDMENT NO. 1 TO KLEIN 125 ANNEXATION OUTLINE DEVELOPMENT PLAN

A PARCEL LOCATED IN THE NORTHEAST QUARTER OF SECTION 2,
TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO



LEGEND

- STORM LINE UNDERGROUND
- STORM FES
- WATER VALVE
- TELEPHONE LINE UNDERGROUND
- TELEPHONE PEDESTAL
- GAS MKR POST
- EX CONT-MJR (5280)
- EX CONT-MNR
- FENCE
- EDGE ASPHALT
- EDGE CONCRETE
- EDGE ROAD
- CURB TOP BACK
- FLOWLINE
- DITCH FLOWLINE
- CONCRETE
- ASPHALT PAVEMENT
- GRAVEL ROAD

MONUMENT SYMBOL LEGEND

- SET NO. 5 REBAR WITH 1-1/4" YELLOW PLASTIC CAP STAMPED "AZTEC LS 37933"
- FOUND MONUMENT AS DESCRIBED
- FOUND SECTION CORNER AS DESCRIBED
- (M) MEASURED DISTANCE

DEVELOPER	ENGINEER	PLANNER	SURVEYOR
TIM BUSCHAR COLA, LLC / VIEW HOMES 719-306-2976	KEVIN LOVELACE LJA ENGINEERING, INC. 1765 WEST 121ST AVENUE SUITE 300 WESTMINSTER, CO 80234 303-421-4224	KAREN HENRY HENRY DESIGN GROUP 1501 WAZEE ST UNIT 1-C DENVER, CO 80202 303-446-2368	JIM LYNCH AZTEC CONSULTANTS, INC 300 EAST MINERAL AVENUE SUITE 1 LITTLETON, CO 80122 303-713-1898

0' 75' 150' 300'
SCALE: 1" = 150'

henry design group
Landscape Architecture • Planning • Entitlements

COLA
Colorado Land Acquisition

LJA ENGINEERING

REVISION DESCRIPTION	DATE

HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
EXISTING CONDITIONS SURVEY

DESIGNED BY: JEL
DRAWN BY: JEL
CHECKED BY:

SHEET
2 OF 11

4902891 Pages: 3 of 11
06/08/2023 04:22 PM R Fee:$113.00
Carly Koppes, Clerk and Recorder, Weld County, CO

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

AMENDMENT NO. 1 TO KLEIN 125 ANNEXATION OUTLINE DEVELOPMENT PLAN

A PARCEL LOCATED IN THE NORTHEAST QUARTER OF SECTION 2,
TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

ODP ZONING PLAN

1. Statement of Intent

A. Outline Development Plan Amendment
High Plains Estates Outline Development Plan is the 1st Amendment to the Klein 125 Annexation Outline Development Plan. The overall project concept remains the same as originally intended.

B. Neighborhood Concept
The High Plains Estate Residential PUD Outline Development Plan is proposed as a 124.3-acre residential neighborhood. This PUD Document describes the permitted land uses, development intent and development standards for the property to establish and enhance the envisioned community character of an interconnected community. The permitted uses, road network and pedestrian corridors will allow residents to live and recreate in an interconnected community. High Plains Estates will encompass a wide variety of residential housing types attractive to a variety of households. Housing may include single family detached homes, small lot single family homes, paired homes, single family attached or townhomes, cluster homes on auto courts and green courts. The intent is to provide a range of homes of various sizes and price points for a wide demographic. The housing types will be attractive to young professionals, first-time home buyers and young families through all stages of life with the opportunity to move into larger homes within the same community. The community will be cohesively planned, with consistent streetscapes, unified architecture, and pedestrian connectivity between community gathering features.

Features of the PUD include:
1. An interconnected public street system that are bicycle and pedestrian friendly. Collector and arterial streets will be tree lined with detached sidewalks. Trails are provided in open space areas that connect to public and private park amenities within each sub-neighborhood.
2. Homes facing the public streets and green courts will have interesting elevations that are engaging to the passerby thereby enhancing the pedestrian experience.
3. Common open space and parks provide areas for passive and active recreational opportunities.
4. Covenants, conditions, and restrictions will be provided to ensure cohesive architecture and landscaping throughout the neighborhood.

C. General Community Framework
Four Planning Areas are proposed in a four-square configuration with the east-west collector street and abandoned north-south gas line defining the boundaries of the four quadrants. Each planning area is unique based on the adjacent land uses and road network. The four Planning Areas will be unified into a cohesive neighborhood through internal connecting trail systems, parks and road network. A mix of residential types and lot sizes differentiate the four planning areas.

D. Site Design Details
Various design details shall provide a distinguishing character and theme to the neighborhood. These include distinctive fencing, thematic street furnishings, play equipment, entry features, street names, and landscaping. Each sub-neighborhood will reinforce the overall theme of High Plains Estates.

E. Covenants
Architectural design covenants shall provide a standard of quality throughout the neighborhood. High Plains Estates guidelines will complement the Town of Johnstown's design guidelines and will address the attractive placement of fencing, architectural variety and harmony, landscape requirements within private lots, and the prohibition of uses and construction that would undermine neighborhood quality and livability.

The community association or metro district will be responsible for covenant enforcement and for the maintenance of common areas and elements.

F. Neighborhood Compatibility
Compatibility with adjoining neighborhoods will be achieved through either similar residential types and appropriate buffering achieved by landscaping, fencing, and setback or a combination of the above.

2. General Notes

A. Introduction
The purpose of this section is to state general provisions and clarify standards and requirements for development within High Plains Estates.

B. Conflicts
The provisions of this ODP shall prevail and govern the development of the High Plains Estates PUD provided; however, where the provisions of this ODP do not clearly address a specific subject, the provisions of the Town of Johnstown Municipal Code as amended for the similar underlying Zone District shall apply,

C. Zoning
The proposed zoning for the property is PUD-R, Planned Unit Development Residential. The intent is to allow for medium density residential which will enable the development to provide of a variety of single family detached, single family attached homes, and cluster homes lot types.

D. Density Ranges
Residential density ranges are specified in each Planning Area. The permitted number of dwelling units and density shall be further specified at the time of Preliminary Plat and Preliminary Development Plan and Final Development Plan and Final Plat, if there were changes between preliminary design and final design due to engineering findings. There is no minimum density required in the Planning Areas.

E. Residential Density Transfer
Transfer of residential dwelling units from Planning Area to Planning Area (Maximum transfer of dwelling units may not exceed 30% of the receiving Planning Area cap density) is permitted. Transfer of units shall be tracked by the developer and a summary shall be provided at time of Final Plat for the Planning Area donating and the Planning Area receiving the transferred units.

Once a Planning Area is fully platted through the Final Plat process any remaining dwelling units as designated on the High Plains Estates ODP, shall remain available for transfer to another Planning Area per the 30% maximum provision as stated above. In no case shall the maximum density of the PUD exceed the total permitted units as specified on the ODP of 725 dwelling units.

F. Planning Area Boundaries
Planning Area acreages and boundaries are conceptual and subject to change with detailed planning and engineering. Planning Area acreages and boundaries may change up to 30%. Such changes will result in corresponding changes to the maximum number of dwelling units for the affected Planning Area(s). Such changes may also result in changes to all street classifications as shown in this ODP document.

NOTE:
CONCEPTUAL PLANNING ELEMENTS WITHIN THIS ODP ARE SUBJECT TO FURTHER DETAILED REVIEW AND UPDATED REQUIREMENTS OF THE TOWN WITH SUBSEQUENT SUBMITTALS FOR DEVELOPMENT AND CONSTRUCTION PLANS. THESE ELEMENTS ARE INCLUDED TO ILLUSTRATE FEASIBILITY OF THE SITE FOR THE PROPOSED LEVEL OF DEVELOPMENT AND PRESENT HIGH LEVEL DEVELOPMENT CONCEPTS ONLY.

LAND USE SUMMARY

PLANNING AREA	ACREAGE	DENSITY RANGE	MAXIMUM DWELLING UNITS	% OF TOTAL
1	33.6	3 - 12 DU/AC	328	27%
2	28.1	3 - 5 DU/AC	131	23%
3	28.3	3 - 5 DU/AC	94	23%
4	30.2	3 - 7 DU/AC	172	24%
Veterens PKWY	0.9	N/A	N/A	1%
Total	121.1	N/A	725	100%

*NOTE: DENSITY TRANSFERS ARE PERMITTED AS PROVIDED IN NOTE 2E ON SHEET 3 OF 11 OF THIS ODP.

DEVELOPER
TIM BUSCHAR
COLA, LLC / VIEW HOMES
719-306-2976

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SUITE 300
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303-421-4224

PLANNER
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SURVEYOR
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SUITE 1
LITTLETON, CO 80122
303-713-1898

henry design group — Landscape Architecture • Planning • Entitlements
COLA — Colorado Land Acquisition
LJA ENGINEERING

REVISION DESCRIPTION	DATE
2ND ODP SUBMITTAL	10-20-2022
3RD ODP SUBMITTAL	12-20-2022
4TH ODP SUBMITTAL	01-27-2023

HIGH PLAINS ESTATES
JOHNSTOWN, CO
OUTLINE DEVELOPMENT PLAN
ODP ZONING PLAN

DESIGNED BY: AR
DRAWN BY: AR
CHECKED BY: KZH

SHEET
3 OF 11

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

AMENDMENT NO. 1 TO KLEIN 125 ANNEXATION OUTLINE DEVELOPMENT PLAN

A PARCEL LOCATED IN THE NORTHEAST QUARTER OF SECTION 2,
TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO

PARK, TRAILS, AND OPEN SPACE PLAN

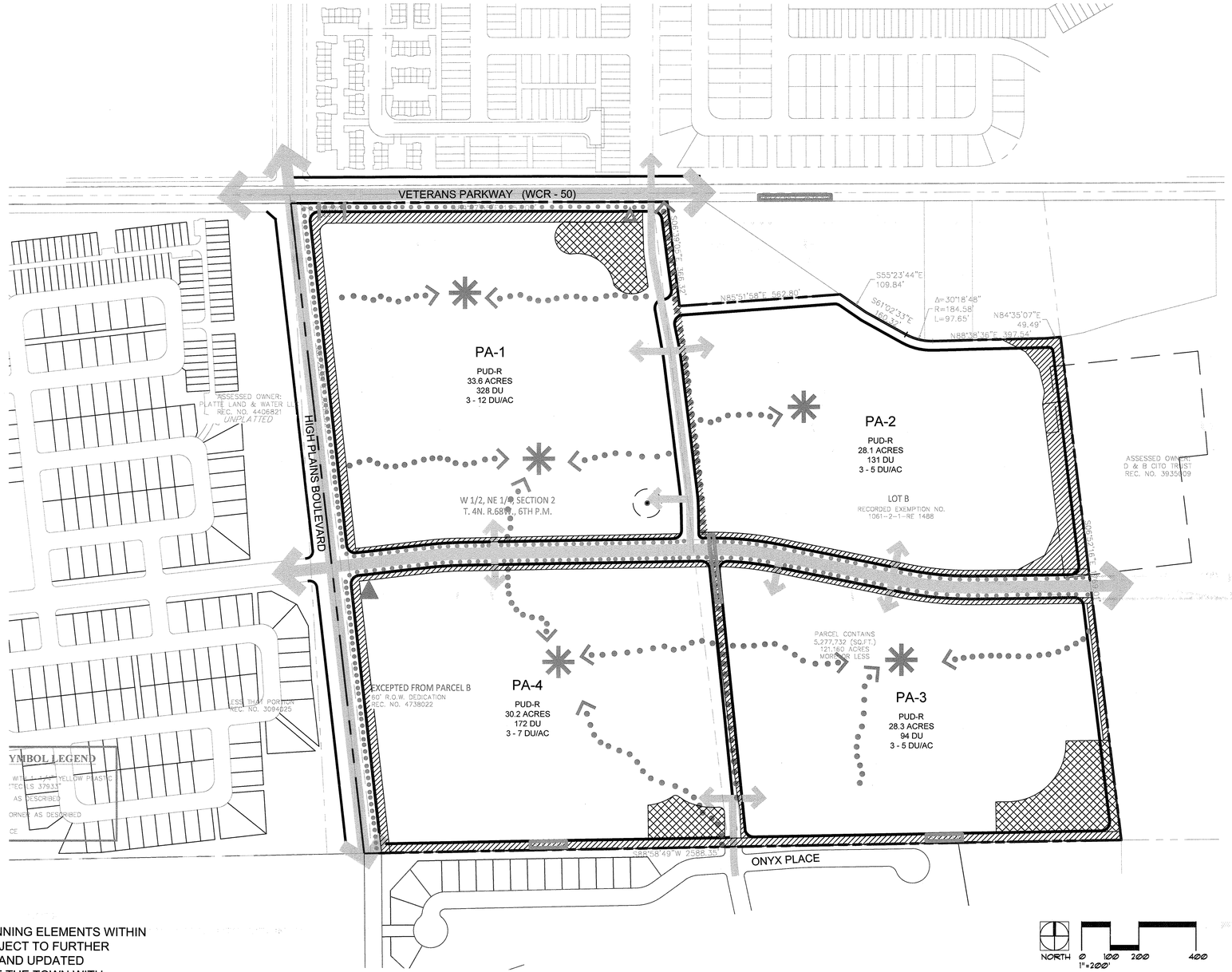
OPEN AREA, PARKS, AND PEDESTRIAN CONNECTIVITY

OPEN AREA

1. FOR THE PURPOSES OF THIS PUD, OPEN AREA SHALL BE PROVIDED AS REQUIRED BY THE TOWN OF JOHNSTOWN CODE AT TIME OF PLATTING
2. PARK/AMENITY LOCATIONS ARE CONCEPTUAL AND WILL BE FINALIZED AT THE TIME OF TIME PRELIMINARY AND FINAL PLATS AND PRELIMINARY AND FINAL DEVELOPMENT PLANS.

PEDESTRIAN CONNECTIVITY

1. DETACHED SIDEWALKS SHALL BE PROVIDED ALONG ALL PUBLIC STREETS.
2. TRAIL LINKAGES WILL ALSO BE PROVIDED WITHIN PORTIONS OF THE INTERNAL OPEN SPACE/PARK AREAS OF HIGH PLAINS ESTATES WITH A 6 OR 8-FOOT-WIDE PAVED TRAIL DEPENDING ON LOCATION. THE FOCUS OF THESE TRAIL CONNECTIONS WILL BE TO CONNECT MEANDERING WALKS ADJACENT TO ARTERIAL AND COLLECTOR STREETS TO THE SIDEWALK LINKAGES ALONG THE RESIDENTIAL AREAS AND INTO THE PARKS/OPEN SPACE AREAS. FINAL TRAIL LOCATIONS WILL BE DETERMINED AT TIME OF FINAL DEVELOPMENT PLAN AND FINAL PLAT.



LEGEND

- 6' - 8' PEDESTRIAN TRAIL
- DETACHED SIDEWALK
- PUBLIC OR PRIVATE PARK / AMENITY
- PRIMARY MONUMENT
- SECONDARY MONUMENT
- LANDSCAPE BUFFER / OPEN SPACE
- DETENTION

NOTE:
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HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
PARKS, TRAILS, AND OPEN SPACE PLAN

DESIGNED BY: AR
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4 OF 11

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

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COUNTY OF WELD, STATE OF COLORADO

ODP DEVELOPMENT STANDARDS AND DESIGN GUIDELINES

DEVELOPMENT STANDARDS NOTES

A. Permitted Land Uses

Overall, residential neighborhood at a medium density is proposed for a range of 3 to 12 dwelling units per acre (DU/Ac) depending on the Planning Area. Land uses permitted within the High Plains PUD-R district include:

1. Traditional Single family detached homes; front and rear loaded homes.
2. Single family attached homes from 2 (paired home) to 6 attached units.
3. Cluster homes.
4. Green court homes.
5. Auto court homes.
6. Carriage homes.
7. Detached garages.
8. Accessory Dwelling Unit (ADU).

B. Definitions

1. *Single Family Detached Residential is defined as a* detached (freestanding and surrounded on all sides by open areas or yards) dwelling designed exclusively for occupancy by one family. Single family detached residential may be located on a fee simple lot or may be individual homes on a common lot.
2. *Single Family Attached/Townhome Residential is defined as* a dwelling containing two (2) to six (6) attached dwelling units, where each home is located side-by-side and totally separated from each other by an unpierced wall extending from ground to roof designed exclusively for occupancy by two or more families living independently of each other. Single family attached is typically on a common lot whereas a townhome sits on an individually owned lot for each dwelling. The different dwelling units are arranged on a side-by-side, rather than a stacked, configuration.
3. *Paired Home is defined as* two attached units sharing a common wall with separate entries and separate lots for each unit.
4. *Auto Court Home is defined as an* arrangement of single family attached or townhomes, single-family detached homes or paired homes sharing a common private access drive. Auto courts include relatively small areas of outdoor private space. The maximum length of a dead-end auto court shall be 150 feet or as permitted by fire code. An auto court private access drive shall gain access from an adjacent public street. Garages and driveways shall take access from the shared private access drive.
5. *Green Court is defined as a* form of development in which three or more single family attached, single family detached, or paired homes are arranged in a side by side lotting configuration and where the front door does not face a public or private street but instead faces a green court open space which acts as a communal front yard, is connected to a public street or private drive, and the development is oriented to direct pedestrian connectivity through the green courts rather than the street/alleys.
6. *Cluster Home* is any residential grouping of at least two (2) homes which access off a common/shared drive or alley. Cluster homes can be on individual lots or a common lot for all homes.
7. *Accessory Dwelling Unit (ADU)* is defined as a secondary dwelling unit located on the same lot as the primary dwelling unit and which functions as a fully capable dwelling unit with its own living, sleeping, cooking, and bathing facilities. The ADU typically has separate access and may be referred to as a "backyard cottage" or "mother-in-law unit" and counts toward the maximum density in the Planning Area. An ADU may be located above a detached garage.
8. *Carriage Unit* is defined as a single family dwelling located above a garage with separate access to the unit.

C. Development Standards Notes

1. Any housing type of a lower density may be developed within a higher density Planning Area as long as it follows the standards of the proposed use type.
2. Alley loaded single family residential may front on a collector or arterial street provided a buffer of 30-feet is provided.

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DESIGN GUIDELINES

1. Applicability
These guidelines are intended for use by builders, developers, residents, planners, architects, and engineers for the design and construction of High Plains Estates. These guidelines shall work in concert with the Town of Johnstown codes and guiding documents.

2. Architecture
The intent of the architecture within High Plains Estates is to provide homes, including single family detached homes, single family attached homes, and cluster homes of various architectural designs, colors, and articulation which are complementary to one another but not monotonous. The homes shall relate to the street and create diversity and variety along the streetscape. It is encouraged that the homes have a variety of private outdoor living spaces which may include patios, front porches, or balconies. The elevations shall reflect traditional Colorado styles and neighborhoods, while also allowing complimentary modern designs.

3. Community Design Elements
Community design elements will contribute to making High Plains Estates a quality community. These elements will include internal park amenity areas, connecting open space corridors, landscaped entry features and monumentation, appropriate lighting, pedestrian and bicycle circulation paths, street trees in the front yards of each home, uniform perimeter fencing, and other appropriate design features. The primary entry statement will be at the access point into the neighborhood from High Plains Boulevard and the secondary entry statement will be at Veterans Parkway. These areas will include an entry monument sign with landscaping to provide a pleasing presentation from the street and to announce arrival to the neighborhood. Tertiary monuments with a similar theme of the primary monuments are permitted at the entry to each sub-neighborhood.

4. Buffering

The relationship to the perimeter arterial streets as well as the collector streets will be very important to establish the arrival sequencing of the neighborhood. Therefore, the rear lot lines that abut these major exterior street frontages will be setback from the street right-of-way to provide additional landscape area and visual buffer, and to allow the adjacent sidewalk to meander slightly. This is intended to create an attractive exterior streetscape for this community.

5. Streetscapes

A. High Plains Estates entries will contain both signage and landscaping that tie into the overall development streetscape design. The land use plan Illustrates the major and secondary entries into the site.
B. In order to create an appropriate landscape along Veterans Parkway and High Plains Boulevard, large masses of trees and shrubs are required. Landscaping in the right-of-way (ROW) will be primarily drought tolerant turf or irrigated native seed. This treatment will transition to drifts of shrub/perennial beds and tree groupings that meander from just inside the row to the edge of landscape buffers and back. The goal is to avoid a straight-line treatment at the edge of the ROW. Trees, shrubs, ground covers, native grass, turf, and perennials are permitted to be planted within the public ROW and adjacent landscape buffers.
C. Walks will be detached and meander within the ROW and outside of the ROW into the landscape buffer if desired.
D. Medians will be planted in a similar fashion to the ROW landscaping or will be constructed of colored & stamped concrete.
E. Collector & arterial streets planting will be treated in a similar fashion in order to create a unified and significant streetscape image.
F. The streetscape design shall emphasize xeriscape principles and a unique look that sets High Plains Estates apart.
G. Arterial street landscape buffer: A 30' minimum landscape buffer shall be provided along Veterans Parkway and High Plains Boulevard.
H. Collector street landscape buffer: A 20' average landscape buffer shall be provided along the collector streets.
I. Sight distance lines: No planting over 30" in height shall occur within a sight distance lines. Refer to AASHTO requirements Regarding sight distance triangles.

6. Fencing

The fencing program for High Plains Estates will be consistent with a unified design theme throughout the neighborhood. All fencing will be determined at the time of Preliminary and Final Development Plan.

7. Signage

The intent of the signage within High Plains Estates is to create a unified sign program including primary monument signs, secondary, and tertiary signs announcing arrival into the overall community and sub neighborhoods. The signage shall incorporate the neighborhood theme including logo, name, color scheme, and materials as the unifying design elements. Signage locations and design shall be indicated at the time of Preliminary and Final Development Plan. All signage shall be permitted through the Town and in accordance with the Town's Sign Code.

8. Lighting

Lighting within High Plains Estates will include streetlights in accordance with Town of Johnstown Public Works requirements. Private lighting within the neighborhood shall consist of downcast varieties and shall not cast any glare on adjacent land uses or rights-of-way. Location, style, height, and function shall reinforce the neighborhood design theme. All lighting shall be indicated at the time of Preliminary and Final Plat and Preliminary and Final Development Plan.

PLANNED UNIT DEVELOPMENT – RESIDENTIAL DISTRICT (PUD – R) RESIDENTIAL DEVELOPMENT STANDARDS

PLANNING AREA	PA-1 Residential Medium	PA-2 Residential Medium	PA-3 Residential Medium	PA-4 Residential Medium	Johnstown Municipal Code	ACCESSORY USES AND DWELLING UNITS
Permitted Primary Land Use In addition to the uses as listed in the Use Regulations of the SF-1 and SF-2 Districts within the Town Municipal Code.	Single family detached-SFD (front and rear loading); Multi-story Single family attached/ Townhomes (3 – 6 dwelling units in a row - front and rear loading); Paired homes (front and rear loading); Auto court and Green court homes (all home types)	Single family detached (front and rear loading) Paired homes (front and rear loading)	Single family detached, Paired homes (front loading)	Single family detached (front and rear loading) Paired homes (front and rear loading)	SF – 1, SF – 2 and MF Districts	
Secondary Permitted Use	ADU	ADU	ADU	ADU		
Land Area (Acres)	33.6	28.1	28.3	30.2		
Permitted Gross Density -Maximum (Dwelling units per acre – DU/Ac)	12 DU/Ac	7 DU/Ac	5 DU/Ac	7 DU/Ac	Not addressed	
Permitted Gross Density – Minimum (Dwelling units per acre – DU/Ac)	3 DU/Ac	3 DU/Ac	3 DU/Ac	3 DU/Ac		
Maximum number of dwelling units**	328	131	94	172		
Minimum lot size	Front or rear loading SFD Fee simple lot: 3,000 SF SFA (Townhomes): Fee simple lot: 800 SF each lot Pairs: Fee simple lot: 1,800 SF lot each half Auto or Green Court (Fee simple lot): SFD: 1,800 SF: Pairs: 1,800 SF each half All types of homes, SFD, SFA, pairs and similar on a Common lot (not subdivided) – No minimum lot size	Front loading SFD Fee simple lot: 4,000 SF Rear loading SFD Fee simple lot: 3,000 SF (rear loading) Pairs: Fee simple lot:1,800 SF lot each half	Front loading SFD Fee simple lot: 6,500 SF f Pairs: Fee simple lot: 1,800 SF lot each half	Front or rear loading SFD Fee simple lot 6,500 SF for the first row of homes along the southern property line SFD Fee simple lot internal to PA-4 5,500 SF 3,000 SF for creative development options/alternate building types up to a maximum density of 7 DU/Ac. Must be located along the northern portion of the Planning Area adjacent to Water Birch Avenue Pairs Fee simple lot: 1,800 SF lot each half. Must be located along the northern portion of the Planning Area adjacent to Water Birch Avenue	SF-1: 6,000 SF SF-2: 4,500 SF	Per the Johnstown Municipal Code
Minimum Lot frontage as measured at the building setback for homes on a public street, private drive, auto court or green court for Fee Simple lots	Front loading SFD: 34 ft SFA: 22 ft Pairs: 25 ft. each half Auto or Green Court: SFD 28 ft: Pairs: 22 ft Rear loading SFD: 35 ft SFA:16 ft Pairs: 25 ft each half Auto or Green Court SFD: 28 ft: Pairs: 25 ft	Front loading SFD: 35 ft Pairs: 25 ft. each half Rear loading SFD: 35 ft Pairs: 25 ft each half	Front loading SFD: 50 ft Pairs: 25 ft each half	Front loading SFD: 50 ft Pairs: 25 ft each half Rear loading SFD: 35 ft Pairs: 25 ft each half	Not addressed	
Maximum Building Height	35 ft	35 ft	35 ft	35 ft	35 ft	
Minimum Building Setbacks						
Front – To face of front-loaded garage from back of walk or pavement edge of private drive	20 ft	20 ft	20 ft	20 ft	Minimum setback of 20-feet Minimum offset is 5- feet	
Front – To primary structure or covered porch; side or rear loading garage from property line or pavement edge of private drive	10 ft	10 ft	10 ft	10 ft		
Front – Auto Court as measured from property line or pavement edge of private drive	6 ft to primary structure or covered porch 20 ft to face of garage	NA	NA	NA		
Rear – No alley – to Property Line	10 ft	15 ft	15 ft	15 ft 20-ft adjacent to Rocksbury Ridge		
Rear – From alley to garage - minimum	5 ft	NA	NA	5 ft		
	Building/garage setbacks from the alley/private drive shall be less than 7 feet or 20 feet					
Side – Interior lot line SFD	3 ft	5 ft	5 ft	3 ft		
Side – Interior lot SFA/Pairs	0 ft on attached side 3 ft on external side	0 ft on attached side 5 ft on external side	0 ft on attached side 5 ft on external side	0 ft on attached side 5 ft on external side		
Side – Corner side from Alley or ROW	10 ft	10 ft	10 ft	10 ft		
Building Separation Fee Simple Lots: 10 feet ft						
Building Separation - all home types on a common lot						
Front to Front	20 ft				Not addressed	
Front to Side	10 ft					
Side to Side	6 ft					
Front to Back	15 ft					
Back to Back	15 ft					
Back to Side	6 ft					
Perimeter buffer adjacent the large lot homes		15-foot tract for drainage, landscape, and Harry Ditch lateral				
Encroachments permitted into Setbacks • Encroachments of up to two (2) feet are allowed into setbacks for roof eaves/overhangs, cantilevered window boxes brick ledges, bay/box windows, fireplaces/chimneys and entertainment center bump outs. • Encroachments of up to three (3) feet are allowed into setbacks for window wells, stoops, counterforts and like features of the structure. Ramps for handicap accessibility may encroach as needed. • Stairs or steps from the home may encroach to the back of sidewalk outside of the private lot and including encroachments into public rights of way. • Uncovered or unenclosed patios and decks at less than 30-inches above ground level may encroach into any setback a maximum of five (5) feet may not encroach into easements without consent of the easement holder. • Uncovered or unenclosed patios and decks greater than 30-inches above grade may encroach into the rear yard setback only a maximum of seven (7) but may not encroach into easement without the consent of the easement holder.						
Parking	Number of required spaces shall be per the Town of Johnstown Municipal Code. Guest parking may include on-street or off-street parking. Tandem garages and driveway aprons are permitted				2 spaces per dwelling unit	
Parks and Open Space	As required by the Town of Johnstown Code at time of platting					

****Density transfers are permitted as provided for in Note 2E on Sheet 3 of 11 of this ODP.**

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HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
ODP DEVELOPMENT STANDARDS AND DESIGN GUIDELINES

DESIGNED BY: AR
DRAWN BY: AR
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4902591 Pages: 6 of 11
06/05/2023 04:22 PM R Fee:$113.00
Carly Koppes Clerk and Recorder, Weld County , CO

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

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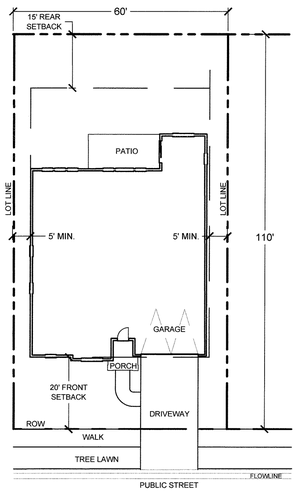
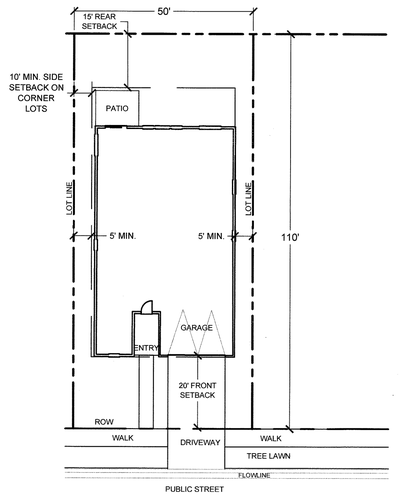
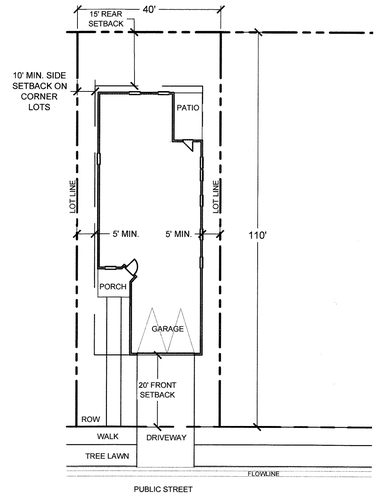
LOT TYPICALS



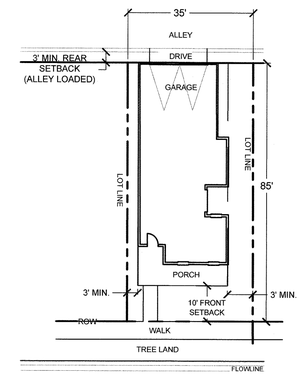
50' SINGLE FAMILY DETACHED
FRONT LOADED 60' LOT TYPE



40' SINGLE FAMILY DETACHED
FRONT LOADED 50' LOT TYPE

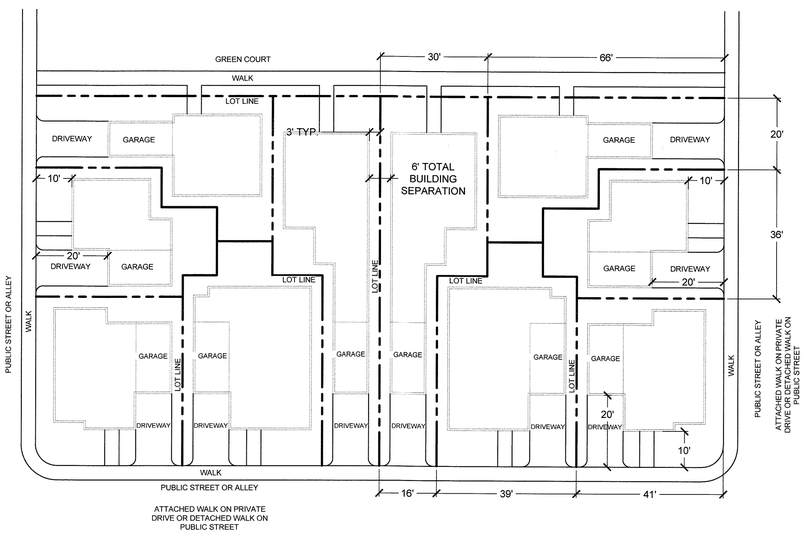


30' SINGLE FAMILY DETACHED
FRONT LOADED 40' LOT TYPE

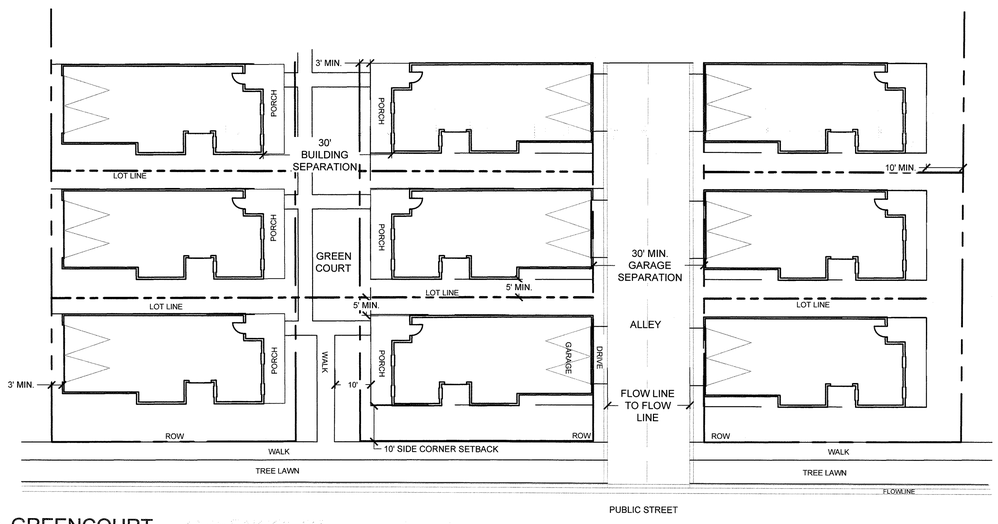


*10' MINIMUM DISTANCE BETWEEN STRUCTURES

SINGLE FAMILY DETACHED 'NOOK'
ALLEY LOADED 35' LOT TYPE



CLUSTER HOMES



GREENCOURT

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DRAWINGS NOT TO SCALE, TYP.

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HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN- LOT TYPICALS

DESIGNED BY: AK
DRAWN BY: AK
CHECKED BY: KZH

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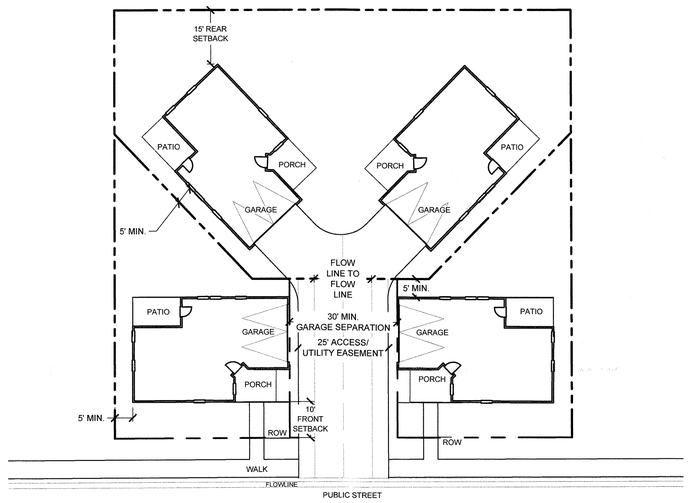
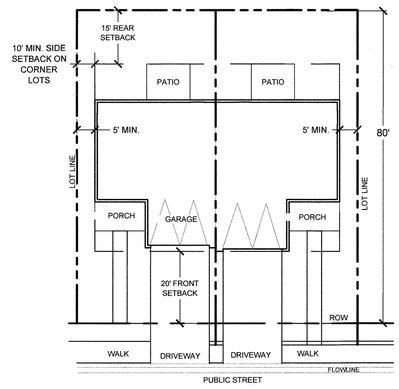
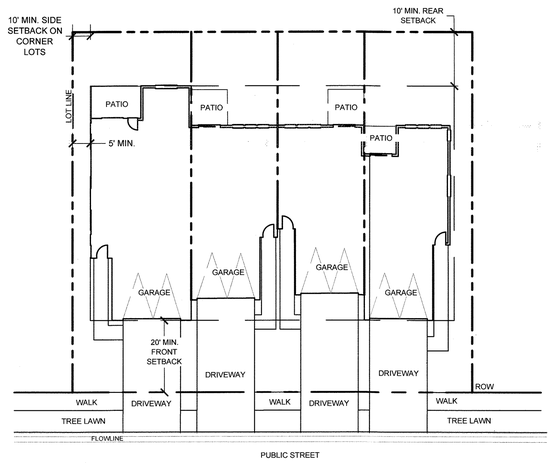


AUTO COURT

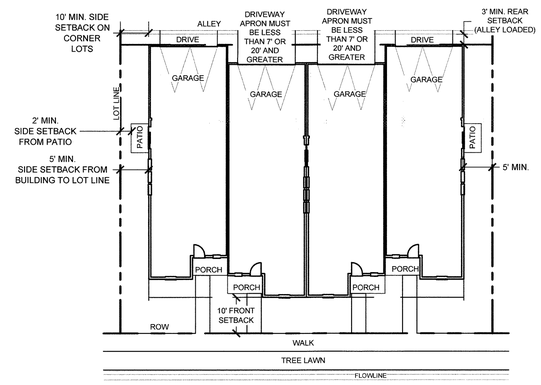


PAIRED HOME
FRONT LOADED

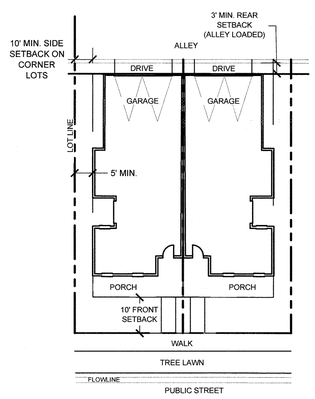
HIGH PLAINS ESTATES – PRELIMINARY LOT MIX			
Typical Lot Frontage	Lot Size	Home Type	Estimated Number of Dwelling Units
60-feet	6,000 SF and greater	SFD	94
50-feet	5,000 SF	SFD	107
40-feet	4,000 SF	SFD	131
35-feet- rear load	3,000 SF	SFD	121
25-feet- rear load 30-feet front load	2,000 SF 2,400 SF	Pairs	272
20-feet	1,320 SF	Cluster	
22-feet	1,760 SF	Townhomes	
Max Number of Dwelling Units			725



TOWNHOME- SINGLE FAMILY ATTACHED
FRONT LOADED FOUR PLEX



TOWNHOME- SINGLE FAMILY ATTACHED
ALLEY LOADED FOUR PLEX



PAIRED HOME
ALLEY LOADED

NOTE:
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LJA ENGINEERING, INC
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WESTMINSTER, CO 80234
303-421-4224

PLANNER
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HENRY DESIGN GROUP
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303-446-2368

SURVEYOR
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AZTEC CONSULTANTS, INC
300 EAST MINERAL AVENUE
SUITE 1
LITTLETON, CO 80122
303-713-1898

DRAWINGS NOT TO SCALE, TYP.

henry design group — Landscape Architecture • Planning • Entitlements
COLA — Colorado Land Acquisition
LJA ENGINEERING

REVISION DESCRIPTION	DATE
2ND ODP SUBMITTAL	10-20-2022
3RD ODP SUBMITTAL	12-20-2022
4TH ODP SUBMITTAL	01-27-2023

HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN- LOT TYPICALS

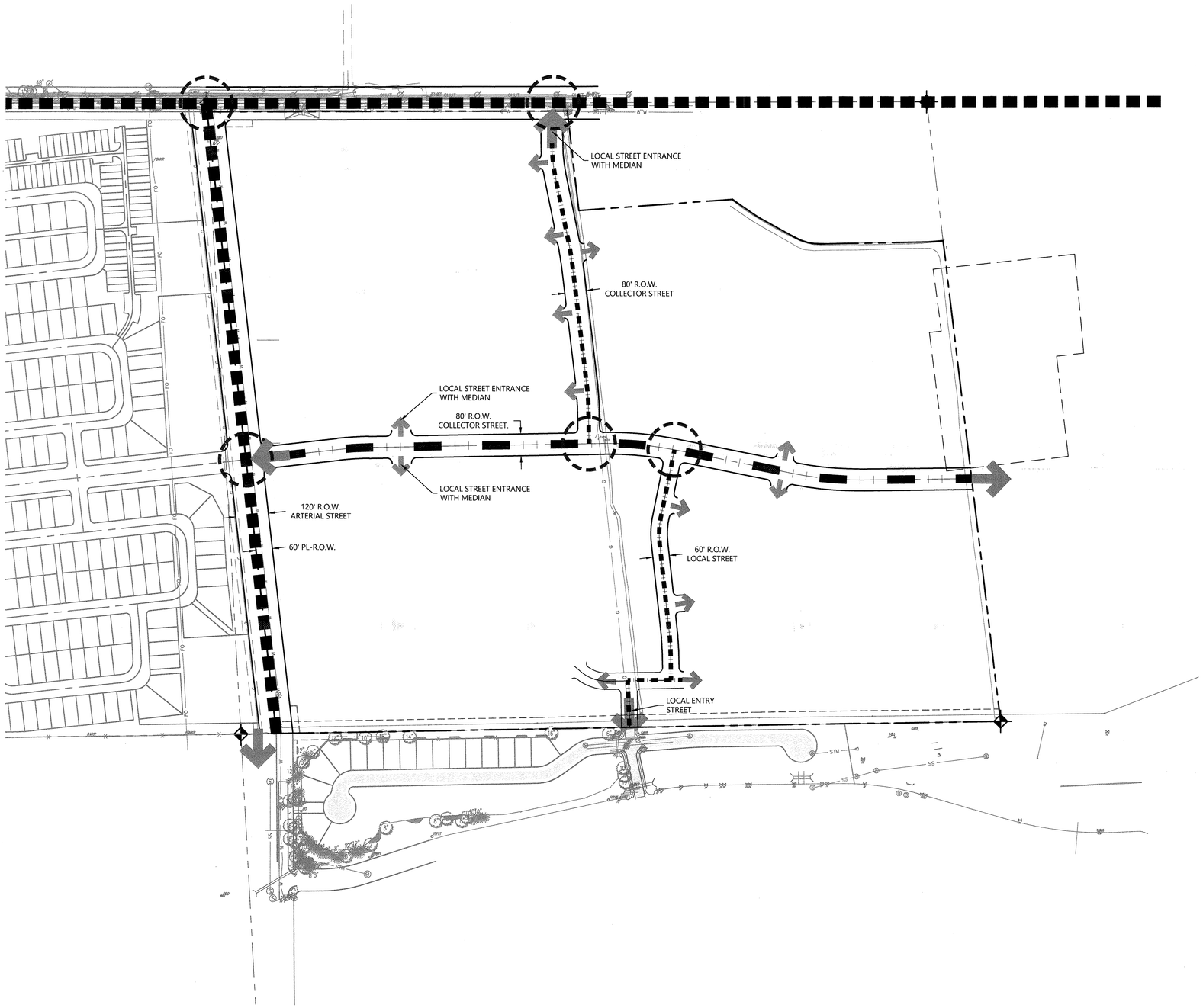
DESIGNED BY: AK
DRAWN BY: AK
CHECKED BY: KZH

SHEET
7 OF 11

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

AMENDMENT NO. 1 TO KLEIN 125 ANNEXATION OUTLINE DEVELOPMENT PLAN

A PARCEL LOCATED IN THE NORTHEAST QUARTER OF SECTION 2,
TOWNSHIP 4 NORTH, RANGE 68 WEST OF THE SIXTH PRINCIPAL MERIDIAN,
COUNTY OF WELD, STATE OF COLORADO



LEGEND

- Major Arterial
- Collector
- Local
- Access
- FULL MOVEMENT INTERSECTION

CONCEPTUAL NOTES:

1. TOWN APPROVED TRAFFIC CALMING STUDIES AND ENGINEERING PLANS WILL DICTATE FINAL STREET CLASSIFICATIONS AND INTERSECTION CONFIGURATIONS.
2. CONCEPTUAL PLANNING ELEMENTS WITHIN THIS ODP ARE SUBJECT TO FURTHER DETAILED REVIEW AND UPDATED REQUIREMENTS OF THE TOWN WITH SUBSEQUENT SUBMITTALS FOR DEVELOPMENT AND CONSTRUCTION PLANS. THESE ELEMENTS ARE INCLUDED TO ILLUSTRATE FEASIBILITY OF THE SITE FOR THE PROPOSED LEVEL OF DEVELOPMENT AND PRESENT HIGH LEVEL DEVELOPMENT CONCEPTS ONLY.

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200 0 100 200
SCALE
1 inch = 200 ft.

henry design group — Landscape Architecture • Planning • Entitlements
COLA — Colorado Land Acquisition
LJA ENGINEERING

REVISION DESCRIPTION	DATE

HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
CIRCULATION PLAN & TYP. SECTIONS

DESIGNED BY: DKH
DRAWN BY: DKH
CHECKED BY: ROC

SHEET
8 OF 11

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06/08/2023 04:22 PM R Fee:$113.00
Carly Koppes, Clerk and Recorder, Weld County , CO

HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

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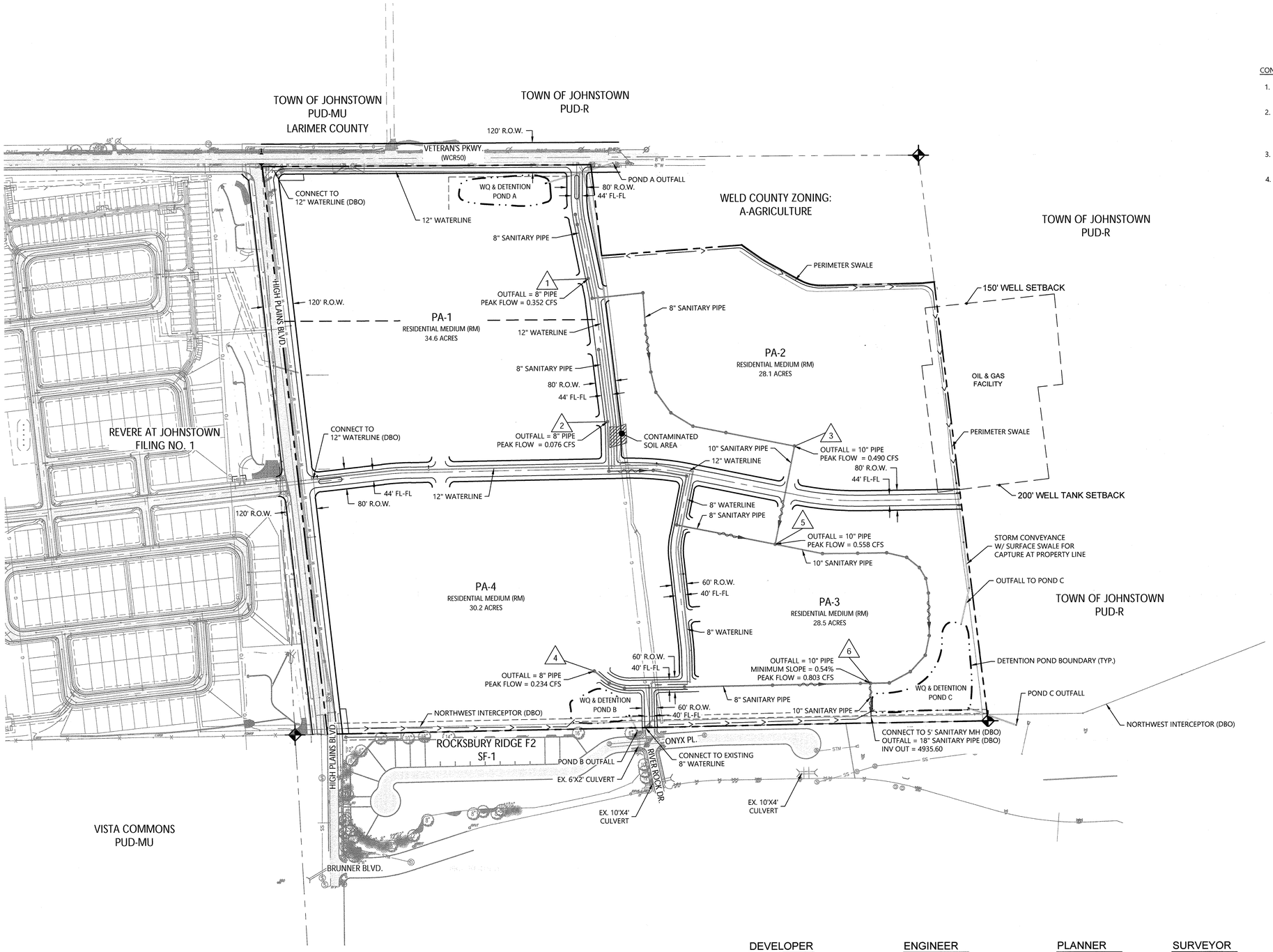

LEGEND

- Property Line
- Right of Way Line
- Centerline
- Sanitary Basin Boundary
- Storm Sewer Line
- Water Line
- Sanitary Sewer Line
- Sanitary Sewer Flow Arrow
- Design Point (#)

CONCEPTUAL NOTE:

1. ALL UTILITIES SHALL BE DESIGNED TO MEET TOWN STANDARDS.
2. ALL WATER INFRASTRUCTURE UTILIZED TO SUPPORT THE DEVELOPMENT OF HIGH PLAINS ESTATES IS OWNED AND MAINTAINED BY THE TOWN OF JOHNSTOWN.
3. INFRASTRUCTURE BEING DESIGNED BY OTHERS IS LABELED 'DBO'.
4. CONCEPTUAL PLANNING ELEMENTS WITHIN THIS ODP ARE SUBJECT TO FURTHER DETAILED REVIEW AND UPDATED REQUIREMENTS OF THE TOWN WITH SUBSEQUENT SUBMITTALS FOR DEVELOPMENT AND CONSTRUCTION PLANS. THESE ELEMENTS ARE INCLUDED TO ILLUSTRATE FEASIBILITY OF THE SITE FOR THE PROPOSED LEVEL OF DEVELOPMENT AND PRESENT HIGH LEVEL DEVELOPMENT CONCEPTS ONLY.

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N

200 0 100 200
SCALE
1 inch = 200 ft.

henry design group — Landscape Architecture • Planning • Entitlements
COLA — Colorado Land Acquisition
LJA ENGINEERING

REVISION DESCRIPTION	DATE

HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
PRELIMINARY UTILITY PLAN

DESIGNED BY: DKH
DRAWN BY: WWB
CHECKED BY: ROC

SHEET
9 OF 11

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4902691 Pages: 10 of 11
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HIGH PLAINS ESTATES OUTLINE DEVELOPMENT PLAN

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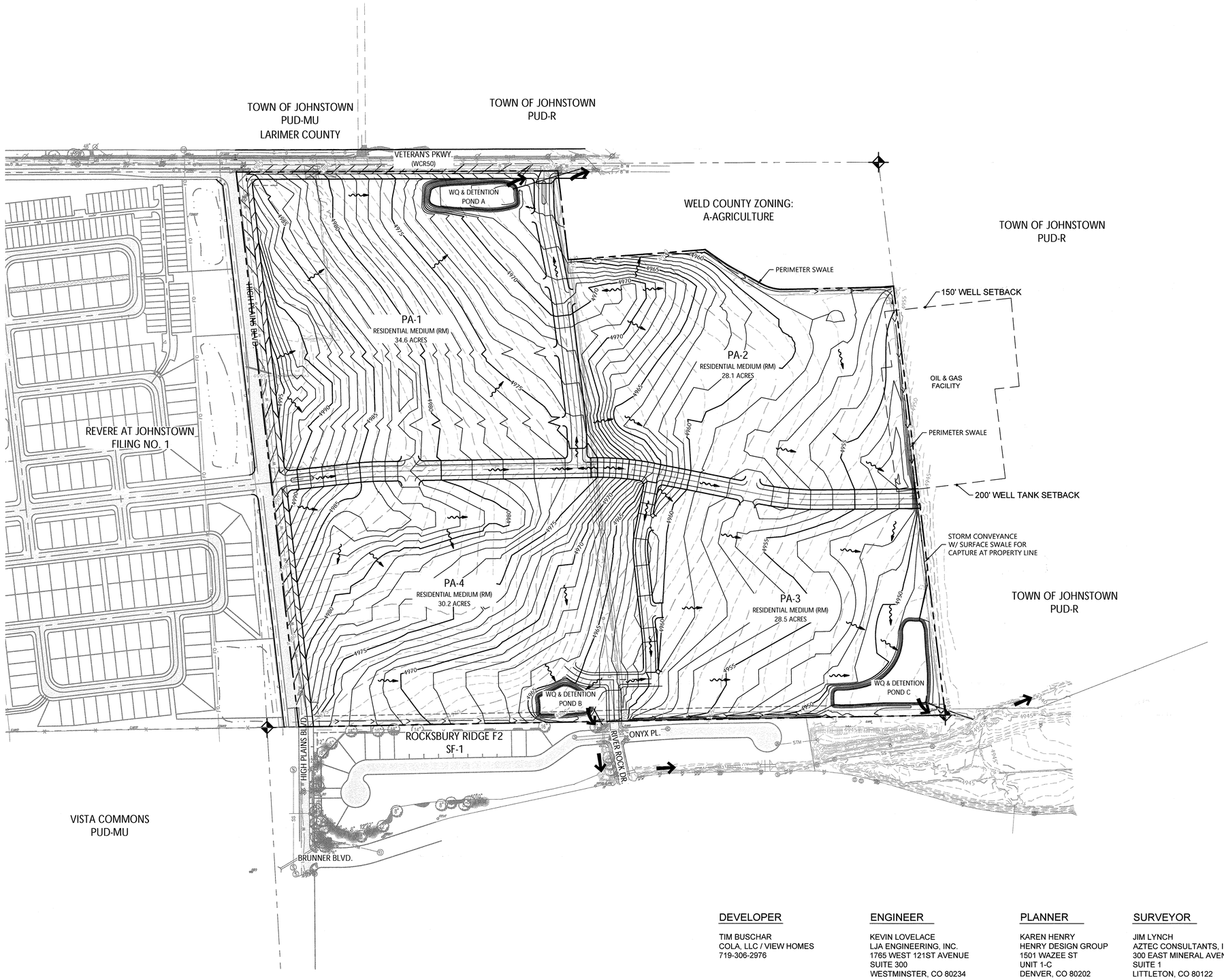

LEGEND

- Proposed Major Contour
- Proposed Minor Contour
- Existing Major Contour
- Existing Minor Contour
- Drainage Flow Arrow
- Pond Outfall Arrow

CONCEPTUAL NOTES:

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200 0 100 200
SCALE
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henry design group — Landscape Architecture + Planning + Entitlements

COLA — Colorado Land Acquisition

LJA ENGINEERING

REVISION DESCRIPTION	DATE

HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
PRELIMINARY GRADING PLAN

DESIGNED BY: DKH
DRAWN BY: DKH
CHECKED BY: ROC

SHEET
10 OF 11

4902691 Pages: 11 of 11
06/05/2023 04:22 PM R Fee:$113.00
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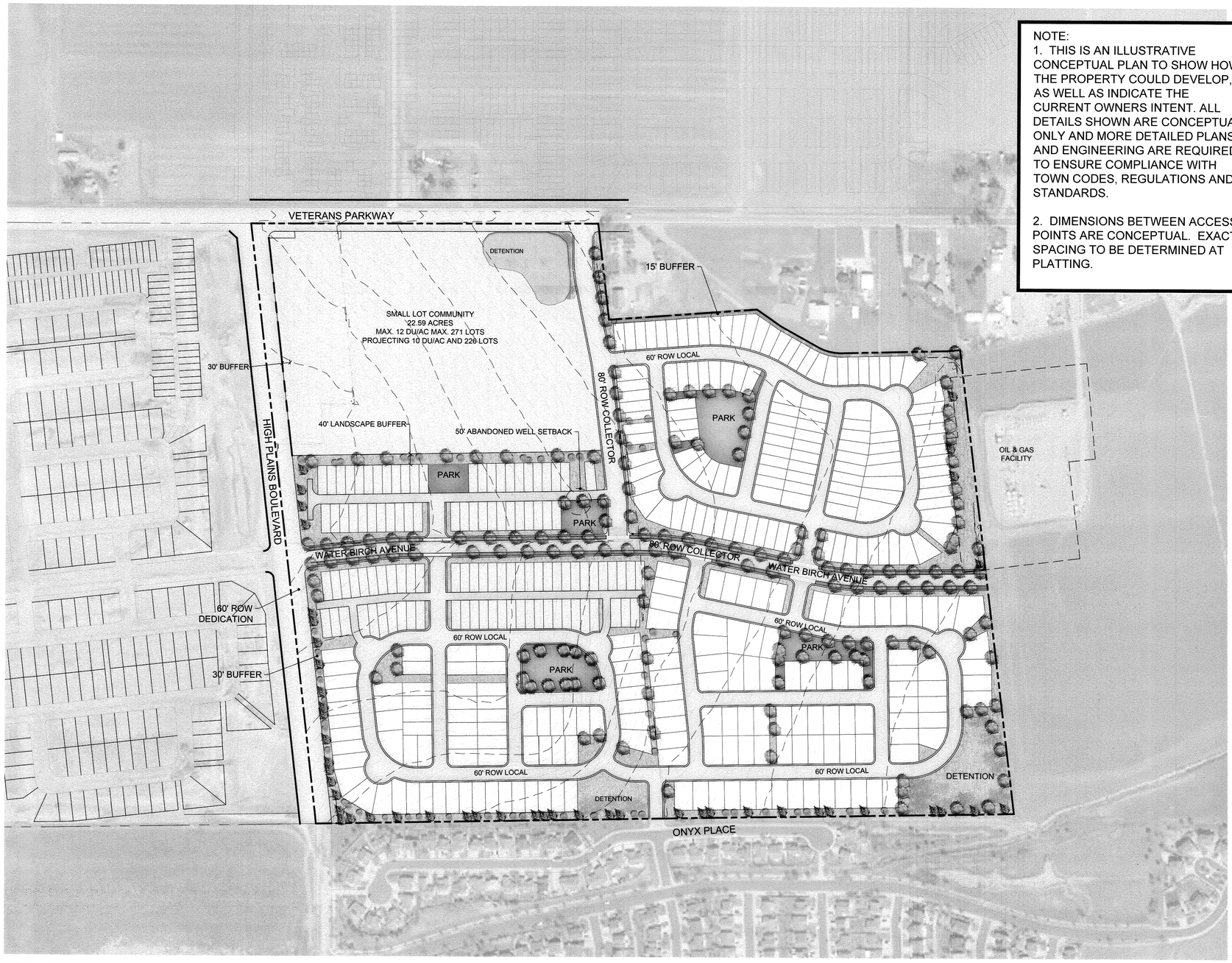
CONCEPTUAL SITE PLAN



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2. DIMENSIONS BETWEEN ACCESS POINTS ARE CONCEPTUAL. EXACT SPACING TO BE DETERMINED AT PLATTING.

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NORTH 0 100 200 400
1" = 200'

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4TH ODP SUBMITTAL	01-27-2023

HIGH PLAINS ESTATES
JOHNSTOWN, CO

OUTLINE DEVELOPMENT PLAN
ODP ILLUSTRATIVE CONCEPT PLAN

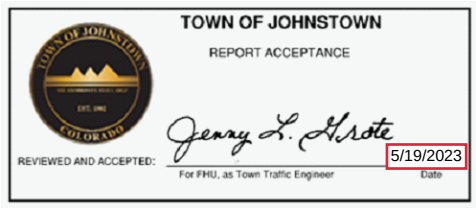
DESIGNED BY: AR
DRAWN BY: AR
CHECKED BY: KZH

SHEET
11 OF 11

TRAFFIC IMPACT STUDY

For

High Plains Estates
Weld County, Colorado



July 2022
Revised:
December 2022

Prepared for:

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Prepared by:

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Project Engineer:
Stephen Simon, EIT

Engineer in Responsible Charge:
Fred Lantz, PE

22-051672

Table of Contents

List of Figures

List of Tables

Appendices

I. Introduction

Project Overview

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled High Plains Estates.

This traffic impact study has been revised to address jurisdiction review comments regarding additional description and detail of proposed site access connection to River Rock Drive.

This proposed development consists of a residential subdivision including a mix of single-family and multifamily housing. The development is located on the south side of E County Road 14 and east of High Plains Boulevard in Weld County, Colorado.

Study Area

The study area to be examined in this analysis encompasses High Plains Boulevard between E County Road 14 and State Highway 60, and E Count Road 14 from I-25 Frontage Road to High Plains Boulevard, as well as proposed site access drives.

Figure 1 illustrates location of the site and study intersections.

Site Description

Land for the development is currently vacant and surrounded by a mix of residential, agricultural, and open space land uses. The proposed development is understood to entail the new construction of a residential subdivision supporting as many as 226 multifamily dwelling units, and 401 single-family detached dwelling units.

Proposed access to the development is primarily provided at the following locations: one full-movement access onto High Plains Boulevard (referred to as Access A), and one full-movement access onto E County Road 14 (referred to as Access B). Additional access to the development area also includes connection to Onyx Place via extension of River Rock Drive, as well as future connection to the east. However, for analysis purposes said access locations were not directly analyzed given their internal nature to the overall residential development area and the conceptual nature of the site plan. Internal access operations are expected to provide levels of service equal to or better than those of the adjacent major study intersections.

For purposes of this study, it is anticipated that development construction would be completed by end of Year 2024. General site and access locations are shown on Figure 1. A conceptual site plan, as prepared by Henry Design Group, is shown on Figure 2. This plan is provided for illustrative purposes only.


North
Not to Scale
E County Road 14
Development Site
I-25 Frontage Road
Interstate 25
Brunner Boulevard
River Rock Drive
High Plains Boulevard
State Highway 60


NOTE:
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2. DIMENSIONS BETWEEN ACCESS POINTS ARE CONCEPTUAL. EXACT SPACING TO BE DETERMINED AT PLATTING.
North
Not to Scale
VETERANS PARKWAY
DETENTION
SMALL LOT COMMUNITY
22.59 ACRES
MAX. 12 DU/AC MAX. 271 LOTS
PROJECTING 10 DU/AC AND 226 LOTS
Access B
60' ROW LOCAL
80' ROW COLLECTOR
PARK
OIL & GAS FACILITY
40' BUFFER
40' LANDSCAPE BUFFER
50' ABANDONED WELL SETBACK
HIGH PLAINS BOULEVARD
PARK
PARK
WATER BIRCH AVENUE (Access A)
90' ROW COLLECTOR
WATER BIRCH AVENUE
60' ROW DEDICATION
60' ROW LOCAL
60' ROW LOCAL
PARK
PARK
30' BUFFER
60' ROW LOCAL
60' ROW LOCAL
DETENTION
DETENTION
ONYX PLACE
Rock River Drive

Existing and Committed Surface Transportation Network

Within the study area, High Plains Boulevard is the primary roadway that will accommodate traffic to and from the proposed development. The secondary roadways include E County Road 14, State Highway 60, Brunner Boulevard, I-25 Frontage Road, and River Rock Drive.

High Plains Boulevard is a north-south arterial roadway having between two to four through lanes (one to two lanes in each direction) with a combination of shared and exclusive turn lanes at the intersections within the study area. High Plains Boulevard provides a posted speed limit of 35 MPH. High Plains Boulevard currently ends north of Brunner Boulevard and is anticipated to be extended north to intersect E County Road 14 upon continued area development.

E County Road 14 is an east-west arterial roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersections within the study area. E County Road 14 provides a posted speed limit of 55 MPH. E County Road 14 becomes State Highway 60 west of I-25 Frontage Road.

State Highway 60 is an east-west state roadway having two through lanes (one lane in each direction) with exclusive turn lanes at the intersection within the study area. The Colorado Department of Transportation (CDOT) categorizes State Highway 60 as a Non-Rural Principal Highway (NR-A) and provides a posted speed limit of 55 MPH.

Brunner Boulevard is an east-west collector roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. Brunner Boulevard provides a posted speed limit of 25 MPH.

I-25 Frontage Road is a north-south state roadway having two through lanes (one lane in each direction) with shared turn lanes at the intersection within the study area. I-25 Frontage Road provides a posted speed limit of 55 MPH. I-25 Frontage Road is currently closed between E County Road 14 and State Highway 60 pursuant to CDOT's I-25 North Express Lanes Berthoud to Johnstown Project and is not anticipated to reopen in the future.

River Rock Drive is a north-south local roadway having two through lanes (one lane in each direction) with shared turn lanes at intersections within the existing adjacent subdivision. River Rock Drive does not provide a posted speed limit. However, based on the roadway classification, it is assumed to provide a posted speed limit of 25 MPH.

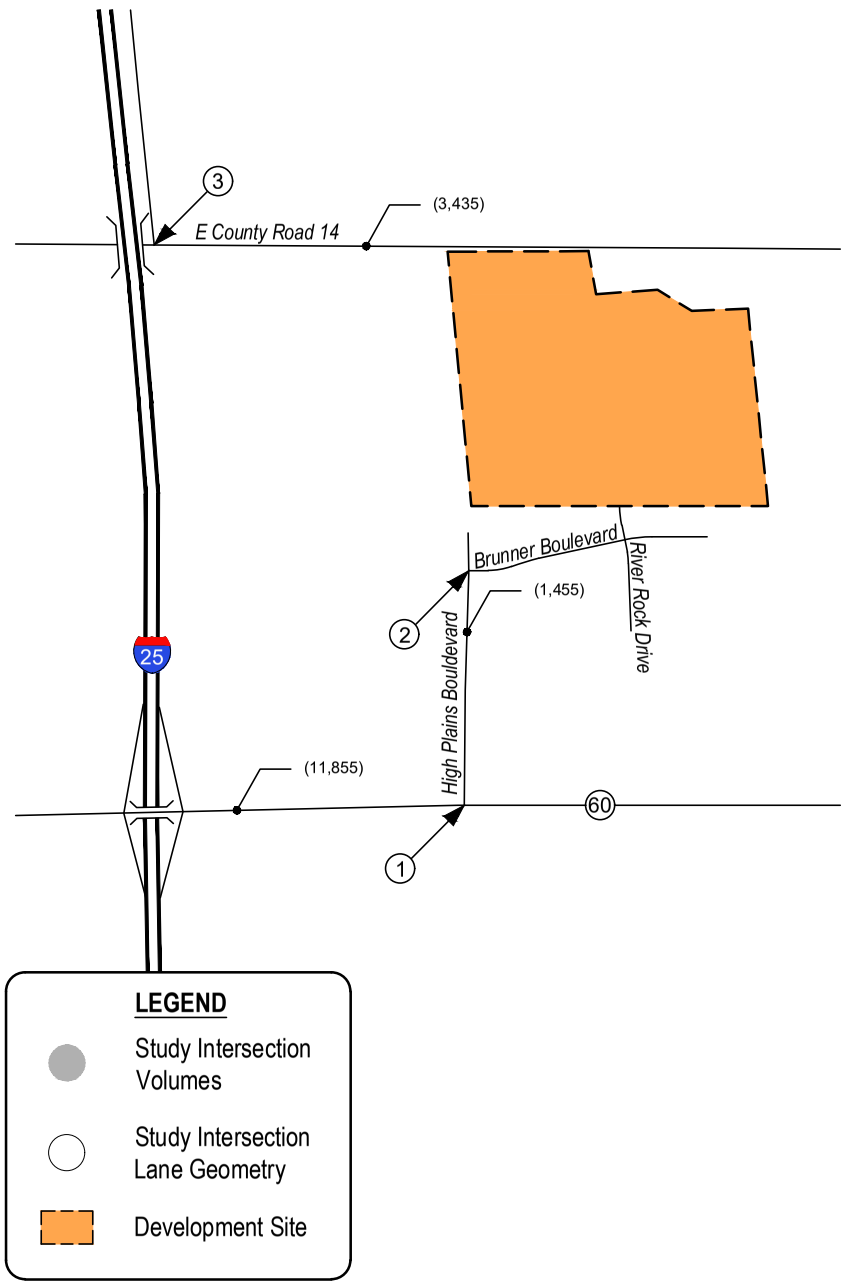
Study intersections operate under a stop-controlled condition. A stop-controlled intersection is defined as a roadway intersection where vehicle rights-of-way are controlled by one or more "STOP" signs.

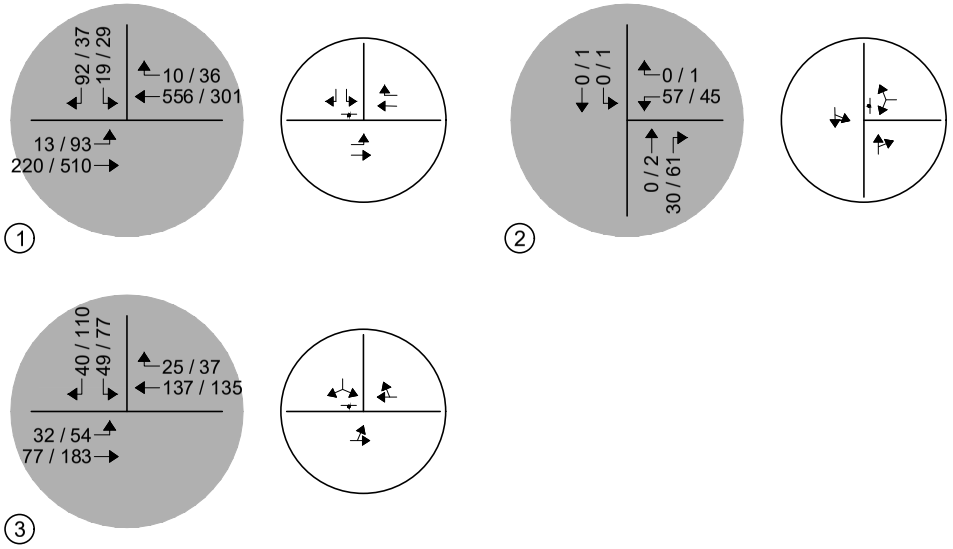
No regional or specific improvements for the above-described roadways beyond that already discussed are known to be planned or committed at this time. It is anticipated that as area development continues to occur roadway and intersection improvements will be necessary dependent on specific capacity thresholds associated with each development area. For purposes of this analysis, the study area roadways are considered to be built to their ultimate cross-sections excluding future improvements associated with the proposed development and to accommodate regional transportation demands.

II. Existing Traffic Conditions

Morning (AM) and afternoon (PM) peak hour traffic counts were collected at the intersections of High Plains Boulevard with State Highway 60 and Brunner Boulevard, as well as E County Road 14 with I-25 Frontage Road. Average daily traffic (ADT) volumes were collected over a 24-hour period on High Plains Boulevard, State Highway 60, and E County Road 14. Counts were collected on June 1, 2022, with AM peak hour counts being collected during the period of 7:00 a.m. to 9:00 a.m. and PM peak hour counts being collected during the period of 4:00 p.m. to 6:00 p.m.

Existing volumes and intersection geometry are shown on Figure 3. Traffic count data is included for reference in Appendix A.





LEGEND

- Study Intersection Volumes
- Study Intersection Lane Geometry
- Development Site

North

Not to Scale

Figure 3
EXISTING TRAFFIC
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Peak Hour Intersection Levels of Service – Existing Traffic

The Signalized and Unsignalized Intersection Analysis techniques, as published in the Highway Capacity Manual (HCM), 6th Edition, by the Transportation Research Board and as incorporated into the SYNCHRO computer program, were used to analyze the study intersections for existing and future traffic conditions. These nationally accepted techniques allow for the determination of intersection level of service (LOS) based on the congestion and delay of each traffic movement.

Level of service is a method of measurement used by transportation professionals to quantify a driver's perception of travel conditions that include travel time, number of stops, and total amount of stopped delay experienced on a roadway network. The HCM categorizes level of service into a range from "A" which indicates little, if any, vehicle delay, to "F" which indicates a level of operation considered unacceptable to most drivers. These levels of service grades with brief descriptions of the operating condition, for unsignalized and signalized intersections, are included for reference in Appendix B and have been used throughout this study.

The level of service analyses results for existing conditions are summarized in Table 1.

Intersection capacity worksheets developed for this study are provided in Appendix C.

Table 1 – Intersection Capacity Analysis Summary – Existing Traffic

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
SH 60 / High Plains Boulevard (Stop-Controlled)		
Eastbound Left	A	A
Southbound Left	C	C
Sounthbound Right	B	B
High Plains Boulevard / Brunner Boulevard (Stop-Controlled)		
Westbound Left and Right	A	A
Southbound Left and Through	A	A
E County Road 14 / I-25 Frontage Road (Stop-Controlled)		
Eastbound Left and Through	A	A
Southbound Left and Right	B	B

Key: Stop-Controlled Intersection: Level of Service

Existing Traffic Analysis Results

Under existing conditions, operational analysis shows that the unsignalized intersection of State Highway 60 with High Plains Boulevard has turning movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

The unsignalized intersection of High Plains Boulevard with Brunner Boulevard has turning movement operations at LOS A during both the morning and afternoon peak traffic hours.

The unsignalized intersection of E County Road 14 with I-25 Frontage Road has turning movement operations at LOS B or better during both the morning and afternoon peak traffic hours.

III. Future Traffic Conditions Without Proposed Development

Background traffic is the traffic projected to be on area roadways without consideration of the proposed development. Background traffic includes traffic generated by development of vacant parcels in the area.

To account for projected increases in background traffic for Years 2024 and 2042, a compounded annual growth rate was determined using historical traffic data provided by CDOT's Online Transportation Information System (OTIS) along the adjacent segment of State Highway 60, which anticipates a 20-year growth rate of approximately two percent. Therefore, a growth rate of two percent was applied to existing traffic volumes. This annual growth rate provides for a conservative analysis and is assumed to account for regional growth projections and the level of in-fill development expected within the area.

To account for projected traffic from adjacent developments not yet built, trip generations from the Revere at Johnstown, Filing No. 1 traffic study[1] were added to background traffic volumes. It is noted that additional development to the west and north of the proposed development site is anticipated pursuant to conceptual land use plans referred to as Great Plains Village. However, given the conceptual nature of this area, no specific traffic analyses are currently available. Therefore, future traffic volumes associated with this additional development is assumed to be accounted for within the applied two percent annual growth rate.

Pursuant to the area roadway improvements discussed in Section I, Year 2024 background traffic conditions assume the extension of High Plains Boulevard north to E County Road 14 as part of the adjacent Revere development including site access along this extension located opposite proposed site Access A (referred to as Access Drive). Year 2042 assumes no additional roadway improvements to accommodate regional transportation demands. This assumption provides for a conservative analysis.

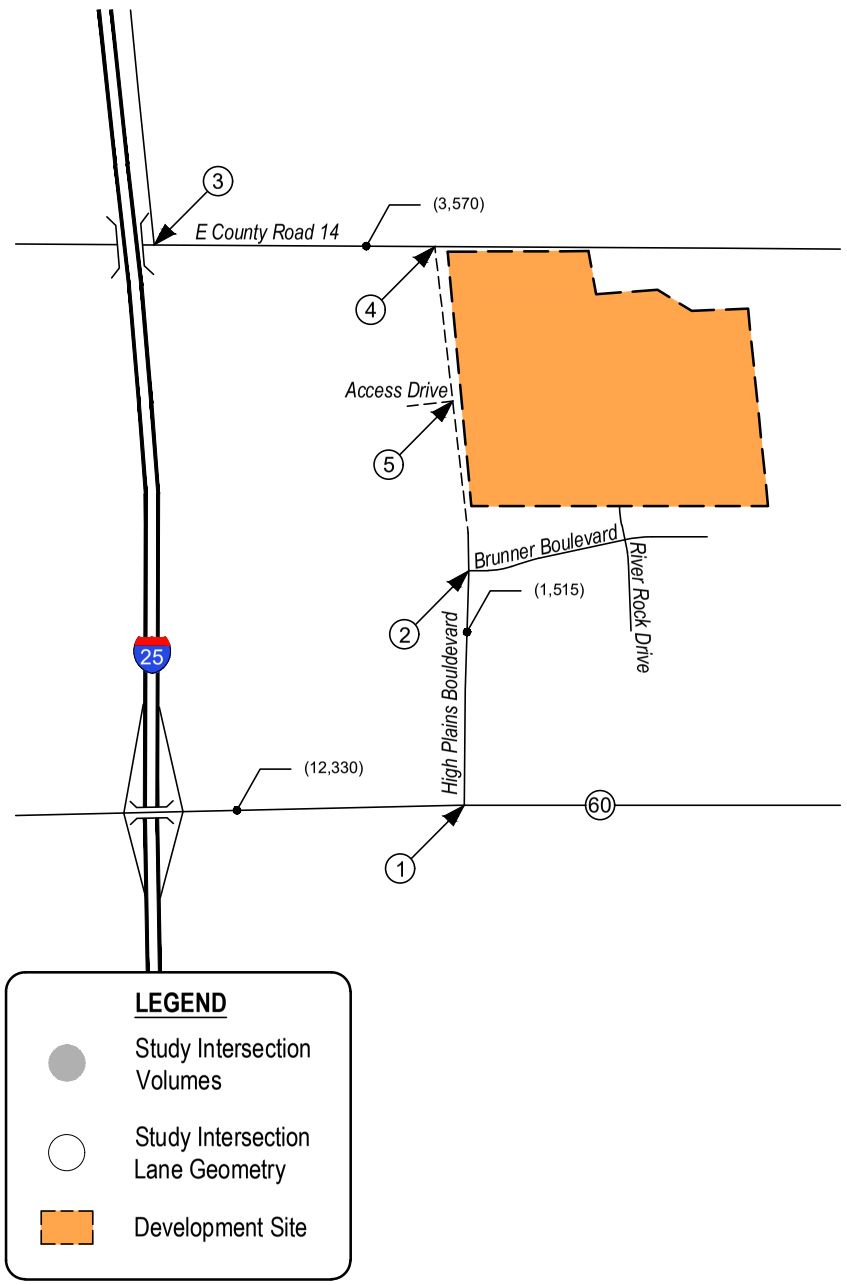
Background Traffic Signal Warrant

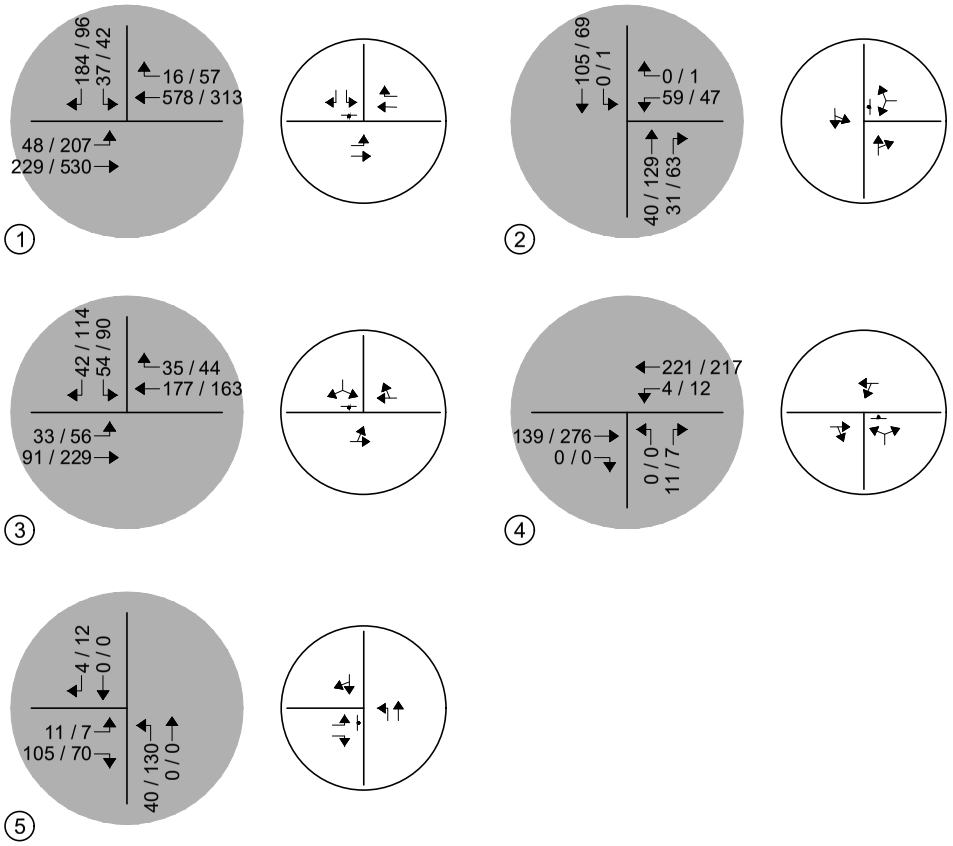
A signal warrant analysis, using Year 2024 and 2042 background traffic volumes, was conducted for the State Highway 60 intersection with High Plains Boulevard in order to review potential for traffic signal control. Year 2024 Analysis results conclude that the study intersection was found to be above the minimum vehicle volumes required to meet Warrant 3 – Peak Hour, from the Manual on Uniform Traffic Control Devices (MUTCD), for the installation of a traffic signal. It is noted however that warrants performed in the previous traffic study for adjacent development did not anticipate signalization by Year 2024. As such, the State Highway 60 and High Plains Boulevard intersection analysis remained a stop-controlled condition for Year 2024 but is assumed to be signalized by Year 2042. Warrant study worksheets are provided for reference in Appendix D.

[1] Revere at Johnstown, Filing No. 1 Transportation Impact Study, Delich Associates, September 2020.

Warrant 3 is intended for use at locations where traffic conditions are such that for a minimum of one hour on an average day, the minor-street (High Plains Boulevard) traffic suffers undue delay when entering or crossing the major street (State Highway 60). This assumption provides for a conservative analysis. Said study intersection should be monitored further by CDOT and County Staff as area development occurs to determine when signalization installation is appropriate.

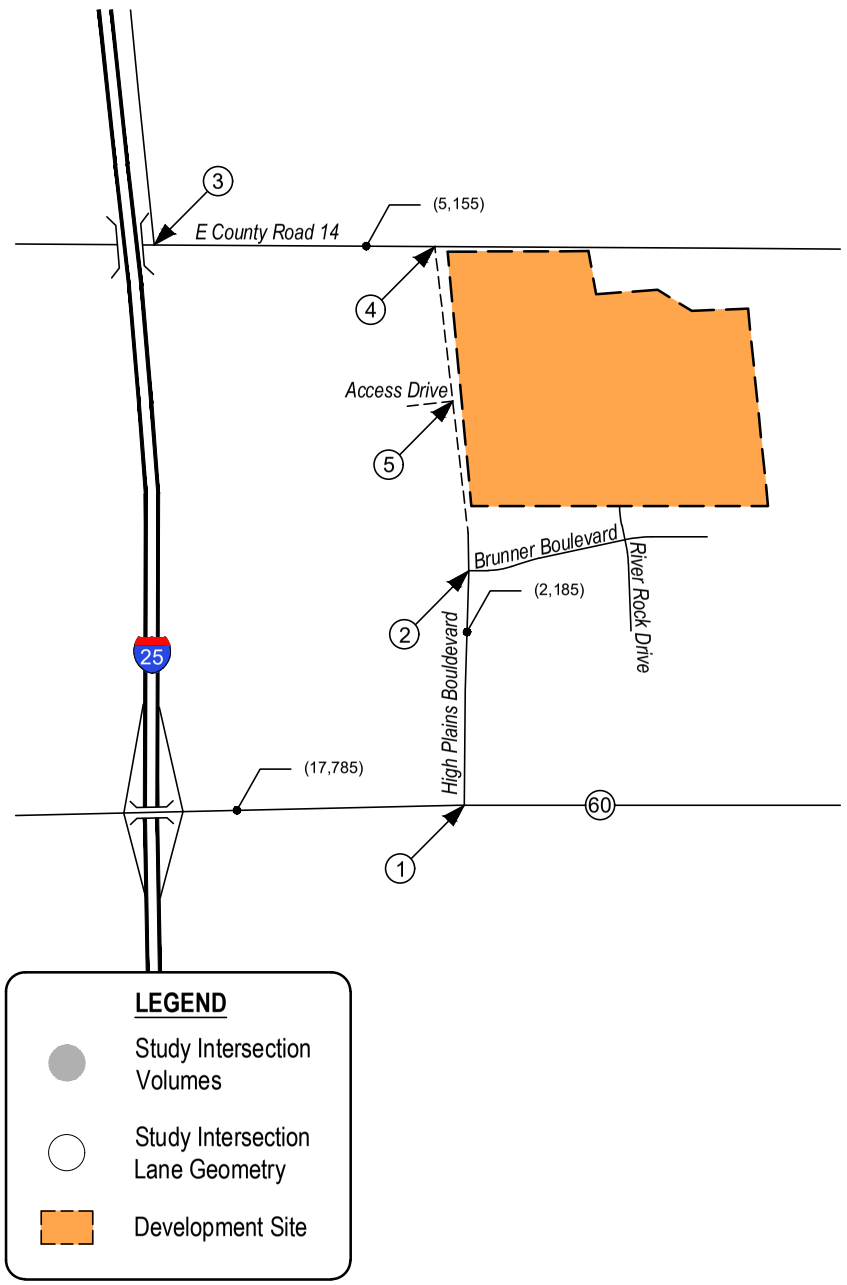
Projected background traffic volumes and intersection geometry for Years 2024 and 2042 are shown on Figure 4 and Figure 5, respectively.

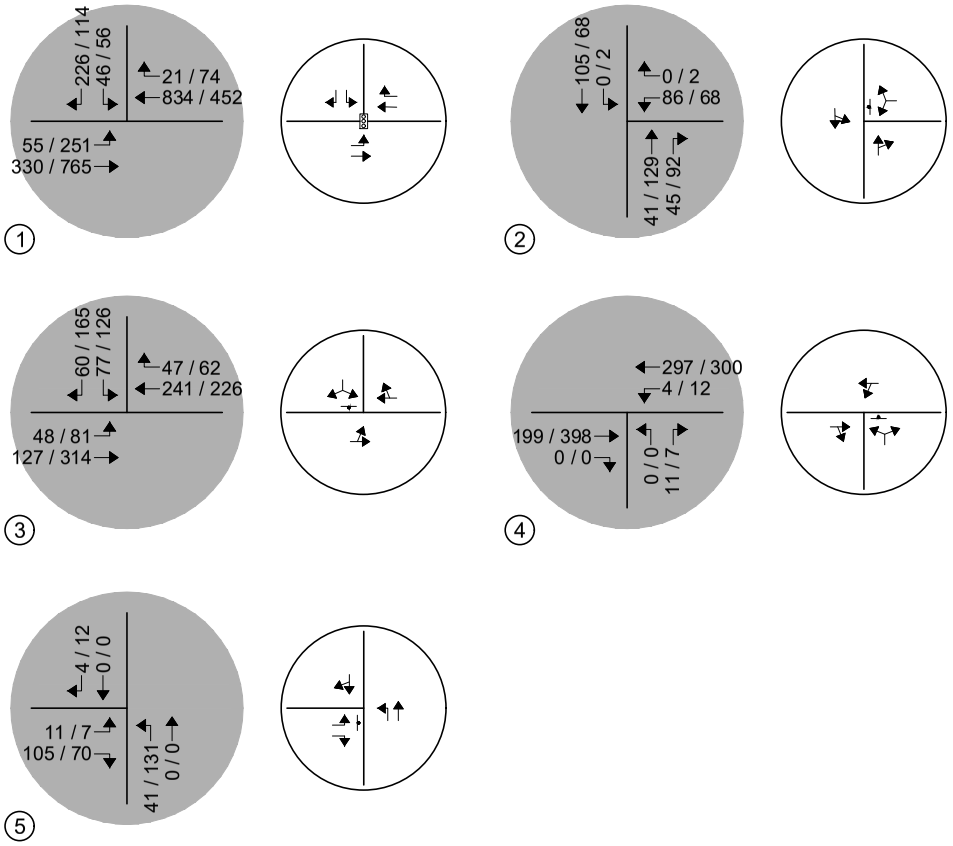




North
Not to Scale

Figure 4
BACKGROUND TRAFFIC - YEAR 2024
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic





North

Not to Scale

Figure 5
BACKGROUND TRAFFIC - YEAR 2042
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

Peak Hour Intersection Levels of Service – Background Traffic

As with existing traffic conditions, the operations of study intersections were analyzed under background conditions, without the proposed development, using the SYNCHRO computer program.

Background traffic level of service analysis results for Year 2024 are listed in Table 2. Year 2042 operational results are summarized in Table 3.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 2 – Intersection Capacity Analysis Summary – Background Traffic – Year 2024

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
SH 60 / High Plains Boulevard (Stop-Controlled)		
Eastbound Left	A	A
Southbound Left	C	E
Sounthbound Right	C	B
High Plains Boulevard / Brunner Boulevard (Stop-Controlled)		
Westbound Left and Right	A	B
Southbound Left and Through	A	A
E County Road 14 / I-25 Frontage Road (Stop-Controlled)		
Eastbound Left and Through	A	A
Southbound Left and Right	B	B
E County Road 14 / High Plains Boulevard (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	A	A
High Plains Boulevard / Access Drive (Stop-Controlled)		
Eastbound Left	A	B
Eastbound Right	A	A
Northbound Left	A	A

Key: Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2024

Year 2024 background traffic analysis indicates that the unsignalized intersection of State Highway 60 with High Plains Boulevard has turning movement operations at or better than LOS C during the AM peak traffic hour and LOS B or better during the PM peak traffic hour. Exceptions would include the southbound left turning movement which operates at LOS E during the PM peak traffic hour. The LOS E operation is attributed to the high through traffic volumes along State Highway 60 and the stop-controlled nature of the intersection.

The unsignalized intersection of High Plains Boulevard with Brunner Boulevard has turning movement operations at LOS A during the AM peak traffic hour and LOS B or better during the PM peak traffic hour.

The unsignalized intersection of E County Road 14 with I-25 Frontage Road has turning movement operations at or better than LOS B during both the AM and PM peak traffic hours.

The unsignalized intersection of E County Road 14 with High Plains Boulevard has turning movement operations at LOS A during both the AM and PM peak traffic hours.

The unsignalized intersection of High Plains Boulevard with Access Drive has turning movement operations at LOS A during the AM peak traffic hour and LOS B or better during the PM peak traffic hour.

Table 3 – Intersection Capacity Analysis Summary – Background Traffic – Year 2042

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
SH 60 / High Plains Boulevard (Signalized)	B (13.1)	A (8.1)
High Plains Boulevard / Brunner Boulevard (Stop-Controlled)		
Westbound Left and Right	B	B
Southbound Left and Through	A	A
E County Road 14 / I-25 Frontage Road (Stop-Controlled)		
Eastbound Left and Through	A	A
Southbound Left and Right	B	D
E County Road 14 / High Plains Boulevard (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	A	B
High Plains Boulevard / Access Drive (Stop-Controlled)		
Eastbound Left	A	B
Eastbound Right	A	A
Northbound Left	A	A

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Background Traffic Analysis Results – Year 2042

By Year 2042 and without the proposed development, the study intersection of State Highway 60 with High Plains Boulevard experiences LOS B operations during the AM peak traffic hour and LOS A operations during the PM peak traffic hour.

The study intersection of High Plains Boulevard with Brunner Boulevard experiences LOS B or better operations during both the AM and PM peak traffic hours.

The study intersection of E County Road 14 with I-25 Frontage Road experiences LOS B or better operations during the AM peak traffic hour and LOS D or better operations during the PM peak traffic hour.

The study intersection of E County Road 14 with High Plains Boulevard experiences LOS A operations during the AM peak traffic hour and LOS B or better operations during the PM peak traffic hour.

The study intersection of High Plains Boulevard with Access Drive experiences LOS A operations during the AM peak traffic hour and LOS B or better operations during the PM peak traffic hour.

IV. Proposed Project Traffic

Trip Generation

Standard traffic generation characteristics compiled by the Institute of Transportation Engineers (ITE) in their report entitled Trip Generation Manual, 11th Edition, were applied to the proposed land use in order to estimate average daily traffic (ADT), AM Peak Hour, and PM Peak Hour vehicle trips. A vehicle trip is defined as a one-way vehicle movement from a point of origin to a point of destination.

The ITE land use codes 210 (Single-Family Detached Housing) and 220 (Multifamily Housing (Low-Rise)) were used for estimating trip generation because of their best fit to the proposed land use descriptions.

Trip generation rates used in this study are presented in Table 4.

Table 4 – Trip Generation Rates

ITE			TRIP GENERATION RATES						
			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	UNIT	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single-Family Detached Housing	DU	9.43	0.18	0.52	0.70	0.59	0.35	0.94
220	Multifamily Housing (Low-Rise)	DU	6.74	0.10	0.30	0.40	0.32	0.19	0.51

Key: DU = Dwelling Units.

Table 5 illustrates projected ADT, AM Peak Hour, and PM Peak Hour traffic volumes likely generated by the proposed development upon build-out.

Table 5 – Trip Generation Summary

ITE			TOTAL TRIPS GENERATED						
			24	AM PEAK HOUR			PM PEAK HOUR		
CODE	LAND USE	SIZE	HOUR	ENTER	EXIT	TOTAL	ENTER	EXIT	TOTAL
210	Single-Family Detached Housing	401 DU	3,781	73	208	281	237	139	377
220	Multifamily Housing (Low-Rise)	226 DU	1,523	22	69	90	73	43	115
		Total:	*5,305*	*95*	*276*	*371*	*310*	*182*	*492*

Key: DU = Dwelling Units.
Note: All data and calculations above are subject to being rounded to nearest value.

Upon build-out, Table 5 illustrates that the proposed development has the potential to generate approximately 5,305 daily vehicle trips with 371 of those occurring during the morning peak hour and 492 during the afternoon peak hour.

Adjustments to Trip Generation Rates

A development of this type is not likely to attract trips from within area land uses nor pass-by or diverted link trips from the adjacent roadway system, therefore no trip reduction was taken in this analysis.

Trip Distribution

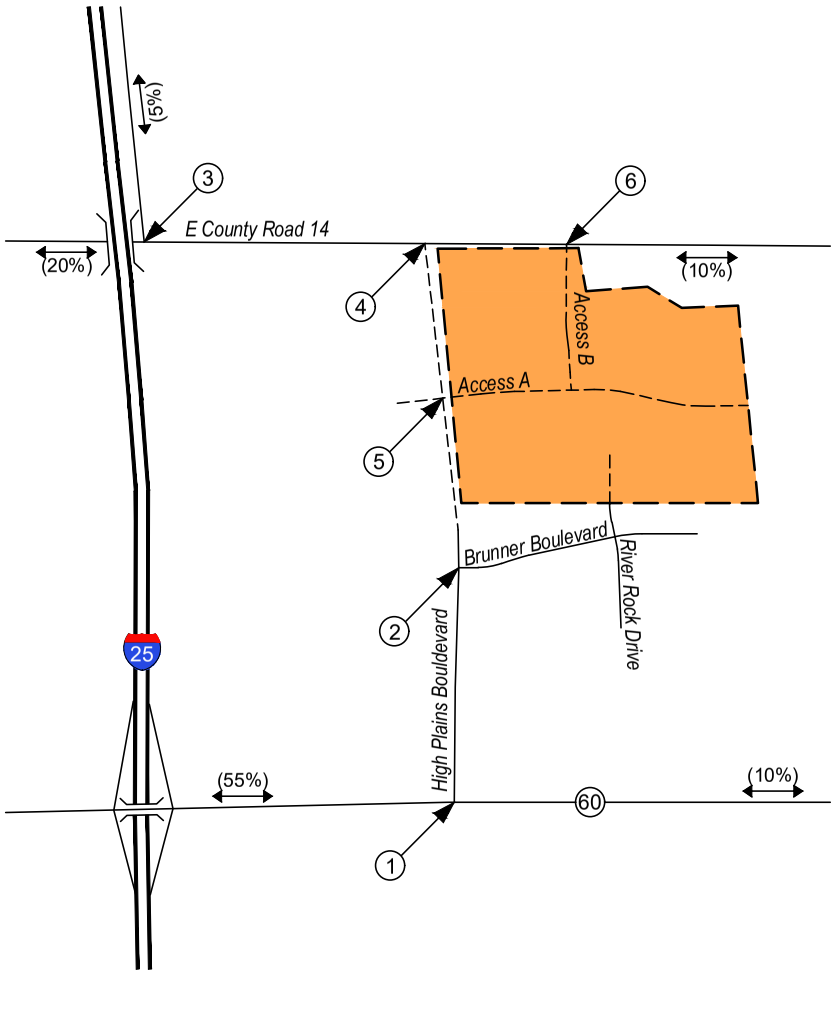
The overall directional distribution of site-generated traffic was determined based on the location of development site within the County, proposed and existing area land uses, allowed turning movements, available roadway network, and in reference to distribution patterns assumed in the previously prepared traffic study for the adjacent development.

Overall trip distribution patterns for the development are shown on Figure 6.

Trip Assignment

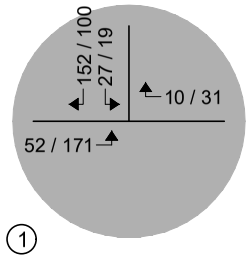
Traffic assignment is how generated and distributed vehicle trips are expected to be loaded onto the available roadway network.

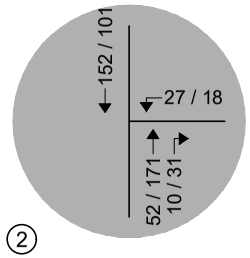
Applying trip distribution patterns to site-generated traffic provides the overall site-generated trip assignments shown on Figure 6.

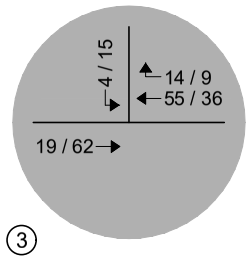


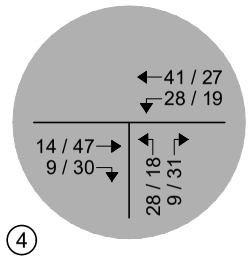
North

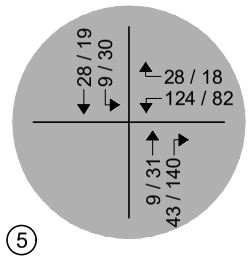
Not to Scale

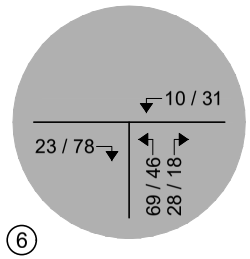












LEGEND

Study Intersection Volumes

Development Site

Figure 6
SITE DEVELOPMENT DISTRIBUTION
(%) : Overall
SITE-GENERATED
AM / PM Peak Hour

V. Future Traffic Conditions With Proposed Developments

Total traffic is the traffic projected to be on area roadways with consideration of the proposed development. Total traffic includes background traffic projections for Years 2024 and 2042 with consideration of site-generated traffic. For analysis purposes, it was assumed that development construction would be completed by end of Year 2024.

Pursuant to area roadway improvement discussions provided in Section III, Year 2024 and Year 2042 total traffic conditions assume no additional roadway improvements to accommodate regional transportation demands. Roadway improvements associated with site development are expected to be limited to site access and frontage as required by the governing agency.

As previously discussed in Section III, Year 2024 and Year 2042 background traffic conditions indicate that the State Highway 60 and High Plains Boulevard intersection was found to be above the minimum vehicle volumes required to meet Warrant 3 – Peak Hour, from the MUTCD, for the installation of a traffic signal. To be consistent with background traffic assumptions, it is expected that signalization will have occurred after Year 2024. As such, the intersection was analyzed under a stop-controlled condition for Year 2024 and with traffic signal control by Year 2042.

Projected Year 2024 total traffic volumes and intersection geometry are shown in Figure 7.

Figure 8 shows projected total traffic volumes and intersection geometry for Year 2042.

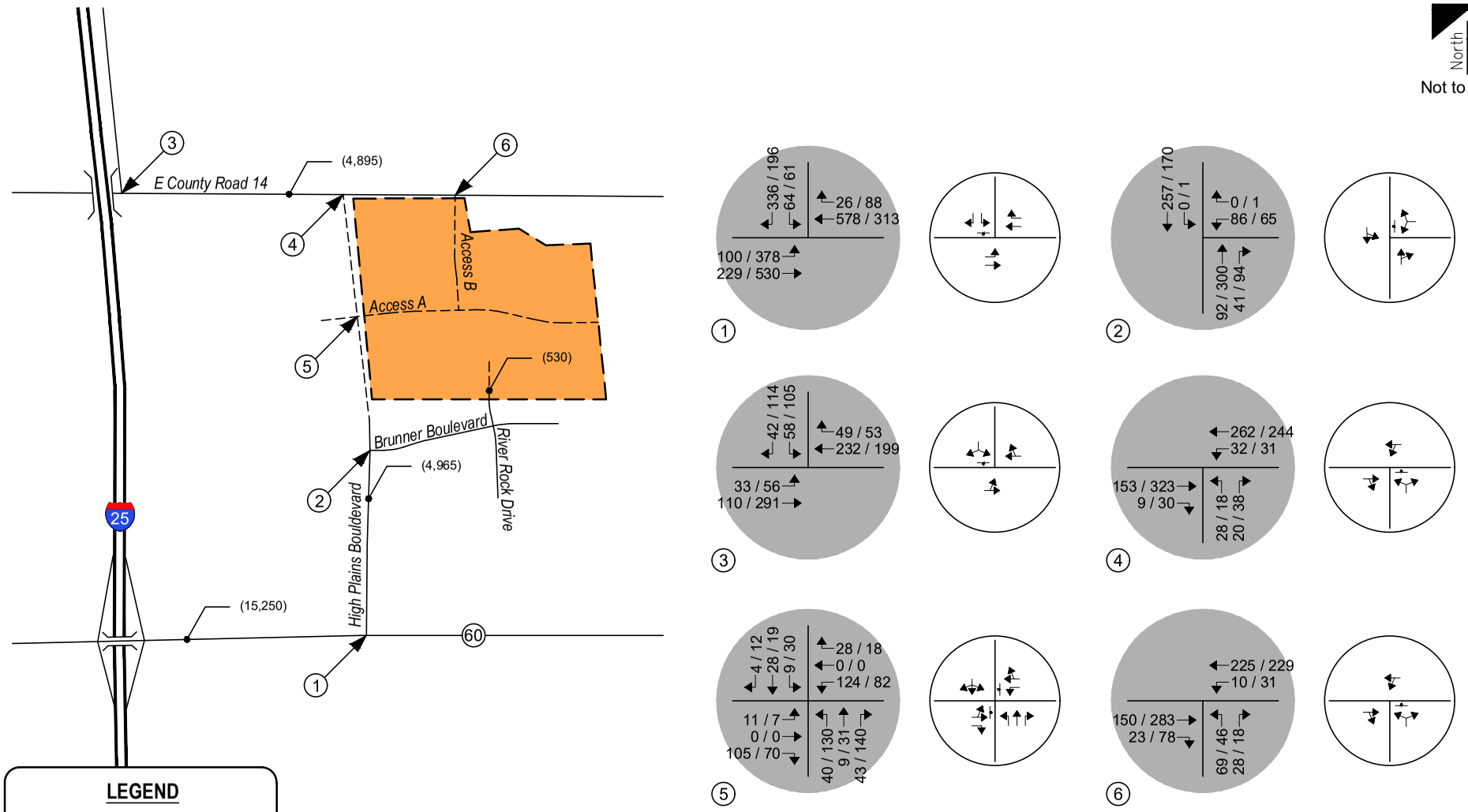
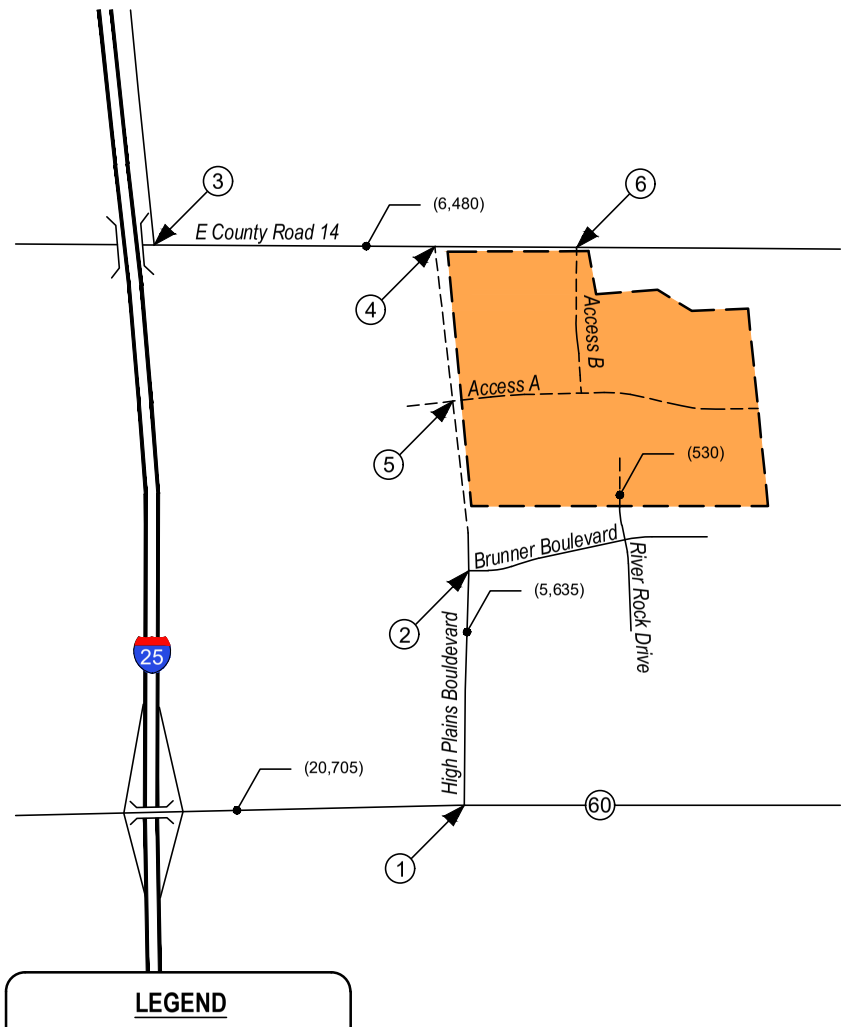
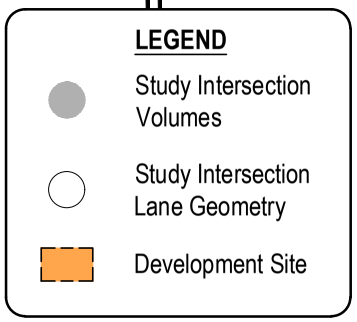


Figure 7
TOTAL TRAFFIC - YEAR 2024
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic





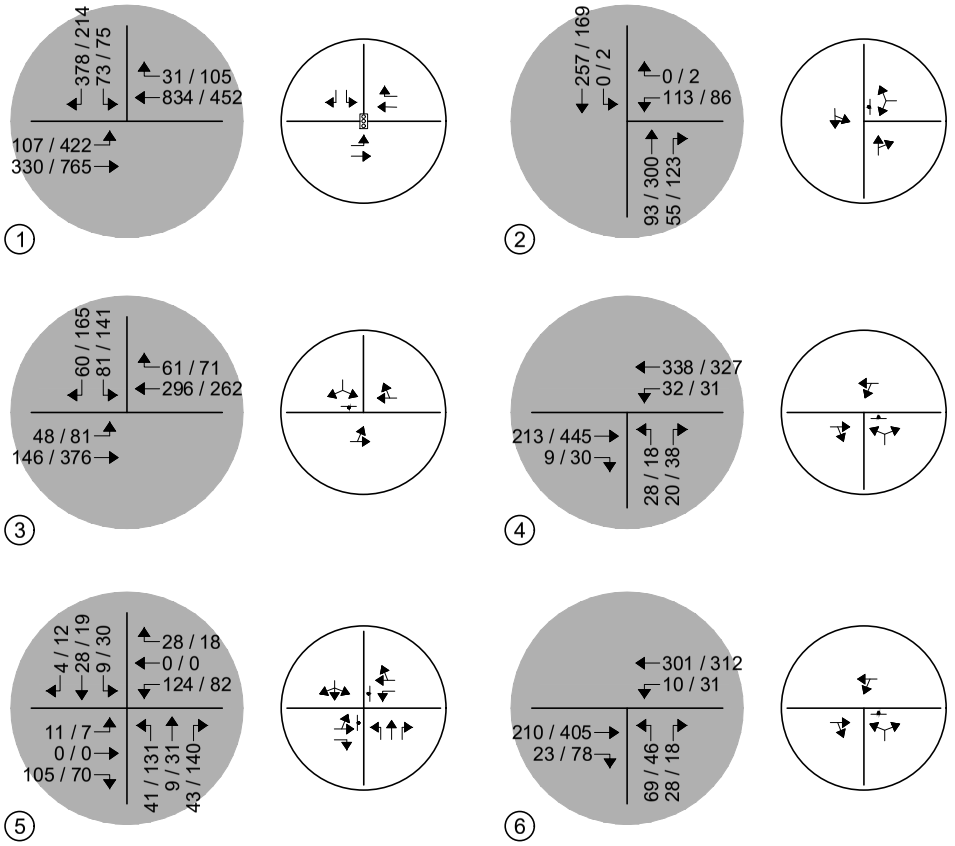


Figure 8
TOTAL TRAFFIC - YEAR 2042
Volumes & Intersection Geometry
AM / PM Peak Hour
(ADT) : Average Daily Traffic

VI. Project Impacts

The analyses and procedures described in this study were performed in accordance with the latest HCM and are based upon the worst-case conditions that occur during a typical weekday upon build-out of site development and analyzed land uses. Therefore, study intersections are likely to operate with traffic conditions better than those described within this study, which represent the peak hours of weekday operations only.

Peak Hour Intersection Levels of Service – Total Traffic

As with background traffic, the operations of the study intersections were analyzed under projected total traffic conditions using the SYNCHRO computer program. Total traffic level of service analysis results for Years 2024 and 2042 are summarized in Table 6 and Table 7, respectively.

Definitions of levels of service are given in Appendix B. Intersection capacity worksheets are provided in Appendix C.

Table 6 – Intersection Capacity Analysis Summary – Total Traffic – Year 2024

INTERSECTION	LEVEL OF SERVICE	
LANE GROUPS	AM PEAK HOUR	PM PEAK HOUR
SH 60 / High Plains Boulevard (Stop-Controlled)		
Eastbound Left	A	B
Southbound Left	D	F
Sounthbound Right	D	B
High Plains Boulevard / Brunner Boulevard (Stop-Controlled)		
Westbound Left and Right	B	B
Southbound Left and Through	A	A
E County Road 14 / I-25 Frontage Road (Stop-Controlled)		
Eastbound Left and Through	A	A
Southbound Left and Right	B	C
E County Road 14 / High Plains Boulevard (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	B
High Plains Boulevard / Access A (Stop-Controlled)		
Eastbound Left and Through	B	B
Eastbound Right	A	A
Westbound Left and Through	B	C
Westbound Right	A	A
Northbound Left	A	A
Southbound Left, Through and Right	A	A
E County Road 14 / Access B (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	B

Key: Stop-Controlled Intersection: Level of Service

Table 7 – Intersection Capacity Analysis Summary – Total Traffic – Year 2042

INTERSECTION LANE GROUPS	LEVEL OF SERVICE AM PEAK HOUR	 PM PEAK HOUR
SH 60 / High Plains Boulevard (Signalized)	C (23.3)	B (10.1)
High Plains Boulevard / Brunner Boulevard (Stop-Controlled)		
Westbound Left and Right	B	B
Southbound Left and Through	A	A
E County Road 14 / I-25 Frontage Road (Stop-Controlled)		
Eastbound Left and Through	A	A
Southbound Left and Right	C	E
E County Road 14 / High Plains Boulevard (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	B
High Plains Boulevard / Access A (Stop-Controlled)		
Eastbound Left and Through	B	B
Eastbound Right	A	A
Westbound Left and Through	B	C
Westbound Right	A	A
Northbound Left	A	A
Southbound Left, Through and Right	A	A
E County Road 14 / Access B (Stop-Controlled)		
Westbound Left and Through	A	A
Northbound Left and Right	B	C

Key: Signalized Intersection: Level of Service (Control Delay in sec/veh)
Stop-Controlled Intersection: Level of Service

Total Traffic Analysis Results Upon Development Build-Out

Table 7 illustrates how, by Year 2042 and upon development build-out, the signalized intersection of State Highway 60 with High Plains Boulevard shows an overall LOS C operation during the morning peak traffic hour and LOS B operation during the afternoon peak traffic hour. Compared to the background traffic analysis, the traffic generated by the proposed development is not expected to significantly change the operations of the study intersection.

The stop-controlled intersection of High Plains Boulevard with Brunner Boulevard is projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours.

The stop-controlled intersection of E County Road 14 with I-25 Frontage Road is projected to have turning movement operations at LOS C or better for the morning peak traffic hour and LOS A for the afternoon peak traffic hour. Exceptions would include the southbound turning movements and which operate at LOS E during the PM peak traffic hour. The LOS E operations are attributed to the high through traffic volumes along E County Road 14 and the stop-controlled nature of the intersection.

It is to be noted that it is not uncommon for unsignalized movements to or from an arterial roadway, in urban areas, to operate with noticeable delays during peak traffic hours. It is recommended that CDOT and County Staff continue to monitor the E County Road 14 and I-25 Frontage Road intersection as area development occurs to determine when mitigation measures may be most appropriate.

The stop-controlled intersection of E County Road 14 with High Plains Boulevard is projected to have turning movement operations at LOS B or better for both the morning and afternoon peak traffic hours.

The stop-controlled intersection of High Plains Boulevard with Access A is projected to have turning movement operations at LOS B or better for the morning peak traffic hour and LOS C or better for the afternoon peak traffic hour.

The stop-controlled intersection of E County Road 14 with Access B is projected to have turning movement operations at LOS B or better for the morning peak traffic hour and LOS C or better for the afternoon peak traffic hour.

These intersection operations are similar to background conditions.

As discussed in Section I, it is noted that proposed internal site access to the existing adjacent subdivision via River Rock Drive is anticipated to provide operations comparable to or better than the adjacent study intersections. Due to the acceptable operations shown at the intersection of High Plains Boulevard with Brunner Boulevard, no significant impacts to intersections along Brunner Boulevard or River Rock Drive are anticipated. Furthermore, projected average daily traffic volumes at the River Rock Drive access, as shown on Figures 7 and 8, are estimated to be approximately ten percent of total daily traffic volumes generated by the development and are considered to be minor.

Auxiliary Lane Analysis

Auxiliary lanes for site development accesses are to be based on County's Engineering and Construction Criteria (Criteria)[2], and CDOT's State Highway Access Code (SHAC)[3].

Considering development build-out, an evaluation of auxiliary lane requirements, pursuant to Section 8.7, Table 8-4 of the County's Criteria, as well as section 3.10 of the CDOT SHAC, reveals that left turn and right-turn deceleration lanes at Access A along High Plains Boulevard and Access B along E County Road 14 are required since the development's projected peak hour left turn and right turn ingress volumes exceed the County's thresholds of 10 and 25 vehicles per hour, respectively.

[2] Weld County Engineering and Construction Criteria, Atkins, January 2021.
[3] State Highway Access Code, State of Colorado, March 2002.

VII. Conclusion

This traffic impact study is provided as a planning document and addresses the capacity, geometric, and control requirements associated with the development entitled High Plains Estates. This proposed development consists of a residential subdivision including a mix of single-family and multifamily housing. The development is located on the south side of E County Road 14 and west of High Plains Boulevard in Weld County, Colorado.

The study area examined in this analysis encompassed High Plains Boulevard between E County Road 14 and State Highway 60, and proposed site access drives.

Analysis was conducted for critical AM Peak Hour and PM Peak Hour traffic operations for existing traffic conditions, Year 2024 and Year 2042 background traffic conditions, and Year 2024 and Year 2042 total traffic conditions.

Under existing conditions, operational analysis shows that the unsignalized study intersections generally experience turning movement operations at or better than LOS C during both the morning and afternoon peak traffic hours.

Year 2024 background traffic analysis indicates that the unsignalized intersection of State Highway 60 with High Plains Boulevard has turning movement operations at or better than LOS C during the AM peak traffic hour and LOS B or better during the PM peak traffic hour. Exceptions would include the southbound left turning movement which operates at LOS E during the PM peak traffic hour. The LOS E operation is attributed to the high through traffic volumes along State Highway 60 and the stop-controlled nature of the intersection. The remaining unsignalized intersections have turning movement operations at or better than LOS B during either peak traffic hour.

By Year 2042 and without the proposed development, the signalized intersection of State Highway 60 with High Plains Boulevard experiences LOS B operations during the AM peak traffic hour and LOS A operations during the PM peak traffic hour. Stop-controlled study intersections experience LOS B or better operations during the AM peak traffic hour and LOS D or better during the PM peak traffic hour.

Analysis of future traffic conditions indicates that the addition of site-generated traffic is expected to create no negative impact to traffic operations for the existing and surrounding roadway system upon consideration of the various roadway and intersection control improvements assumed within this analysis. With all conservative assumptions defined in this analysis, the study intersections are projected to operate at future levels of service comparable to Year 2042 background traffic conditions. Proposed site accesses have long-term operations at LOS C or better during peak traffic periods and upon build-out.

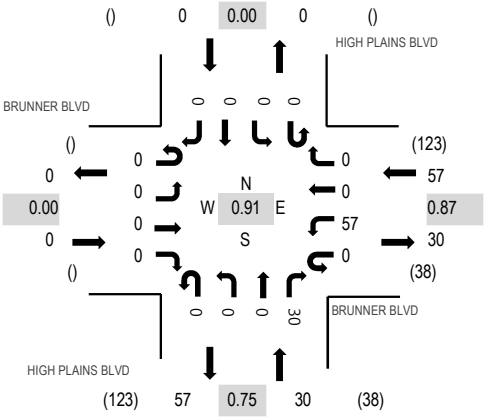
APPENDIX A

Traffic Count Data

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

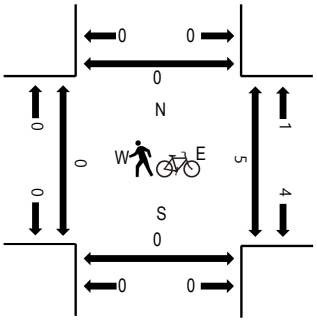
Location: 1 HIGH PLAINS BLVD & BRUNNER BLVD AM
Date: Wednesday, June 1, 2022
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:30 AM - 08:45 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



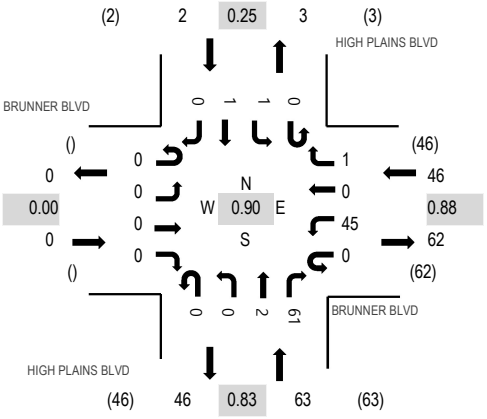
Traffic Counts

Interval Start Time	BRUNNER BLVD Eastbound				BRUNNER BLVD Westbound				HIGH PLAINS BLVD Northbound				HIGH PLAINS BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	17	0	0	0	0	0	1	0	0	0	0	18	74	0	2	0	0
7:15 AM	0	0	0	0	0	15	0	0	0	0	0	2	0	0	0	0	17	76	0	0	0	0
7:30 AM	0	0	0	0	0	19	0	0	0	0	0	3	0	0	0	0	22	78	0	0	0	0
7:45 AM	0	0	0	0	0	15	0	0	0	0	0	2	0	0	0	0	17	80	0	2	0	0
8:00 AM	0	0	0	0	0	13	0	0	0	0	0	7	0	0	0	0	20	87	0	0	0	0
8:15 AM	0	0	0	0	0	10	0	0	0	0	0	9	0	0	0	0	19		0	2	0	0
8:30 AM	0	0	0	0	0	20	0	0	0	0	0	4	0	0	0	0	24		0	2	0	0
8:45 AM	0	0	0	0	0	14	0	0	0	0	0	10	0	0	0	0	24		0	1	0	0
Count Total	0	0	0	0	0	123	0	0	0	0	0	38	0	0	0	0	161		0	9	0	0
Peak Hour	0	0	0	0	0	57	0	0	0	0	0	30	0	0	0	0	87		0	5	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

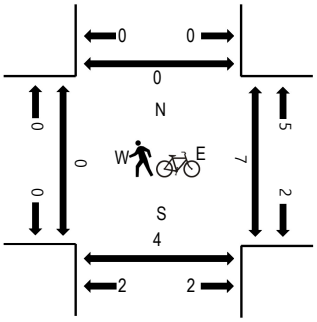
Location: 1 HIGH PLAINS BLVD & BRUNNER BLVD PM
Date: Wednesday, June 1, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:45 PM - 05:00 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



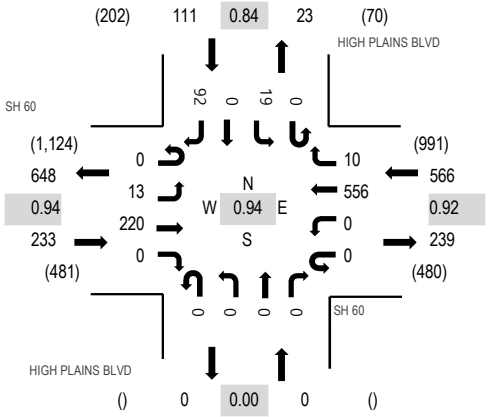
Traffic Counts

Interval Start Time	BRUNNER BLVD Eastbound				BRUNNER BLVD Westbound				HIGH PLAINS BLVD Northbound				HIGH PLAINS BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	10	0	0	0	0	0	14	0	0	0	0	24	111	0	2	4	0
4:15 PM	0	0	0	0	0	13	0	0	0	0	0	14	0	1	1	0	29		0	0	0	0
4:30 PM	0	0	0	0	0	10	0	1	0	0	1	15	0	0	0	0	27		0	3	0	0
4:45 PM	0	0	0	0	0	12	0	0	0	0	1	18	0	0	0	0	31		0	1	0	0
Count Total	0	0	0	0	0	45	0	1	0	0	2	61	0	1	1	0	111		0	6	4	0
Peak Hour	0	0	0	0	0	45	0	1	0	0	2	61	0	1	1	0	111		0	6	4	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

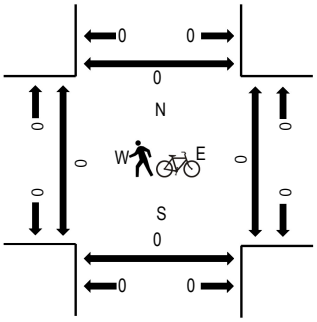
Location: 2 HIGH PLAINS BLVD & SH 60 AM
Date: Wednesday, June 1, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:15 AM - 07:30 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



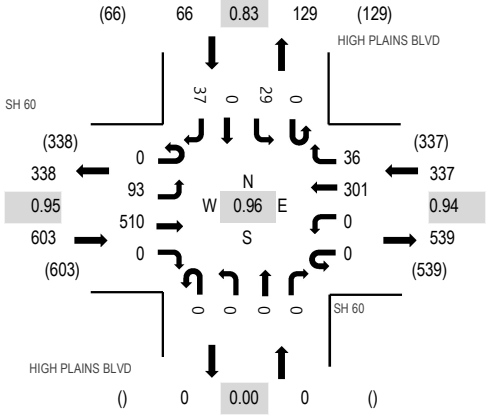
Traffic Counts

Interval Start Time	SH 60 Eastbound				SH 60 Westbound				HIGH PLAINS BLVD Northbound				HIGH PLAINS BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	1	48	0	0	0	137	1	0	0	0	0	0	3	0	24	214	910	0	0	0	0
7:15 AM	0	6	56	0	0	0	151	3	0	0	0	0	0	6	0	21	243	884	0	0	0	0
7:30 AM	0	5	51	0	0	0	131	4	0	0	0	0	0	4	0	29	224	843	0	0	0	0
7:45 AM	0	1	65	0	0	0	137	2	0	0	0	0	0	6	0	18	229	823	0	0	0	0
8:00 AM	0	8	51	0	0	0	103	4	0	0	0	0	0	4	0	18	188	764	0	0	0	0
8:15 AM	0	8	58	0	0	0	110	5	0	0	0	0	0	3	0	18	202		0	0	0	0
8:30 AM	0	2	55	0	0	0	110	8	0	0	0	0	0	9	0	20	204		0	0	0	0
8:45 AM	0	9	57	0	0	0	82	3	0	0	0	0	0	4	0	15	170		0	0	0	0
Count Total	0	40	441	0	0	0	961	30	0	0	0	0	0	39	0	163	1,674		0	0	0	0
Peak Hour	0	13	220	0	0	0	556	10	0	0	0	0	0	19	0	92	910		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

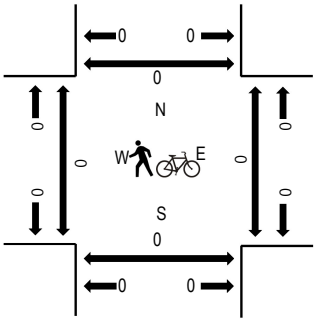
Location: 2 HIGH PLAINS BLVD & SH 60 PM
Date: Wednesday, June 1, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:15 PM - 04:30 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



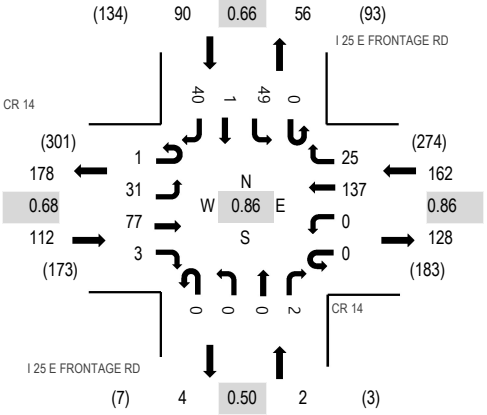
Traffic Counts

Interval Start Time	SH 60 Eastbound				SH 60 Westbound				HIGH PLAINS BLVD Northbound				HIGH PLAINS BLVD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	20	111	0	0	0	80	10	0	0	0	0	0	4	0	14	239	1,006	0	0	0	0
4:15 PM	0	28	130	0	0	0	82	6	0	0	0	0	0	5	0	10	261		0	0	0	0
4:30 PM	0	24	135	0	0	0	72	10	0	0	0	0	0	8	0	5	254		0	0	0	0
4:45 PM	0	21	134	0	0	0	67	10	0	0	0	0	0	12	0	8	252		0	0	0	0
Count Total	0	93	510	0	0	0	301	36	0	0	0	0	0	29	0	37	1,006		0	0	0	0
Peak Hour	0	93	510	0	0	0	301	36	0	0	0	0	0	29	0	37	1,006		0	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

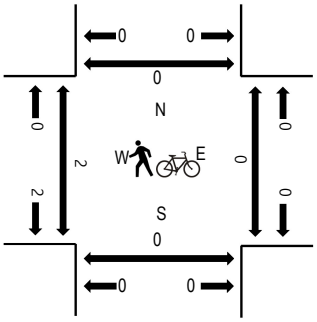
Location: 5 I 25 E FRONTAGE RD & CR 14 AM
Date: Wednesday, June 1, 2022
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:00 AM - 07:15 AM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



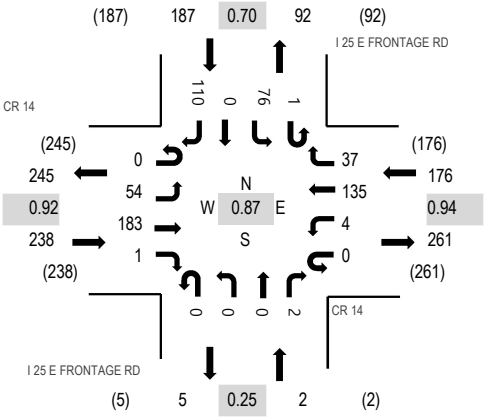
Traffic Counts

Interval Start Time	CR 14 Eastbound				CR 14 Westbound				I 25 E FRONTAGE RD Northbound				I 25 E FRONTAGE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	12	28	1	0	0	33	4	0	0	0	1	0	18	0	10	107	366	0	0	0	0
7:15 AM	1	6	14	2	0	0	28	6	0	0	0	1	0	18	0	16	92	333	2	0	0	0
7:30 AM	0	3	24	0	0	0	40	7	0	0	0	0	0	11	0	11	96	292	0	0	0	0
7:45 AM	0	10	11	0	0	0	36	8	0	0	0	0	0	2	1	3	71	248	0	0	0	0
8:00 AM	1	4	15	0	0	0	30	6	0	0	0	0	0	7	0	11	74	218	0	0	0	0
8:15 AM	0	7	5	0	0	2	22	5	0	1	0	0	0	6	0	3	51		0	0	0	0
8:30 AM	0	7	12	0	0	0	22	3	0	0	0	0	0	1	0	7	52		0	0	0	0
8:45 AM	0	4	6	0	0	0	21	1	0	0	0	0	0	3	1	5	41		0	0	0	0
Count Total	2	53	115	3	0	2	232	40	0	1	0	2	0	66	2	66	584		2	0	0	0
Peak Hour	1	31	77	3	0	0	137	25	0	0	0	2	0	49	1	40	366		2	0	0	0

ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

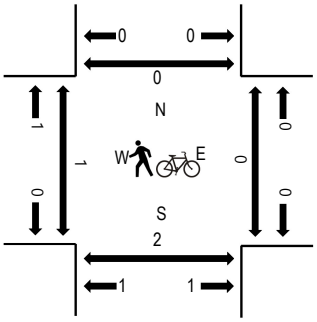
Location: 5 I 25 E FRONTAGE RD & CR 14 PM
Date: Wednesday, June 1, 2022
Peak Hour: 04:00 PM - 05:00 PM
Peak 15-Minutes: 04:30 PM - 04:45 PM

Peak Hour - All Vehicles



Note: Total study counts contained in parentheses.

Peak Hour - Pedestrians/Bicycles on Crosswalk



Traffic Counts

Interval Start Time	CR 14 Eastbound				CR 14 Westbound				I 25 E FRONTAGE RD Northbound				I 25 E FRONTAGE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	13	50	1	0	0	37	10	0	0	0	2	0	8	0	22	143	603	1	0	1	0
4:15 PM	0	14	40	0	0	1	35	10	0	0	0	0	1	12	0	21	134		0	0	0	0
4:30 PM	0	16	49	0	0	0	33	9	0	0	0	0	0	30	0	37	174		0	0	0	0
4:45 PM	0	11	44	0	0	3	30	8	0	0	0	0	0	26	0	30	152		0	0	1	0
Count Total	0	54	183	1	0	4	135	37	0	0	0	2	1	76	0	110	603		1	0	2	0
Peak Hour	0	54	183	1	0	4	135	37	0	0	0	2	1	76	0	110	603		1	0	2	0

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 6
Station ID:
HIGH PLAINS BLVD S.O. BRUNNER BLVD

Latitude: 0' 0.0000 Undefined

Start Time	01-Jun-22 Wed	NB	SB							Total
12:00 AM		7	0							7
01:00		2	0							2
02:00		0	2							2
03:00		2	2							4
04:00		0	8							8
05:00		4	42							46
06:00		10	**67**							77
07:00		8	66							74
08:00		30	57							87
09:00		41	53							**94**
10:00		35	55							90
11:00		**49**	39							88
12:00 PM		35	40							75
01:00		39	35							74
02:00		46	33							79
03:00		44	34							78
04:00		63	46							109
05:00		**78**	**48**							**126**
06:00		62	41							103
07:00		43	28							71
08:00		53	22							75
09:00		31	15							46
10:00		17	6							23
11:00		11	8							19
Total		710	747							1457
Percent		48.7%	51.3%							
AM Peak	-	11:00	06:00	-	-	-	-	-	-	09:00
Vol.	-	49	67	-	-	-	-	-	-	94
PM Peak	-	17:00	17:00	-	-	-	-	-	-	17:00
Vol.	-	78	48	-	-	-	-	-	-	126
Grand Total		710	747							1457
Percent		48.7%	51.3%							

ADT ADT 1,457 AADT 1,457

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 7
Station ID:
SH 60 W.O. HIGH PLAINS BLVD

Latitude: 0' 0.0000 Undefined

Start Time	01-Jun-22 Wed	EB	WB							Total
12:00 AM		46	12							58
01:00		23	8							31
02:00		15	21							36
03:00		14	29							43
04:00		13	131							144
05:00		85	352							437
06:00		179	599							778
07:00		233	**648**							**881**
08:00		248	476							724
09:00		202	402							604
10:00		234	397							631
11:00		**321**	343							664
12:00 PM		335	**387**							722
01:00		288	336							624
02:00		375	328							703
03:00		456	367							823
04:00		603	338							**941**
05:00		**614**	324							938
06:00		436	240							676
07:00		315	183							498
08:00		258	134							392
09:00		166	96							262
10:00		92	54							146
11:00		73	27							100
Total		5624	6232							11856
Percent		47.4%	52.6%							
AM Peak	-	11:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	321	648	-	-	-	-	-	-	881
PM Peak	-	17:00	12:00	-	-	-	-	-	-	16:00
Vol.	-	614	387	-	-	-	-	-	-	941
Grand Total		5624	6232							11856
Percent		47.4%	52.6%							

ADT ADT 11,856 AADT 11,856

All Traffic Data Services, LLC

www.alltrafficdata.net

Site Code: 8
Station ID:
CR 14 E.O. I 25 E FRONTAGE RD

Latitude: 0' 0.0000 Undefined

Start Time	01-Jun-22 Wed	EB	WB							Total
12:00 AM		3	5							8
01:00		1	3							4
02:00		4	2							6
03:00		5	4							9
04:00		9	11							20
05:00		23	48							71
06:00		90	126							216
07:00		**128**	**162**							**290**
08:00		55	112							167
09:00		63	78							141
10:00		78	94							172
11:00		81	77							158
12:00 PM		95	72							167
01:00		88	67							155
02:00		109	100							209
03:00		150	108							258
04:00		**261**	**176**							**437**
05:00		260	135							395
06:00		120	97							217
07:00		82	39							121
08:00		39	26							65
09:00		42	32							74
10:00		37	13							50
11:00		18	7							25
Total		1841	1594							3435
Percent		53.6%	46.4%							
AM Peak	-	07:00	07:00	-	-	-	-	-	-	07:00
Vol.	-	128	162	-	-	-	-	-	-	290
PM Peak	-	16:00	16:00	-	-	-	-	-	-	16:00
Vol.	-	261	176	-	-	-	-	-	-	437
Grand Total		1841	1594							3435
Percent		53.6%	46.4%							

ADT ADT 3,435 AADT 3,435

APPENDIX B

Level of Service Definitions

The following information can be found in the Highway Capacity Manual, Transportation Research Board, 2016: Chapter 19 – Signalized Intersections and Chapter 20 – Two-Way Stop Controlled Intersections.

Automobile Level of Service (LOS) for Signalized Intersections

Levels of service are defined to represent reasonable ranges in control delay.

LOS A

Describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

LOS B

Describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

LOS C

Describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual *cycle failures* (i.e., one or more queued vehicles are not able to depart as a result of insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.

LOS D

Describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.

LOS E

Describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.

LOS F

Describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Level of Service (LOS) for Unsignalized TWSC Intersections

Level of Service (v/c ≤ 1.0)	Average Control Delay (s/veh)
A	0 - 10
B	> 10 - 15
C	> 15 - 25
D	> 25 - 35
E	> 35 - 50
F	> 50

APPENDIX C

Capacity Worksheets

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	220	556	10	19	92
Future Vol, veh/h	13	220	556	10	19	92
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	520	-	-	375	0	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	14	239	604	11	21	100

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	615	0	-	0	871	604
Stage 1	-	-	-	-	604	-
Stage 2	-	-	-	-	267	-
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	965	-	-	-	322	498
Stage 1	-	-	-	-	546	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	965	-	-	-	317	498
Mov Cap-2 Maneuver	-	-	-	-	317	-
Stage 1	-	-	-	-	538	-
Stage 2	-	-	-	-	778	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	965	-	-	-	317	498
HCM Lane V/C Ratio	0.015	-	-	-	0.065	0.201
HCM Control Delay (s)	8.8	-	-	-	17.1	14
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2	0.7

Intersection	
Int Delay, s/veh	5.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	0	0	30	0	0
Future Vol, veh/h	57	0	0	30	0	0
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	62	0	0	33	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	18	17	0	0	33	0
Stage 1	17	-	-	-	-	-
Stage 2	1	-	-	-	-	-
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	1000	1062	-	-	1579	-
Stage 1	1006	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1000	1062	-	-	1579	-
Mov Cap-2 Maneuver	1000	-	-	-	-	-
Stage 1	1006	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1000	1579	-
HCM Lane V/C Ratio	-	-	0.062	-	-
HCM Control Delay (s)	-	-	8.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	77	137	25	49	40
Future Vol, veh/h	32	77	137	25	49	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	-	-	-	-	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	35	84	149	27	53	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	176	0	-	0	317	163
Stage 1	-	-	-	-	163	-
Stage 2	-	-	-	-	154	-
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	1400	-	-	-	676	882
Stage 1	-	-	-	-	866	-
Stage 2	-	-	-	-	874	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1400	-	-	-	658	882
Mov Cap-2 Maneuver	-	-	-	-	658	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	874	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1400	-	-	-	743
HCM Lane V/C Ratio	0.025	-	-	-	0.13
HCM Control Delay (s)	7.6	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4

Intersection	
Int Delay, s/veh	1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	93	510	301	36	29	37
Future Vol, veh/h	93	510	301	36	29	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	520	-	-	375	0	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	101	554	327	39	32	40

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	366	0	-	0	1083	327
Stage 1	-	-	-	-	327	-
Stage 2	-	-	-	-	756	-
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	1193	-	-	-	240	714
Stage 1	-	-	-	-	731	-
Stage 2	-	-	-	-	464	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1193	-	-	-	220	714
Mov Cap-2 Maneuver	-	-	-	-	220	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	464	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	16.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1193	-	-	-	220	714
HCM Lane V/C Ratio	0.085	-	-	-	0.143	0.056
HCM Control Delay (s)	8.3	-	-	-	24.1	10.3
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.5	0.2

Intersection	
Int Delay, s/veh	3.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	45	1	2	61	1	1
Future Vol, veh/h	45	1	2	61	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	1	2	66	1	1

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	38	35	0	0	68	0
Stage 1	35	-	-	-	-	-
Stage 2	3	-	-	-	-	-
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	974	1038	-	-	1533	-
Stage 1	987	-	-	-	-	-
Stage 2	1020	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	973	1038	-	-	1533	-
Mov Cap-2 Maneuver	973	-	-	-	-	-
Stage 1	987	-	-	-	-	-
Stage 2	1019	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	8.9	0	3.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	974	1533	-
HCM Lane V/C Ratio	-	-	0.051	0.001	-
HCM Control Delay (s)	-	-	8.9	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	54	183	135	37	77	110
Future Vol, veh/h	54	183	135	37	77	110
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	59	199	147	40	84	120

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	187	0	-	0	484	167
Stage 1	-	-	-	-	167	-
Stage 2	-	-	-	-	317	-
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	1387	-	-	-	542	877
Stage 1	-	-	-	-	863	-
Stage 2	-	-	-	-	738	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1387	-	-	-	516	877
Mov Cap-2 Maneuver	-	-	-	-	516	-
Stage 1	-	-	-	-	822	-
Stage 2	-	-	-	-	738	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	12.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1387	-	-	-	681
HCM Lane V/C Ratio	0.042	-	-	-	0.298
HCM Control Delay (s)	7.7	0	-	-	12.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	229	578	16	37	184
Future Vol, veh/h	48	229	578	16	37	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	520	-	-	375	0	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	52	249	628	17	40	200

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	645	0	-	0	981	628
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	353	-
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	940	-	-	-	277	483
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	711	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	940	-	-	-	262	483
Mov Cap-2 Maneuver	-	-	-	-	262	-
Stage 1	-	-	-	-	503	-
Stage 2	-	-	-	-	711	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	940	-	-	-	262	483
HCM Lane V/C Ratio	0.056	-	-	-	0.154	0.414
HCM Control Delay (s)	9.1	-	-	-	21.2	17.6
HCM Lane LOS	A	-	-	-	C	C
HCM 95th %tile Q(veh)	0.2	-	-	-	0.5	2

Intersection	
Int Delay, s/veh	2.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	59	0	40	31	0	105
Future Vol, veh/h	59	0	40	31	0	105
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	64	0	43	34	0	114

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	174	60	0	0	77	0
Stage 1	60	-	-	-	-	-
Stage 2	114	-	-	-	-	-
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	816	1005	-	-	1522	-
Stage 1	963	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	816	1005	-	-	1522	-
Mov Cap-2 Maneuver	816	-	-	-	-	-
Stage 1	963	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	816	1522	-
HCM Lane V/C Ratio	-	-	0.079	-	-
HCM Control Delay (s)	-	-	9.8	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	0.3	0	-

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	91	177	35	54	42
Future Vol, veh/h	33	91	177	35	54	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	36	99	192	38	59	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	230	0	-	0	382	211
Stage 1	-	-	-	-	211	-
Stage 2	-	-	-	-	171	-
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	1338	-	-	-	620	829
Stage 1	-	-	-	-	824	-
Stage 2	-	-	-	-	859	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1338	-	-	-	603	829
Mov Cap-2 Maneuver	-	-	-	-	603	-
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	859	-

Approach	EB	WB	SB
HCM Control Delay, s	2.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1338	-	-	-	685
HCM Lane V/C Ratio	0.027	-	-	-	0.152
HCM Control Delay (s)	7.8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	139	0	4	221	0	11
Future Vol, veh/h	139	0	4	221	0	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	-	-	-	-	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	151	0	4	240	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	151	0	399	151
Stage 1	-	-	-	-	151	-
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	-	-	1430	-	607	895
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	793	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1430	-	605	895
Mov Cap-2 Maneuver	-	-	-	-	605	-
Stage 1	-	-	-	-	877	-
Stage 2	-	-	-	-	791	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	895	-	-	1430	-
HCM Lane V/C Ratio	0.013	-	-	0.003	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	105	40	0	0	4
Future Vol, veh/h	11	105	40	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	-
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	12	114	43	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	88	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	86	-	-	-	-	-
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	913	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	937	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	888	1082	1618	-	-	-
Mov Cap-2 Maneuver	888	-	-	-	-	-
Stage 1	993	-	-	-	-	-
Stage 2	937	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	7.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1618	-	888	1082	-	-
HCM Lane V/C Ratio	0.027	-	0.013	0.105	-	-
HCM Control Delay (s)	7.3	-	9.1	8.7	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0.4	-	-

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	207	530	313	57	42	96
Future Vol, veh/h	207	530	313	57	42	96
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	520	-	-	375	0	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	225	576	340	62	46	104

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	402	0	-	0	1366	340
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	1026	-
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	1157	-	-	-	162	702
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	346	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1157	-	-	-	131	702
Mov Cap-2 Maneuver	-	-	-	-	131	-
Stage 1	-	-	-	-	581	-
Stage 2	-	-	-	-	346	-

Approach	EB	WB	SB
HCM Control Delay, s	2.5	0	21.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1157	-	-	-	131	702
HCM Lane V/C Ratio	0.194	-	-	-	0.348	0.149
HCM Control Delay (s)	8.9	-	-	-	46.5	11
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.7	-	-	-	1.4	0.5

Intersection	
Int Delay, s/veh	1.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	47	1	129	63	1	69
Future Vol, veh/h	47	1	129	63	1	69
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	1	140	68	1	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	251	174	0	0	208	0
Stage 1	174	-	-	-	-	-
Stage 2	77	-	-	-	-	-
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	738	869	-	-	1363	-
Stage 1	856	-	-	-	-	-
Stage 2	946	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	737	869	-	-	1363	-
Mov Cap-2 Maneuver	737	-	-	-	-	-
Stage 1	856	-	-	-	-	-
Stage 2	945	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.2	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	739	1363	-
HCM Lane V/C Ratio	-	-	0.071	0.001	-
HCM Control Delay (s)	-	-	10.2	7.6	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0	-

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	229	163	44	90	114
Future Vol, veh/h	56	229	163	44	90	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	61	249	177	48	98	124

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	225	0	-	0	572	201
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	371	-
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	1344	-	-	-	482	840
Stage 1	-	-	-	-	833	-
Stage 2	-	-	-	-	698	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1344	-	-	-	456	840
Mov Cap-2 Maneuver	-	-	-	-	456	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	698	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1344	-	-	-	612
HCM Lane V/C Ratio	0.045	-	-	-	0.362
HCM Control Delay (s)	7.8	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.6

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	276	0	12	217	0	7
Future Vol, veh/h	276	0	12	217	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	300	0	13	236	0	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	562	300
Stage 1	-	-	-	-	300	-
Stage 2	-	-	-	-	262	-
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	-	-	1261	-	488	740
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	782	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1261	-	482	740
Mov Cap-2 Maneuver	-	-	-	-	482	-
Stage 1	-	-	-	-	752	-
Stage 2	-	-	-	-	773	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	740	-	-	1261	-
HCM Lane V/C Ratio	0.01	-	-	0.01	-
HCM Control Delay (s)	9.9	-	-	7.9	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

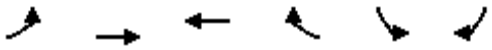
Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	70	130	0	0	12
Future Vol, veh/h	7	70	130	0	0	12
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	-	-	-
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	8	76	141	0	0	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	289	7	13	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	282	-	-	-	-	-
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	702	1075	1606	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	766	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	640	1075	1606	-	-	-
Mov Cap-2 Maneuver	640	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	766	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	7.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1606	-	640	1075	-	-
HCM Lane V/C Ratio	0.088	-	0.012	0.071	-	-
HCM Control Delay (s)	7.5	-	10.7	8.6	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0	0.2	-	-



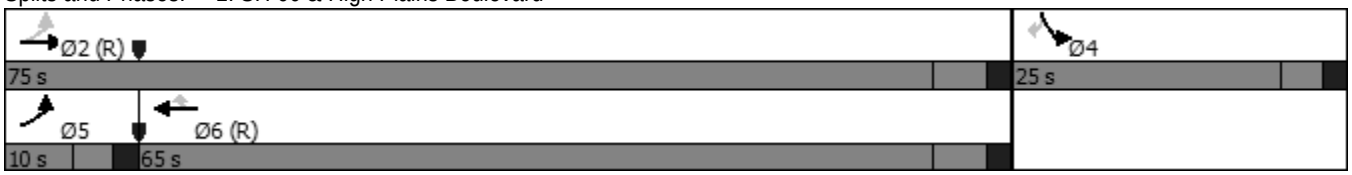
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	55	330	834	21	46	226
Future Volume (vph)	55	330	834	21	46	226
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.195				0.950	
Satd. Flow (perm)	363	1863	1863	1583	1770	1583
Satd. Flow (RTOR)				23		218
Lane Group Flow (vph)	60	359	907	23	50	246
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	10.0	75.0	65.0	65.0	25.0	25.0
Total Split (%)	10.0%	75.0%	65.0%	65.0%	25.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	80.4	79.4	70.3	70.3	9.6	9.6
Actuated g/C Ratio	0.80	0.79	0.70	0.70	0.10	0.10
v/c Ratio	0.16	0.24	0.69	0.02	0.30	0.71
Control Delay	3.5	3.5	14.2	3.0	44.8	19.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.5	3.5	14.2	3.0	44.8	19.9
LOS	A	A	B	A	D	B
Approach Delay		3.5	13.9		24.1	
Approach LOS		A	B		C	
Queue Length 50th (ft)	5	41	299	0	31	17
Queue Length 95th (ft)	18	98	602	10	62	89
Internal Link Dist (ft)		1097	1210		815	
Turn Bay Length (ft)	520			375		
Base Capacity (vph)	379	1480	1309	1119	354	491
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	0.16	0.24	0.69	0.02	0.14	0.50

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.71

Intersection Signal Delay: 13.1	Intersection LOS: B
Intersection Capacity Utilization 67.1%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: SH 60 & High Plains Boulevard



Intersection	
Int Delay, s/veh	3.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	86	0	41	45	0	105
Future Vol, veh/h	86	0	41	45	0	105
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	0	45	49	0	114

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	184	70	0	0	94	0
Stage 1	70	-	-	-	-	-
Stage 2	114	-	-	-	-	-
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	805	993	-	-	1500	-
Stage 1	953	-	-	-	-	-
Stage 2	911	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	805	993	-	-	1500	-
Mov Cap-2 Maneuver	805	-	-	-	-	-
Stage 1	953	-	-	-	-	-
Stage 2	911	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.1	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	805	1500	-
HCM Lane V/C Ratio	-	-	0.116	-	-
HCM Control Delay (s)	-	-	10.1	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	3.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	127	241	47	77	60
Future Vol, veh/h	48	127	241	47	77	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	52	138	262	51	84	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	313	0	-	0	530	288
Stage 1	-	-	-	-	288	-
Stage 2	-	-	-	-	242	-
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	1247	-	-	-	510	751
Stage 1	-	-	-	-	761	-
Stage 2	-	-	-	-	798	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1247	-	-	-	487	751
Mov Cap-2 Maneuver	-	-	-	-	487	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	798	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1247	-	-	-	576
HCM Lane V/C Ratio	0.042	-	-	-	0.259
HCM Control Delay (s)	8	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	199	0	4	297	0	11
Future Vol, veh/h	199	0	4	297	0	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	-	-	-	-	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	216	0	4	323	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	216	0	547	216
Stage 1	-	-	-	-	216	-
Stage 2	-	-	-	-	331	-
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	-	-	1354	-	498	824
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	728	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1354	-	496	824
Mov Cap-2 Maneuver	-	-	-	-	496	-
Stage 1	-	-	-	-	820	-
Stage 2	-	-	-	-	725	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.4
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	824	-	-	1354	-
HCM Lane V/C Ratio	0.015	-	-	0.003	-
HCM Control Delay (s)	9.4	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

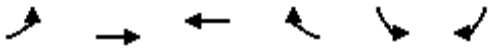
Intersection	
Int Delay, s/veh	8.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	11	105	41	0	0	4
Future Vol, veh/h	11	105	41	0	0	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	0	150	-	-	-
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	12	114	45	0	0	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	92	2	4	0	-	0
Stage 1	2	-	-	-	-	-
Stage 2	90	-	-	-	-	-
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	908	1082	1618	-	-	-
Stage 1	1021	-	-	-	-	-
Stage 2	934	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	883	1082	1618	-	-	-
Mov Cap-2 Maneuver	883	-	-	-	-	-
Stage 1	992	-	-	-	-	-
Stage 2	934	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	7.3	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1618	-	883	1082	-	-
HCM Lane V/C Ratio	0.028	-	0.014	0.105	-	-
HCM Control Delay (s)	7.3	-	9.1	8.7	-	-
HCM Lane LOS	A	-	A	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0	0.4	-	-



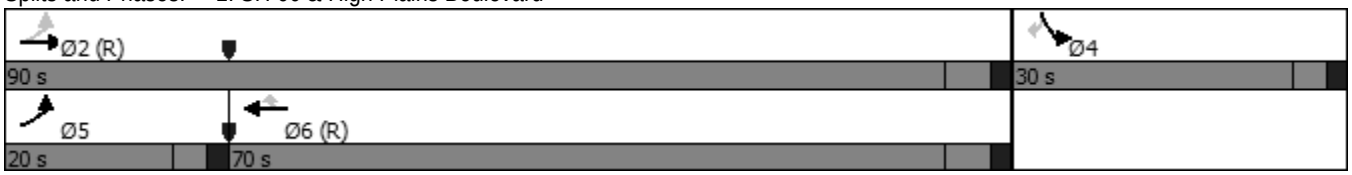
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	251	765	452	74	56	114
Future Volume (vph)	251	765	452	74	56	114
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.420				0.950	
Satd. Flow (perm)	782	1863	1863	1583	1770	1583
Satd. Flow (RTOR)				80		124
Lane Group Flow (vph)	273	832	491	80	61	124
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	20.0	90.0	70.0	70.0	30.0	30.0
Total Split (%)	16.7%	75.0%	58.3%	58.3%	25.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	C-Max	C-Max	None	None
Act Effct Green (s)	100.5	99.5	85.3	85.3	9.5	9.5
Actuated g/C Ratio	0.84	0.83	0.71	0.71	0.08	0.08
v/c Ratio	0.37	0.54	0.37	0.07	0.44	0.52
Control Delay	3.6	4.9	8.4	1.7	61.5	16.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	3.6	4.9	8.4	1.7	61.5	16.8
LOS	A	A	A	A	E	B
Approach Delay		4.6	7.4		31.5	
Approach LOS		A	A		C	
Queue Length 50th (ft)	30	152	132	0	46	0
Queue Length 95th (ft)	58	263	228	17	89	57
Internal Link Dist (ft)		1097	1210		815	
Turn Bay Length (ft)	520			375		
Base Capacity (vph)	778	1544	1323	1147	368	427
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	0.35	0.54	0.37	0.07	0.17	0.29

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL and 6:WBT, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.54

Intersection Signal Delay: 8.1	Intersection LOS: A
Intersection Capacity Utilization 55.2%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 1: SH 60 & High Plains Boulevard



Intersection	
Int Delay, s/veh	2.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	2	129	92	2	68
Future Vol, veh/h	68	2	129	92	2	68
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	74	2	140	100	2	74

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	268	190	0	0	240	0
Stage 1	190	-	-	-	-	-
Stage 2	78	-	-	-	-	-
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	721	852	-	-	1327	-
Stage 1	842	-	-	-	-	-
Stage 2	945	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	720	852	-	-	1327	-
Mov Cap-2 Maneuver	720	-	-	-	-	-
Stage 1	842	-	-	-	-	-
Stage 2	943	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	10.6	0	0.2
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	723	1327	-
HCM Lane V/C Ratio	-	-	0.105	0.002	-
HCM Control Delay (s)	-	-	10.6	7.7	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.4	0	-

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	314	226	62	126	165
Future Vol, veh/h	81	314	226	62	126	165
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	88	341	246	67	137	179

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	313	0	-	0	797	280
Stage 1	-	-	-	-	280	-
Stage 2	-	-	-	-	517	-
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	1247	-	-	-	356	759
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	598	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1247	-	-	-	325	759
Mov Cap-2 Maneuver	-	-	-	-	325	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	598	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	25.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1247	-	-	-	481
HCM Lane V/C Ratio	0.071	-	-	-	0.658
HCM Control Delay (s)	8.1	0	-	-	25.7
HCM Lane LOS	A	A	-	-	D
HCM 95th %tile Q(veh)	0.2	-	-	-	4.7

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	398	0	12	300	0	7
Future Vol, veh/h	398	0	12	300	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	433	0	13	326	0	8

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	433	0	785	433
Stage 1	-	-	-	-	433	-
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	-	-	1127	-	361	623
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	712	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1127	-	356	623
Mov Cap-2 Maneuver	-	-	-	-	356	-
Stage 1	-	-	-	-	654	-
Stage 2	-	-	-	-	702	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	623	-	-	1127	-
HCM Lane V/C Ratio	0.012	-	-	0.012	-
HCM Control Delay (s)	10.9	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	7	70	131	0	0	12
Future Vol, veh/h	7	70	131	0	0	12
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	-	-	-
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	8	76	142	0	0	13

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	291	7	13	0	-	0
Stage 1	7	-	-	-	-	-
Stage 2	284	-	-	-	-	-
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	700	1075	1606	-	-	-
Stage 1	1016	-	-	-	-	-
Stage 2	764	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	638	1075	1606	-	-	-
Mov Cap-2 Maneuver	638	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	764	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	7.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	1606	-	638	1075	-	-
HCM Lane V/C Ratio	0.089	-	0.012	0.071	-	-
HCM Control Delay (s)	7.5	-	10.7	8.6	-	-
HCM Lane LOS	A	-	B	A	-	-
HCM 95th %tile Q(veh)	0.3	-	0	0.2	-	-

Intersection	
Int Delay, s/veh	10.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	100	229	578	26	64	336
Future Vol, veh/h	100	229	578	26	64	336
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	520	-	-	375	0	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	109	249	628	28	70	365

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	656	0	-	0	1095	628
Stage 1	-	-	-	-	628	-
Stage 2	-	-	-	-	467	-
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	931	-	-	-	236	483
Stage 1	-	-	-	-	532	-
Stage 2	-	-	-	-	631	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	931	-	-	-	208	483
Mov Cap-2 Maneuver	-	-	-	-	208	-
Stage 1	-	-	-	-	470	-
Stage 2	-	-	-	-	631	-

Approach	EB	WB	SB
HCM Control Delay, s	2.9	0	31.9
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	931	-	-	-	208	483
HCM Lane V/C Ratio	0.117	-	-	-	0.334	0.756
HCM Control Delay (s)	9.4	-	-	-	30.8	32.1
HCM Lane LOS	A	-	-	-	D	D
HCM 95th %tile Q(veh)	0.4	-	-	-	1.4	6.5

Intersection	
Int Delay, s/veh	2.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	86	0	92	41	0	257
Future Vol, veh/h	86	0	92	41	0	257
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	0	100	45	0	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	402	123	0	0	145	0
Stage 1	123	-	-	-	-	-
Stage 2	279	-	-	-	-	-
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	604	928	-	-	1437	-
Stage 1	902	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	604	928	-	-	1437	-
Mov Cap-2 Maneuver	604	-	-	-	-	-
Stage 1	902	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	604	1437	-
HCM Lane V/C Ratio	-	-	0.155	-	-
HCM Control Delay (s)	-	-	12	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	110	232	49	58	42
Future Vol, veh/h	33	110	232	49	58	42
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	36	120	252	53	63	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	305	0	-	0	471	279
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	192	-
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	1256	-	-	-	551	760
Stage 1	-	-	-	-	768	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1256	-	-	-	534	760
Mov Cap-2 Maneuver	-	-	-	-	534	-
Stage 1	-	-	-	-	744	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	SB
HCM Control Delay, s	1.8	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1256	-	-	-	610
HCM Lane V/C Ratio	0.029	-	-	-	0.178
HCM Control Delay (s)	8	0	-	-	12.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	153	9	32	262	28	20
Future Vol, veh/h	153	9	32	262	28	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	-	-	-	-	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	166	10	35	285	30	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	176	0	526	171
Stage 1	-	-	-	-	171	-
Stage 2	-	-	-	-	355	-
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	-	-	1400	-	512	873
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	710	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1400	-	497	873
Mov Cap-2 Maneuver	-	-	-	-	497	-
Stage 1	-	-	-	-	859	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	11.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	606	-	-	1400	-
HCM Lane V/C Ratio	0.086	-	-	0.025	-
HCM Control Delay (s)	11.5	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	105	124	0	28	40	9	43	9	28	4
Future Vol, veh/h	11	0	105	124	0	28	40	9	43	9	28	4
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	-	-	200	-	-	200	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	12	0	114	135	0	30	43	10	47	10	30	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	187	195	32	205	150	10	34	0	0	57	0	0
Stage 1	52	52	-	96	96	-	-	-	-	-	-	-
Stage 2	135	143	-	109	54	-	-	-	-	-	-	-
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	774	700	1042	753	742	1071	1578	-	-	1547	-	-
Stage 1	961	852	-	911	815	-	-	-	-	-	-	-
Stage 2	868	779	-	896	850	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	732	676	1042	653	717	1071	1578	-	-	1547	-	-
Mov Cap-2 Maneuver	732	676	-	653	717	-	-	-	-	-	-	-
Stage 1	935	846	-	886	793	-	-	-	-	-	-	-
Stage 2	820	758	-	792	844	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	11.3	3.2	1.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	732	1042	653	1071	1547	-	-
HCM Lane V/C Ratio	0.028	-	-	0.016	0.11	0.206	0.028	0.006	-	-
HCM Control Delay (s)	7.3	-	-	10	8.9	11.9	8.5	7.3	0	-
HCM Lane LOS	A	-	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0.8	0.1	0	-	-

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	23	10	225	69	28
Future Vol, veh/h	150	23	10	225	69	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	163	25	11	245	75	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	188	0	443	176
Stage 1	-	-	-	-	176	-
Stage 2	-	-	-	-	267	-
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	-	-	1386	-	572	867
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	778	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1386	-	567	867
Mov Cap-2 Maneuver	-	-	-	-	567	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	771	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	11.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	630	-	-	1386	-
HCM Lane V/C Ratio	0.167	-	-	0.008	-
HCM Control Delay (s)	11.9	-	-	7.6	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	13.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	378	530	313	88	61	196
Future Vol, veh/h	378	530	313	88	61	196
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	520	-	-	375	0	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	411	576	340	96	66	213

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	436	0	-	0	1738	340
Stage 1	-	-	-	-	340	-
Stage 2	-	-	-	-	1398	-
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	1124	-	-	-	96	702
Stage 1	-	-	-	-	721	-
Stage 2	-	-	-	-	229	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1124	-	-	-	~ 61	702
Mov Cap-2 Maneuver	-	-	-	-	~ 61	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	229	-

Approach	EB	WB	SB
HCM Control Delay, s	4.2	0	69.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1124	-	-	-	61	702
HCM Lane V/C Ratio	0.366	-	-	-	1.087	0.303
HCM Control Delay (s)	10	-	-	-	254.6	12.3
HCM Lane LOS	B	-	-	-	F	B
HCM 95th %tile Q(veh)	1.7	-	-	-	5.3	1.3

Notes

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

Intersection	
Int Delay, s/veh	1.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	65	1	300	94	1	170
Future Vol, veh/h	65	1	300	94	1	170
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	1	326	102	1	185

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	564	377	0	0	428	0
Stage 1	377	-	-	-	-	-
Stage 2	187	-	-	-	-	-
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	487	670	-	-	1131	-
Stage 1	694	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	487	670	-	-	1131	-
Mov Cap-2 Maneuver	487	-	-	-	-	-
Stage 1	694	-	-	-	-	-
Stage 2	844	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	489	1131	-
HCM Lane V/C Ratio	-	-	0.147	0.001	-
HCM Control Delay (s)	-	-	13.6	8.2	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0	-

Intersection	
Int Delay, s/veh	5.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	56	291	199	53	105	114
Future Vol, veh/h	56	291	199	53	105	114
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	61	316	216	58	114	124

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	274	0	-	0	683	245
Stage 1	-	-	-	-	245	-
Stage 2	-	-	-	-	438	-
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	1289	-	-	-	415	794
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1289	-	-	-	391	794
Mov Cap-2 Maneuver	-	-	-	-	391	-
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	651	-

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	17.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1289	-	-	-	531
HCM Lane V/C Ratio	0.047	-	-	-	0.448
HCM Control Delay (s)	7.9	0	-	-	17.2
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	2.3

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	323	30	31	244	18	38
Future Vol, veh/h	323	30	31	244	18	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	-	-	-	-	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	351	33	34	265	20	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	384	0	701	368
Stage 1	-	-	-	-	368	-
Stage 2	-	-	-	-	333	-
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	-	-	1174	-	405	677
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	726	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1174	-	391	677
Mov Cap-2 Maneuver	-	-	-	-	391	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	701	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	12.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	548	-	-	1174	-
HCM Lane V/C Ratio	0.111	-	-	0.029	-
HCM Control Delay (s)	12.4	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0.1	-

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	0	70	82	0	18	130	31	140	30	19	12
Future Vol, veh/h	7	0	70	82	0	18	130	31	140	30	19	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	-	-	200	-	-	200	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	8	0	76	89	0	20	141	34	152	33	21	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	496	562	28	448	416	34	34	0	0	186	0	0
Stage 1	94	94	-	316	316	-	-	-	-	-	-	-
Stage 2	402	468	-	132	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	484	436	1047	521	527	1039	1578	-	-	1388	-	-
Stage 1	913	817	-	695	655	-	-	-	-	-	-	-
Stage 2	625	561	-	871	812	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	435	388	1047	442	469	1039	1578	-	-	1388	-	-
Mov Cap-2 Maneuver	435	388	-	442	469	-	-	-	-	-	-	-
Stage 1	832	797	-	633	597	-	-	-	-	-	-	-
Stage 2	558	511	-	788	793	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	14	3.2	3.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	435	1047	442	1039	1388	-	-
HCM Lane V/C Ratio	0.09	-	-	0.017	0.073	0.202	0.019	0.023	-	-
HCM Control Delay (s)	7.5	-	-	13.4	8.7	15.2	8.5	7.7	0	-
HCM Lane LOS	A	-	-	B	A	C	A	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	0.2	0.7	0.1	0.1	-	-

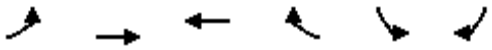
Intersection	
Int Delay, s/veh	1.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	283	78	31	229	46	18
Future Vol, veh/h	283	78	31	229	46	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	308	85	34	249	50	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	393	0	668	351
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	317	-
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	-	-	1166	-	423	692
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	738	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1166	-	409	692
Mov Cap-2 Maneuver	-	-	-	-	409	-
Stage 1	-	-	-	-	713	-
Stage 2	-	-	-	-	713	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	462	-	-	1166	-
HCM Lane V/C Ratio	0.151	-	-	0.029	-
HCM Control Delay (s)	14.2	-	-	8.2	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	107	330	834	31	73	378
Future Volume (vph)	107	330	834	31	73	378
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.140				0.950	
Satd. Flow (perm)	261	1863	1863	1583	1770	1583
Satd. Flow (RTOR)				34		218
Lane Group Flow (vph)	116	359	907	34	79	411
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	10.0	75.0	65.0	65.0	25.0	25.0
Total Split (%)	10.0%	75.0%	65.0%	65.0%	25.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	Max	Max	None	None
Act Effct Green (s)	72.9	71.9	61.4	61.4	17.1	17.1
Actuated g/C Ratio	0.73	0.72	0.61	0.61	0.17	0.17
v/c Ratio	0.42	0.27	0.79	0.03	0.26	0.91
Control Delay	9.4	6.0	22.0	3.1	36.8	44.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	9.4	6.0	22.0	3.1	36.8	44.0
LOS	A	A	C	A	D	D
Approach Delay		6.8	21.3		42.9	
Approach LOS		A	C		D	
Queue Length 50th (ft)	21	77	430	0	43	122
Queue Length 95th (ft)	38	116	630	12	84	#287
Internal Link Dist (ft)		1097	1210		815	
Turn Bay Length (ft)	520			375		
Base Capacity (vph)	273	1338	1143	984	354	491
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	0.27	0.79	0.03	0.22	0.84

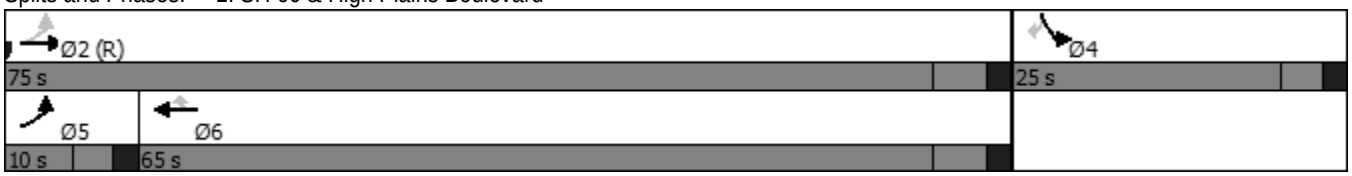
Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 80
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 23.3	Intersection LOS: C
Intersection Capacity Utilization 76.5%	ICU Level of Service D
Analysis Period (min) 15	

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1: SH 60 & High Plains Boulevard



Intersection	
Int Delay, s/veh	2.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	113	0	93	55	0	257
Future Vol, veh/h	113	0	93	55	0	257
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	123	0	101	60	0	279

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	410	131	0	0	161	0
Stage 1	131	-	-	-	-	-
Stage 2	279	-	-	-	-	-
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	598	919	-	-	1418	-
Stage 1	895	-	-	-	-	-
Stage 2	768	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	598	919	-	-	1418	-
Mov Cap-2 Maneuver	598	-	-	-	-	-
Stage 1	895	-	-	-	-	-
Stage 2	768	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	598	1418	-
HCM Lane V/C Ratio	-	-	0.205	-	-
HCM Control Delay (s)	-	-	12.6	0	-
HCM Lane LOS	-	-	B	A	-
HCM 95th %tile Q(veh)	-	-	0.8	0	-

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	146	296	61	81	60
Future Vol, veh/h	48	146	296	61	81	60
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	52	159	322	66	88	65

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	388	0	-	0	618	355
Stage 1	-	-	-	-	355	-
Stage 2	-	-	-	-	263	-
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	1170	-	-	-	453	689
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	781	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1170	-	-	-	431	689
Mov Cap-2 Maneuver	-	-	-	-	431	-
Stage 1	-	-	-	-	675	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SB
HCM Control Delay, s	2	0	15
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1170	-	-	-	513
HCM Lane V/C Ratio	0.045	-	-	-	0.299
HCM Control Delay (s)	8.2	0	-	-	15
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2

Intersection	
Int Delay, s/veh	1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	213	9	32	338	28	20
Future Vol, veh/h	213	9	32	338	28	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	-	-	-	-	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	232	10	35	367	30	22

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	242	0	674	237
Stage 1	-	-	-	-	237	-
Stage 2	-	-	-	-	437	-
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	-	-	1324	-	420	802
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1324	-	406	802
Mov Cap-2 Maneuver	-	-	-	-	406	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	630	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	12.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	511	-	-	1324	-
HCM Lane V/C Ratio	0.102	-	-	0.026	-
HCM Control Delay (s)	12.8	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.3	-	-	0.1	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	0	105	124	0	28	41	9	43	9	28	4
Future Vol, veh/h	11	0	105	124	0	28	41	9	43	9	28	4
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	-	-	200	-	-	200	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	12	0	114	135	0	30	45	10	47	10	30	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	191	199	32	209	154	10	34	0	0	57	0	0
Stage 1	52	52	-	100	100	-	-	-	-	-	-	-
Stage 2	139	147	-	109	54	-	-	-	-	-	-	-
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	769	697	1042	748	738	1071	1578	-	-	1547	-	-
Stage 1	961	852	-	906	812	-	-	-	-	-	-	-
Stage 2	864	775	-	896	850	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	727	672	1042	648	711	1071	1578	-	-	1547	-	-
Mov Cap-2 Maneuver	727	672	-	648	711	-	-	-	-	-	-	-
Stage 1	933	846	-	880	788	-	-	-	-	-	-	-
Stage 2	816	753	-	792	844	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	11.4	3.2	1.6
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	727	1042	648	1071	1547	-	-
HCM Lane V/C Ratio	0.028	-	-	0.016	0.11	0.208	0.028	0.006	-	-
HCM Control Delay (s)	7.3	-	-	10	8.9	12	8.5	7.3	0	-
HCM Lane LOS	A	-	-	B	A	B	A	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.1	0.4	0.8	0.1	0	-	-

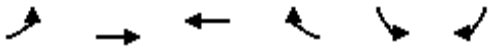
Intersection	
Int Delay, s/veh	2.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	210	23	10	301	69	28
Future Vol, veh/h	210	23	10	301	69	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	228	25	11	327	75	30

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	253	0	590	241
Stage 1	-	-	-	-	241	-
Stage 2	-	-	-	-	349	-
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	-	-	1312	-	470	798
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	714	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1312	-	465	798
Mov Cap-2 Maneuver	-	-	-	-	465	-
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	707	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	13.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	529	-	-	1312	-
HCM Lane V/C Ratio	0.199	-	-	0.008	-
HCM Control Delay (s)	13.5	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0	-



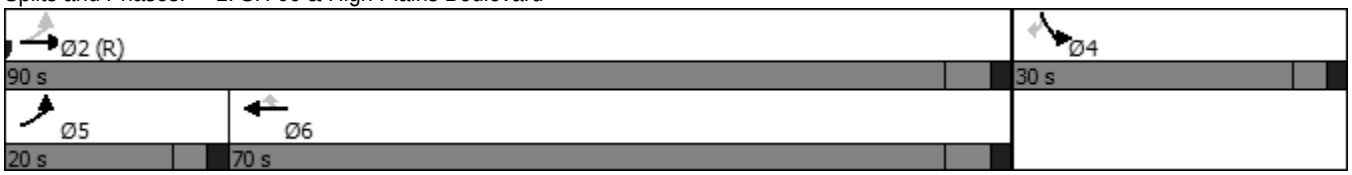
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	422	765	452	105	75	214
Future Volume (vph)	422	765	452	105	75	214
Satd. Flow (prot)	1770	1863	1863	1583	1770	1583
Flt Permitted	0.403				0.950	
Satd. Flow (perm)	751	1863	1863	1583	1770	1583
Satd. Flow (RTOR)				114		233
Lane Group Flow (vph)	459	832	491	114	82	233
Turn Type	pm+pt	NA	NA	Perm	Prot	Perm
Protected Phases	5	2	6		4	
Permitted Phases	2			6		4
Detector Phase	5	2	6	6	4	4
Switch Phase						
Minimum Initial (s)	5.0	5.0	5.0	5.0	5.0	5.0
Minimum Split (s)	10.0	25.0	25.0	25.0	25.0	25.0
Total Split (s)	20.0	90.0	70.0	70.0	30.0	30.0
Total Split (%)	16.7%	75.0%	58.3%	58.3%	25.0%	25.0%
Yellow Time (s)	3.0	4.0	4.0	4.0	3.0	3.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	6.0	6.0	6.0	5.0	5.0
Lead/Lag	Lead		Lag	Lag		
Lead-Lag Optimize?	Yes		Yes	Yes		
Recall Mode	None	C-Max	Max	Max	None	None
Act Effct Green (s)	99.1	98.1	79.6	79.6	10.9	10.9
Actuated g/C Ratio	0.83	0.82	0.66	0.66	0.09	0.09
v/c Ratio	0.63	0.55	0.40	0.10	0.51	0.66
Control Delay	6.8	5.5	11.5	2.1	62.4	15.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	6.8	5.5	11.5	2.1	62.4	15.6
LOS	A	A	B	A	E	B
Approach Delay		6.0	9.7		27.8	
Approach LOS		A	A		C	
Queue Length 50th (ft)	64	166	158	0	62	0
Queue Length 95th (ft)	118	293	285	24	111	75
Internal Link Dist (ft)		1097	1210		815	
Turn Bay Length (ft)	520			375		
Base Capacity (vph)	754	1523	1236	1088	368	514
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	0.61	0.55	0.40	0.10	0.22	0.45

Intersection Summary
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 10.1	Intersection LOS: B
Intersection Capacity Utilization 64.7%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 1: SH 60 & High Plains Boulevard



Intersection	
Int Delay, s/veh	1.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	86	2	300	123	2	169
Future Vol, veh/h	86	2	300	123	2	169
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	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	93	2	326	134	2	184

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	581	393	0	0	460	0
Stage 1	393	-	-	-	-	-
Stage 2	188	-	-	-	-	-
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	476	656	-	-	1101	-
Stage 1	682	-	-	-	-	-
Stage 2	844	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	475	656	-	-	1101	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	682	-	-	-	-	-
Stage 2	842	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.4	0	0.1
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	478	1101	-
HCM Lane V/C Ratio	-	-	0.2	0.002	-
HCM Control Delay (s)	-	-	14.4	8.3	0
HCM Lane LOS	-	-	B	A	A
HCM 95th %tile Q(veh)	-	-	0.7	0	-

Intersection	
Int Delay, s/veh	12.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	81	376	262	71	141	165
Future Vol, veh/h	81	376	262	71	141	165
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	88	409	285	77	153	179

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	362	0	-	0	909	324
Stage 1	-	-	-	-	324	-
Stage 2	-	-	-	-	585	-
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	1197	-	-	-	305	717
Stage 1	-	-	-	-	733	-
Stage 2	-	-	-	-	557	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1197	-	-	-	276	717
Mov Cap-2 Maneuver	-	-	-	-	276	-
Stage 1	-	-	-	-	663	-
Stage 2	-	-	-	-	557	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	41.2
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1197	-	-	-	413
HCM Lane V/C Ratio	0.074	-	-	-	0.805
HCM Control Delay (s)	8.2	0	-	-	41.2
HCM Lane LOS	A	A	-	-	E
HCM 95th %tile Q(veh)	0.2	-	-	-	7.2

Intersection	
Int Delay, s/veh	1.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	445	30	31	327	18	38
Future Vol, veh/h	445	30	31	327	18	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	-	-	-	-	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	484	33	34	355	20	41

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	517	0	924	501
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	423	-
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	-	-	1049	-	299	570
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	661	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1049	-	287	570
Mov Cap-2 Maneuver	-	-	-	-	287	-
Stage 1	-	-	-	-	609	-
Stage 2	-	-	-	-	635	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	433	-	-	1049	-
HCM Lane V/C Ratio	0.141	-	-	0.032	-
HCM Control Delay (s)	14.7	-	-	8.5	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.5	-	-	0.1	-

Intersection	
Int Delay, s/veh	6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	0	70	82	0	18	131	31	140	30	19	12
Future Vol, veh/h	7	0	70	82	0	18	131	31	140	30	19	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	-	-	200	-	-	200	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	8	0	76	89	0	20	142	34	152	33	21	13

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	498	564	28	450	418	34	34	0	0	186	0	0
Stage 1	94	94	-	318	318	-	-	-	-	-	-	-
Stage 2	404	470	-	132	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	483	435	1047	519	526	1039	1578	-	-	1388	-	-
Stage 1	913	817	-	693	654	-	-	-	-	-	-	-
Stage 2	623	560	-	871	812	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	433	386	1047	440	467	1039	1578	-	-	1388	-	-
Mov Cap-2 Maneuver	433	386	-	440	467	-	-	-	-	-	-	-
Stage 1	831	797	-	631	595	-	-	-	-	-	-	-
Stage 2	556	510	-	788	793	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	14	3.3	3.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	433	1047	440	1039	1388	-	-
HCM Lane V/C Ratio	0.09	-	-	0.018	0.073	0.203	0.019	0.023	-	-
HCM Control Delay (s)	7.5	-	-	13.5	8.7	15.2	8.5	7.7	0	-
HCM Lane LOS	A	-	-	B	A	C	A	A	A	-
HCM 95th %tile Q(veh)	0.3	-	-	0.1	0.2	0.7	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	405	78	31	312	46	18
Future Vol, veh/h	405	78	31	312	46	18
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	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	440	85	34	339	50	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	525	0	890	483
Stage 1	-	-	-	-	483	-
Stage 2	-	-	-	-	407	-
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	-	-	1042	-	313	584
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	672	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1042	-	300	584
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	620	-
Stage 2	-	-	-	-	645	-

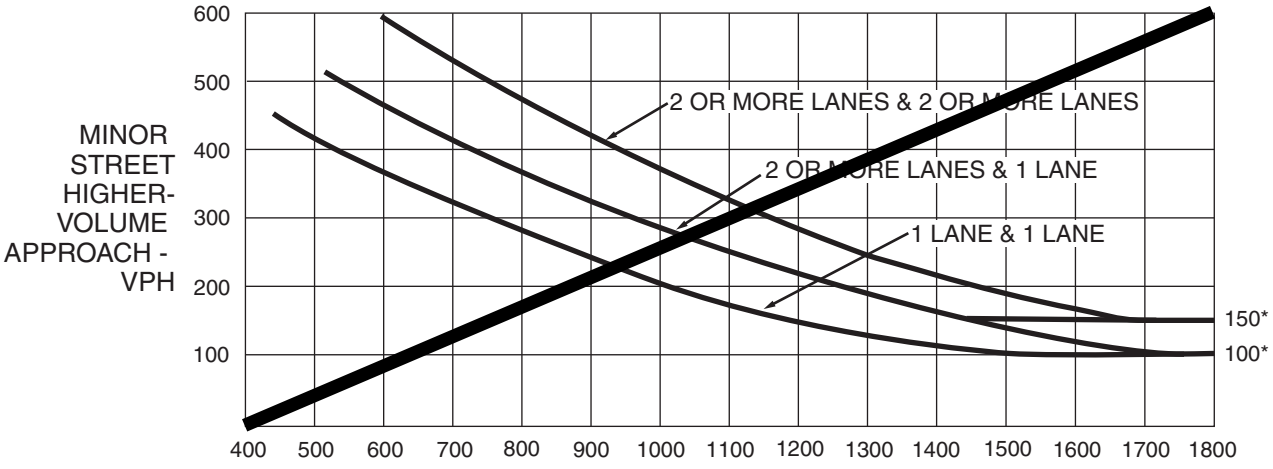
Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	17.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	348	-	-	1042	-
HCM Lane V/C Ratio	0.2	-	-	0.032	-
HCM Control Delay (s)	17.9	-	-	8.6	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	0.7	-	-	0.1	-

APPENDIX D

Warrant Analysis Forms

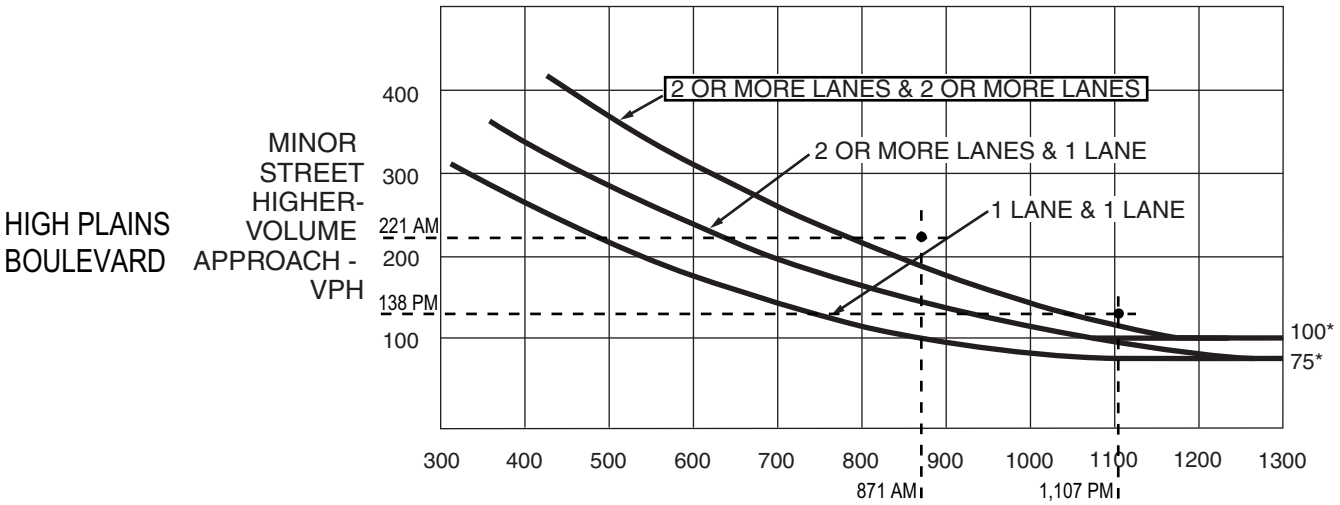
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

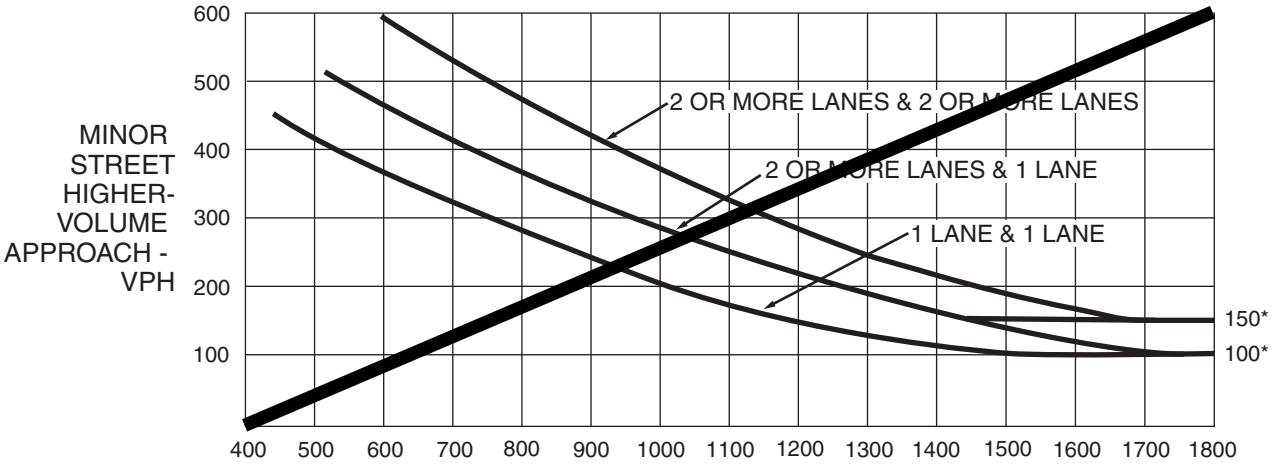
(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

STATE HIGHWAY 60 (55 MPH)

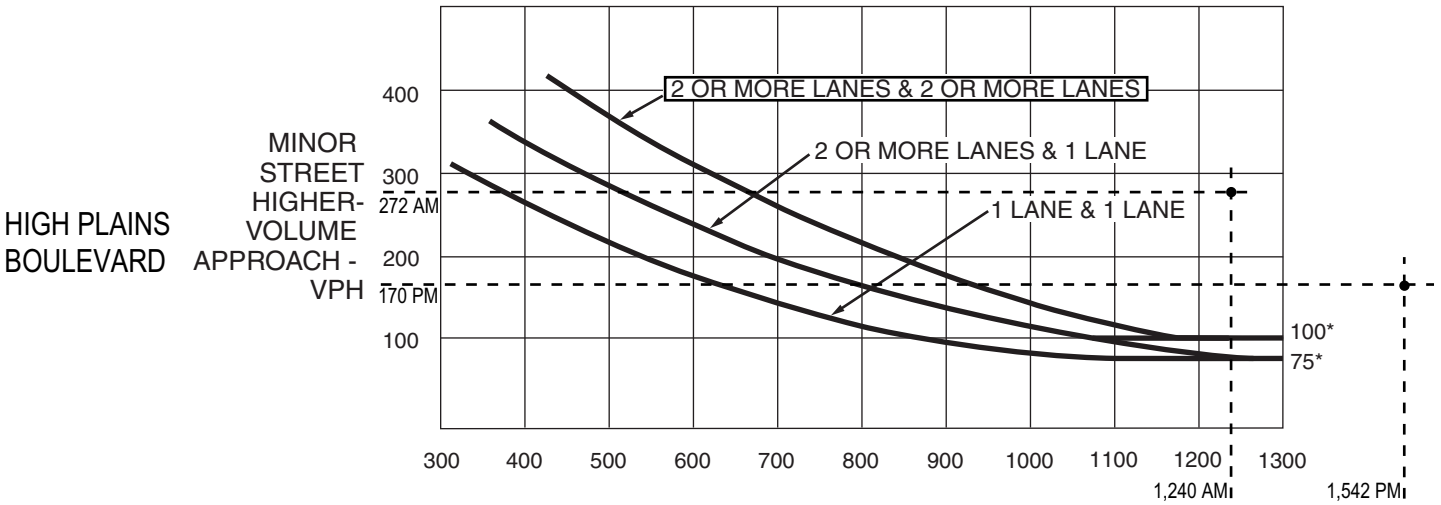
Figure 4C-3. Warrant 3, Peak Hour



*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

Figure 4C-4. Warrant 3, Peak Hour (70% Factor)

(COMMUNITY LESS THAN 10,000 POPULATION OR ABOVE 40 MPH ON MAJOR STREET)



*Note: 100 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 75 vph applies as the lower threshold volume for a minor-street approach with one lane.

STATE HIGHWAY 60 (55 MPH)

Town of Johnstown

Blue Sky Prairie

Preliminary Plat & Development Plan

Preliminary Plat & Development Plan (SUB23-0008)

Planning & Zoning Commission

October 18, 2023

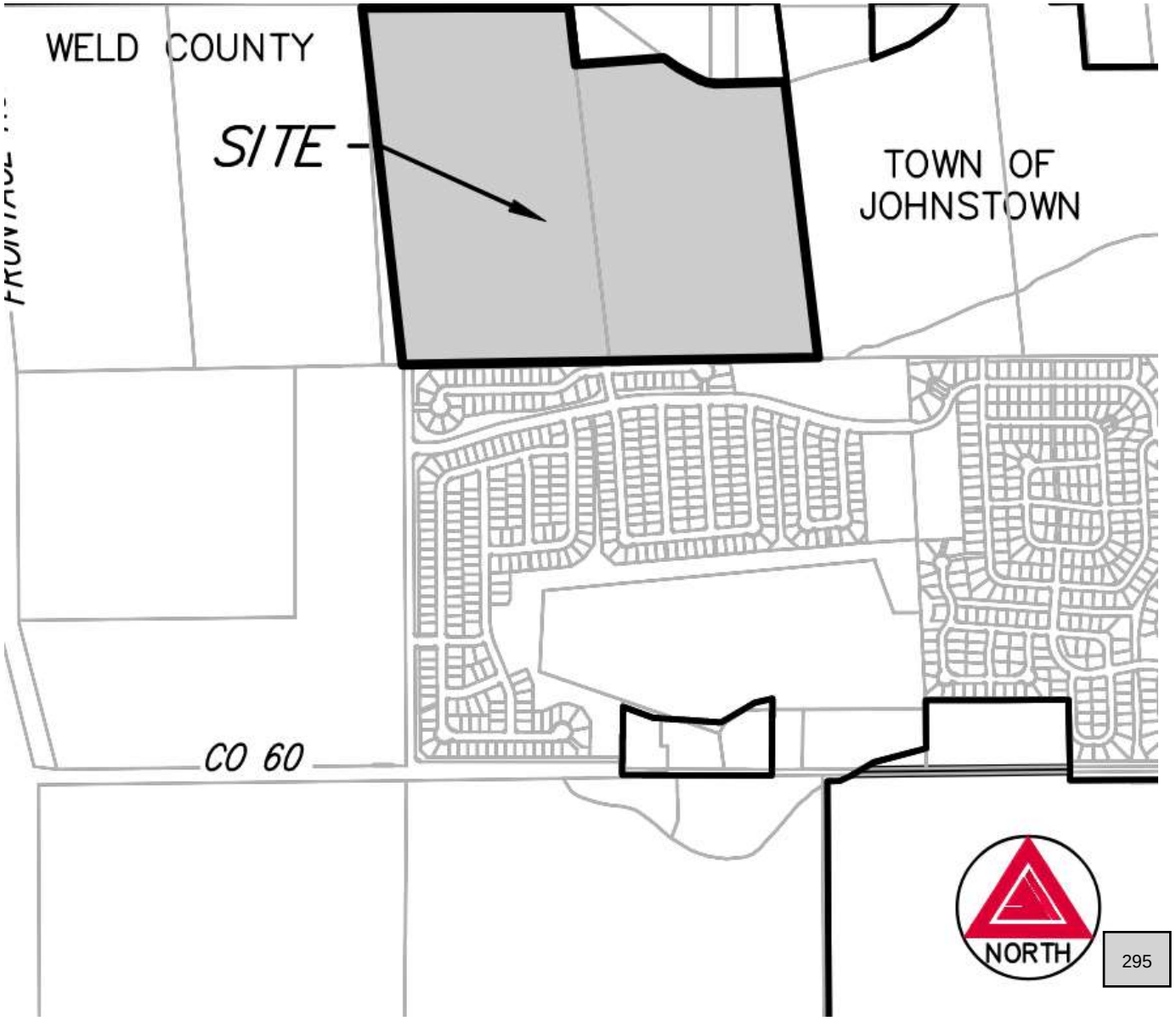
LOCATION & BACKGROUND

Location:

- Located South of Veteran's Parkway and East of High Plains Blvd
- Approx. 121 Acres

Background:

- 2004- Klein 125 Annexation
- 2023- High Plains Estates ODP ~ Amendment (Supersedes Klein PUD)



SUBDIVISION

- Estimated maximum ~ 413 lots
  - Mix of row homes, paired homes & clustered single- family
    - (3,000- 6,000 SF) lots
- Outlots will be maintained by the Metro District
- Unique walkways in subdivision to create an open feel to the neighborhood

DEVELOPMENT PLAN

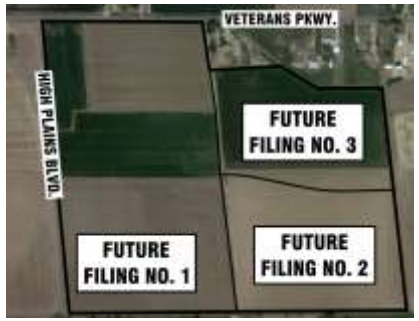
Community Amenities

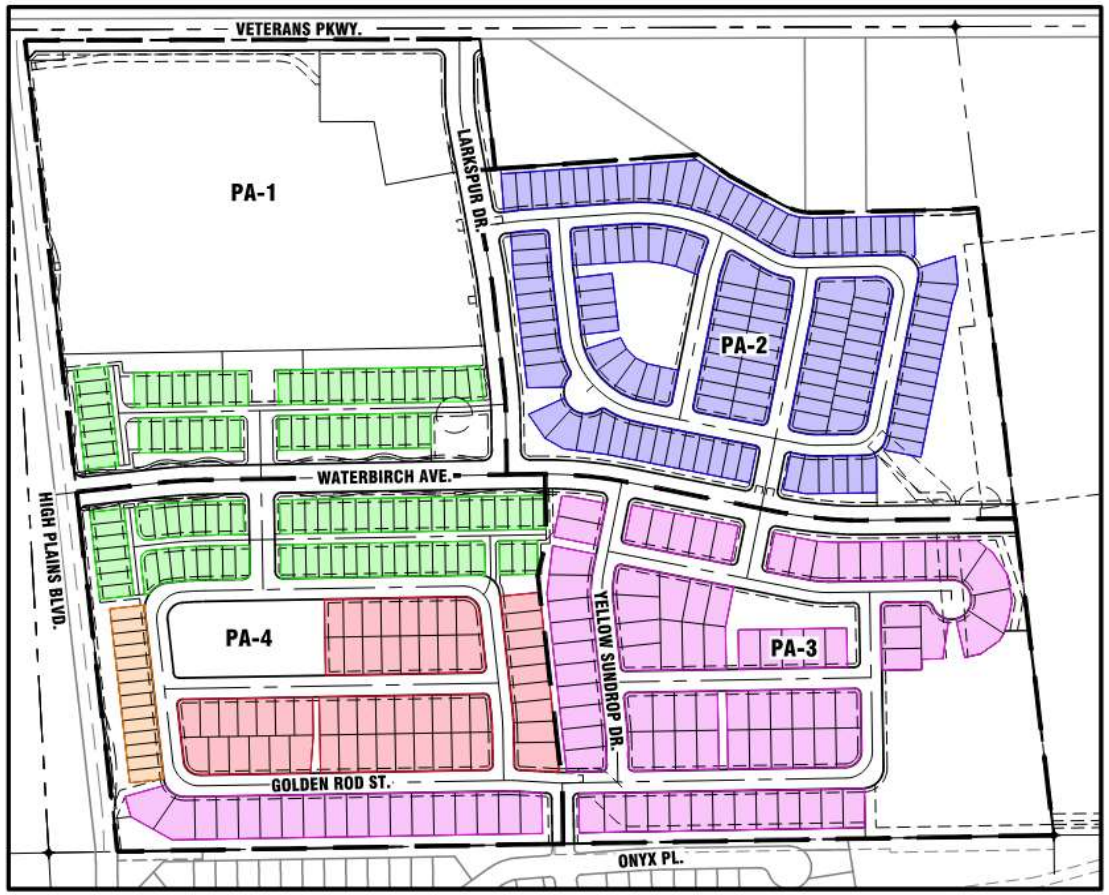
- Expanded Trail network that connects the outlots and pocket park/amenity center for the community along ROW, 3 pocket parks

Housing Diversity

HIGH PLAINS ESTATES –PRELIMINARY LOT MIX						
Typical Lot Frontage (Per ODP)	Lot Size	Home Type	Number of Dwelling units - Minimum	Number of Dwelling units - Maximum	Estimated Number of Dwelling Units	PDP Number of Dwelling Units
60-feet	6,000 SF and greater	SFD	50	120	94	116
50-feet	5,000 SF	SFD	70	120	107	67
40-feet	4,000 SF	SFD	80	150	131	100
35-feet	3,000 SF	SFD	50	150	121	130
SUBTOTAL						**413**

Phasing





60' SINGLE FAMILY DETACHED

50' SINGLE FAMILY DETACHED

40' SINGLE FAMILY DETACHED

35' REAR-LOAD SINGLE FAMILY DETACHED

35' FRONT-LOAD SINGLE FAMILY DETACHED

PLANNING AREA 1: 53 DU / 12.3 DEV. AC = 4.31 DU/AC

PLANNING AREA 2: 128 DU / 28.1 AC = 4.56 DU/AC

PLANNING AREA 3: 81 DU / 28.5 AC = 2.84 DU/AC

PLANNING AREA 4: 151 DU / 30.2 AC = 5.00 DU/AC

ANALYSIS & RECOMMENDATION

- Conforms to the High Plains Village Amended (ODP) .
- In substantial compliance with the Town's codes, regulations, and requirements
- Promotes the Towns goals of diversity of housing types, unique neighborhood creation, and an efficient pattern of development.
- Staff Recommendation for Approval

Town of Johnstown

PLANNING & ZONING COMMISSION
AGENDA MEMORANDUM

ITEM:	**Massey Square Change of Zone** from PUD-B to MU-NC **(ZON23-0001)**
DESCRIPTION:	Change of zone for 21.1 acres within the Johnstown Village P.U.D. from PUD-B (Commercial/Office) to MU-NC (Neighborhood Commercial)
LOCATION:	SE corner of Highway 60 and WCR 13/Colorado Blvd.
APPLICANT:	Massey Farms, LLLP
STAFF:	Tony LeFevre, Planner I
HEARING DATE:	November 1, 2023

ATTACHMENTS

1- Vicinity Map
2- Zoning Map

BACKGROUND AND SUMMARY

The applicant/owner, Massey Farms LLLP, request a change of zoning for approximately 21.2 acres of land, located east of WCR 13/Colorado Blvd. and south of Highway 60.

The subject property was annexed into the Town in 2006 as part of Massey Farms 141 Annexation and was zoned PUD-MU, with a designated land use of Commercial/Office over most of the current acreage. The subject property was part of the 2019 Johnstown Village P.U.D. Amendment 1 Final Development Plan where it maintained a Commercial land use designation. Historically, the property has been used for agricultural use.

SURROUNDING ZONING & LAND USE

North:	PUD– Commercial/Retail (Purvis PUD) and Unincorporated Weld County
East:	PUD-R – Johnstown Village Filing 3 (Johnstown Village Townhomes)
South:	PUD-R – Johnstown Village Filing 2 (Pintail Commons Duplexes)
West:	PUD-MU – Clearview PUD Commercial/Retail- undeveloped

PUBLIC NOTICE AND AGENCY REFERRALS

Notice for the Planning and Zoning Commission hearing was published in the local paper of widest circulation, the Johnstown Breeze, on Thursday, October 26, 2023. This notice provided the date, time, and location of the Planning and Zoning Commission hearing, as well as a description of the project.

Notices were mailed to all property owners within 800 feet of the property in questions. This notice included a map of the proposed zoning changes.

Based upon the changes proposed, this land use designation amendment did not warrant a full referral review by the Johnstown Review Committee (JRC). Submitted documents were provided to the JRC for a preliminary evaluation. No concerns or comments by the JRC were noted.

NEIGHBORHOOD MEETING

No neighborhood meeting was held for this requested zoning change as the MU-NC zone provides a similar range of uses to the PUD-B zoning in the original Johnstown Village PUD. The Town will hold neighborhood meetings for the surrounding property owners with the future development plans, when more detailed uses and plans are known.

STAFF ANALYSIS

This property is located along a main activity corridor for the Town, with expectations of medium intensity and development. Both Highway 60 and Colorado Blvd. are major arterials and updates to existing roadway infrastructure are planned to accommodate this level of development, with right of way dedications and road improvements for this and surrounding properties. The zone change to MU-NC allows for the Town and developers to work off of the updated 2023 Town of Johnstown Land Use Code, and this Neighborhood Commercial designation is compatible with the Comprehensive Plan.

RECOMMENDED PLANNING AND ZONING COMMISSION FINDINGS AND MOTIONS

It is recommended that Planning and Zoning Commission send a positive recommendation to Town Council that the requested zoning of MU-NC for Massey Square be approved based upon the finding that the proposed zoning will allow appropriate levels of development to occur in alignment with the Town's Comprehensive Plan.

Recommended Motion

Based on the application materials received and analysis and presentation at the hearing, the Planning & Zoning Commission finds that the request for MU-NC for Massey Square furthers the Johnstown Area Comprehensive Plan, and is compatible with surrounding neighborhoods, and therefore moves to recommend to the Town Council approval of the request for PUD-MU zoning for this area based upon the finding as stated above.

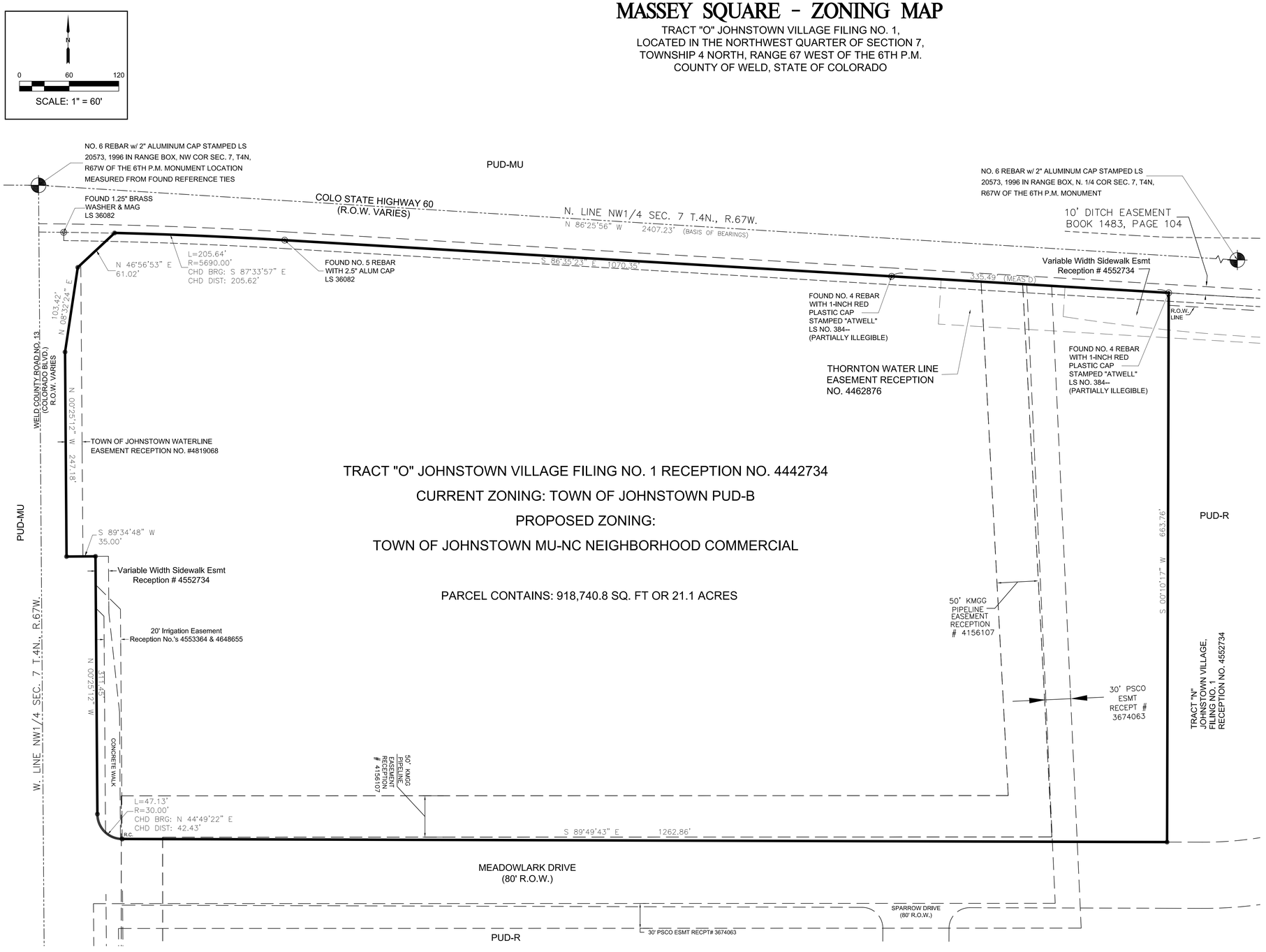
Alternate Motions

Motion to Deny: "I move that the Commission recommend to the Town Council denial of the MU-NC zoning for Massey Square based upon the following…"


Purvis Farms
Podtburg
Massey Square
Clearview
Johnstown Village Residential
Dunbar Way
Ballentine Blvd
Glenkov Dr
Holden Ln
Podtburg Cir
Crestview Dr
Rolling Hills Pkwy
Overland Dr
Parkwood Dr
60
Carlson Blvd
Bayberry Ln
Colorado Blvd
Meadowlark Dr
Osprey Wy
Bufflehead Wy
Sparrow Dr
Raven Ln
Bluebird Rd
Wren Dr
Siskin Wy
Sycamore Ave
Hawthorne Ave
Buckeye Ave
Basswood Ave
Alder Ave
Silverbell Dr
Tamarac Ln
Juniper St
Hickory Ln
Woodbine Ln
Willow Ln
North Dr

MASSEY SQUARE - ZONING MAP

TRACT "O" JOHNSTOWN VILLAGE FILING NO. 1,
LOCATED IN THE NORTHWEST QUARTER OF SECTION 7,
TOWNSHIP 4 NORTH, RANGE 67 WEST OF THE 6TH P.M.
COUNTY OF WELD, STATE OF COLORADO



TRACT "O" JOHNSTOWN VILLAGE FILING NO. 1 RECEPTION NO. 4442734

CURRENT ZONING: TOWN OF JOHNSTOWN PUD-B

PROPOSED ZONING:

TOWN OF JOHNSTOWN MU-NC NEIGHBORHOOD COMMERCIAL

PARCEL CONTAINS: 918,740.8 SQ. FT OR 21.1 ACRES

LEGAL DESCRIPTION:

TRACT "O" JOHNSTOWN VILLAGE
FILING NO. 1, RECORDED 12/23/2019
AS RECEPTION NO. 4552734

NOTES:

1.) THIS ZONING MAP IS NOT A LAND SURVEY PLAT OR AN IMPROVEMENT SURVEY PLAT.

2) THIS ZONING MAP AND THE INFORMATION HEREON, MAY NOT BE USED FOR ANY ADDITIONAL OR EXTENDED PURPOSE BEYOND THAT FOR WHICH IT WAS INTENDED.

3.) STEWART TITLE GUARANTY COMPANY TITLE COMMITMENT NO. 23000310077 DATED FEBRUARY 16, 2023 AT 5:30 PM WAS USED EXCLUSIVELY FOR THE RESEARCH OF EASEMENTS, RIGHTS-OF-WAY AND ENCUMBRANCES AFFECTING THE SUBJECT PROPERTY, TRACT "O" JOHNSTOWN VILLAGE, FILING NO. 1.

4.) DIMENSIONS ARE SHOWN HEREON ARE IN U.S. SURVEY FEET.

6.) FIELD SURVEY CONDUCTED DEC 2022 THROUGH FEBRUARY, 2023.

7.) BASIS OF BEARINGS: THE NORTH LINE OF THE NORTHWEST QUARTER OF SECTION 7, TOWNSHIP 4 NORTH, RANGE 67 WEST OF THE 6TH PRINCIPAL MERIDIAN BEARS NORTH 86 DEGREES, 25 MINUTES, 56 SECONDS EAST BETWEEN A FOUND 2-INCH DIAMETER ALUMINUM CAP STAMPED LS 23500 IN RANGE BOX AT THE NORTHWEST QUARTER OF SECTION 7 AND AND A FOUND 2.5-INCH DIAMETER ALUMINUM CAP STAMPED 20673 AT THE NORTH QUARTER CORNER OF SECTION 7.

8.) PARCEL CONTAINS: 918,740.8 SQUARE FEET OR 21.1 ACRES MORE OR LESS.

TOWN COUNCIL APPROVAL:

THIS MAP TO BE KNOW AS _____ IS APPROVED AND ACCEPTED TO THE TOWN OF JOHNSTOWN, COLORADO BY ORDINANCE NUMBER _____ PASSED AND ADOPTED ON FINAL READING AT A REGULAR MEETING OF THE TOWN COUNCIL OF THE TOWN OF JOHNSTOWN, COLORADO, HELD ON THE ____ DAY OF _____, ____.

BY:_____ MAYOR

ATTEST:_____ TOWN CLERK

SURVEYORS STATEMENT:

I, ROBERT A. RICKARD, A COLORADO LICENSED PROFESSIONAL LAND SURVEYOR DO HEREBY STATE THAT THIS ZONING MAP IS AN ACCURATE REPRESENTATION OF THE PROPERTY TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF.

NOTICE: ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT, IN NO EVENT, MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON.

COLORADO LICENSED ROBERT A. RICKARD PLS 28283 PROFESSIONAL LAND SURVEYOR 08-31-23

ROBERT A. RICKARD, PLS NO. 28283
FOR AND ON BEHALF OF
ROCK CREEK SURVEYING, LLC

ZONING MAP TRACT "O" JOHNSTOWN VILLAGE, FILING NO. 1	REVISIONS	ROCK CREEK SURVEYING, LLC. 3021 GARDENIA WAY SUPERIOR, CO 80027 303-521-7376	DRAWN: RAR FIELD DATES: DEC, 2022 – FEB, 2023		SCALE: 1" = 60' DATE: AUGUST 31, 2023

Town of Johnstown

PLANNING & ZONING COMMISSION
AGENDA MEMORANDUM

ITEM:	**Vista Commons Change of Zone** from PUD-MU to MU-RC & R3 **(ZON23-0002)**
DESCRIPTION:	Change of zone for 147.4 acres from the Vista Commons P.U.D. from PUD-MU (Commercial/Industrial) to MU-RC (Regional Commercial) and R3 (Residential)
LOCATION:	NW corner of Highway 60 and High Plains Blvd.
APPLICANT:	I-25 Johnstown Partners, LLC
STAFF:	Tony LeFevre, Planner I
HEARING DATE:	November 1, 2023

ATTACHMENTS

1- Vicinity Map
2- Zoning Map

BACKGROUND AND SUMMARY

The applicant I-25 Johnstown Partners, LLC is requesting a change of zoning for approximately 147.4 acres of land, located west of High Plains Blvd. and north of Highway 60.

The subject property was annexed into the Town in 2000 as the Pratt Technology Campus and was zoned PUD-MU, with a designated land use of Commercial & Industrial over the acreage. Historically, the property has been used for agricultural use.

SURROUNDING ZONING & LAND USE

North:	PUD-MU Great Plains Village – Residential and Mixed Use/Employment (Revere)
East:	R1 – Roxbury Ridge Residential
South:	PUD-MU – Ledge Rock Center
West:	PUD-MU – I-25 Gateway Center (Retail/Commercial/Light Industrial)

PUBLIC NOTICE AND AGENCY REFERRALS

Notice for the Planning and Zoning Commission hearing was published in the local paper of widest circulation, the Johnstown Breeze, on Thursday, October 5, 2023. This notice provided the date, time, and location of the Planning and Zoning Commission hearing, as well as a description of the project. Notices were mailed to all property owners within 800 feet of the property in questions. This notice included a map of the proposed zoning changes.

Based upon the changes proposed, this land use designation amendment did not warrant a full referral review by the Johnstown Review Committee (JRC). Submitted documents were provided to the JRC for a preliminary evaluation. No concerns or comments by the JRC were noted specifically related to the change of zoning of the subject property.

NEIGHBORHOOD MEETING

A neighborhood meeting was held October 2nd, 2023 for this requested zoning change due to the change of zoning from PUD-MU (Commercial and Industrial) to R3 (Residential) and MU-RC (Regional Commercial). The Town mailed notices to all property owners within 800 feet of the subject property. Any comments from the meeting or received by the staff will be shared with the Planning and Zoning Commission on the hearing date.

STAFF ANALYSIS

This property is located along a main activity corridor for the Town, with expectations of medium to high intensity and development. Updates to existing roadway infrastructure are planned to accommodate this level of development along both Hwy 60 and High Plains Blvd, with right of way dedications and road improvements for this and surrounding properties. The zone change to MU-RC and R-3 allows for the Town and developers to work off of the updated 2023 Town of Johnstown Land Use Code. The MU-RC (Regional Commercial) zoning is in alignment with the high density/intensity areas of the Town of Johnstown Comprehensive Use Plan on the western and southern sides of the subject property. The R3 zoning to the north and east is in alignment with the medium density/intensity areas of the Town of Johnstown Comprehensive Use Plan and provides a transition from lower density residential areas to the north and east.

RECOMMENDED PLANNING AND ZONING COMMISSION FINDINGS AND MOTIONS

It is recommended that Planning and Zoning Commission send a positive recommendation to Town Council that the requested zoning of MU-RC and R3 for Vista Commons be approved based upon the finding that the proposed zoning will allow appropriate levels of development to occur in alignment with the Town's Comprehensive Plan.

Recommended Motion

Based on the application materials received and analysis and presentation at the hearing, the Planning & Zoning Commission finds that the request for MU-RC and R3 zoning for Vista Commons furthers the Johnstown Area Comprehensive Plan, and is compatible with surrounding neighborhoods, and therefore moves to recommend to the Town Council approval of the request for MU-RC and R3 zoning for this area based upon the finding as stated above.

Alternate Motions

Motion to Deny: "I move that the Commission recommend to the Town Council denial of the MU-RC and R3 zoning for Vista Commons based upon the following…"


Vista Commons
Revere
Gateway
Roxbury Ridge
Ledge Rock
Johnstown Reservoir
Longs Peak Rd
Gateway Dr
Gateway Cir
Mountain View Dr
Commerce Rd
Baseline Dr
Goldflower Dr
Sugar Beet St
Onyx Pl
Juniper St
Redrock Ln
River Rock Dr
Gypsum Ln
Boulder Ln
Fossil Dr
Flagstone Dr
High Plains Rd
Sandstone Dr
Alabaster Way
25
60
Rd 48
Google Earth

VISTA COMMONS ZONING MAP

TOWN OF JOHNSTOWN, COLORADO

Situate in the Southwest Quarter of Section 2, Township 4 North, Range 68 West of the 6th P.M.

Town of Johnstown, County of Weld, State of Colorado

147.386 acres

PROPERTY DESCRIPTION

PARCEL I:
The Southwest Quarter of Section 2, Township 4 North, Range 68 West of the 6 th P.M., Weld County, Colorado, EXCEPT the following described portions:
1.) That portion deeded to Weld County by Deed recorded April 8, 1933 in Book 945 at Page 266 described as follows:
All of the North 16 ½ feet of the South 46 ½ feet of the Southwest Quarter of Section 2, Township 4 North, Range 68 West of the 6th P.M., Weld County, Colorado.
2.) That portion deeded to Weld County by Deed recorded October 1, 1941 in Book 1084 at Page 305 described as follows:
A tract or parcel of land for Highway Right of Way, in the Southwest Quarter of Section 2, Township 4 North, Range 68 West of the 6th P.M., Weld County, Colorado, and said tract of land or parcel being more particularly described as follows:
Beginning at the Southwest corner of said Section 2, Township 4 North, Range 68 West;
Thence North 00° 12 ½' West, a distance of 2,639.7 feet;
Thence North 89° 32 ½' East, a distance of 43.1 feet;
Thence Southerly, on a curve to the right, whose radius is 5,780.00 feet (the chord of which bears South 01° 36 ½' East a distance of 283.00 feet), for a distance of 283.00 feet;
Thence 50 feet Easterly of, normally distant from and parallel with the centerline of project, South 00° 12 ½' East, a distance of 2,357.4 feet;
Thence North 89°42 ½' West, a distance of 50.0 feet, more or less, to the Point of Beginning.
3.) That portion deeded to the Department of Highways, State of Colorado by Deed recorded May 10, 1957 in Book 1477 at Page 386 being described as follows:
A tract or parcel of Land, No. 1 of Grantee's Project S 0053 (1) in the South half of the Southwest Quarter of Section 2, Township 4 North, Range 68 West; said tract or parcel being more particularly described as follows:
Beginning at a point on the existing East right of way of U.S. Highway No. 87 from which point the Southwest corner of Section 2, Township 4 North, Range 68 West of the 6th P.M., bears South 20°42'30" West a distance of 139.9 feet;
1.) Thence South 45°27'30" East, a distance of 70.4 feet;
2.) Thence North 89°18'30" East, a distance of 2339.1 feet;
3.) Thence along the arc of a curve to the right, having a radius of 5,780.0 feet, a distance of 124.4 feet;
4.) Thence South 89~27'30" East, a distance of 84.1 feet to a point on the East line of the Southwest Quarter of Section 2;
5.) Thence along the East line of the Southwest Quarter of Section 2, South 00°05'30" West, a distance of 91.2 feet to the Southwest corner of the Southwest Quarter of Section 2;
6.) Thence along the South line of the Southwest Quarter of Section 2, South 89°36'30" West, a distance of 2647.1 feet to the Southwest corner of Section 2;
7.) Thence along the West line of the Southwest Quarter of Section 2, North 00°13'30" West, a distance of 130.3 feet;
8.) Thence North 89°18'30" East, a distance of 50.0 feet, more or less, to the Point of Beginning.
4.) That portion deeded to the Department of Highways, State of Colorado, by Deed recorded November 7, 1960 in Book 1570 at Page 618 described as follows:
A tract or parcel of Land, No. 20 of Grantee's Project No. I 25-3 (16) 251, in the Southwest Quarter of the Southwest Quarter of Section 2, Township 4 North, Range 68 West of the 6th P.M., in Weld County, Colorado said tract or parcel being more particularly defined as follows:
Beginning at a point on the South line of Section 2, Township 4 North, Range 68 West; from which the Southwest corner of Section 2 bears North 89°43'30" West, a distance of 880.0 feet;
1.) Thence North 89°43'30" West, along the South line of Section 2, a distance of 880.0 feet to the Southwest corner of Section 2;
2.) Thence North 0°13'30" West, along the South line of Section 2, a distance of 1,038.1 feet;
3.) Thence North 89°46'30" East, a distance of 50.0 feet;
4.) Thence South 14°08'30" East, a distance of 956.3 feet;
5.) Thence South 82°40'30" East, a distance of 605.2 feet to the North right of way of a County Road;
6.) Thence South 0°13'30" East, a distance of 38.00 feet, more or less, to the Point of Beginning.
EXCEPTING THEREFROM the following described property:
Part of the Southwest ¼ of Section 2, Township 4 North, Range 68 West of the 6th P.M., Weld County, Colorado, described as follows:
Commencing at the South ¼ corner of said Section 2 from whence the center ¼ corner of said Section 2 bears North 00°02'49" West, 2651.92 feet;
Thence North 00°02'49" West, 94.33 feet along the East line of the said SW ¼, to its intersection with the North right of way line of State Highway No. 60, the Point of Beginning;
Thence Westerly and Northwesterly along the North and Northeasterly right of way line of said State Highway No. 60, as follows:
North 89°25'51" West, 85.37 feet, along the arc of a 5780.0 foot radius curve to the left, 124.42 feet (chord bears South 89°57'09" West, 124.42 feet);
South 89°20'09" West, 2012.53 feet;
North 82°19'35" West, 146.88 feet and
North 14°07'02" West, 955.37 feet;
Thence departing from said right of way line North 89°20'09" East, 1897.03 feet;
Thence North 00°02'49" West, 1603.78 feet parallel with the East line of said SW ¼ to a point on the North line of the said SW ¼;
Thence North 89°19'34" East, 703.13 feet along the North line of the said SW ¼ to the NE corner of the said SW ¼ (the center ¼ corner of said Section 2);
Thence South 00°02'49" East, 2557.59 feet along the East line of the said SW ¼ to the Point of Beginning.
FURTHER EXCEPTING THEREFROM any portion that may lie within the above as to parcel shown in deed to the Colorado Department of Transportation recorded November 19, 2021 at Reception No. 4778141.
PARCEL II:
Part of the Southwest ¼ of Section 2, Township 4 North, Range 68 West of the 6th P.M., Weld County, Colorado, described as follows:
Commencing at the South ¼ corner of said Section 2 from whence the center ¼ corner of said Section 2 bears North 00°02'49" West, 2651.92 feet;
Thence North 00°02'49" West, 94.33 feet along the East line of the said SW ¼, to its intersection with the North right of way line of State Highway No. 60, the Point of Beginning;
Thence Westerly and Northwesterly along the North and Northeasterly right of way line of said State Highway 60, as follows:
North 89°25'51" West, 85.37 feet, along the arc of a 5780.00 foot radius curve to the left, 124.42 feet (chord bears South 89°57'09" West 124.42 feet);
South 89°20'09" West, 2012.53 feet;
North 82°19'35" West, 146.88 feet and
North 14°07'02" West, 955.37 feet;
Thence departing from said right of way line North 89°20'09" East, 1987.03 feet;
Thence North 00°02'49" West, 1603.78 feet parallel with the East line of said SW ¼ to a point on the North line of said SW ¼;
Thence North 89°19'34" East, 703.13 feet along the North line of the said SW ¼, to the NE corner of the said SW ¼ (the center ¼ corner of said Section 2);
Thence South 00°02'49" East, 2557.59 feet along the East line of said SW ¼ to the Point of Beginning,
EXCEPTING THEREFROM that parcel of land conveyed in Deed from Pratt Management Company, LLC to State of Colorado, Department of Transportation of the City and County of Denver recorded April 9, 2001 as Reception No. 2838884.
FURTHER EXCEPTING THEREFROM any portion that may lie within the above as to parcel shown in deed to the Colorado Department of Transportation recorded November 19, 2021 at Reception No. 4778141.
All in the County of Weld,
State of Colorado

Said parcel contains 6,420,131 Square Feet or 147.386 Acres more or less by this survey.

SURVEYOR'S CERTIFICATE

I, Steven Parks, a Colorado Licensed Professional Land Surveyor, do hereby state that this Zoning Map is an accurate representation of the property to the best of my knowledge, information, belief, and in my professional opinion. I further state that this certificate does not extend to any unnamed parties or the successors and/or assigns.

PRELIMINARY

____
Steven Parks - On Behalf of Majestic Surveying, LLC
Colorado Licensed Professional Land Surveyor #38348

OWNER: i-25 Johnstown Partners LLC, a Colorado limited liability company

By:______________________________ As:______________________________

Witness my hand and seal this ______ day of ___________, 20 ___.

NOTARIAL CERTIFICATE

STATE OF COLORADO)
ss
COUNTY OF WELD)
The foregoing instrument was acknowledged before me by ____________________ as ____________________this _____ day of ___________, 20___.

Witness my Hand and Official Seal.

My commission expires: ________________.

LIENHOLDERS

By:______________________________ As:______________________________

Witness my hand and seal this ______ day of ___________, 20 ___.

NOTARIAL CERTIFICATE

STATE OF COLORADO)
ss
COUNTY OF WELD)
The foregoing instrument was acknowledged before me by ____________________ as ____________________this _____ day of ___________, 20___.

Witness my Hand and Official Seal.

My commission expires: ________________.

TOWN COUNCIL APPROVAL

This Map to be known as NORTH RIDGE ZONING MAP is approved and accepted to the Town of Johnstown, Colorado by Ordinance Number ____________________, passed and adopted on final reading at a regular meeting of the Town Council of the Town of Johnstown, Colorado held on the _____ day of ____________________, 20___.

__________ ____________________
Mayor

Attest:______________________________
Town Clerk

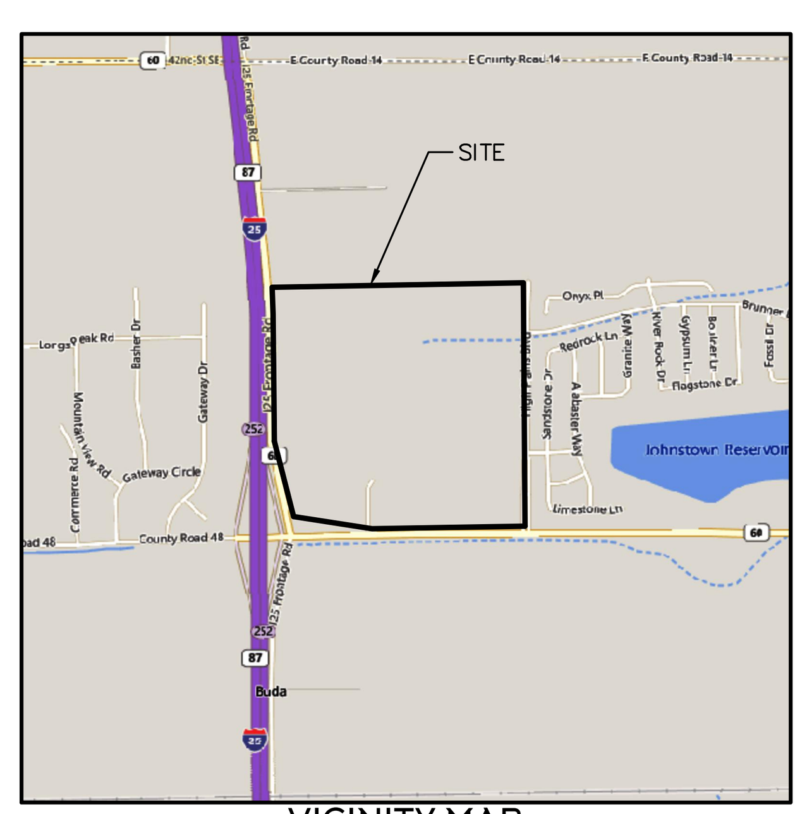
BASIS OF BEARINGS AND LINEAL UNIT DEFINITION

Assuming the South line of the Southwest Quarter of Section 2, Township 4 North, Range 68 West of the 6th P.M., monumented as shown on this plat, as bearing South 89°13'50" West, a distance of 1320.19 feet and with all other bearings contained herein relative thereto.

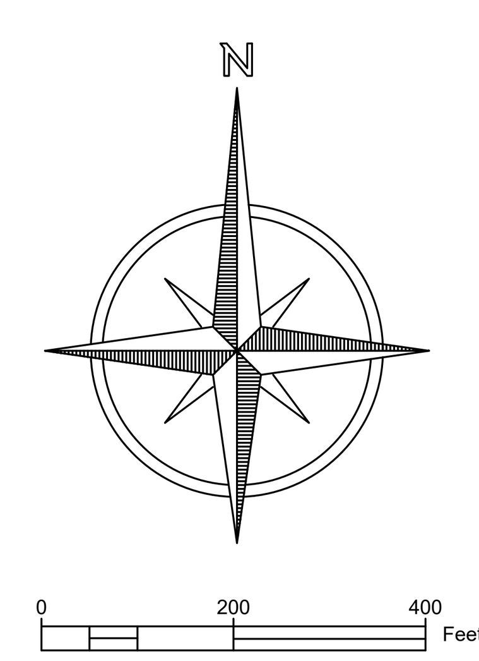
The lineal dimensions as contained herein are based upon the "U.S. Survey Foot."

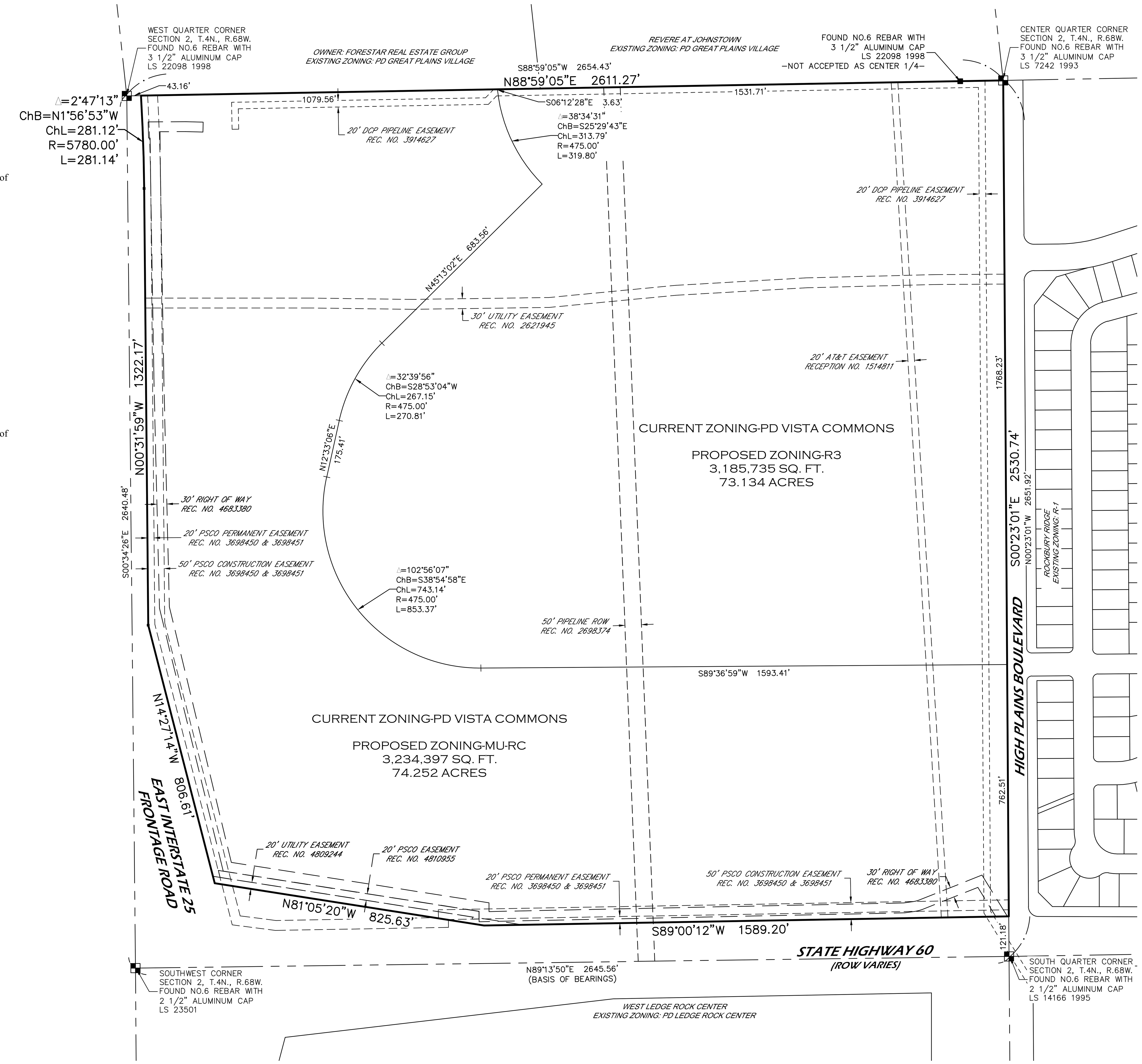
TITLE COMMITMENT NOTE

For all information regarding easements, rights-of-way and title of records, Majestic Surveying, LLC relied upon Title Commitment Number 100-N0034108-030-TH, Amendment No. 3, dated June 6, 2023, as prepared by North American Title Company of Colorado to delineate the aforesaid information. This survey does not constitute a title search by Majestic Surveying, LLC to determine ownership or easements of record.



VICINITY MAP
SCALE: 1" = 2000'





NOTICE

According to Colorado law you must commence any legal action based upon any defect in this survey within three years after you first discover such defect. In no event may any action based upon any defect in this survey be commenced more than ten years from the date of the certification shown hereon. (13-80-105 C.R.S. 2012)

MAJESTIC SURVEYING
MAJESTIC SURVEYING, LLC 1111 DIAMOND VALLEY DRIVE #104, WINDSOR, CO 80550

PROJECT NO: 2023319	PROJECT NAME: VISTA COMMONS	REVISIONS:	DATE:	1
DATE: 9-1-2023	CLIENT: I-25 JOHNSTOWN PARTNERS	REDLINES	9-25-23	
DRAWN BY: SIP	FILE NAME: 2023319ZONE			
CHECKED BY: SIP	SCALE: 1" = 200'			SHEET 1 OF 1

Item 5.