

Ivy Ayalos
Mayor

Ruben Reyes
At Large

Cesar Nevarez
District 1



Alejandro Garcia
District 2/ Mayor ProTem

Rudy Cruz, Jr.
District 3

Yvonne Colon-Villalobos
District 4

Adriana Rodarte
City Manager

NOTICE OF A REGULAR MEETING
OF THE
PLANNING AND ZONING COMMISSION
OF THE
CITY OF SOCORRO, TEXAS

THE FACILITY IS WHEELCHAIR ACCESSIBLE AND ACCESSIBLE PARKING SPACES ARE AVAILABLE. REQUESTS FOR ACCOMMODATION FOR INTERPRETIVE SERVICES MUST BE MADE 48 HOURS PRIOR TO THIS MEETING. PLEASE CONTACT THE CITY CLERK'S OFFICE AT (915) 858-2915 FOR FURTHER INFORMATION.

LA INSTALACIÓN ES ACCESIBLE PARA SILLAS DE RUEDAS Y HAY PLAZAS DE ESTACIONAMIENTOS DISPONIBLES. LAS SOLICITUDES DE ADAPTACIÓN PARA SERVICIOS DE TRADUCCIÓN DEBEN HACERSE 48 HORAS ANTES DE ESTA REUNIÓN. COMUNÍQUESE CON LA OFICINA DEL SECRETARIO DE LA CIUDAD AL (915) 858-2915 PARA OBTENER MÁS INFORMACIÓN.

NOTICE IS HEREBY GIVEN THAT A REGULAR MEETING OF THE PLANNING AND ZONING COMMISSION OF SOCORRO, TEXAS WILL BE HELD ON TUESDAY THE 20TH DAY OF JUNE 2023 AT 5:30 P.M. AT THE CITY HALL CHAMBERS, 860 N. RIO VISTA RD., SOCORRO, TEXAS AT WHICH TIME THE FOLLOWING WILL BE DISCUSSED:

THIS WRITTEN NOTICE, THE MEETING AGENDA, AND THE AGENDA PACKET, ARE POSTED ONLINE AT [HTTP://COSTX.US/PLANNING-ZONING/](http://COSTX.US/PLANNING-ZONING/) THE PUBLIC CAN ALSO ACCESS THE MEETING BY CALLING TOLL FREE NUMBER 844-854-2222 ACCESS CODE 579797 BY 4:30 PM MOUNTAIN STANDARD TIME (MST) ON JUNE 20TH, 2023 TO SIGN UP FOR PUBLIC COMMENT AND THE AGENDA ITEM THEY WISH TO COMMENT ON. THE PUBLIC THAT SIGNED UP TO SPEAK WILL BE CALLED UPON BY THE PRESIDING OFFICER DURING THE MEETING.

1. Call to order
2. Establishment of Quorum

Approved by: 

3. Notice to the Public– Open Forum

The time is reserved for members of the public who would like to address the Commission on any items that are not on the Commission Agenda and that are within the jurisdiction of the Commission. No action shall be taken.

4. Consent Agenda

- a) Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of Lot 18, Block 3, Friedman Estates Unit 1, located at 11531 Ernest Road, Socorro, TX from R-1 (Single Family Residential) to R-2 (Medium Density Residential) to allow for a Multi-Family Residential Development.
- b) Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of the west 2/3 of Tract 30 and all of Tracts 31-39, Leigh Clark Survey 298, located at 12400 Gateway Blvd. East, Socorro, TX from Unclassified to IC-MUD (Industrial/Commercial Mixed-Use Developments) to allow for the development of an industrial park.
- c) Approval of Meeting minutes of June 6, 2023.

NOTICE TO THE PUBLIC AND APPLICANTS

The staff report for an agenda item may include conditions, exceptions, or modifications. The Commission's motion to approve an item in accordance with the staff report or with all staff comments means that any modifications, waivers, exceptions requested by the applicant and recommended for approval by staff and any staff recommended conditions, have been approved, without necessitating that the Commission restate the modifications, exceptions, waivers, or conditions as part of the motion to approve and that any findings required to be made by the Commission, have been made.

- 5. Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of Block 1, Lot 2, Sombra De Piro Subdivision, located at 566 Buford Road, Socorro, TX from R-1 (Single Family Residential) to C-1 (Light Commercial) to allow for a parking area.
- 6. **Consider and Take Action** on the proposed amendment to the City of Socorro's Master Plan and Rezoning of Block 1, Lot 2, Sombra De Piro Subdivision, located at 566 Buford Road, Socorro, TX from R-1 (Single Family Residential) to C-1 (Light Commercial) to allow for a parking area.

Approved by: 

7. Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of Tract 1-A-8, Leigh Clark Survey #293 ABST 6257, located at 1221 Jaime Road, Socorro, TX from R-1 (Single Family Residential) to C-2 (General Commercial) with a Conditional Use Permit to allow for Commercial Truck Parking.
8. **Consider and Take Action** the proposed amendment to the City of Socorro's Master Plan and Rezoning of Tract 1-A-8, Leigh Clark Survey #293 ABST 6257, located at 1221 Jaime Road, Socorro, TX from R-1 (Single Family Residential) to C-2 (General Commercial) with a Conditional Use Permit to allow for Commercial Truck Parking.
9. Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of Block E, Lot 4, Vinedo Acres Subdivision, located at 345 Tokay Avenue, Socorro, TX from R-1 (Single Family Residential) to RM-1 (Mobile Home Subdivision District) to allow for the placement of Mobile Homes and to subdivide property.
10. **Consider and Take Action** the proposed amendment to the City of Socorro's Master Plan and Rezoning of Block E, Lot 4, Vinedo Acres Subdivision, located at 345 Tokay Avenue, Socorro, TX from R-1 (Single Family Residential) to RM-1 (Mobile Home Subdivision District) to allow for the placement of Mobile Homes and to subdivide property.
11. **Consider and Take Action** on the proposed approval of a Preliminary Plat for Horizon Park Unit One, being all of Tracts 2A, 3B1, 4C1L, and 9A2, Block 3, Socorro Grant, El Paso County, Texas.
12. **Planning and Zoning Commissioners Report.**
13. **Planning and Zoning Department Report.**
14. **Adjournment**

EXECUTIVE SESSION

The Planning and Zoning Commission of the City of Socorro may retire into EXECUTIVE SESSION pursuant to Section 3.08 of the City of Socorro Charter and the Texas Government Code, Sections 551, Subchapter D to discuss any of the following: (The items listed below are matters of the sort routinely discuss in Executive Session, but the Planning and Zoning Commission of the City of Socorro may move to Executive Session any of the items on this agenda, consistent with the terms of the Open Meetings Act.) The Planning and Zoning Commission will return to open session to take any final action and may also, at any time during the meeting, bring forward any of the following items for public discussion, as appropriate.

Approved by: 

Section 551.071 CONSULTATIONS WITH ATTORNEY
Section 551.072 DELIBERATION REGARDING REAL PROPERTY
Section 551.073 DELIBERATION REGARDING PROSPECTIVE GIFT
Section 551.074 PERSONNEL MATTERS
Section 551.076 DELIBERATION REGARDING SECURITY
Section 551.087 DELIBERATION REGARDING ECONOMIC DEVELOPMENT NEGOTIATION

NOTICE TO PROPERTY OWNER

The Commission Policy requires that the applicant or representative be present at the public hearing for their item(s). Failure of the applicant or his/her/its representative to be present may result in the deletion of the matter from the agenda or such matter may be tabled until such time as the applicant or his/her/its representative is present.

I, the undersigned authority hereby, certify that the above notice of meeting of the Planning and Zoning Commission of Socorro, Texas is a correct copy and that I posted this notice at least seventy-two (72) hours preceding the scheduled meeting at City Council Chambers, 860 N. Rio Vista, Socorro, Texas.

DATED 16TH DAY OF JUNE 2023.

By: 
for Judith Rodriguez, Planning & Zoning Secretary

DATE & TIME POSTED: _____ /BY: _____

**ALL PLANNING AND ZONING COMMISSION AGENDAS ARE PLACED ON THE
INTERNET AT THE ADDRESS BELOW:**

([HTTP://COSTX.US/PLANNING-ZONING/](http://costx.us/planning-zoning/))

Approved by: 

Ivy Avalos
Mayor

Ruben Reyes
At Large

Cesar Nevarez
District 1



Alejandro García
District 2 / Mayor ProTem

Rudy Cruz Jr.
District 3

Yvonne Colon-Villalobos
District 4

Adriana Rodarte
City Manager

**PLANNING AND ZONING COMMISSION MEETING MINUTES
JUNE 6, 2023 @ 5:30 P.M.**

MEMBERS PRESENT:

Andrew Arroyos
David Estrada
Enrique Cisneros
Osvaldo Reza *arrived at 5:38 pm*

MEMBERS ABSENT:

Julie Dominguez and Maria Martinez

STAFF PRESENT

Myrian Duron, Planning and Zoning Clerk
Judith Rodriguez, Planning and Zoning Clerk
Merwan Bhatti, City Attorney
Lorraine Quimiro, City Planner Director of Development
Jose Botello, Planner
Lizbeth Castro, Recreation Coordinator
Juan Espinoza, IT Technician

1. Call to Order

Mr. Andrew Arroyos called to order at **5:36 pm**

2. Establishment of Quorum

Quorum with 4 commissioners present.

3. Notice to the Public-Open Forum

None

4. Consent Agenda

- a) Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of Block 1, Lot 2, Sombra De Piro Subdivision, located at 566 Buford Road, Socorro, TX from R-1 (Single Family Residential) to C-1 (Light Commercial) to allow for a parking area.
 - b) Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of Tract 1-A-8, Leigh Clark Survey #293 ABST 6257, located at 1221 Jaime Road, Socorro, TX from R-1 (Single Family Residential) to C-2 (General Commercial) with a Conditional Use Permit to allow for Commercial Truck Parking.
 - c) Public hearing request for the proposed amendment to the City of Socorro's Master Plan and Rezoning of Block E, Lot 4, Vinedo Acres Subdivision, located at 345 Tokay Avenue, Socorro, TX from R-1 (Single Family Residential) to RM-1 (Mobile Home Subdivision District) to allow for the placement of Mobile Homes and to subdivide property.
- a) Approval of Meeting minutes of May 16, 2023.

A motion was made by Andrew Arroyos *to approve* seconded by David Estrada.

Motion carried

Ayes: Andrew Arroyos and David Estrada.

Nays:

Abstain: Enrique Cisneros

Absent: Osvaldo Reza, Julie Dominguez, and Maria Martinez.

REGULAR AGENDA-DISCUSSION AND ACTION

5. Public hearing request for the proposed Conditional Use Permit at the property being Block D, Lot 9C, Vinedo Acres Replat B, located at 11115 Perlette Street, Socorro, TX to allow for a Commercial Tow Truck to be parked inside the property in accordance with Section 46-237.- Conditional Uses.

Public Hearing opened at **5:37** pm

Silvestre Rios spoke during Public Hearing.

Public Hearing closed at **5:40** pm

6. **Consider and Take Action** on the proposed Conditional Use Permit at the property being Block D, Lot 9C, Vinedo Acres Replat B located at 11115 Perlette Street, Socorro, TX to

allow for a Commercial Tow Truck to be parked inside the property in accordance with Section 46-237.- Conditional Uses.

A motion was made by Enrique Cisneros *to deny based on not meeting the criteria for the conditional use* seconded by David Estrada.

Motion carried

Ayes: Andrew Arroyos, David Estrada, Enrique Cisneros, and Osvaldo Reza

Nays:

Abstain:

Absent: Julie Dominguez and Maria Martinez.

- 7. Consider and Take Action** on the proposed approval of the Socorro Logistics Center Unit #3 Final Plat located at North Loop and Logistics Center Court, being a portion of Tract 13A, Block 5, Socorro Grant, Socorro TX.

A motion was made by Andrew Arroyos *to approve* seconded by Enrique Cisneros.

Motion carried

Ayes: Andrew Arroyos, David Estrada, Enrique Cisneros, and Osvaldo Reza

Nays:

Abstain:

Absent: Julie Dominguez and Maria Martinez.

- 8. Consider and Take Action** on the proposed approval of Preliminary and Final Plat for Vanguard Subdivision located at 11340 Gateway East Blvd., being Tracts 1Y and 1Y1, Leigh Clark Survey No. 293 ABST 6257, Socorro TX.

A motion was made by Enrique Cisneros *to approve* seconded by Andrew Arroyos.

Motion carried

Ayes: Andrew Arroyos, David Estrada, Enrique Cisneros, and Osvaldo Reza

Nays:

Abstain:

Absent: Julie Dominguez and Maria Martinez.

- 9. Consider and Take Action** on the proposed approval of a Final Plat for Sendero Flores Village Subdivision located at Sylvia Court, being all of Tracts 4B and 4C, Block 27, Socorro Grant, Socorro TX.

Marvin Gomez, applicant's engineer spoke on this item.

A motion was made by Andrew Arroyos *to approve with waving that there are no covenants and waving the TIA with a letter that was provided to commissioners* seconded by Osvaldo Reza.

Motion carried

Ayes: Andrew Arroyos, Enrique Cisneros, and Osvaldo Reza.

Nays: David Estrada

Abstain:

Absent: Julie Dominguez and Maria Martinez.

THE PLANNING & ZONING COMMISSION CONVENED INTO A TWO MINUTE
RECESS AT **6:31 PM**

THE PLANNING & ZONING COMMISSION RECONVENED IN OPEN SESSION AT
6:35 PM

Before item number 10 was presented, Chairman notified that Commissioner David Estrada had a statement that he would read.

A statement was read by Commissioner David Estrada.

10. Consider and Take Action on the proposed approval of a Preliminary Plat for Vista Bonita Estates Unit 2, being a portion of Tract 5, Block 24, San Elizario Grant, El Paso County, Texas.

Robert Romero, applicant's representative TRE Associates spoke on this item.

Commissioner David Estrada spoke on this item.

Chairman allowed to speak 3 minutes to opponents after proponents' presentation.
Rene Rodriguez, Jesus Morales, Jesus Cabrera, Denise Garcia, Damian Pillatzke, and Fernie Salcido spoke during this presentation.

A motion was made by Enrique Cisneros *to go to Executive Session* seconded by Andrew Arroyos who added a 1-minute recess at **8:00 pm**.

Meeting resumed at **8:48 pm**.

Linda Troncoso, applicant's representative TRE Associates spoke on this item.

A motion was made by Enrique Cisneros *to approve along with staff recommendations with the condition that the TIA be updated prior to the Final Plat approval* seconded by Andrew Arroyos.

Motion carried

Ayes: Andrew Arroyos, Enrique Cisneros, and Osvaldo Reza

Nays:

Abstain: David Estrada

Absent: Julie Dominguez and Maria Martinez.

11. Consider and Take Action on a recommendation to City Council on the development of a Uniform Development Code to replace existing Zoning, Subdivision, and Development related Ordinances to encourage the development of strong healthy communities.

Ms. Lorraine Quimiro made a presentation.

A motion was made by Andrew Arroyos *to approve* seconded by Enrique Cisneros.

Motion carried

Ayes: Andrew Arroyos, David Estrada, Enrique Cisneros, and Osvaldo Reza

Nays:

Abstain:

Absent: Julie Dominguez and Maria Martinez.

12. Planning and Zoning Commissioners Report.

Commissioner David Estrada read a statement about Rancho Miraval covenants, and he requested to put an item on the next Planning and Zoning meeting agenda regarding the process of vacation of the outlets which are Tres Caballos, Los Adobes St., and Antigua St.

13. Planning and Zoning Department Report.

Ms. Lorraine Quimiro informed the Board of a potential meeting in the third week of July to provide more information about the comprehensive plan update. She thanked everyone who attended the meeting TxDOT's North Loop Feasibility Project stakeholder meeting and reminded everyone that next Public Meeting would be in the Fall.

14. Adjournment:

A motion was made by Andrew Arroyos *to adjourn* seconded by Osvaldo Reza.

Motion carried.

Ayes: Andrew Arroyos, David Estrada, Enrique Cisneros, and Osvaldo Reza.

Nays:

Abstain:

Absent: Julie Dominguez and Maria Martinez.

Meeting adjourned at **10:06** pm.

Andrew Arroyos, Chairman

Date minutes were approved.

Judith Rodriguez, Secretary

Date minutes were approved.



**CITY OF SOCORRO
PLANNING & ZONING COMMISSION
MEETING DATE: JUNE 20, 2023**

Items 5 & 6

REZONING REQUEST

STAFF REPORT

SUBJECT:

PUBLIC HEARING REQUEST FOR THE PROPOSED AMENDMENT TO THE CITY OF SOCORRO'S MASTER PLAN AND REZONING OF BLOCK 1, LOT 2, SOMBRA DE PIRO LOCATED AT 566 BUFORD ROAD, SOCORRO, TX FROM R-1 (SINGLE FAMILY RESIDENTIAL) TO C-1 NEIGHBORHOOD COMMERCIAL (LIGHT COMMERCIAL) TO ALLOW FOR A PARKING AREA.

NAME: 566 BUFORD RD REZONING

PROPERTY ADDRESS: 566 BUFORD RD.

PROPERTY LEGAL DESCRIPTION: BLOCK 1, LOT 2, SOMBRA DE PIRO

PROPERTY OWNER: MARIA ESTELA PADILLA, MAGDALENA IMELDA MAUREIRA, MARIA REBECCA MCWHORTER, AND RALPH LOYA

REPRESENTATIVE: MARIA ESTELA PADILLA

PROPERTY AREA: 29,534.49 S.F.

CURRENT ZONING: R-1(SINGLE FAMILY RESIDENTIAL); HISTORIC DISTRICT

CURRENT LAND USE: VACANT

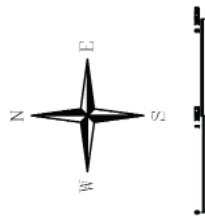
FUTURE LAND USE MAP: SINGLE FAMILY RESIDENTIAL

FLOOD MAP: According to the Flood Insurance Rate Maps, the referenced property lies within Zone X; (Community Panel # 480212 250-B/ FEMA, September 4, 1991).

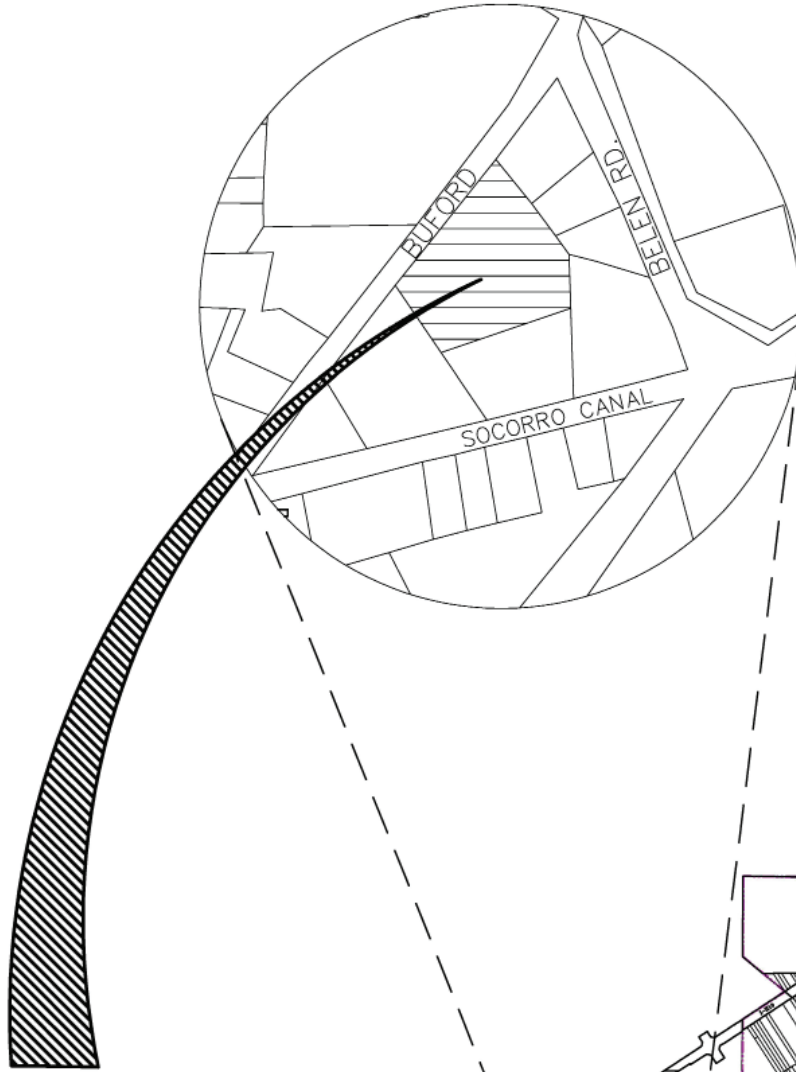
SUMMARY OF REQUEST: Request for **APPROVAL** of Rezoning of property from R-1 to C-1 to allow for a parking area.

STAFF RECOMMENDATION: Staff recommends **APPROVAL** of the Rezoning request.

LOCATION MAP



PROJECT SITE;
566 Buford Rd.
Lot-2, Block-1
Sombra Del Piro



CITY OF SOCORRO

LOCATION MAP
Scale: AS SHOWN



Planning and Zoning Department

860 N. Rio Vista Socorro, Texas 78797 TEL: (505) 872-4831 FAX: (505) 872-4673

Legend

- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded
- Unincorporated
- City Zone
- Excluded

Map Labels: 566, BUFORD, SOCORRO, BEBEN, ESCOBEDO, NICHOLAS, ESTANCIA CLARA, SAN MIGUEL, SOCORRO LINDEN

Scale: 0 55 110 220 Feet

Date: 4/25/2023

City of Socorro Planning & Zoning
800 N. RIO VISTA
SOCORRO, N.M. 87902

SITE PICTURES

View towards property from Belen Rd.



View of property/ponding area from Buford Rd.

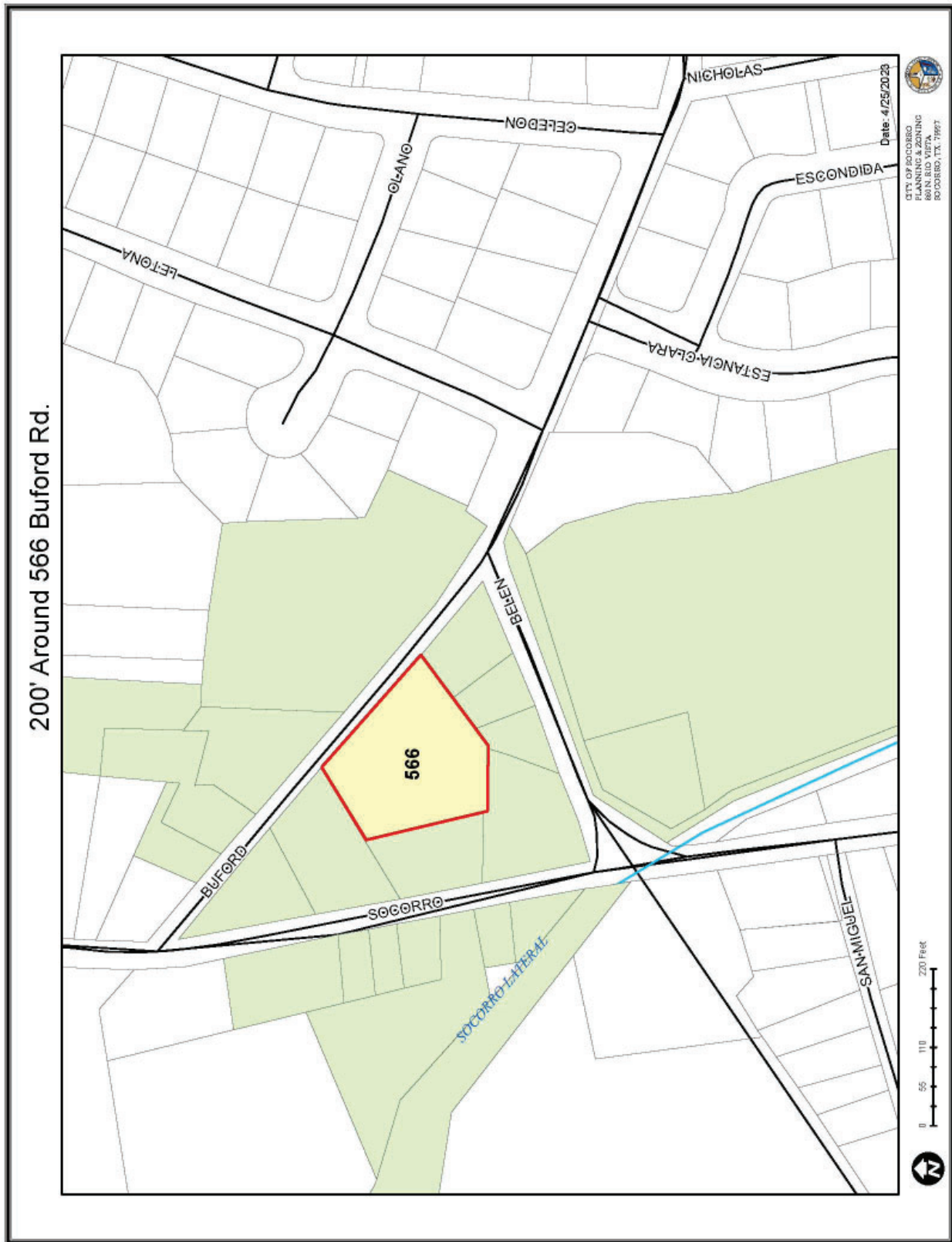


AERIAL PHOTO

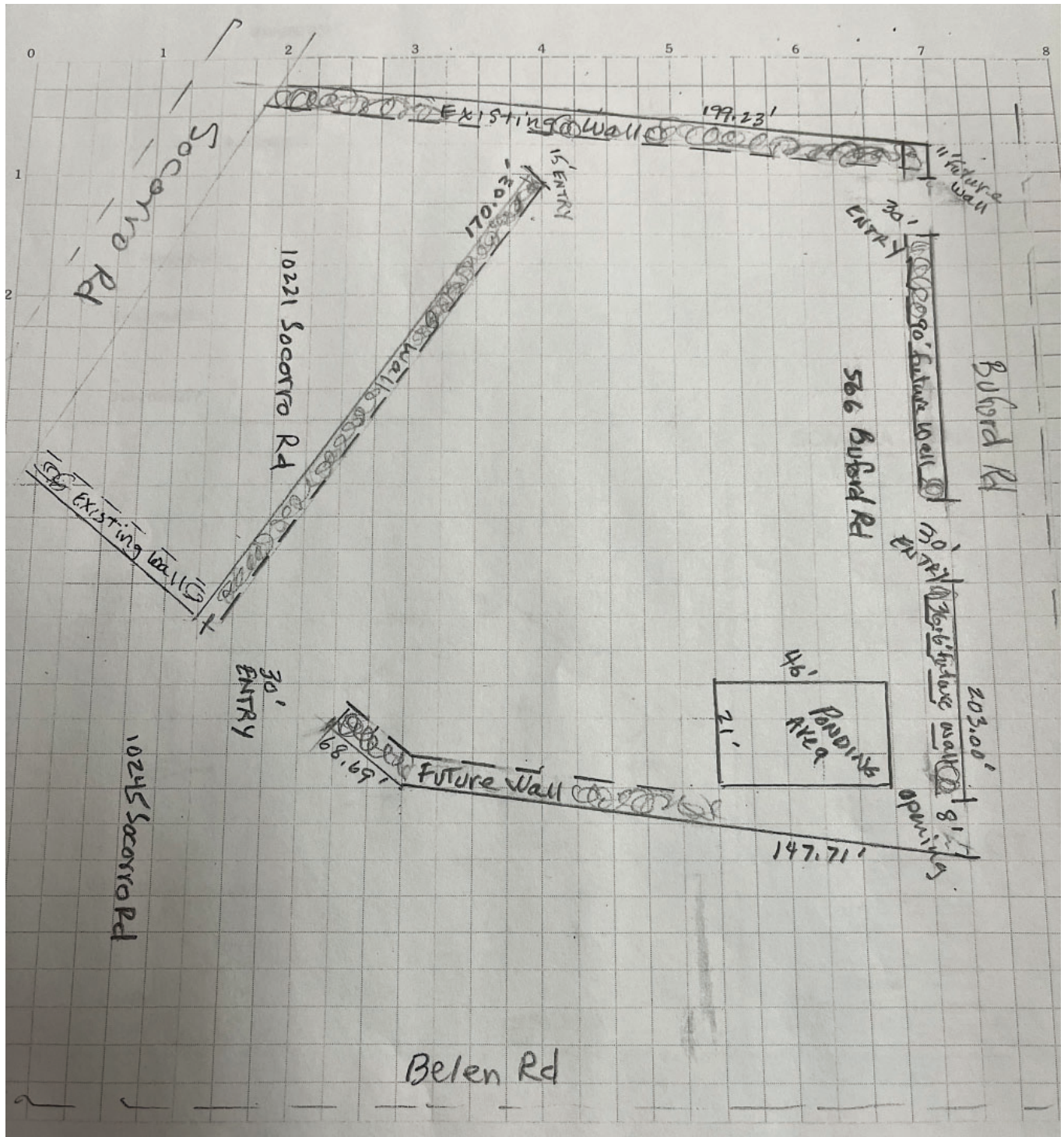


PUBLIC HEARING

No correspondence, comments or concerns were received for the rezoning request.



SITE PLAN





CITY OF SOCORRO
PLANNING & ZONING COMMISSION
MEETING DATE: JUNE 20, 2023

Items 7 & 8

REZONING REQUEST

STAFF REPORT

SUBJECT:

PUBLIC HEARING REQUEST FOR THE PROPOSED AMENDMENT TO THE CITY OF SOCORRO'S MASTER PLAN AND REZONING OF TRACT 1-A-8, LEIGH CLARK SURVEY #293 ABST 6257, LOCATED AT 1221 JAIME ROAD, SOCORRO, TX FROM R-1 (SINGLE FAMILY RESIDENTIAL) TO C-2 (GENERAL COMMERCIAL) WITH A CONDITIONAL USE PERMIT TO ALLOW FOR COMMERCIAL TRUCK PARKING.

NAME:

1221 JAIME RD. REZONING

PROPERTY ADDRESS:

1221 JAIME ROAD

**LEGAL DESCRIPTION
OF PROPERTY:**

TRACT 1-A-8, LEIGH CLARK SURVEY #293 ABST 6257

PROPERTY OWNER:

EDEL ROMERO

REPRESENTATIVE:

EDEL ROMERO

PROPERTY AREA:

2.129 ACRES

CURRENT ZONING:

R-1 (SINGLE FAMILY RESIDENTIAL)

CURRENT LAND USE:

RESIDENTIAL

FUTURE LAND USE MAP:

COMMERCIAL

FLOOD MAP:

According to the Flood Insurance Rate Maps, the referenced property lies within Zone X; (Community Panel # 480212 237B/ FEMA, September 4, 1991).

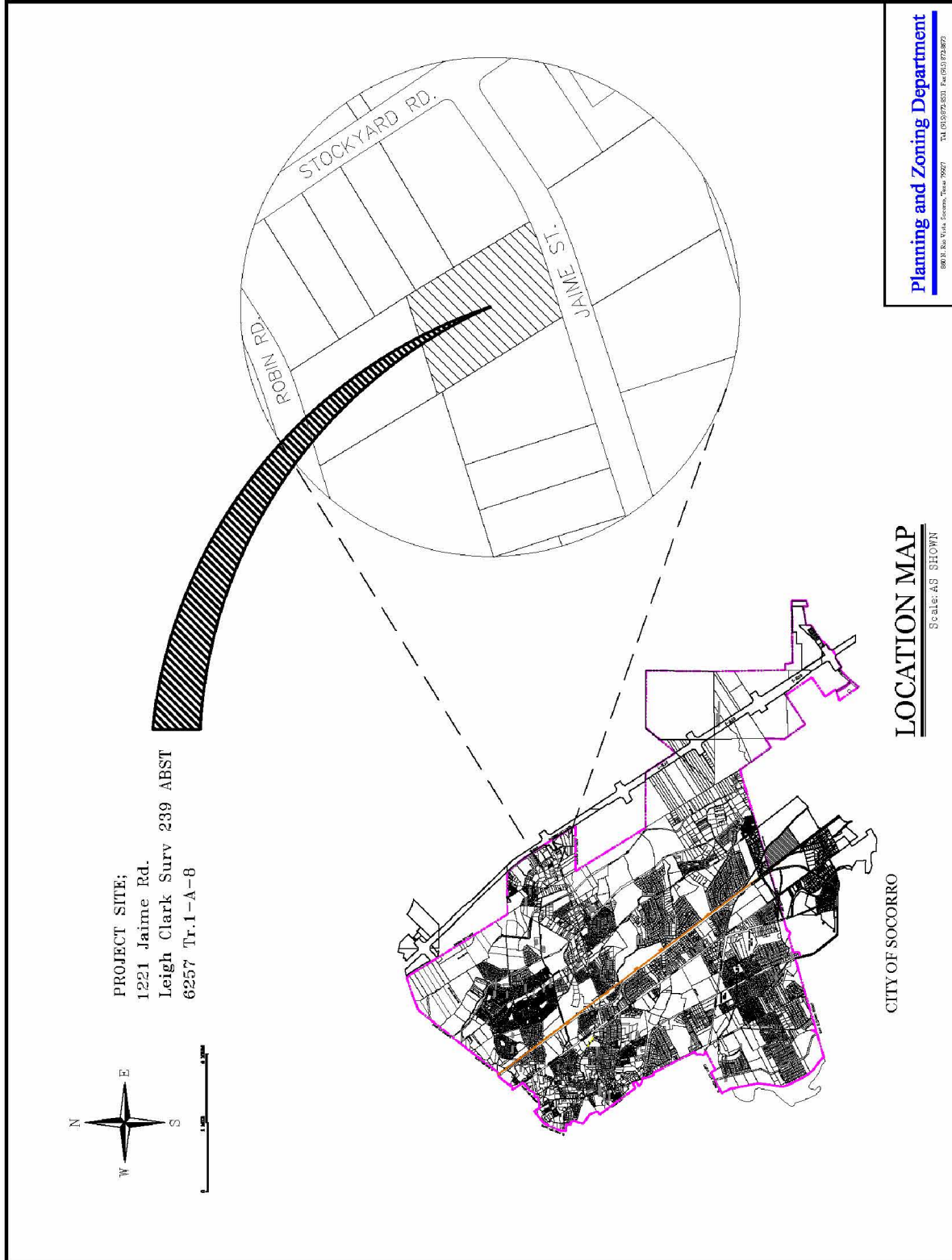
SUMMARY OF REQUEST:

Request for **APPROVAL** of the rezoning of a property from R-1 to C-2 with a conditional use permit to allow for commercial truck parking.

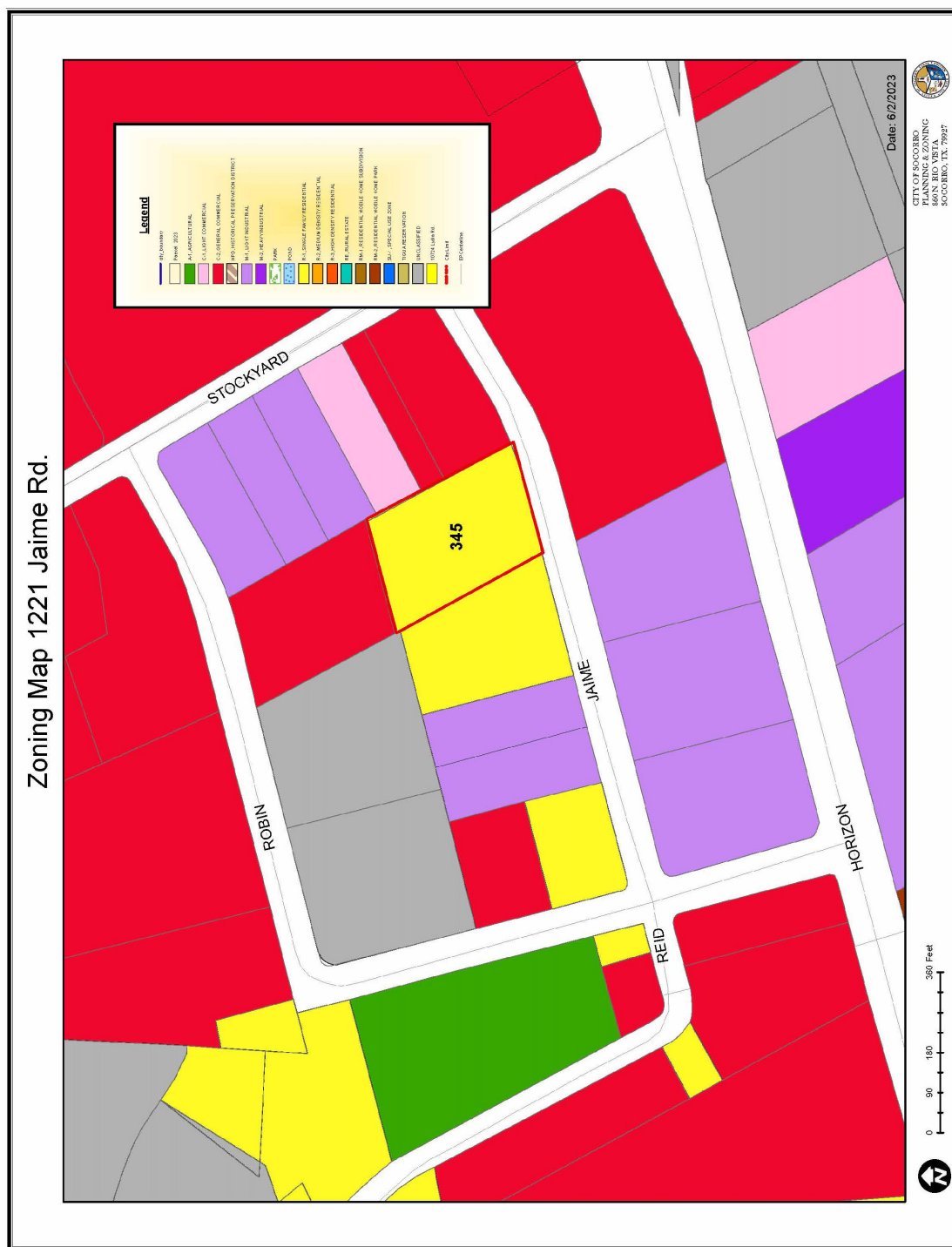
STAFF RECOMMENDATION:

Staff recommends **Approval** of the Rezoning Request

LOCATION MAP



ZONING MAP



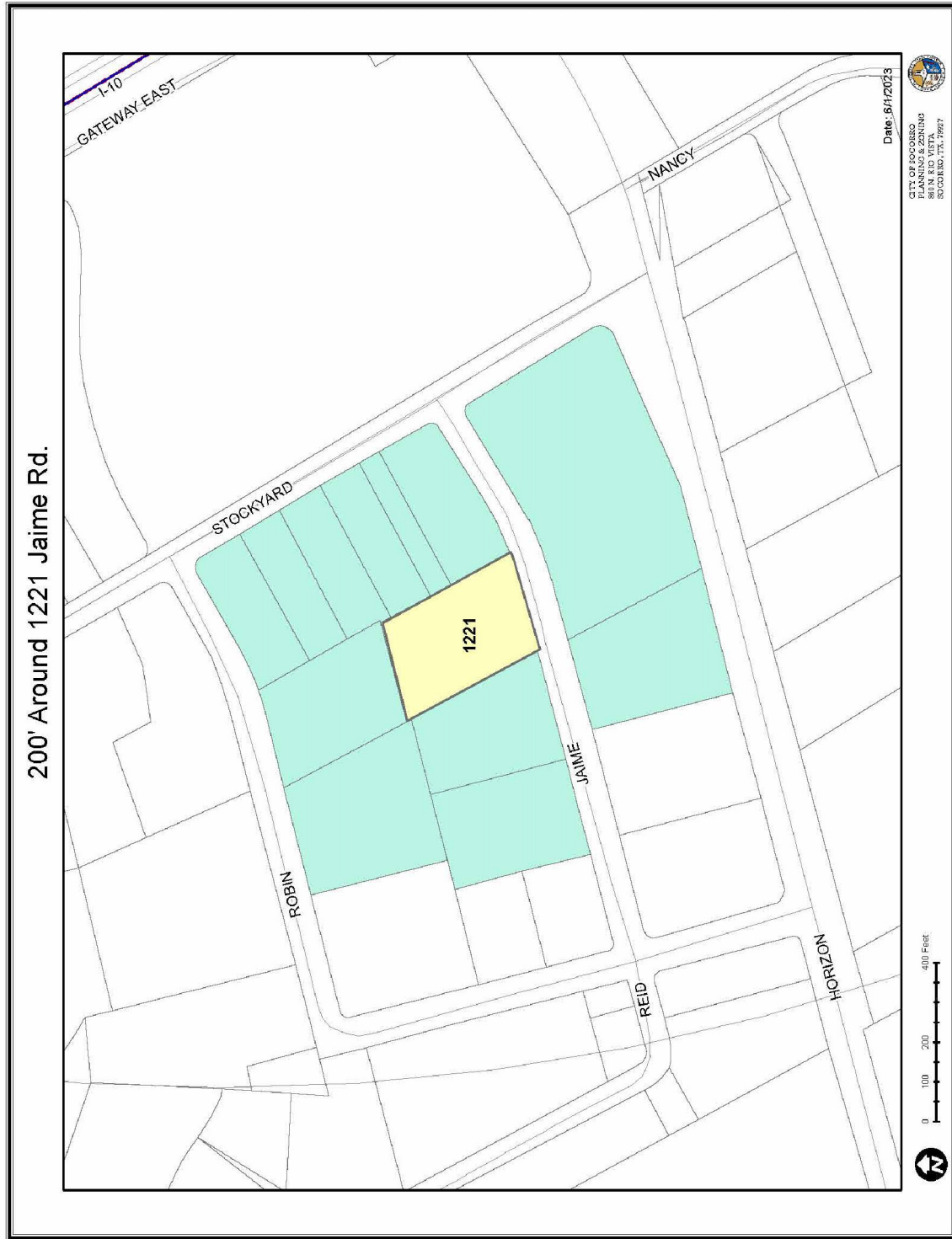
SITE PICTURES



AERIAL PHOTO



PUBLIC NOTICE



SITE PLAN



NORTH

SCALE: 1" = 40'-0"

PROPOSED SITE PLAN

3



**CITY OF SOCORRO
PLANNING & ZONING COMMISSION
MEETING DATE: JUNE 20, 2023**

Items 9 & 10

REZONING REQUEST

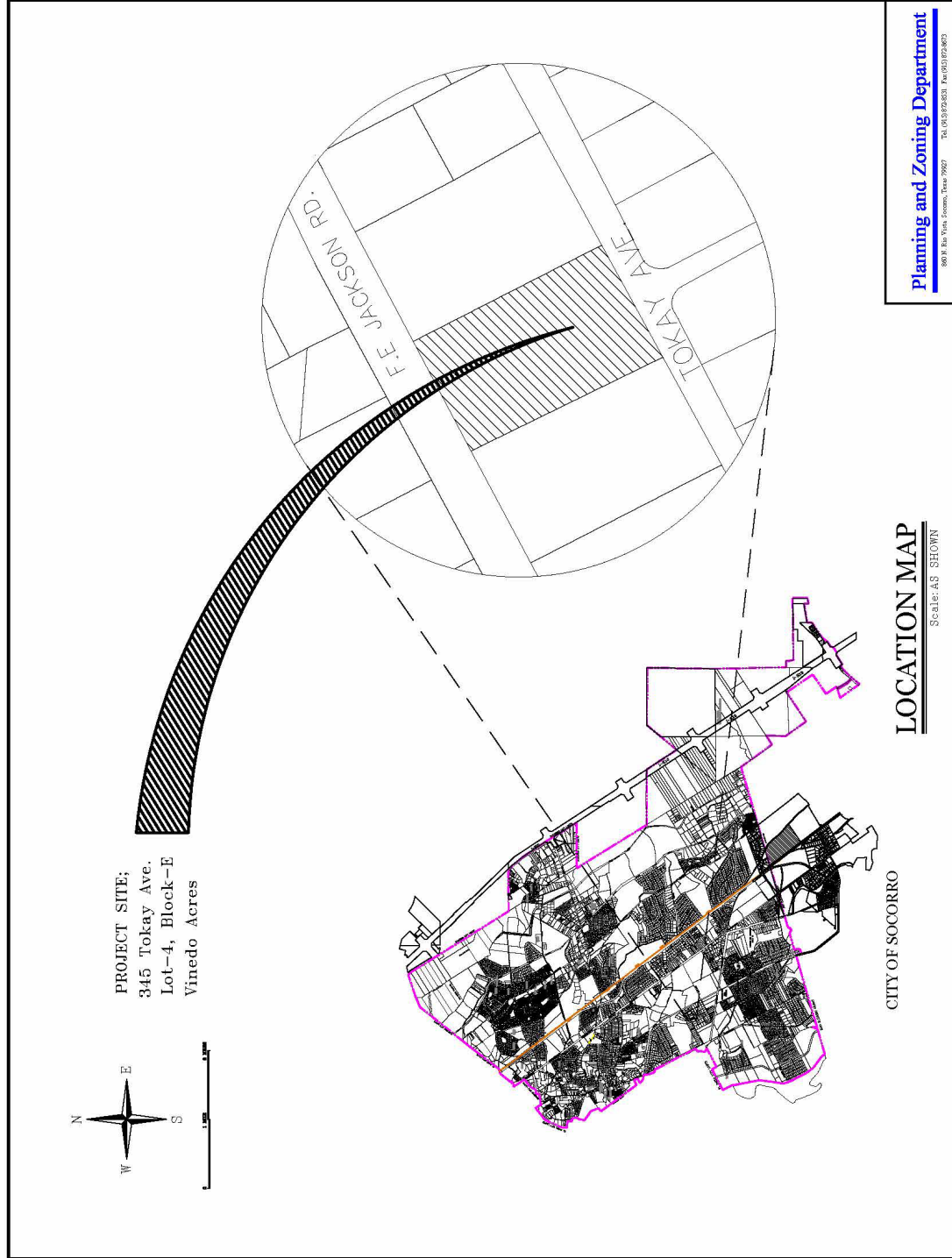
STAFF REPORT

SUBJECT:

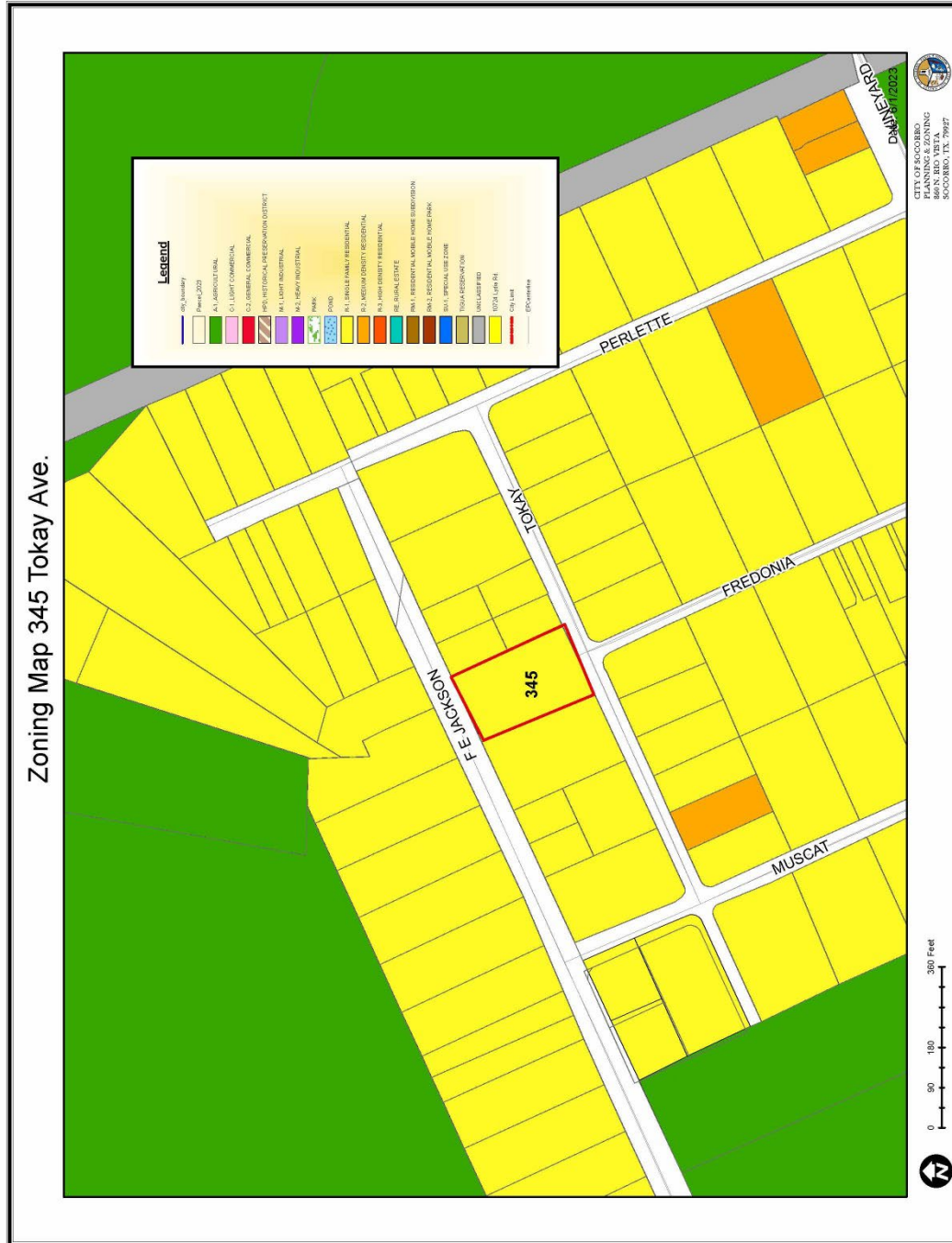
PUBLIC HEARING REQUEST FOR THE PROPOSED AMENDMENT TO THE CITY OF SOCORRO'S MASTER PLAN AND REZONING OF LOT 4, BLOCK E, VINEDO ACRES, LOCATED AT 345 TOKAY AVENUE, SOCORRO, TX FROM R-1 (SINGLE FAMILY RESIDENTIAL) TO RM-1 (MOBILE HOME SUBDIVISION DISTRICT) TO ALLOW THE PLACEMENT OF MOBILE HOME(S).

NAME:	345 TOKAY REZONING
PROPERTY ADDRESS:	345 TOKAY AVE.
LEGAL DESCRIPTION OF PROPERTY:	LOT 4, BLOCK E, VINEDO ACRES
PROPERTY OWNER:	JUANA M. BETANCOURT
REPRESENTATIVE:	ISAAC D. RODRIGUEZ
PROPERTY AREA:	1.046 ACRES
CURRENT ZONING:	R-1 (SINGLE FAMILY RESIDENTIAL)
CURRENT LAND USE:	RESIDENTIAL
FUTURE LAND USE MAP:	RESIDENTIAL
FLOOD MAP:	According to the Flood Insurance Rate Maps, the referenced property lies within Zone X; (Community Panel # 480212 250B/ FEMA, September 4, 1991).
SUMMARY OF REQUEST:	Request for APPROVAL of the rezoning of a property from R-1 to RM-1 allow the placement of mobile home(s).
STAFF RECOMMENDATION:	Staff recommends Approval of the Rezoning Request.

LOCATION MAP



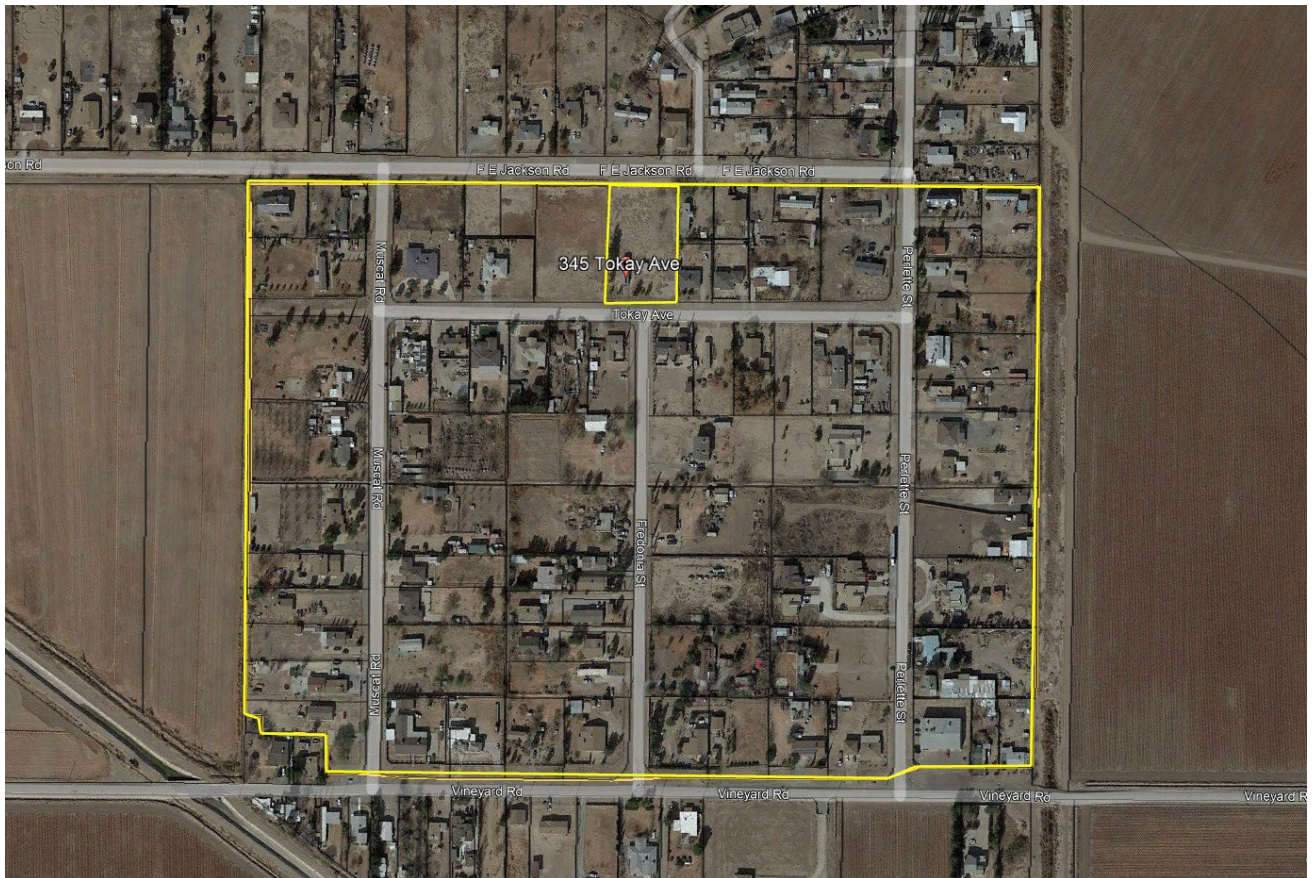
ZONING MAP



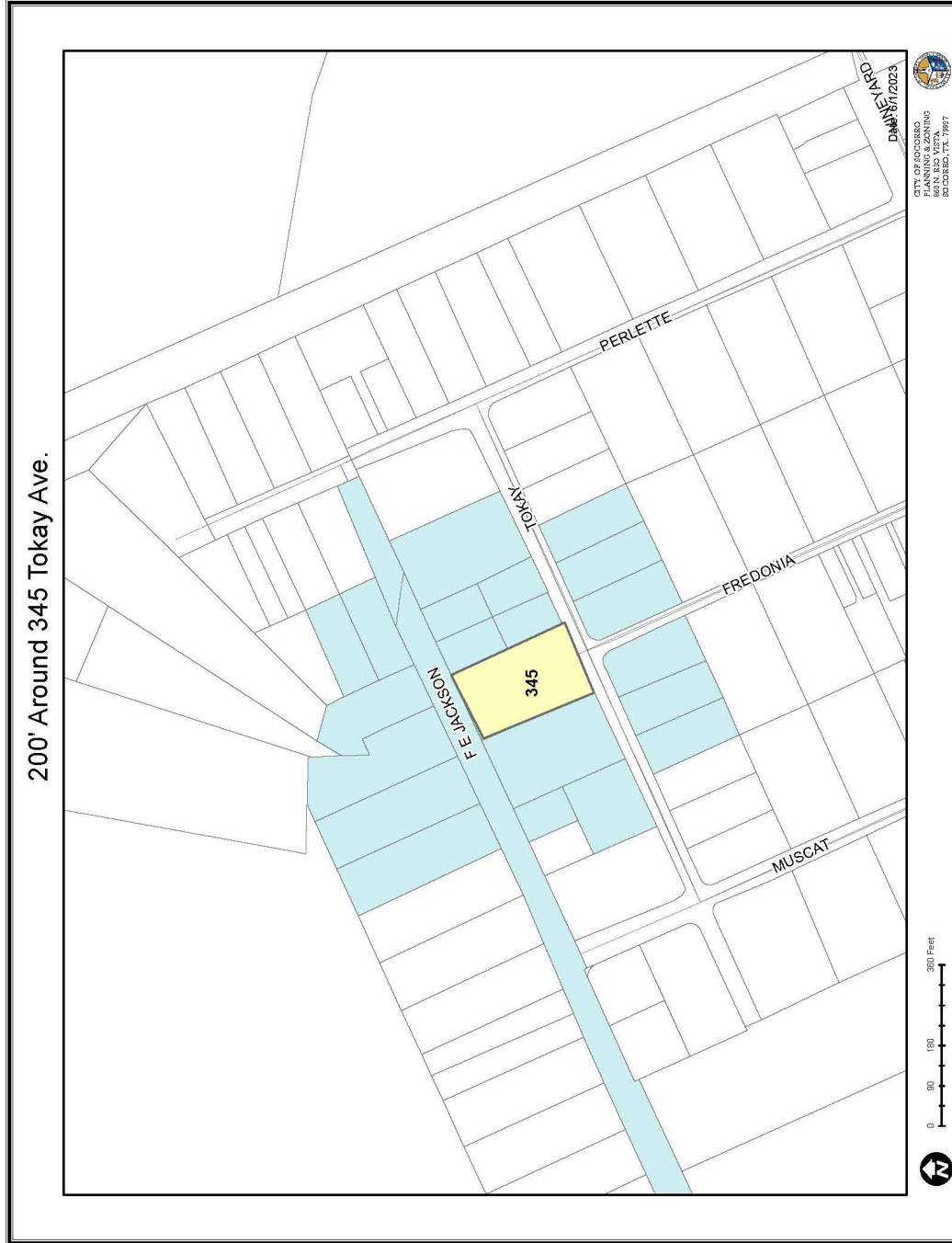
SITE PICTURES



AERIAL PHOTO



PUBLIC NOTICE



LETTER OF SUPPORT

This letter is to advise you that the owners of 345 (Vinedo Acres) in Socorro Texas have submitted plans for a proposed amendment of the City of Socorro's Master Plan and rezoning of the above-stated address from an R-1 to an RM-1.

The owners of 345 Tokay, currently live with the wife's family at 485 Fe Jackson. The owners of 485 Fe Jackson have lived in this area for over 40 years. My spouse and I bought the land from her uncle who currently lives on 345 Tokay. The current zoning only allows for one residential dwelling on the property. We are first looking to rezone the property to an RM-1 to allow for multiple manufactured homes to be placed on the land. The mobile homes would be her uncle and a brand new double-wide manufactured home we are looking to purchase soon. Her family has lived in this neighborhood for many years and our only intention is to continue that with a family of our own. We have begun to build a rock wall and will continue to make the property improve the neighborhood. Signing this form ACKNOWLEDGES our family's intentions and is providing support for this rezoning.

Neighbor's Address	Neighbors Name -PRINT	Neighbors Signature
375 FE Jackson Rd	Lizette Salcedo	<i>L Salcedo</i>
345 FE Jackson Rd	Diana Sandoz	<i>Diana Sandoz</i>
321 FE Jackson	Ruben Ponce	<i>R Ponce</i>
323 FE Jackson	Francisco Amargosa	<i>Francisco Amargosa</i>
10986 S Leilotte	Maris S. Hernandez	<i>Maris S. Hernandez</i>
10990 Leilotte	ENISA Vasquez	<i>Enisa Vasquez</i>
305 TOKAY Blvd	Hector Rodriguez	<i>Hector Rodriguez</i>

336 FE JACKSON RD JULIETA TRUJILLO

Julietta Trujillo

~~345 FE Jackson~~

Paul Roberts

Paul Roberts

317 FE JACKSON

MARIA ANNA

Maria Anna

335 Fe Jackson Rd

Denise Maldonado

Denise Maldonado

365 FE Jackson

MANUEL GUZMAN JR

Manuel Guzman

485 FE JACKSON

Juan M. Betancourt

Juan M. Betancourt

336 TOKAY

TERESA MUNOZ

Teresa Munoz

336 TOKAY

Gustavo Zamora

Gustavo Zamora

348 TOKAY

Maria Esther Contreras M. Silva Contreras

368 Tokay

Jose Barba

Jose Barba

376 TOKAY

Ulises Aguilar

Ulises Aguilar

10987 Leilotte

JOE GARCIA

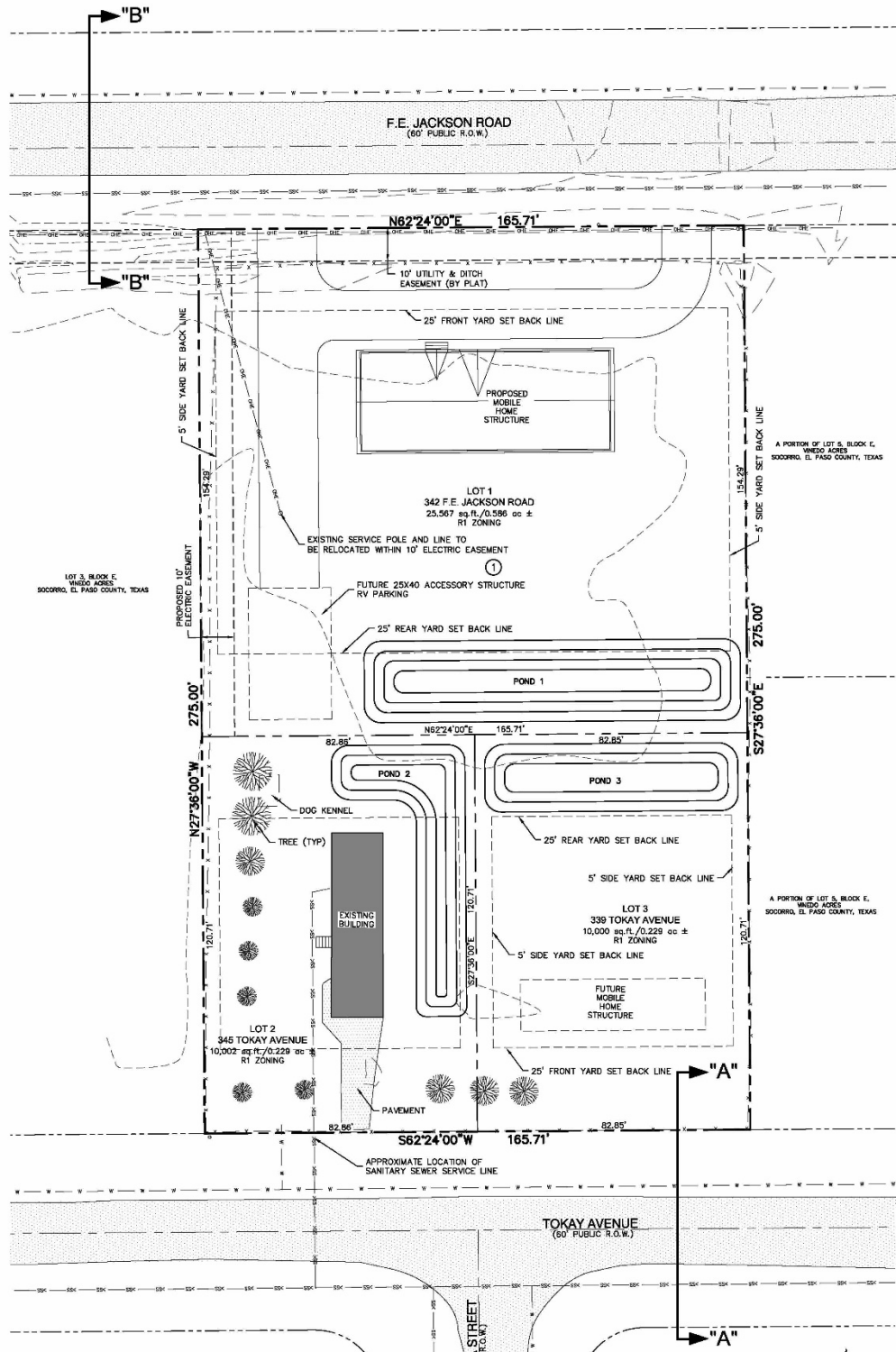
Joe Garcia

11106 Muscott Rd

JAMES P. HEBERT

James P. Hebert

SITE PLAN



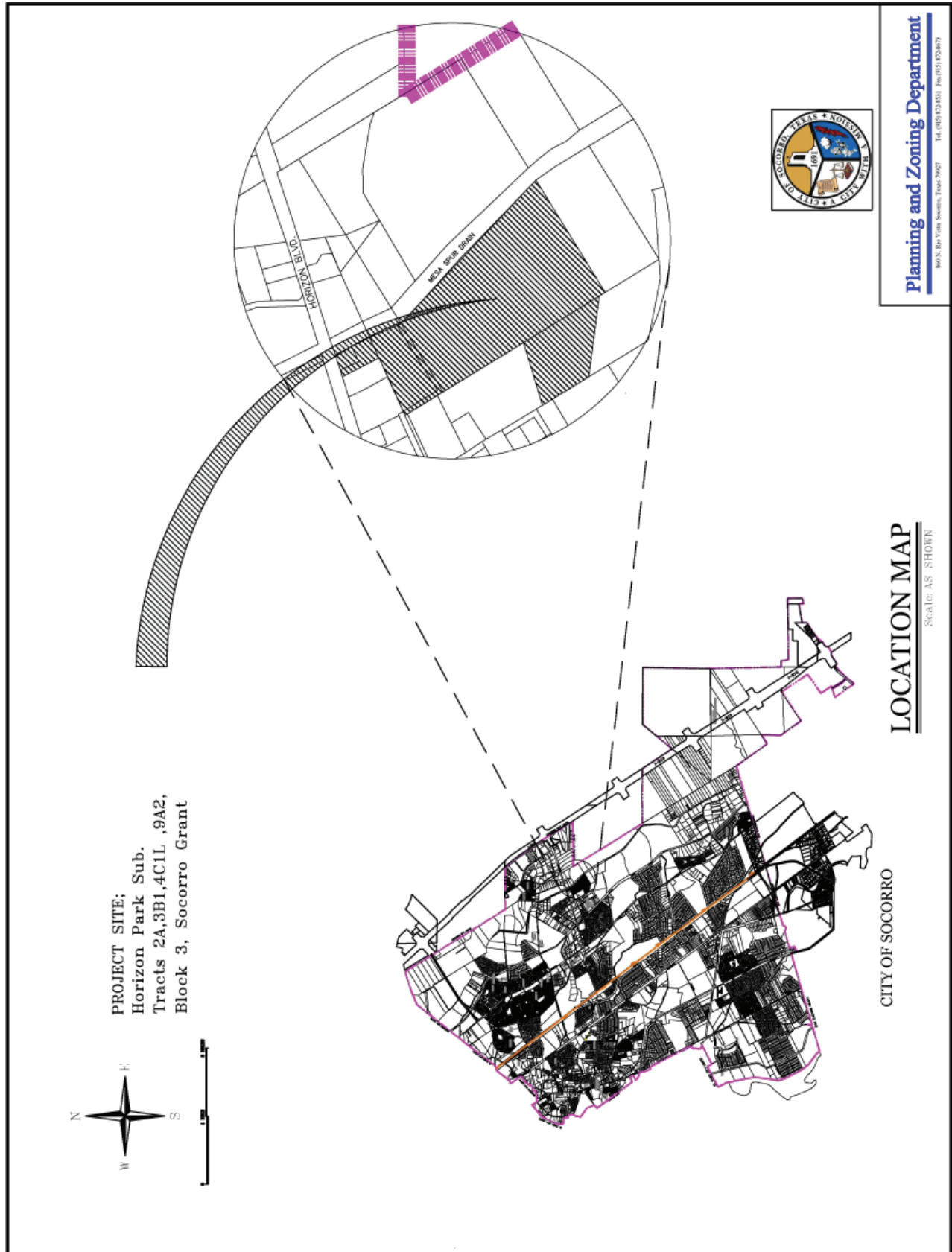


**CITY OF SOCORRO
PLANNING & ZONING COMMISSION
MEETING DATE: JUNE 20, 2023**

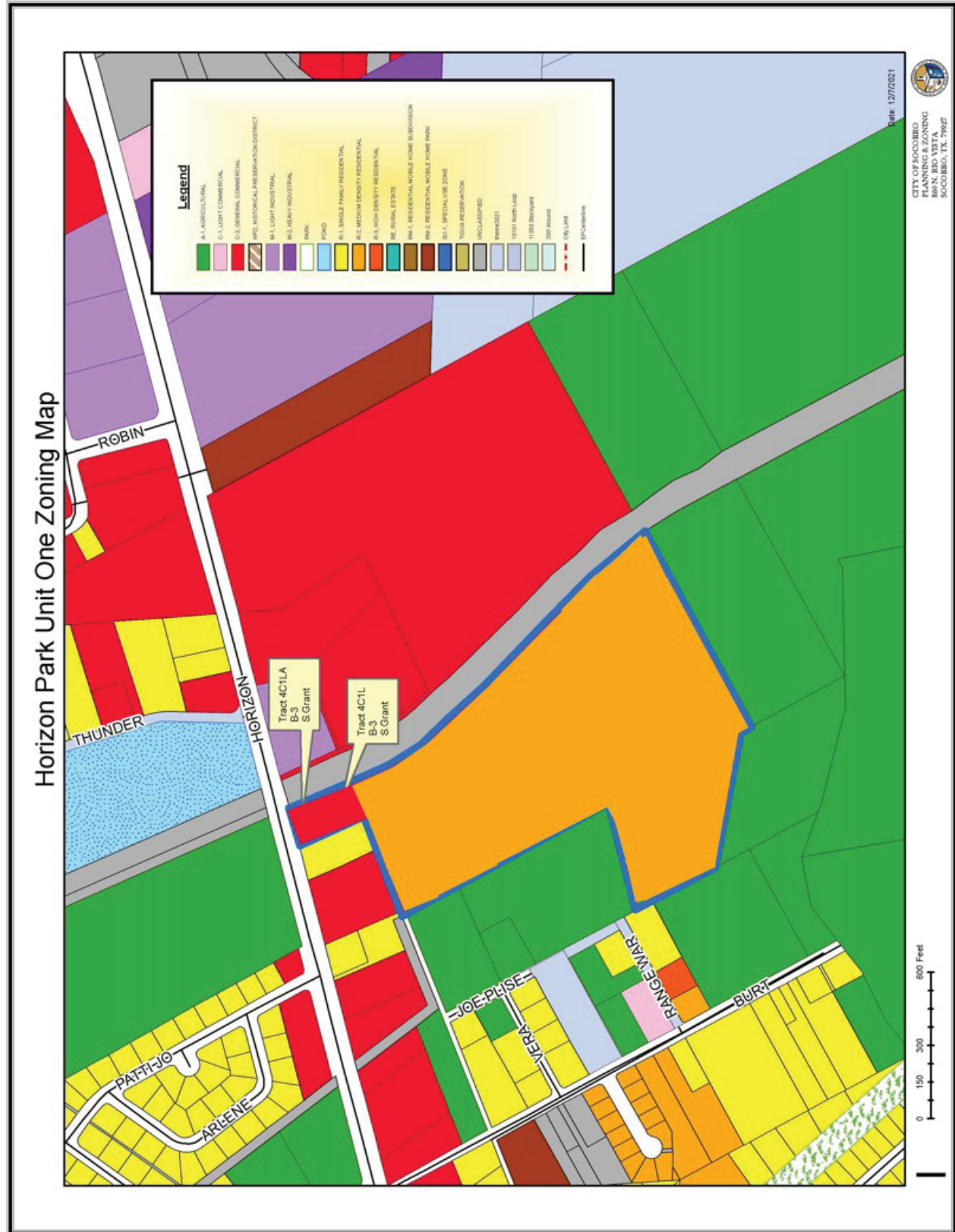
**PRELIMINARY PLAT
STAFF REPORT**

SUBJECT:	REQUEST FOR APPROVAL OF A PRELIMINARY PLAT FOR HORIZON PARK UNIT ONE SUBDIVISION.
NAME:	HORIZON PARK UNIT ONE
PROPERTY ADDRESS:	HORIZON BLVD.
PROPERTY LEGAL DESCRIPTION:	BEING ALL OF TRACTS 2A, 3B1, 4C1L, AND 9A2, BLOCK 3, SOCORRO GRANT, SOCORRO, TX.
PROPERTY OWNER:	BOWLING BROTHERS DEVELOPMENT COMPANY, LLC.
REPRESENTATIVE:	JORGE AZCARATE CEA GROUP
PROPERTY AREA:	31.70 ACRES
CURRENT ZONING:	R-2 (MEDIUM DENSITY RESIDENTIAL) & C-2 (GENERAL COMMERCIAL)
CURRENT LAND USE:	VACANT
FLOOD MAP:	According to the Flood Insurance Rate Maps, the referenced property lies within Zone X; (Community Panel # 480212 0236-B/ FEMA, September 4, 1991).
SUMMARY OF REQUEST:	Request is for approval of the Preliminary Plat for Horizon Park Unit One.
STAFF RECOMMENDATION:	Staff recommends APPROVAL of the Preliminary Plat.

LOCATION MAP



ZONING MAP



SITE PICTURES

View of property from Horizon Blvd.



View of property from Range War Ct.



AERIAL PHOTO



PRELIMINARY PLAT

PLAT NOTES AND RESTRICTIONS:

1. THIS IS TO CERTIFY THAT WATER AND SEWER SERVICES WILL BE PROVIDED TO HORIZON PARK UNIT ONE BY THE LOWER VALLEY WATER DISTRICT IN ACCORDANCE WITH THEIR RULES AND REGULATIONS AND WITH SECTION 16.543 OF THE TEXAS WATER CODE. WATER AND SEWER SERVICES WILL BE EXTENDED TO THE SUBDIVISION FROM EXISTING FACILITIES LOCATED ON PASSMORE ROAD, AND WILL BE CONSTRUCTED TO SERVE THE SUBDIVISION WITHIN TWO YEARS FROM THE PLAT FILING DATE.
2. TAX CERTIFICATE(S) FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION,
INSTRUMENT No. _____, DATE _____
3. RESTRICTIVE COVENANTS FOR THIS SUBDIVISION ARE FILED IN THE OFFICE OF THE COUNTY CLERK, DEED AND RECORD SECTION,
INSTRUMENT No. _____, DATE _____
4. "U.S. POSTAL SERVICE DELIVERY WILL BE PROVIDED THROUGH NEIGHBORHOOD DELIVERY AND COLLECTION BOX UNITS."
5. THIS SUBDIVISION LIES WITHIN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0236B, DATED SEPTEMBER 4, 1991, OF THE UNINCORPORATED AREAS OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOODPLAIN.
6. DEED RESTRICTIONS SHALL BE ENFORCED BY INJUNCTIVE RELIEF WITHOUT THE REQUIREMENT FOR BOND OR OTHER SECURITY.
7. ALL STREETS WITHIN SUBDIVISION SHALL BE PUBLIC STREETS AND DEDICATED TO CITY OF SOCORRO.
8. ● - DENOTES PROPOSED MONUMENT. (FOR EXACT LOCATION CONTACT CITY OF SOCORRO)
9. LOT 3, BLOCK 1 SHALL BE DEVELOPED AS SINGLE-FAMILY RESIDENTIAL UNITS. LOT 1, BLOCK 1 SHALL BE DEVELOPED FOR AN APARTMENT SITE. LOT 4, BLOCK 1 SHALL BE DEVELOPED FOR A COMMERCIAL SITE.
10. ----- DENOTES 5-FOOT IRRIGATION EASEMENT AS PER EPCWID#1 REQUIREMENTS.

CURVE TABLE						
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING	DELTA
C1	800.00'	221.97'	111.70'	221.26'	S35°03'30"E	015°53'51"
C2	911.24'	103.18'	51.65'	103.13'	N39°54'46"W	006°29'16"
C3	400.00'	15.21'	7.61'	15.21'	S25°01'37"E	002°10'45"
C4	400.00'	125.40'	63.22'	124.89'	S35°05'52"E	017°57'46"
C5	430.00'	17.71'	8.86'	17.71'	S25°07'02"E	002°21'34"
C6	430.00'	133.45'	67.27'	132.92'	S35°11'17"E	017°46'56"
C7	545.00'	9.50'	4.75'	9.50'	S27°55'29"W	000°59'55"
C8	250.00'	149.37'	76.99'	147.16'	N44°32'33"E	034°14'03"
C9	370.00'	117.35'	59.17'	116.86'	S34°59'34"E	018°10'21"
C10	370.00'	12.72'	6.36'	12.72'	S24°55'19"E	001°58'10"
C11	30.00'	52.14'	35.49'	45.82'	S25°51'09"W	099°34'46"
C12	800.00'	56.89'	28.36'	56.68'	S29°08'23"E	004°03'36"
C13	800.00'	60.21'	30.12'	60.20'	S33°19'33"E	004°18'44"
C14	800.00'	105.07'	52.61'	104.99'	S39°14'40"E	007°31'30"

LINE TABLE		
LINE	BEARING	LENGTH
L1	N28°38'03"W	47.68'
L2	S61°17'54"W	32.43'
L3	N68°43'57"E	20.80'
L4	N75°38'32"E	152.19'
L5	S27°06'34"E	143.72'
L6	S43°00'25"E	187.26'
L7	N23°56'14"W	46.86'
L8	N23°56'14"W	44.97'
L9	N75°38'32"E	2.69'
L10	N44°04'45"W	20.78'
L11	S24°26'30"E	8.11'
L12	N61°17'54"E	30.10'
L13	N61°17'54"E	30.10'
L14	N61°17'54"E	30.03'
L15	N61°17'54"E	30.03'

SCHOOL DISTRICT

SOCORRO INDEPENDENT SCHOOL DISTRICT
12440 ROJAS DRIVE, EL PASO, TX 79928

BENCHMARK:

FOUND PK NAIL (H-15)(TxDOT)
ELEVATION: 3940.55 (NAVD 88)

TOTAL LOTS

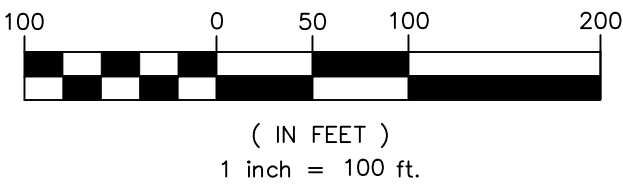
RESIDENTIAL =1
POND =1
COMMERCIAL =1
APARTMENT =1
TOTAL =4

FLOOD ZONE:

THIS SUBDIVISION LIES WITHIN UNSHADED ZONE "X" AS DESIGNATED IN PANEL NO. 480212 0236 B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. UNSHADED ZONE "X" INDICATES AREAS OUTSIDE 500-YEAR FLOODPLAIN.

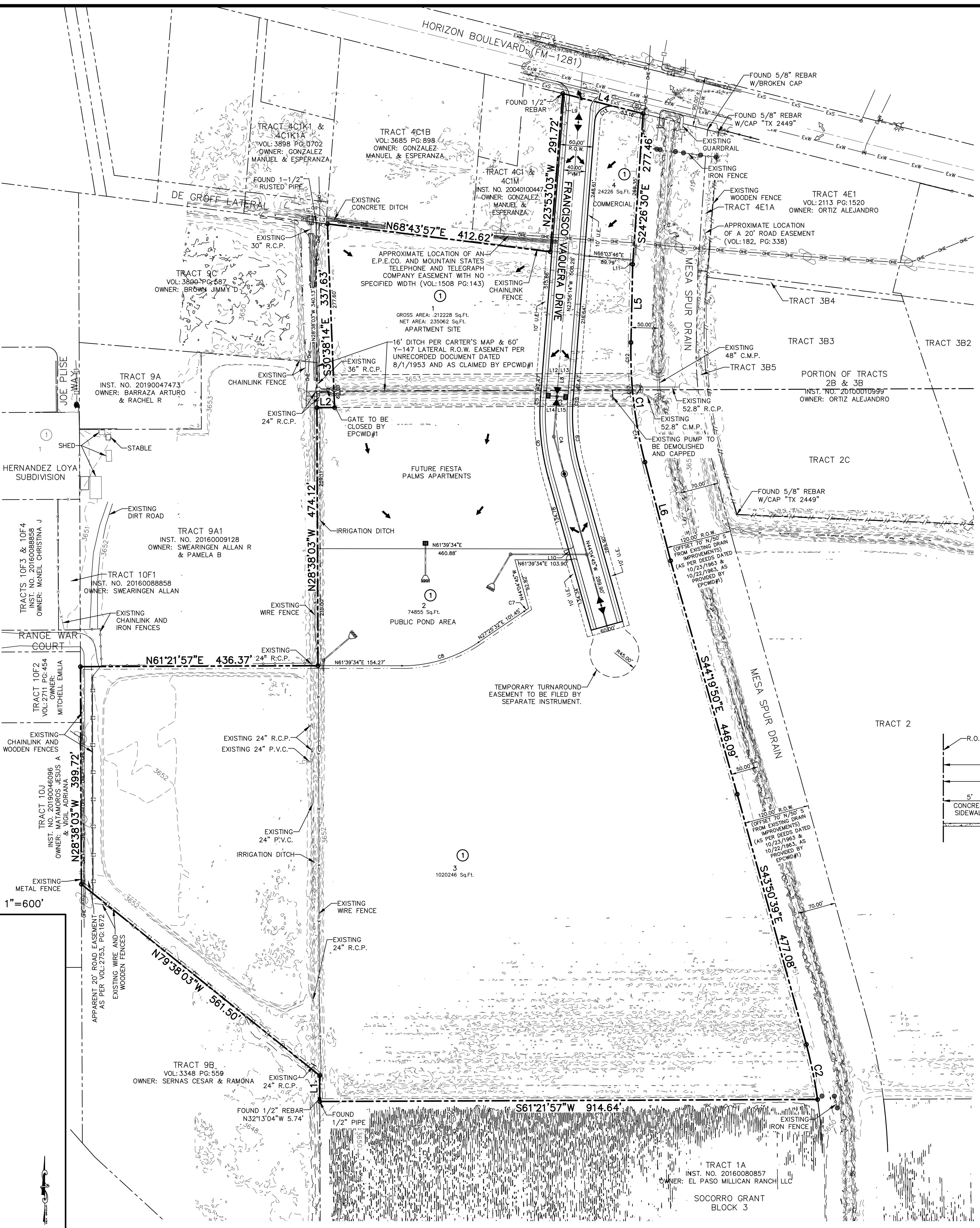
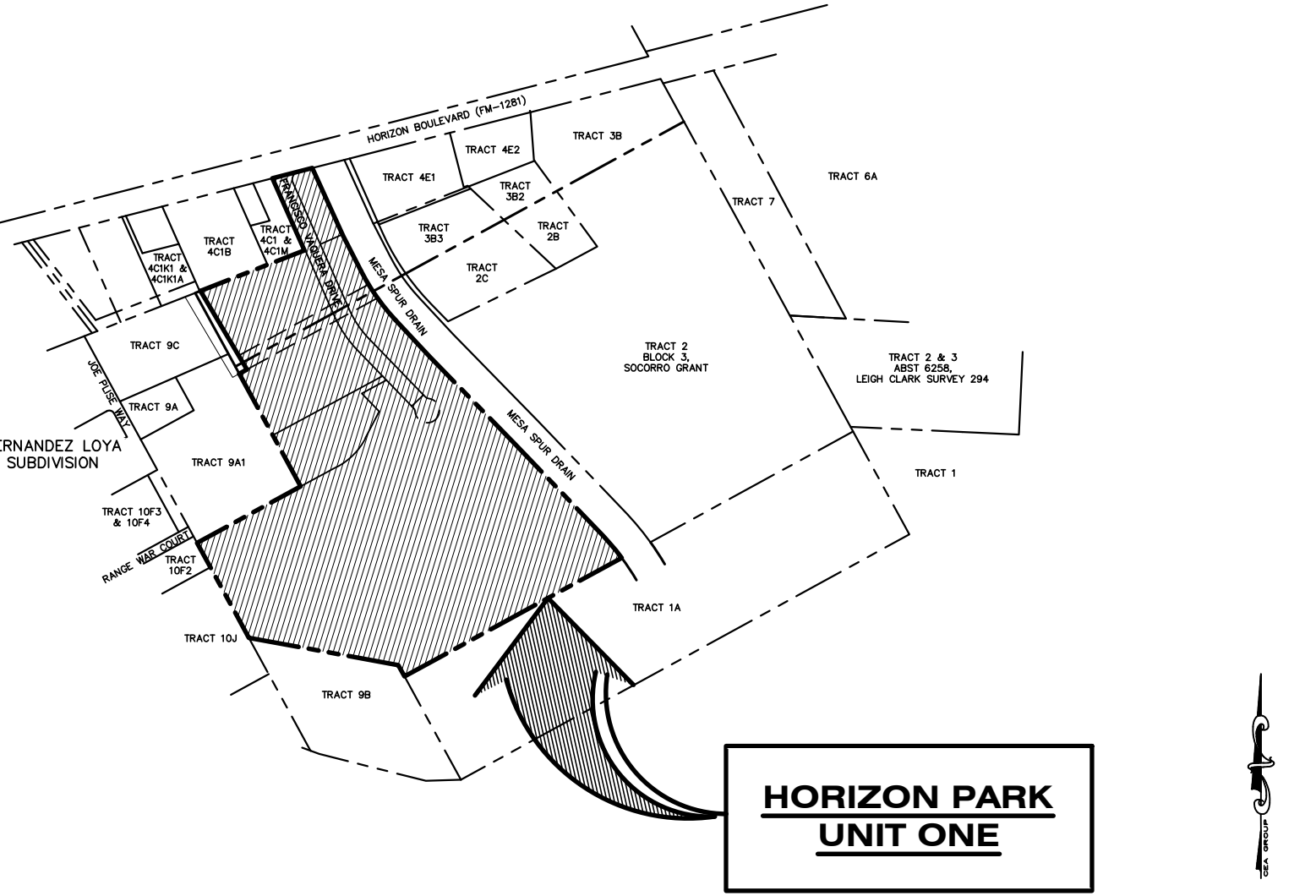
PRELIMINARY PLAT

GRAPHIC SCALE



LOCATION MAP

SCALE: 1"=600'

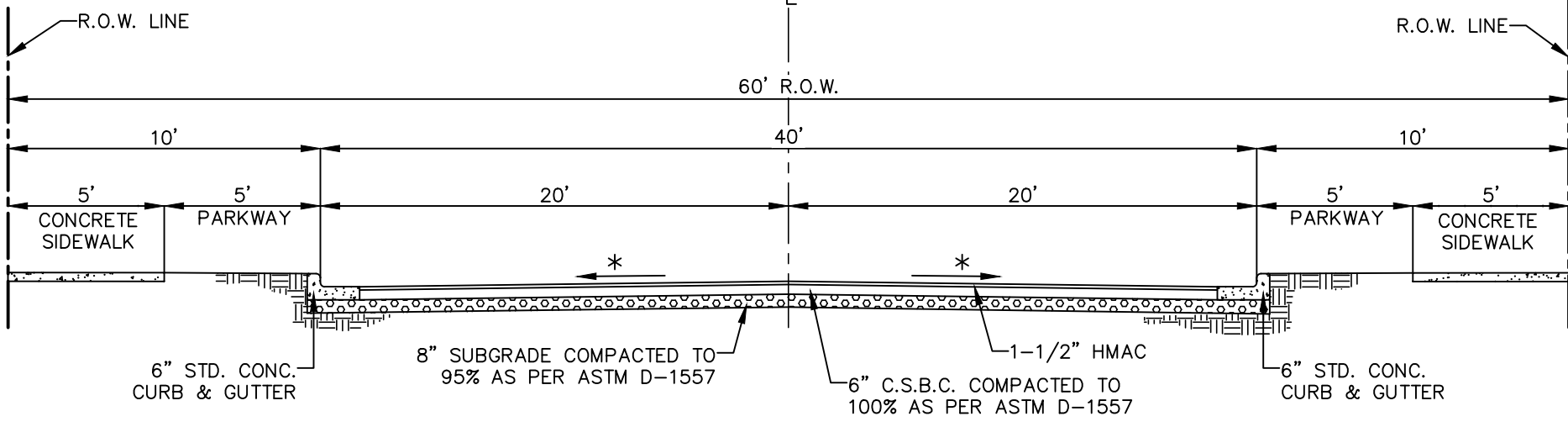


HORIZON PARK UNIT ONE

BEING ALL OF TRACTS 2A, 3B1, 4C1L, AND 9A2,
BLOCK 3, SOCORRO GRANT, EL PASO COUNTY, TEXAS.
SAVE AND EXCEPT 0.7556, MORE OR LESS, OUT OF
THE Y-147 LATERAL R.O.W. EASEMENT
CONTAINING 32.45± ACRES
LESS THE LATERAL 31.70± ACRES

LEGEND

- SUBDIVISION BOUNDARY LINE
- STREET RIGHT OF WAY
- TOP OF CURB
- SIDEWALK
- PROPERTY LINE
- STREET CENTERLINE
- 10' UTILITY EASEMENT (10' U.E.)
- 5' IRRIGATION EASEMENT
- LOT AND BLOCK NUMBER
- PROPOSED INLET & STORM SEWER PIPE
- DRAINAGE FLOW
- HIGH POINT
- LOW POINT
- EXISTING DRAINAGE FLOW
- PROPOSED MONUMENT
- EXISTING MONUMENT
- EXISTING MAJOR CONTOUR LINES
- EXISTING MINOR CONTOUR LINES
- EXISTING ROCK WALL
- EXISTING POWER POLE
- EXISTING LIGHT POLE
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING SEWER LINE
- EXISTING OVERHEAD POWER LINE



NOTES:

- (*) STREET TRANSVERSE SLOPE AS SHOWN IN PLANS
- SIDEWALK WIDTH IS REQUIRED TO COMPLY WITH ADA/TAS REGULATIONS.

TYPICAL 60' ROW STREET SECTION DETAIL
N.T.S.

OWNER

VALCORE PROPERTIES, LLC BOWLING BROTHERS DEVELOPMENT COMPANY, LLC
3000 BOB BEAMON 2505 E MISSOURI AVE., STE. 300
EL PASO, TEXAS 79938 EL PASO, TEXAS 79903
CONTACT: RICHARD BAQUERA VOICE: 815-821-3550
CONTACT: RANDY BOWLING

ENGINEER

cea group
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564
CONTACT: JORGE L. AZCARATE, P.E.

SURVEYOR

B
Barragan & Associates Inc.
LAND PLANNING & LAND SURVEYING
10950 Pellicano Dr. Bldg. F - El Paso, TX 79935
Phone (915) 591-5709 Fax (915) 591-5706
CONTACT: BENITO BARRAGAN, R.P.L.S.

DATE OF PREPARATION: MARCH 2023

HORIZON PARK SUBDIVISION

TRAFFIC IMPACT ASSESSMENT

Prepared for:

BOWLING BROTHERS DEVELOPMENT COMPANY, LLC

Date:

March 21, 2022

Prepared by:



813 N. Kansas Street, Ste. 300
El Paso, Texas 79902
TEXAS FIRM REGISTRATION NO. 4564

TABLE OF CONTENTS

I.	EXECUTIVE SUMMARY	1
II.	INTRODUCTION.....	2
III.	TRAFFIC IMPACT ASSESSMENT ASSUMPTIONS	2-3
IV.	TRAFFIC IMPACT METHODOLOGY	8
V.	TRAFFIC COUNTS.....	13
VI.	TRIP GENERATION	15-16
VII.	TRAFFIC ANALYSIS.....	16, 23
VIII.	CAPACITY ANALYSES	27 - 29
IX.	MITIGATION.....	30-31
X.	CONCLUSION	31

LIST OF FIGURES

Figure 1 – Vicinity Map.....	4
Figure 2 – Location Map	5
Figure 3 – Study Site Area	6
Figure 4 – Generated Trip Distribution.....	7
Figure 5a – Proposed Intersection Geometry (Accessway A and Horizon Blvd).....	9
Figure 5b – Proposed Intersection Geometry (Accessway B and Horizon Blvd).....	10
Figure 5c – Existing Intersection Geometry (Thunder Rd and Horizon Blvd)	11
Figure 6 – Roadway Cross Sections.....	12
Figure 7 –Existing Baseline Peak Traffic	14
Figure 8 – Phase I Entering/Exiting Trip Percentage AM.....	17
Figure 9 – Phase I Entering/Exiting Trip Percentage PM.....	18
Figure 10 – Phase II Entering/Exiting Trip Percentage AM.....	19
Figure 11 – Phase II Entering/Exiting Trip Percentage PM.....	20
Figure 12 – Phase I Trip Entering/Exiting Assignment.....	21
Figure 13 – Phase II Trip Entering/Exiting Assignment.....	22
Figures 14 – 15b – Projected Baseline and Build-Out conditions Peak Hour Traffic	24-26

APPENDIX

A -	General Plot Plan
B -	2021 CEA Group Conducted Traffic Counts
C -	Trip Generation Tables
D -	Calculations for Generated Traffic
E -	2022 Baseline AM & PM Peak Hour HCS Roadway and Intersection Analysis
F -	2025 Baseline AM & PM Peak Hour HCS Roadway and Intersection Analysis
G -	2025 Build-Out AM & PM Peak Hour HCS Roadway and Intersection Analysis
H -	2026 Baseline AM & PM Peak Hour HCS Roadway and Intersection Analysis
I -	2026 Build-Out AM & PM Peak Hour HCS Roadway and Intersection Analysis

Horizon Park Subdivision Traffic Impact Assessment

I. EXECUTIVE SUMMARY

The Traffic Impact Assessment (TIA) was prepared for use with the Horizon Park Subdivision. The development will consist of residential and commercial land usage and is collectively referred to as *The Project*. The Project consists of two (2) residential developments; two hundred twenty-seven (227) single family detached housing units, and a multifamily apartment complex housing eighty-four (84) residential units. There will also be two (2) commercial retail strips. Refer to **Appendix A** for the general plot plan. The Project will be developed in two (2) Phases. Phase I will contain the apartment complex as well as approximately half of the single-family units and one of the commercial lots. Phase II will contain the remaining half of the single-family units and commercial lots. As part of the Project, two (2) access roads are proposed to connect to Horizon Blvd to allow the Projects egress and ingress traffic. The TIA was prepared to evaluate the safety, capacity, and Level of Service (LOS) of Horizon Blvd and the existing major intersections near to the Project as well as the proposed intersection to assess any impacts of the Project to the abutting street networks.

24-hr traffic counts, and peak hour intersection turning movements were conducted as a basis for the existing conditions. Phase I of the Project is assumed to be fully built-out in three (3) years from current year 2022, which will be year 2025. Phase II is expected to be built-out in year 2028. To determine existing traffic projections for the built-out conditions, the conducted traffic counts were adjusted to arrive at their build-out years of 2025 and 2028. Transportation software Highway Capacity Software V7 (HCS7) was used to analyze intersection and roadway capacities.

The volume of generated trips developed by the Project was determined using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. Once these numbers were obtained, they were added to the projected baseline condition to create the projected build-out conditions. Projected baseline and projected build-out conditions were then compared to determine the effect the Project has on the surrounding roadway network.

The analysis of the Project's generated trips shows minimal effect on the roadway capacity of Horizon Blvd, while the proposed accessways onto Horizon Blvd. show an acceptable LOS and will not require any mitigation measures.

The existing intersection at Thunder Rd. and Horizon Blvd. shows no loss in Level of Service (LOS) at build-out year 2025, but does show a decrease in LOS by year 2028 because of the Projects generated trips. However, opening the existing raised median at one of the Projects accessway will allow a portion of the Project's generated trips to bypass the existing intersection raising the LOS while improving access to the Project

With proper mitigation measures taken, the Project as proposed will not negatively affect the surrounding roadway network.

II. INTRODUCTION

The Project study area is located in the city of Socorro's jurisdiction. The Project abuts Horizon Blvd. and is approximately 2,800 feet east southeast of the intersection of Horizon Blvd. (TX FM 1281) and Gateway Blvd E. See **Figure 1 - Vicinity Map** and **Figure 2 - Location Map** for the general area of the proposed development. The Project area contains approximately 65-acres and is bordered by Horizon Blvd to the north, undeveloped land to the south, and residential developments to the east, and west. The traffic study intersections to be analyzed in this assessment are illustrated in **Figure 3 - Study Site Areas**. In addition, the roadway capacity was also analyzed for Horizon Blvd.

The Project will be developed in two (2) phases. Phase I consists of a proposed residential development with 106 single family housing units, a multifamily housing apartment complex with 84 units, and a 0.56-acre commercial lot. Phase II will add an additional 121 single family housing units and another commercial site totaling 2.67-acres. The Project will have two (2) major accessways onto Horizon Blvd; Accessway A will be completed as part of Phase I, Accessway B will be completed as part of Phase II.

The existing intersection of Horizon Blvd. and Thunder Rd. is directly across from the Project on the northside of Horizon Blvd. The TIA will evaluate the existing intersection of Horizon Blvd. and Thunder Rd. as well as the proposed accessways to the Project for Level of Service to assess the effects the Project's generated trips will have on Horizon Blvd. The following intersections will be analyzed.

- Existing intersection of Horizon Boulevard & Thunder Road;
- Proposed intersection of Horizon Boulevard & Accessway A;
- Proposed intersection of Horizon Boulevard & Accessway B.

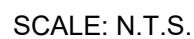
In addition, capacity analysis on Horizon Blvd. was performed to assess the capacity and LOS of the roadway.

III. TRAFFIC IMPACT ASSESSMENT ASSUMPTIONS

The following assumptions were made for the traffic impact assessment.

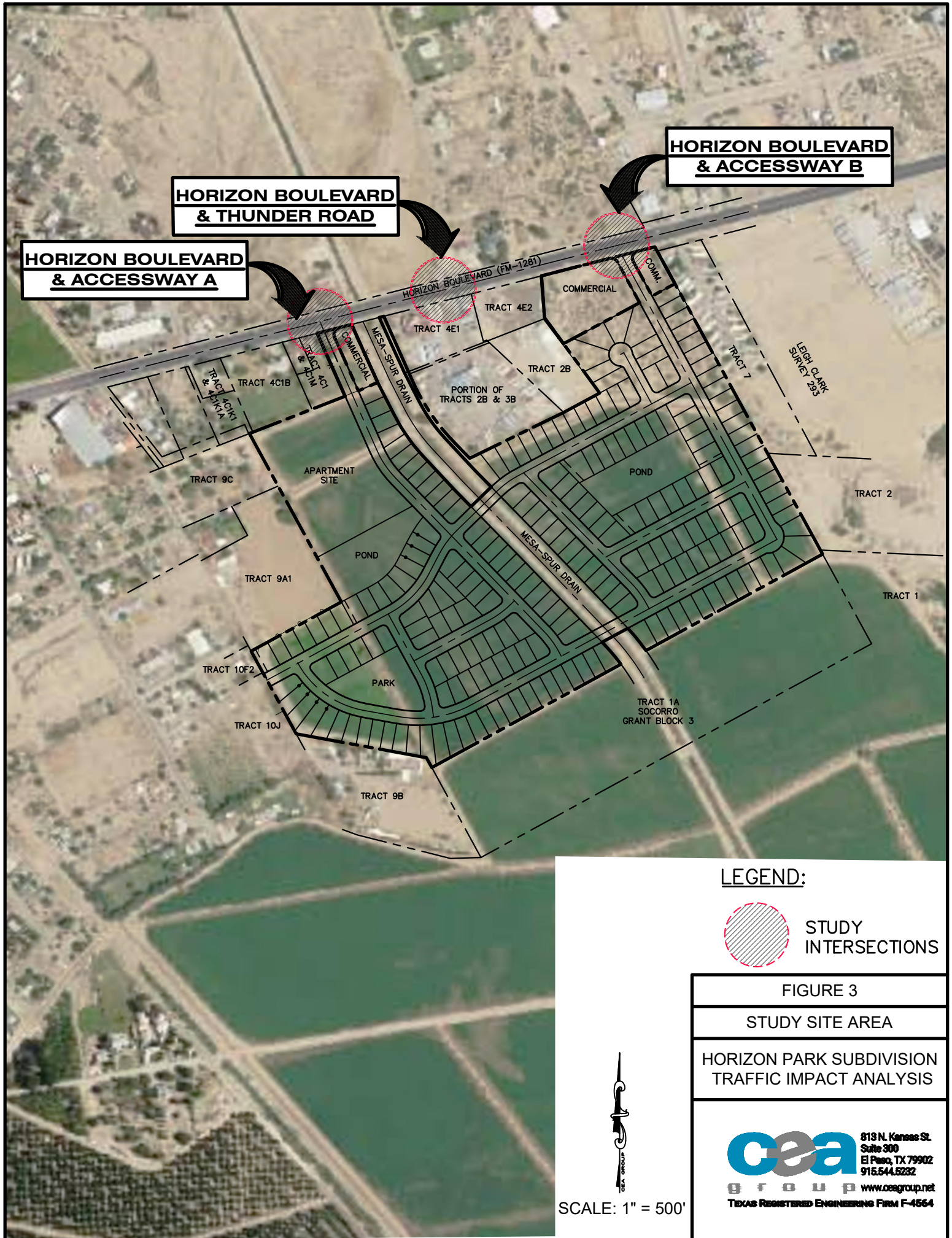
- The Project generated trips directionality was assumed based on existing and expected driving patterns as well as internal proximity to the ingress/egress points. The distribution is shown in **Figure 4 – Traffic Generation Plan**.
- The Project will be developed in two (2) phases. Phase I build-out year will be 2025, Phase II build-out will be at year 2028.
- Roadway free flow speed will match existing posted speed limit.
- For the shopping center land use, the gross leasable area is analyzed at 20 percent of gross land area.
- Shopping center land use assumes a 10 percent internal capture rate from the surrounding residential development.
- The multifamily apartment complex will have a maximum of 84 housing units.

- The trips generated as part of Phase I will utilize Accessway A. The trips generated from the commercial lots in Phase II as well as the majority of the Phase II residential generated trips will utilize Accessway B.
- The only generated trips from the Project that will pass through the intersection of Horizon Blvd and Thunder Rd. will be passthrough trips from Accessways A and B on Horizon Blvd. None of the generated trips are expected to traverse Thunder Rd.
- Future traffic projections assume a two (2) percent growth rate.
- Due to the geometry of the intersections on Horizon Blvd, it is assumed that the existing median on Horizon Blvd has a storage capacity of between 2 to 3 vehicles for the purpose of two-stage gap acceptance calculations.



cea
group
TEXAS REGISTERED ENGINEERING FIRM F-4564

813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net



LEGEND:

 STUDY INTERSECTIONS

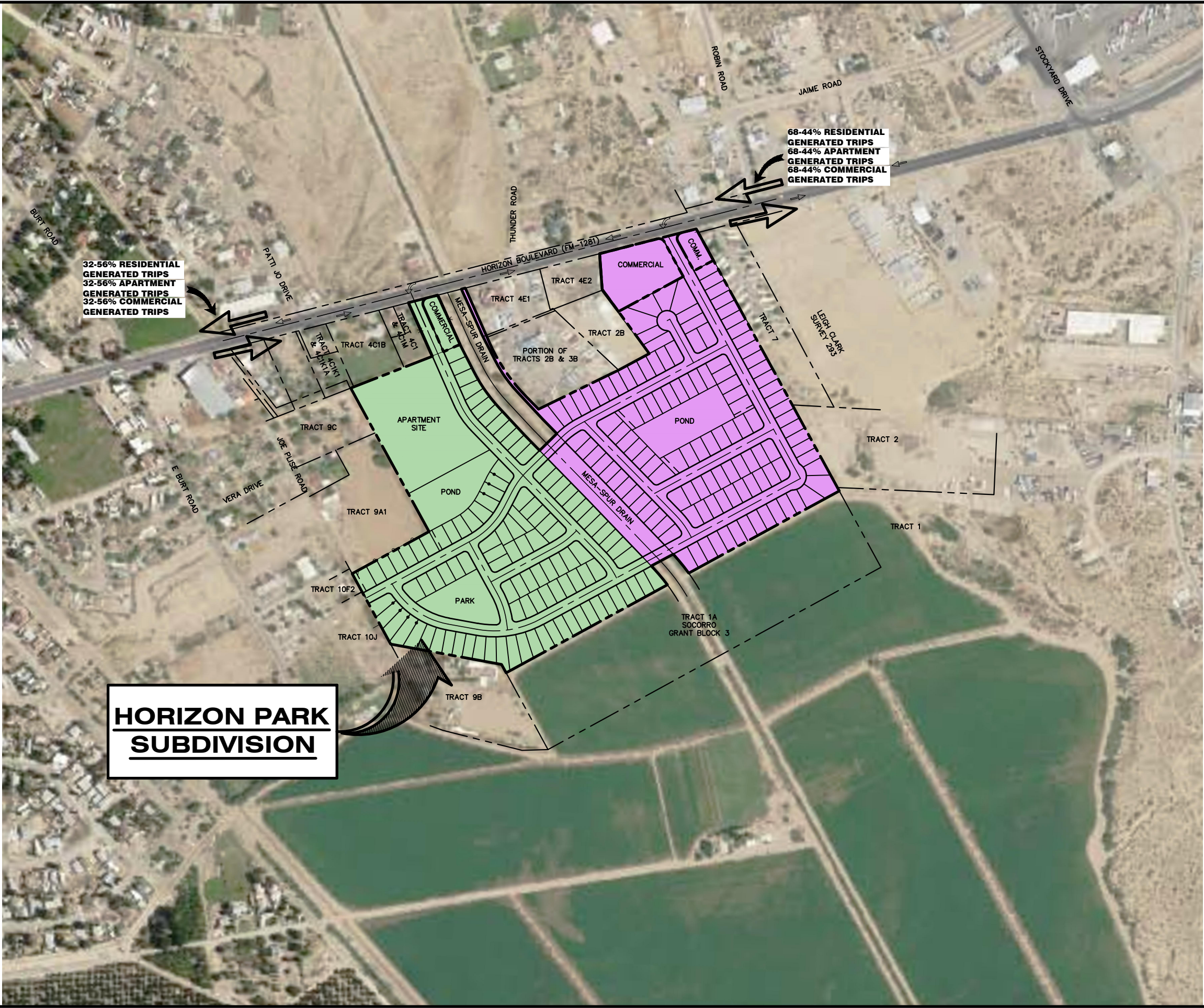
FIGURE 3

STUDY SITE AREA

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS



SCALE: 1" = 500'



**HORIZON PARK
SUBDIVISION**

PHASE I (2025) TOTAL GENERATED TRIPS		
GENERATOR	AM PEAK HOUR TRIPS	PM PEAK HOUR TRIPS
RESIDENTIAL SITES	79	105
COMMERCIAL SITES	16	42
APARTMENT SITES	49	57
TOTAL TRIPS	144	204

PHASE II (2026) TOTAL GENERATED TRIPS		
GENERATOR	AM PEAK HOUR TRIPS	PM PEAK HOUR TRIPS
RESIDENTIAL SITES	78	110
COMMERCIAL SITES	45	127
TOTAL TRIPS	123	237

LEGEND:



PHASE I
PHASE II



SCALE: 1" = 500'

FIGURE 4

TRAFFIC GENERATION PLAN

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

IV. TRAFFIC IMPACT METHODOLOGY

This TIA will examine the existing base conditions at the study intersection and roadways. The existing base condition is the existing traffic on Horizon Blvd. at the assessment intersections, with no generated traffic from the undeveloped project area. Assuming a growth rate of two percent, this base condition will be projected forwards to the assumed build-out years of 2025 and 2028.

This baseline condition is then adjusted with the addition of the expected generated trips from the Project to create the build-out condition. This provides a basis of reference for determining both the contribution of the site to the overall existing traffic conditions and the need for additional improvements/mitigation, if any, to provide sufficient site access and capacity for traffic volumes.

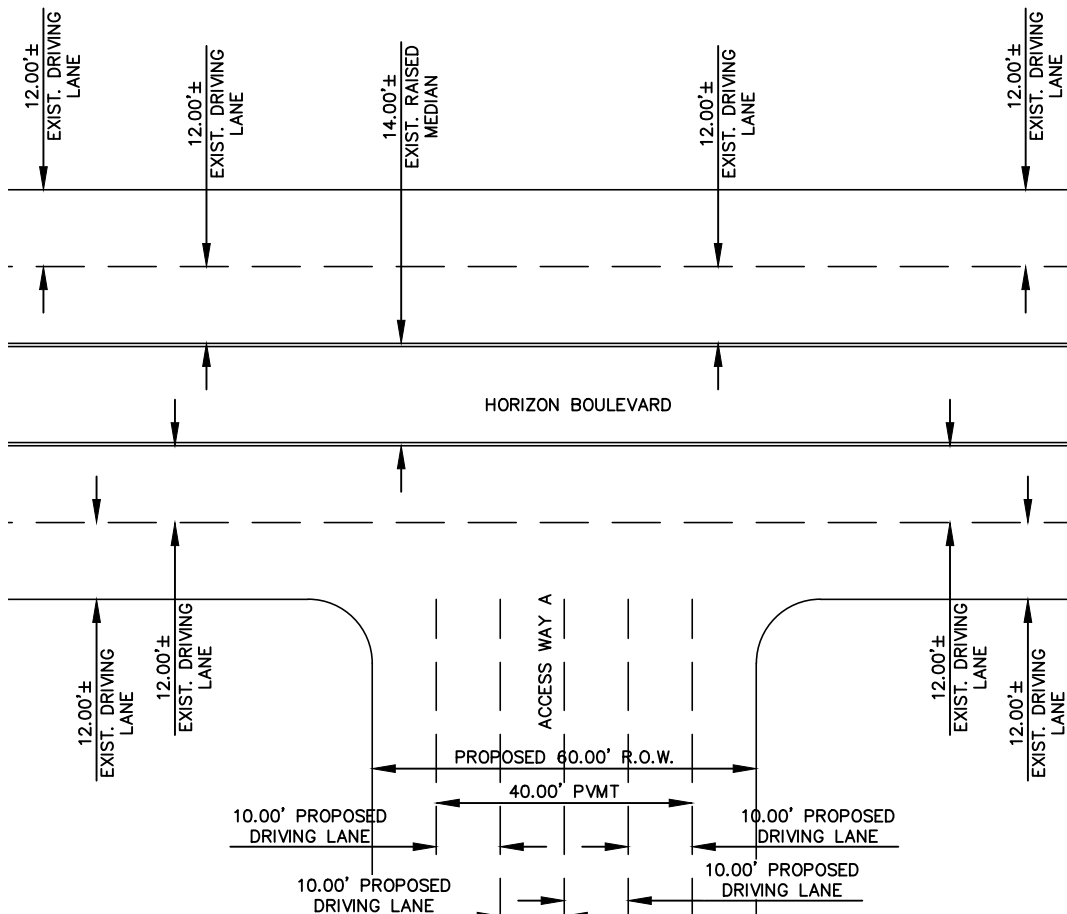
The baseline condition for the study intersection is based on the existing geometrics at the intersection. See **Figures 5A-5C** for the existing and proposed geometrics at the studied intersection and **Figure 6 – Existing Roadway Geometry** for the proposed geometric layout of the Accessway roadways. Once all the conditions have been established, both baseline, and build-out, they will be analyzed and compared to identify what the capacity, Level of Service (LOS) effects, and impacts the future development will have on the existing roadways.

Based on the City of Socorro's Ordinance Code, Chapter 38, Article III, Traffic Impact Analysis, Criteria for determining traffic impact analysis is based on the peak hour trips generated by the proposed development.



SCALE: 1" = 60'

HORIZON BOULEVARD



SCALE: 1" = 30'

FIGURE 5A

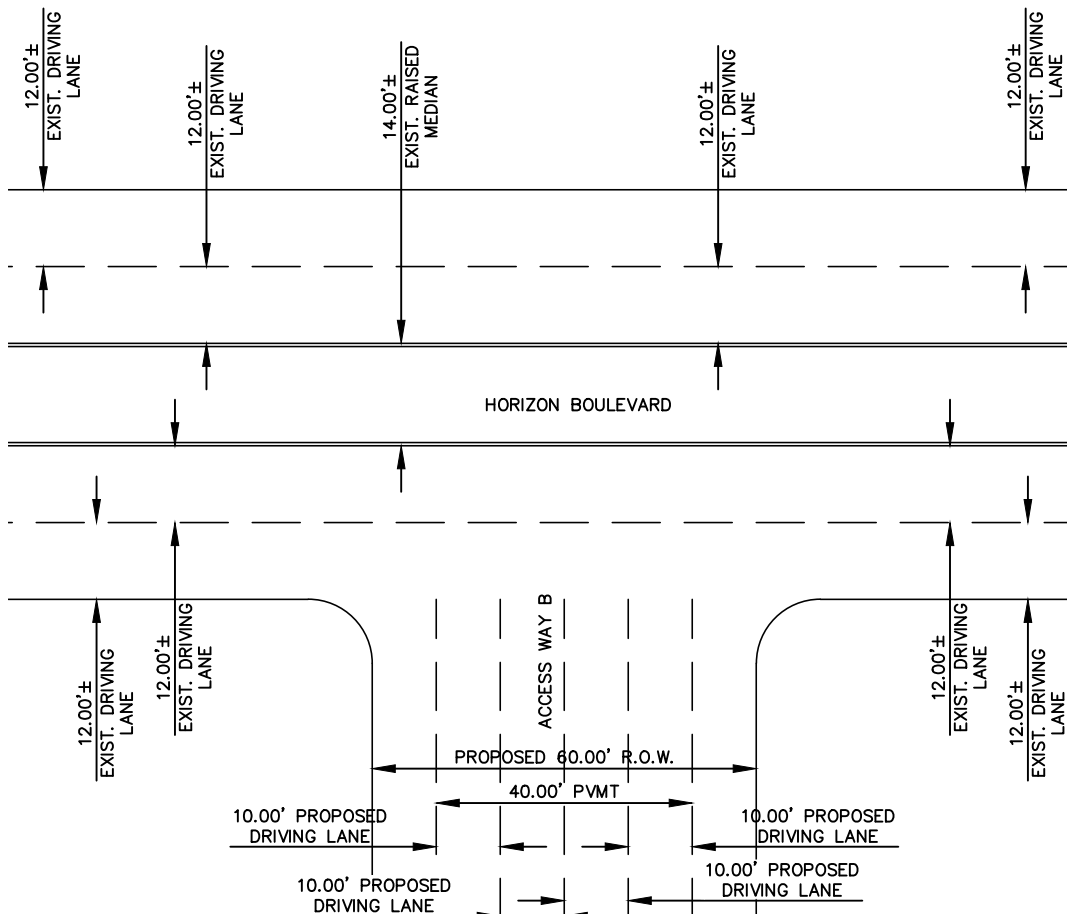
ACCESS WAY A PROPOSED
INTERSECTION GEOMETRY

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS



SCALE: 1" = 60'

HORIZON BOULEVARD



SCALE: 1" = 30'

FIGURE 5B

ACCESS WAY B PROPOSED
INTERSECTION GEOMETRY

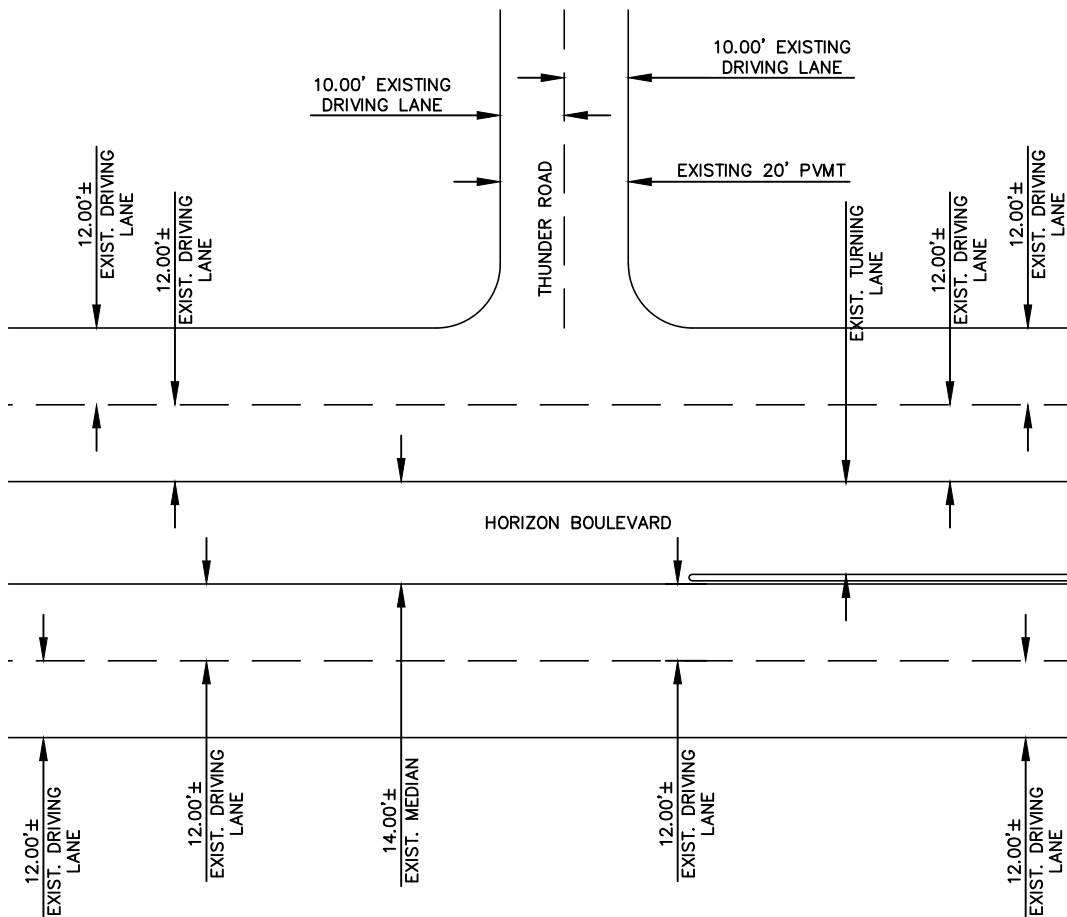
HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS



HORIZON BOULEVARD



SCALE: 1" = 60'

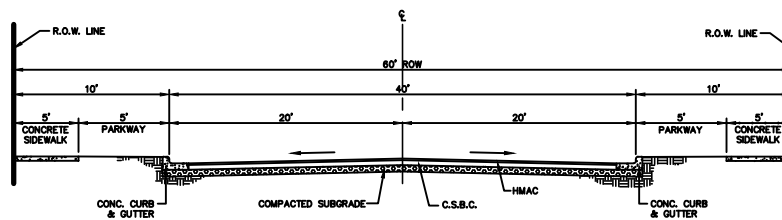


SCALE: 1" = 30'

FIGURE 5C

**THUNDER ROAD EXISTING
INTERSECTION GEOMETRY**

**HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS**



TYPICAL 60' ROW STREET SECTIONS DETAIL

FIGURE 6

ROADWAY CROSS SECTIONS

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

V. TRAFFIC COUNTS

On Thursday, December 9, 2021 24-hr volume traffic counts were conducted on Horizon Blvd at the following locations:

- 24 –Hr Traffic Volume Counts on Horizon Blvd. approximately eleven hundred (1,100) feet east southeast of the intersection of Horizon Blvd. & Gateway Blvd E. (Site 1)
- 24 —Hr Traffic Volume Counts on Horizon Blvd. approximately twenty-three hundred (2,300) feet west northwest of the intersection of Horizon Blvd. & North Loop Dr. (Site 2)

On Tuesday, December 14, 2021 peak hour intersection turning movement traffic counts were conducted at the following locations:

- Intersection Turning Movements at Horizon Blvd. and Thunder Rd..

The traffic counts are included in **Appendix B** of this report and were performed by CEA Group. Intersection turning movements were executed during the morning (7:00 a.m. to 9:00 a.m.) and afternoon (4:00 p.m. to 6:00 p.m.) peak hours of the day. In summary, the AM peak volume generally occurs from 7:00 am to 8:00 am and the PM peak hour occurring from 4:00 pm to 5:00 pm. These peak hours coincide with the timeframe peak limits used in the Institute of Transportation Engineers (ITE) Trip Generation Reports 11th Edition for the corresponding land use. The 24-Hr Traffic Count Volumes were compared to each other, the count with the highest volumes was used for the roadway capacity analysis. See **Figure 7 - 2021 Baseline Peak Traffic** for existing volumes at the analyzed intersection location. **Tables V.1-V.2** show the summarized AM and PM peak hour existing traffic counts.

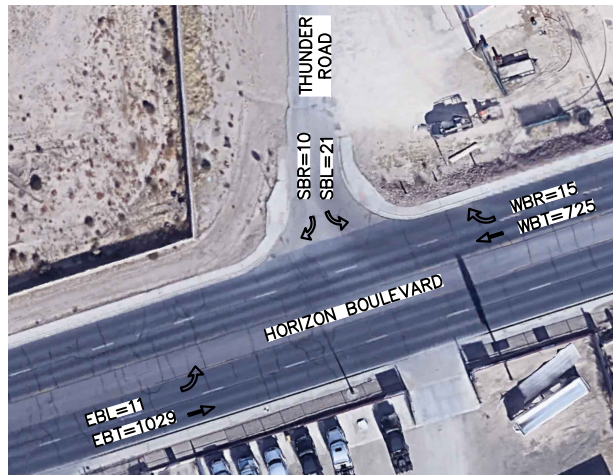
Table V.1 – Peak Hour Turning Movement Traffic Counts @ Horizon Blvd. and Thunder Rd.

Peak Hour	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right
A.M.	NA	NA	NA	21	NA	10
P.M.	NA	NA	NA	24	NA	20
Peak Hour	Westbound Left	Westbound Thru	Westbound Right	Eastbound Left	Eastbound Thru	Eastbound Right
A.M.	NA	725	15	11	1029	NA
P.M.	NA	1080	17	22	994	NA

Table V.2 – Roadway Peak Hour Traffic Counts @ Horizon Blvd.

Direction	Peak Hour Type	Horizon Blvd Site 1	Horizon Blvd Site 2
Eastbound	AM	884	726
	PM	840	872
Westbound	AM	601	884
	PM	685	823

HORIZON BOULEVARD & THUNDER ROAD



AM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & THUNDER ROAD



PM PEAK TRAFFIC HOUR

LEGEND:

NBT: NORTH BOUND TRHU
NBR: NORTH BOUND RIGHT
NBL: NORTH BOUND LEFT
SBT: SOUTH BOUND THRU
SBR: SOUTH BOUND RIGHT
SBL: SOUTH BOUND LEFT

EBT: EAST BOUND TRHU
EBR: EAST BOUND RIGHT
EBL: EAST BOUND LEFT
WBT: WEST BOUND THRU
WBR: WEST BOUND RIGHT
WBL: WEST BOUND LEFT



SCALE: N.T.S.

FIGURE 7

2021 EXISTING BASELINE
PEAK TRAFFIC

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

cea group
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564

VI. TRIP GENERATION

The basis and assumptions for the generated traffic, trip distributions, and the traffic assignments are described as follows. Trip generation was derived from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. The selected tables are as follows:

- **Single-Family Detached Housing (210)** - Average Vehicle Trip Ends vs: Dwelling Units on a Weekday, AM & PM Peak Hour of Adjacent Street, One Hour between 7 and 9 A.M. 26% entering; 74% exiting. and 4 and 6 P.M. 63% entering; 37% exiting.
- **Multi-Family Housing-Low Rise (220)** - Average Vehicle Trip Ends vs: Dwelling Units on a Weekday, AM & PM Peak Hour of Adjacent Street, One Hour between 7 and 9 A.M. 24% entering; 76% exiting. and 4 and 6 P.M. 63% entering; 37% exiting.
- **Strip Retail Plaza (822)** - Average Vehicle Trip Ends vs: Gross Leasable Area on a Weekday, AM & PM Peak Hour of Adjacent Street, One Hour between 7 and 9 A.M. 60% entering; 40% exiting. and 4 and 6 P.M. 50% entering; 50% exiting.

These tables are included in **Appendix C**. The Weekday AM and Weekday PM Peak Hour of Adjacent Street Hour Fitted Curve Equation was used where available. See **Appendix D** for detail calculations. From these computations, trip distributions will be determined by the percentage of the entering and exiting trips as stated on the trip generation tables as the trips distribute throughout the roadway network.

Generated trips are based on a dependent variable, housing units is used for the residential land uses, while gross leasable area is used for the commercial land use analysis. The commercial generated trips assumed a 10% internal capture from the Residential land uses. Thus only 90% of the generated commercial trips are further distributed to the surrounding street network. This 90% figure is what is used for the analysis.

Phase I build-out includes a small commercial lot near Accessway A, a multifamily housing complex, and 106 single family housing lots. Phase II build-out includes additional commercial lots near Accessway B, and another 121 single family housing lots bringing the subdivision total to 227 housing lots. **Tables VI.1-5** summarizes the Project's vehicle trip generation by land use for 2025 and 2026 build-out conditions.

**Table VI.1 – Single Family Detached Housing, 2025 Build-Out
(106 Dwelling Units)**

Trip Generation	Total Trips	Trips Entering	Trips Exiting
Peak Hour A.M	79	21	58
Peak Hour P.M	105	66	39

**Table VI.2 – Strip Retail Plaza, 2025 Build-Out,
(Located at Accessway A, 4,849 sq.ft GLA)**

Trip Generation	Total Trips	Trips Entering	Trips Exiting
Peak Hour A.M	16	10	6
Peak Hour P.M	42	21	21

**Table VI.3 – Multifamily Housing Low Rise, 2025 Build-Out
(84 Dwelling Units)**

Trip Generation	Total Trips	Trips Entering	Trips Exiting
Peak Hour A.M	49	12	37
Peak Hour P.M	57	36	21

**Table VI.4 – Single Family Detached Housing, 2028 Build-Out
(Includes 2025 Build-Out Units, 227 Dwelling Units Total)**

Trip Generation	Total Trips	Trips Entering	Trips Exiting
Peak Hour A.M	157	41	116
Peak Hour P.M	215	135	80

**Table VI.5 – Strip Retail Plaza, 2028 Build-Out,
(Located at Accessway B, 23,219 sq.ft GLA)**

Trip Generation	Total Trips	Trips Entering	Trips Exiting
Peak Hour A.M	45	27	18
Peak Hour P.M	128	64	64

VII. TRAFFIC ANALYSIS

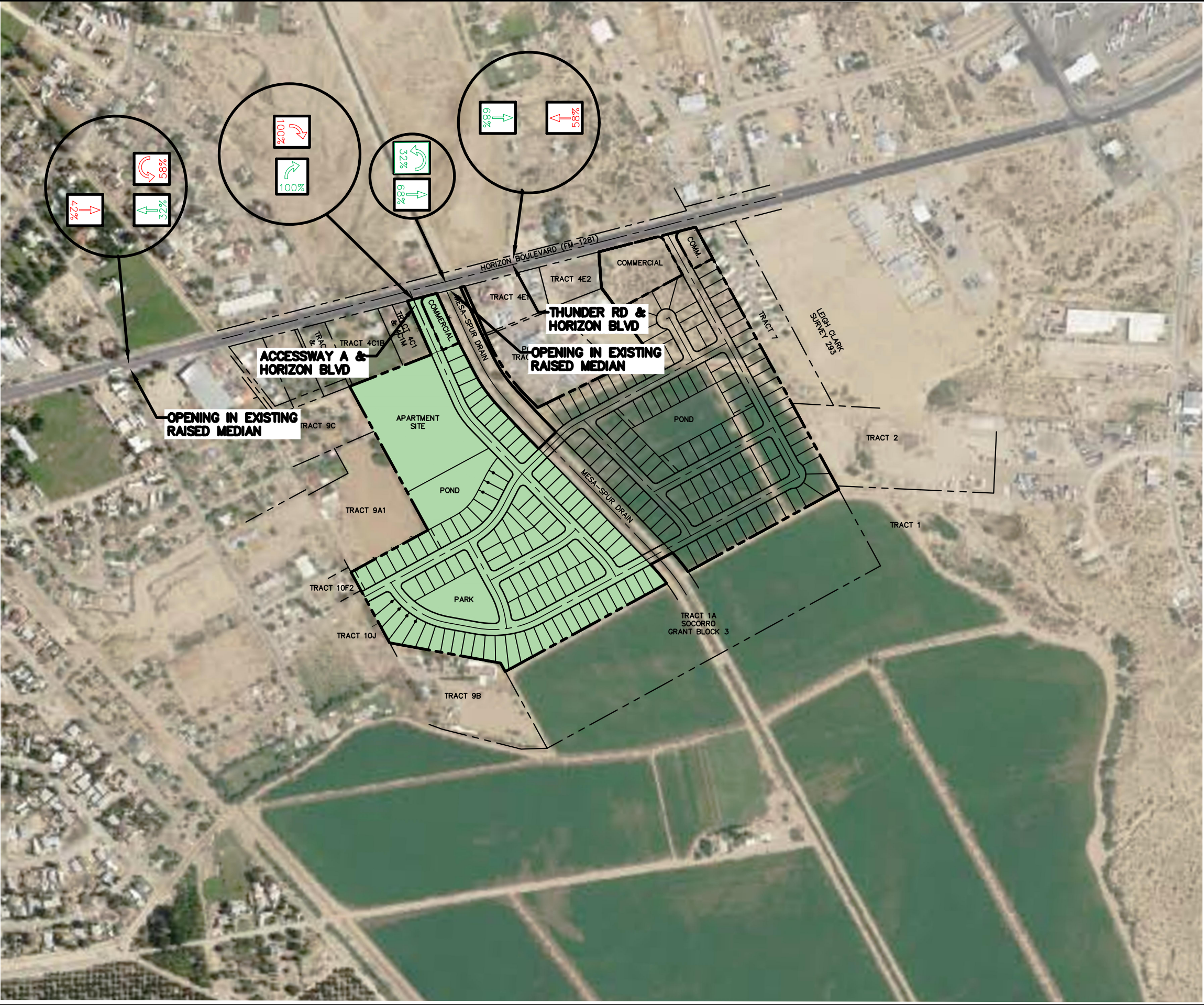
The project's total generated traffic volume was divided between the study intersections based on the traffic distribution boundary as shown in **Figure 4 - Traffic Generator Plan**. This boundary identifies the directionality and proportion of the vehicle movements of the generated trips as it moves to and from the Project's boundaries. Estimated and existing driving patterns were used to determine the proportion of traffic distributed to the intersections.

In general, Phase I generated trips utilized Accessway A to access the Project, while Phase II generated trips utilized Accessway B. Roughly twenty-five (25) percent of the residential trips generated in Phase II used Accessway A due to proximity.

During the AM peak hour of traffic, sixty-eight (68) percent of egress generated trips are assumed to travel eastbound on Horizon. Conversely, most of the ingress generated trips are westbound trips. During the PM peak hour of traffic, the majority of both egress and ingress trips are expected to be eastbound trips.

Once overall directionality was established, the direction the Project's generated trips took to enter/exist at the Project's primary accessway are assumed based on expected driving patterns as laid out in **Figures 8-11 - Trip Entering/Exiting Trip Percentage**.

Due to the existing raised median at Accessway A and Accessway B all egress trips are east bound right, while all ingress trips are north bound right. Because of this all west bound egress/ingress generated trips are required to make a U-turn at the nearest available opening in the raised median. **Figures 12-13** show the Project's trip volumes at build-out conditions.



2025 PHASE I TOTAL GENERATED AM PEAK TRIPS		
GENERATOR	AM PEAK HOUR TRIPS	
	ENTER	EXIT
SF HOUSING DEVELOPMENT	21	58
COMMERCIAL DEVELOPMENT	10	6
APARTMENT DEVELOPMENT	12	37
TOTAL TRIPS	43	101

LEGEND:

PHASE I

TOTAL TRIP PERCENTAGE
— ENTER

TOTAL TRIP PERCENTAGE
— EXIT

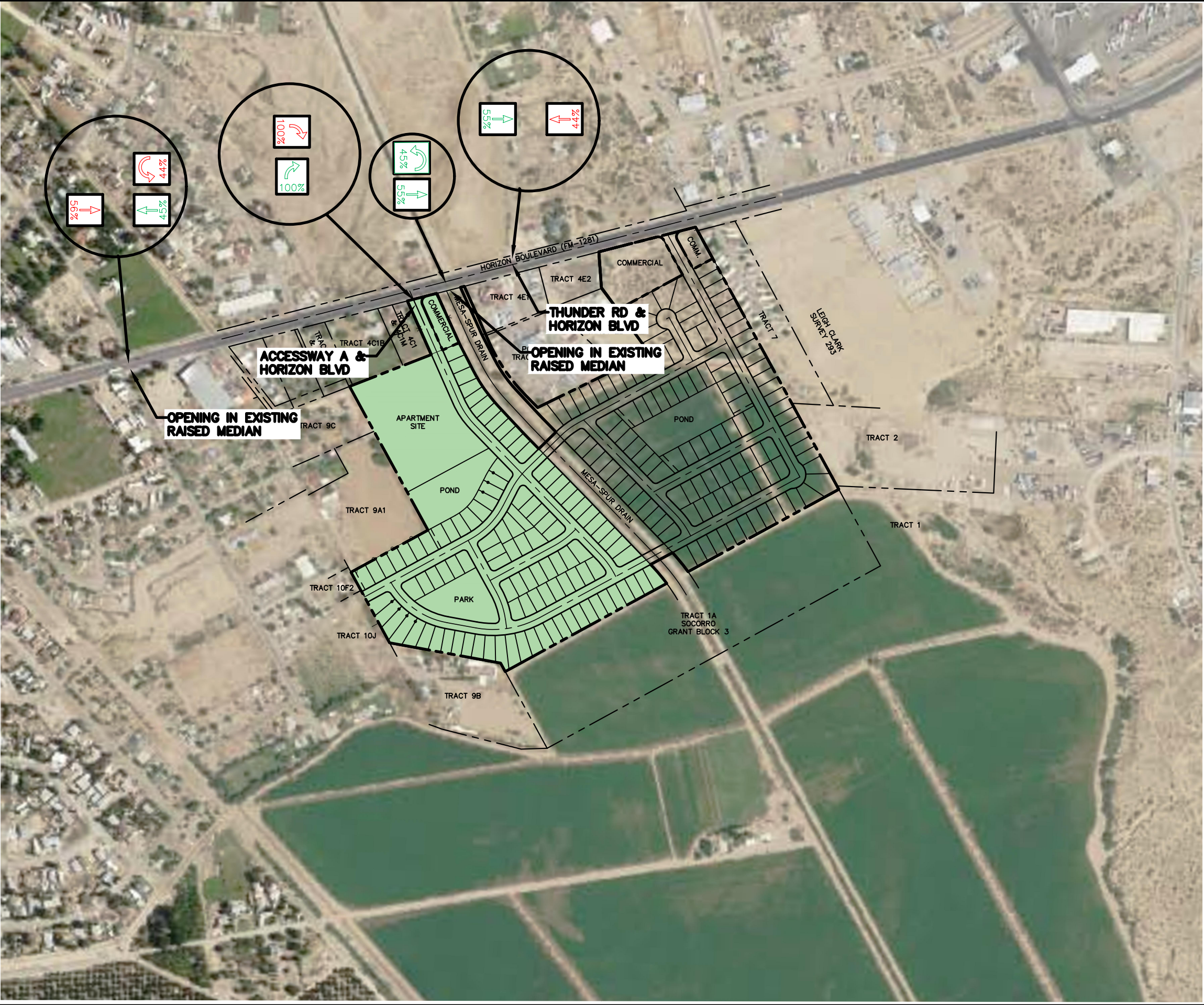
SCALE: 1" = 500'

FIGURE 8

PHASE I ENTERING/EXITING TRIP
PERCENTAGE AM PEAK HOUR

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

cea GROUP
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564



2025 PHASE I TOTAL GENERATED PM PEAK TRIPS		
GENERATOR	PM PEAK HOUR TRIPS	
	ENTER	EXIT
SF HOUSING DEVELOPMENT	66	39
COMMERCIAL DEVELOPMENT	21	21
APARTMENT DEVELOPMENT	36	21
TOTAL TRIPS	123	81

LEGEND:

PHASE I

TOTAL TRIP PERCENTAGE
— ENTER

TOTAL TRIP PERCENTAGE
— EXIT

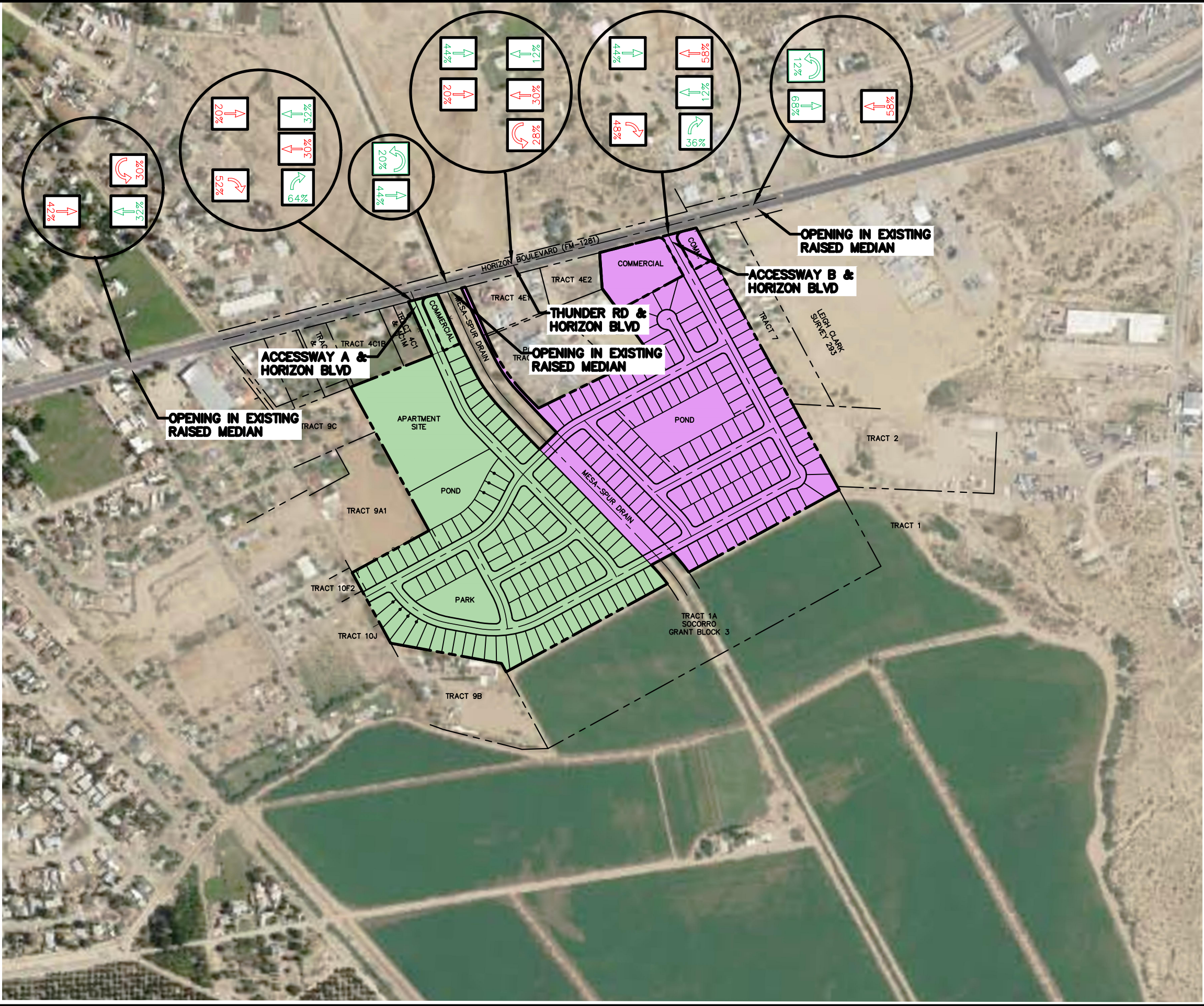
SCALE: 1" = 500'

FIGURE 9

PHASE I ENTERING/EXITING TRIP
PERCENTAGE PM PEAK HOUR

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

cea GROUP
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564



2028 PHASES I&II
TOTAL GENERATED
AM PEAK TRIPS

GENERATOR	AM PEAK HOUR TRIPS	
	ENTER	EXIT
SF HOUSING DEVELOPMENT	41	116
COMMERCIAL DEVELOPMENTS	37	24
APARTMENT DEVELOPMENT	12	37
TOTAL TRIPS	90	177

LEGEND:

- PHASE I
- PHASE II

- TOTAL TRIP PERCENTAGE - ENTER
- TOTAL TRIP PERCENTAGE - EXIT

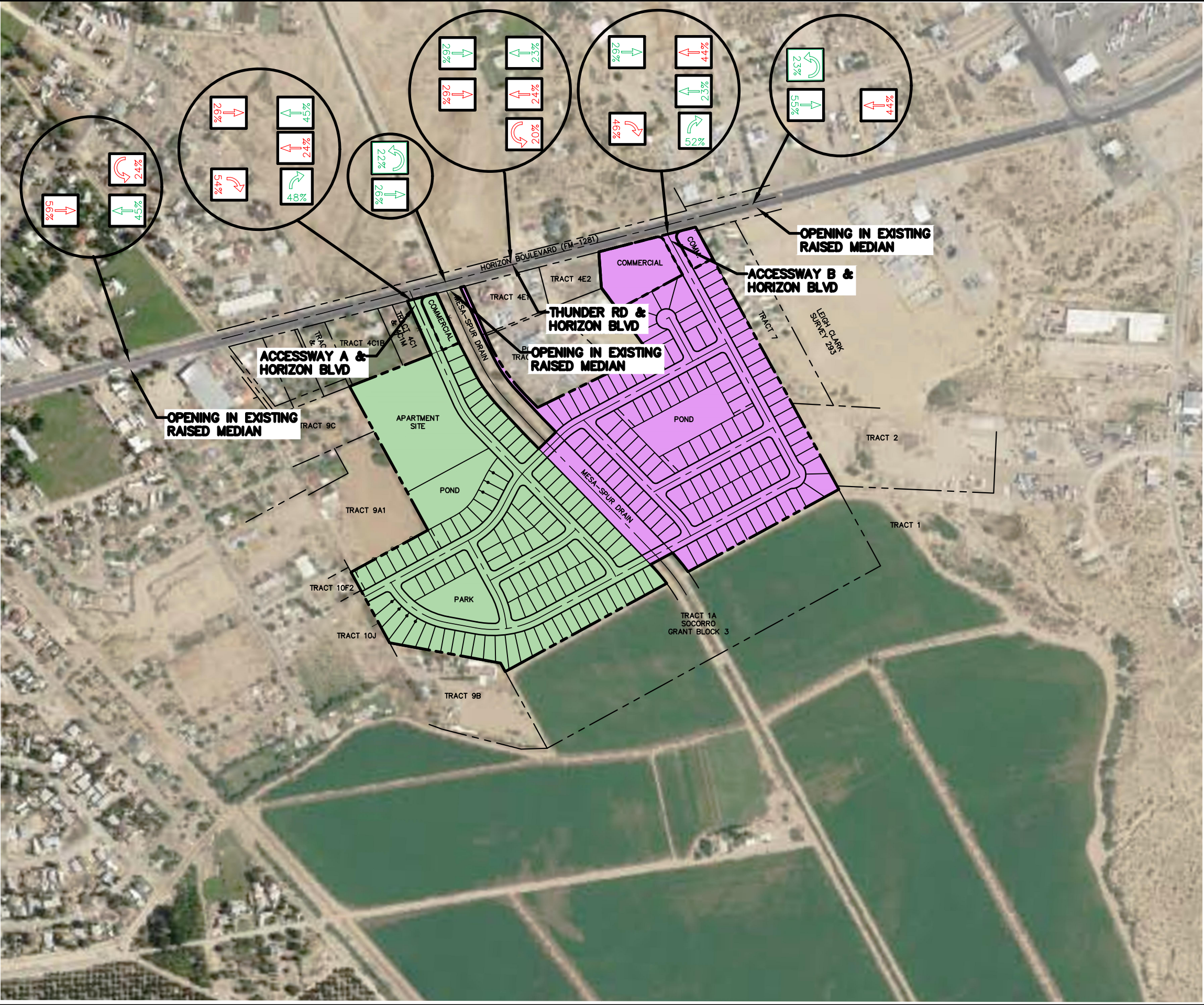


SCALE: 1" = 500'

FIGURE 10

PHASE II ENTERING/EXITING TRIP
PERCENTAGE AM PEAK HOUR

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS



2028 PHASES I&II
TOTAL GENERATED
PM PEAK TRIPS

GENERATOR	PM PEAK HOUR TRIPS	
	ENTER	EXIT
SF HOUSING DEVELOPMENT	135	80
COMMERCIAL DEVELOPMENTS	85	85
APARTMENT DEVELOPMENT	36	21
TOTAL TRIPS	256	186

LEGEND:

- PHASE I
- PHASE II

- TOTAL TRIP PERCENTAGE - ENTER
- TOTAL TRIP PERCENTAGE - EXIT



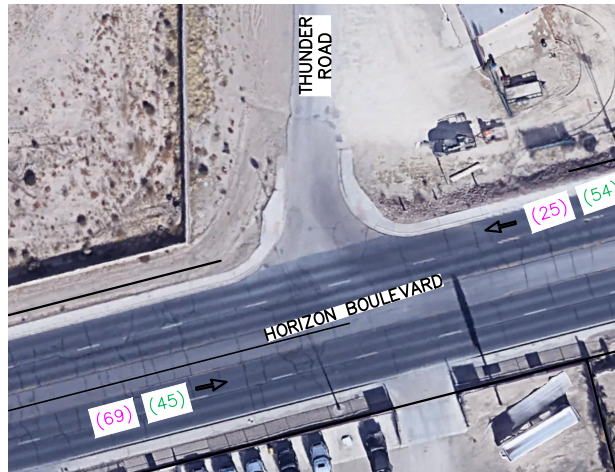
SCALE: 1" = 500'

FIGURE 11

PHASE II ENTERING/EXITING TRIP
PERCENTAGE PM PEAK HOUR

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

HORIZON BOULEVARD & THUNDER ROAD



HORIZON BOULEVARD & ACCESSWAY A



LEGEND:

(X) A.M. PEAK DISTRIBUTION

(X) P.M. PEAK DISTRIBUTION



SCALE: N.T.S.

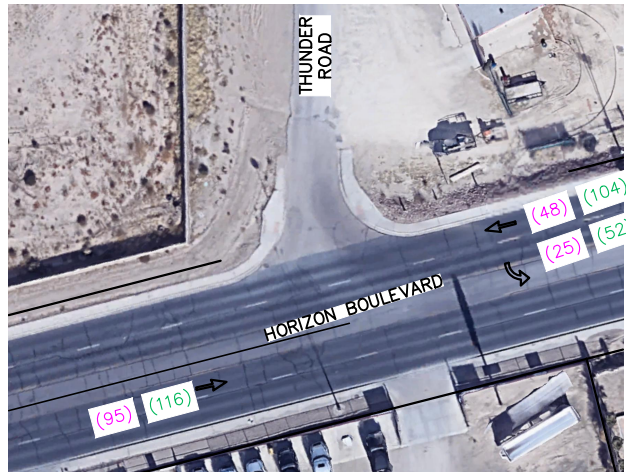
FIGURE 12

2025 ENTERING/EXITING
ASSIGNMENT PHASE I

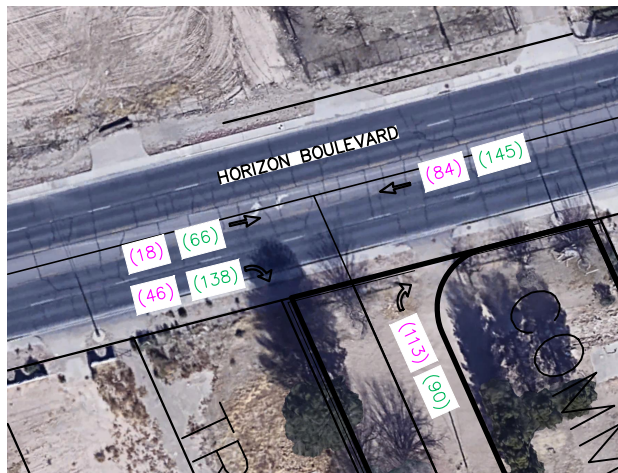
HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

cea group
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564

HORIZON BOULEVARD & THUNDER ROAD



HORIZON BOULEVARD & ACCESSWAY A



HORIZON BOULEVARD & ACCESSWAY B



LEGEND:

- (X) A.M. PEAK DISTRIBUTION
- (X) P.M. PEAK DISTRIBUTION



SCALE: N.T.S.

FIGURE 13

2028 ENTERING/EXITING
ASSIGNMENT PHASE II

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

cea group
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564

To determine traffic projections for the full built out conditions, the current roadway traffic counts and intersection counts are adjusted to arrive at their respective year. Growth rate is assumed at two (2) percent for analysis. A compound formula was used to project the existing traffic volumes up to Year 2028. The current traffic counts were recorded in December 2021, to project to 2025 and 2028 the volumes are projected at three and a half years and six and a half years forward, respectively

The following equation was applied to determine future volumes.

$$\text{Vol}_{\text{Future}} = \text{Vol}_{\text{Existing}} \times (1+0.03)^n \text{ (Number of years projected)}$$

(where n is equal to 3.5 or 6.5 for analysis years 2025 or 2028)

Once these baseline conditions were established, the trip volumes from **Figures 12-13 - Trip Entering/Exiting Assignment** were added to create the 2025 and 2028 build-out year condition.

Volumes for the projected traffic conditions are shown in **Figures 14-15**. Both baseline conditions and build-out condition with the Project's generated traffic for the studied intersections are shown. **Table VII.1** illustrates the projected peak trip volumes for Horizon Blvd. These projected volumes are assumed to be located at the site that recorded the larger 24-Hr traffic count volumes and are used for the roadway capacity analysis.

Table VII.1 – Existing and Projected Peak Hour Traffic Volumes on Horizon Blvd.

Direction	Peak Hour Type	2021 Existing Baseline Traffic	2025 Projected Baseline Traffic	2025 Projected Buildout Traffic	2028 Projected Baseline Traffic	2028 Projected Buildout Traffic
Eastbound	AM	726	778	796	826	890
	PM	872	935	1004	992	1196
Westbound	AM	884	947	980	1005	1089
	PM	823	882	935	936	1080

HORIZON BOULEVARD & ACCESSWAY A



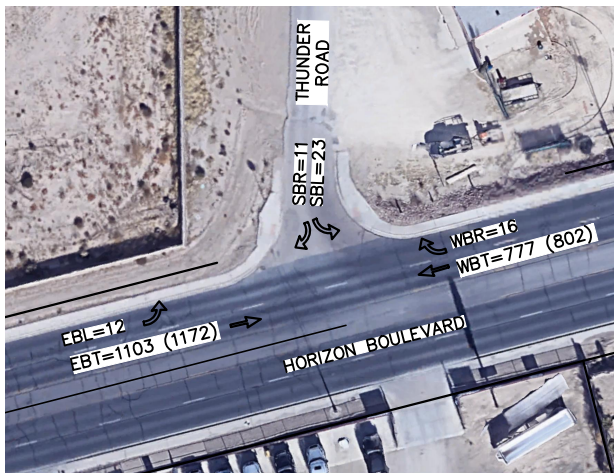
AM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & ACCESSWAY A



PM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & THUNDER DRIVE



AM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & THUNDER DRIVE



PM PEAK TRAFFIC HOUR

LEGEND:

XX PROJECTED BASELINE TRAFFIC VOLUMES
(XX) PROJECTED BUILD-OUT TRAFFIC VOLUMES

NBT: NORTH BOUND THRU	EBT: EAST BOUND THRU
NBR: NORTH BOUND RIGHT	EBR: EAST BOUND RIGHT
NBL: NORTH BOUND LEFT	EBL: EAST BOUND LEFT
SBT: SOUTH BOUND THRU	WBT: WEST BOUND THRU
SBR: SOUTH BOUND RIGHT	WBR: WEST BOUND RIGHT
SBL: SOUTH BOUND LEFT	WBL: WEST BOUND LEFT



SCALE: N.T.S.

FIGURE 14

2025 PROJECTED PEAK
TRAFFIC VOLUMES

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

cea group
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564

HORIZON BOULEVARD & ACCESSWAY A



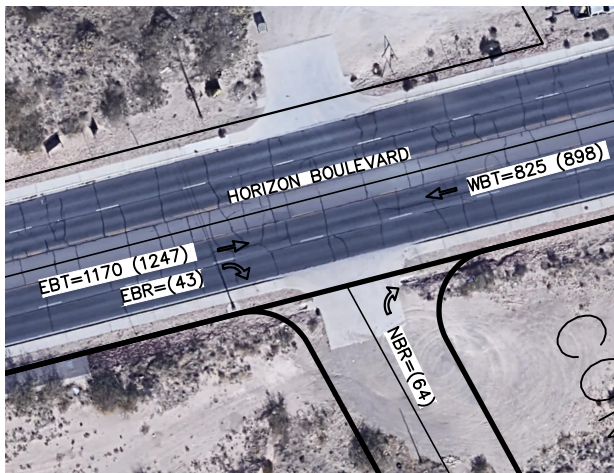
AM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & ACCESSWAY A



PM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & ACCESSWAY B



AM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & ACCESSWAY B



PM PEAK TRAFFIC HOUR

LEGEND:

XX PROJECTED BASELINE TRAFFIC VOLUMES
(XX) PROJECTED BUILD-OUT TRAFFIC VOLUMES

NBT: NORTH BOUND THRU	EBT: EAST BOUND THRU
NBR: NORTH BOUND RIGHT	EBR: EAST BOUND RIGHT
NBL: NORTH BOUND LEFT	EBL: EAST BOUND LEFT
SBT: SOUTH BOUND THRU	WBT: WEST BOUND THRU
SBR: SOUTH BOUND RIGHT	WBR: WEST BOUND RIGHT
SBL: SOUTH BOUND LEFT	WBL: WEST BOUND LEFT



SCALE: N.T.S.

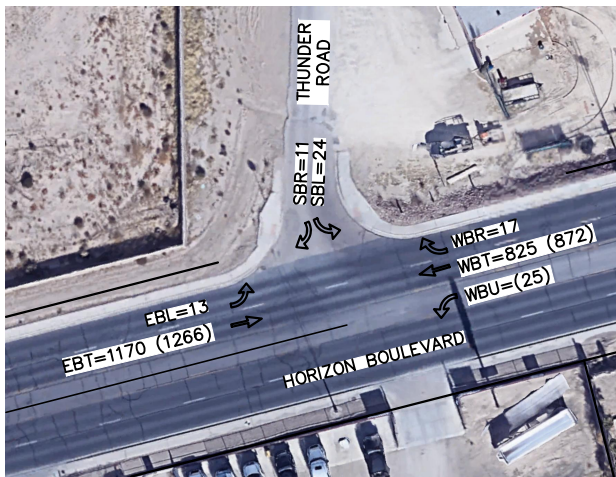
FIGURE 15A

2028 PROJECTED PEAK
TRAFFIC VOLUMES

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

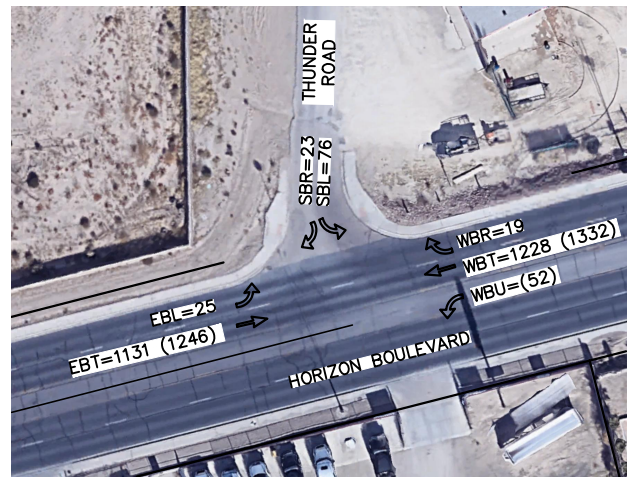
cea group
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564

HORIZON BOULEVARD & THUNDER DRIVE



AM PEAK TRAFFIC HOUR

HORIZON BOULEVARD & THUNDER DRIVE



PM PEAK TRAFFIC HOUR

LEGEND:

XX PROJECTED BASELINE TRAFFIC VOLUMES
(XX) PROJECTED BUILD-OUT TRAFFIC VOLUMES

NBT: NORTH BOUND TRHU	EBT: EAST BOUND TRHU
NBR: NORTH BOUND RIGHT	EBR: EAST BOUND RIGHT
NBL: NORTH BOUND LEFT	EBL: EAST BOUND LEFT
NBU: NORTH BOUND U-TURN	EBU: EAST BOUND U-TURN
SBT: SOUTH BOUND THRU	WBT: WEST BOUND THRU
SBR: SOUTH BOUND RIGHT	WBR: WEST BOUND RIGHT
SBL: SOUTH BOUND LEFT	WBL: WEST BOUND LEFT
SBU: SOUTH BOUND U-TURN	WBU: WEST BOUND U-TURN



SCALE: N.T.S.

FIGURE 15B

2028 PROJECTED PEAK
TRAFFIC VOLUMES

HORIZON PARK SUBDIVISION
TRAFFIC IMPACT ANALYSIS

cea 813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564

VIII. CAPACITY ANALYSES

Using HCS7 (Highway Capacity Software Version 7), the capacity and Level of Service at the studied intersections and roadway was analyzed. The peak hour factor used for the adjusted flow rates was variable and was calculated for the intersection and roadway and is shown in **Table VIII.1**. The proposed intersections are assumed to match that found for the intersection at Thunder Rd.

Table VIII.1 – Intersection & Roadway Peak Hour Factors.

Peak Hour	Horizon Blvd. & Thunder Rd.	Horizon Blvd. & Accessway A.	Horizon Blvd. & Accessway B.	Horizon Blvd
A.M.	0.90	0.90	0.90	0.92
P.M.	0.95	0.95	0.95	0.92

Tables VIII.2a-VIII.2b summarizes the results from the existing baseline year-2022 to build-out years-2025 and 2028 for the AM and PM peak hour for Horizon Blvd. calculating overall Level of Service (LOS) and volume to capacity ratio.

Table VIII.2a – Existing and Projected Multilane Roadway Capacity Analysis Horizon Blvd. (AM Peak Hour)

Year	2021 Existing		2025 Projected Baseline		2025 Projected Build-Out		2028 Projected Baseline		2028 Projected Build-Out	
Direction	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
LOS	A	A	A	A	A	A	A	B	A	B
Volume to Capacity Ratio (v/c)	0.20	0.25	0.22	0.27	0.22	0.27	0.23	0.28	0.25	0.30

Table VIII.2b – Existing and Projected Multilane Roadway Capacity Analysis Horizon Blvd. (PM Peak Hour)

Year	2021 Existing		2025 Projected Baseline		2025 Projected Build-Out		2028 Projected Baseline		2028 Projected Build-Out	
Direction	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB
LOS	A	A	A	A	A	A	B	A	B	B
Volume to Capacity Ratio (v/c)	0.24	0.23	0.26	0.25	0.26	0.26	0.28	0.26	0.33	0.30

The capacity analysis on Horizon Blvd shows no change in the LOS at build-out year 2025 with nearly no increase in the (c/v) ratio. By build-out year 2028 there is a decrease in the LOS from A to B during both the PM peak hour. However, the increase in the (c/v) ratio is minimal.

The background traffic on Horizon Blvd is such that the increase from the Projects generated trips has a negligible effect on the roadway.

Tables VIII.3a-VIII.5b summarizes the studied intersection results for the existing baseline year-2022 to build-out conditions at years 2025 and 2028 for the AM and PM Peak hour, calculating the average overall Level of Service (LOS) and delay.

Table VIII.3a – Horizon Blvd. & Thunder Rd. Projected Baseline and Build-Out Intersection Capacity Analysis. (AM Peak Hour)

Year	2021 Existing	2025 Projected Baseline	2025 Projected Build-Out	2028 Projected Baseline	2028 Projected Build-Out
LOS	B	B	C	C	C
DELAY (s)	14.1	14.9	16.0	16.4	22.9

Table VIII.3b – Horizon Blvd. & Thunder Rd. Projected Baseline and Build-Out Intersection Capacity Analysis. (PM Peak Hour)

Year	2021 Existing	2025 Projected Baseline	2025 Projected Build-Out	2028 Projected Baseline	2028 Projected Build-Out
LOS	C	C	C	C	D
DELAY (s)	16.7	18.1	21.1	21.8	33.7

The AM peak hour at this intersection shows a decrease in the LOS from B to C, at build-out year 2025. However, by year 2028 LOS C is recorded at both baseline and build-out conditions. The LOS during the PM peak hour maintains a LOS C in 2025 but decreases to a LOS D by the 2028 build-out condition.

The drop in LOS is caused by the volume of ingress generated trips at Accessway B that are required to make a U-turn at this intersection to enter the Project.

A potential mitigating measure would be to create an opening in the existing raised median at Accessway B to allow the westbound ingress trips to bypass this intersection.

Table VIII.4a – Horizon Blvd. & Accessway A. Projected Build-Out Intersection Capacity Analysis. (AM Peak Hour)

Year	2025 Projected Build-Out	2028 Projected Build-Out
LOS	C	C
DELAY (s)	16.8	18.7

Table VIII.4b – Horizon Blvd. & Accessway A. Projected Build-Out Intersection Capacity Analysis. (PM Peak Hour)

Year	2025 Projected Build-Out	2028 Projected Build-Out
LOS	C	C
DELAY (s)	15.6	17.7

There are no conflicting movements at this intersection as the only generated trips are right-in/right-out and the LOS at the intersection shows a LOS C in the AM and PM peak hour. No mitigation measures are required.

Table VIII.5a – Horizon Blvd. & Accessway B. Projected Build-Out Intersection Capacity Analysis. (AM Peak Hour)

Year	2028 Projected Build-Out
LOS	C
DELAY (s)	17.0

Table VIII.5b – Horizon Blvd. & Accessway B. Projected Build-Out Intersection Capacity Analysis. (PM Peak Hour)

Year	2028 Projected Build-Out
LOS	C
DELAY (s)	17.5

As observed in the analysis for the Accessway A intersection, there are no conflicting movements, and the intersection maintains a LOS C at build-out conditions and does not require further mitigation measures. See **Appendixes E-I** for complete HCS roadway and intersection capacity analysis reports information for baseline Year 2022 and build-out years 2025 and 2026.

IX. MITIGATION

The analysis saw a decrease to a Level of Service D by 2028 at the intersection at Thunder Rd. and Horizon Blvd. The increase delay and drop in LOS was caused by westbound ingress generated trips to Accessway B. The existing raised median is closed at Accessway B, westbound ingress trips must conduct a U-turn at the Thunder Rd. intersection in order to enter the Project. These excess trips substantially increase the delay experienced by the southbound trips on Thunder Rd.

By creating an opening in the raised median at Accessway B these westbound entering trips can bypass the intersection. **Tables IX.1a-IX.1b** show the improvement that measure would make

Table IX.1a – Horizon Blvd. & Thunder Rd. Mitigation Build-Out Intersection Capacity Analysis. (AM Peak Hour)

Year	2028 Projected Build-Out	2028 Projected Build-Out with Mitigation
LOS	C	C
DELAY (s)	22.9	17.4

Table IX.1b – Horizon Blvd. & Thunder Rd. Mitigation Build-Out Intersection Capacity Analysis. (PM Peak Hour)

Year	2028 Projected Build-Out	2028 Projected Build-Out with Mitigation
LOS	D	C
DELAY (s)	33.7	24.9

The intersection LOS is restored to a C and the delay decreased with the proposed mitigation measure implemented. However, by opening the median at Accessway B it will introduce conflicting left turn movements to that intersection that will impact LOS. The intersection at Accessway B was analyzed with the proposed mitigation measures in place to determine what effect they have. The results are shown in **Tables IX.2a-IX.2b**

Table IX.2a – Horizon Blvd. & Accessway B. Mitigation Build-Out Intersection Capacity Analysis. (AM Peak Hour)

Year	2028 Projected Build-Out	2028 Projected Build-Out with Mitigation
LOS	C	C
DELAY (s)	17.0	17.7

Table IX.2b – Horizon Blvd. & Accessway B. Mitigation Build-Out Intersection Capacity Analysis. (PM Peak Hour)

Year	2028 Projected Build-Out	2028 Projected Build-Out with Mitigation
LOS	C	C
DELAY (s)	17.5	18.1

The analysis shows a slight increase the delay experienced at the intersection but maintains a LOS C. See **Appendix J** for complete HCS roadway and intersection capacity analysis reports information

X. CONCLUSION

The existing Horizon Blvd. roadway can absorb the Projects generated trips without issue. The Project's proposed accessways onto Horizon Blvd show an acceptable Level of Service C at full build-out by 2028.

The existing intersection at Horizon Blvd. and Thunder Rd. shows only a minor increase in the delay caused by the projects generated trips, with no decrease in LOS at Phase I build-out at 2025. However, by Phase II conditions in 2028 the LOS decreases as a result of the Project's generated trips at Accessway B.

By opening the existing median at Accessway B, the LOS at the existing intersection can be improved to near baseline level conditions while easing access for the Project's generated traffic.

With proper mitigation measures taken the Project will not negatively impact the Horizon Blvd.

APPENDIX A

General Plot Plan

A 65.22 ± ACRE PARCEL, ALL OF TRACTS 2, 2A, 3B, 3B1, 3B5, 4C1L, 4E1A AND 9A2, BLOCK 3, SOCORRO GRANT, CITY OF SOCORRO, EL PASO COUNTY, TEXAS, SAVE AND EXCEPT 2.25 ACRES, MORE OR LESS OUT OF THE MESA SPUR DRAIN.
LESS THE DRAIN: 62.97 ACRES ±

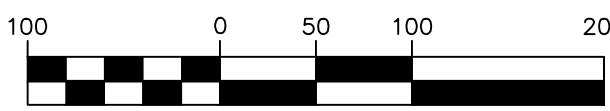
LEGEND

---	SUBDIVISION BOUNDARY LINE
---	STREET RIGHT OF WAY
---	PROPERTY LINE
---	STREET CENTERLINE

CURVE TABLE					
CURVE	RADIUS	LENGTH	TANGENT	CHORD	BEARING
C1	800.00'	221.97'	111.70'	221.26'	S35°03'30"E
C2	680.00'	188.67'	94.95'	188.07'	S35°03'30"E
C3	909.99'	324.25'	163.86'	322.53'	S34°08'42"E
C4	1031.24'	122.20'	61.17'	122.13'	N39°07'25"W
C5	911.24'	103.18'	51.65'	103.13'	N39°54'46"W

LINE TABLE		
LINE	BEARING	LENGTH
L1	N75°37'46"E	149.49'
L2	S24°26'30"E	274.43'
L3	S24°26'30"E	3.94'
L4	S27°06'34"E	143.72'
L5	S43°00'25"E	187.26'
L6	S44°19'50"E	103.08'
L7	N45°40'10"E	120.00'
L8	N44°19'50"W	101.69'
L9	N43°00'25"W	185.87'
L10	N27°06'34"W	140.93'
L11	N24°26'30"W	254.26'
L12	N75°37'46"E	20.17'
L13	S23°56'14"E	296.90'
L14	S44°21'09"E	90.12'
L15	N61°43'08"E	173.17'
L16	N04°11'14"W	178.04'
L17	S61°35'53"W	124.28'
L18	S43°50'39"E	20.17'
L19	N28°38'03"W	47.68'

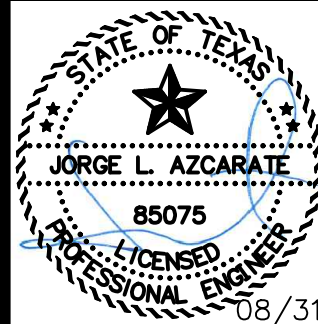
GRAPHIC SCALE



(IN FEET)
1 inch = 100 ft.

HORIZON PARK REZONING

A 65.22 ± ACRE PARCEL, ALL OF TRACTS 2, 2A, 3B, 3B1, 3B5, 4C1L, 4E1A AND 9A2, BLOCK 3, SOCORRO GRANT, CITY OF SOCORRO, EL PASO COUNTY, TEXAS, SAVE AND EXCEPT 2.25 ACRES, MORE OR LESS OUT OF THE MESA SPUR DRAIN.
LESS THE DRAIN: 62.97 ACRES ±
PHASE 1-105 RESIDENTIAL LOTS
PHASE 2-122 RESIDENTIAL LOTS



cea group
813 N. Kansas St.
Suite 300
El Paso, TX 79902
915.544.5232
www.ceagroup.net
TEXAS REGISTERED ENGINEERING FIRM F-4564

Contour Interval: N/A DATE: 11/30/21 JOB No. 2006-004

DESIGN BY: F.Z. DRAWN BY: C.E.D. CHKD. BY: J.L.A. APPVD. BY: J.L.A.

SCALE: Horizontal: 1"=100' Vertical: N/A SHEET 1 OF 1

NOTES:

- THIS SUBDIVISION LIES WITH IN ZONE "X" AS DESIGNATED IN PANEL NO. 480212 Q236 B, DATED SEPTEMBER 4, 1991, OF THE FLOOD INSURANCE RATE MAPS, EL PASO COUNTY, TEXAS. ZONE "X" INDICATES AREAS OF MINIMAL FLOODING.

TRACT 1A
INST. NO. 20160080857
OWNER: EL PASO MILICAN RANCH LLC
SOCORRO GRANT
BLOCK 3

LEIGH CLARK
SURVEY 294

TRACT 1
INST. NO. 20160080857
OWNER: EL PASO MILICAN RANCH LLC

TRACT 2
INST. NO. 20160080857
OWNER: EL PASO MILICAN RANCH LLC

TRACT 7
INST. NO. 20160080857
OWNER: FRIEDO GONZALEZ & MARICARITA

LEIGH CLARK
SURVEY 293



APPENDIX B

2021 CEA Group Conducted Traffic Counts

Unit Type: MICROTALLY V3.24
 Serial Number: 20032016
 ID:
 Location: Horizon Blvd & Thunder Rd
 Comments:
 Measurements: English
 Start Date: 12/14/2021
 Start Time: 7:00
 Title: Standard Export

Time	SB Left	SB Thru	SB Right	NB Left	NB Thru	NB Right	WB Left	WB Thru	WB Right	EB Left	EB Thru	EB Right	Total	PH Total	PHF
12/14/2021 7:00	8	0	1	0	0	0	0	187	5	2	226	0	429		
12/14/2021 7:15	4	0	5	0	0	0	0	174	7	3	285	0	478		
12/14/2021 7:30	5	0	3	0	0	0	0	198	1	3	291	0	501		
12/14/2021 7:45	4	0	1	0	0	0	0	166	2	3	227	0	403	1811	0.903693
12/14/2021 8:00	6	0	3	0	0	0	0	110	4	1	181	0	305	1687	
12/14/2021 8:15	5	0	1	0	0	0	0	138	2	1	192	0	339	1548	
12/14/2021 8:30	3	0	3	0	0	0	0	192	4	3	204	0	409	1456	
12/14/2021 8:45	3	0	0	0	0	0	0	59	1	1	68	0	132	1185	
Lane Totals	21	0	10	0	0	0	0	725	15	11	1029	0			
2025 Projected	23	0	11	0	0	0	0	777	16	12	1103	0			
2028 Projected	24	0	11	0	0	0	0	825	17	13	1170	0			

Time	SB Left	SB Thru	SB Right	NB Left	NB Thru	NB Right	WB Left	WB Thru	WB Right	EB Left	EB Thru	EB Right	Total	PH Total	PHF
12/14/2021 16:00	8	0	6	0	0	0	0	248	8	6	238	0	514		
12/14/2021 16:15	9	0	3	0	0	0	0	284	6	3	243	0	548		
12/14/2021 16:30	6	0	6	0	0	0	0	264	2	4	287	0	569		
12/14/2021 16:45	5	0	4	0	0	0	0	241	1	6	241	0	498	2129	
12/14/2021 17:00	4	0	7	0	0	0	0	291	8	9	223	0	542	2157	0.947715
12/14/2021 17:15	2	0	3	0	0	0	0	270	4	6	251	0	536	2145	
12/14/2021 17:30	4	0	6	0	0	0	0	228	5	4	240	0	487	2063	
12/14/2021 17:45	4	0	0	0	0	0	0	223	2	8	252	0	489	2054	
12/14/2021 18:00	2	0	0	0	0	0	0	22	0	1	26	0	51	1563	
Lane Totals	24	0	20	0	0	0	0	1080	17	22	994	0			
2025 Projected	26	0	21	0	0	0	0	1158	18	24	1065	0			
2028 Projected	27	0	23	0	0	0	0	1228	19	25	1131	0			

Date/Time	EastBound	WestBound	Location	Horizon Blvd. Site One						
12/9/2021 12:00 AM	29	45								
12/9/2021 12:15 AM	17	24								
12/9/2021 12:30 AM	19	14								
12/9/2021 12:45 AM	19	17	184							
12/9/2021 1:00 AM	17	13	140							
12/9/2021 1:15 AM	13	15	127							
12/9/2021 1:30 AM	9	13	116							
12/9/2021 1:45 AM	6	10	96							
12/9/2021 2:00 AM	7	13	86							
12/9/2021 2:15 AM	12	17	87							
12/9/2021 2:30 AM	11	12	88							
12/9/2021 2:45 AM	14	9	95							
12/9/2021 3:00 AM	20	13	108							
12/9/2021 3:15 AM	11	8	98							
12/9/2021 3:30 AM	23	13	111							
12/9/2021 3:45 AM	20	9	117							
12/9/2021 4:00 AM	26	7	117							
12/9/2021 4:15 AM	34	12	144							
12/9/2021 4:30 AM	37	22	167							
12/9/2021 4:45 AM	50	22	210							
12/9/2021 5:00 AM	57	16	250							
12/9/2021 5:15 AM	58	23	285							
12/9/2021 5:30 AM	99	32	357							
12/9/2021 5:45 AM	110	39	434							
12/9/2021 6:00 AM	97	67	525							
12/9/2021 6:15 AM	147	68	659							
12/9/2021 6:30 AM	180	112	820							
12/9/2021 6:45 AM	201	157	1029							
12/9/2021 7:00 AM	201	170	1236							
12/9/2021 7:15 AM	197	165	1383							
12/9/2021 7:30 AM	254	116	1461	EB SUM	WB SUM	EB 2025	WB 2025	EB 2028	WB 2028	PHF
12/9/2021 7:45 AM	232	150	1485	884	601	947	644	1005	684	0.97
12/9/2021 8:00 AM	191	143	1448							
12/9/2021 8:15 AM	166	109	1361							
12/9/2021 8:30 AM	184	132	1307							
12/9/2021 8:45 AM	180	142	1247							
12/9/2021 9:00 AM	184	130	1227							
12/9/2021 9:15 AM	170	101	1223							
12/9/2021 9:30 AM	186	116	1209							
12/9/2021 9:45 AM	169	158	1214							
12/9/2021 10:00 AM	167	130	1197							
12/9/2021 10:15 AM	186	148	1260							
12/9/2021 10:30 AM	188	118	1264							
12/9/2021 10:45 AM	174	141	1252							
12/9/2021 11:00 AM	189	141	1285							
12/9/2021 11:15 AM	163	122	1236							
12/9/2021 11:30 AM	181	137	1248							
12/9/2021 11:45 AM	168	173	1274							
12/9/2021 12:00 PM	182	171	1297							
12/9/2021 12:15 PM	180	143	1335							
12/9/2021 12:30 PM	185	148	1350							
12/9/2021 12:45 PM	179	165	1353							
12/9/2021 1:00 PM	178	149	1327							
12/9/2021 1:15 PM	181	129	1314							
12/9/2021 1:30 PM	158	153	1292							
12/9/2021 1:45 PM	164	131	1243							
12/9/2021 2:00 PM	184	139	1239							
12/9/2021 2:15 PM	193	163	1285							
12/9/2021 2:30 PM	188	145	1307							
12/9/2021 2:45 PM	175	149	1336							
12/9/2021 3:00 PM	182	156	1351							
12/9/2021 3:15 PM	224	134	1353							
12/9/2021 3:30 PM	211	181	1412							
12/9/2021 3:45 PM	192	202	1482							
12/9/2021 4:00 PM	207	135	1486							
12/9/2021 4:15 PM	214	166	1508							
12/9/2021 4:30 PM	214	129	1459							
12/9/2021 4:45 PM	188	178	1431							
12/9/2021 5:00 PM	253	154	1496							
12/9/2021 5:15 PM	223	168	1507	EB SUM	WB SUM	EB 2025	WB 2025	EB 2028	WB 2028	PHF

12/9/2021 5:30 PM	176	185	1525	840	685	900	734	955	779	0.94
12/9/2021 5:45 PM	204	140	1503							
12/9/2021 6:00 PM	190	158	1444							
12/9/2021 6:15 PM	198	146	1397							
12/9/2021 6:30 PM	187	143	1366							
12/9/2021 6:45 PM	152	116	1290							
12/9/2021 7:00 PM	133	122	1197							
12/9/2021 7:15 PM	132	144	1129							
12/9/2021 7:30 PM	126	137	1062							
12/9/2021 7:45 PM	117	118	1029							
12/9/2021 8:00 PM	108	112	994							
12/9/2021 8:15 PM	103	103	924							
12/9/2021 8:30 PM	86	116	863							
12/9/2021 8:45 PM	82	109	819							
12/9/2021 9:00 PM	101	88	788							
12/9/2021 9:15 PM	83	101	766							
12/9/2021 9:30 PM	88	92	744							
12/9/2021 9:45 PM	78	89	720							
12/9/2021 10:00 PM	52	74	657							
12/9/2021 10:15 PM	77	67	617							
12/9/2021 10:30 PM	49	52	538							
12/9/2021 10:45 PM	45	47	463							
12/9/2021 11:00 PM	31	52	420							
12/9/2021 11:15 PM	35	41	352							
12/9/2021 11:30 PM	28	37	316							
12/9/2021 11:45 PM	37	33	294							

Date/Time	WestBound	EastBound	Location: Horizon Blvd Site Two						
12/9/2021 12:00 AM	25	41							
12/9/2021 12:15 AM	15	25							
12/9/2021 12:30 AM	19	14							
12/9/2021 12:45 AM	20	16	175						
12/9/2021 1:00 AM	15	13	137						
12/9/2021 1:15 AM	12	15	124						
12/9/2021 1:30 AM	9	12	112						
12/9/2021 1:45 AM	6	10	92						
12/9/2021 2:00 AM	7	14	85						
12/9/2021 2:15 AM	9	15	82						
12/9/2021 2:30 AM	12	11	84						
12/9/2021 2:45 AM	15	10	93						
12/9/2021 3:00 AM	17	12	101						
12/9/2021 3:15 AM	12	11	100						
12/9/2021 3:30 AM	23	12	112						
12/9/2021 3:45 AM	20	10	117						
12/9/2021 4:00 AM	24	11	123						
12/9/2021 4:15 AM	32	11	143						
12/9/2021 4:30 AM	35	18	161						
12/9/2021 4:45 AM	48	22	201						
12/9/2021 5:00 AM	53	16	235						
12/9/2021 5:15 AM	61	23	276						
12/9/2021 5:30 AM	93	31	347						
12/9/2021 5:45 AM	107	37	421						
12/9/2021 6:00 AM	108	59	519						
12/9/2021 6:15 AM	153	75	663						
12/9/2021 6:30 AM	192	97	828						
12/9/2021 6:45 AM	210	156	1050						
12/9/2021 7:00 AM	208	177	1268						
12/9/2021 7:15 AM	222	176	1438						
12/9/2021 7:30 AM	225	164	1538	WB SUM	EB SUM	WB 2025	EB 2025	WB 2028	EB 2028
12/9/2021 7:45 AM	229	209	1610	884	726	947	778	1005	826
12/9/2021 8:00 AM	165	193	1583						0.92
12/9/2021 8:15 AM	171	130	1486						
12/9/2021 8:30 AM	206	135	1438						
12/9/2021 8:45 AM	193	159	1352						
12/9/2021 9:00 AM	176	137	1307						
12/9/2021 9:15 AM	148	131	1285						
12/9/2021 9:30 AM	193	140	1277						
12/9/2021 9:45 AM	195	157	1277						
12/9/2021 10:00 AM	169	150	1283						
12/9/2021 10:15 AM	189	164	1357						
12/9/2021 10:30 AM	176	151	1351						
12/9/2021 10:45 AM	189	160	1348						
12/9/2021 11:00 AM	173	151	1353						
12/9/2021 11:15 AM	183	166	1349						
12/9/2021 11:30 AM	186	160	1368						
12/9/2021 11:45 AM	170	199	1388						
12/9/2021 12:00 PM	181	198	1443						
12/9/2021 12:15 PM	183	170	1447						
12/9/2021 12:30 PM	201	165	1467						
12/9/2021 12:45 PM	164	178	1440						
12/9/2021 1:00 PM	179	153	1393						
12/9/2021 1:15 PM	154	164	1358						
12/9/2021 1:30 PM	151	185	1328						
12/9/2021 1:45 PM	179	182	1347						
12/9/2021 2:00 PM	168	188	1371						
12/9/2021 2:15 PM	183	191	1427						
12/9/2021 2:30 PM	176	186	1453						
12/9/2021 2:45 PM	172	179	1443						
12/9/2021 3:00 PM	182	211	1480						
12/9/2021 3:15 PM	203	192	1501						
12/9/2021 3:30 PM	190	204	1533						
12/9/2021 3:45 PM	201	261	1644						

12/9/2021 4:00 PM	200	207	1658								
12/9/2021 4:15 PM	200	204	1667	WB SUM	EB SUM	WB 2025	EB 2025	WB 2028	EB 2028	PHF	
12/9/2021 4:30 PM	222	200	1695	823	872	882	935	936	992	0.92	
12/9/2021 4:45 PM	186	180	1599								
12/9/2021 5:00 PM	239	222	1653								
12/9/2021 5:15 PM	209	227	1685								
12/9/2021 5:30 PM	185	220	1668								
12/9/2021 5:45 PM	192	187	1681								
12/9/2021 6:00 PM	192	181	1593								
12/9/2021 6:15 PM	175	170	1502								
12/9/2021 6:30 PM	175	178	1450								
12/9/2021 6:45 PM	144	143	1358								
12/9/2021 7:00 PM	136	135	1256								
12/9/2021 7:15 PM	124	163	1198								
12/9/2021 7:30 PM	127	151	1123								
12/9/2021 7:45 PM	120	129	1085								
12/9/2021 8:00 PM	104	133	1051								
12/9/2021 8:15 PM	103	117	984								
12/9/2021 8:30 PM	81	125	912								
12/9/2021 8:45 PM	78	127	868								
12/9/2021 9:00 PM	89	93	813								
12/9/2021 9:15 PM	89	101	783								
12/9/2021 9:30 PM	82	99	758								
12/9/2021 9:45 PM	74	87	714								
12/9/2021 10:00 PM	50	73	655								
12/9/2021 10:15 PM	66	67	598								
12/9/2021 10:30 PM	51	56	524								
12/9/2021 10:45 PM	48	42	453								
12/9/2021 11:00 PM	33	51	414								
12/9/2021 11:15 PM	33	43	357								
12/9/2021 11:30 PM	28	36	314								
12/9/2021 11:45 PM	34	28	286								

APPENDIX C

Trip Generation Tables

Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 49

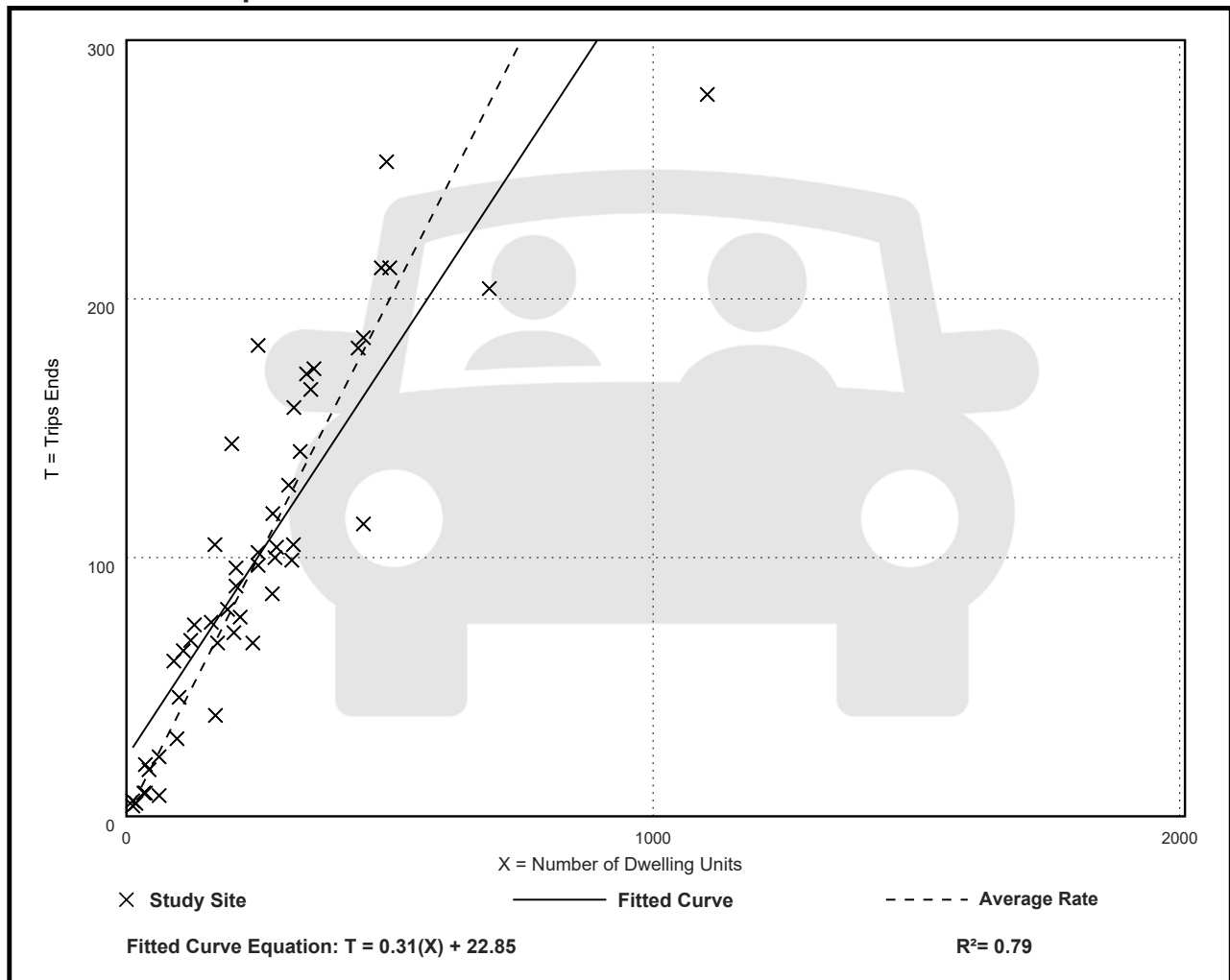
Avg. Num. of Dwelling Units: 249

Directional Distribution: 24% entering, 76% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.40	0.13 - 0.73	0.12

Data Plot and Equation



Multifamily Housing (Low-Rise) Not Close to Rail Transit (220)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 59

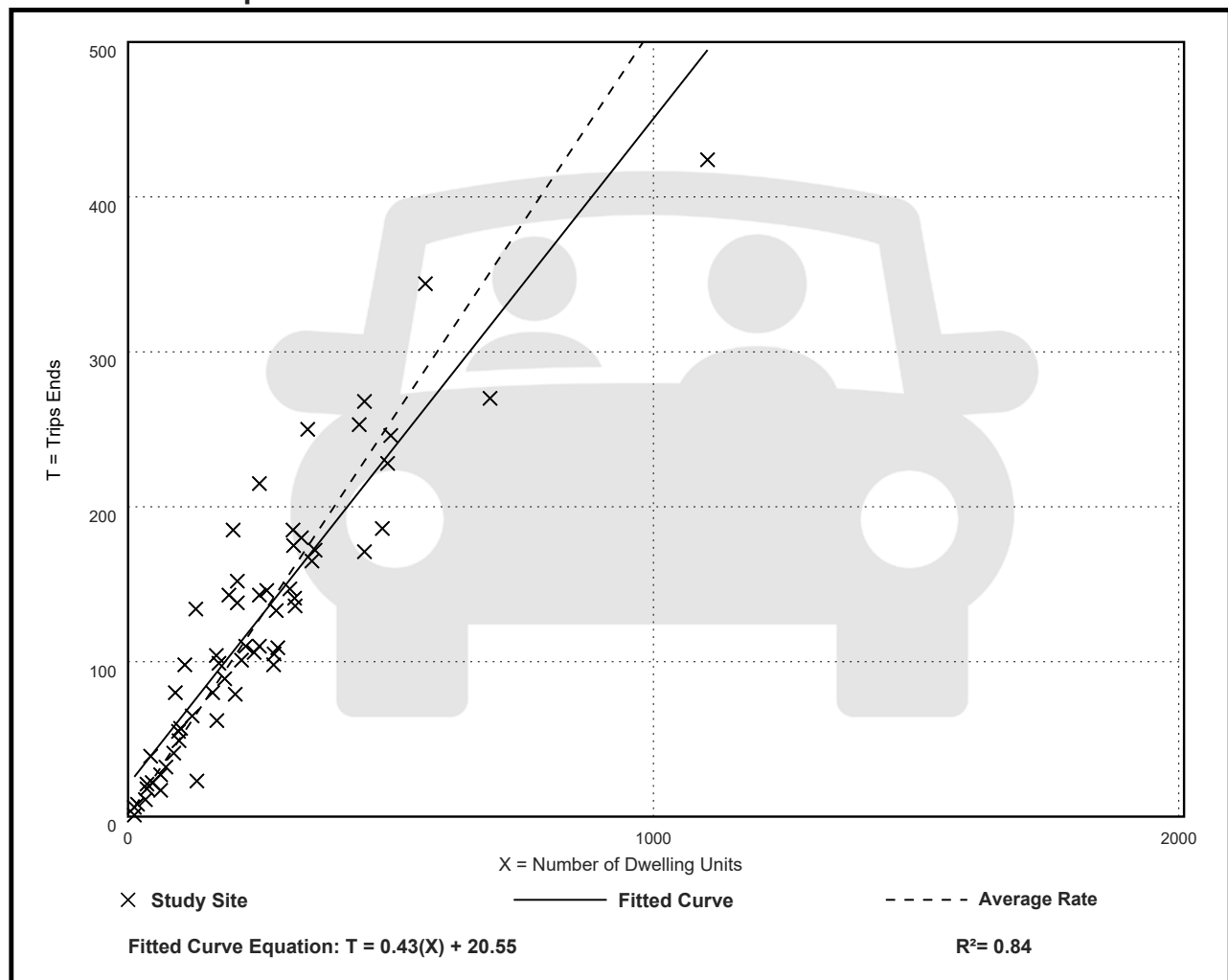
Avg. Num. of Dwelling Units: 241

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.51	0.08 - 1.04	0.15

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

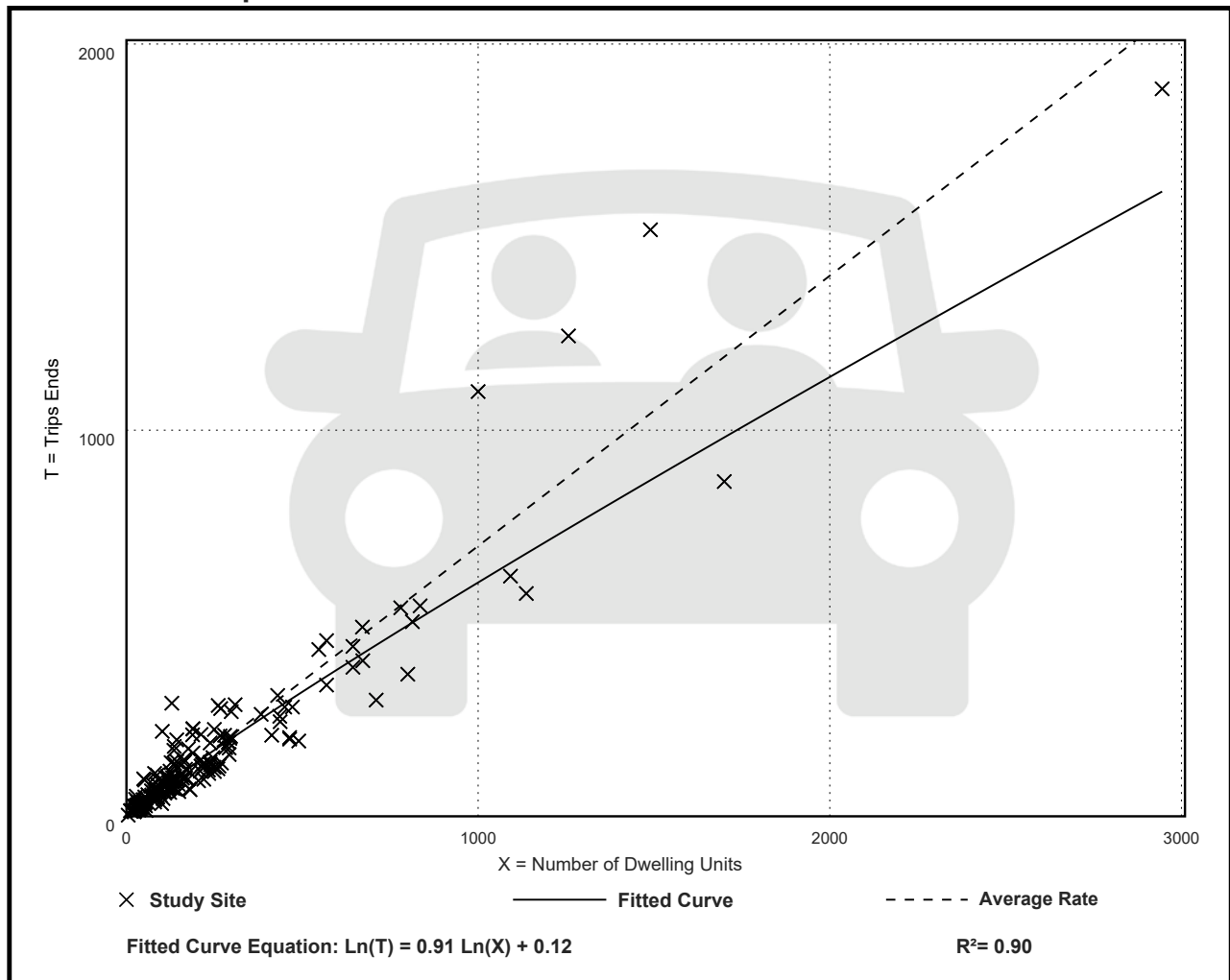
Avg. Num. of Dwelling Units: 226

Directional Distribution: 26% entering, 74% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 208

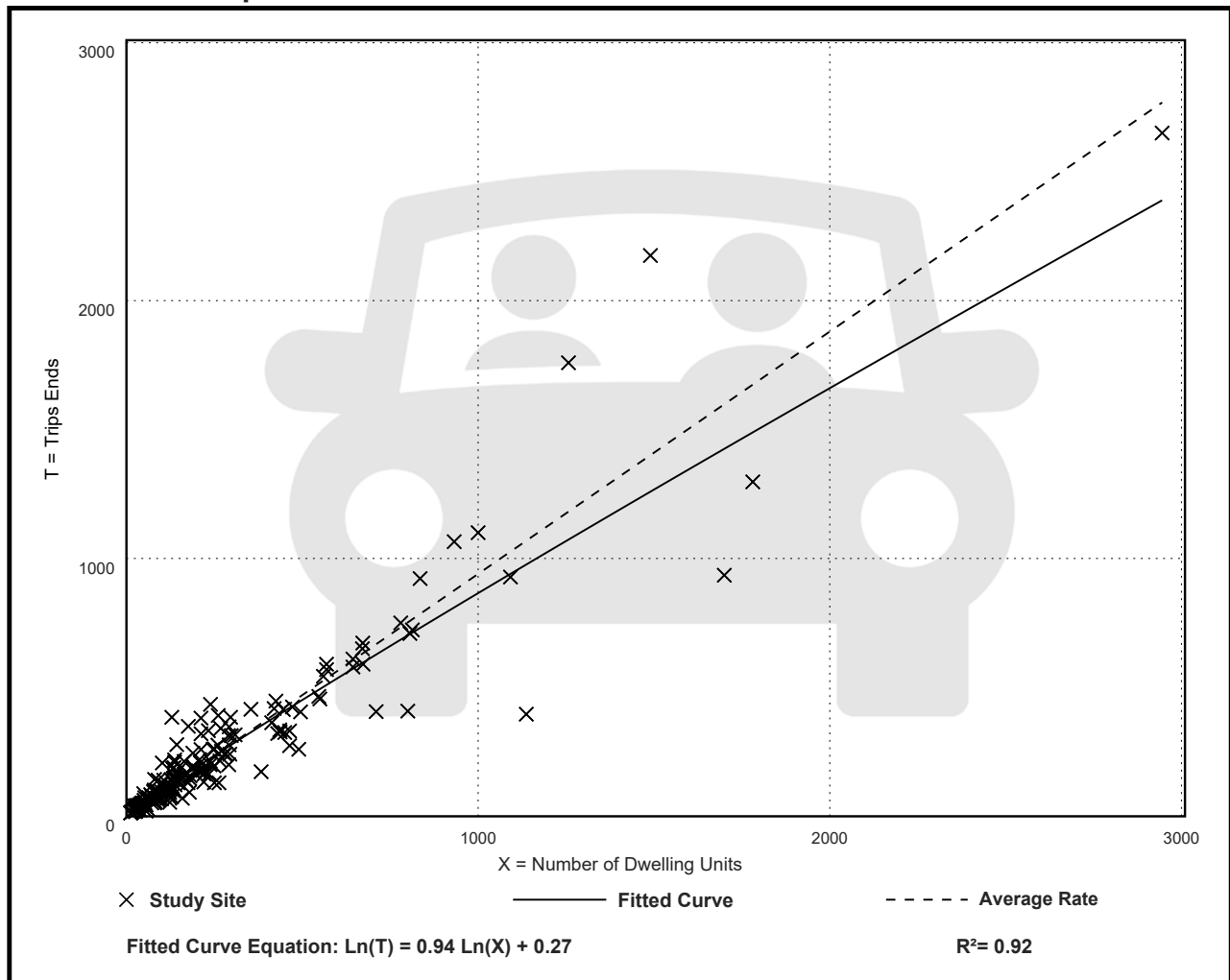
Avg. Num. of Dwelling Units: 248

Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 5

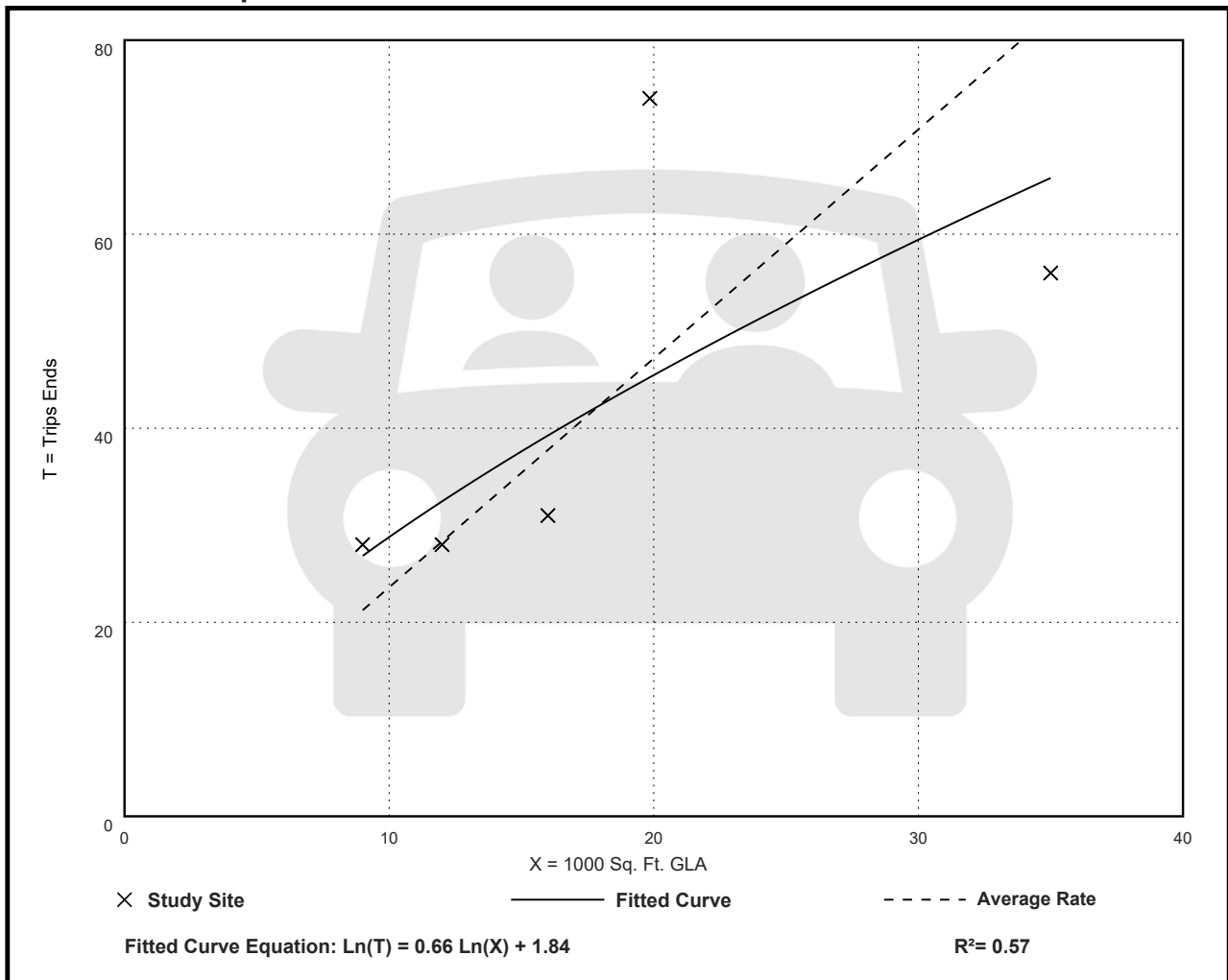
Avg. 1000 Sq. Ft. GLA: 18

Directional Distribution: 60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
2.36	1.60 - 3.73	0.94

Data Plot and Equation



Strip Retail Plaza (<40k) (822)

Vehicle Trip Ends vs: 1000 Sq. Ft. GLA

On a: Weekday,

Peak Hour of Adjacent Street Traffic,

One Hour Between 4 and 6 p.m.

Setting/Location: General Urban/Suburban

Number of Studies: 25

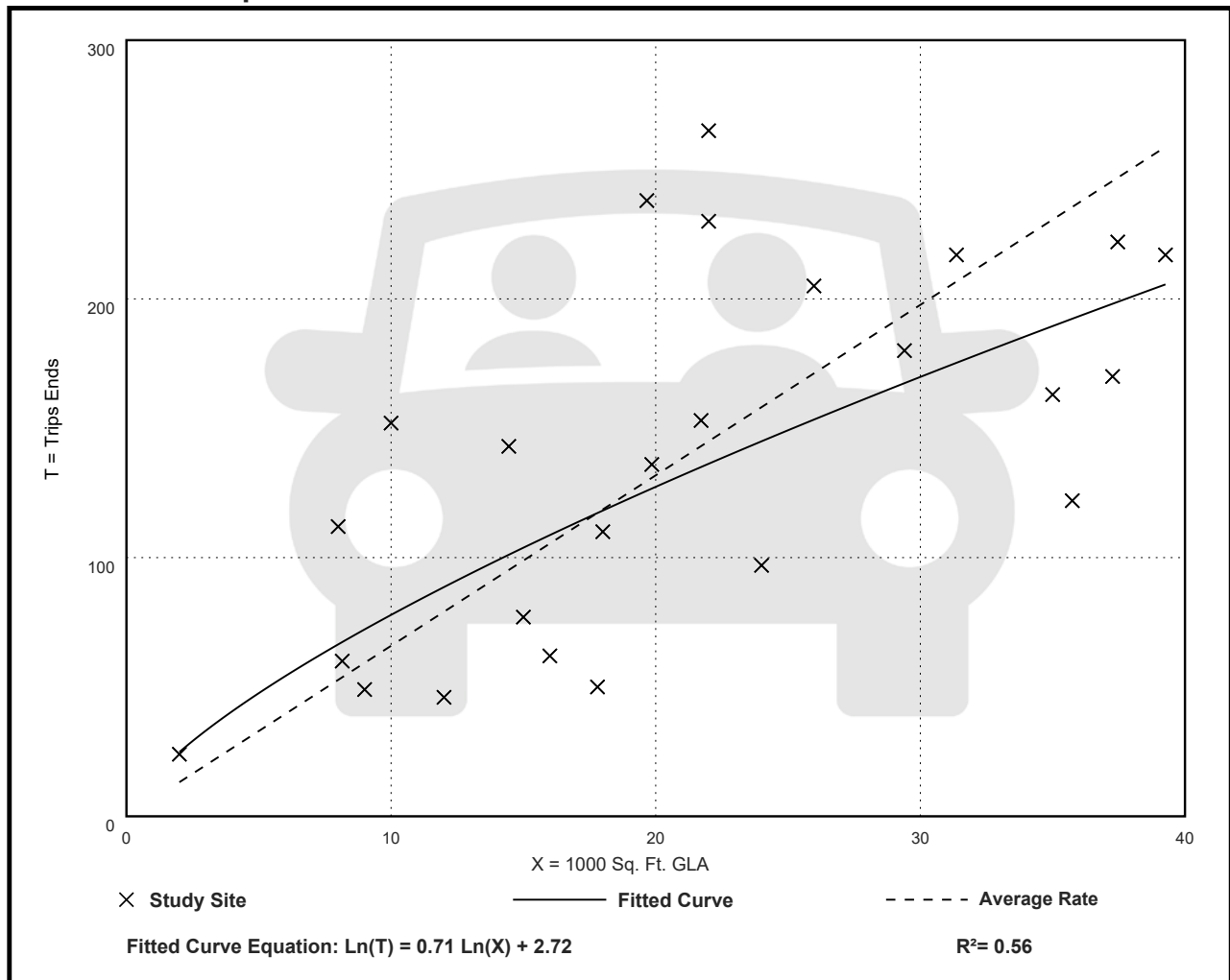
Avg. 1000 Sq. Ft. GLA: 21

Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
6.59	2.81 - 15.20	2.94

Data Plot and Equation



APPENDIX D

Calculations for Generated Traffic

Horizon Park Unit One-TIA

ITE Trip Generation 11th Edition

SINGLE-FAMILY DETACHED HOUSING (210) - Dwelling Units, Weekday, Peak Hour of Adjacent Street Traffic One Hour Between 7 - 9am & One Hour Between 4 -6 pm

Dwelling Units = 106

Total: AM Peak Hour

Trips	79	Average Vehicle Trip Ends	
Entering	26%	21	Total Vehicles
Exiting	74%	58	Total Vehicles

Total: PM Peak Hour

Trips	105	Average Vehicle Trip Ends	
Entering	63%	66	Total Vehicles
Exiting	37%	39	Total Vehicles

MULTIFAMILY HOUSING-LOW RISE (220) - Dwelling Units, Weekday, Peak Hour of Adjacent Street Traffic One Hour Between 7 - 9am & One Hour Between 4 -6 pm

Dwelling Units = 84

Total: AM Peak Hour

Trips	49	Average Vehicle Trip Ends	
Entering	24%	12	Total Vehicles
Exiting	76%	37	Total Vehicles

Total: PM Peak Hour

Trips	57	Average Vehicle Trip Ends	
Entering	63%	36	Total Vehicles
Exiting	37%	21	Total Vehicles

STIRP RETAIL PLAZA (822) - GLA Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 7 - 9am & One Hour Between 4 -6 pm

Commercial Tract Area: 0.556 acres = 24224 sq.ft.

Gross Leasable Area (20%): 4844.8 sq.ft.

Gross Leasable Area per 1000 sq.ft. = 4.84

Total: AM Peak Hour

Trips	18	Average Vehicle Trip Ends	
Entering	60%	11	Total Vehicles
Exiting	40%	7	Total Vehicles

Total AM: W/Internal Capture (%) 10.00%

Trips	16	Average Vehicle Trip Ends	
Entering	60%	10	Total Vehicles
Exiting	40%	6	Total Vehicles

Total: PM Peak Hour

Trips	47	Average Vehicle Trip Ends	
Entering	50%	23	Total Vehicles
Exiting	50%	23	Total Vehicles

Total PM: W/Internal Capture (%) 10.00%

Trips	42	Average Vehicle Trip Ends	
Entering	50%	21	Total Vehicles
Exiting	50%	21	Total Vehicles

GENERATED TRIP DISTRIBUTIONS PHASE I

Intersection of Horizon Blvd & Accessway A

AM	Peak hr	144		
			Intersection	
Entering	29%	42	Total Vehicles	WBL EBR
			NA	42
			Total Percentage (X/43)	
			100%	
Exiting	71%	102	Total Vehicles	NBL NBR
			NA	102
			Total Percentage (X/101)	
			100%	
PM	Peak hr	204		
			Intersection	
Entering	60%	123	Total Vehicles	WBL EBR
			NA	123
			Total Percentage (X/123)	
			100%	
Exiting	40%	81	Total Vehicles	NBL NBR
			NA	81
			Total Percentage (X/81)	
			100%	

Intersection of Horizon Blvd & Thunder Rd

AM	Peak hr	94		
			Intersection	
Entering	26%	25	Total Vehicles	WBT EBT
			25	NA
			Total Percentage (X/43)	
			58%	
Exiting	74%	69	Total Vehicles	EBU EBT
			NA	69
			Total Percentage (X/101)	
			68%	
PM	Peak hr	99		
			Intersection	
Entering	55%	54	Total Vehicles	WBT EBT
			54	NA
			Total Percentage (X/123)	
			44%	
Exiting	45%	45	Total Vehicles	EBU EBT
			NA	45
			Total Percentage (X/81)	
			55%	

Horizon Park Unit One-TIA

ITE Trip Generation 11th Edition

SINGLE-FAMILY DETACHED HOUSING (210) - Dwelling Units, Weekday, Peak Hour of Adjacent Street Traffic
One Hour Between 7 - 9am & One Hour Between 4 -6 pm

Dwelling Units = 227			
Total: AM Peak Hour			
Trips	157	Average Vehicle Trip Ends	
Entering	26%	41	Total Vehicles
Exiting	74%	116	Total Vehicles
Total: PM Peak Hour			
Trips	215	Average Vehicle Trip Ends	
Entering	63%	135	Total Vehicles
Exiting	37%	80	Total Vehicles

MULTIFAMILY HOUSING-LOW RISE (220) - Dwelling Units, Weekday, Peak Hour of Adjacent Street Traffic
One Hour Between 7 - 9am & One Hour Between 4 -6 pm

Dwelling Units = 84			
Total: AM Peak Hour			
Trips	49	Average Vehicle Trip Ends	
Entering	24%	12	Total Vehicles
Exiting	76%	37	Total Vehicles
Total: PM Peak Hour			
Trips	57	Average Vehicle Trip Ends	
Entering	63%	36	Total Vehicles
Exiting	37%	21	Total Vehicles

STIRP RETAIL PLAZA (822) - GLA Weekday, Peak Hour of Adjacent Street Traffic,
One Hour Between 7 - 9am & One Hour Between 4 -6 pm (ACCESSWAY A)

Commercial Tract Area: 0.556 acres = 24224 sq.ft.
Gross Leasable Area (20%): 4844.8 sq.ft.
Gross Leasable Area per 1000 sq.ft. = 4.84

Total: AM Peak Hour			
Trips	18	Average Vehicle Trip Ends	
Entering	60%	11	Total Vehicles
Exiting	40%	7	Total Vehicles
Total AM: W/Internal Capture (%) 10.00%			
Trips	16	Average Vehicle Trip Ends	
Entering	60%	10	Total Vehicles
Exiting	40%	6	Total Vehicles
Total: PM Peak Hour			
Trips	47	Average Vehicle Trip Ends	
Entering	50%	23	Total Vehicles
Exiting	50%	23	Total Vehicles
Total PM: W/Internal Capture (%) 10.00%			
Trips	42	Average Vehicle Trip Ends	
Entering	50%	21	Total Vehicles
Exiting	50%	21	Total Vehicles

STRIP RETAIL PLAZA (822) - GLA Weekday, Peak Hour of Adjacent Street Traffic,

One Hour Between 7 - 9am & One Hour Between 4 -6 pm (ACCESSWAY B)
Commercial Tract Area: 2.665 acres = 116094 sq.ft.
Gross Leasable Area (20%): 23218.8 sq.ft.
Gross Leasable Area per 1000 sq.ft. = 23.22

Total: AM Peak Hour			
Trips	50	Average Vehicle Trip Ends	
Entering	60%	30	Total Vehicles
Exiting	40%	20	Total Vehicles
Total AM: W/Internal Capture (%) 10.00%			
Trips	45	Average Vehicle Trip Ends	
Entering	60%	27	Total Vehicles
Exiting	40%	18	Total Vehicles
Total: PM Peak Hour			
Trips	142	Average Vehicle Trip Ends	
Entering	50%	71	Total Vehicles
Exiting	50%	71	Total Vehicles
Total PM: W/Internal Capture (%) 10.00%			
Trips	127	Average Vehicle Trip Ends	
Entering	50%	64	Total Vehicles
Exiting	50%	64	Total Vehicles

GENERATED TRIP DISTRIBUTIONS PHASE II

Intersection of Horizon Blvd & Accessway A

AM Peak hr 262			
Intersection			
Entering	35%	91	Total Vehicles
		27	46
		27	18
Total Percentage (X/90)			
		30%	52%
Exiting	65%	170	Total Vehicles
		NA	113
		NA	57
Total Percentage (X/177)			
			64%
PM Peak hr 438			
Intersection			
Entering	60%	264	Total Vehicles
		61	138
		61	66
Total Percentage (X/256)			
		24%	54%
Exiting	40%	174	Total Vehicles
		NA	90
		NA	84
Total Percentage (X/186)			
			48%

Intersection of Horizon Blvd & Thunder Rd

AM Peak hr 168			
Intersection			
Entering	42%	70	Total Vehicles
		27	18
		27	25
Total Percentage (X/90)			
		30%	20%
Exiting	58%	98	Total Vehicles
		21	77
		21	NA
Total Percentage (X/177)			
			12%
PM Peak hr 271			
Intersection			
Entering	66%	178	Total Vehicles
		61	66
		61	52
Total Percentage (X/256)			
		24%	26%
Exiting	34%	93	Total Vehicles
		43	50
		43	NA
Total Percentage (X/186)			
			23%

Intersection of Horizon Blvd & Accessway B

AM Peak hr 257			
Intersection			
Entering	37%	95	Total Vehicles
		NA	43
		NA	52
Total Percentage (X/90)			
			48%
Exiting	63%	162	Total Vehicles
		21	64
		21	77
Total Percentage (X/177)			
			12%
PM Peak hr 418			
Intersection			
Entering	55%	230	Total Vehicles
		NA	118
		NA	112
Total Percentage (X/256)			
			46%
Exiting	45%	188	Total Vehicles
		43	96
		43	50
Total Percentage (X/186)			
			23%

APPENDIX E

Existing Baseline 2022 AM & PM Peak Hour HCS Roadway and Intersection Capacity analysis

HCS7 Two-Way Stop-Control Report

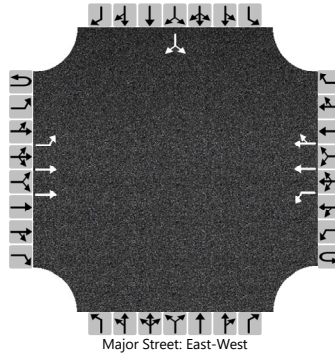
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2022
Time Analyzed	2022 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder AM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Baseline
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	11	1029		0	0	725	15						21		10
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

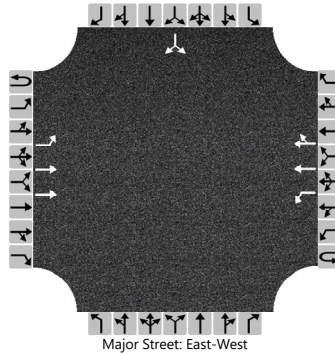
Flow Rate, v (veh/h)		12				0									34	
Capacity, c (veh/h)		797				601									351	
v/c Ratio		0.02				0.00									0.10	
95% Queue Length, Q ₉₅ (veh)		0.0				0.0									0.3	
Control Delay (s/veh)		9.6				11.0									16.4	
Level of Service (LOS)		A				B									C	
Approach Delay (s/veh)	0.1				0.0								16.4			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RMF	Intersection	Horizon Blvd & Thunder Rd
Agency/Co.	CEA Group	Jurisdiction	Baseline
Date Performed	2/9/2022	East/West Street	Horizon Blvd.
Analysis Year	2022	North/South Street	Thunder Rd.
Time Analyzed	2022 PM Peak Hour	Peak Hour Factor	0.95
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Horizon Park: Horizon & Thunder PM Peak Hour		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	22	994		0	0	1080	17						24		20
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		23				0									46	
Capacity, c (veh/h)		595				655									267	
v/c Ratio		0.04				0.00									0.17	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0									0.6	
Control Delay (s/veh)		11.3				10.5									21.3	
Level of Service (LOS)		B				B									C	
Approach Delay (s/veh)	0.2				0.0								21.3			
Approach LOS													C			

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2022
Jurisdiction		Time Period Analyzed	2022 AM Peak Hour
Project Description	Horizon Park: 2022 AM Peak Hour Baseline	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	726	Heavy Vehicle Adjustment Factor (fHV)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	406
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.20

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	8.1
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	395	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	2.94
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2022
Jurisdiction		Time Period Analyzed	2022 AM Peak Hour
Project Description	Horizon Park: 2022 AM Peak Hour Baseline	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	884	Heavy Vehicle Adjustment Factor (fHV)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	495
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	9.9
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	480	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.04
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2022
Jurisdiction		Time Period Analyzed	2022 PM Peak Hour
Project Description	Horizon Park: 2022 PM Peak Hour Baseline	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	872	Heavy Vehicle Adjustment Factor (fHV)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	488
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	9.8
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	474	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.03
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2022
Jurisdiction		Time Period Analyzed	2022 PM Peak Hour
Project Description	Horizon Park: 2022 PM Peak Hour Baseline	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	823	Heavy Vehicle Adjustment Factor (fHV)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	460
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	9.2
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	447	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.00
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

APPENDIX F

2025 Projected Baseline AM & PM Peak Hour HCS Roadway and Intersection Capacity
analysis

HCS7 Two-Way Stop-Control Report

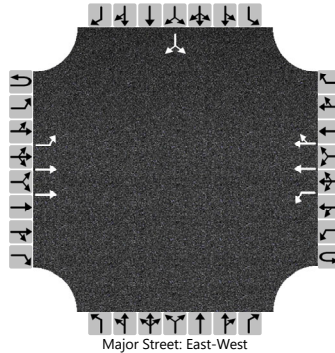
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder AM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Baseline
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	12	1103		0	0	777	16						23		11
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		13				0									38	
Capacity, c (veh/h)		757				559									326	
v/c Ratio		0.02				0.00									0.12	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0									0.4	
Control Delay (s/veh)		9.8				11.4									17.5	
Level of Service (LOS)		A				B									C	
Approach Delay (s/veh)	0.1				0.0								17.5			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

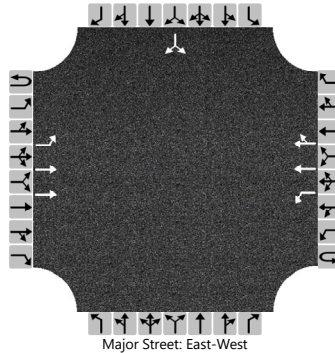
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder PM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Baseline
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	24	1065		0	0	1158	18						26		21
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		25				0									49	
Capacity, c (veh/h)		553				613									239	
v/c Ratio		0.05				0.00									0.21	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0									0.8	
Control Delay (s/veh)		11.8				10.9									23.9	
Level of Service (LOS)		B				B									C	
Approach Delay (s/veh)	0.3				0.0								23.9			
Approach LOS													C			

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 AM Peak Hour
Project Description	Horizon Park: 2025 AM Peak Hour Projected Baseline	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	778	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	436
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	8.7
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	423	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	2.98
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 AM Peak Hour
Project Description	Horizon Park: 2025 AM Peak Hour Projected Baseline	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	947	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	530
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	10.6
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	515	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.08
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 PM Peak Hour
Project Description	Horizon Park: 2025 PM Peak Hour Projected Baseline	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	935	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	524
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	10.5
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	508	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.07
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 PM Peak Hour
Project Description	Horizon Park: 2025 PM Peak Hour Projected Baseline	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	882	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	494
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	9.9
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	479	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.04
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

APPENDIX G

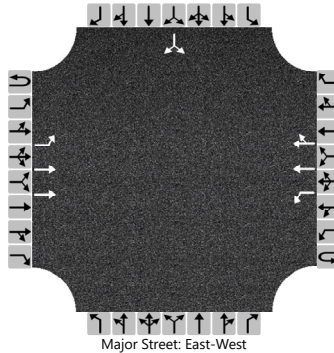
2025 Projected Build Out AM & PM Peak Hour HCS Roadway and Intersection Capacity
analysis

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RMF	Intersection	Horizon Blvd & Thunder Rd
Agency/Co.	CEA Group	Jurisdiction	Projected Build-Out
Date Performed	2/9/2022	East/West Street	Horizon Blvd.
Analysis Year	2025	North/South Street	Thunder Rd.
Time Analyzed	2025 AM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Horizon Park Unit: Horizon & Thunder AM Peak Hour		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	12	1172		0	0	802	16						23		11
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		13				0									38	
Capacity, c (veh/h)		739				522									312	
v/c Ratio		0.02				0.00									0.12	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0									0.4	
Control Delay (s/veh)		10.0				11.9									18.1	
Level of Service (LOS)		A				B									C	
Approach Delay (s/veh)	0.1				0.0								18.1			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

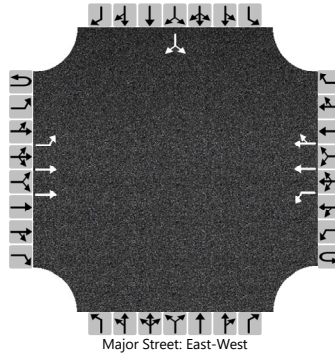
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder PM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	24	1110		0	0	1212	18						26		21
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		25				0									49	
Capacity, c (veh/h)		526				588									223	
v/c Ratio		0.05				0.00									0.22	
95% Queue Length, Q ₉₅ (veh)		0.2				0.0									0.8	
Control Delay (s/veh)		12.2				11.1									25.7	
Level of Service (LOS)		B				B									D	
Approach Delay (s/veh)	0.3				0.0								25.7			
Approach LOS													D			

HCS7 Two-Way Stop-Control Report

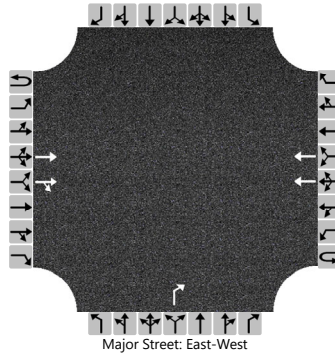
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2025
Time Analyzed	2025 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Access A AM Peak Hour

Site Information

Intersection	Horizon & Accessway A
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Accessway A
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			1103	42			777					102				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												113				
Capacity, c (veh/h)												418				
v/c Ratio												0.27				
95% Queue Length, Q ₉₅ (veh)												1.1				
Control Delay (s/veh)												16.8				
Level of Service (LOS)												C				
Approach Delay (s/veh)									16.8							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

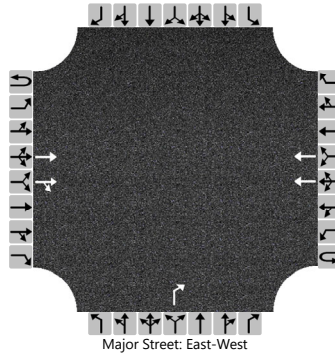
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2025
Time Analyzed	2025 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Access A PM Peak Hour

Site Information

Intersection	Horizon & Accessway A
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Accessway A
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			1065	123			1158					81				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												85				
Capacity, c (veh/h)												425				
v/c Ratio												0.20				
95% Queue Length, Q ₉₅ (veh)												0.7				
Control Delay (s/veh)												15.6				
Level of Service (LOS)												C				
Approach Delay (s/veh)									15.6							
Approach LOS									C							

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 AM Peak Hour
Project Description	Horizon Park: 2025 AM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	820	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	459
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	9.2
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	446	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.00
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 AM Peak Hour
Project Description	Horizon Park: 2025 AM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	980	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	548
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	11.0
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	533	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.09
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 PM Peak Hour
Project Description	Horizon Park: 2025 PM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	1054	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	590
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	11.8
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	573	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.13
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2025
Jurisdiction		Time Period Analyzed	2025 PM Peak Hour
Project Description	Horizon Park: 2025 PM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	918	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	514
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	10.3
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	499	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.06
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

APPENDIX H

2028 Projected Baseline AM & PM Peak Hour HCS Roadway and Intersection Capacity
analysis

HCS7 Two-Way Stop-Control Report

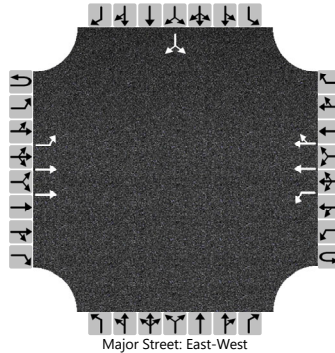
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder AM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Baseline
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	13	1170		0	0	825	17						24		11
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0									39	
Capacity, c (veh/h)		722				523									302	
v/c Ratio		0.02				0.00									0.13	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0									0.4	
Control Delay (s/veh)		10.1				11.9									18.7	
Level of Service (LOS)		B				B									C	
Approach Delay (s/veh)	0.1				0.0								18.7			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

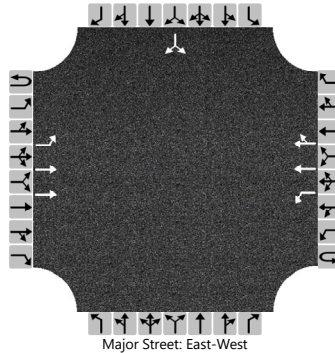
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder PM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Baseline
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	25	1131		0	0	1228	19						27		23
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26				0									53	
Capacity, c (veh/h)		518				577									220	
v/c Ratio		0.05				0.00									0.24	
95% Queue Length, Q ₉₅ (veh)		0.2				0.0									0.9	
Control Delay (s/veh)		12.3				11.2									26.4	
Level of Service (LOS)		B				B									D	
Approach Delay (s/veh)	0.3				0.0								26.4			
Approach LOS													D			

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 AM Peak Hour
Project Description	Horizon Park: 2028 AM Peak Hour Projected Baseline	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	826	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	462
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	9.2
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	449	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.01
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 AM Peak Hour
Project Description	Horizon Park: 2028 AM Peak Hour Projected Baseline	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	1005	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	562
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	11.2
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	546	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.11
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 PM Peak Hour
Project Description	Horizon Park: 2028 PM Peak Hour Projected Baseline	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	992	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	555
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	11.1
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	539	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.10
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 PM Peak Hour
Project Description	Horizon Park: 2028 PM Peak Hour Projected Baseline	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	936	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	524
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	10.5
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	509	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.07
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

APPENDIX I

2028 Projected Build Out AM & PM Peak Hour HCS Roadway and Intersection Capacity
analysis

HCS7 Two-Way Stop-Control Report

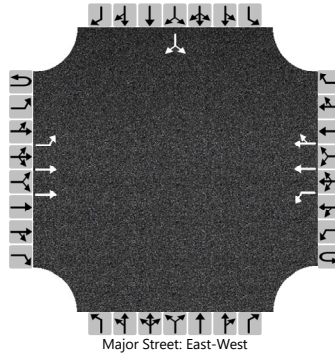
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder AM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	13	1266		25	0	872	17						24		11
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1			6.4	4.1								7.5		6.9
Critical Headway (sec)		4.16			6.46	4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2			2.5	2.2								3.5		3.3
Follow-Up Headway (sec)		2.23			2.53	2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14			28										39	
Capacity, c (veh/h)		689			180										235	
v/c Ratio		0.02			0.15										0.17	
95% Queue Length, Q ₉₅ (veh)		0.1			0.5										0.6	
Control Delay (s/veh)		10.3			28.7										23.3	
Level of Service (LOS)		B			D										C	
Approach Delay (s/veh)	0.1				0.8								23.3			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

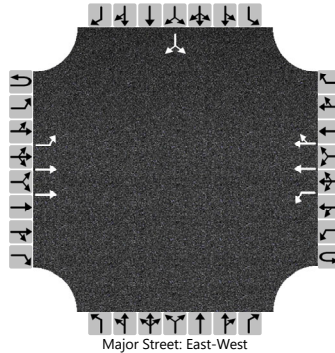
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder PM Peak Hour

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	25	1246		52	0	1332	19						27		23
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1			6.4	4.1								7.5		6.9
Critical Headway (sec)		4.16			6.46	4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2			2.5	2.2								3.5		3.3
Follow-Up Headway (sec)		2.23			2.53	2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		26			55										53	
Capacity, c (veh/h)		470			207										132	
v/c Ratio		0.06			0.26										0.40	
95% Queue Length, Q ₉₅ (veh)		0.2			1.0										1.7	
Control Delay (s/veh)		13.1			28.5										49.2	
Level of Service (LOS)		B			D										E	
Approach Delay (s/veh)	0.3				1.1								49.2			
Approach LOS													E			

HCS7 Two-Way Stop-Control Report

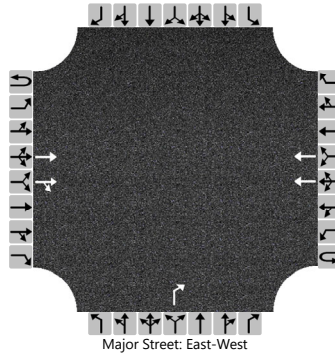
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Access A AM Peak Hour

Site Information

Intersection	Horizon & Accessway A
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Accessway A
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			1188	46			909					113				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												126				
Capacity, c (veh/h)												388				
v/c Ratio												0.32				
95% Queue Length, Q ₉₅ (veh)												1.4				
Control Delay (s/veh)												18.7				
Level of Service (LOS)												C				
Approach Delay (s/veh)									18.7							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

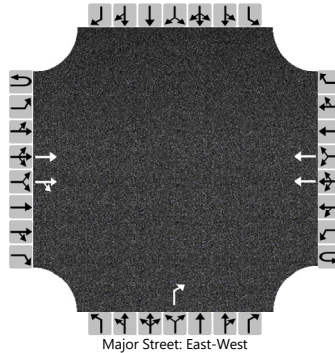
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Access A PM Peak Hour

Site Information

Intersection	Horizon & Accessway A
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Accessway A
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			1197	138			1373					90				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												95				
Capacity, c (veh/h)												378				
v/c Ratio												0.25				
95% Queue Length, Q ₉₅ (veh)												1.0				
Control Delay (s/veh)												17.7				
Level of Service (LOS)												C				
Approach Delay (s/veh)									17.7							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

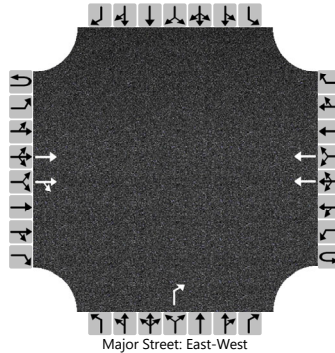
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Access B AM Peak Hour

Site Information

Intersection	Horizon & Accessway B
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Accessway B
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			1247	43			898					64				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												71				
Capacity, c (veh/h)												370				
v/c Ratio												0.19				
95% Queue Length, Q ₉₅ (veh)												0.7				
Control Delay (s/veh)												17.0				
Level of Service (LOS)												C				
Approach Delay (s/veh)									17.0							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

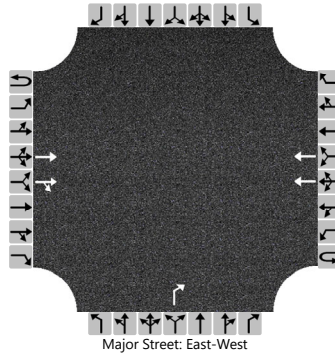
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Access B PM Peak Hour

Site Information

Intersection	Horizon & Accessway B
Jurisdiction	Projected Build-Out
East/West Street	Horizon Blvd.
North/South Street	Accessway B
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	0	2	0		0	0	1		0	0	0
Configuration			T	TR			T					R				
Volume (veh/h)			1181	118			1383					96				
Percent Heavy Vehicles (%)												3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)												6.9				
Critical Headway (sec)												6.96				
Base Follow-Up Headway (sec)												3.3				
Follow-Up Headway (sec)												3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)												101				
Capacity, c (veh/h)												389				
v/c Ratio												0.26				
95% Queue Length, Q ₉₅ (veh)												1.0				
Control Delay (s/veh)												17.5				
Level of Service (LOS)												C				
Approach Delay (s/veh)									17.5							
Approach LOS									C							

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 AM Peak Hour
Project Description	Horizon Park: 2028 AM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	890	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	498
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	10.0
Median Type Adjustment (fM)	-	Level of Service (LOS)	A
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	484	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.04
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 AM Peak Hour
Project Description	Horizon Park: 2028 AM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	1089	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	610
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	12.2
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	592	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.15
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 PM Peak Hour
Project Description	Horizon Park: 2028 PM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 2 Geometric Data

Direction 2	Eastbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume(V) veh/h	1196	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	670
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33

Direction 2 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	13.4
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 2 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	650	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.19
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

HCS7 Multilane Highway Report

Project Information

Analyst	RMF	Date	2/9/2022
Agency	CEA Group	Analysis Year	2028
Jurisdiction		Time Period Analyzed	2028 PM Peak Hour
Project Description	Horizon Park: 2028 PM Peak Hour Projected Build-Out	Unit	United States Customary

Direction 1 Geometric Data

Direction 1	Westbound		
Number of Lanes (N), ln	2	Terrain Type	Level
Segment Length (L), ft	-	Percent Grade, %	-
Measured or Base Free-Flow Speed	Measured	Grade Length, mi	-
Base Free-Flow Speed (BFFS), mi/h	50.0	Access Point Density, pts/mi	-
Lane Width, ft	-	Left-Side Lateral Clearance (LCR), ft	-
Median Type	-	Total Lateral Clearance (TLC), ft	-
Free-Flow Speed (FFS), mi/h	50.0		

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume(V) veh/h	1080	Heavy Vehicle Adjustment Factor (fhv)	0.971
Peak Hour Factor	0.92	Flow Rate (Vp), pc/h/ln	604
Total Trucks, %	3.00	Capacity (c), pc/h/ln	2000
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (cadj), pc/h/ln	2000
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30

Direction 1 Speed and Density

Lane Width Adjustment (fLW)	-	Average Speed (S), mi/h	50.0
Total Lateral Clearance Adj. (fLLC)	-	Density (D), pc/mi/ln	12.1
Median Type Adjustment (fM)	-	Level of Service (LOS)	B
Access Point Density Adjustment (fA)	-		

Direction 1 Bicycle LOS

Flow Rate in Outside Lane (vOL),veh/h	587	Effective Speed Factor (St)	4.62
Effective Width of Volume (Wv), ft	18	Bicycle LOS Score (BLOS)	3.14
Average Effective Width (We), ft	24	Bicycle Level of Service (LOS)	C

APPENDIX J

2028 Projected Build Out with Mitigation AM & PM Peak Hour HCS Roadway and
Intersection Capacity analysis

HCS7 Two-Way Stop-Control Report

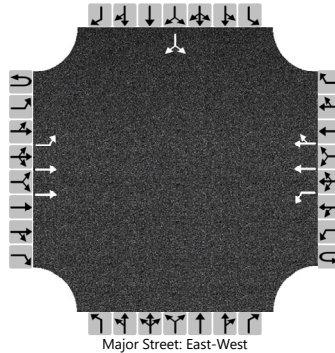
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 AM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder AM Peak Hour Mit

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Build-Out Mit
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	13	1266		0	0	872	17						24		11
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		14				0									39	
Capacity, c (veh/h)		689				476									281	
v/c Ratio		0.02				0.00									0.14	
95% Queue Length, Q ₉₅ (veh)		0.1				0.0									0.5	
Control Delay (s/veh)		10.3				12.6									19.9	
Level of Service (LOS)		B				B									C	
Approach Delay (s/veh)	0.1				0.0								19.9			
Approach LOS													C			

HCS7 Two-Way Stop-Control Report

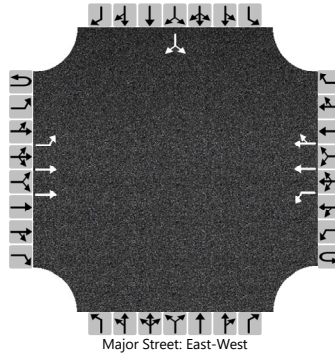
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Thunder PM Peak Hour Mit

Site Information

Intersection	Horizon Blvd & Thunder Rd
Jurisdiction	Projected Build-Out Mit
East/West Street	Horizon Blvd.
North/South Street	Thunder Rd.
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	1	2	0	0	1	2	0		0	0	0		0	1	0
Configuration		L	T			L	T	TR							LR	
Volume (veh/h)	0	25	1246		0	0	1332	19						27		23
Percent Heavy Vehicles (%)	3	3			3	3								3		3
Proportion Time Blocked																
Percent Grade (%)													0			
Right Turn Channelized																
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)		4.1				4.1								7.5		6.9
Critical Headway (sec)		4.16				4.16								7.56		6.96
Base Follow-Up Headway (sec)		2.2				2.2								3.5		3.3
Follow-Up Headway (sec)		2.23				2.23								3.53		3.33

Delay, Queue Length, and Level of Service

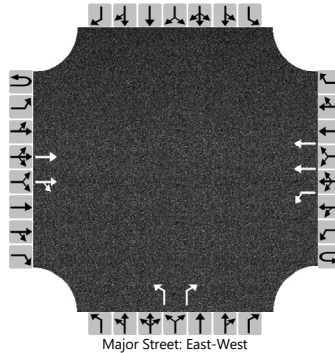
Flow Rate, v (veh/h)		26				0									53	
Capacity, c (veh/h)		470				518									192	
v/c Ratio		0.06				0.00									0.27	
95% Queue Length, Q ₉₅ (veh)		0.2				0.0									1.1	
Control Delay (s/veh)		13.1				11.9									30.7	
Level of Service (LOS)		B				B									D	
Approach Delay (s/veh)	0.3				0.0								30.7			
Approach LOS													D			

HCS7 Two-Way Stop-Control Report

General Information

Analyst	RMF	Intersection	Horizon & Accessway B
Agency/Co.	CEA Group	Jurisdiction	Projected Build-Out Mit
Date Performed	2/9/2022	East/West Street	Horizon Blvd.
Analysis Year	2028	North/South Street	Accessway B
Time Analyzed	2028 AM Peak Hour	Peak Hour Factor	0.90
Intersection Orientation	East-West	Analysis Time Period (hrs)	0.25
Project Description	Horizon Park: Horizon & Access B AM Peak Mit		

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		1	0	1		0	0	0
Configuration			T	TR		L	T			L		R				
Volume (veh/h)			1247	18	0	25	852			21		44				
Percent Heavy Vehicles (%)					3	3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.16				6.86		6.96				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						28				23		49				
Capacity, c (veh/h)						476				184		378				
v/c Ratio						0.06				0.13		0.13				
95% Queue Length, Q ₉₅ (veh)						0.2				0.4		0.4				
Control Delay (s/veh)						13.0				27.4		15.9				
Level of Service (LOS)						B				D		C				
Approach Delay (s/veh)					0.4				19.6							
Approach LOS									C							

HCS7 Two-Way Stop-Control Report

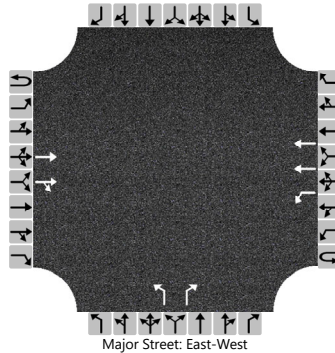
General Information

Analyst	RMF
Agency/Co.	CEA Group
Date Performed	2/9/2022
Analysis Year	2028
Time Analyzed	2028 PM Peak Hour
Intersection Orientation	East-West
Project Description	Horizon Park: Horizon & Access B PM Peak Hour Mit

Site Information

Intersection	Horizon & Accessway B
Jurisdiction	Projected Build-Out Mit
East/West Street	Horizon Blvd.
North/South Street	Accessway B
Peak Hour Factor	0.95
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority	1U	1	2	3	4U	4	5	6		7	8	9		10	11	12
Number of Lanes	0	0	2	0	0	1	2	0		1	0	1		0	0	0
Configuration			T	TR		L	T			L		R				
Volume (veh/h)			1181	66	0	52	1289			43		53				
Percent Heavy Vehicles (%)					3	3				3		3				
Proportion Time Blocked																
Percent Grade (%)									0							
Right Turn Channelized									No							
Median Type Storage	Left Only								3							

Critical and Follow-up Headways

Base Critical Headway (sec)						4.1				7.5		6.9				
Critical Headway (sec)						4.16				6.86		6.96				
Base Follow-Up Headway (sec)						2.2				3.5		3.3				
Follow-Up Headway (sec)						2.23				3.53		3.33				

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)						55				45		56				
Capacity, c (veh/h)						518				200		405				
v/c Ratio						0.11				0.23		0.14				
95% Queue Length, Q ₉₅ (veh)						0.4				0.8		0.5				
Control Delay (s/veh)						12.8				28.2		15.3				
Level of Service (LOS)						B				D		C				
Approach Delay (s/veh)					0.5				21.1							
Approach LOS									C							