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To: Planning
Johnstown, CO

From: Brian Horan, P.E., PTOE
Galloway

Date: March 8, 2024

Re: Estates at Encore – Johnstown, CO
Traffic Conformance

COLORADO LICENSED
BRIAN J. HORAN
0053042
3-8-24
PROFESSIONAL ENGINEER

INTRODUCTION

This memorandum provides the results of a traffic conformance analysis performed in support of a Preliminary Development Plan (PDP) and Preliminary Plat application in the Town of Johnstown, Colorado. The subject project is referred to as the Estates at Encore and is the northwest corner of the overall Encore development. The Encore project is located north of Highway 34, west of Colorado Boulevard, and east of High Plains Boulevard. The overall Encore development site is shown below as Figure 1. The Estates at Encore project is Zone 1 within the overall development, as shown in Figure 1 below.

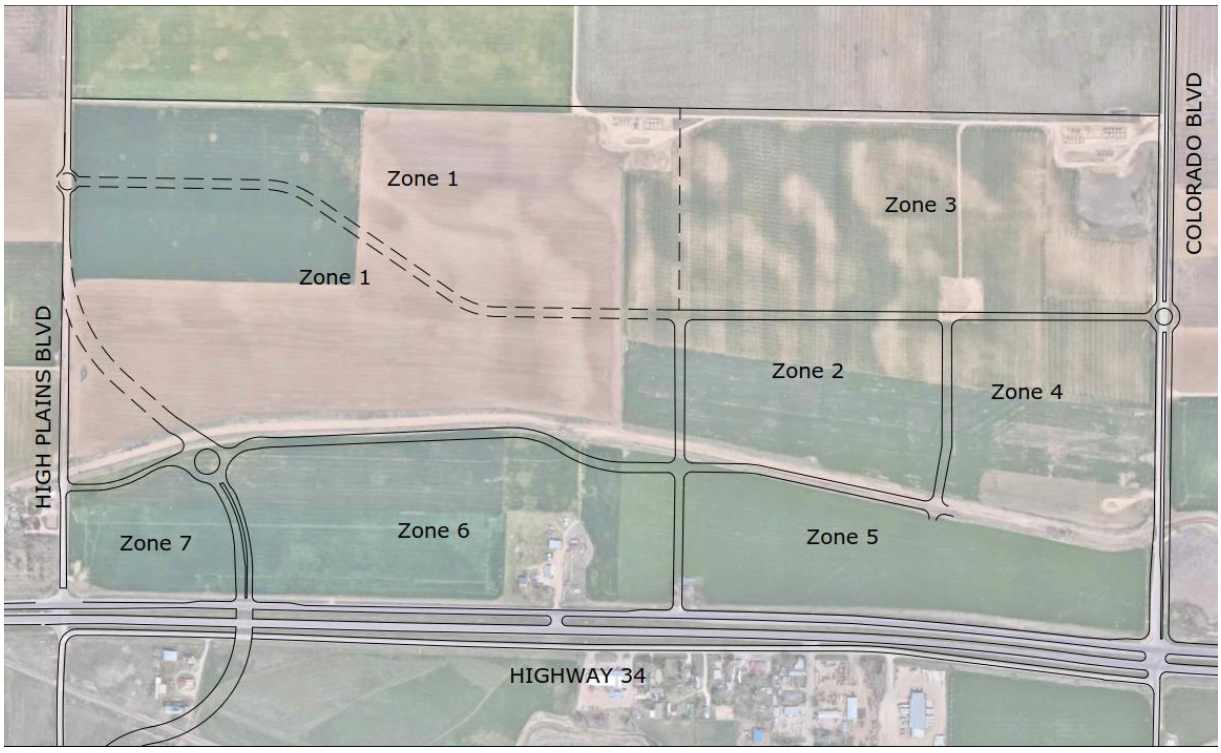


Figure 1 – Site Location

The purpose of this memorandum is to compare the proposed Estates at Encore development program to the approved development program analyzed in the master traffic study (MTS) and confirm that the proposed residential units will be supported by the existing and proposed infrastructure as determined by the MTS.

BACKGROUND

The overall Encore development was supported by the Encore MTS, prepared by Horrocks and dated November 2023. The MTS contemplated the overall development to consist of seven zones with the following development program:

- Zone 1
  - Single Family Detached: 464 Dwelling Units (DU)
  - Multifamily Housing: 491 DU
- Zone 2
  - Multifamily Housing: 450 DU
- Zone 3
  - High School: 800 Students
- Zone 4
  - Industrial: 114,000 Square Feet (SF)
- Zone 5
  - Industrial: 152,000 SF
  - Shopping Center: 38,000 SF
- Zone 6
  - Industrial: 111,000 SF
  - Shopping Center: 111,000 SF
- Zone 7
  - Shopping Center: 51,000 SF

The MTS provided a number of recommendations to support the overall proposed development. These improvements included the construction of new internal roadways and auxiliary lanes at access points as well as Colorado Department of Transportation (CDOT) improvements along Highway 34 including the High Plains Boulevard relocation interchange project.

The Estates at Encore will occupy Zone 1 of the overall Encore development as shown in Figure 2. Although Zone 1 was contemplated in the second phase of the MTS, with this application the proposed residential units in Zone 1 will be built as an initial phase of the overall Encore development.

A review of the Road Sections Exhibit, shown as Attachment I, indicates that CDOT's High Plains Boulevard relocation north of Highway 34 will be completed as a background conditions improvement in the MTS, and the internal infrastructure along with the site access to Highway 34 and High Plains Boulevard will be built by the Applicant, as shown in Attachment I.

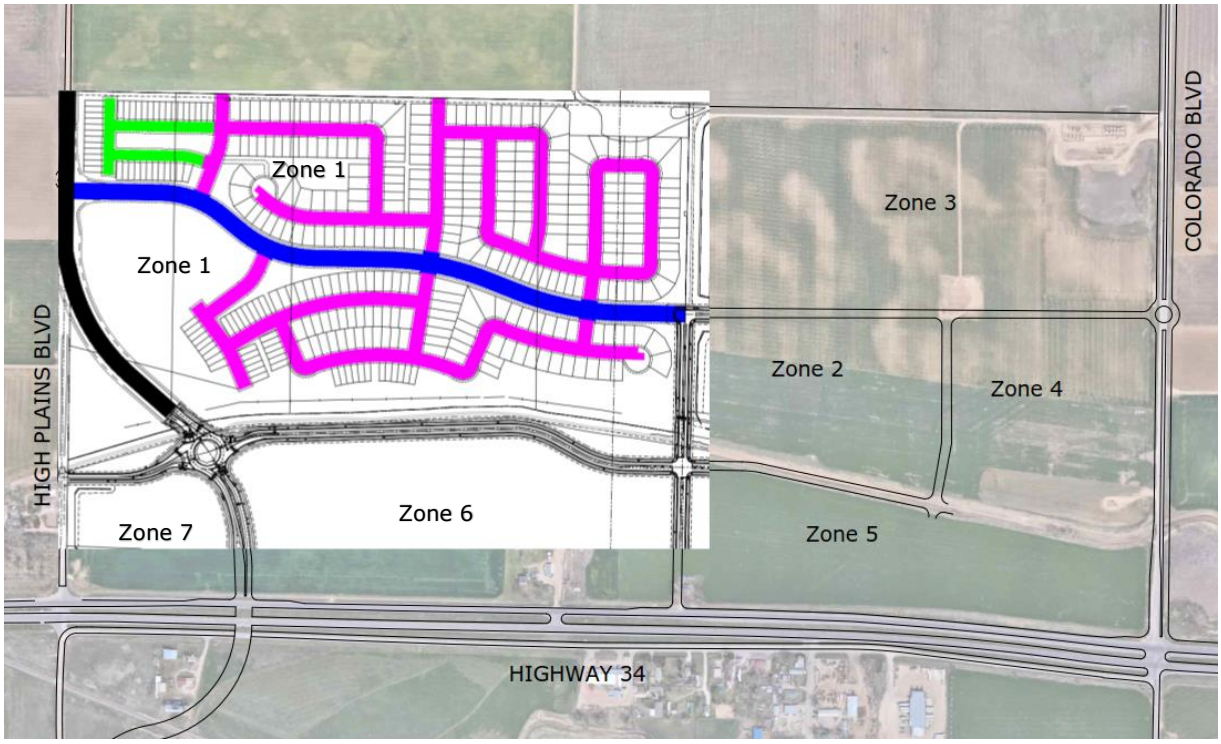


Figure 2 – Estates at Encore Lot Plan

TRIP GENERATION ANALYSIS

A comparison of the trip generation for the approved program for Zone 1 documented in the MTS and the proposed Estates at Encore residential units is shown in Table 1.

Per the Encore MTS, the residential development approved in Zone 1 included 464 single-family detached homes and 491 multi-family units. The residential units will generate 506 AM peak hour trips, 628 PM peak hour trips and 6,604 daily trips.

The proposed Estates at Encore residential development, including 368 single-family homes and 215 multi-family units, will generate 327 AM peak hour trips, 422 PM peak hour trips, and 4,325 daily trips.

With the reduced number of dwelling units compared to the approved program, the Estate at Encore development in Zone 1 of Encore will generate 179, or 35%, fewer AM peak hour trips, 206, or 33%, fewer PM peak hour trips and 2,279, or 35% fewer daily trips.

Therefore, since the proposed development will generate fewer trips than analyzed in the MTS, the conclusions of the MTS remain valid. The proposed Estates at Encore residential development is in conformance with and will have no adverse effect on the conclusions or recommendations of the MTS.

We trust that the information contained herein satisfies the request of Johnstown, CO. If you have any questions or need further information, please contact Brian Horan at BrianHoran@gallowayus.com or 303-770-8884.

Table 1

Estates at Encore

Trip Generation Comparison

Land Use	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Trips
Encore Master Study Zone 1										
Single Family Detached Housing	210	464	DU	84	240	324	275	161	436	4,374
Multifamily Housing (Mid-Rise)	221	491	DU	42	140	182	117	75	192	2,230
Encore Master Study Subtotal		**955**		**126**	**380**	**506**	**392**	**236**	**628**	**6,604**
Internal Capture				*(1)*	*(4)*		*(12)*	*(5)*		
Encore Master Study Zone 1 Total		955	DU	125	376	506	380	231	628	6,604
Estates at Encore [1]										
Single Family Detached Housing	210	368	DU	61	183	244	213	125	338	3,346
Multifamily Housing (Mid-Rise)	221	215	DU	19	64	83	51	33	84	979
Encore Residential Total		**583**	**DU**	**80**	**247**	**327**	**264**	**158**	**422**	**4,325**
Difference (Filing minus Master Study)		**(372)**	**DU**	**(46)**	**(133)**	**(179)**	**(128)**	**(78)**	**(206)**	**(2,279)**
Percent Difference		**-39%**	**DU**	**-37%**	**-35%**	**-35%**	**-33%**	**-33%**	**-33%**	**-35%**

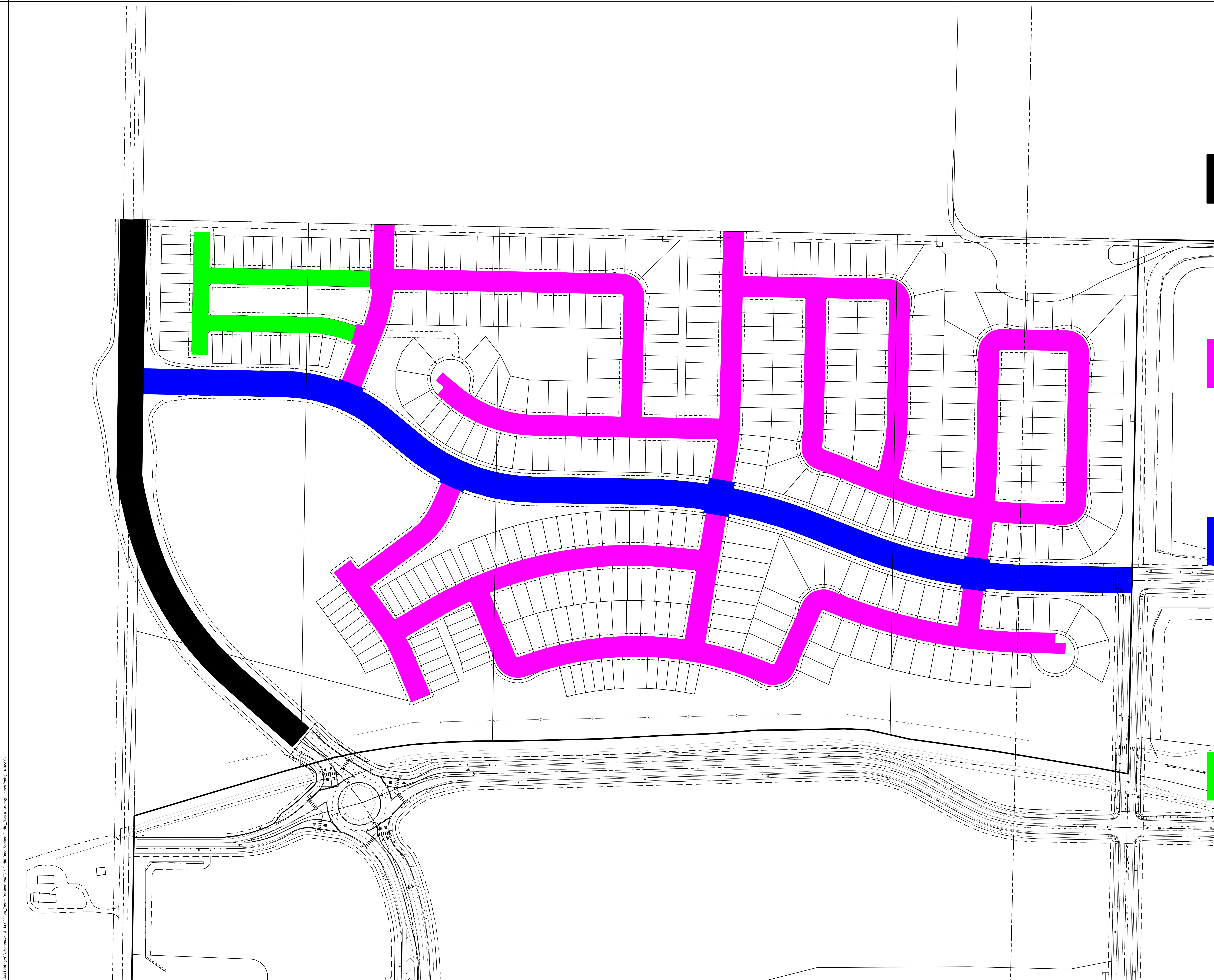
Note(s):

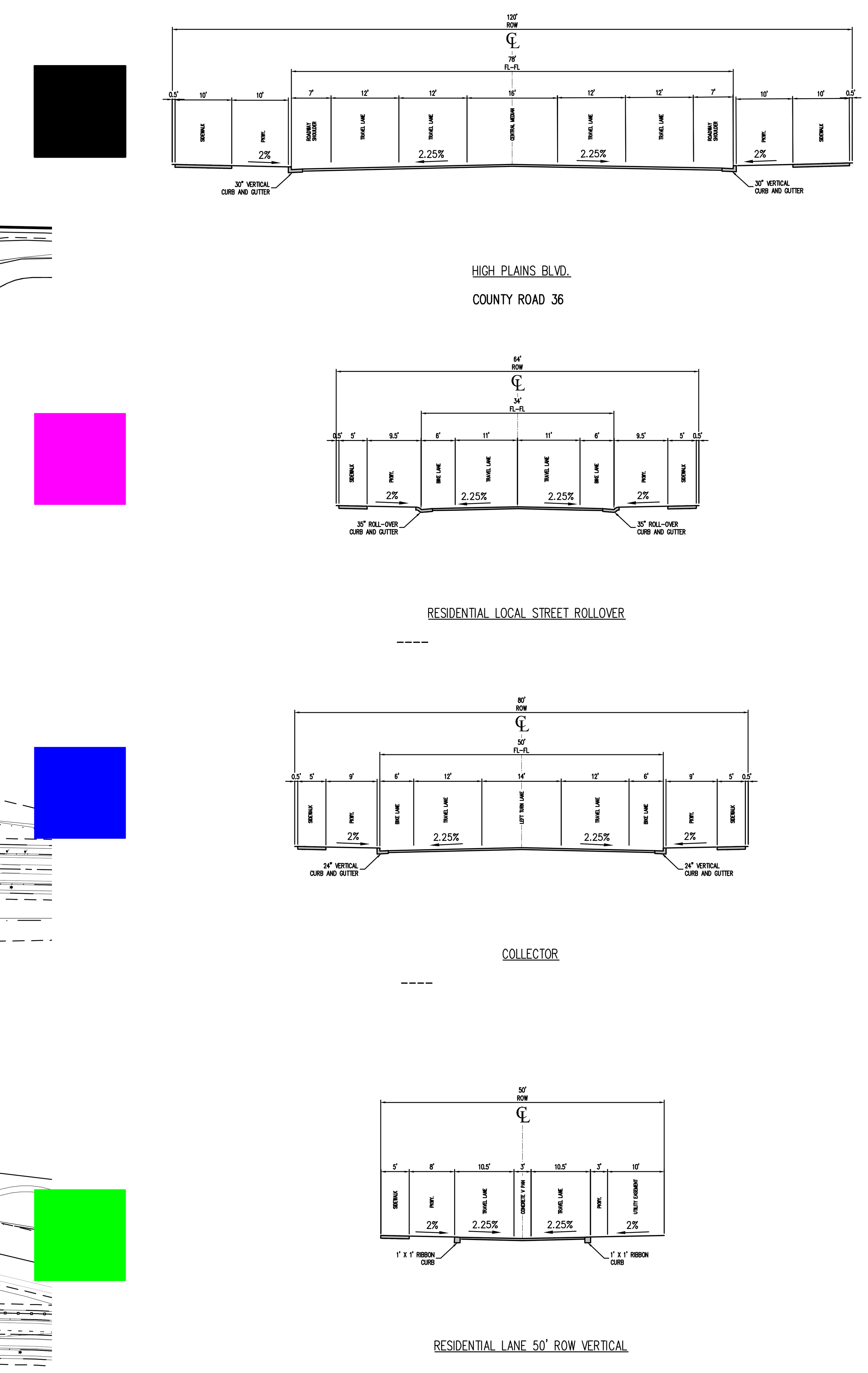
(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation Manual, 11th Edition

Attachment I

Site Plan

TOTAL # SINGLE FAMILY
RESIDENTIAL LOTS: 368
MULTIFAMILY UNITS: 215





Galloway

ENCORE RESIDENTIAL

J & J HOLDINGS

ROAD SECTIONS EXHIBIT

01.05.2024

N

0 25 50 75 150

SCALE: 1"=150'

Attachment II
Encore Master Traffic Study
dated November 2023 excerpts

Horrocks.

5670 GREENWOOD PLAZA BLVD, SUITE 100W
GREENWOOD VILLAGE, COLORADO 80111

ENCORE MASTER TRAFFIC STUDY

JOHNSTOWN, CO

NOVEMBER 20, 2023

PROJECT# CO-2866-2012

Introduction and Executive Summary

PURPOSE OF REPORT AND STUDY OBJECTIVES

This Traffic Impact Analysis (TIA) aims to identify the traffic impacts for the proposed development located in Johnstown, Colorado. The analysis objectives are as follows: Collaborate with Johnstown Planning to get the changes to the ACP and Approvals, define study intersections, estimate trip generation and distribution for the site before and after development, analyze AM and PM peak hour traffic conditions with and without project traffic in 2041, recommend improvements to mitigate traffic impacts if necessary.

EXISTING LAND USE & STUDY BOUNDARIES

Site Location and Study Area – The Encore at Johnstown development site is located on the north side of US-34 between County Road 3 (High Plains Blvd) and Larimer County Road 1 (Colorado Blvd) (see **Figure 1**). The development is across the street from Ron Grob Co. and Precision Machine Shop. Other major roads near the site include Poplar Street and Kelim Frontage Road.

This study will address the following intersections near the study area.

- US-34 & Colorado Blvd
- US-34 & Project Access
- US-34 & High Plains Blvd

Proposed Development Use **–** The development will consist of approximately 200,000 sq. ft. of retail space, 464 single-family units, 941 multifamily units, a high school, and 377,000 sq. ft. of general light industrial.

Surrounding Land Use **–** The existing and proposed land uses in the vicinity of the development site are residential and service businesses.

Assumptions **–** The study assumptions were developed from the PEL study and input from CDOT staff. The following base assumptions will be used throughout the study:

- Lane configuration
    - 2025 scenario – Existing Lane geometry
    - 2033 scenario – 6 lanes with no interchanges
    - 2041 scenario – 6 lanes with no interchanges
- RIRO removed when interchanges are installed.

Outside of Base Assumptions **–** These are recommended mitigations to provide acceptable traffic operations that are not listed in the PEL document.

CONCLUSIONS AND RECOMMENDATIONS

1. Existing Conditions: - All study intersections operate at an unacceptable LOS. The study intersection with the highest delay is High Plains Blvd and Highway 34 with LOS F and a delay of 272.7 sec/veh in the AM.

   Recommended Mitigations

   - Intersection Highway 34 & Colorado Blvd
     - Modify southbound lane geometry.
       - Shared left-through with a right to left with shared through-right.
     - Add additional westbound through lane for a total of 3 lanes.
     - Add additional eastbound through lane for a total of 3 lanes.
   - Intersection Highway 34 & High Plains Blvd (old intersection location)
     - CDOT is planning to shift High Plains Blvd east and construct a new interchange for the Highway 34 & High Plains Blvd intersection to meet existing demands. There are no recommended mitigations currently. CDOT recommends the construction of the High Plains Blvd intersection in the location of the future High Plains Blvd interchange.

   Mitigated analysis shows acceptable LOS, the mitigated intersection with the highest delay is Highway 34 & Colorado Blvd with LOS C and a delay of 20.3 seconds in the AM.

2. 2025 Background Conditions: - Using the CDOT OTIS site and the US34 Planning and Environmental Linkage (PEL) Study, a growth factor of 1.13 was used for Highway 34 and 1.12 for the other roads in the study area. All study intersections operate at an acceptable LOS. The intersection with the highest delay is the intersection of Highway 34 & High Plains Blvd with a LOS F and a delay of +300.0 sec/veh in the AM & PM peak hours. This scenario includes all previous mitigations.

   Recommended Mitigations:

   - Intersection Highway 34 & High Plains Blvd (old intersection location)
     - CDOT is planning to shift High Plains Blvd east and construct a new interchange for the Highway 34 & N High Plains Blvd intersection to meet existing demands. There are no recommended mitigations currently. CDOT recommends the construction of the High Plains Blvd intersection in the location of the future High Plains Blvd interchange.

3. Site development- The proposed development will be completed in three phases. The project phases are estimated to generate the following number of trips.
   - Phase One (2025) – 4,375 new external daily trips with 680 during the AM peak and 394 during the PM peak.
   - Phase Two (2033) – 12,901 new external daily trips with 1,318 during the AM peak and 1,217 during the PM peak.
   - Phase Three (2041) – 19,451 new external daily trips with 1.536 during the AM peak and 1,842 during the PM peak.

4. 2025 plus Project Conditions: - Project trips were added to the 2025 Background scenario to create the 2025 Background plus Project scenario. All study intersections function at an acceptable LOS except for the intersection of Highway 34 & High Plains Blvd (old intersection).

The intersection with the highest delay is Highway 34 & High Plains Blvd (old intersection) with a LOS F and a delay of +300.0 sec/veh during the AM & PM peak hours. All other study intersections function at acceptable LOS. This scenario includes all previous mitigations.

Recommended Mitigations:

- Intersection Highway 34 & High Plains Blvd (new intersection)
    - CDOT is planning to shift High Plains Blvd east and construct a new interchange for the Highway 34 & N High Plains Blvd intersection to meet existing demands. CDOT recommends the construction of the High Plains Blvd intersection in the location of the future High Plains Blvd interchange.

New Auxiliary lanes – Horrocks completed an analysis to determine if auxiliary lanes are required per Colorado's State Highway Access Code.

- Intersection Highway 34 & Project Access
    - Deceleration lane on Highway 34 for westbound right-turn
    - Acceleration lane on Highway 34 for southbound right-turn.

5. 2033 Background Conditions: - Using the CDOT OTIS site and the PEL study, a growth factor of 1.27 for Highway 34 and 1.24 for other study area roads was used to project 2021 traffic volumes to 2033. All study intersections operate at an acceptable LOS except for the intersection of Highway 34 & Colorado Blvd with an LOS F and a delay of 58.3 sec/veh during the AM peak hour and an LOS F with a delay of 68.3 sec/veh during the PM peak hour. This scenario includes all previous mitigations.

   Recommended Mitigations:

   - Intersection Highway 34 & Colorado Blvd
       - Modify the northbound shared left-through lane to separate left-turn and through lanes.
       - Add an additional southbound left-turn lane.

   Mitigated analysis shows acceptable LOS, the mitigated intersection with the highest delay is Highway 34 & Colorado Blvd with a LOS D and a delay of 51.3 sec/veh in the AM. This scenario includes all previous mitigations.

6. 2033 Background plus Project Conditions: – Project trips were added to the 2033 Background scenario to create the 2033 Background plus Project scenario. All intersections function at an acceptable LOS except the study intersection, Highway 34 & Colorado Blvd with an LOS F, and a delay of 227.8 sec/veh in the AM. This scenario includes all previous mitigations.

   Recommended Mitigations:

   - Intersection Highway 34 & Colorado Blvd
       - Modify the northbound shared left-through lane to separate left-turn and through lanes.
       - Add an additional eastbound left-turn lane.
       - Add an additional southbound left-turn lane.

   Mitigated analysis shows acceptable LOS, the mitigated intersection with the highest delay is Highway 34 & Colorado Blvd with a delay of 50.6 sec/veh in the AM.

New Auxiliary lanes – Horrocks completed an analysis to determine if auxiliary lanes are required per Colorado's State Highway Access Code.

- Intersection Highway 34 & High Plains Blvd
  - Acceleration lane on Highway 34 for northbound right-turn (to be implemented when the southern portion of High Plains Blvd is relocated to the new intersection location).
  - Acceleration lane on Highway 34 for southbound right-turn.
  - Deceleration lane on Highway 34 for westbound right-turn.

7. 2041 Background Condition: - Using the CDOT OTIS site and the US34 Planning and Environmental Linkage (PEL) Study, a growth factor of 1.61 was used for Highway 34 and 1.55 for the other roads in the study area. All study intersections operate at an unacceptable LOS. The intersection with the highest delay is Highway 34 & Colorado Blvd, with a LOS F and a delay of 123.1 sec/veh in the AM. All other study intersections function at acceptable LOS. This scenario includes all previous mitigations.

   Recommended Mitigations:

   - Intersection Highway 34 & Colorado Blvd
     - Add a second eastbound left-turn lane.

   Mitigated analysis shows acceptable LOS, the mitigated intersection with the highest delay is Highway 34 & Colorado Blvd with a delay of 47.7 sec/veh in the AM.

8. 2041 Background plus Project Conditions: – Project trips were added to the 2041 Background scenario to create the 2041 Background plus Project scenario. All intersections function at an acceptable LOS except study intersections Highway 34 & Colorado Blvd with LOS F and a delay of 107.2 sec/veh in the AM. This scenario includes all previous mitigations.

   Recommended Mitigations:

   - Intersection Highway 34 & Colorado Blvd
     - Install interchanges.

   Recommended Outside Base Assumptions Mitigations:

   - Intersection Highway 34 & Colorado Blvd
     - Add additional westbound through lane for a total of 4 lanes.
     - Add an additional eastbound through lane for a total of 4 lanes.

   The outside base assumptions mitigated analysis shows acceptable LOS, the intersection with the highest delay is Highway 34 & High Plains Blvd with LOS C and a delay of 32.9 sec/veh in the AM.

9. Safety History – There were a total of 367 crashes on Highway 34 between mile markers 97 and 100 from 2015 and 2020. The types of crashes are as follows:

   - Four Fatal crashes
   - 120 Serious/injury crashes
   - 243 Property damage only crashes

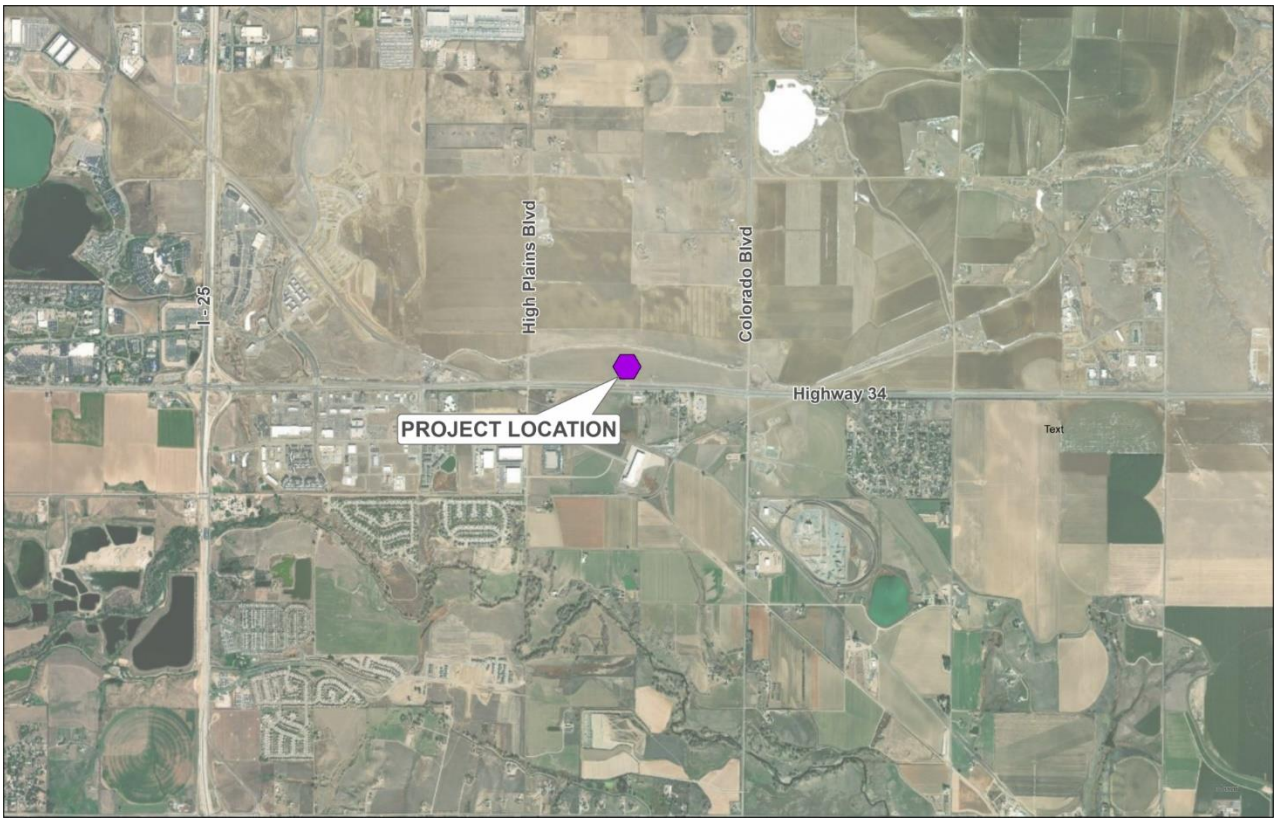
   The installation of a signal will increase rear-end crashes but decrease angle crashes. In the urban scenario, there's no statistical significance that overall, the number of crashes will change. However, in a rural setting, there is confidence that total crashes will decrease by approximately 44%.

Proposed Development

SITE LOCATION

The site for the Encore at Johnstown development is located on the north side of US-34 between High Plains Blvd and Colorado Blvd (see **Figure 1**).

Figure 1: Project Location



SITE PLAN AND PREFERRED ACCESS

The site will have four accesses, one on Highway 34, two on High Plains Blvd, and two on Colorado Blvd. The Highway 34 & Project Access is a right-in/right-out access intersection, the two accesses on High Plains Blvd are roundabouts, and the access on Colorado Blvd is a roundabout, as shown in **Figure 2**.

Figure 2: Site Plan

Study Area Conditions

STUDY AREA

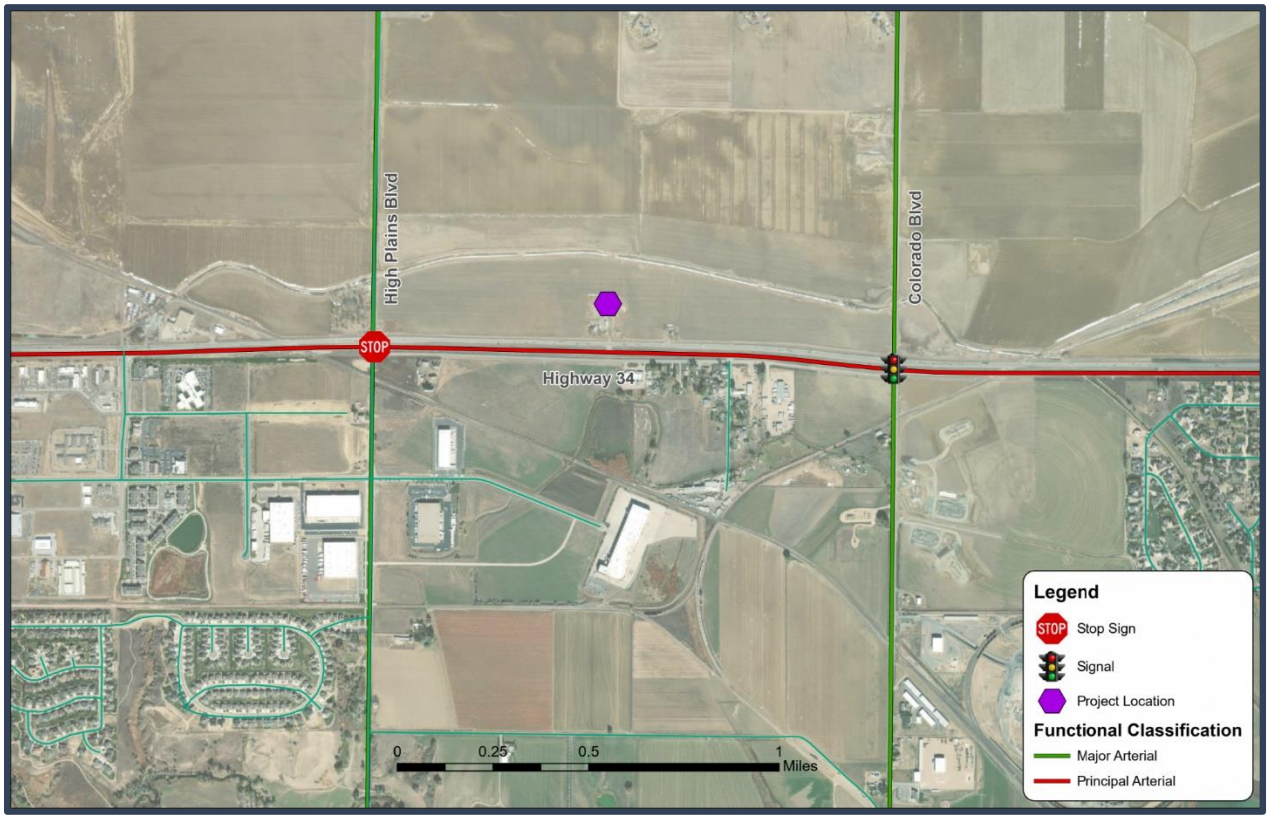
The major streets potentially impacted by the Encore development are Highway 34, High Plains Blvd, and Colorado Blvd. The functional classification map, seen in **Figure 3**, shows the functional classification of roadways and stop-control devices at the intersections surrounding the project area. The speed limits listed in the description are the currently posted speed limits.

Highway 34: An east/west running road classified as a principal arterial (State Highway Code – NR-A) with a speed limit of 65 mph, this Principal arterial is a four-lane roadway with two dedicated through lanes for each direction separated by a median.

County Road 3 (High Plains Blvd): A north/south running road classified as a major arterial (State Highway Code – NR-B) with a speed limit of 50 mph, this major arterial is a two-lane roadway with a single dedicated through lane for each direction separated by a double yellow line.

County Road 1 (Colorado Blvd): north/south running road classified as a major arterial (State Highway Code – NR-B) with a speed limit of 50 mph, this major arterial is a two-lane roadway with a single dedicated through lane for each direction separated by a double yellow line.

Figure 3: Roadway Classification Map



Project Traffic Volumes

Project traffic volumes were estimated and distributed using the industry-standard trip generation literature and using existing traffic counts and engineering judgment to distribute project traffic to the existing road network.

TRIP GENERATION

The trip generation was estimated using the *ITE Trip Generation Manual 11th Edition*. The following land use was used:

- *Single-Family Detached Housing (ITE 210)* – Single-family detached housing includes all single-family detached homes on individual lots. A typical site surveyed is a suburban subdivision.
- *Multifamily Housing (Mid-Rise) (ITE 221)* – Mid-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units that have three and 10 levels (floors). Multifamily housing (low-rise) (Land Use 220), multifamily housing high-rise (land Use 222), off-campus student apartments (Land Use 225), and mid-rise residential with 1st-floor commercial (Land Use 231) are related land uses.
- *High School* (ITE 530) – A high school serves students who have completed middle or junior high school. Both public and private schools are included in this land use. Elementary school (Land Use 520), middle school/junior high school (Land Use 522), private school (K-8) (Land Use 534), private school (K-12) (Land Use 536), and charter elementary school (Land Use 537) are related uses.
- *Shopping Center (ITE 820)* – A shopping center is an integrated group of commercial establishments that is planned, developed, owned, and managed as a unit. A shopping center's composition is related to its market area in terms of size, location, and type of store. A shopping center also provides on-site parking facilities sufficient to serve its parking demands. Factory outlet center (Land Use 823) is a related use.
- *General Light Industrial (ITE 110)* – A light industrial facility is a free-standing facility devoted to a single use. The facility has an emphasis on activities other than manufacturing and typically has minimal office space. Typical light industrial activities include painting material testing and assembly of data processing equipment. Industrial Park (Land Use 130) and manufacturing (Land Use 140) are related uses.

Based on ITE methodology, the development within the study area is estimated to generate approximately 19,451 new external trips, with 1.536 AM peak hour trips and 1,842 PM peak hour trips. These new development trips do not include pass-by trips. Copies of the ITE Trip Generation 11th Edition land use descriptions and rates used in this project are in the APPENDIX. Horrocks used internal capture methodology (NCHRP 684 Internal Capture Estimation Tool) in the trip generation for the Encore development.

BASE ASSUMPTIONS FOR US-34

The study assumptions were developed from the PEL study and input from CDOT staff. The following base assumptions will be used throughout the study:

- Lane configuration
  - 2025 scenario – Existing Lane geometry
  - 2033 scenario – 6 lanes with no interchanges
  - 2041 scenario – 6 lanes with no interchanges
- RIRO removed when interchanges are installed.
- As the project continues to develop and signal improvements are needed, the developer will coordinate with CDOT and the City on signal coordination and signal maintenance responsibilities.

PROJECT PHASING

The project will be divided into three phases, 2025, 2033, and 2041, every phase will include a combination of the land uses explained in the previous section. The following is the amount of the development to be completed for each scenario:

- 2025 Scenario
  - 285 multifamily homes
  - An 800-student high school
  - Approximately 15,000 Sq. Ft. of retail/mixed-use space
  - Approximately 200,000 Sq. Ft. of general light industrial

See **Figure 5** for development locations and **Table 1** for the summary of calculated trip generation for the 2025 phase of the project.

- 2033 Scenario
  - 464 single family homes
  - 656 multifamily homes
  - Approximately 23,000 Sq. Ft. of retail/mixed-use space
  - Approximately 66,000 Sq. Ft. of general light industrial

See **Figure 6** for development locations and **Table 2** for the summary of calculated trip generation for the 2033 phase of the project.

- 2041 Scenario
  - Approximately 162,000 Sq. Ft. of retail/mixed-use space
  - Approximately 111,000 Sq. Ft. of general light industrial

See **Figure 7** for development locations and **Table 3** for the summary of calculated trip generation for the full build-out of the project. The total trips for Phase 2 and Phase 3 include the trips from the previous phase(s).

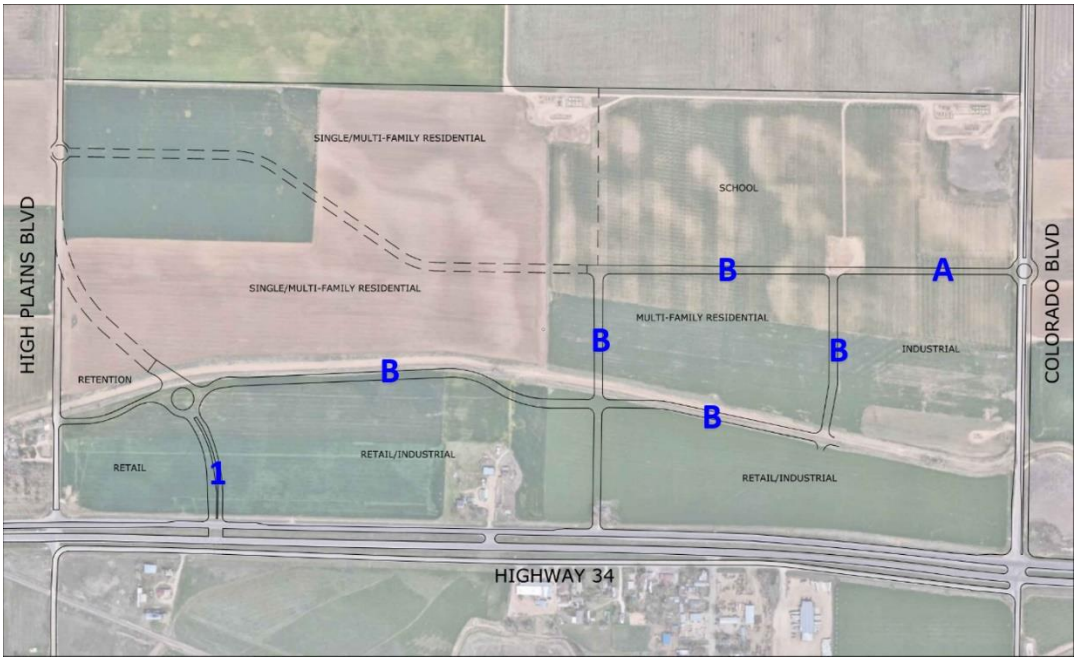
HIGHWAY 34

In the Johnstown Transportation Master Plan (TMP). Highway 34 will have a significant increase in traffic volume in the future. These future forecasted volumes will exceed the roadway capacity as designed in Johnstown TMP. For this study, the designation of Highway 34 is an expressway; it will have six through lanes with auxiliary lanes at intersections as cited in the Johnstown TMP. For this study, Horrocks will analyze Highway 34 as a principal arterial in all scenarios. The PEL study recommends a planned future interchange east of the existing Highway 34 & High Plains Blvd intersection to accommodate the forecasted volumes. The developer will construct the northern section of the intersection at the location of the future highway interchange when building the project, as shown in **Figure 14.**

RECOMMENDED NUMBER OF TRAVEL LANES ON-SITE

Horrocks reviewed the total daily traffic based on the trip generation and trip distribution used in this report to determine the recommended number of travel lanes for the interior roadway on-site. **Figure 4** includes four recommended cross-sections and locations to provide adequate traffic flow for each roadway on-site.

Figure 4: Recommended Number of Travel Lanes



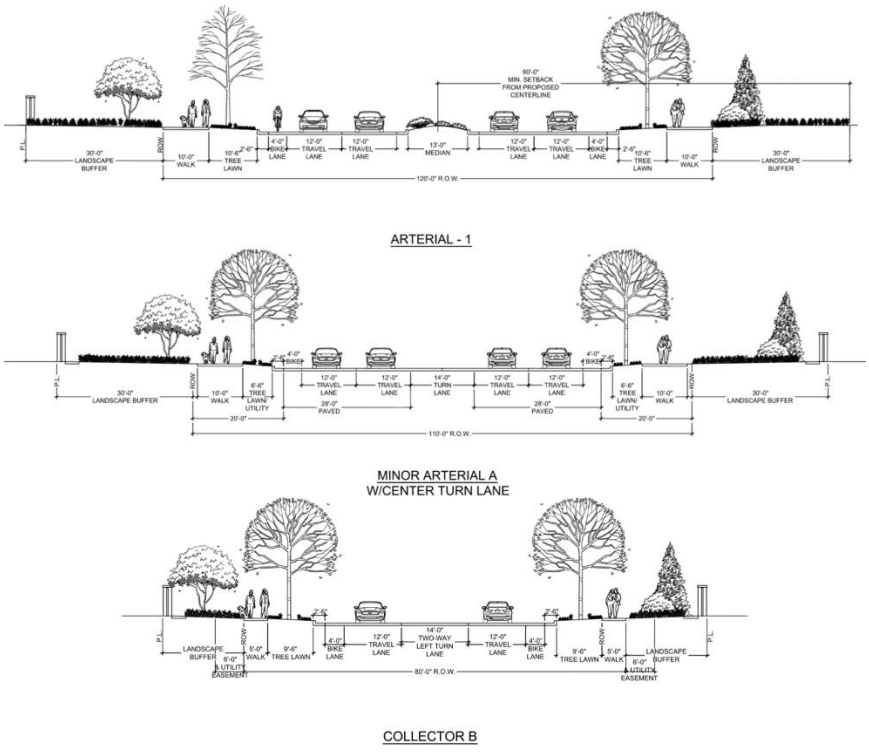
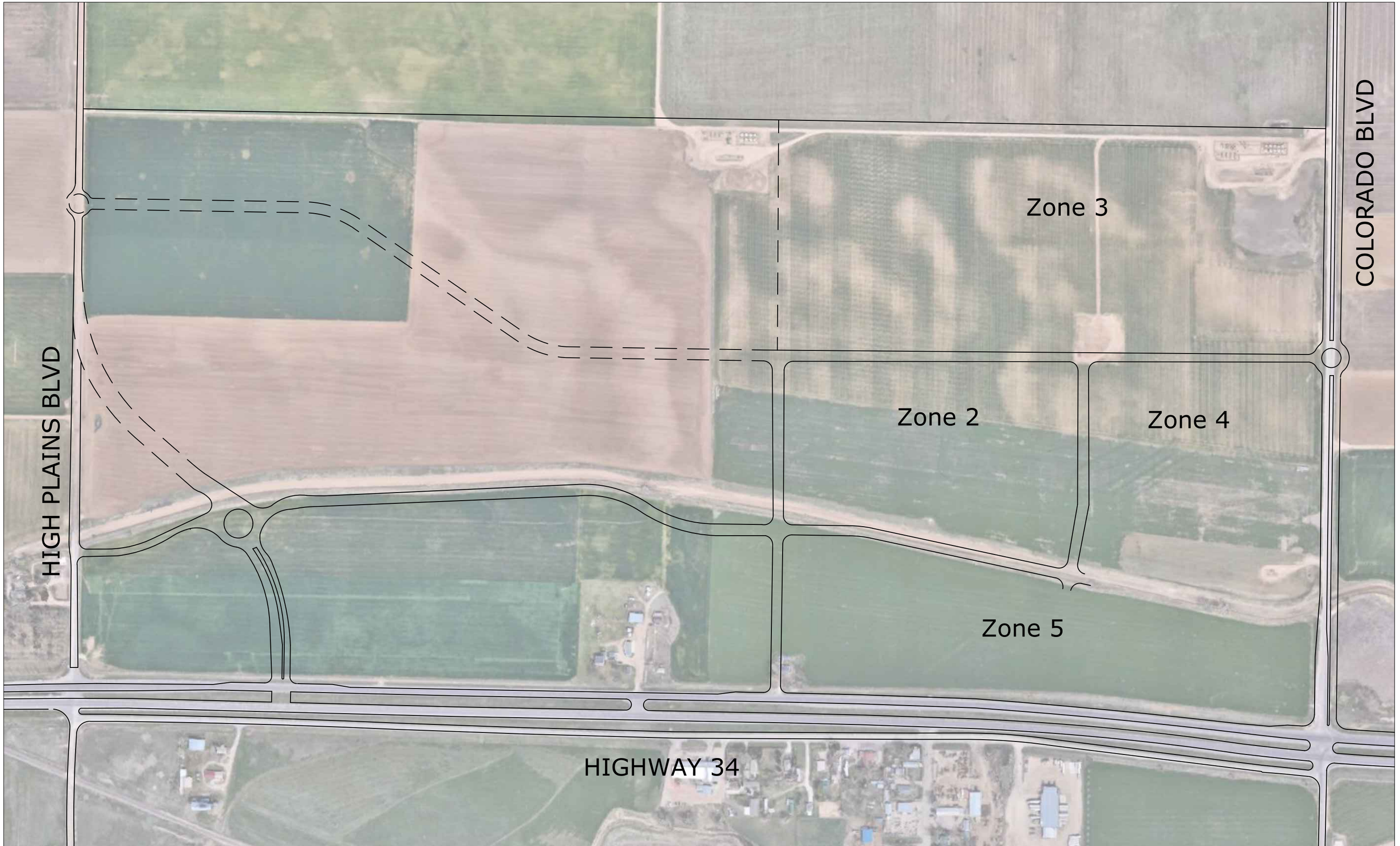


Table 1: ITE Trip Generation – Opening Day

Encore at Johnstown - Opening Day												
			Daily			AM Peak Hour			PM Peak Hour			
	Variable	Quantity	Total	In	Out	Total	In	Out	Total	In	Out	
Zone 2 *63% Buildout*	**Multifamily Housing (Mid-Rise) (ITE 221)**		**4.54**	50%	50%	**00.37**	23%	77%	**0.39**	61%	39%	
	Dwelling Units	285	1,294	647	647	105	24	81	111	68	43	
	Internal Capture											
	Total New Trips		**1,294**	**647**	**647**	**105**	**24**	**81**	**111**	**68**	**47**	
Zone 3 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour			
			Total	In	Out	Total	In	Out	Total	In	Out	
	High School (ITE 530)		**1.94**	50%	50%	**0.52**	68%	32%	**0.14**	48%	52%	
	Students	800	1,552	776	776	416	283	133	112	54	58	
	Total New Trips		**1,552**	**776**	**776**	**416**	**283**	**133**	**112**	**54**	**58**	
Zone 4 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour			
			Total	In	Out	Total	In	Out	Total	In	Out	
	General Light Industrial (ITE 110)		**4.87**	50%	50%	**0.74**	88%	12%	**0.65**	14%	86%	
	1000 Sq. Ft. GFA	114	555	278	278	84	74	10	74	10	64	
	Total New Trips		**555**	**278**	**278**	**84**	**74**	**10**	**72**	**10**	**64**	
Zone 5 *56% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour			
			Total	In	Out	Total	In	Out	Total	In	Out	
	General Light Industrial (ITE 110)		**4.87**	50%	50%	**0.74**	88%	12%	**0.65**	14%	86%	
	1000 Sq. Ft. GFA	86	419	209	209	64	56	8	**56**	8	48	
	Shopping Center (ITE 820)		**37.01**	50%	50%	**0.84**	62%	38%	**3.40**	48%	52%	
	1000 Sq. Ft. GFA	15	555	278	278	13	8	5	51	24	27	
	Internal Capture						1	1		2	7	
	Total New Trips		**974**	**487**	**487**	**75**	**63**	**12**	**100**	**30**	**68**	
Total Phase 1 Trips			**4,375**	**2,187**	**2,187**	**680**	**444**	**237**	**394**	**162**	**233**	



Horrocks.

5670 GREENWOOD PLAZA BLVD.
SUITE 100W
GREENWOOD VILLAGE, CO 80111

ENCORE AT JOHNSTOWN
OPENING DAY BUILDING PLAN

FIGURE 5

SCALE:
N/A

DATE:
6/2023

Table 2: ITE Trip Generation – 2033

Encore at Johnstown - 2033												
	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
Zone 1 *100% Buildout*	**Single-Family Detached Housing (ITE 210)**		**9.43**	50%	50%	**0.70**	26%	74%	**0.94**	63%	37%
	Dwelling Units	464	4,374	2,187	2,187	325	84	240	436	275	161
	Multifamily Housing (Mid-Rise) (ITE 221)		**4.54**	50%	50%	**0.37**	23%	77%	**0.39**	61%	39%
	Dwelling Units	491	2,230	1,115	1,115	182	42	140	192	117	75
	Internal Capture						1	4		12	5
	Total New Trips		**6,604**	**3,302**	**3,302**	**506**	**125**	**376**	**628**	**380**	**231**
Zone 2 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	Multifamily Housing (Mid-Rise) (ITE 221)		**4.54**	50%	50%	**0.37**	23%	77%	**0.39**	61%	39%
	Dwelling Units	450	2,043	1,022	1,022	167	38	128	176	107	68
	Internal Capture							1			1
	Total New Trips		**2,043**	**1,022**	**1,022**	**167**	**38**	**127**	**176**	**107**	**67**
Zone 3 **100% Buildout**	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	High School (ITE 530)		**1.94**	50%	50%	**0.52**	68%	32%	**0.14**	48%	52%
	Students	800	1,552	776	776	416	283	133	112	54	58
	Total New Trips		**1,552**	**776**	**776**	**416**	**283**	**133**	**112**	**54**	**58**
Zone 4 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	General Industrial (ITE 110)		**4.87**	50%	50%	**0.74**	88%	12%	**0.65**	14%	86%
	1000 Sq. Ft. GFA	114	555	278	278	84	74	10	74	10	64
	Total New Trips		**55**	**278**	**278**	**84**	**74**	**10**	**74**	**10**	**64**
Zone 5 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	General Industrial (ITE 110)		**4.87**	50%	50%	**0.74**	88%	12%	**0.65**	14%	86%
	1000 Sq. Ft. GFA	152	740	370	370	112	99	13	99	14	85
	Shopping Center (ITE 820)		**37.01**	50%	50%	**0.84**	62%	38%	**3.40**	48%	52%
	1000 Sq. Ft. GFA	38	1,406	703	703	32	20	12	129	62	67
	Internal Capture						3	2		9	11
	Total New Trips		**2,147**	**1,073**	**1,073**	**144**	**116**	**24**	**228**	**67**	**141**
Total Phase 2 Trips			**12,901**	**6,450**	**6,450**	**1,318**	**636**	**670**	**1,217**	**618**	**561**

Horrocks.

5670 GREENWOOD PLAZA BLVD.
SUITE 100W
GREENWOOD VILLAGE, CO 80111

ENCORE AT JOHNSTOWN
2033 BUILDING PLAN

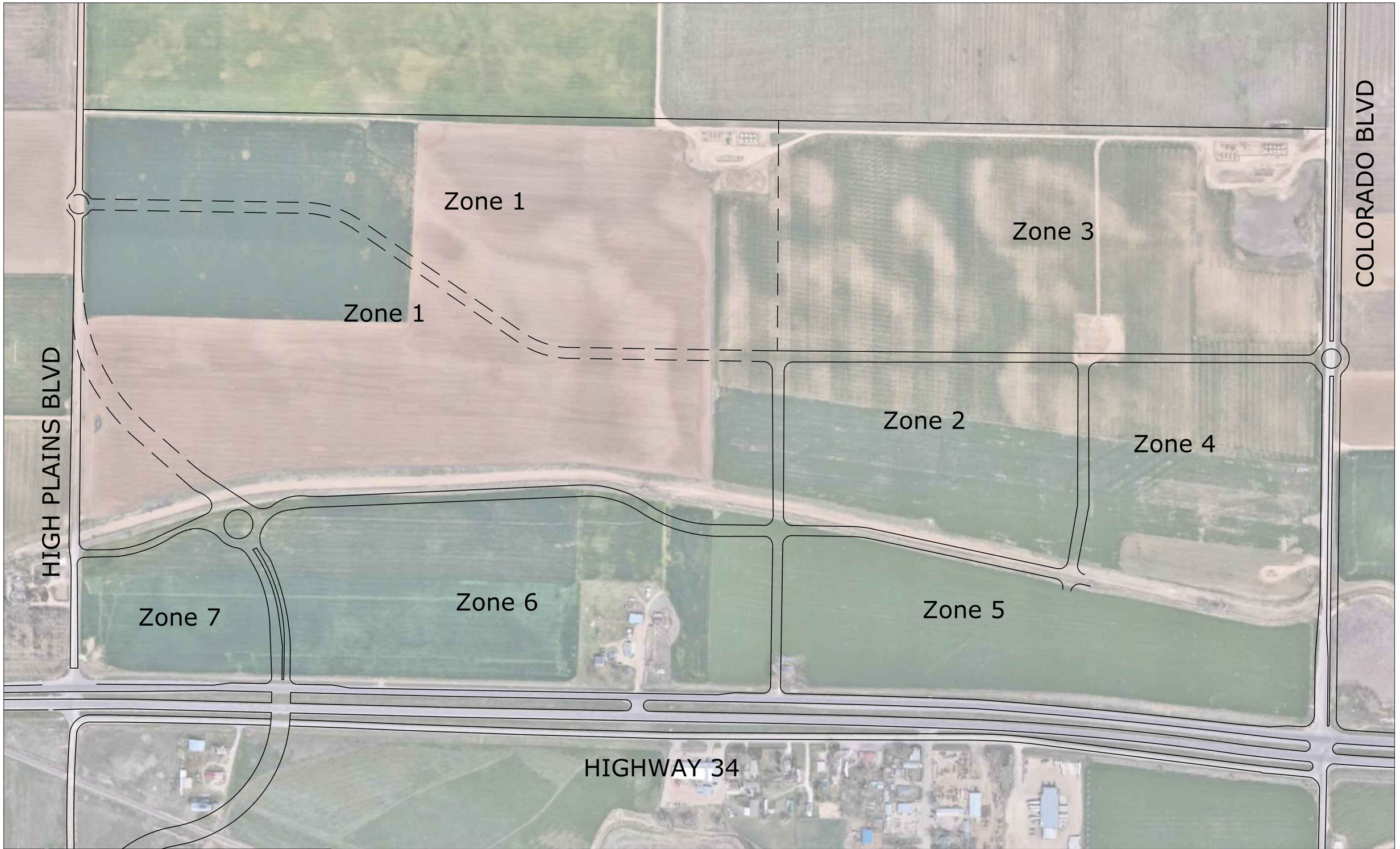
FIGURE 6

SCALE:
N/A

DATE:
05/2022

Table 3: ITE Trip Generation – 2041

Encore at Johnstown - 2033												
	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
Zone 1 *100% Buildout*	**Single-Family Detached Housing (ITE 210)**		**9.43**	50%	50%	**0.70**	26%	74%	**0.94**	63%	37%
	Dwelling Units	464	4,374	2,187	2,187	325	84	240	436	275	161
	Multifamily Housing (Mid-Rise) (ITE 221)		**4.54**	50%	50%	**0.37**	23%	77%	**0.39**	61%	39%
	Dwelling Units	491	2,230	1,115	1,115	182	42	140	192	117	75
	Internal Capture						1	4		12	5
	Total New Trips		**6,604**	**3,302**	**3,302**	**506**	**125**	**376**	**628**	**380**	**231**
Zone 2 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	Multifamily Housing (Mid-Rise) (ITE 221)		**4.54**	50%	50%	**0.37**	23%	77%	**0.39**	61%	39%
	Dwelling Units	450	2,043	1,022	1,022	167	38	128	176	107	68
	Internal Capture							1			1
	Total New Trips		**2,043**	**1,022**	**1,022**	**167**	**38**	**127**	**176**	**107**	**67**
Zone 3 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	High School (ITE 530)		**1.94**	50%	50%	**0.52**	68%	32%	**0.14**	48%	52%
	Students	800	1,552	776	776	416	283	133	112	54	58
	Total New Trips		**1,552**	**776**	**776**	**416**	**283**	**133**	**112**	**54**	**58**
Zone 4 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	General Industrial (ITE 110)		**4.87**	50%	50%	**0.74**	88%	12%	**0.65**	13%	87%
	1000 Sq. Ft. GFA	114	555	278	278	84	74	10	74	10	64
	Total New Trips		**555**	**278**	**278**	**84**	**74**	**10**	**74**	**10**	**64**
Zone 5 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	General Industrial (ITE 110)		**4.87**	50%	50%	**0.74**	88%	12%	**0.65**	13%	87%
	1000 Sq. Ft. GFA	152	740	370	370	112	99	13	99	13	86
	Shopping Center (ITE 820)		**37.01**	50%	50%	**0.84**	62%	38%	**3.40**	48%	52%
	1000 Sq. Ft. GFA	38	1,406	703	703	32	20	12	129	62	67
	Internal Capture						3	2		6	17
	Total New Trips		**2,147**	**1,073**	**1,073**	**144**	**116**	**24**	**228**	**70**	**135**
Zone 6 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	General Industrial (ITE 110)		**4.87**	50%	50%	**0.74**	88%	12%	**0.65**	13%	87%
	1000 Sq. Ft. GFA	111	542	271	271	82	73	10	72	9	63
	Shopping Center (ITE 820)		**37.01**	50%	50%	**0.84**	62%	38%	**3.40**	48%	52%
	1000 Sq. Ft. GFA	111	4,121	2,060	2,061	94	58	36	379	182	197
	Internal Capture						9	6		18	51
	Total New Trips		**4,663**	**2,331**	**2,332**	**176**	**122**	**39**	**451**	**173**	**210**
Zone 7 *100% Buildout*	Variable	Quantity	Daily			AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out	Total	In	Out
	Shopping Center (ITE 820)		**37,01**	50%	50%	**0.84**	62%	38%	**3.40**	48%	52%
	1000 Sq. Ft. GFA	51	1,888	944	944	48	30	18	173	83	90
	Internal Capture						**4**	**3**		**8**	**23**
	Total New Trips		**1,888**	**944**	**944**	**48**	**25**	**15**	**173**	**75**	**67**
Total Phase 3 Trips			**19,451**	**9,725**	**9,726**	**1,542**	**783**	**725**	**1,842**	**869**	**833**



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5670 GREENWOOD PLAZA BLVD.
SUITE 100W
GREENWOOD VILLAGE, CO 80111

ENCORE AT JOHNSTOWN
2041 BUILDING PLAN

FIGURE 7

SCALE:
N/A

DATE:
05/2022