

**CITY OF LA VISTA**  
**MAYOR AND CITY COUNCIL REPORT**  
**MAY 7, 2024 AGENDA**

<b>Subject:</b>	<b>Type:</b>	<b>Submitted By:</b>
PLANNED UNIT DEVELOPMENT– SITE PLAN & ORDINANCE AD INDUSTRIAL PARK	RESOLUTION ◆ ORDINANCE RECEIVE/FILE	CALE BRODERSEN ASSOCIATE CITY PLANNER

**SYNOPSIS**

A public hearing has been scheduled and an ordinance prepared for the consideration of an application by Fenton Construction, Inc. for a Planned Unit Development to allow for the construction of an industrial park with 6 speculative industrial multi-tenant buildings on individual lots near 144<sup>th</sup> Street and Chandler Road. The PUD area would contain 4 of the buildings totaling just over 200,000 square feet, and allow for the facilities for heavy construction contractors use with limited outdoor storage on the properties south of the railroad tracks.

**FISCAL IMPACT**

N/A.

**RECOMMENDATION**

Approval.

**BACKGROUND**

The applicant has requested the Planned Unit Development to establish the ingress/egress easements necessary to satisfy the lot frontage requirements of La Vista's Subdivision Regulations as three of the proposed buildings will be located south of the railroad tracks and will be accessible via approved railroad crossings through the northern lots on the site that front Chandler Road. In addition, the applicant seeks an allowance through the PUD to allow for the operation of a "Heavy Construction Contractors" use in addition to allowing for limited outdoor storage on the southern parcels adjacent to the railroad tracks (with the required screening).

This application relates to the properties for which the City recently extended its extraterritorial zoning jurisdiction (ETJ), future land use map, and zoning map to cover, as part of the property was previously under Sarpy County's jurisdiction. The property has been zoned as I-1 Light Industrial, which is substantially more restrictive on the types of industrial uses that are allowed than the previous zoning designation when under Sarpy County's Zoning Jurisdiction, IGM (Industrial General Manufacturing).

A detailed staff report is attached. The Planning Commission held a public hearing on April 4, 2024, and voted 9-0 to recommend approval of the Planned Unit Development, subject to the approval and recording of the final replat and subdivision agreement.

**ORDINANCE NO. \_\_\_\_\_**

AN ORDINANCE OF THE CITY OF LA VISTA, NEBRASKA ESTABLISHING STANDARDS AND CONDITIONS FOR DEVELOPMENT UNDER THE FINAL PLANNED UNIT DEVELOPMENT PLAN; TO PROVIDE FOR SEVERABILITY; TO PROVIDE WHEN THIS ORDINANCE SHALL BE IN FULL FORCE AND EFFECT; AND TO PROVIDE FOR THE PUBLICATION OF THIS ORDINANCE IN PAMPHLET FORM.

BE IT ORDAINED BY THE MAYOR AND CITY COUNCIL OF THE CITY OF LA VISTA, NEBRASKA:

Section 1. The Planned Unit Development plan for the Fenton Construction, Inc. industrial development of AD Industrial Park (the "AD Industrial Park PUD") is hereby adopted for the following described real estate, to wit:

**LEGAL DESCRIPTION**

See Exhibit "A" attached hereto and made a part hereof.

Section 2. The AD Industrial Park PUD is hereby adopted to provide for the development of an industrial business park development. Such industrial development will be characterized by 4 industrial buildings within the PUD area constituting a total of 201,520 square feet of building footprint, served by parking areas that provide sufficient parking. The regulations contained in this Ordinance will facilitate development in a planned, orderly fashion so as to protect the public health, safety, and general welfare. All grading, installation of infrastructure, development and build-out shall be in strict accordance with the provisions of this Ordinance, except as shall be amended by the City Council in the required manner. The underlying zoning district regulations shall continue to be applicable, except as provided for in this Ordinance and the attached exhibits.

**Section 3. Definitions**

Unless a contrary intent is clearly indicated herein, the following words and phrases shall have the following meanings, regardless of whether or not capitalized:

- A. "Developer" shall mean Fenton Construction, LLC, their successors and assigns.
- B. "Heavy Construction Contractors" shall mean contractors primarily engaged in heavy construction other than building, such as highways, streets, bridges, sewers, railroads, irrigation projects, flood control, and special trade contractors primarily engaged in activities of a type that are clearly specialized to such heavy construction and are not normally performed on buildings or building-related projects.
- C. "Outdoor Storage" shall mean the storage of any material for a period of greater than 72 hours not in an enclosed building, including items for sale, lease, processing, and repair (including motor vehicles). Licensed vehicles or trailers shall not be considered outdoor storage.
- D. "Plat" or "the Plat," shall mean the final plat of the Subdivision approved by the City Council or an administrative plat approved by staff.
- E. "AD Industrial Park PUD" shall mean the planned unit development that is subject to this Ordinance, as developed and approved, that outlines certain provisions for the development of the Subdivision and its uses.
- F. "Subdivision" shall mean the 57.8 acres of land described in Exhibit "A" hereto, to be known as "Lots 1-6 AD Industrial Park".

**Section 4. Parcel Identification Map**

Attached hereto and made a part of AD Industrial Park PUD for parcel delineation is the Preliminary Plat for the AD Industrial Park PUD marked as Exhibit "B".

**Section 5. Conceptual Site Plan**

A conceptual site plan for each parcel shall be submitted to the City for approval prior to any lot development within said parcel.

#### Section 6. Conditions

All uses within the Subdivision shall adhere to the underlying zoning district except as herein provided.

##### A. General Conditions

In addition, the following general site plan criteria shall be integrated into and made part of the AD Industrial Park PUD.

- i. All subdivisions, public streets, public street rights-of-way and general development shall adhere to the standards and design criteria set forth in the La Vista Subdivision Regulations and the most current design standards adopted by the City of La Vista pertaining thereto unless otherwise stated within this AD Industrial Park PUD.
- ii. Unless otherwise specified herein, the development of the AD Industrial Park PUD shall comply with the applicable La Vista Zoning Ordinance or any other applicable City Codes.

##### B. Land Use Criteria

Unless provided otherwise in this AD Industrial Park PUD, all general use regulations, performance standards and provisions set forth in the La Vista Zoning Ordinance for the appropriate underlying zoning district shall apply to any development within Lots 3-6 AD Industrial Park (the PUD area).

- i. Use Allowances.
  - a) Facilities for Heavy Construction Contractors shall be permitted outright on Lots 4-6 AD Industrial Park.
  - b) Outdoor storage shall be permitted outright on Lots 4-6 AD Industrial Park subject to the following requirements:
    - i. Such outdoor storage shall be placed on a hard surface paved with asphalt or concrete, or on a crushed rock surface.
    - ii. Screening shall be required through the combined use of fencing, landscaping, and/or other means as determined by the Community Development Director.
    - iii. Prior to commencement of the outdoor storage use on Lots 4-6 AD Industrial Park, a detailed site plan identifying the locations for the use of outdoor storage, the locations and types of screening present, and details regarding the type of parking surface shall be provided to the Community Development Director for review and approval. Any permits related to the screening will also need to be obtained and construction of the screening completed prior to the commencement of the use of outdoor storage on each lot.
    - iv. Outdoor storage shall not be permitted on Lot 3 AD Industrial Park.

##### C. Access

- i. Access points to and within the development shall be in accordance PUD Site Plan.
- ii. Public access and utility easements shall be recorded and maintained into perpetuity in accordance with the Final Plat and Subdivision Agreement to provide for proper ingress/egress for Lots 4-6 AD Industrial Park, which are located south of the BNSF Rail Road line.

**Section 7. Severability Clause.** If any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional or invalid, such

unconstitutionality or invalidity shall not affect the validity of the remaining portions of this ordinance. The Mayor and City Council of the City of La Vista hereby declare that it would have passed this ordinance and each section, subsection, sentence clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared unconstitutional or invalid.

Section 8. That this Ordinance shall be in full force and effect after its passage, approval, and publication in pamphlet form as provided by law.

PASSED AND APPROVED THIS 7TH DAY OF MAY 2024.

CITY OF LA VISTA

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Douglas Kindig, Mayor

ATTEST:

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Pamela A. Buethe, MMC  
City Clerk

EXHIBIT A

Lots 3-6 AD Industrial Park, located in the S ½ , Section 14, Township 14 North, Range 11  
East of the 6th P.M. Sarpy County, Nebraska.

EXHIBIT B





**CITY OF LA VISTA  
PLANNING DIVISION  
RECOMMENDATION REPORT**

CASE NUMBERS: PPUD23-0005; PRP23-0005

FOR HEARING ON: MAY 7, 2024

REPORT PREPARED ON: MAY 1, 2024

**I. GENERAL INFORMATION**

**A. APPLICANT:**

Fenton Construction, Inc.  
Attn: Casey Fenton  
PO Box 2669  
Sioux City, IA 51106

**B. PROPERTY OWNER:**

Fenton Construction, Inc.  
Attn: Casey Fenton  
PO Box 2669  
Sioux City, IA 51106

**C. LOCATION:** 14607 Chandler Road, La Vista, NE 68138, generally located southwest of the intersection of 144<sup>th</sup> Street and Chandler Road.

**D. LEGAL DESCRIPTION:** Tax Lot 19 in Section 14, Township 14 North, Range 11 East of the 6<sup>th</sup> PM, Sarpy County, Nebraska (Parcel #011592217 and #011040238)

**E. REQUESTED ACTION(S):**

1. Approval of a Planned Unit Development for AD Industrial Park to allow for the construction of speculative industrial multi-tenant buildings. There are 4 buildings proposed within the PUD area that combine to equal over 200,000 square feet, but the full development will include 6 buildings.
2. Approval of a replat application for Tax Lot 19 (Parcel #011592217 and #011040238) to be replatted as AD Industrial Park Lots 1-6.

**F. EXISTING ZONING AND LAND USE:** I-1 Light Industrial, Planned Unit Development (Overlay District), and a portion of the property contains the Gateway Corridor District (Overlay District). This property is currently vacant. The Future Land Use Map designates these properties as Business Park.

**G. PURPOSE OF REQUEST:** Applicant is seeking to construct light industrial buildings as part of the AD Industrial Park and has requested a Planned Unit Development to establish the

ingress/egress easements necessary to satisfy the lot frontage requirements of La Vista's Subdivision Regulations as three of the proposed buildings will be located south of the railroad tracks and will be accessible via approved railroad crossings through the northern lots on the site that front Chandler Road. In addition, the applicant seeks an allowance through the PUD to allow for the operation of a "Heavy Construction Contractors" use in addition to allowing for outdoor storage on the southern parcels adjacent to the railroad tracks (with the required screening).

**H. SIZE OF SITE:** The PUD area includes approximately 45.59 acres.

## **II. BACKGROUND INFORMATION**

### **A. GENERAL NEIGHBORHOOD/AREA LAND USES AND ZONING:**

<b>Direction From Subject Property</b>	<b>Future Land Use Designation</b>	<b>Current Zoning Designation</b>	<b>Surrounding Development</b>
North	Light Industrial (Sarpy County); & Low-Medium Density Residential (Sarpy County)	IGM Industrial General Manufacturing (Sarpy County) & RS-72 Single-Family Residential (Sarpy County Zoning)	Chalco Industrial properties and the Echo Hills Neighborhood
East	Industrial	I-1 Light Industrial, I-2 Heavy Industrial, and portions with the Gateway Corridor District (Overlay District).	Chalco Valley Business Park
South	Business Park; Low-Medium Density Residential (Sarpy County); & Medium-High Density Residential (Sarpy County)	C-1 Shopping Center Commercial, Gateway Corridor District (Overlay District); RD-50 Two Family Residential (Sarpy County) and RG-15 General Residential District (Sarpy County)	Vacant Property & Chalco Pointe Neighborhood
West	Light Industrial (Sarpy County)	IGM Industrial General Manufacturing (Sarpy County)	Chalco Industrial Properties & Vacant Properties

### **B. RELEVANT CASE HISTORY:**

1. On November 21, 2023 the City Council of the City of La Vista voted to extend the City's extraterritorial zoning jurisdiction to include the entirety of Tax Lot 19. At the same meeting, Council voted to amend the City's Future Land Use Map of the Comprehensive Plan to designate the property as Business

Park, in addition to amending the Official Zoning Map to zone the property I-1 Light Industrial, with a portion of the property fronting S. 144<sup>th</sup> Street with the Gateway Corridor Overlay District designation.

**C. APPLICABLE REGULATIONS:**

1. Section 5.13 of the City of La Vista Zoning Ordinance – I-1 Light Industrial
2. Section 5.15 of the City of La Vista Zoning Ordinance – PUD Planned Unit Development District (Overlay District)
3. Section 5.17 of the City of La Vista Zoning Ordinance – Gateway Corridor District (Overlay District)
4. Section 7.16 of the City of La Vista Zoning Ordinance – Performance Standards for Industrial Uses
5. Section 3.07 of the La Vista Subdivision Regulation – Replat Procedures

**III. ANALYSIS**

**A. COMPREHENSIVE PLAN:**

1. The Future Land Use Map of the La Vista Comprehensive Plan designates this property for Business Park development. The La Vista Land Use Plan lists the I-1 Light Industrial Zoning District as a potential/compatible zone for the Business Park designation. Subsequently, light industrial development in this location is compatible with the Future Land Use Map and the La Vista Comprehensive Plan.

**B. OTHER PLANS: N/A.**

**C. TRAFFIC AND ACCESS:**

1. The development will have driveway access to Chandler Road. The western-most proposed building (to be located south of the railroad tracks) will have access over a railroad crossing to Kearney Ave that connects with Chandler Road. Another driveway to Chandler Road will connect the other three proposed buildings within the PUD area, two of which will be accessed through an additional railroad crossing to the two buildings to be located south of the tracks.
2. A Traffic Impact Analysis (TIA) was prepared by Lamp Rynearson and provided to the City for review. The TIA suggested that no public improvements will be required to address/accommodate the additional traffic that will be generated by the proposed development. The TIA was also reviewed by Sarpy County (as Chandler Road is under their authority), and the Nebraska Department of Transportation (as Highway 50/S. 144<sup>th</sup> Street is under their authority). Both organizations provided comments to the applicant which were

addressed in a revised report, and both organizations have expressed that the report is acceptable, along with the City Engineer. The TIA (without appendices) is attached to this report.

3. A permanent ingress/egress easement will be recorded along with the Final Plat to ensure proper access to the buildings south of the railroad tracks that do not directly abut Chandler Road. The draft easement language has been provided to and reviewed by the City.
4. BNSF Railway has given their approval for the two proposed railroad crossings and has executed agreements with the property owner/applicant that allow for their construction and use.

**D. UTILITIES:**

1. The property has access to all necessary utilities.

**E. PARKING REQUIREMENTS:**

1. The amount of off-street parking stalls proposed for each of the lots included within AD Industrial Park exceeds the amount required by Section 7.06 of the La Vista Zoning Ordinance. The minimum off-street parking stall requirements and the number of proposed parking stalls for each lot in the development are as follows:

<u>Lot #</u>	<u>Building Size (Square Feet)</u>	<u>Requirement</u>	<u>Required Stalls</u>	<u>Provided Stalls</u>
Lot 3	50,000		17	79
Lot 4	50,000		17	36
Lot 5	60,000		20	38
Lot 6	41,520		14	26
<b>Total</b>	<b>201,520</b>	Industrial uses: 1 stall per 3,000 square feet	<b>68</b>	<b>179</b>

**IV. REVIEW COMMENTS:**

1. Per Section 5.15.02.04 of the La Vista Zoning Ordinance, land uses not permitted in the underlying zoning district may be allowed by City Council through a Planned Unit Development Overlay District. The development proposal related to this application includes facilities for Heavy Construction Contractors with outdoor storage on proposed lots 4-6 (the parcels south of the railroad tracks). These uses not currently permitted in the underlying I-1 Light Industrial Zoning District, but that would be permitted through the PUD ordinance if approved by City Council. Due to the secluded nature of the parcels south of the tracks that are situated between the railroad to the north and the South Papillion Creek to the south, in addition to the screening that will be required for any

and all outdoor storage of materials through the use of fencing, landscaping, or other means as determined by the Community Development Director, staff support this allowance.

2. Outdoor storage will not be permitted on the properties fronting Chandler Road.
3. A subdivision agreement for the development has been drafted and will be reviewed by City Council along with the Final Plat. It addresses items including but not limited to: public and private improvements, maintenance of common areas, stormwater management, sewer connection fees, easements and covenants, and more.
4. Proposed lot 1 which is on the southwest corner of S. 144<sup>th</sup> Street and Chandler Road is outside of the PUD area and not included in the PUD application, but is included in the Gateway Corridor District (Overlay Zoning District) so the building, site, and landscaping design for the building on Lot 1 will need to be approved through the City's design review process and adhere to the Gateway Corridor Design Guidelines.
5. The development will be required to meet the requirements for a Post Construction Storm Water Management Plan as per City regulations.

**V. STAFF RECOMMENDATION – PLANNED UNIT DEVELOPMENT:**

Staff recommends approval of the Planned Unit Development for AD Industrial Park, contingent upon the approval of the Replat and Subdivision Agreement, as the request is consistent with the Comprehensive Plan and the Zoning Ordinance.

**VI. STAFF RECOMMENDATION – REPLAT:**

Staff recommends approval of the replat of Tax Lot 19, to be replatted as AD Industrial Park Lots 1-6, contingent upon approval of the Planned Unit Development and Subdivision Agreement, as the replat is consistent with La Vista's Subdivision Regulations.

**VII. PLANNING COMMISSION RECOMMENDATION – PLANNED UNIT DEVELOPMENT:**

The Planning Commission held a public hearing on April 4, 2024 and voted 9-0 to recommend approval of the Planned Unit Development for AD Industrial Park, contingent upon the approval of the Replat and Subdivision Agreement, as the request is consistent with the Comprehensive Plan and the Zoning Ordinance.

**VIII. PLANNING COMMISSION RECOMMENDATION – REPLAT:**

The Planning Commission held a meeting on April 4, 2024 and voted 9-0 to recommend approval of the replat of Tax Lot 19, to be replatted as AD Industrial Park Lots 1-6, contingent upon approval of the Planned Unit

Development and Subdivision Agreement, as the replat is consistent with La Vista's Subdivision Regulations.

**IX. ATTACHMENTS TO REPORT:**

- A. Vicinity Map
- B. Review and response letters
- C. PUD plan set
- D. Preliminary Plat
- E. Final Plat
- F. Traffic Impact Analysis

**X. COPIES OF REPORT SENT TO:**

- A. Casey Fenton, Fenton Construction
- B. Randy Kuszak, Lamp Rynearson, Inc.
- C. Public Upon Request

Ale Brodersen

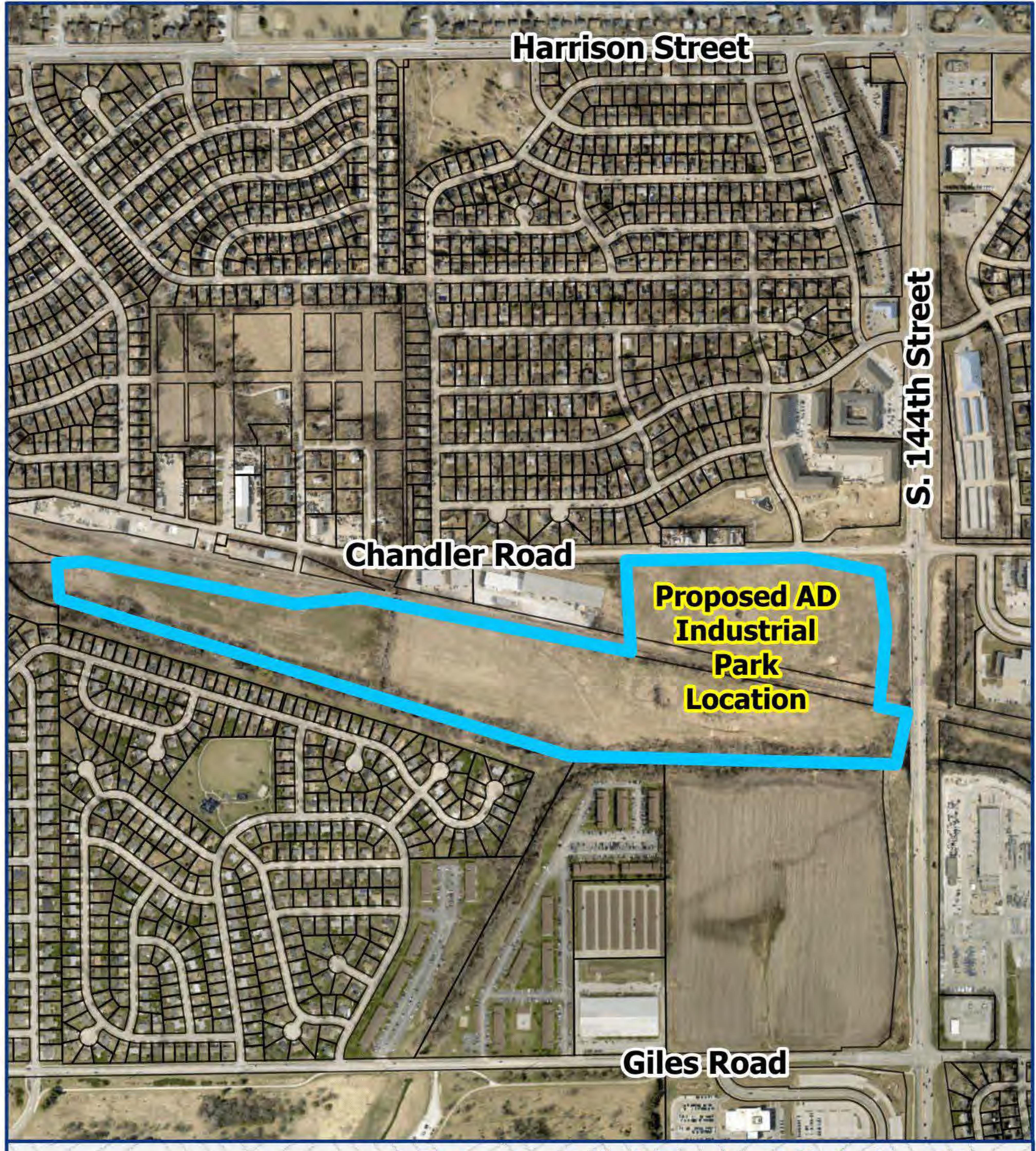
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Prepared by: Associate City Planner

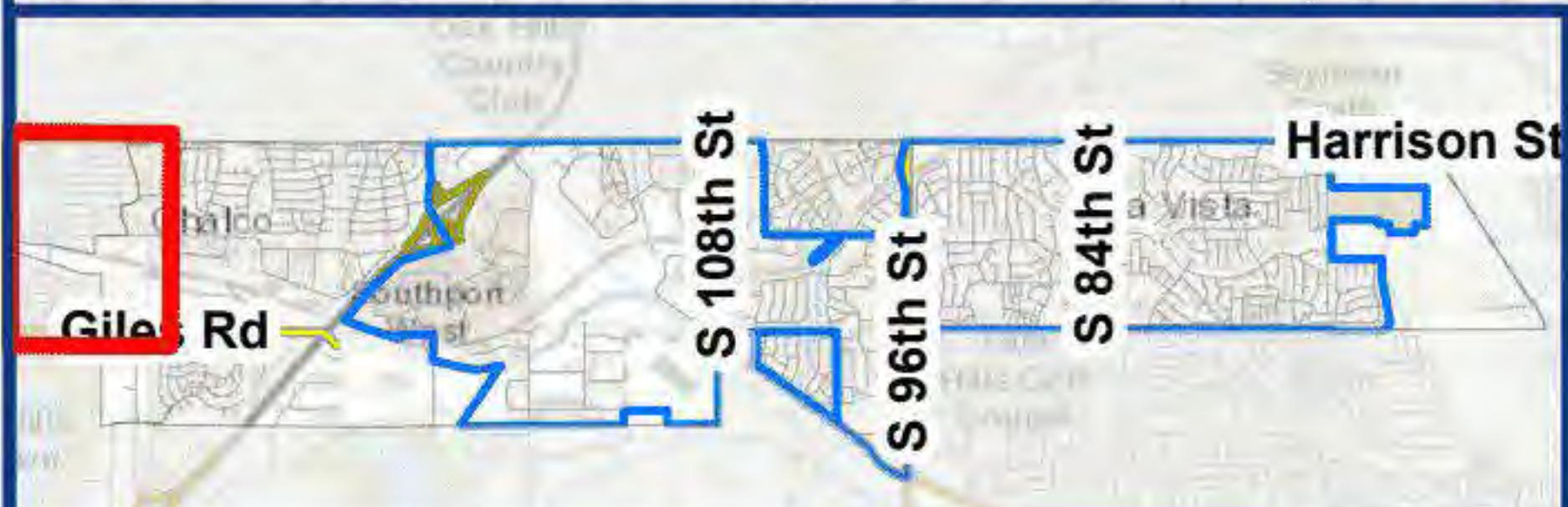
## Community Development Director

4/30/24

Date



## AD Industrial Park - Vicinity Map



### Legend

- Property Lines
- Development Boundary



December 29, 2023

Lamp Rynearson, Inc.  
Attn: Randy Kuszak  
14710 West Dodge Road, STE 100  
Omaha, NE 68154

RE: AD Industrial Park - Preliminary Plat & PUD Applications  
Initial Review Letter

Mr. Kuszak,

We have reviewed the documents submitted for the above-referenced applications. Based on the elements for consideration set forth in the applicable sections of the Subdivision Regulations and Zoning Ordinance, the City has the following comments:

Preliminary Plat Application

1. Regarding Section 3.03.11 of La Vista's Subdivision regulations, a qualified environmental specialist must delineate the locations of any wetlands on site, if applicable.
2. Regarding Section 3.03.19, the traffic impact analysis and access points along Chandler Road need to be reviewed and approved by Sarpy County Public Works as Sarpy County operates and maintains this portion of Chandler Road. Upon confirmed review by the County, the City may elect to have the analysis further reviewed by the City's third-party reviewer.

**City Hall**  
8116 Park View Blvd.  
La Vista, NE 68128-2198  
402.331.4343 P  
402.331.4375 F

**Community Development**  
8116 Park View Blvd.  
402.593.6400 P  
402.593.6445 F

**Library**  
9110 Giles Rd.  
402.537.3900 P  
402.537.3902 F

**Police**  
7701 S. 96th St.  
402.331.1582 P  
402.331.7210 F

**Public Works**  
8900 Portal Rd.  
402.331.8927 P  
402.331.1051 F

**Recreation**  
8116 Park View Blvd.  
402.331.3455 P  
402.331.0299 F

3. Regarding Section 3.03.19, the traffic impact analysis of the intersection of HWY 50 and Chandler Road needs to be reviewed by the Nebraska Department of Roads (NDOT) as the NDOT operates and maintains HWY 50. Upon confirmed review by the NDOT, the City may elect to have the analysis further reviewed by the City's third-party reviewer.
4. Regarding Section 3.03.20.1, please provide the depth of the sanitary sewer that transects the proposed lots 4, 5 and 6. Generally, Lots 5 and 6 fall outside of the City's current Wastewater Service Agreement with the City of Omaha, and therefore the City of Omaha will need to evaluate how the lots would be served, and if the current Wastewater Service Agreement would need to be amended. La Vista Public Works will contact Omaha Public Works to begin the evaluation.
5. Regarding Section 3.03.20.4, as the subdivision is a new platting, the Post Construction Storm Water Management Plan (PCSMP) should meet the no-net increase requirements for the 2, 10, and 100-year storm events.
6. Regarding Section 3.03.20.4, please confirm the catchment area delineation and impact point calculation locations are consistent with the current City of Omaha Stormwater Design Manual.
7. Regarding Section 3.03.20.4, please provide a draft Maintenance Agreement and Easement for review.
8. Draft language and exhibits for the public access and utility easement noted on the preliminary plat that is to be recorded via separate instrument will be required as part of the review process for the Final Plat.

#### Planned Unit Development Application

9. Regarding Section 5.15.04.04, please provide details on the two proposed private railroad crossings/access driveways, to ensure that they will adequately support the anticipated traffic generated by this development in a safe manner (crossing dimensions, associated improvements, any potential barricading, signage, lights, etc.)

10. Regarding Section 5.15.05.02.2, please provide the height of all proposed structures.
11. Regarding Section 5.15.05.04, please show the point of connection and other pertinent design information for the sanitary sewer. Generally, Lots 5 and 6 fall outside of the City's current Wastewater Service Agreement with the City of Omaha, and therefore the City of Omaha will need to evaluate how the lots would be served, and if the current Wastewater Service Agreement would need to be amended. La Vista Public Works will contact Omaha Public Works to begin the evaluation.
12. Regarding Zoning Ordinance Section 5.15.04.13, provisions for the proper maintenance and ownership of common spaces (including shared access drives) shall be included in the submittal.
13. Regarding Zoning Ordinance Section 5.15.05.09, please submit copies of any restrictive covenants that are to be recorded with respect to the properties included in the planned development district.
14. Do you anticipate the construction of ground monument signs for each of the lots fronting Chandler Road? If so, please identify the potential locations for those signs and include setback distances.
15. Any outdoor storage of materials permitted through the Planned Unit Development Ordinance on proposed Lots 4, 5, and 6 shall be screened from view. Screening will be required in the form of fencing, landscaping, or other means as determined by the Community Development Director.

#### General Development Comments

16. The building design for the proposed building on Lot 1 AD Industrial Park must be reviewed as part of the design review process that is required for developments within the Gateway Corridor Overlay District prior to building permit submittal. The full design review process will be conducted outside of the PUD and replat approval processes, with the exception of the review of the preliminary landscaping plan. The City's third-party Design Review Architect is currently reviewing the landscaping plan, and comments may be forthcoming.

17. Please add parking lot light pole locations to the landscaping plan of the PUD plan set in order to ensure there are no conflicts with the planting plan as presented.

Please resubmit 2 paper copies of the Preliminary Plats, PUD site plans, and other supporting documentation requested in this letter (including electronic copies) to the City for further review. Please also provide a response letter that answers or acknowledges each of the comments contained in this letter.

A timeline for review by the Planning Commission and City Council will be determined based on the timing of the resubmittal and the extent to which the issues noted this review have been sufficiently addressed. If you have any questions regarding these comments, please feel free to contact me at any time.

Thank you,

A handwritten signature in blue ink that reads "Cale Brodersen". The signature is fluid and cursive, with a horizontal line extending from the end of the "n" in "Brodersen" to the right.

Cale Brodersen, AICP  
Associate City Planner  
City of La Vista  
[cbrodersen@cityoflavista.org](mailto:cbrodersen@cityoflavista.org)  
(402) 593-6400

cc:

Casey Fenton, Fenton Construction  
Bruce Fountain, Community Development Director – City of La Vista  
Chris Solberg, Deputy Community Development Director – City of La Vista  
Pat Dowse, City Engineer – City of La Vista  
Garrett Delgado, Engineer Assistant – City of La Vista

VIA Email

January 10, 2024

14710 W. Dodge Rd., Ste. 100  
Omaha, NE 68154  
[P] 402.496.2498  
[F] 402.496.2730  
LampRynearson.com

Cale Brodersen, AICP  
Associate City Planner  
City of La Vista  
8116 Park View Blvd  
La Vista, NE 68128

REFERENCE: AD Industrial Park  
Review Comments – Preliminary Plat & PUD Applications  
Job No. 0123094.01-003

Dear Mr. Brodersen:

Submitted herewith are our responses to comments received from City of La Vista Planning Department, letter dated December 29, 2023, and from Schemmer, letter dated January 5, 2024, for the submittal of the Preliminary Plat and PUD Applications for the AD Industrial Park project, located near Highway 50 and Chandler Road.

**City of La Vista Planning Department Comments**

**Preliminary Plat Application**

1. Regarding Section 3.03.11 of La Vista's Subdivision regulations, a qualified environmental specialist must delineate the locations of any wetlands on site, if applicable.

**Response:** Agreed, a wetland delineation report identifying jurisdictional wetlands has been included in the resubmittal documents.

2. Regarding Section 3.03.19, the traffic impact analysis and access points along Chandler Road need to be reviewed and approved by Sarpy County Public Works as Sarpy County operates and maintains this portion of Chandler Road. Upon confirmed review by the County, the City may elect to have the analysis further reviewed by the City's third-party reviewer.

**Response:** Agreed.

3. Regarding Section 3.03.19, the traffic impact analysis of the intersection of HWY 50 and Chandler Road needs to be reviewed by the Nebraska Department of Roads (NDOT) as the NDOT operates and maintains HWY 50. Upon confirmed review by the NDOT, the City may elect to have the analysis further reviewed by the City's third-party reviewer.

**Response:** Agreed.

4. Regarding Section 3.03.20.1, please provide the depth of the sanitary sewer that transects the proposed lots 4, 5, and 6. Generally, Lots 5 and 6 fall outside of the City's current Wastewater Service Agreement with the City of Omaha, and therefore the City of Omaha will need to evaluate how the lots would be served, and if the current Wastewater Service Agreement would need to be amended. La Vista Public Works will contact Omaha Public Works to begin the evaluation.

**Response:** Depths of the sanitary sewer transecting Lots 4, 5 and 6 was unable to be determined during field investigation due to ceased manholes. Information on the interceptor sewer is in the process of being requested from the City of Omaha and upon receipt of the record drawings, they will be forward to the Public Works department. A manhole feeding into the interceptor sewer was able to be surveyed, indicating a depth of approximately 8.5'. As all proposed buildings will be slab on grade, raised to a minimum of 1' above the base flood elevation, we anticipate no issues with providing gravity service to each of the buildings. It is anticipated that each building service will tap an existing interceptor sewer manhole, and that as necessary, a manhole drop connection compliant with the City of Omaha Standard Plate 703-03 will be utilized to meet the grade of the sewer.

5. Regarding Section 3.03.20.4, as the subdivision is a new platting, the Post Construction Storm Water Management Plan (PCSMP) should meet the no-net increase requirements for the 2, 10, and 100-year storm events.

**Response:** PCSMP updated to require 2, 10 and 100-year storm events. CFS requirements calculated and shown in associated table on PCSMP exhibits and drainage study have been revised and included in the resubmittal package.

6. Regarding Section 3.03.20.4, please confirm the catchment area delineation and impact point calculation locations are consistent with the current City of Omaha Stormwater Design Manual.

**Response:** Confirmed. Area delineation and impact point calculation locations are consistent with current ORSDM.

7. Regarding Section 3.03.20.4, please provide a draft Maintenance Agreement and Easement for review.

**Response:** A draft Maintenance Agreement and Easement has been provided. As proposed, each individual lot owner will be required to submit PCSMP measures through the city process at the time of building permit, and will be responsible for providing an acceptable maintenance agreement and easement to the city. The PCSMP shown on the submittal establishes the baseline allowable peak flow and water quality conditions for each lot.

8. Draft language and exhibits for the public access and utility easement noted on the preliminary plat that is to be recorded via separate instrument will be required as part of the review process for the Final Plat.

**Response:** Draft exhibits and language for all proposed easements shown on the plat have been included as part of the resubmittal package.

**Planned Unit Development Application**

9. Regarding Section 5.15.04.04, please provide details on the two proposed private railroad crossings/access driveways, to ensure that they will adequately support the anticipated traffic generated by this development in a safe manner (crossing dimensions, associated improvements, any potential barricading, signage, lights, etc.).

**Response:** Cross sections showing details of the concrete crossings to be constructed are included as part of

the resubmittal. Each crossing will be 40' wide as permitted with the Railroad. Each crossing approach will have Railroad Crossing signs in accordance with MUTCD, and will utilize a flashing indicator sign, without a crossing bar. All proposed railroad crossing equipment and improvements will be approved as required by BNSF railroad.

10. Regarding Section 5.15.05.02.2, please provide the height of all proposed structures.

**Response:** All structures are anticipated to have a height of 40'. The table on the PUD site plan has been updated.

11. Regarding Section 5.15.05.04, please show the point of connection and other pertinent design information for the sanitary sewer. Generally, Lots 5 and 6 fall outside of the City's current Wastewater Service Agreement with the City of Omaha, and therefore the City of Omaha will need to evaluate how the lots would be served, and if the current Wastewater Service Agreement would need to be amended. La Vista Public Works will contact Omaha Public Works to begin the evaluation.

**Response:** Sanitary connections are shown on original PUD utility plan. Lots 4-6 are connected at existing manholes on City of Omaha Interceptor south of the properties. Lot 3 will connect to proposed public sanitary line that passes through Lot 1 and 2. Service agreement will need to be amended. Connections will be made at a minimum depth above floodplain elevation. We are in the process of requesting invert information from the City of Omaha.

12. Regarding Zoning Ordinance Section 5.15.04.13, provisions for the proper maintenance and ownership of common spaces (including shared access drives) shall be included in the submittal.

**Response:** Common space (shared access drives) are identified by easements for this development. The land will be owned by the underlying property owner, the rights to the easement will be held by all property owners with rights to each easement. Maintenance will be the obligation of the underlying property owner. Provisions for ownership and maintenance are indicated on the draft easement documents which have been included as a part of the resubmittal.

13. Regarding Zoning Ordinance Section 5.15.05.09, please submit copies of any restrictive covenants that are to be recorded with respect to the properties included in the planned development district.

**Response:** Draft Covenants have been included as part of the resubmittal package.

14. Do you anticipate the construction of ground monument signs for each of the lots fronting Chandler Road? If so, please identify the potential locations for those signs and include setback distances.

**Response:** Ground monument signs for each of the lots fronting Chandler Road are not anticipated.

15. Any outdoor storage of materials permitted through the Planned Unit Development Ordinance on proposed Lots 4, 5 and 6 shall be screened from view. Screening will be required in the form of fencing, landscaping, or other means as determined by the Community Development Director.

**Response:** Agreed.

**General Development Comments**

16. The building design for the proposed building on Lot 1 AD Industrial Park must be reviewed as part of the design review process that is required for developments within the Gateway Corridor Overlay District prior to building permit submittal. The full design review process will be conducted outside of the PUD and replat approval processes, with the exception of the review of the preliminary landscaping plan. The City's third-party Design Review Architect is currently reviewing the landscaping plan, and comments may be forthcoming.

**Response:** Agreed. We have received comments related to the preliminary landscaping plan. As this area is outside the PUD and replat approval process, the comments will be addressed as part of a future design review process for that site plan prior to building permit submittal. For clarity, landscaping shown on the PUD landscaping plan for all lots outside the PUD limits have been removed.

17. Please add parking lot light pole locations to the landscaping plan of the PUD plan set in order to ensure there are no conflicts with the plating plan as presented.

**Response:** Parking lot light pole locations have been added to the landscaping plan. A mix of Pole mount lighting and building mount downlighting will be utilized for all buildings.

**Schemmeler Comments**

**Landscaping**

1. Per 4.III.D.2, a minimum of one species of coniferous tree is required, none are included in the plant schedule.

**Response:** A species of coniferous tree has been added to the plant schedule.

2. Per 4.III.F, Landscape plan shall be designed to provide natural undulating landscape forms and avoid straight line plantings. All proposed plantings are arranged as straight line plantings.

**Response:** The landscape plan for Lot 1 will be modified to provide natural undulating landscape forms and avoid straight line plantings when submitted for design review at the time of end user lot development. The area of plantings in Lot 3 along Chandler Road are outside the limits of the Corridor Overlay District. For clarity, all plantings outside the limits of the PUD area have been removed from the Landscape plan.

3. Compliant screening shrubs are included in the planting list, but not included on the submitted plan. For clarity, all plantings outside the limits of the PUD area have been removed from the Landscape plan.

**Response:** Screening shrubs are located along the north lot line of Lot 3 along Chandler Road and are denoted by a hatch.

AD Industrial Park

Review Comments – Preliminary Plat & PUD Applications

Job No. 0123094.01-003

January 10, 2024

Page 5 of 5

4. Irrigation required per 4.III.G not indicated on plans.

**Response:** The requirement for irrigation has been added for Lot 4, which is the only lot within the Corridor Overlay District that falls within the PUD area. The requirement for irrigation will be added to future landscape plans for Lot 1 when they are submitted. For clarity, all plantings outside the limits of the PUD area have been removed from the Landscape plan.

5. Parking areas and traffic ways are not indicated as landscaped in accordance with 4.III.H.

**Response:** Additional landscape islands with trees have been added to the parking lots of Lot 4 per 4.III.H. All other parking lot areas within the PUD area are outside the Corridor Overlay District. For clarity, all plantings outside the limits of the PUD area have been removed from the Landscape plan.

Documents included in this resubmittal are as follows (2 copies each):

1. Waters of the US Delineation Report
2. Preliminary Plat PCSMP Plan
3. PUD Site Plan
4. PUD Utility Plan
5. PUD Landscape Plan
6. PUD PCSMP Plan
7. Draft PCSMP Maintenance Agreement
8. Draft Easement Exhibits and Language
9. Draft Covenants
10. Preliminary Drainage Study

Please call if you have any questions or concerns regarding this submittal.

Sincerely,

LAMP RYNEARSON



Randy R. Kuszak, P.E.  
Senior Project Manager



February 2, 2024

Lamp Rynearson, Inc.  
Attn: Randy Kuszak  
14710 West Dodge Road, STE 100  
Omaha, NE 68154

RE: AD Industrial Park – Preliminary Plat and PUD Applications  
2<sup>nd</sup> Review Letter

Mr. Kuszak,

We have reviewed the documents re-submitted for the above-referenced applications. Based on the elements for consideration set forth in the applicable sections of the Subdivision Regulations and Zoning Ordinance, the City has the following comments:

Preliminary Plat Application

1. Lamp Rynearson Response #1 – Please include in the environmental documentation and/or PUD submittals confirmation that development on Lots 4, 5, and 6 meet or exceed the 3:1+50' major stream setback as defined in Exhibit B of the 2019 Papillion Creek Watershed Partnership Interlocal Agreement.

**City Hall**  
8116 Park View Blvd.  
La Vista, NE 68128-2198  
402.331.4343 P  
402.331.4375 F

**Community Development**  
8116 Park View Blvd.  
402.593.6400 P  
402.593.6445 F

**Library**  
9110 Giles Rd.  
402.537.3900 P  
402.537.3902 F

**Police**  
7701 S. 96th St.  
402.331.1582 P  
402.331.7210 F

**Public Works**  
9900 Portal Rd.  
402.331.8927 P  
402.331.1051 F

**Recreation**  
8116 Park View Blvd.  
402.331.3455 P  
402.331.0299 F

2. Lamp Rynearson Responses #2 and #3 – Please review and revise the traffic impact analyses as to incorporate the comments of Sarpy County and the Nebraska Department of Transportation (NDOT). It would appear comments in regard to the existing traffic signal configuration at the intersection of 144th Street and Chandler Road, and the future lane configuration (4 lanes vs. 6 lanes) of HWY 50/144th Street will likely modify the current and projected Level of Service. Upon further review, the City may still engage a review with the City's 3rd party reviewer. Copies of the responses from Sarpy County and NDOT have been attached to this letter for your review.
3. Lamp Rynearson Response #9 – In review of the provided Private Crossing Agreements for the two (2) private rail crossings, it would appear each crossing agreement is valid for 25 years. What are the provisions/assurances to ensure that the lots south of said crossings will be accessible into perpetuity?

#### Planned Unit Development Application

1. The boundaries of the PUD Site Plans within the submittal package are not contiguous. The boundaries of the PUD Site Plan set should match that of the PUD district boundary set within the Zoning Map Amendment approved by the City Council on November 21, 2023. Attached is an excerpt from the City Council packet that depicts the PUD district boundary as contiguous, crossing over the railroad along the eastern edge of Lot 3 in the submitted plan set.
2. Lamp Rynearson Response #9 - In review of the provided Private Crossing Agreements for the two (2) private rail crossings, it is not clear if the oncoming trains will sound horns in advance of the crossing. Does BNSF typically sound ahead of private crossings, or is that practice for public crossings?
3. Lamp Rynerson Response #11 – Please provide details on how the connection to public sanitary sewer is intended to be made. Be aware that pre- and post-connection inspection reports are to be submitted to the La Vista Public Works Department.
4. To reiterate earlier discussions, the allowance for outdoor storage on the lots that are proposed south of the railroad tracks will be completed through the

adopting PUD Ordinance. The ordinance will not allow for outdoor storage on the lots fronting Chandler Road on the north side of the railroad tracks.

Also please note that the aforementioned PUD Ordinance will provide requirements for screening of the outdoor storage areas. A copy of the draft ordinance will be prepared prior to Planning Commission review.

#### General Development Comments

5. Although no landscaping is required to be depicted on proposed Lots 1-2 of this development through the PUD Landscaping Plan. Landscaping will still be required as per Section 7.17 of the Zoning Ordinance on Lot 2 and as per Section 7.17 of the Zoning Ordinance at the Gateway Corridor District on Lot 1.

Please resubmit 2 paper copies of the Preliminary Plats, PUD site plans, and other supporting documentation requested in this letter (including electronic copies) to the City for further review. Please also provide a response letter that answers or acknowledges each of the comments contained in this letter.

A timeline for review by the Planning Commission and City Council will be determined based on the timing of the resubmittal and the extent to which the issues noted this review have been sufficiently addressed. If you are able to submit the final plat at this time, staff could begin internal review and the preliminary and final Plats could be reviewed by the Planning Commission and City Council at the same time to reduce the overall approval schedule (as opposed to submitting the final plat after City Council approval of the preliminary plat). If you have any questions regarding these comments, please feel free to contact me at any time.

Thank you,



Cale Brodersen, AICP  
Associate City Planner  
City of La Vista  
[cbrodersen@cityoflavista.org](mailto:cbrodersen@cityoflavista.org)  
(402) 593-6400

cc:

Casey Fenton, Fenton Construction  
Bruce Fountain, Community Development Director – City of La Vista  
Chris Solberg, Deputy Community Development Director – City of La Vista  
Pat Dowse, City Engineer – City of La Vista  
Garrett Delgado, Engineer Assistant – City of La Vista

VIA Email

February 15, 2024

14710 W. Dodge Rd., Ste. 100  
Omaha, NE 68154  
[P] 402.496.2498  
[F] 402.496.2730  
LampRynearson.com

Cale Brodersen, AICP  
Associate City Planner  
City of La Vista  
8116 Park View Blvd  
La Vista, NE 68128

REFERENCE: AD Industrial Park  
Review Comments – Preliminary Plat & PUD Applications (2<sup>nd</sup> Review)  
Job No. 0123094.01-003

Dear Mr. Brodersen:

Submitted herewith are our responses to comments received from City of La Vista Planning Department, letter dated February 2, 2024, for the submittal of the Preliminary Plat and PUD Applications for the AD Industrial Park project, located near Highway 50 and Chandler Road.

**City of La Vista Planning Department Comments**

**Preliminary Plat Application**

1. Please include in the environmental documentation and/or PUD submittals confirmation that development on Lots 4, 5 and 6 meet or exceed the 3:1 +50' major stream setback as defined in Exhibit B of the 2019 Papillion Creek Watershed Partnership Interlocal Agreement.

**Response:** Major setback lines for the 3:1 +50' have been added to the PUD Grading, Site, PCSMP and Utility Plans showing the 3:1 + 50' does not intersect proposed development inside Lots 4, 5, and 6. Additionally, the 3:1 + 50' line has been added to the Preliminary Plat Storm Sewer, Grading and Erosion Control Plan, Paving and Sanitary Plan, and PCSMP Plan as well.

2. Please review and revise the traffic impact analyses as to incorporate the comments of Sarpy County and Nebraska Department of Transportation (NDOT). It would appear comments regarding the existing traffic signal configuration at the intersection of 144<sup>th</sup> Street and Chandler Road, and the future lane configuration (4 lanes vs. 6 lanes) of HWY 50/144<sup>th</sup> Street will likely modify the current and projected Level of Service. Upon further review, the City may still engage a review with the City's 3<sup>rd</sup> party reviewer. Copies of the responses from Sarpy County and NDOT have been attached to this letter for your review.

**Response:** An updated Traffic Impact Analysis has been included with the resubmittal addressing the comments provided by NDOT and JEO. Comment responses for the Traffic Study comments provided are included in the NDOT matrix format for ease of resubmittal to NDOT. A copy of the filled-out comment matrix is included with the resubmittal documents.

3. In review of the provided Private Crossing Agreements for the two (2) private rail crossings, it would appear such crossing agreement is valid for 25 years. What are the provisions/assurances to ensure that the lots south of said crossings will be accessible into perpetuity?

**Response:** The crossing agreement is for the upgrade of the physical crossing, which is the concrete panels which are to be installed. The 25-year time period is consistent with the expected lifespan of the concrete crossing panels, and is the period the railroad will assume maintenance of the privately constructed panels. After the 25-year period, the railroad will no longer assume maintenance, and if replacement is needed due to their condition, the current owners of Lots 4, 5 and 6 will need to seek replacement and a new Private Crossing Agreement. The actual crossing right is already in existence as the railroad makes Lots 4, 5, and 6 landlocked and inaccessible without crossing the railroad ROW. The existing grant of access is being utilized. The railroad has reviewed and approved the improvements to the existing access indicates they agree with the existence of the permanent access points.

**Planned Unit Development Application**

4. The boundaries of the PUD Site Plans within the submittal package are not contiguous. The boundaries of the PUD Site Plan set should match that of the PUD district boundary set within the Zoning Map Amendment approved by the City Council on November 21, 2023. Attached is an excerpt from the City Council packet that depicts the PUD district boundary as contiguous, crossing over the railroad along the eastern edge of Lot 2 in the submitted plan set.

**Response:** PUD limit has been redrawn to be continuous located along the eastern edge of Lot 3 projected across the Railroad ROW. The owner does not desire to include Lot 2 in the PUD.

5. In review of the provided Private Crossing Agreements for the two (2) private rail crossings, it is not clear if the oncoming trains will sound horns in advance of the crossing. Does BNSF typically sound ahead of private crossings, or is that practice for public crossings?

**Response:** Federal Railroad Administration regulations require horn sounding occurs at all public at grade crossings. This crossing is currently a private crossing, so a sounding of the horns would not appear to be required by regulation. Ultimately the decision for the operation of trains through this corridor will be solely at the discretion of the railroad. The applicant does not intend to seek any non-standard horn sounding practices from the railroad for these crossings.

6. Please provide details on how the connection to public sanitary sewer is intended to be made. Be aware that pre- and post-connection inspection reports are to be submitted to the La Vista Public Works Department.

**Response:** It is anticipated each building service will tap into the existing interceptor sewer manholes for Lots 4, 5 and 6, and as necessary, include a manhole drop connection compliant with the City of Omaha Standard Plate 703-03. All connections shall be set to match crowns of the existing outflow pipe crown. For the connection to the existing City of La Vista sanitary sewer for Lots 1, 2 and 3 service, a connection will be made such that the tapping sewer enters the existing manhole above the shoulder of the manhole invert, approximately 0.5' above the outflow flowline. Existing manholes will be utilized as if the condition is deemed acceptable by the City and replaced with new structures should it be necessary. Pre and Post connection inspection reports will be submitted to the La Vista Public Works Department during design and after construction. All taps will be in accordance with City of Omaha Standard Plate 700-02.

7. To reiterate earlier discussions, the allowance for outdoor storage on the lots that are proposed south of the railroad tracks will be completed through the adopting PUD Ordinance. The ordinance will not allow for outdoor storage on the lots fronting Chandler Road on the north side of the railroad tracks.

**Response:** The applicant is in agreement with this statement.

8. Also please note the aforementioned PUD Ordinance will provide requirements for screening of the outdoor storage areas. A copy of the draft ordinance will be prepared prior to Planning Commission review.

**Response:** The applicant is in agreement with this statement.

**General Development Comments**

9. Although no landscaping is required to be depicted on proposed Lots 1-2 of this development through the PUD Landscaping Plan. Landscaping will still be required as per Section 7.17 of the Zoning Ordinance on Lot 2 and as per Section 7.17 of the Zoning Ordinance at the Gateway Corridor District on Lot 1.

**Response:** Agreed. Landscaping compliant with the applicable zoning ordinance and previously provided comments will be provided as part of building permit submittals for each lot as they are developed.

Documents included in this resubmittal are as follows (2 copies each):

1. Traffic Impact Analysis.
2. NDOT Comment Matrix.
3. Preliminary Plat PCSMP Plan.
4. Preliminary Plat Paving and Sanitary Sewer Plan.
5. Preliminary Plat Storm Sewer, Grading and Erosion Control Plan.
6. P.U.D. Site Plan.
7. P.U.D. Emergency Vehicle Access Exhibit.
8. P.U.D. Landscape Plan.
9. P.U.D. Post Construction Stormwater Management Plan.
10. P.U.D. Grading Plan.
11. P.U.D. Utility Plan.
12. Draft Subdivision Agreement.
13. Draft Subdivision Agreement Exhibits (8.5"x11"):
  - a. Surveyors Certificate.
  - b. Final Plat.
  - c. Post Construction Stormwater Management Plan.
  - d. Draft PCSMP Maintenance Agreement.
  - e. Draft Sewer Connection Agreement.

AD Industrial Park

2<sup>nd</sup> Review Comments – Preliminary Plat & PUD Applications

Job No. 0123094.01-003

February 15, 2024

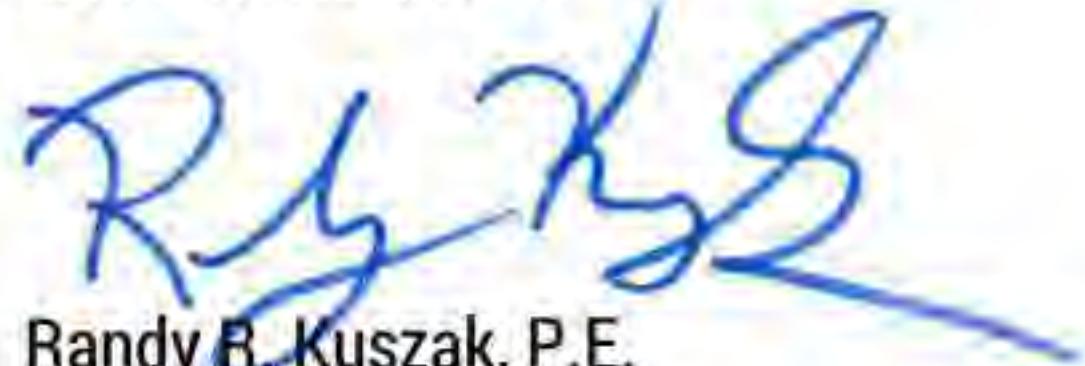
Page 4 of 4

- f. Draft Easement Exhibits and Language.
- g. Draft Restrictive Covenants.

Please call if you have any questions or concerns regarding this submittal.

Sincerely,

LAMP RYNEARSON

A handwritten signature in blue ink, appearing to read "Randy R. Kuszak".

Randy R. Kuszak, P.E.

Senior Project Manager

Kmp\L:\Engineering\0123094 Fenton 144th and Chandler\DOCUMENTS\LETTERS\RSP Brodersen Prelim & PUD Submittal 240215.docx



# AD INDUSTRIAL PARK

LOTS 1 THROUGH 6, INCLUSIVE, BEING A PLATTING OF PART OF TAX LOT 19 IN THE SOUTH HALF OF SECTION 14,  
TOWNSHIP 14 NORTH, RANGE 11 EAST OF THE 6TH P.M., SARPY COUNTY, NEBRASKA.

LAMP  
RYNEARSON

LAMPREYNEARSON  
OMAHA, NEBRASKA  
11111 WEST 72ND STREET  
FORT COLLINS, COLORADO  
80526-4200  
KANSAS CITY, MISSOURI  
11111 WEST 72ND STREET  
1-800-333-3333



PRELIMINARY

NOT RELEASED FOR CONSTRUCTION  
LAMPREYNEARSON

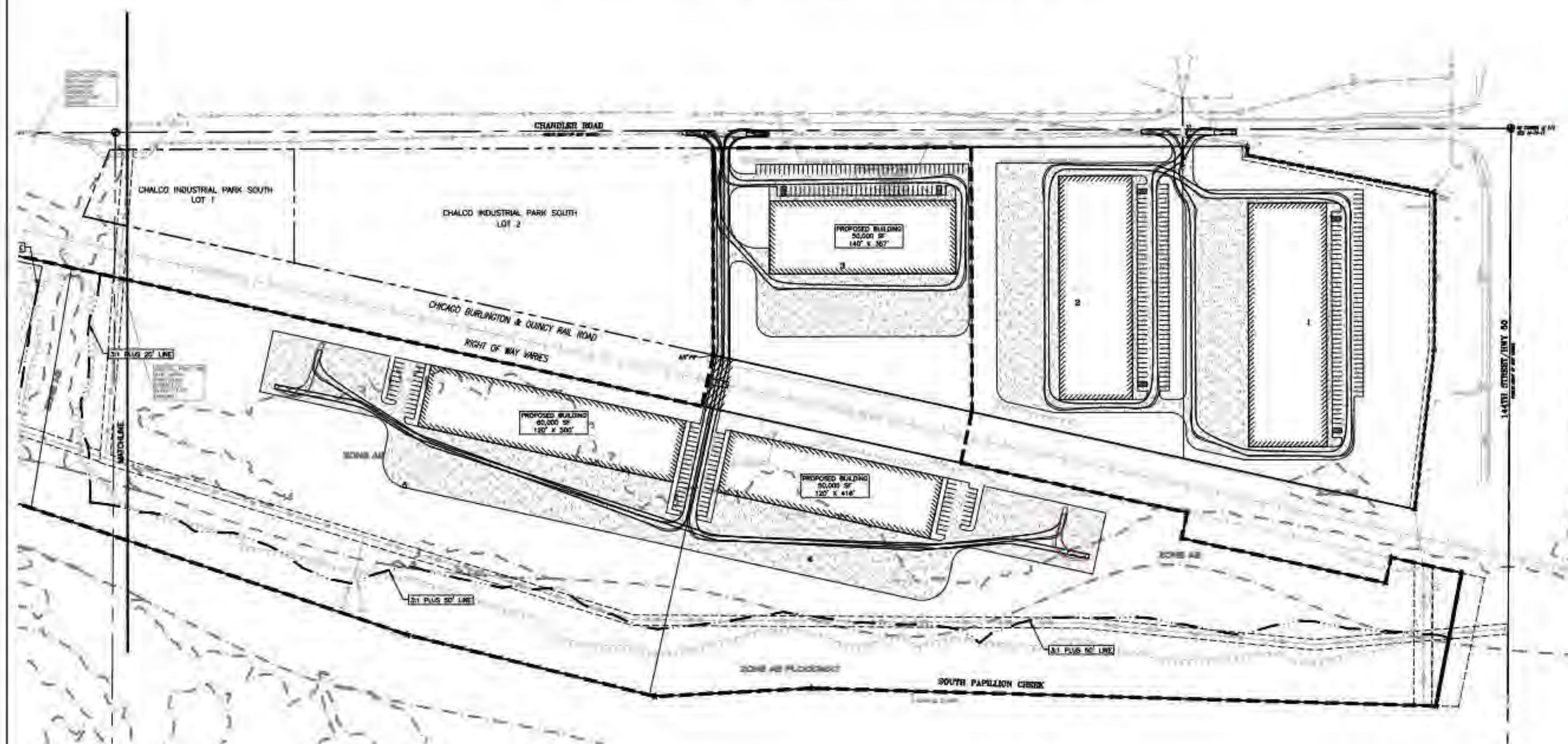
PUD EMERGENCY VEHICLE ACCESS EXHIBIT

AD INDUSTRIAL PARK  
SARPY COUNTY, NEBRASKA



CHASER / DRIVER  
E. MELIAU CHASER / DR. MELIAU  
DATE  
12-04-2023  
PREDICTOR NUMBER  
20232042-001  
DIGGER AND PREDICTOR  
IN-SET

1 OF 1

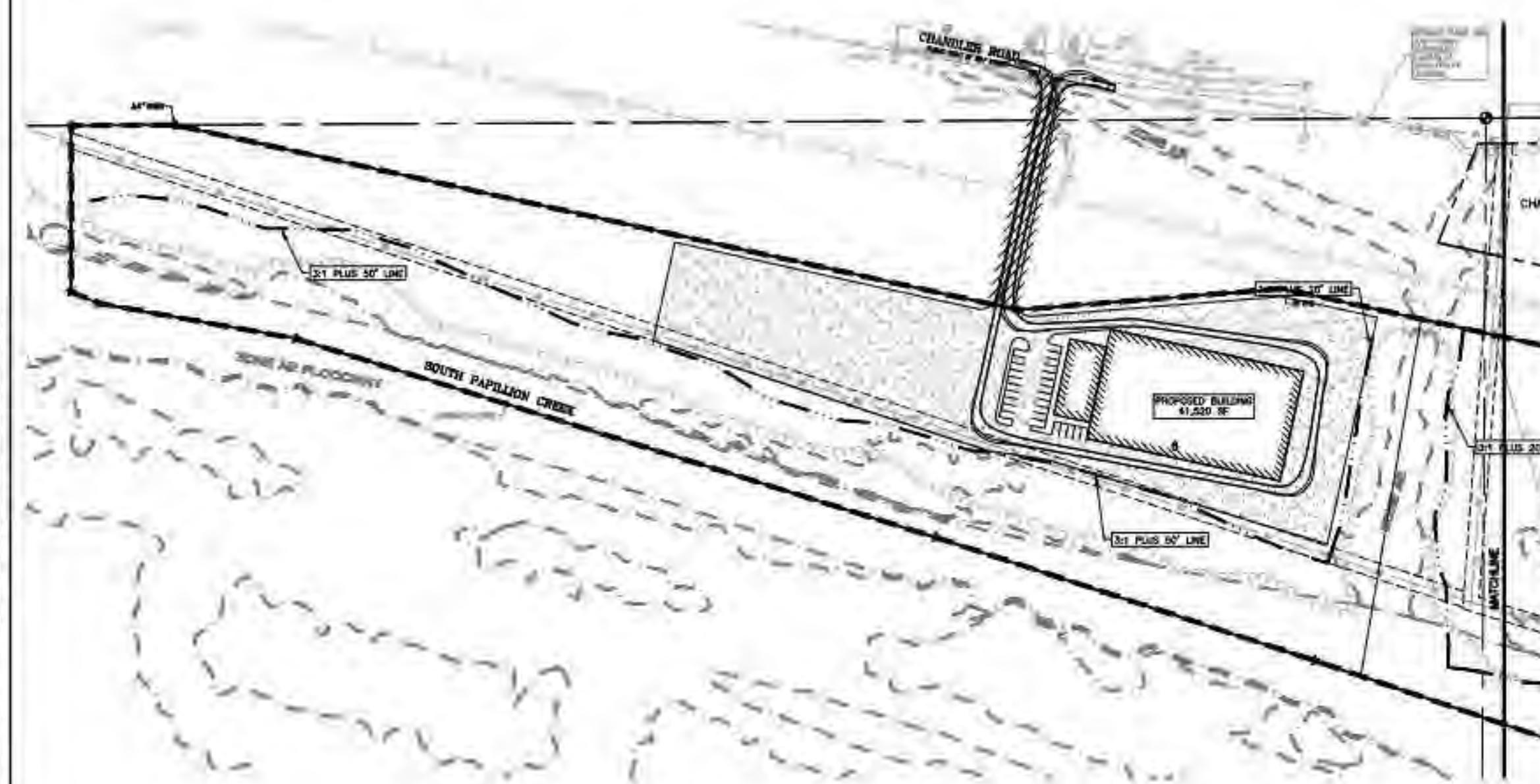


VICINITY MAP

## LEGEND

PLATED IN SECTION	●
PIPE DRIES MANNOLE	◆
PIPE HYDRANT	◆
GAS VALVE	◆
GAS WARNING SIGN	◆
DRIVE INLET	◆
DRIVE INLET ROUND	◆
DRIVE INLET ROUND	◆
PIPE	◆
STREET LIGHT	◆
MAILBOX	◆
POWER POLE	◆
RIGHT OF WAY MARKER	◆
SANITARY MANNOLE	◆
SIGN	◆
STOP SIGN	◆
STORM MANNOLE	◆
TELEPHONE PEDIESTAL	◆
TRAFFIC SIGNAL, PULL BOX	◆
UNIDENTIFIED MANNOLE	◆
UNIDENTIFIED PEDIESTAL	◆
WATER VALVE	◆
WELL	◆
MONUMENT SET (2/8", REMARK W/ 1 1/4" YPC STAMPED 10-002)	◆
MONUMENT FOUND	◆
SECTION CORNER	◆
COMPUTER CORNER	◆
PROPOSED SANITARY SEWER	◆
FLOW ARROW	◆
PROPOSED MANNOLE	◆
PROPOSED PAVEMENT	◆
PROPOSED SITE PAVEMENT	◆
PROPOSED BARRICADE	◆
PUD UNITS	◆

## VEHICLE INFORMATION

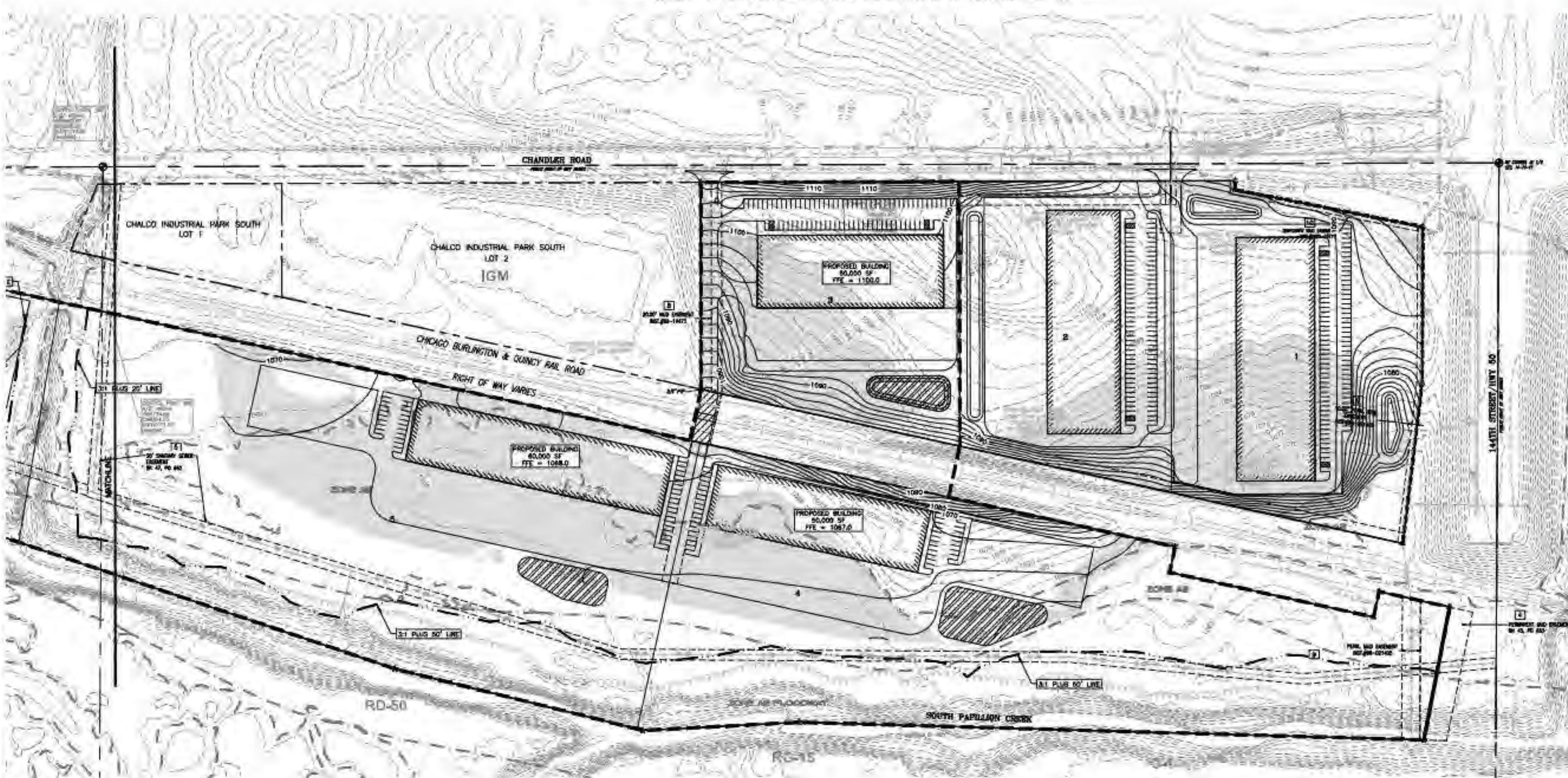






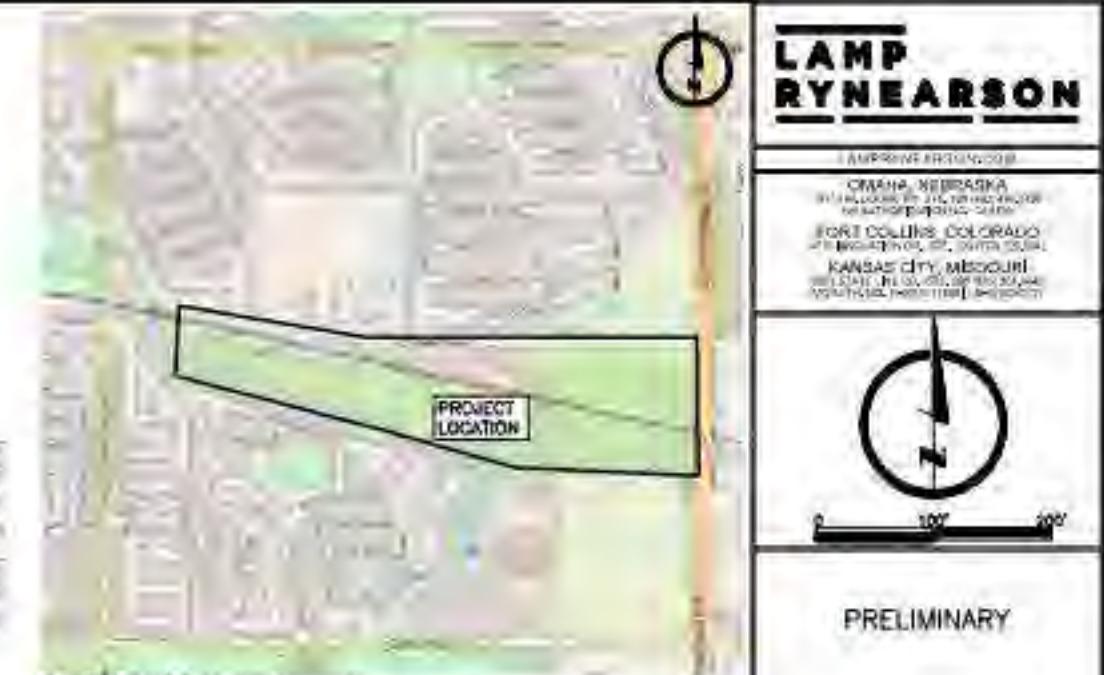
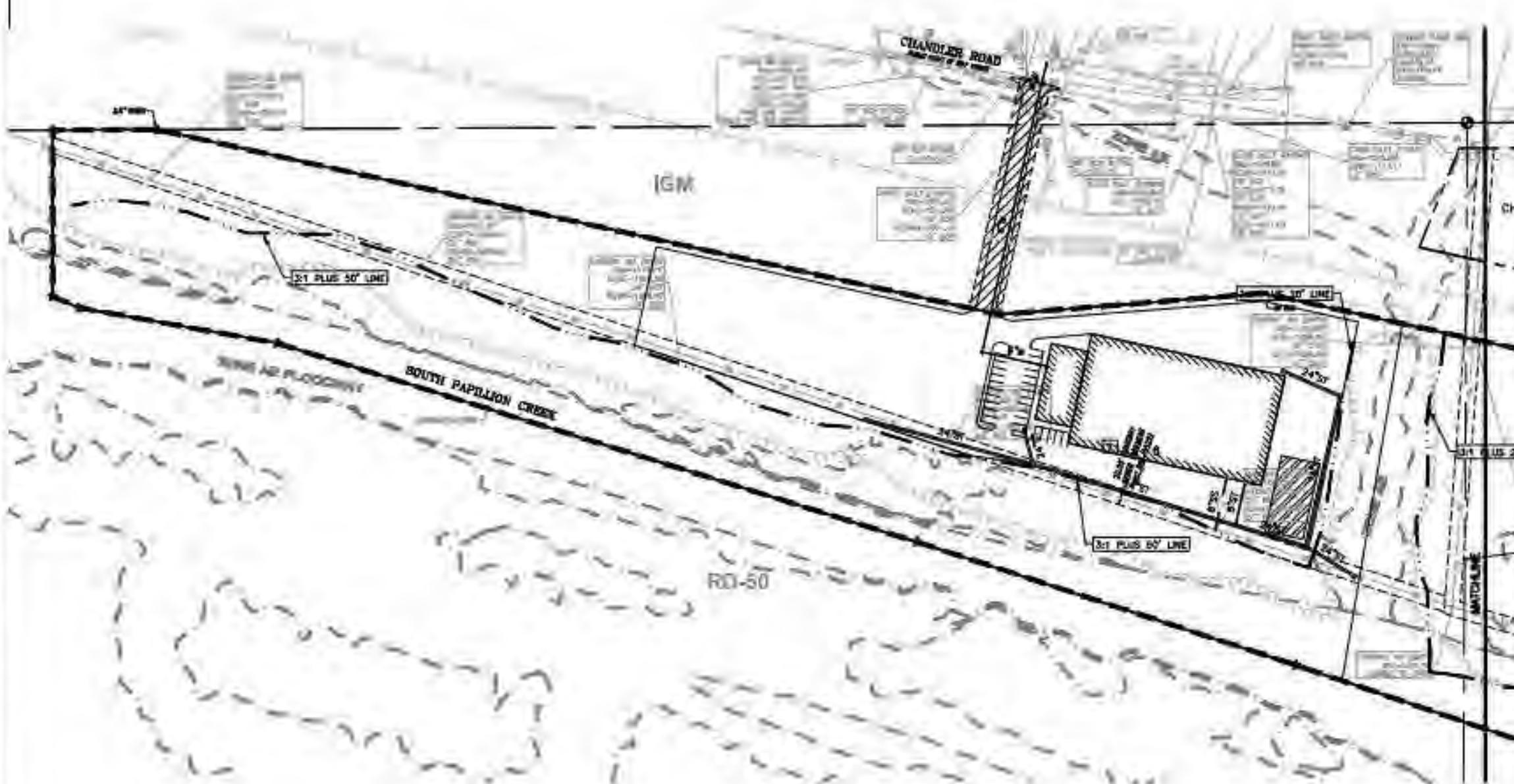
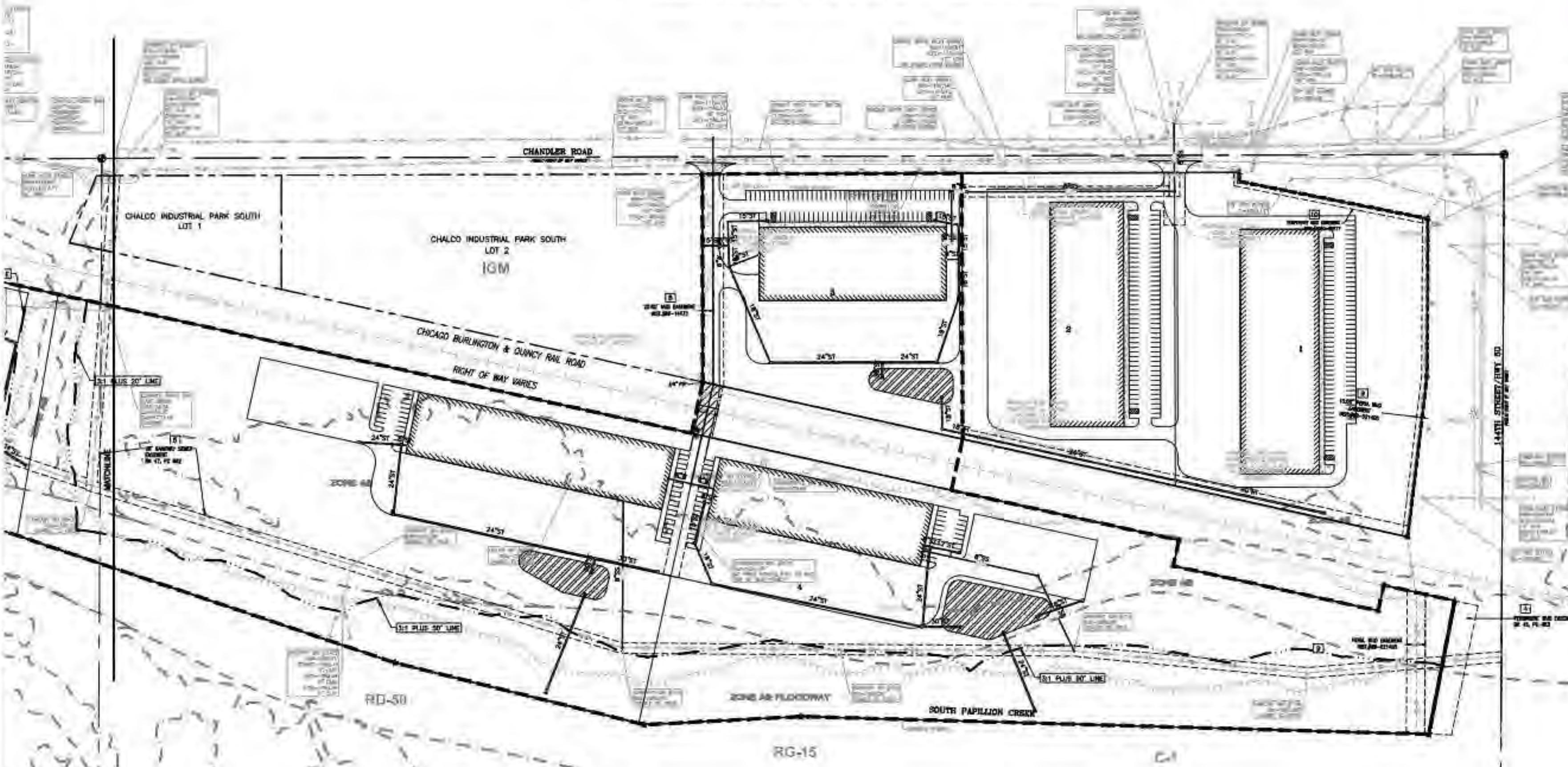
# AD INDUSTRIAL PARK

LOTS 1 THROUGH 6, INCLUSIVE, BEING A PLATTING OF PART OF TAX LOT 19 IN THE SOUTH HALF OF SECTION 14,  
TOWNSHIP 14 NORTH, RANGE 11 EAST OF THE 6TH P.M., SARPY COUNTY, NEBRASKA



# AD INDUSTRIAL PARK

LOTS 1 THROUGH 6, INCLUSIVE, BEING A PLATTING OF PART OF TAX LOT 19 IN THE SOUTH HALF OF SECTION 14,  
TOWNSHIP 14 NORTH, RANGE 11 EAST OF THE 6TH P.M., SARPY COUNTY, NEBRASKA.



PRELIMINARY

NOT RELEASED FOR CONSTRUCTION  
MARCH 15, 2023

VICINITY MAP

LEGEND

- PROPERTY LINE
- LOT LINE
- SECTION LINE
- EASEMENT
- NO ACCESS LINE
- PERMIT NUMBER
- SANITARY SEWER
- STORM SEWER
- RECORD SANITARY SEWER
- OVERHEAD POWER
- GAS
- RECORD GAS
- RECORD WATER
- FENCE
- GUARD RAIL
- APPROXIMATE FLOOD ZONE LINE
- TREE LINE
- RAILROAD TRACKS
- GRAVEL AND DIRT EDGE
- AREA INLET ROUND
- ROLLING
- CONTROL POINT
- CURB INLET
- EDDIE MANHOLE
- ELECTRIC MANHOLE
- ELECTRIC TRANSFORMER
- ANS
- PROPOSED SITE SANITARY SEWER
- FLOW ARROW
- PROPOSED MANHOLE
- PROPOSED PAVEMENT
- PROPOSED PAVEMENT
- PROPOSED PRIVATE STORMWATER TREATMENT
- PROPOSED SITE STORM SEWER
- PROPOSED SITE CURB INLET
- PROPOSED SITE AREA INLET
- PUD LINES
- FLARED END SECTION
- FIBER OPTICS MANHOLE
- FIRE HYDRANT
- GAS VALVE
- GAS BURNING SIGN
- GRAVE INLET
- GRAVE INLET ROUND
- GUT
- STREET LIGHT
- MAILBOX
- POWER POLE
- RIGHT OF WAY MARKER
- SANITARY MANHOLE
- SIGN
- STOP SIGN
- STORM MANHOLE
- TELEPHONE POLE
- TRAFFIC SIGNAL, FULL SIGN
- UNIDENTIFIED MANHOLE
- UNIDENTIFIED PEDESTRIAN
- WELL
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# AD INDUSTRIAL PARK

LOTS 1 THROUGH 6, INCLUSIVE, BEING A PLATTING OF PART OF TAX LOT 19 IN THE SOUTH HALF OF SECTION 14,  
TOWNSHIP 14 NORTH, RANGE 11 EAST OF THE 6TH P.M., SARPY COUNTY, NEBRASKA

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80526-5200

100' 100'

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AD INDUSTRIAL PARK  
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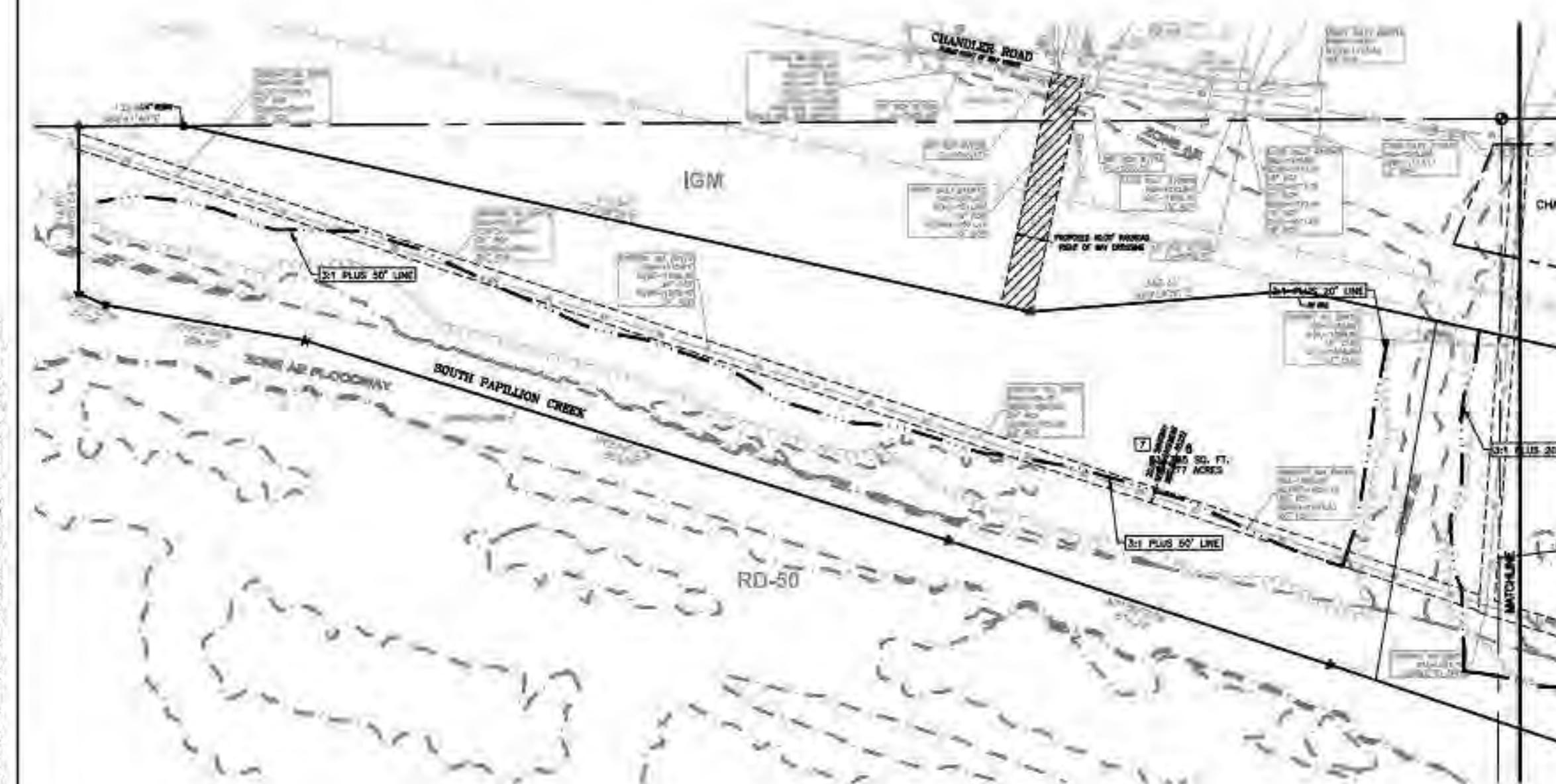
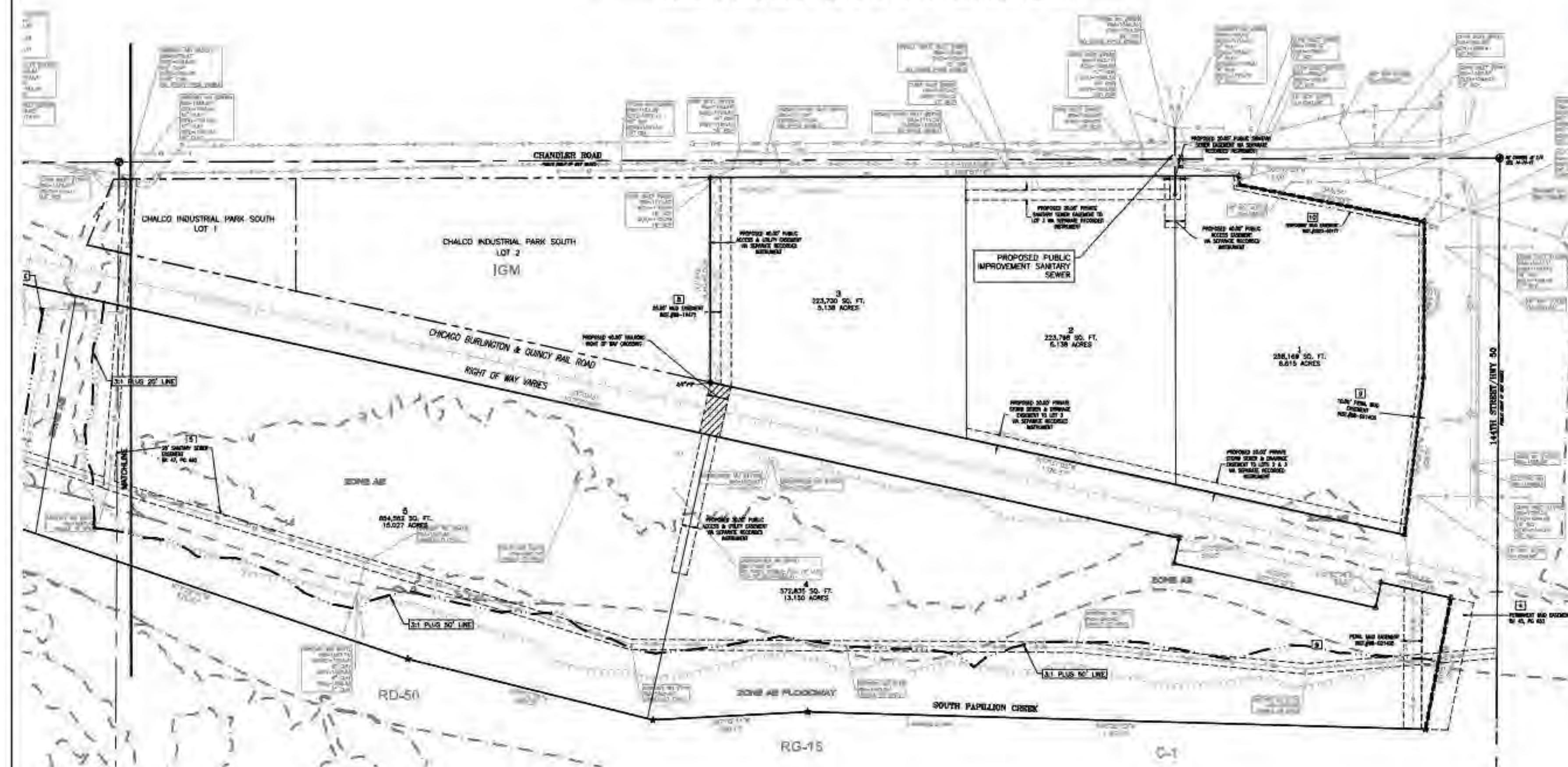
1 OF 1



VICINITY MAP

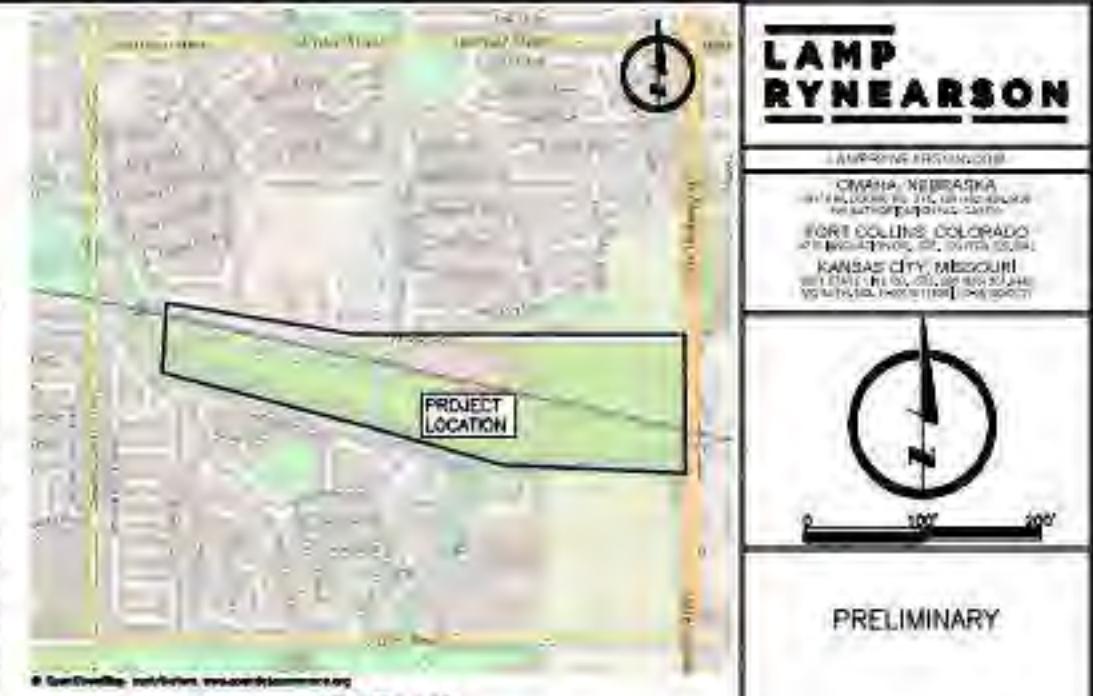
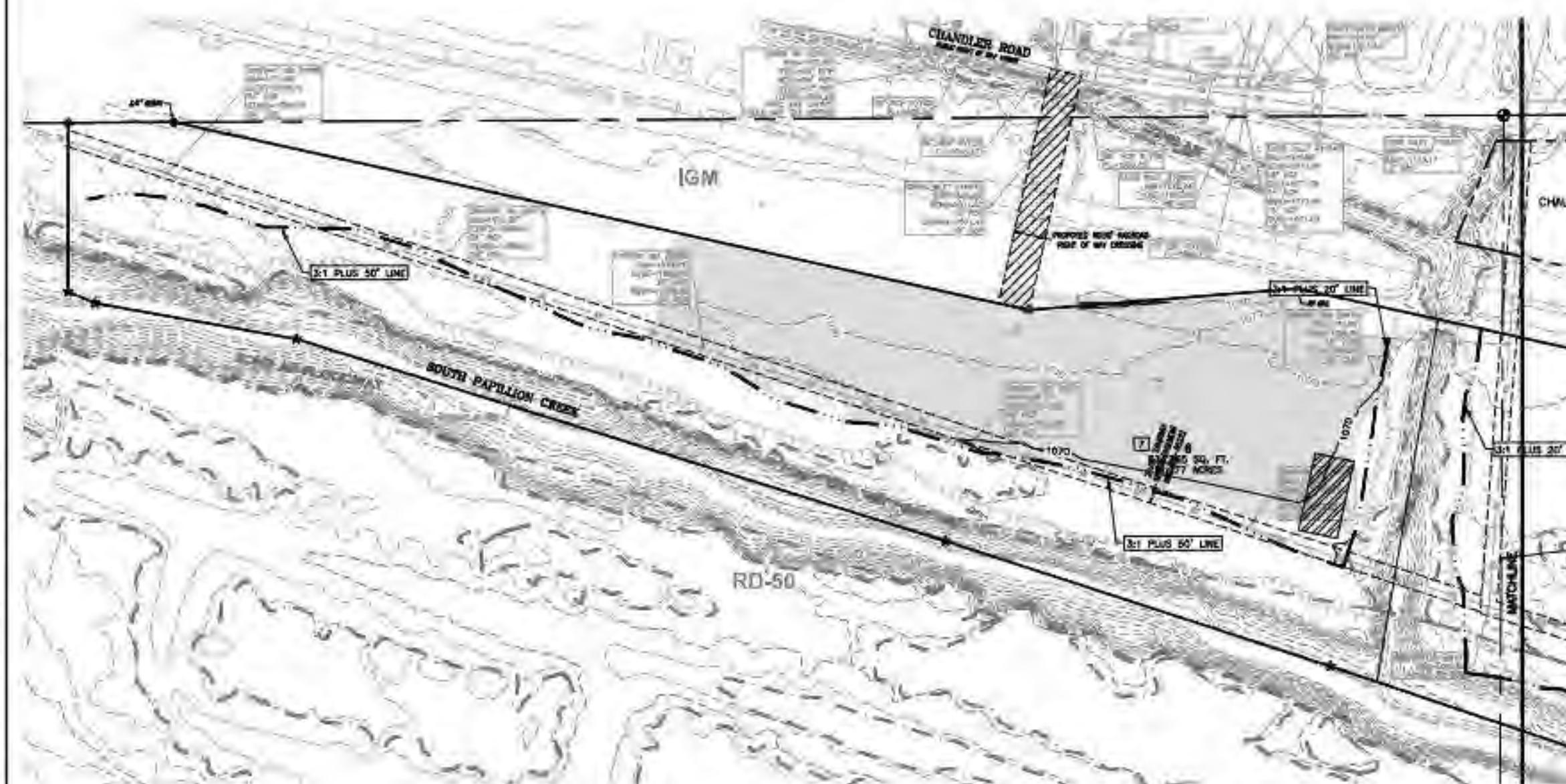
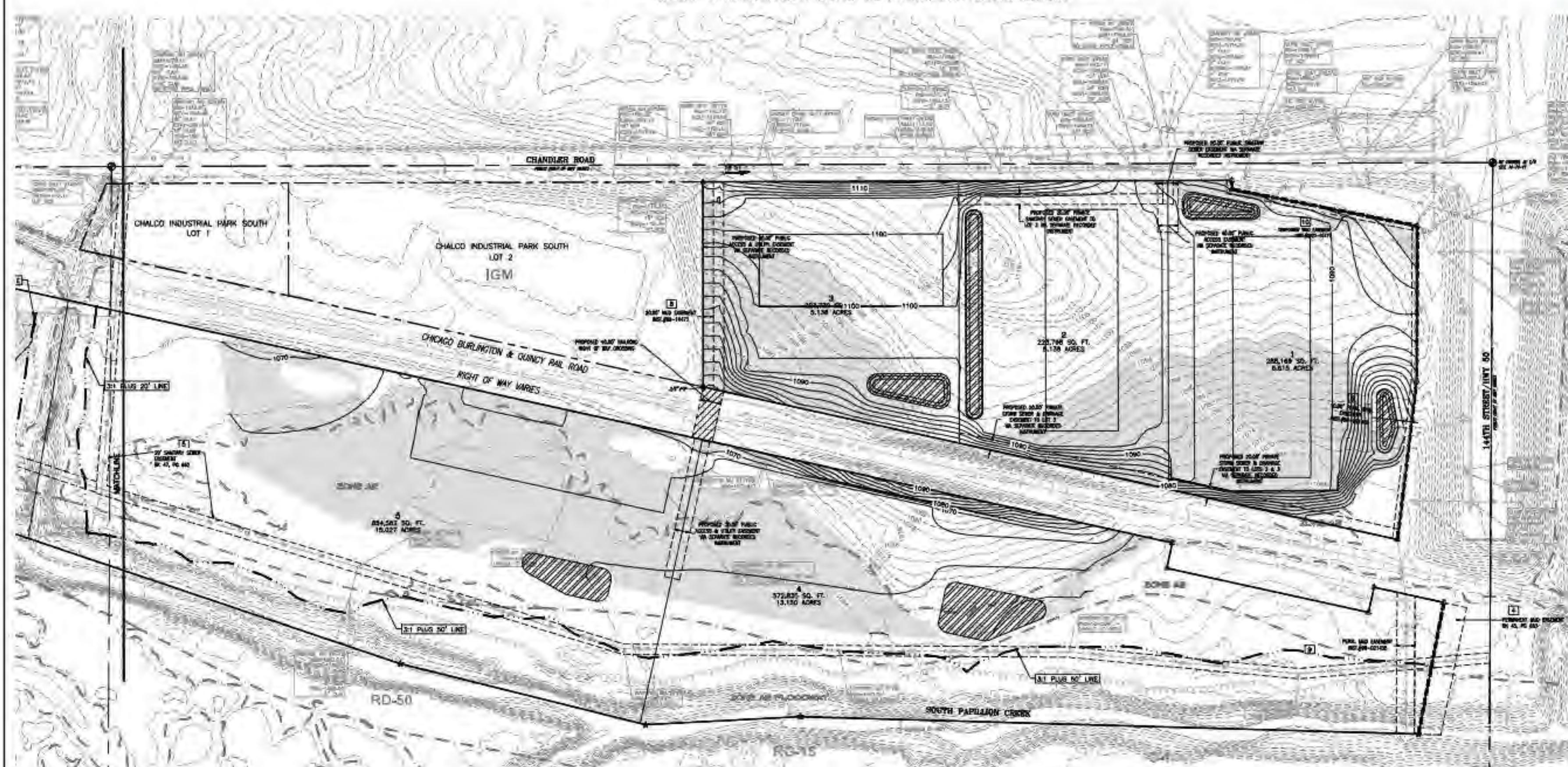
LEGEND

- PROPERTY LINE
- LOT LINE
- SECTION LINE
- EASEMENT
- NO ACCESS LINE PER INT. #85-15439
- SANITARY SEWER
- STORM SEWER
- RECORD SANITARY SEWER
- OVERHEAD POWER
- GAS
- RECORD GAS
- RECORD WATER
- FENCE
- GUARD RAIL
- APPROXIMATE FLOOD ZONE LINE
- TREE LINE
- RAILROAD TRACKS
- DRIVE AND DRY EDGE
- AREA INLET ROUND
- ROLLAND
- CONTROL POINT
- DRIVE INLET
- ELECTRIC MANHOLE
- ELECTRIC TRANSFORMER
- PIPE
- PROPOSED PUBLIC SANITARY SEWER
- FLOW ARROW
- PROPOSED PUBLIC MANHOLE
- PROPOSED PAVEMENT
- PROPOSED PUBLIC PAVEMENT
- PROPOSED BARRICADE



## AD INDUSTRIAL PARK

LOTS 1 THROUGH 6, INCLUSIVE, BEING A PLATTING OF PART OF TAX LOT 19 IN THE SOUTH HALF OF SECTION 14,  
TOWNSHIP 14 NORTH, RANGE 11 EAST OF THE 6TH P.M., SARPY COUNTY, NEBRASKA



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STORM SEWER, GRADING AND EROSION CONTROL PLAN

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SARPY COUNTY, NEBRASKA



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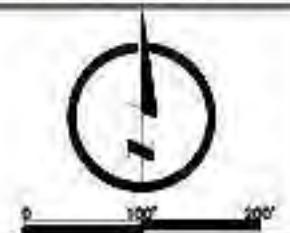
**SEARCHED / SERVED**  
C. MIRAGI CARRIE/P. HELLER  
DATE  
12-04-2023  
**PROSECUTOR**  
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2023 APR 12

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LOTS 1 THROUGH 6, INCLUSIVE, BEING A PLATTING OF PART OF TAX LOT 19 IN THE SOUTH HALF OF SECTION 14,  
TOWNSHIP 14 NORTH, RANGE 11 EAST OF THE 6TH P.M., SARPY COUNTY, NEBRASKA.

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WATERMETER

LEGEND

PROPERTY LINE	LOT LINE
—	—
SECTION LINE	SECTION LINE
EXCAVATION	EXCAVATION
NO. ACRES, LINE	NO. ACRES, LINE
PER MIT, 100'-1040'	PER MIT, 100'-1040'
SANITARY SEWER	SANITARY SEWER
STORM SEWER	STORM SEWER
RECORD SANITARY SEWER	RECORD SANITARY SEWER
RECORD POWER	RECORD POWER
RECORD GAS	RECORD GAS
RECORD WATER	RECORD WATER
SYNTH	SYNTH
GUARD RAIL	GUARD RAIL
APPROXIMATE FLOOD ZONE LINE	APPROXIMATE FLOOD ZONE LINE
TRAILER SITE	TRAILER SITE
RAILROAD TRACKS	RAILROAD TRACKS
GRASS, LAND, OFF SITE	GRASS, LAND, OFF SITE
AREA INLET, ROUND	AREA INLET, ROUND
SCARF	SCARF
CONCRETE FORM	CONCRETE FORM
CONCRETE	CONCRETE
CONCRETE	CONCRETE
ELECTRIC MAST	ELECTRIC MAST
TRANSFORMER	TRANSFORMER
PROPOSED CONTOUR	PROPOSED CONTOUR
EXISTING CONTOUR	EXISTING CONTOUR
WETLANDS AREA NOT TO BE DISTURBED	WETLANDS AREA NOT TO BE DISTURBED
ELL AREA	ELL AREA
ROCK ACCESS ROAD	ROCK ACCESS ROAD
STORM RAIL CHECK INLET	STORM RAIL CHECK INLET
PROPOSED STORM SEWER	PROPOSED STORM SEWER
PROPOSED MANHOLE	PROPOSED MANHOLE
PROPOSED FILE	PROPOSED FILE
PROPOSED Curb INLET (BY OTHER)	PROPOSED Curb INLET (BY OTHER)
PROPOSED AREA INLET	PROPOSED AREA INLET
PROPOSED PRIVATE STORMWATER TREATMENT	PROPOSED PRIVATE STORMWATER TREATMENT
1	1
DRAINAGE AREA NAME	DRAINAGE AREA NAME
DRAINAGE AREA	DRAINAGE AREA
DRAINAGE BOUNDARY	DRAINAGE BOUNDARY

POST CONSTRUCTION STORM WATER MANAGEMENT PLAN

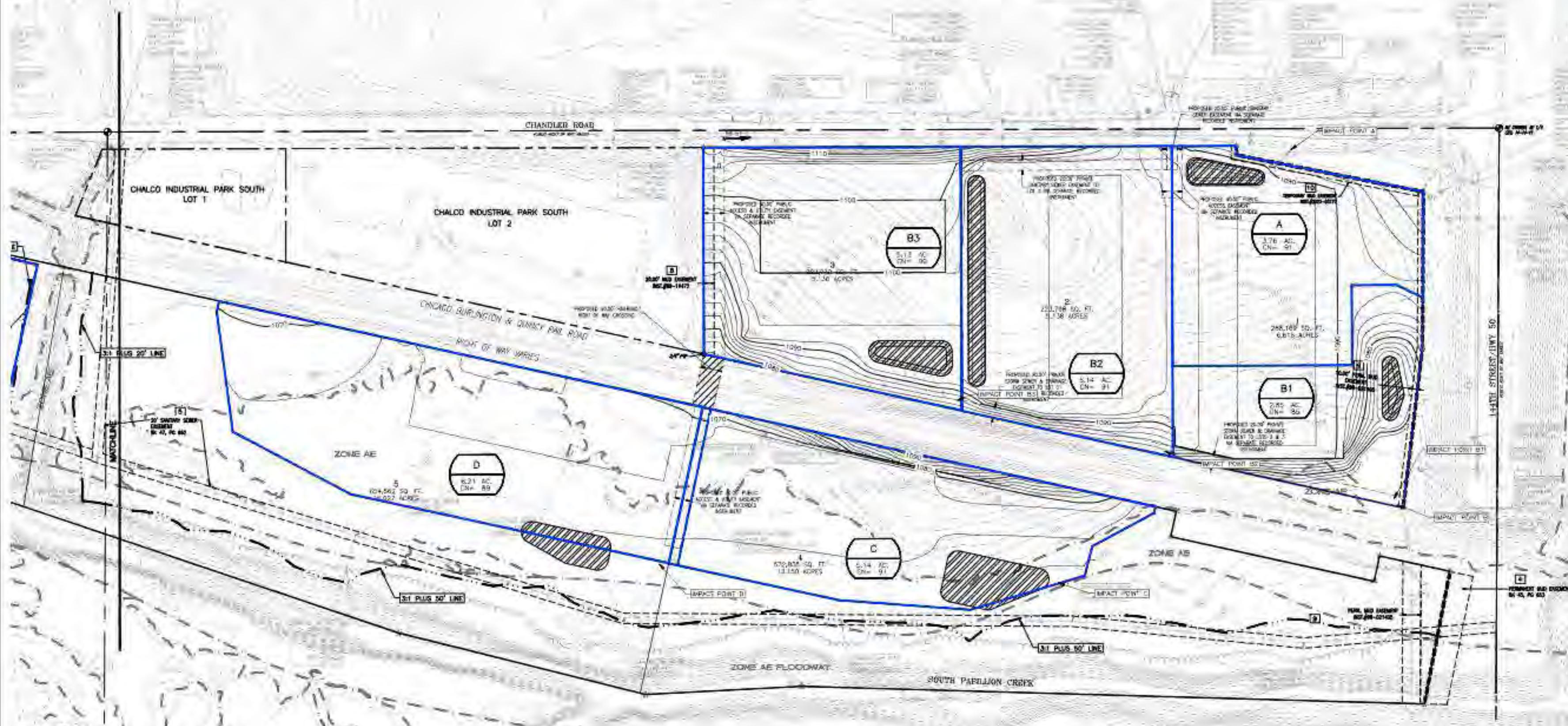
AD INDUSTRIAL PARK  
SARPY COUNTY, NEBRASKA



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C. MIKEA DASHER / B. HELLER  
DATE  
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PROJECT NUMBER  
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1 OF 1



Pre-Development Impact Point Summary					
Impact Point	A	B	C	D	E
Total Area (AC)	3.78	13.15	1.14	6.21	4.96
Curve Number (CN)	74	72	67	61	63
Pre-Dry Flow (CFS) (2-yr)	6.27	17.90	1.06	1.67	1.04
Pre-Dry Flow (CFS) (100-yr)	14.31	45.52	34.96	7.66	4.81
Pre-Dry Time (T100-yr)	25.90	30.09	31.14	18.08	11.50

Post-Development Impact Point Summary						
Impact Point	A	B1	B2	B3	Total B	C
Drainage Area (AC)	3.78	2.85	5.14	5.13	33.13	5.14
Curve Number (CN)	91	98	91	90	99	99
U/C Water Quality (WQ) Volume Required (CF)	8629.367	3275.467	9325	9317.75	n/a	9224.975
Proposed WQ Treatment Volume (CF)	46829.167	5172.867	49325	4917.75	n/a	4624.225
Post-Dry Maximum Flow Allowable (CFS) (2-yr)	6.27	3.89	7.01	7.00	37.80	5.05
Post-Dry Maximum Flow Allowable (CFS) (100-yr)	14.32	9.58	27.45	27.41	44.52	34.36
Post-Dry Maximum Flow Allowable (CFS) (100-yr)	25.90	18.32	32.26	32.15	83.68	78.96

NOTE: UNVALUES USED FOR PRE-DEVELOPMENT ARE BASED ON SITE CONDITIONS, SLOPES, AND INFORMATION PROVIDED BY THE SURVEYOR. THEY ARE AS FOLLOWS:

1. 100'-1040' GROUP B, 2000' CONSERVATIONAL PASTURE, CHASSANAL, OR PRAIRIE-CONTINUOUS FORAGE FOR BRAZIL.

2. 100'-1040' GROUP C, 2000' COMMON PASTURE, CHASSANAL, OR BAHIA-VIETNAMESE FORAGE FOR BRAZIL.

NOTE: THAT BASIC DESIGN WILL BE DETERMINED DURING PERMITTING FOR EACH SITE INDIVIDUALLY. MAXIMUM ALLOWABLE FLOWS ARE DETERMINED BY ALLOWANCE OF FLOW FROM THE PRE-DEVELOPMENT CONDITIONS. EACH INDIVIDUAL SITE WILL BE REQUIRED TO MEET OR EXCEED THE BASIC CRITERIA FOR THE CITY OF LA VIEILLE AS FOLLOWS:

1. CAPTURE FIRST 3" OF RUNOFF FOR WATER QUALITY.

2. MATCH PRE-DEVELOPMENT FLOW RATES FOR 2-YEAR, 10-YEAR, AND 100-YEAR STORMS.

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# **FENTON CONSTRUCTION FINAL TRAFFIC STUDY**

**144<sup>TH</sup> STREET AND CHANDLER ROAD**

**Project No. 0123094.01-119**

**Date: FEBRUARY 7, 2024**

**FINAL TRAFFIC STUDY**

**FENTON CONSTRUCTION**

**144<sup>TH</sup> STREET / HIGHWAY 50 AND CHANDLER ROAD**

**LA VISTA, NEBRASKA**

**FEBRUARY 2024**

Prepared for:

**FENTON CONSTRUCTION  
&  
CITY OF LA VISTA  
&  
SARPY COUNTY  
&  
NEBRASKA DEPARTMENT OF TRANSPORTATION**

Prepared by:

**Matthew L. Kruse, P.E.  
E-11507**

**Lamp Rynearson  
14710 West Dodge Road  
Omaha, Nebraska**

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## **CHAPTER 1: INTRODUCTION**

### **1.1 Study Background, Purpose and Goals**

This report summarized the findings and recommendations of a traffic study for the Fenton Construction site. This property is bounded by Chandler Road to the north, 144<sup>th</sup> Street / Highway 50 to the east, a residential development and a storage facility to the west, and an industrial complex along with a residential development to the south. The location of this proposed development is shown in Figure 1.

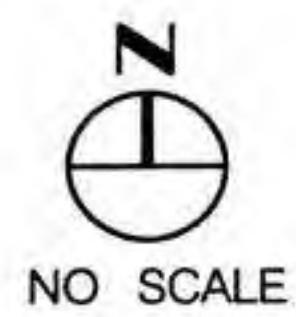
The proposed layout of the overall site is shown in Figure 2. The site is planned to consist of a 331,520 square foot industrial complex. The land use and resulting trip generation is shown in Table 1.

The purpose of this study was to assess the capacity of the existing roadway system to handle the background traffic and the impacts of the proposed development on Chandler Road along with 144<sup>th</sup> Street / Highway 50 in the vicinity of the site. Another objective of this study was to look at right and left turn lane warrants along with signal warrants at all intersections since these roadways and intersections will provide the primary access for traffic generated from the development on a daily basis.

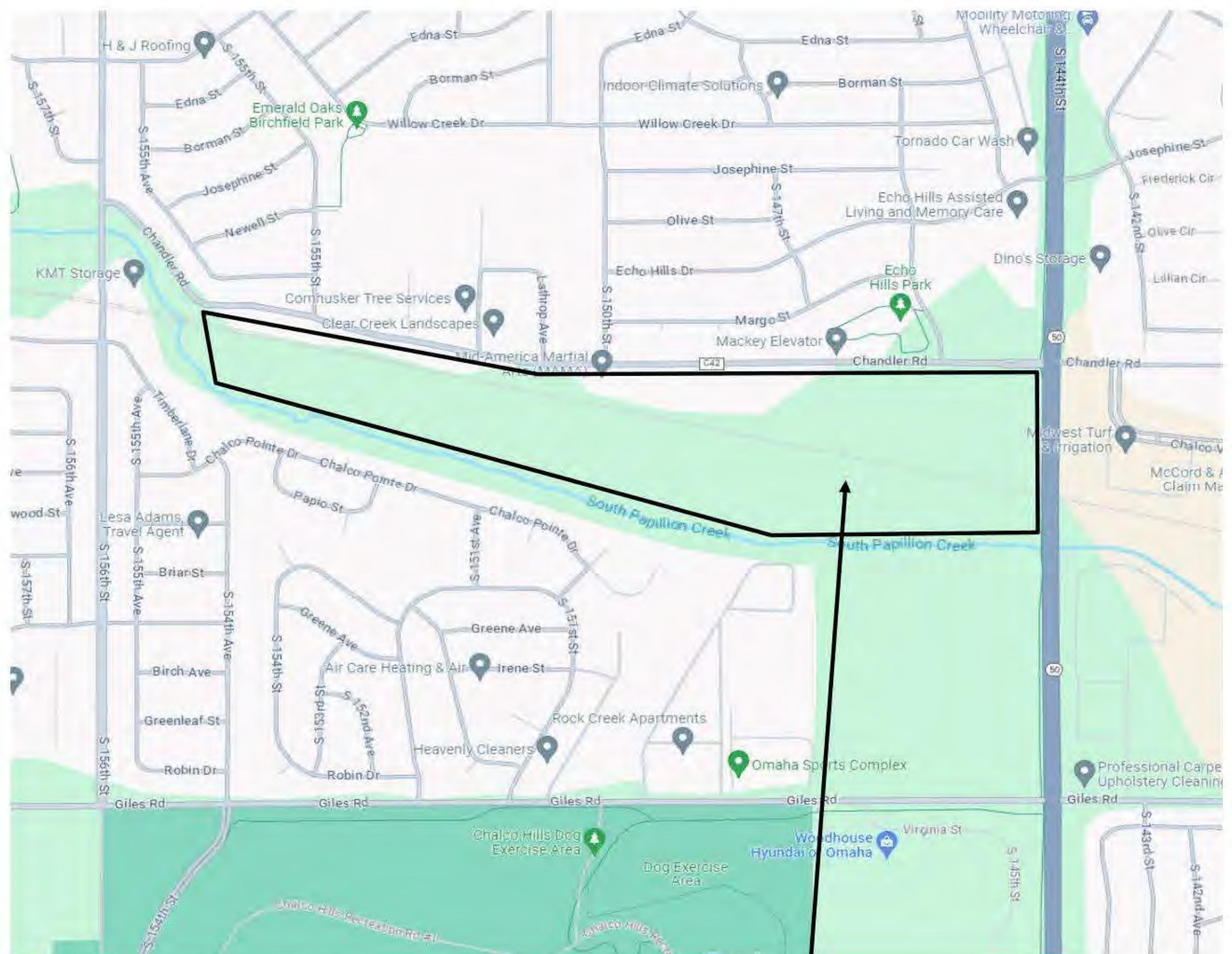
### **1.2 Data Gathering**

The following bullet chart summarizes the data and the source of the data used to complete this study:

- 2023 Existing Traffic Counts at the intersections of Chandler Road and 144<sup>th</sup> Street / Highway 50 and Chandler Road and 146<sup>th</sup> Street by Lamp Rynearson in September 2023
- Site generated trips – *ITE Trip Generation Manual, 11<sup>th</sup> Edition, 2021.*



NO SCALE



## Site Location

**LAMP  
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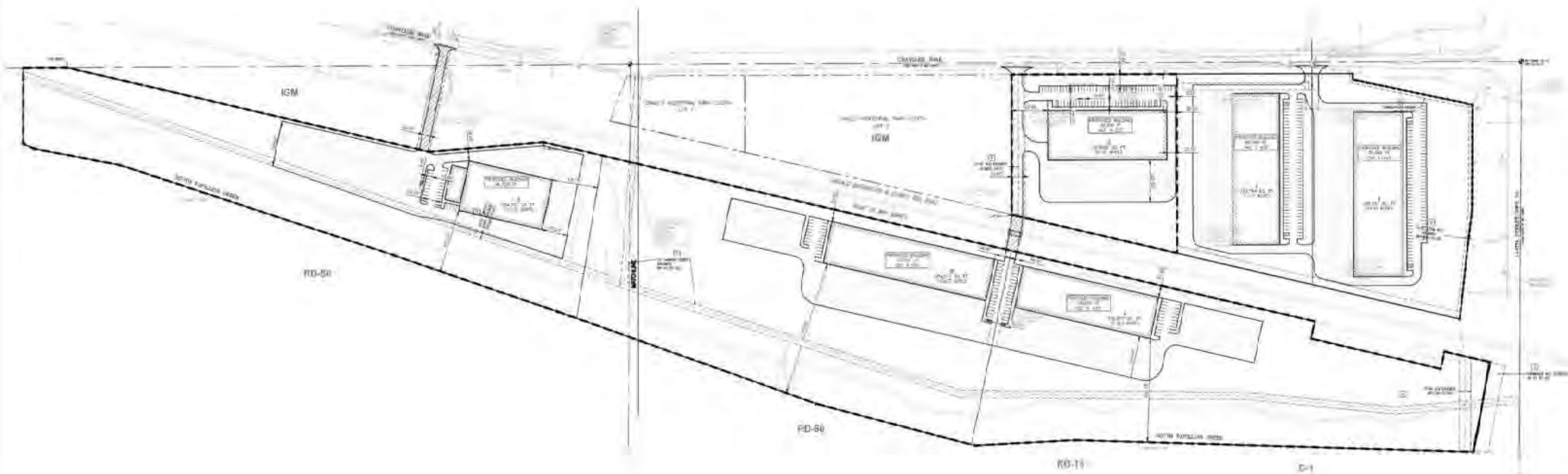
## **FIGURE 1**

### **SITE LOCATION**



NO SCALE

3



LAMP  
RYNEARSON

**FIGURE 2**  
**SITE PLAN**

### **1.3 Overview of Study Approach**

To achieve the main goal of the study, the following tasks were accomplished:

- Field inspection to observe the current lane configuration, signal operation and geometry;
- Traffic counts were conducted at the intersections of Chandler Road and 144<sup>th</sup> Street / Highway 50 and Chandler Road and 146<sup>th</sup> Street by Lamp Rynearson on September 19, 2023;
- Determine site generated traffic, distribution and assignment including internal trips for the site;
- Determine year 2023, year 2025, year 2030 and year 2050 intersection capacity to handle background traffic using Synchro Version 11 and SimTraffic Software;
- Determine total traffic volumes (site and background) for the peak hours in the year 2025, year 2030 and year 2050.
- Determine year 2025, year 2030 and year 2050 intersection capacity to handle opening day (build-out site + background traffic) and future horizon year traffic, using Synchro Version 11 and SimTraffic;
- Queue analysis; and
- Development of recommendations for roadway and traffic control improvements.

## **CHAPTER 2: ROADWAY NETWORK CHARACTERISTICS**

### **2.1 Site and Study Area Boundaries**

The study area is shown on Figure 1. The site is located in La Vista, Nebraska on the southwest corner of Chandler Road and 144<sup>th</sup> Street / Highway 50. The property consists of two lots split down the middle by a railroad track and is bounded by Chandler Road to the north, a residential development and a storage facility to the west, an industrial complex and residential houses to the south, and 144<sup>th</sup> Street / Highway 50 to the east. The main intersections analyzed as a part of this study are:

- 144<sup>th</sup> Street / Highway 50 and Chandler Road
- 146<sup>th</sup> Street and Chandler Road
- Chandler Road and Site Entrance 1
- Chandler Road and Site Entrance 2

The proposed site is anticipated to have three access points into the site. The first is located at the intersection of Chandler Road and 146<sup>th</sup> Street. This access is proposed to be a full movement access point and would provide access to two of the six buildings. Three buildings can be accessed from the proposed intersection of Chandler Road and Site Entrance 1, which is located approximately 900 feet west of the 146<sup>th</sup> Street intersection. This is also proposed to be a full movement access point. The final intersection, Chandler Road and Site Entrance 2, provides access to the final building. This proposed full movement access is located approximately 1,600 feet west of the intersection of Site Entrance 1 and Chandler Road.

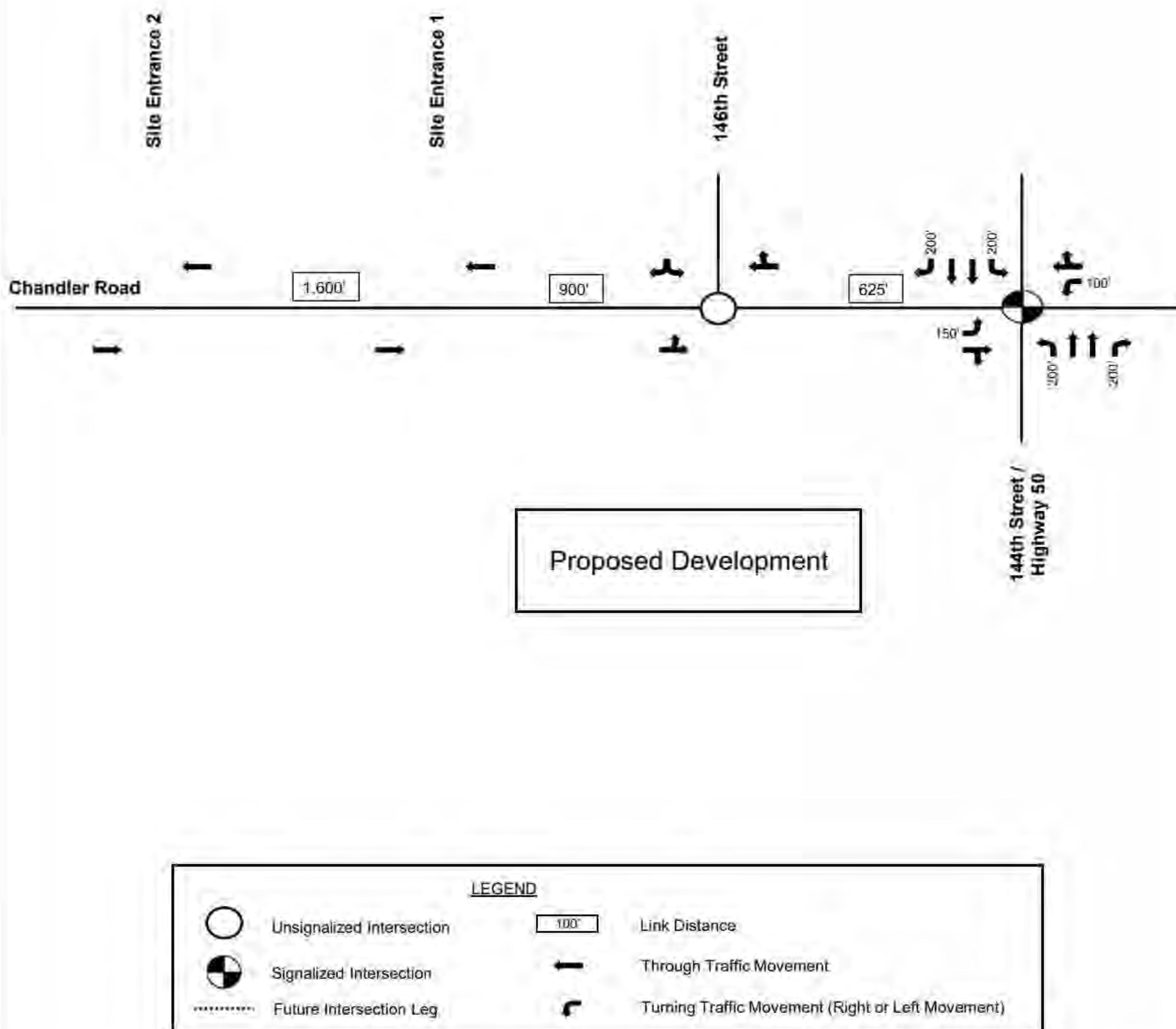
### **2.2 Existing Roadway Configuration**

144<sup>th</sup> Street / Highway 50 is a major arterial. This section of 144<sup>th</sup> Street / Highway 50 is a four-lane divided roadway that runs north and south. At the intersection of Chandler Road, there are existing right and left turn lanes in both the northbound

and southbound directions. 144<sup>th</sup> Street / Highway 50 starts at State Street in Omaha and continues south through the state. It provides access to Interstate 80 to the south. The posted speed limit along this road is 45 miles per hour.

Chandler Road is a two-lane paved roadway in the vicinity of the site. This section of Chandler Road starts near 156<sup>th</sup> Street to the west and terminates at 132<sup>nd</sup> Street. The posted speed limit for the section of Chandler Road along the site is 35 miles per hour. The existing geometry is shown in Figure 3.

NO SCALE



LAMP  
RYNEARSON

FIGURE 3  
EXISTING GEOMETRY

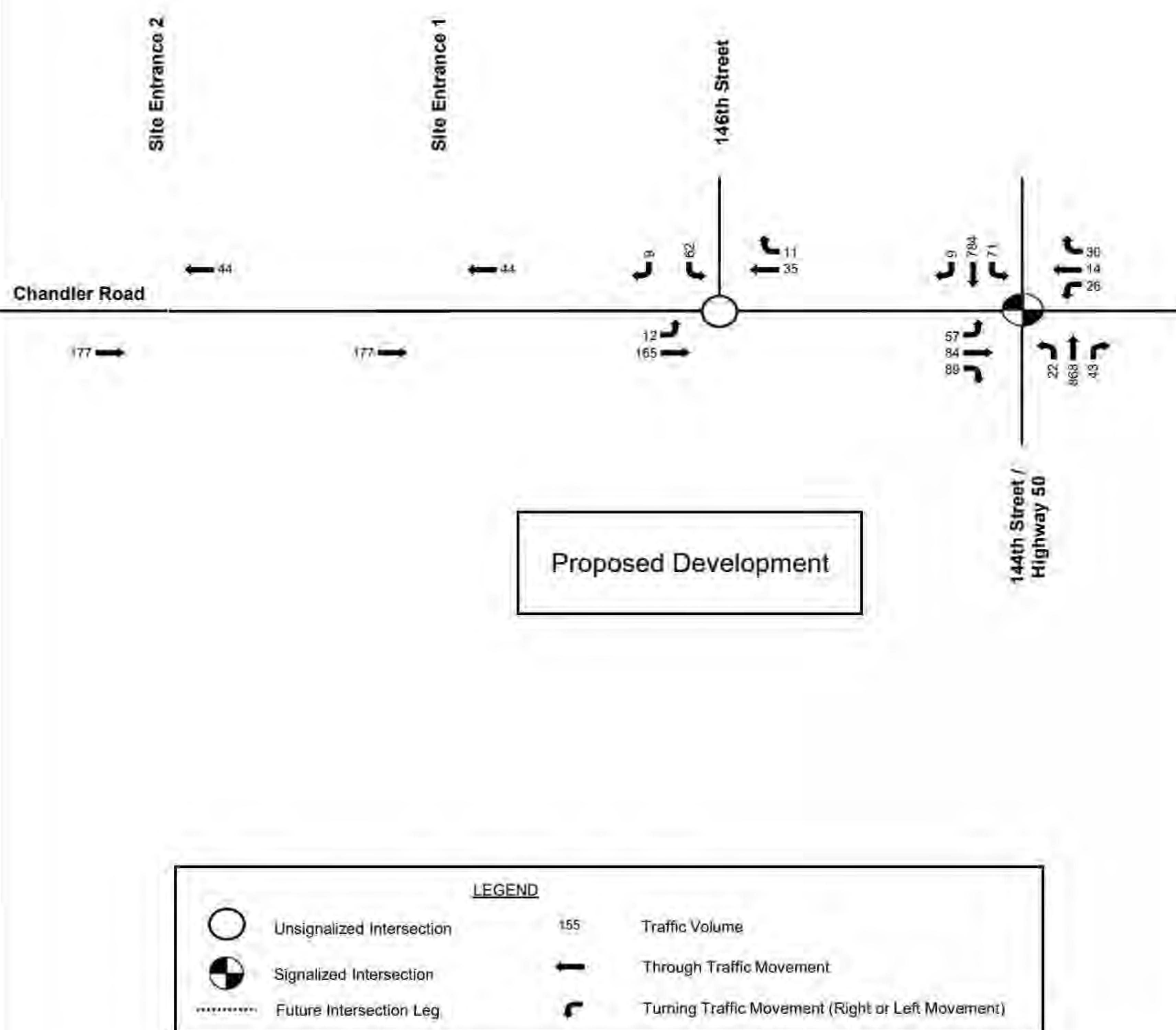
## **CHAPTER 3: BACKGROUND TRAFFIC VOLUMES**

### **3.1 Year 2023, year 2025, year 2030 and year 2050 Background Traffic Volumes**

A traffic count was conducted at two intersections along Chandler Road: 144<sup>th</sup> Street / Highway 50 and 146<sup>th</sup> Street, in September of 2023. These intersections were counted in the morning from 7:00 am to 9:00 am and in the evening from 4:00 pm to 6:00 pm. The peak hour of the area was found to occur during the PM peak hour from 4:30 pm to 5:30 pm. The AM peak hour was observed from 7:15 am to 8:15 am. The 2023 background traffic for the AM peak hour is included in Figure 4 and the PM peak hour volumes in Figure 5.

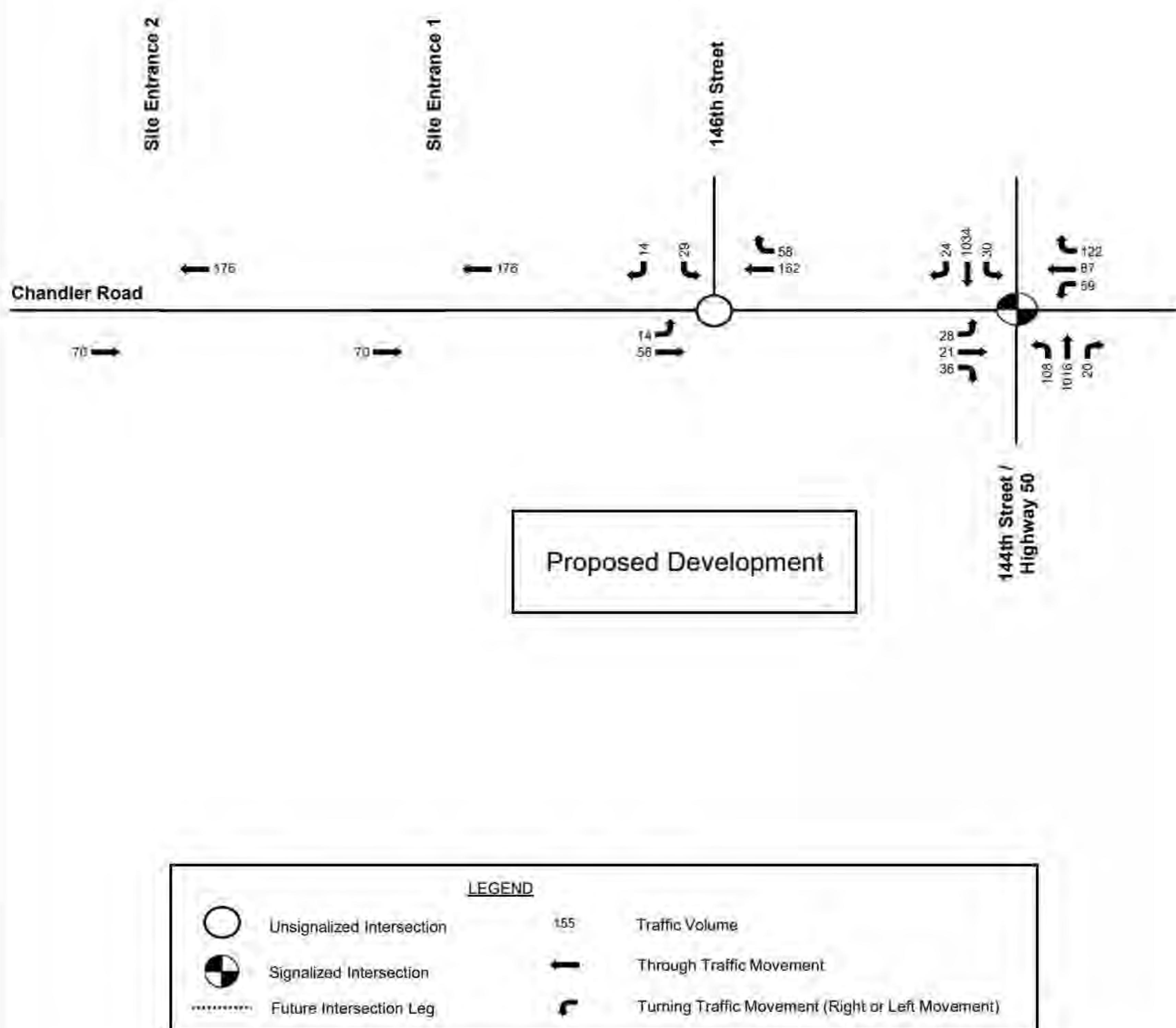
An estimated overall growth factor of 3.5 percent was used along 144<sup>th</sup> Street / Highway 50 while a 0.25 percent growth rate was used for Chandler Road adjacent to the site. These growth rates were calculated based on the existing traffic counts and the 2050 future traffic projections provided by MAPA. The reason that Chandler Road was shown with a small growth rate was due to the counted background volumes being greater than the 2050 projections. Using the 3.5 percent growth factor for 144<sup>th</sup> Street / Highway 50 and the 0.25 percent growth factor for Chandler Road, background traffic was developed for the years 2025, 2030 and 2050 from the growth rate. The year 2025 was selected as the full build-out year with the year 2030 being the 5-year horizon scenario and the year 2050 as a future horizon year to match the MAPA projections. Figures 6 and 7 include the background volumes for the peak hours in the year 2025 volumes. Figures 8 and 9 show the 2030 peak hour background volumes. The 2050 background volumes can be found in Figures 10 and 11.

NO SCALE



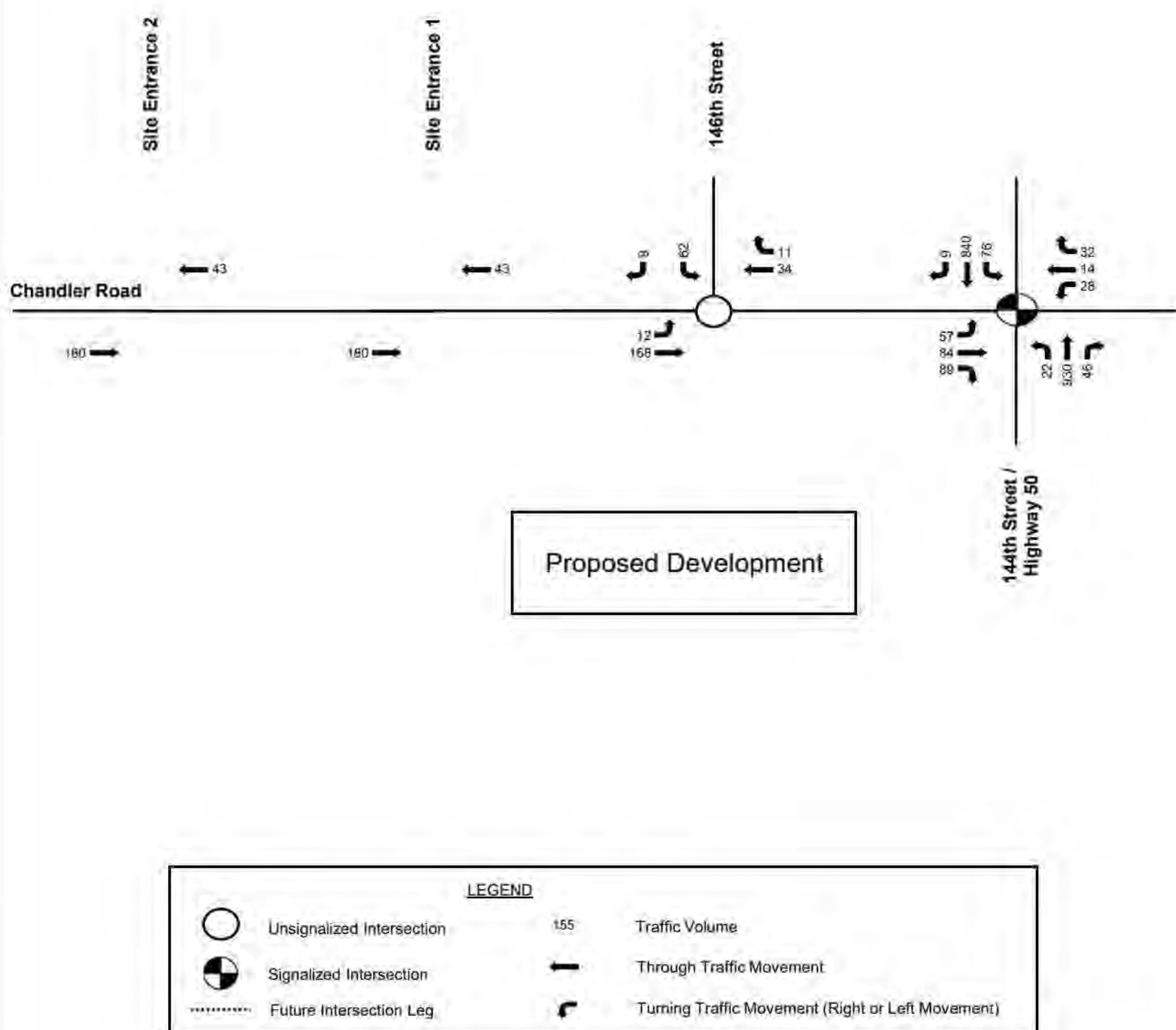
**FIGURE 4**  
**2023 AM PEAK HOUR**  
**BACKGROUND VOLUMES**

NO SCALE



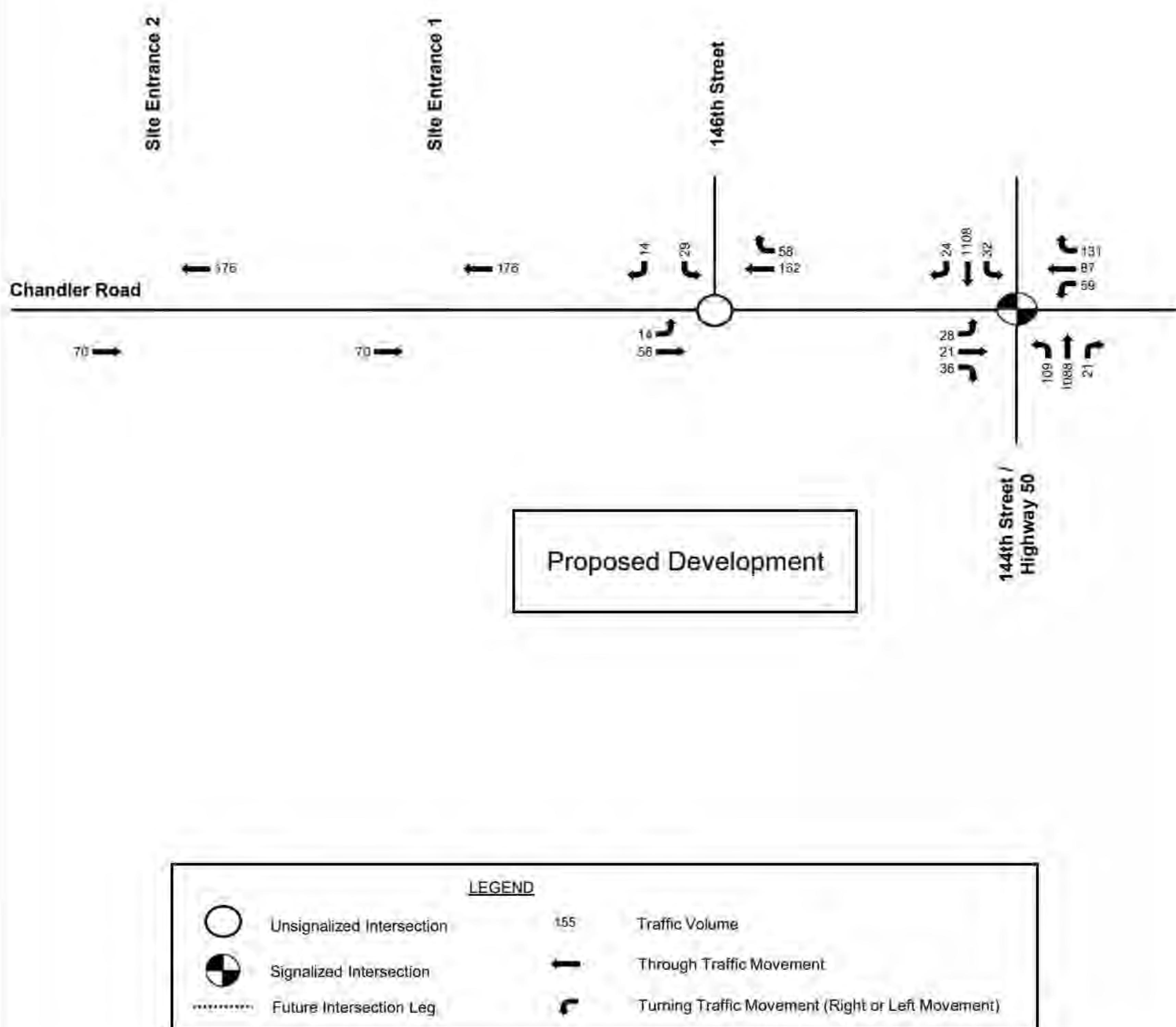
**FIGURE 5**  
**2023 PM PEAK HOUR**  
**BACKGROUND VOLUMES**

NO SCALE



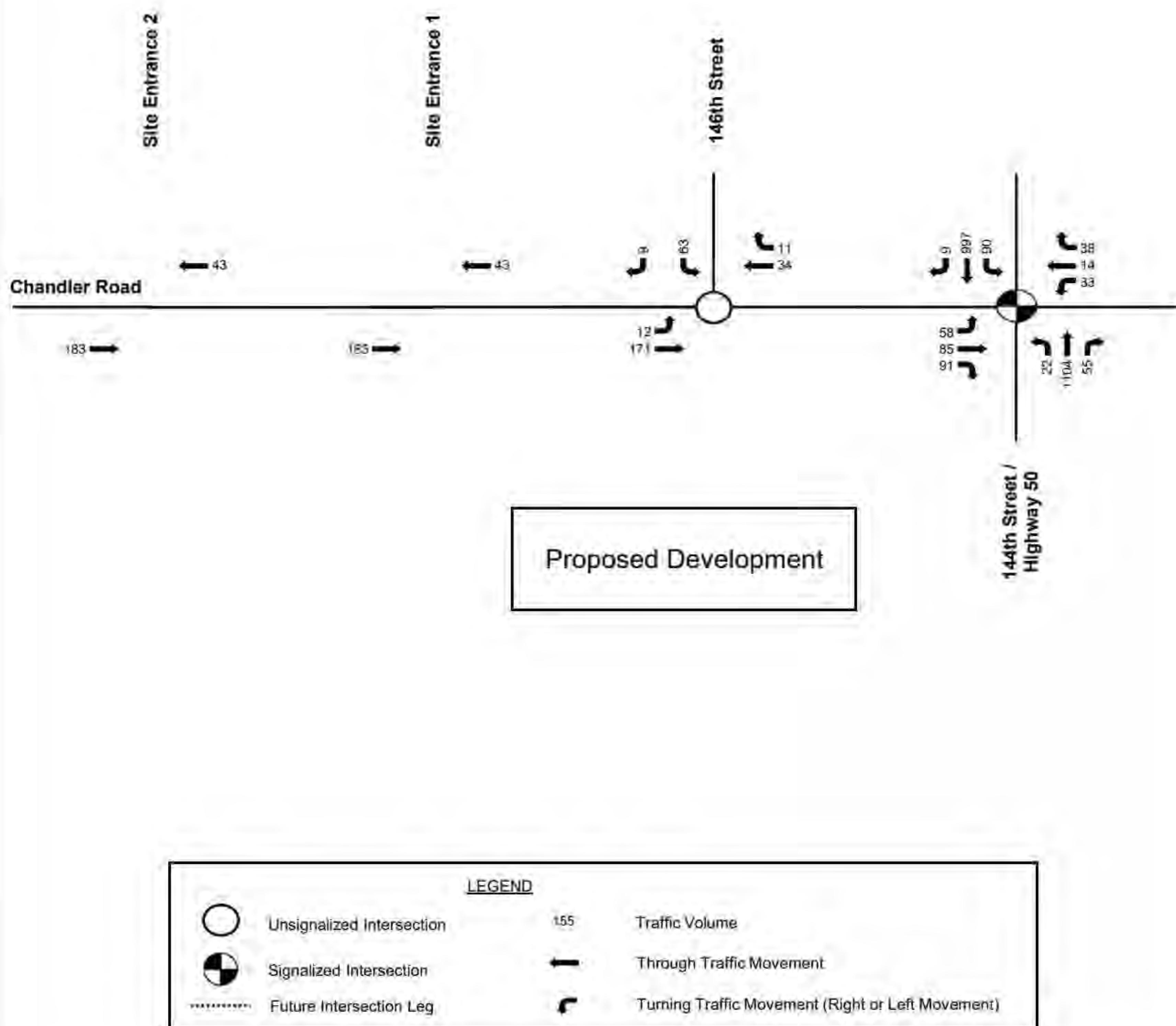
**FIGURE 6**  
**2025 AM PEAK HOUR**  
**BACKGROUND VOLUMES**

NO SCALE



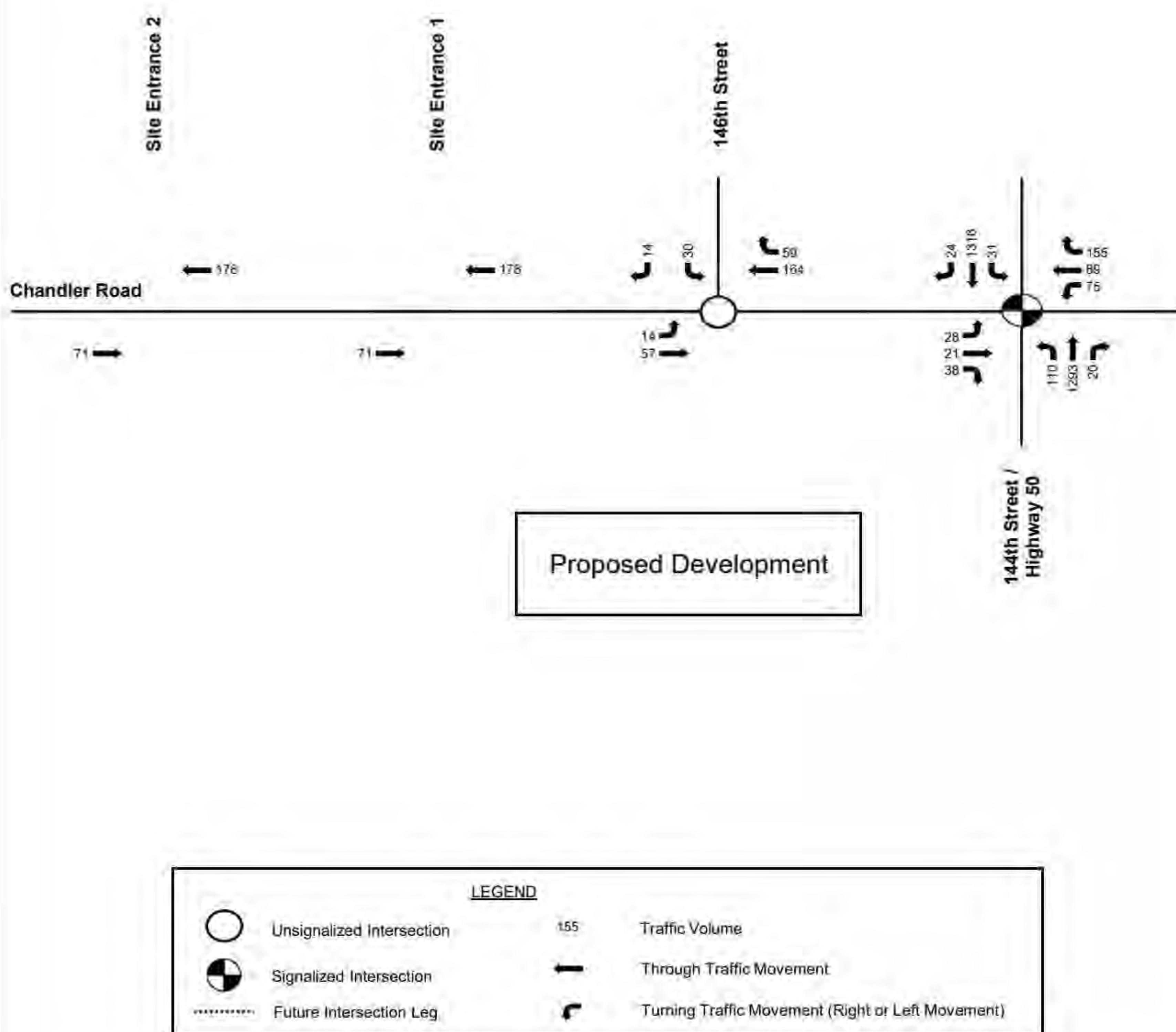
**FIGURE 7**  
**2025 PM PEAK HOUR**  
**BACKGROUND VOLUMES**

NO SCALE



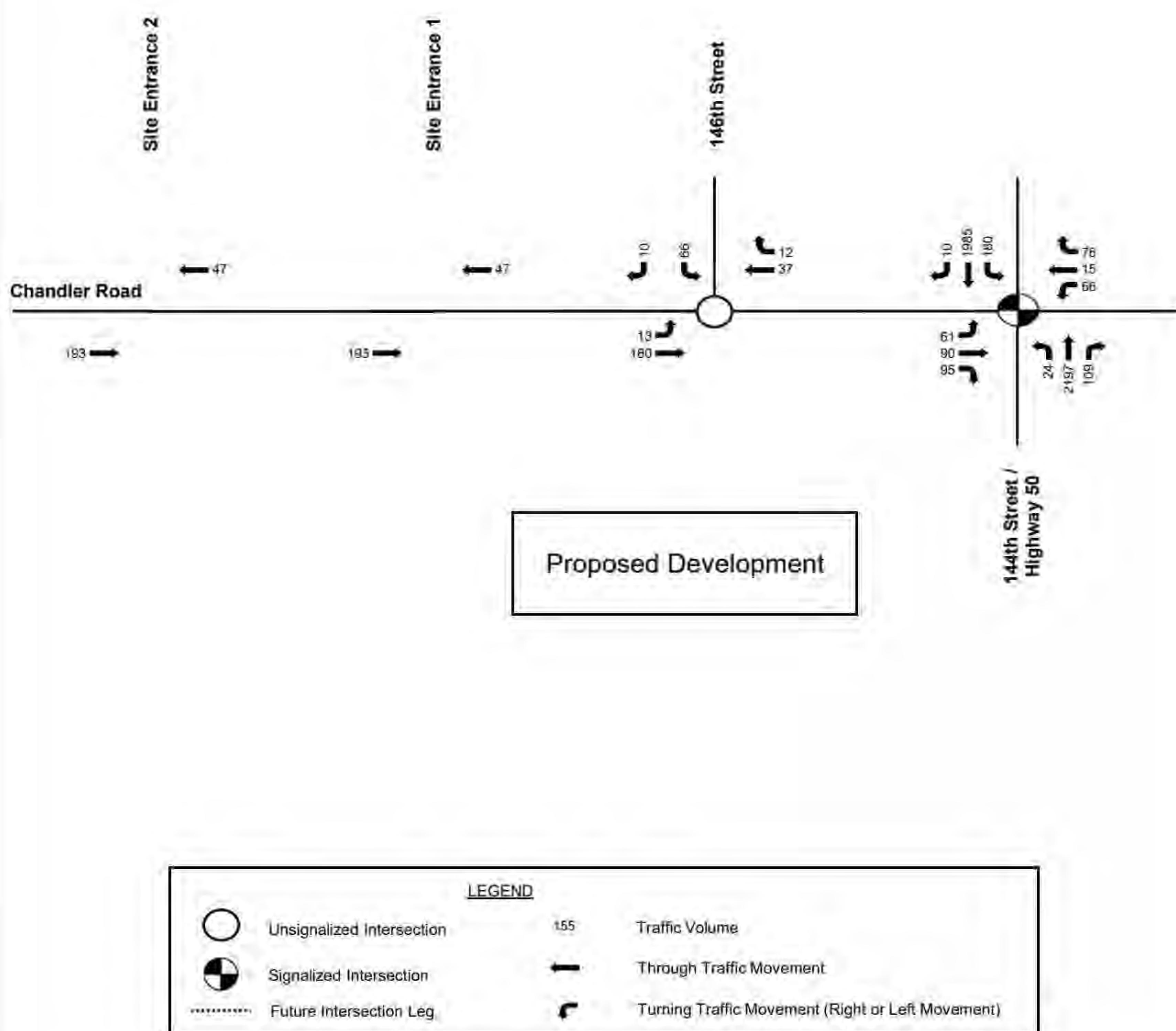
**FIGURE 8**  
**2030 AM PEAK HOUR**  
**BACKGROUND VOLUMES**

NO SCALE



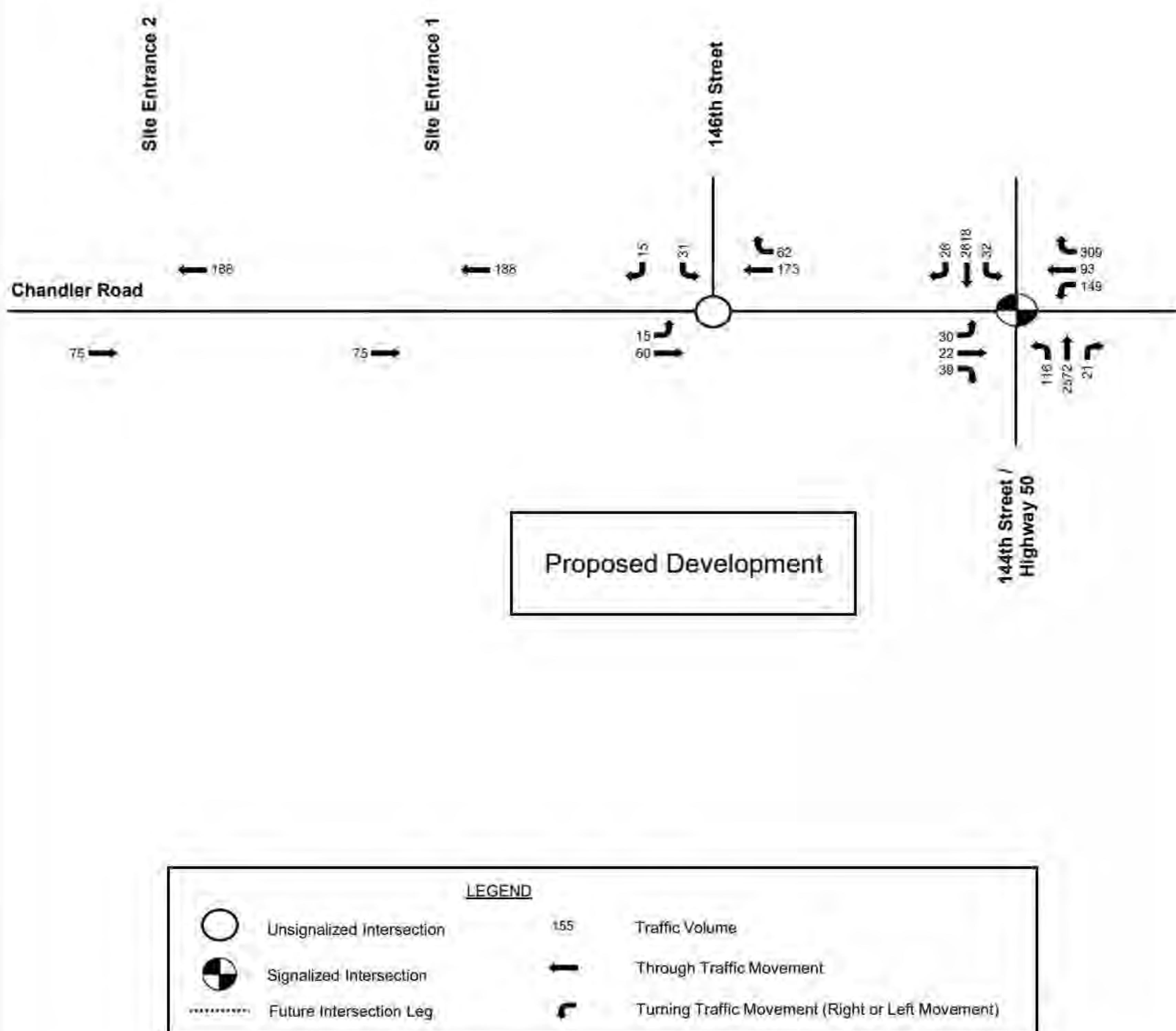
**FIGURE 9**  
**2030 PM PEAK HOUR**  
**BACKGROUND VOLUMES**

NO SCALE



**FIGURE 10**  
**2050 AM PEAK HOUR**  
**BACKGROUND VOLUMES**

NO SCALE



**FIGURE 11**  
**2050 PM PEAK HOUR**  
**BACKGROUND VOLUMES**

## **CHAPTER 4: SITE TRIP ANALYSIS**

### **4.1 Proposed Access Locations**

There are three proposed accesses into the site, one of which is anticipated to be located at the intersection of 146<sup>th</sup> Street and Chandler Road. This access is proposed to be a full movement access point with one entering lane and one exiting lane and provides access to two of the six buildings. The Site Entrance 1 access point is anticipated to be located 900 feet to the west of the 146<sup>th</sup> Street intersection and provides access to three buildings. This access is anticipated to have one entering lane and one exiting lane. The final access, Site Entrance 2, is located approximately 1,600 feet west of the intersection of Site Entrance 1. This access is proposed to be one entering lane and one exiting lane and provides access to the final building on the site.

### **4.2 Trip Generation**

#### **4.2.1 Site Trip Generation**

The proposed development is planned to consist of an industrial complex. The trip generation rates, as published in the ITE *Trip Generation Manual*, 11th Edition, 2021, were used to estimate the vehicle trips generated by the proposed site. When possible, the formulas for trip generation estimates were used instead of average rates. A detailed breakdown of the trip generation rate is shown in Table 1 for the daily AM and PM peak hour. Table 1 also summarizes the land use type, the quantity, and the units of the land use for the development as illustrated in Figure 2.

#### **4.2.2 Primary Trips**

Primary trips are net new trips added to the study area as a result of the proposed development or stated otherwise, trips made for the specific purpose of coming to or leaving the site. For example, a home-to-school-to-home is considered a primary trip. Primary trips are of major importance since this is the net increase in

traffic volume that the system must be designed to handle. Table 1 shows the primary trip generation for the site. For the AM peak hour, the site is anticipated to generate 229 vehicle trips with 202 of those trips entering the site and the remaining 27 trips exiting the site. For the PM peak hour, the site is anticipated to generate 95 vehicle trips, with 13 of those trips entering the site and 82 trips exiting the site.

## **Site Trips For Proposed Development Fenton Construction - 144th & Chandler**

Lot No	Land Use	Intensity	Unit	Daily			ADT	AM Peak Hour				PM Peak Hour				AM Peak Hour				PM Peak Hour			
				Trip Rate	/1000 SF	ADT		Rate	In	Out	Total												
	General Light Industrial	331520	SF	3.91	/1000 SF	1297	0.69	202	27	229	0.29	13	82	95	0%	202	27	229	0%	113	82	95	
	<b>Total Traffic</b>					1297		202	27	229		13	82	95		202	27	229		113	82	95	

**Notes:**

1. All trip generation rates based on "Trip Generation", Institute of Transportation Engineers, 11th Edition
2. Peak hour directional splits from "Trip Generation".

General Light Industrial

AM Peak Hour  
88% 12%

PM Peak Hour  
14% 86%

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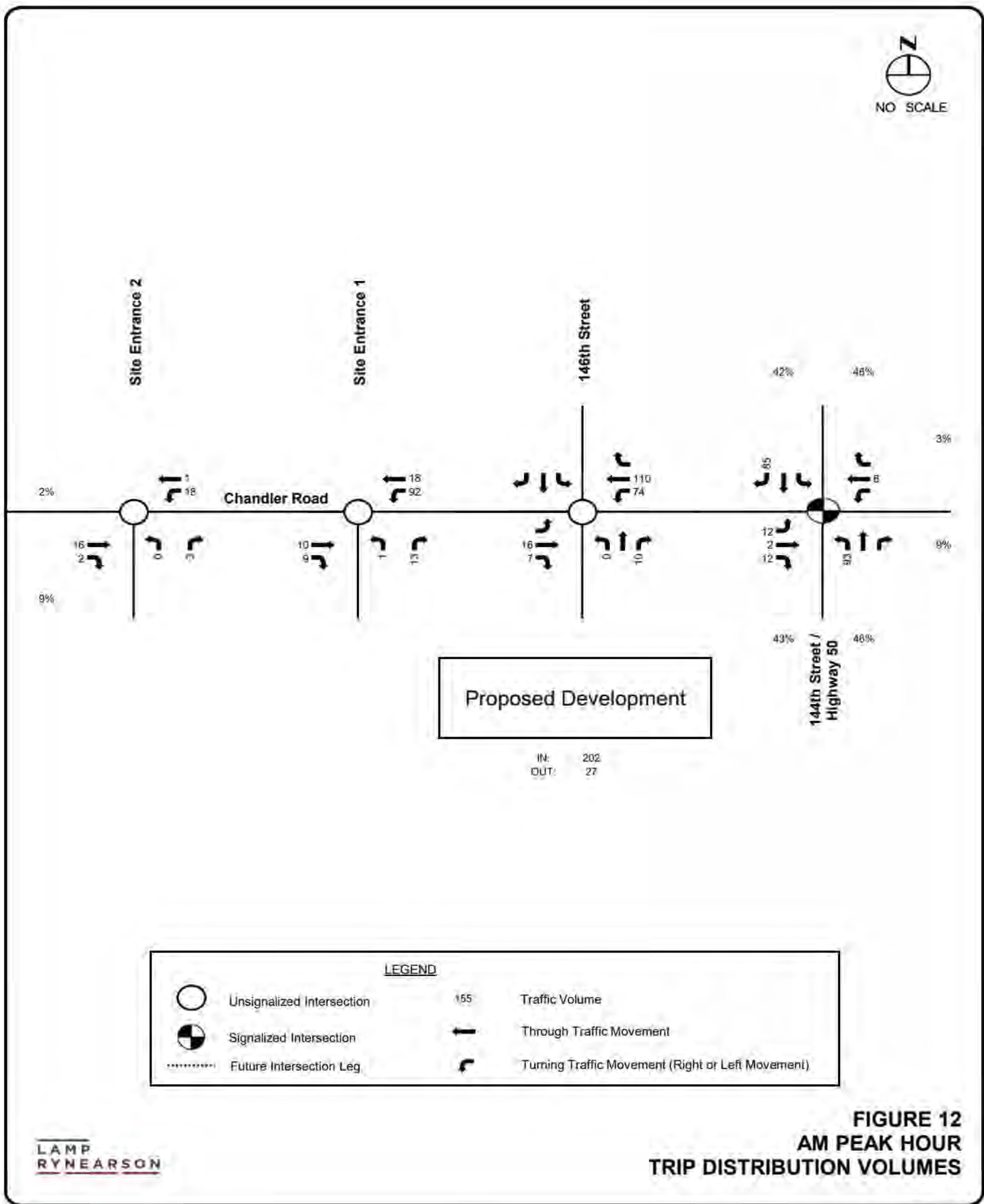
TABLE 1  
Trip Generation

#### **4.3 Trip Distribution and Assignment**

Trip distribution is the process of determining a pattern of distribution of existing (background) traffic within the existing system. Traffic assignment is the process of allocating the site-generated trips to the adjacent roadway system.

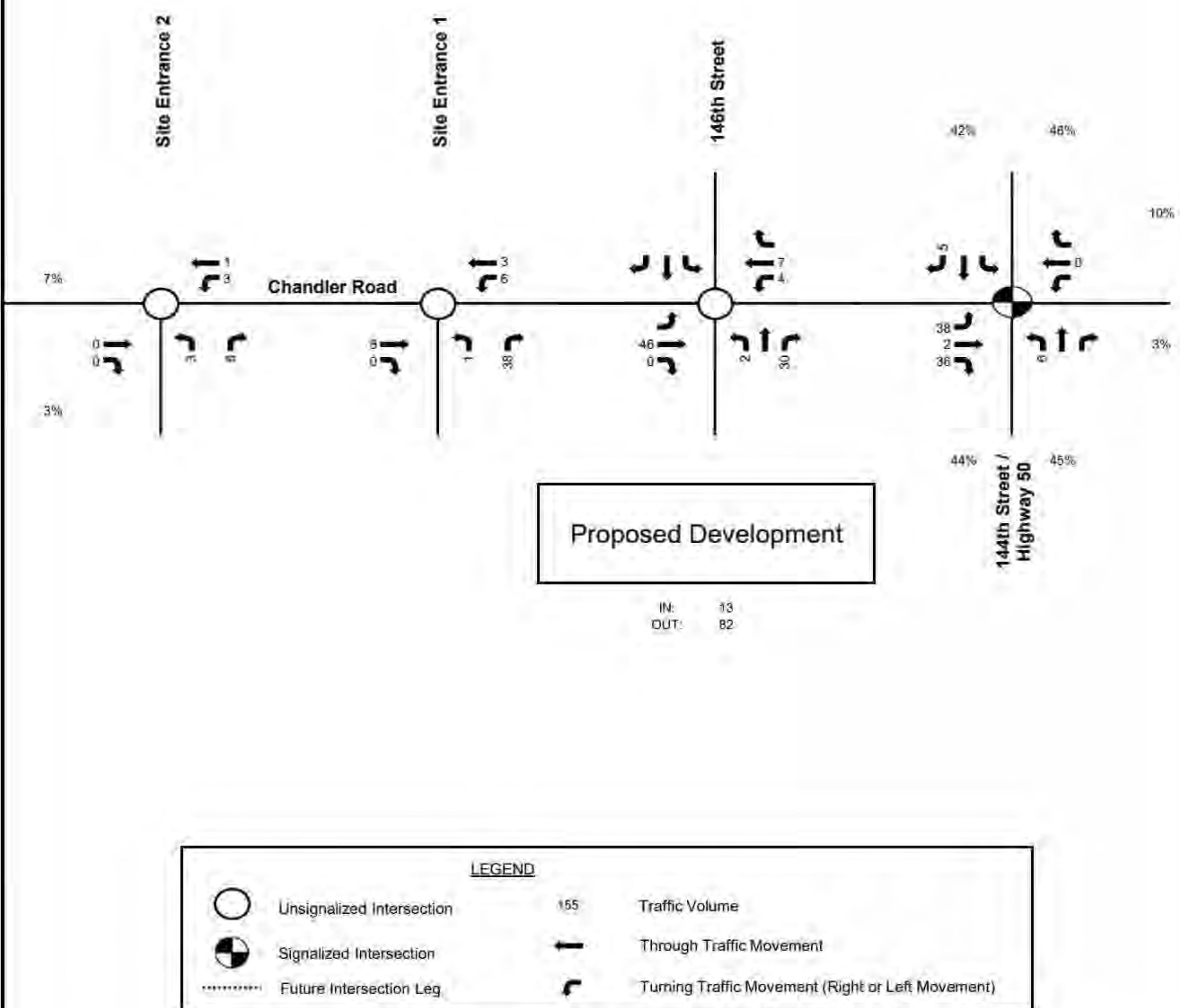
The orientation of site-generated traffic is a function of trip purposes, surrounding land uses, and the configuration and accessibility of the street network. The vehicle trips estimated by the trip generation process are directionally distributed onto the roadway network using directional percentages calculated from the existing travel patterns found from the background traffic volumes collected in the traffic counts. This process involves using a cordon line around the proposed site and finding the total number of vehicles passing over the cordon line. It is anticipated that the entire development would be built-out by the year 2025. For this study, there would be two intersections where vehicles were assumed to travel through to leave and return to the site. These were the intersections of Chandler Road and 144<sup>th</sup> Street / Highway 50 and Chandler Road and Site Entrance 2. The AM peak hour trip distribution is shown in Figure 12 with the PM shown in Figure 13.

These site generated trips are then added to the corresponding background trips to establish build-out volumes for both the AM and PM peak hours. The build-out volumes for the AM peak hour in 2025 are included in Figure 14 and for the PM peak hour in Figure 15. Figure 16 shows the 2030 AM build-out volumes with Figure 17 showing the 2030 PM build-out volumes. The volumes for the future build-out year of 2050 are shown in Figure 18 for the AM peak hour and Figure 19 for the PM peak hour.



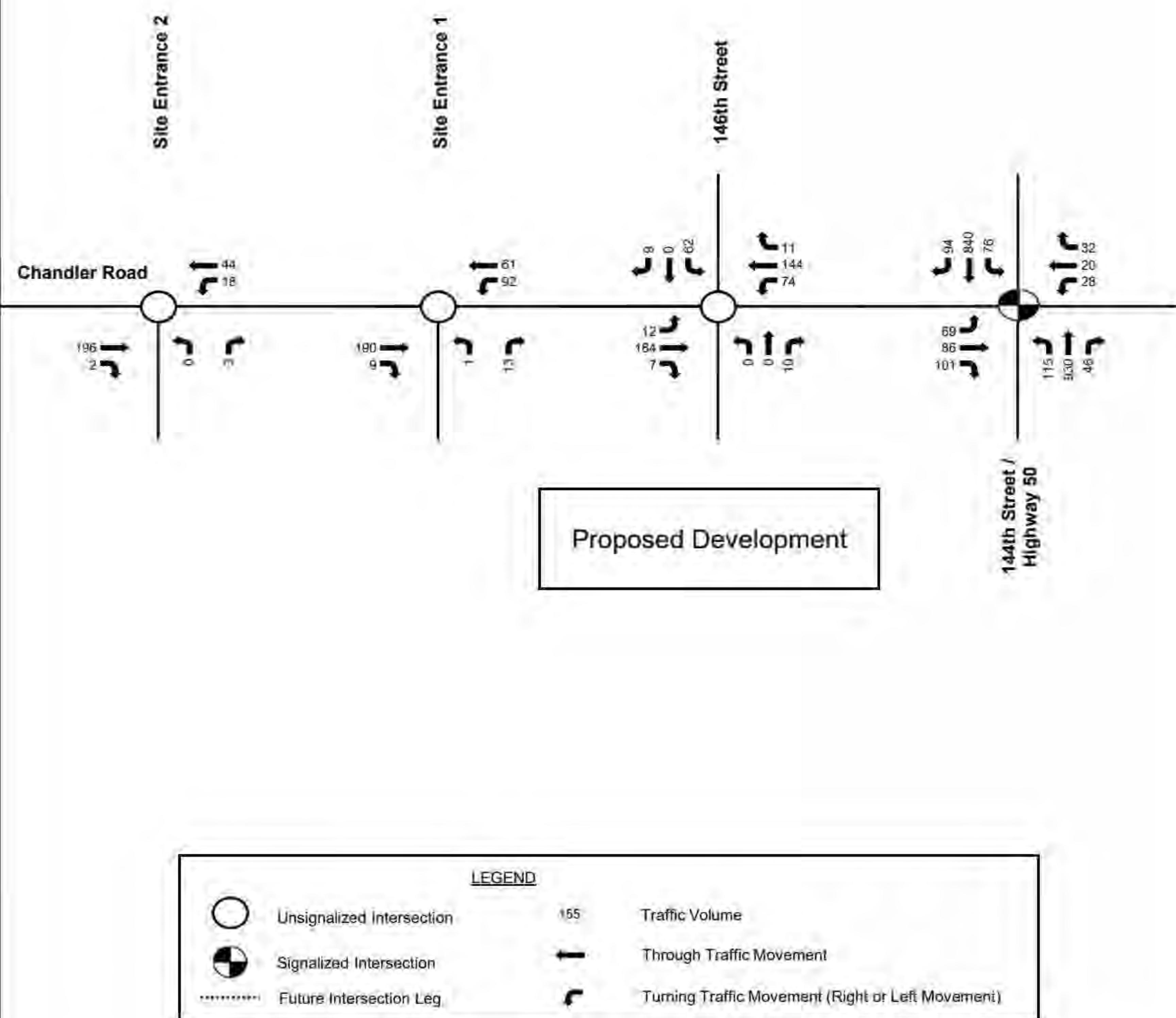
## FIGURE 12 AM PEAK HOUR TRIP DISTRIBUTION VOLUMES

NO SCALE



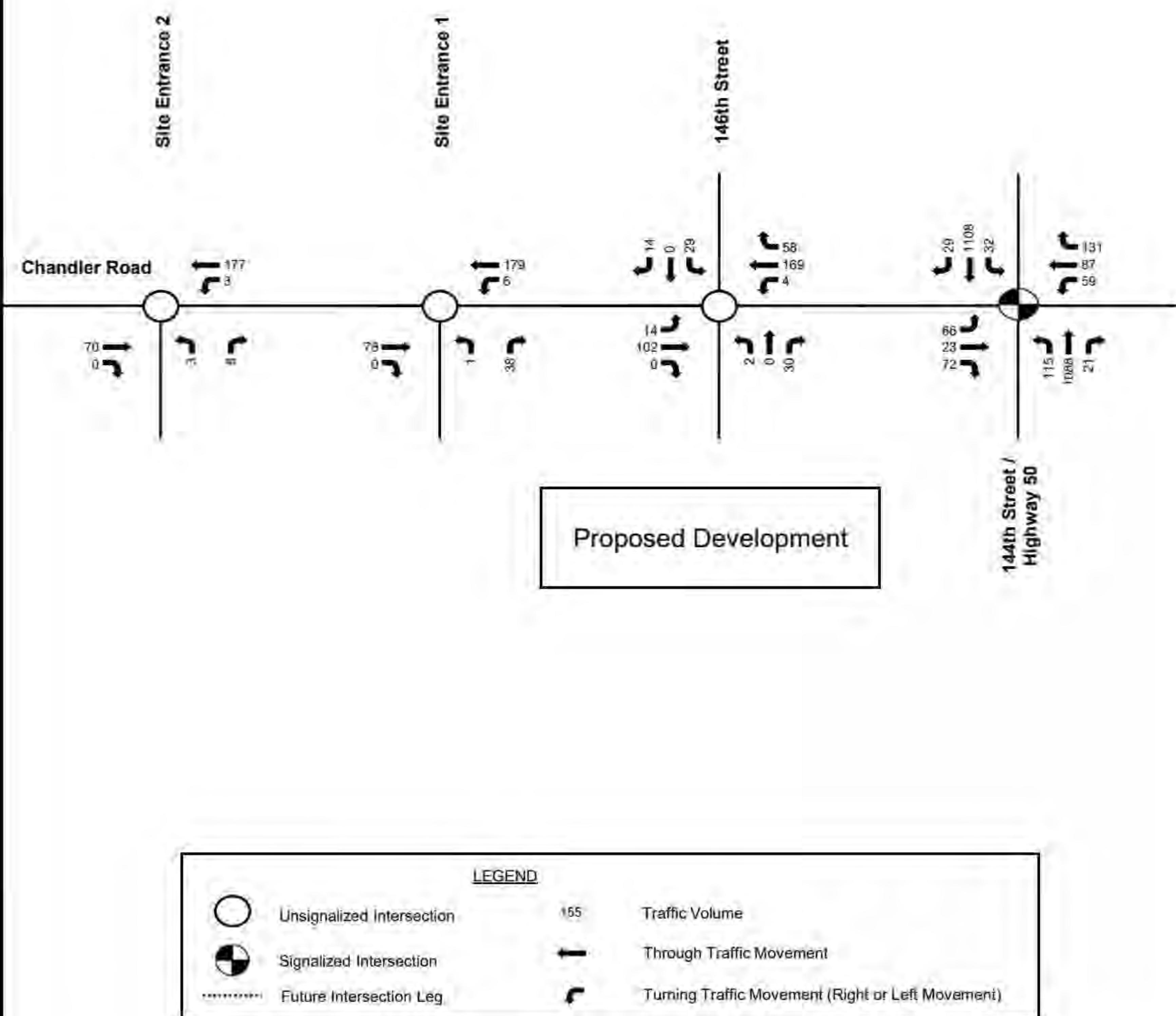
**FIGURE 13**  
**PM PEAK HOUR**  
**TRIP DISTRIBUTION VOLUMES**

NO SCALE



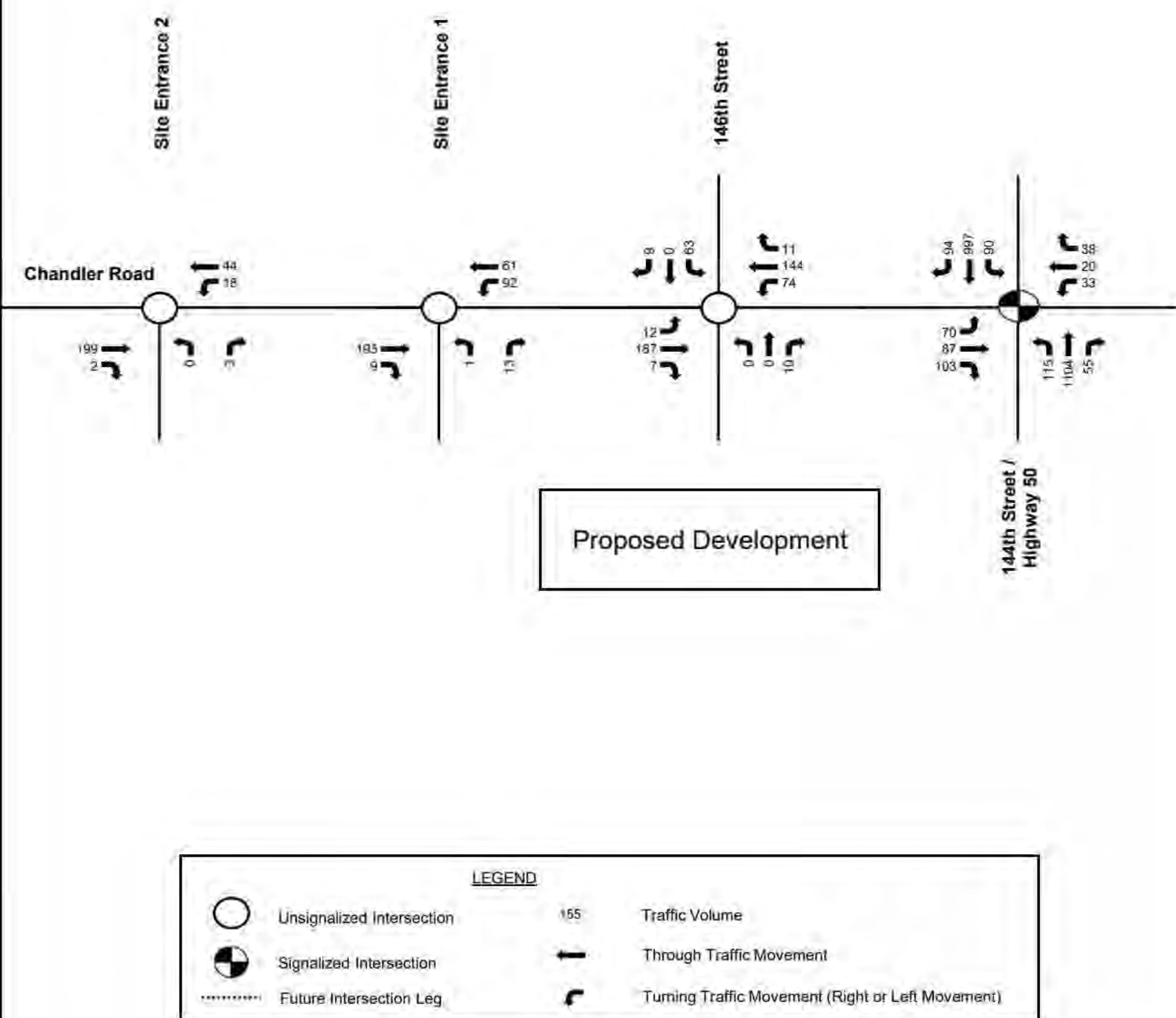
**FIGURE 14**  
**2025 AM PEAK HOUR**  
**BUILD-OUT VOLUMES**

NO SCALE



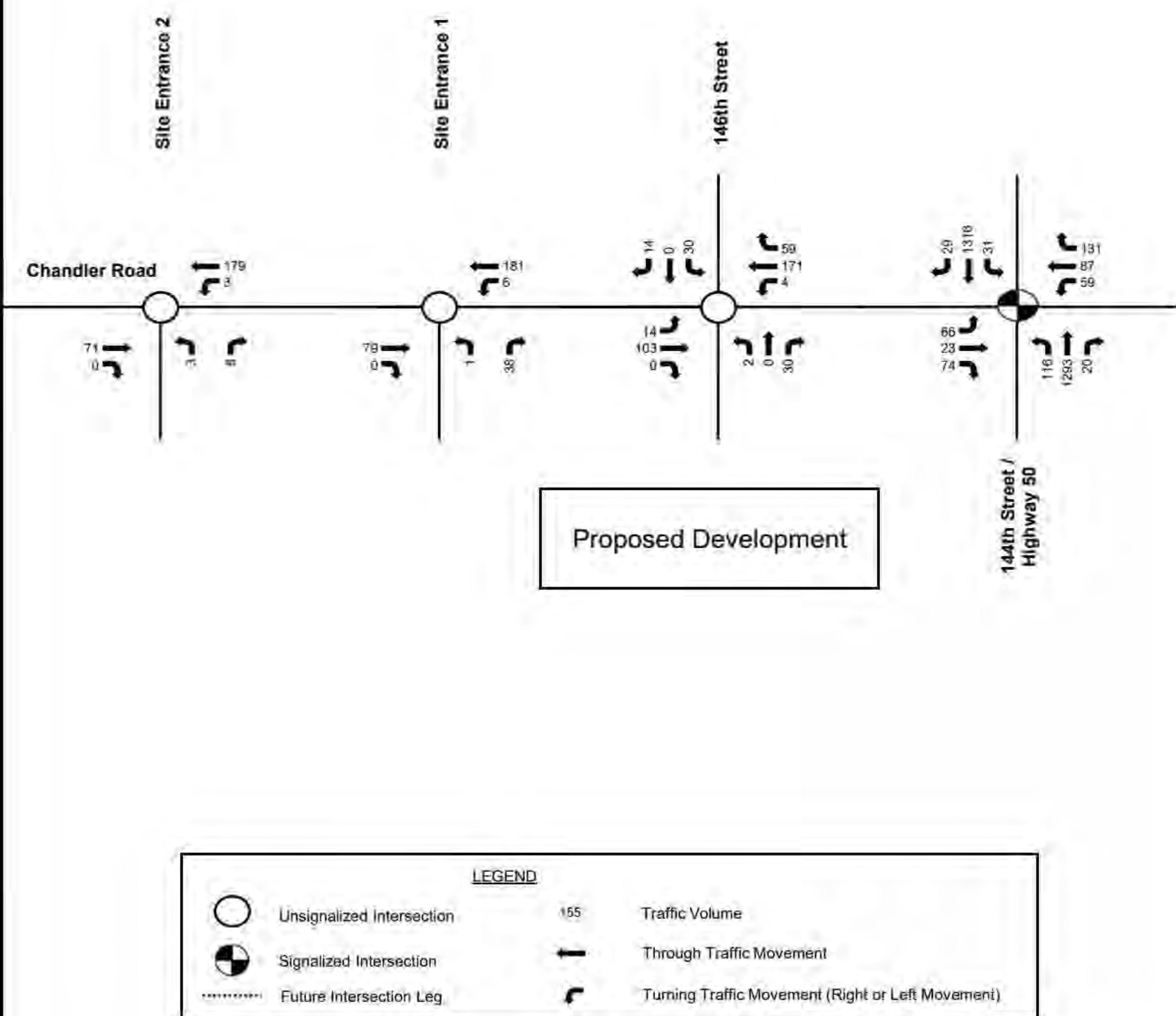
**FIGURE 15**  
**2025 PM PEAK HOUR**  
**BUILD-OUT VOLUMES**

NO SCALE



**FIGURE 16**  
**2030 AM PEAK HOUR**  
**BUILD-OUT VOLUMES**

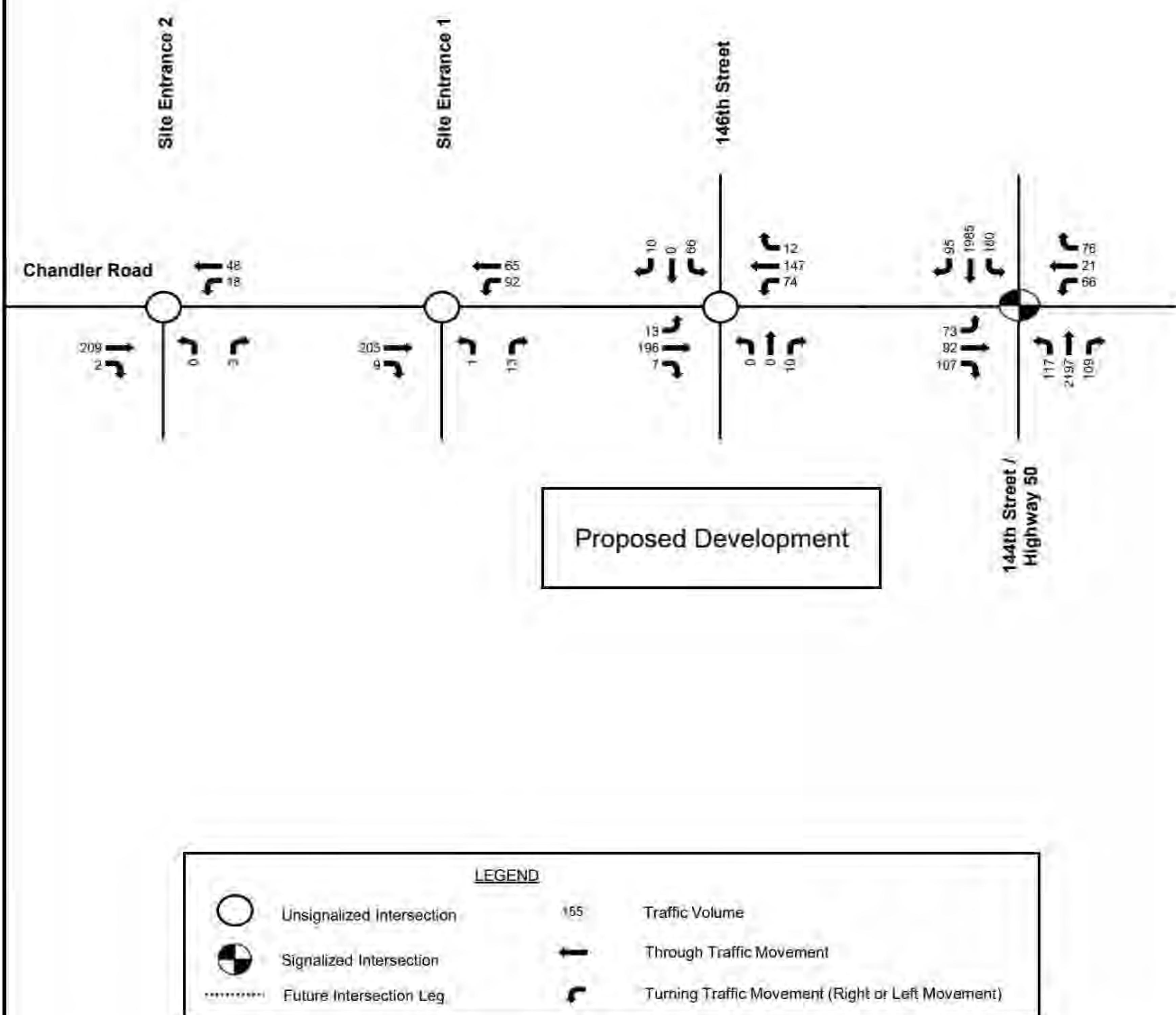
NO SCALE



LAMP  
RYNEARSON

**FIGURE 17**  
**2030 PM PEAK HOUR**  
**BUILD-OUT VOLUMES**

NO SCALE

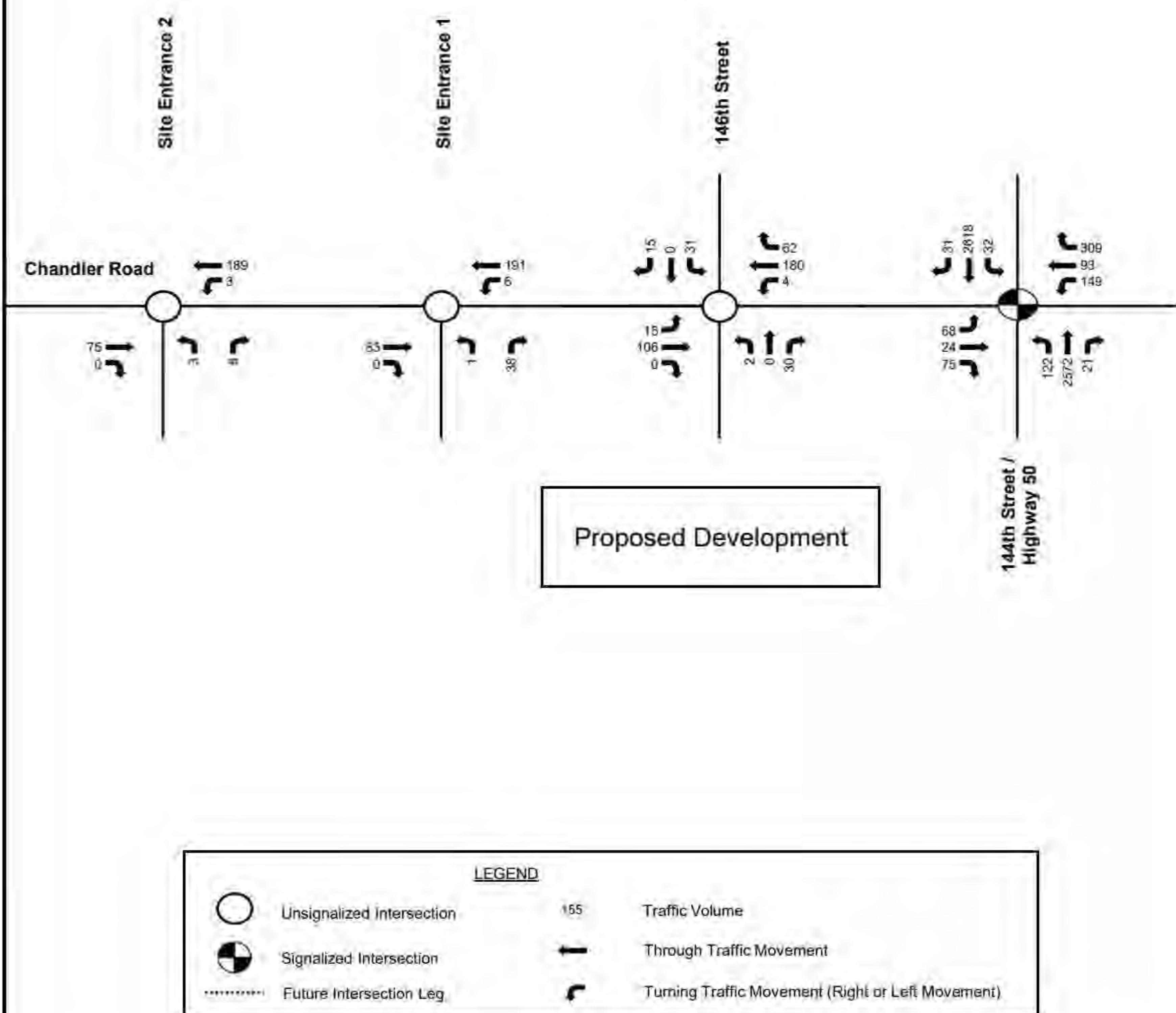


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**FIGURE 18**  
**2050 AM PEAK HOUR**  
**BUILD-OUT VOLUMES**

2010-11-08

NO SCALE



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**FIGURE 19**  
**2050 PM PEAK HOUR**  
**BUILD-OUT VOLUMES**

## **CHAPTER 5: TRAFFIC ANALYSIS**

### **5.1 *Background Traffic Intersection Performance Analysis***

An analysis of all the signalized intersections capacity performance was performed using Synchro 11.0. Synchro is a macroscopic traffic software program that replicates the signalized intersection capacity analysis. Macroscopic level models represent traffic in terms of aggregate measures for each movement at the intersections. Equations are used to determine measures of effectiveness such as delay and queue length. Effect of queues was observed with SimTraffic simulation.

While observations of traffic volumes provide an understanding of the general nature of traffic in the area, they are insufficient to indicate either the ability of the street network to carry additional traffic or the quality of service provided by the street facilities. For this reason, the concept of level of service (LOS) has been developed to correlate numerical traffic-volume data to subjective descriptions of traffic performance at intersections. Each lane of traffic has delay associated with it and therefore a correlating LOS. The overall LOS of a signalized intersection is made up of the weighted average delay for each lane of traffic for all of the approaches.

LOS is a measure of effectiveness for intersection operating conditions and is based on delay experience by vehicles passing through the intersection. LOS ranges from "A" to "F", with LOS "A" representing little or no delay, and LOS "F" representing extreme delay. LOS "C" or better is considered desirable, LOS "D" being acceptable in some urban situations. The qualitative definition of each category can be found in the appendix. The following Table 2 shows the intersection LOS Criteria for both signalized and unsignalized intersections. (HCM 2010):

***Table 2 – Intersection LOS Criteria***

Level of Service	Signalized Control Delay Range	Unsignalized Control Delay Range
A	≤ 10 seconds	≤ 10 seconds
B	>10 and ≤ 20 seconds	>10 and ≤ 15 seconds
C	>20 and ≤ 35 seconds	>15 and ≤ 25 seconds
D	>35 and ≤ 55 seconds	>25 and ≤ 35 seconds
E	>55 and ≤ 80 seconds	>35 and ≤ 50 seconds
F	>80 seconds	>50 seconds

The AM and PM weekday peak performance analysis of background traffic with existing conditions was performed for all of the intersections on the roadway network for the background scenarios in the year 2023, year 2025, year 2030 and year 2050. For the background figures, potential improvements were shown in a separate figure. For the build-out figures, the improvements to the roadway that were made in previous scenarios (background or build-out) were assumed for the following build-out scenarios. The build out scenarios include the traffic anticipated to be generated from the site at all of the entrances. The Synchro outputs are included in the appendix of this study. The results of the background traffic analysis for the existing intersections are summarized below:

### **Background Year 2023 Analysis**

The two intersections along Chandler Road, 144<sup>th</sup> Street / Highway 50 and 146<sup>th</sup> Street are analyzed in this study. Their performance is mentioned below.

- 144<sup>th</sup> Street / Highway 50 and Chandler Road: This signalized intersection is anticipated to operate at an overall LOS of A in the AM peak hour and a LOS of B in the PM peak hour. All of the individual movements are anticipated to operate at a LOS of C or better in both the AM and PM peak hour.
- 146<sup>th</sup> Street and Chandler Road: This is an unsignalized intersection where all individual movements are anticipated to operate at a LOS of B or better in both the AM and PM peak hour.

The 2023 Background LOS and the corresponding delays are included in Figure 20.

### **Background Year 2025 Analysis**

- 144<sup>th</sup> Street / Highway 50 and Chandler Road: Similar to the background scenario, this signalized intersection is anticipated to operate at an overall LOS of A in the AM peak hour and a LOS of B in the PM peak hour. All of the individual movements are anticipated to operate at a LOS of C or better in both the AM and PM peak hour.
- 146<sup>th</sup> Street and Chandler Road: All individual movements are anticipated to operate at a LOS of B or better in both the AM and PM peak hour.

The 2025 Background LOS and the corresponding delays are included in Figure 21.

### **Background Year 2030 Analysis**

- 144<sup>th</sup> Street / Highway 50 and Chandler Road: The performance of the overall intersection is anticipated to slightly decrease in performance in the AM peak hour from the previous 2025 background scenario, with the anticipated LOS of B in both peak hours. All of the individual movements except for two are anticipated to operate at a LOS of D or better in both peak hours.
- 146<sup>th</sup> Street and Chandler Road: The same three individual movements are anticipated to operate at a LOS of B or better, as shown in the previous 2025 background scenario.

The 2030 Background LOS and the corresponding delays are included in Figure 22.

### **Background Year 2050 Analysis**

- 144<sup>th</sup> Street / Highway 50 and Chandler Road: The overall intersection is anticipated to decrease to a LOS of D in the AM peak hour and a LOS of F

in the PM peak hour. Seven individual movements are also anticipated to operate at a LOS of E or F in either the AM or PM peak hour (or both). The eastbound left turning movement is anticipated to operate at a LOS of E in the PM peak hour. The northbound left turning movement is anticipated to operate at a LOS of F in the PM peak hour and northbound through movement is anticipated to operate at a LOS of E in the PM peak hour. The southbound left turning movement is anticipated to operate at a LOS of F in the AM peak hour and the southbound through movement is anticipated to operate at a LOS of F in the PM peak hour. The westbound through/right movement is anticipated to operate at a LOS of F in the PM peak hour and the westbound left turning movement is anticipated to operate at a LOS of F in the AM peak hour. These are increases from the previous scenario where all of the individual movements are anticipated to operate at a LOS of D or better in both peak hours.

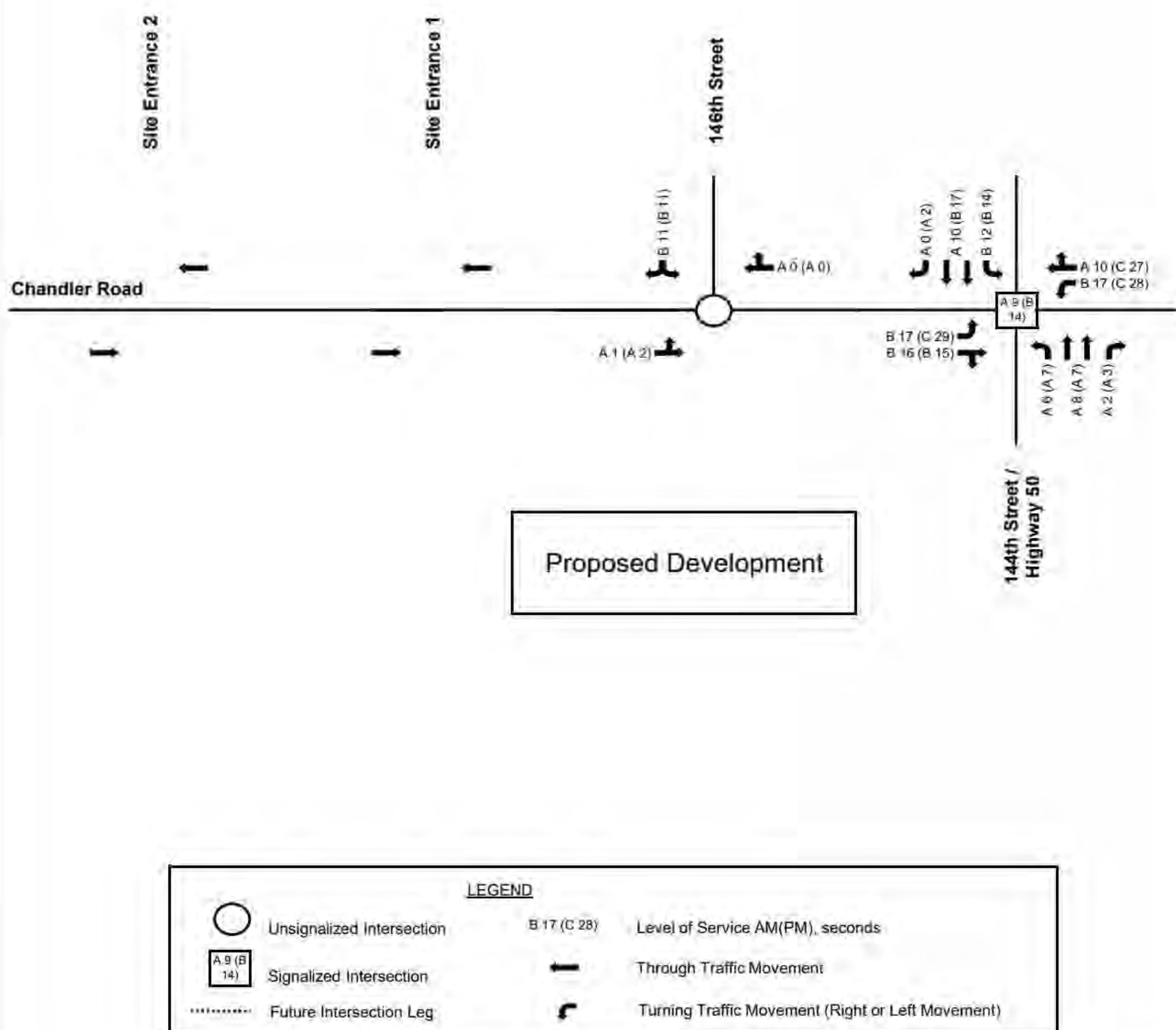
In this scenario, increasing the northbound and southbound movements to three through lanes would improve the overall performance of the intersection along with many individual movements but is not shown as an improvement under the direction of NDOT. The traffic signal is also anticipated to need to be improved to include a permissive/protected phase at the eastbound, westbound and southbound left turning movements. Finally, adding a westbound right turn lane also helps improves this intersection. With these improvements, the overall intersection is anticipated to remain the same at a LOS of D in the AM peak hour and a LOS of F in the PM peak hour. The movements on the westbound lanes are anticipated to improve to a LOS of D or better with the exception of the westbound right turn lane which is anticipated to be a LOS of E in the PM peak hour. The westbound through movement is anticipated to operate at a LOS of E in the AM peak hour. The northbound left turning movement along with the southbound through movement are still anticipated to operate

at a LOS of F in the PM peak hour. The northbound through movement is still anticipated to operate at a LOS of E in the AM peak hour and a LOS of F in the PM peak hour. The southbound left turning movement is still anticipated to operate at a LOS of F in the AM peak hour.

- 146<sup>th</sup> Street and Chandler Road: All of the individual movements at this intersection are still anticipated to operate at a LOS of B or better in both peak hours, which is similar to all of the previous scenarios.

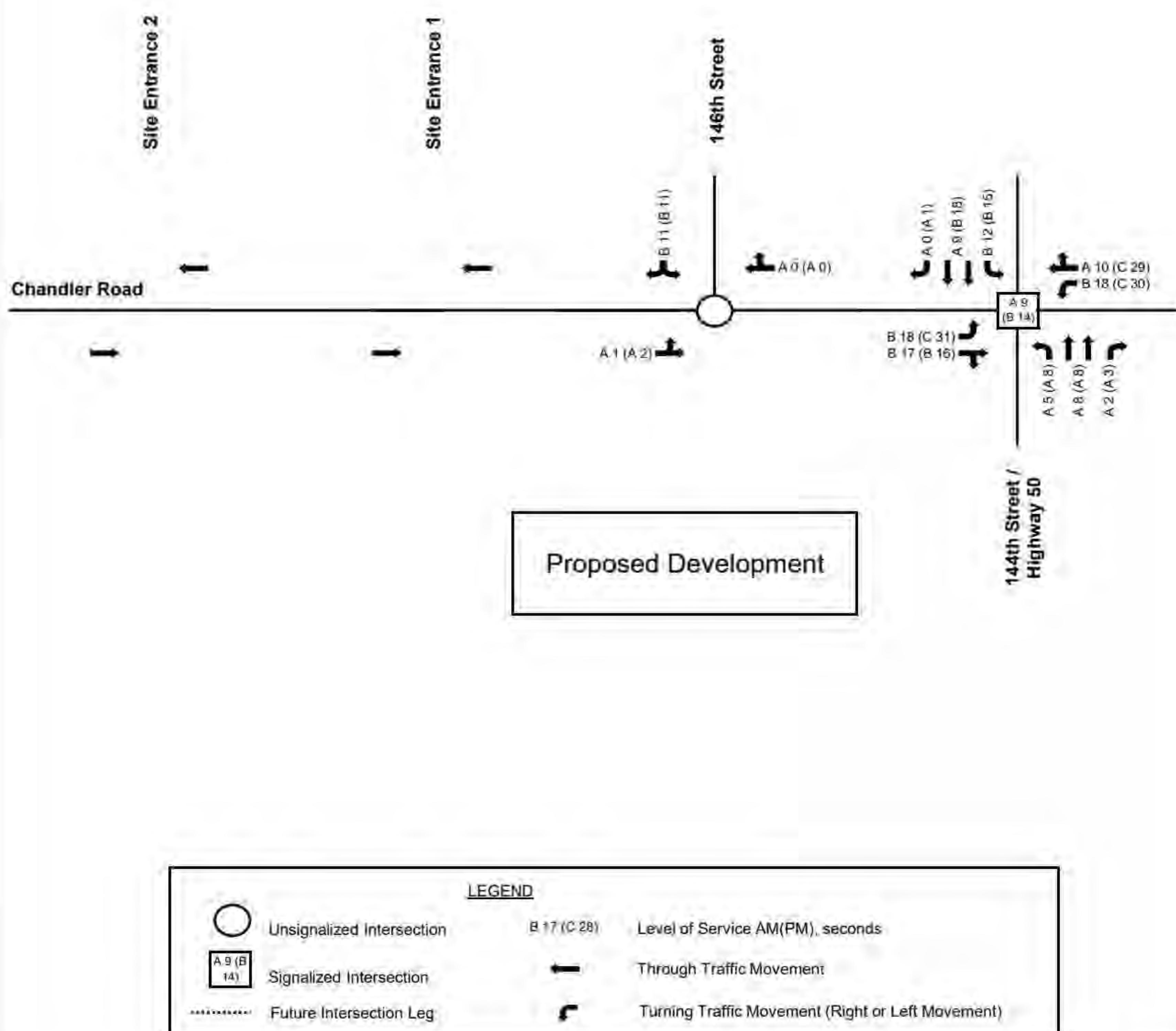
The 2050 Background LOS and the corresponding delays are included in Figure 23. Figure 24 includes the 2050 Background LOS with improvements.

N  
NO SCALE



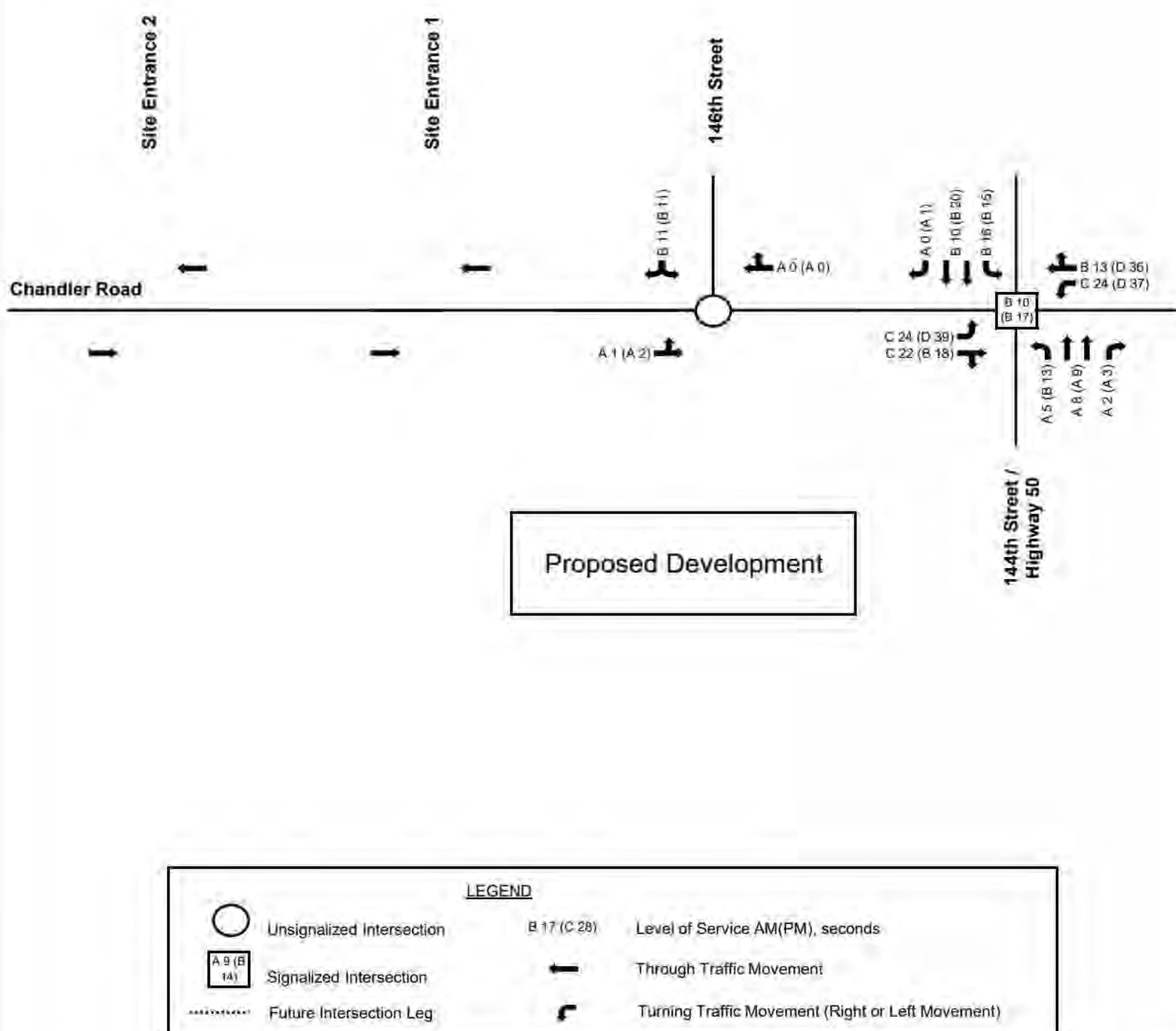
**FIGURE 20**  
**2023 BACKGROUND PEAK HOUR**  
**LEVEL OF SERVICE**

NO SCALE



**FIGURE 21**  
**2025 BACKGROUND PEAK HOUR**  
**LEVEL OF SERVICE**

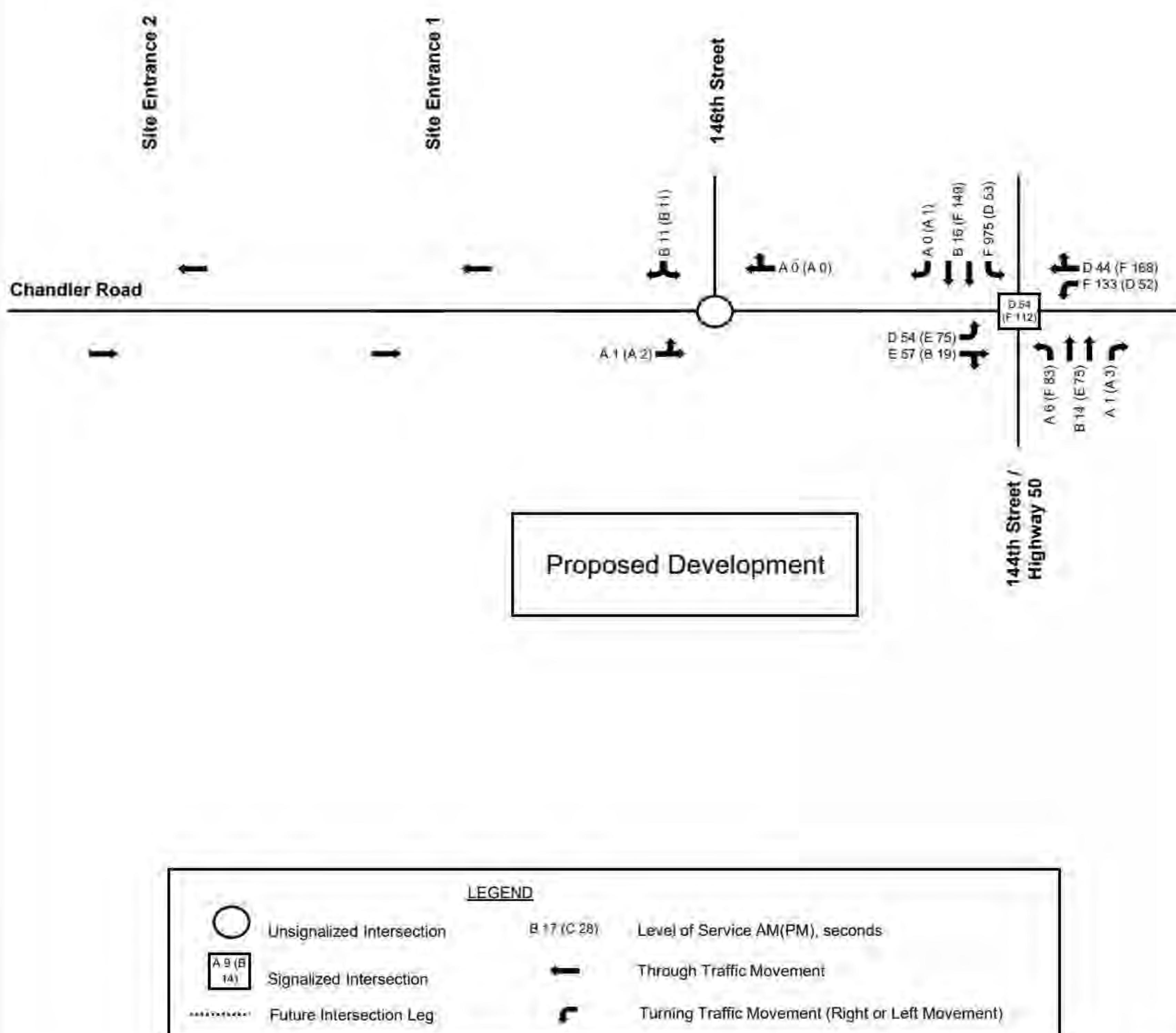
NO SCALE



LAMP  
RYNEARSON

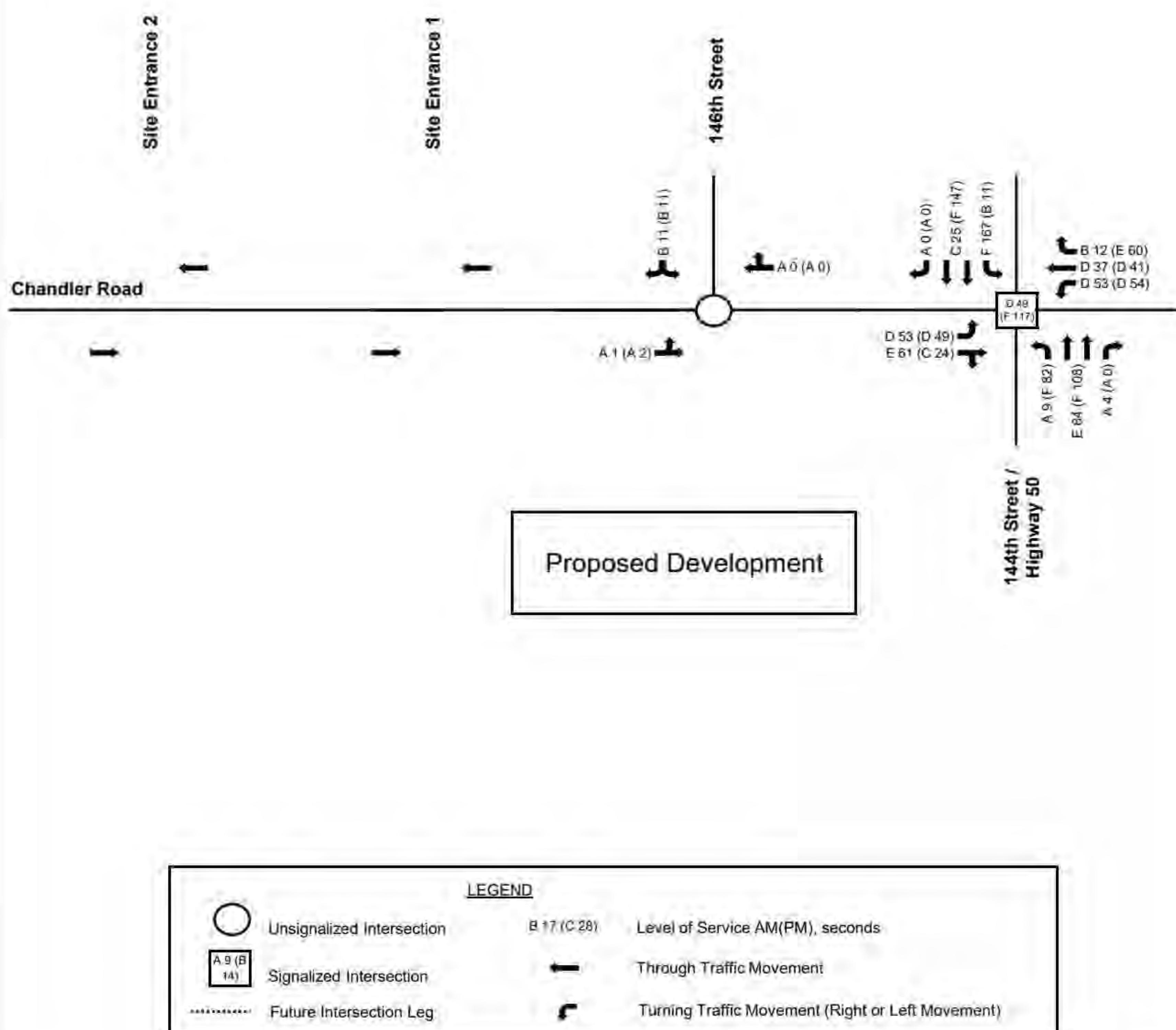
**FIGURE 22**  
**2030 BACKGROUND PEAK HOUR**  
**LEVEL OF SERVICE**

NO SCALE



**FIGURE 23**  
**2050 BACKGROUND PEAK HOUR**  
**LEVEL OF SERVICE**

NO SCALE



**FIGURE 24**  
2050 BACKGROUND PEAK HOUR  
LEVEL OF SERVICE WITH IMPROVEMENTS

## 5.2 ***Build-out (2025, 2030 and 2050) Intersection Performance Analysis***

The analysis of the transportation impacts of the site on the surrounding roadway network is based on the distribution of the opening day site generated traffic onto the existing volumes as previously discussed. The procedure involved intersection capacity analysis for all intersections directly impacted by the proposed site. This analysis was performed for the design year of 2025, year 2030 and year 2050 scenarios. If there are any potential improvements to the intersections, the improvements were carried through to the following scenarios. The intersections were analyzed to determine intersection delay, LOS and vehicle queue lengths to determine blocking problems. Synchro was used to determine the anticipated delay, LOS and queue lengths at the intersections. See Appendix for Synchro outputs. Queuing and blocking issues are discussed in section 5.3 later on in the report.

### **Build-out Year 2025 Analysis**

For this scenario, the three new access points were added to the site.

- 144<sup>th</sup> Street / Highway 50 and Chandler Road: The overall intersection is anticipated to operate at a LOS of B in both the AM and PM peak hour. This is a slight increase in the AM peak hour from the 2025 background scenario. All of the individual movements, except for one, are anticipated to operate at a LOS of C or better. The westbound left turning movement is anticipated to decrease to a LOS of D in the PM peak hour.
- 146<sup>th</sup> Street and Chandler Road: Even with the addition of the south leg of the intersection, all of the individual movements at this intersection are anticipated to operate at a LOS of B or better in both peak hours. This is similar to the 2025 background scenario.
- Remaining Intersections: All of the individual movements are anticipated to operate at a LOS of A in both peak hours.

Figure 25 shows the 2025 Build-out LOS and the corresponding delays.

### **Build-out Year 2030 Analysis**

- 144<sup>th</sup> Street / Highway 50 and Chandler Road: The overall intersection is anticipated to operate at a LOS of B in both peak hours. The individual movements are anticipated to operate at a similar level to the 2030 background scenario with all of the individual movements operating at a LOS of D or better in both peak hours.
- 146<sup>th</sup> Street and Chandler Road: The individual movements are anticipated to operate at a LOS of B or better in both peak hours, which is similar to the background 2030 scenario.
- Remaining Intersections: All of the individual movements are anticipated to operate at a LOS of A in both peak hours.

Figure 26 shows the 2030 Build-out LOS and the corresponding delays.

### **Build-out Year 2050 Analysis**

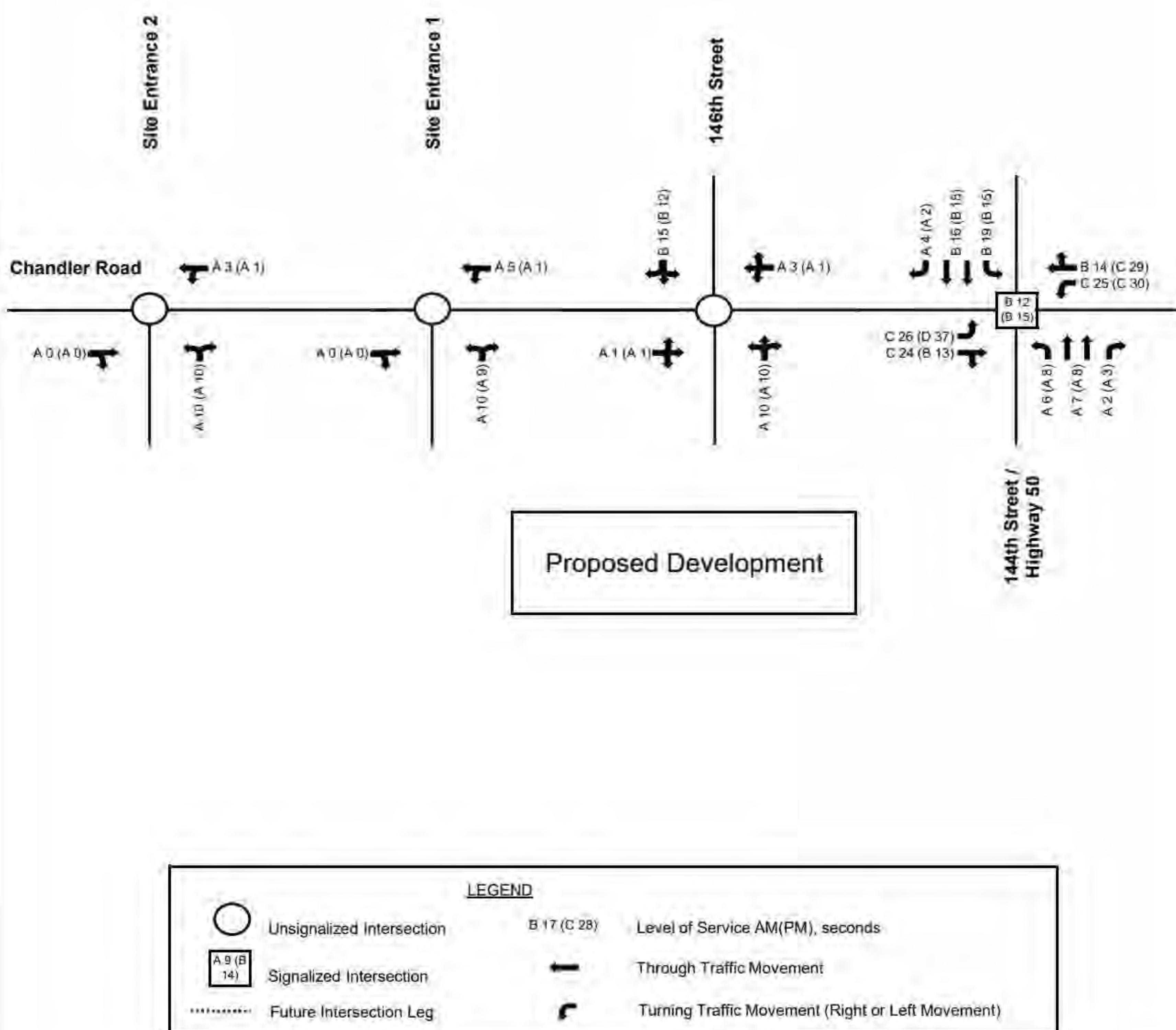
Improvements from the 2050 background scenario were included in this scenario.

- 144<sup>th</sup> Street / Highway 50 and Chandler Road: The overall intersection is anticipated to operate at a LOS of D in the AM peak hour and F in the PM peak hour, which is not a change from the 2050 background with improvements scenario. In this scenario, seven individual movements are anticipated to operate at a LOS of E or F in various peak hours. The eastbound through/right movement is anticipated to operate at a LOS of E in the AM peak hour. The westbound left movement is anticipated to operate at a LOS of E in the PM peak hour. The westbound right movement and the southbound through movement are anticipated to operate at a LOS of F in the PM peak hour. The northbound left and through movements are anticipated to operate at a LOS of E in the AM peak hour and F in the PM peak hour. The southbound left movement is anticipated to operate at a LOS of F in the AM peak hour. The remaining movements are anticipated to operate at a LOS of D or better in both the AM and PM peak hours.

- 146<sup>th</sup> Street and Chandler Road: All individual movements are anticipated to operate at a LOS of C or better in both peak hours, which is similar to the previous 2050 background with improvements scenario.
- Remaining Intersections: All of the individual movements are anticipated to operate at a LOS of A in both peak hours.

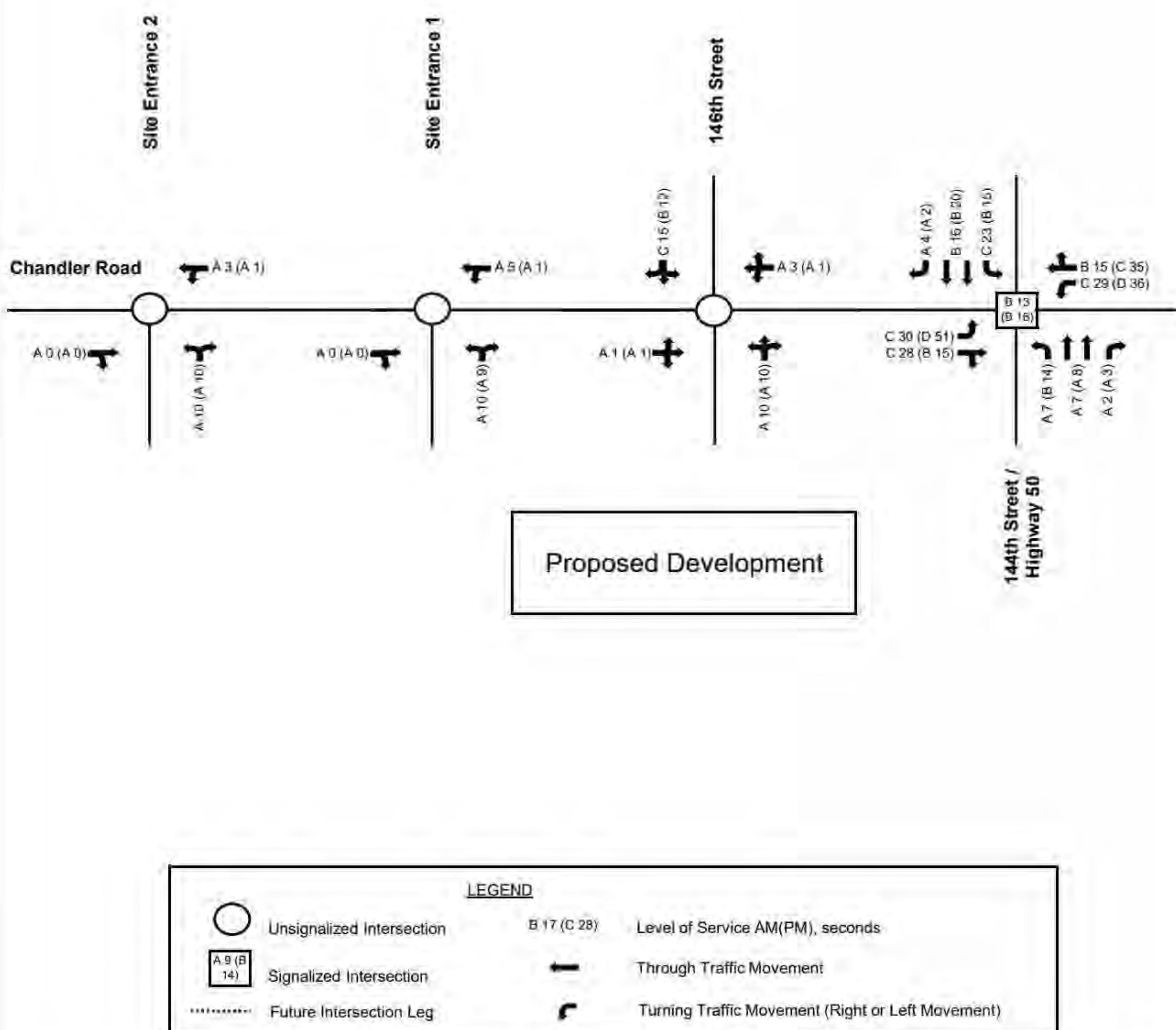
The 2050 Build-out LOS with improvements are included in Figure 27.

NO SCALE



**FIGURE 25**  
**2025 BUILD-OUT PEAK HOUR**  
**LEVEL OF SERVICE**

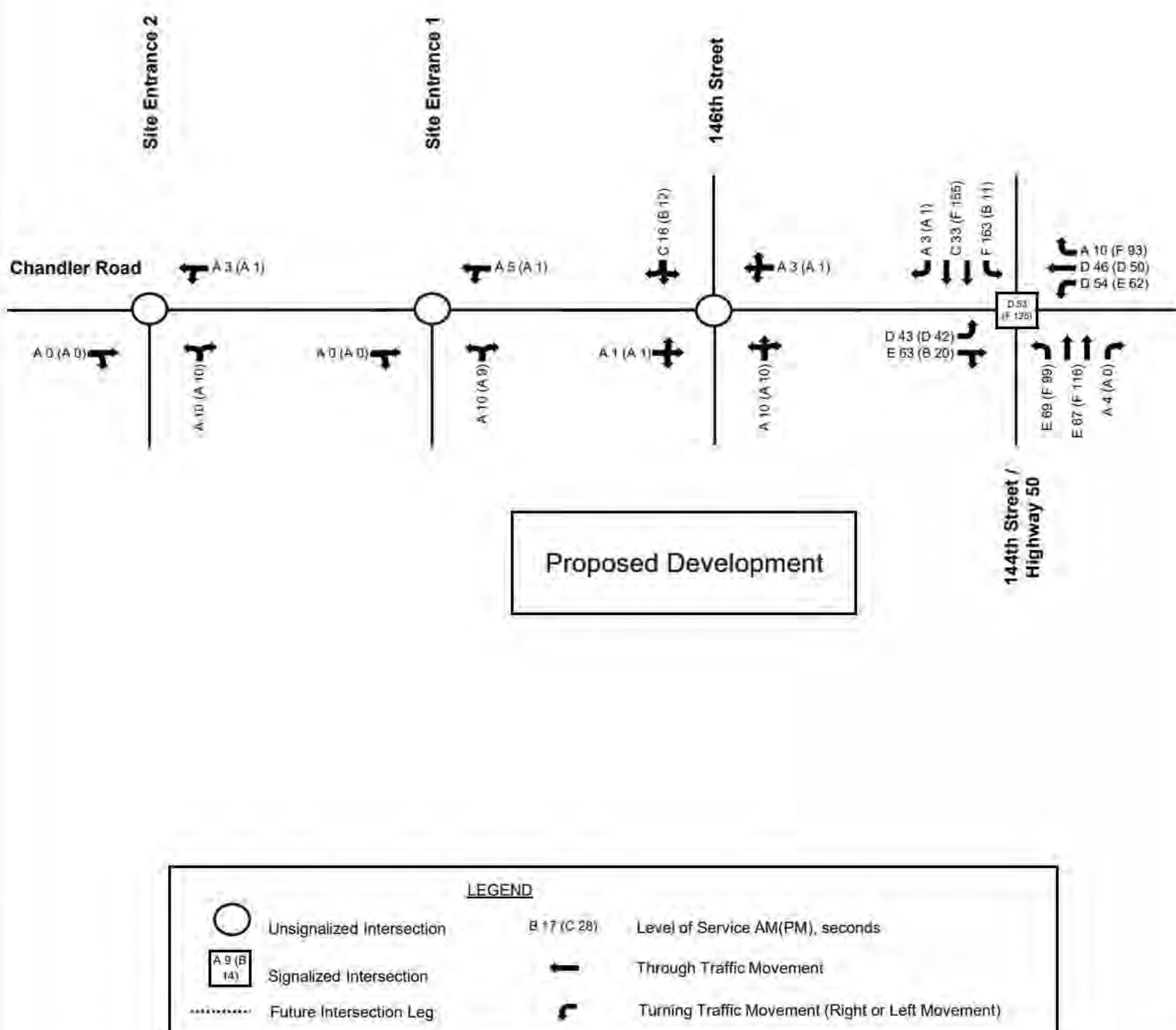
NO SCALE



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**FIGURE 26**  
**2030 BUILD-OUT PEAK HOUR**  
**LEVEL OF SERVICE**

NO SCALE



**FIGURE 27**  
**2050 BUILD-OUT PEAK HOUR**  
**LEVEL OF SERVICE**

### **5.3 Queue Length Analysis**

Based on volumes used in the previous analysis, the anticipated vehicle queue lengths were determined using the Synchro Software. The purpose for this analysis is to determine if added trips create situations where turning vehicles queue up and block through traffic or if through lanes queues block entrances to the left-turn or right-turn storage bays for given signal operating parameters. Synchro only calculates the 95<sup>th</sup> percentile queues for unsignalized intersections, thus the 95<sup>th</sup> percentile queues were analyzed.

There appears to be one instance where the queue would be long enough to block an intersection. This is anticipated to occur in the southbound through lane at the intersection of 144<sup>th</sup> Street / Highway 50 and Chandler Road. This movement is anticipated to have a 95<sup>th</sup> percentile queue length of 1,615 feet in the 2050 PM background with improvements scenario along with the 2050 build-out scenario. The closest intersection to the north of this is the existing intersection of 144<sup>th</sup> Street / Highway 50 and Echo Hills Drive, that is approximately 1,100 feet away. With this occurring in the background scenario and not increasing with the build-out scenario, the site traffic is not adding to this queue.

In the 2050 background with improvements scenario, the southbound and westbound left turn lane queues are anticipated to extend outside of the existing turn lane storage lengths. These lengths are not anticipated to increase with the addition of the site traffic, therefore this is based solely on the background traffic volumes and not based on the site traffic volumes. The queue lengths for all background and build-out scenarios are shown in Figures 28 through Figure 33.

### **5.4 Traffic Signal Warrants**

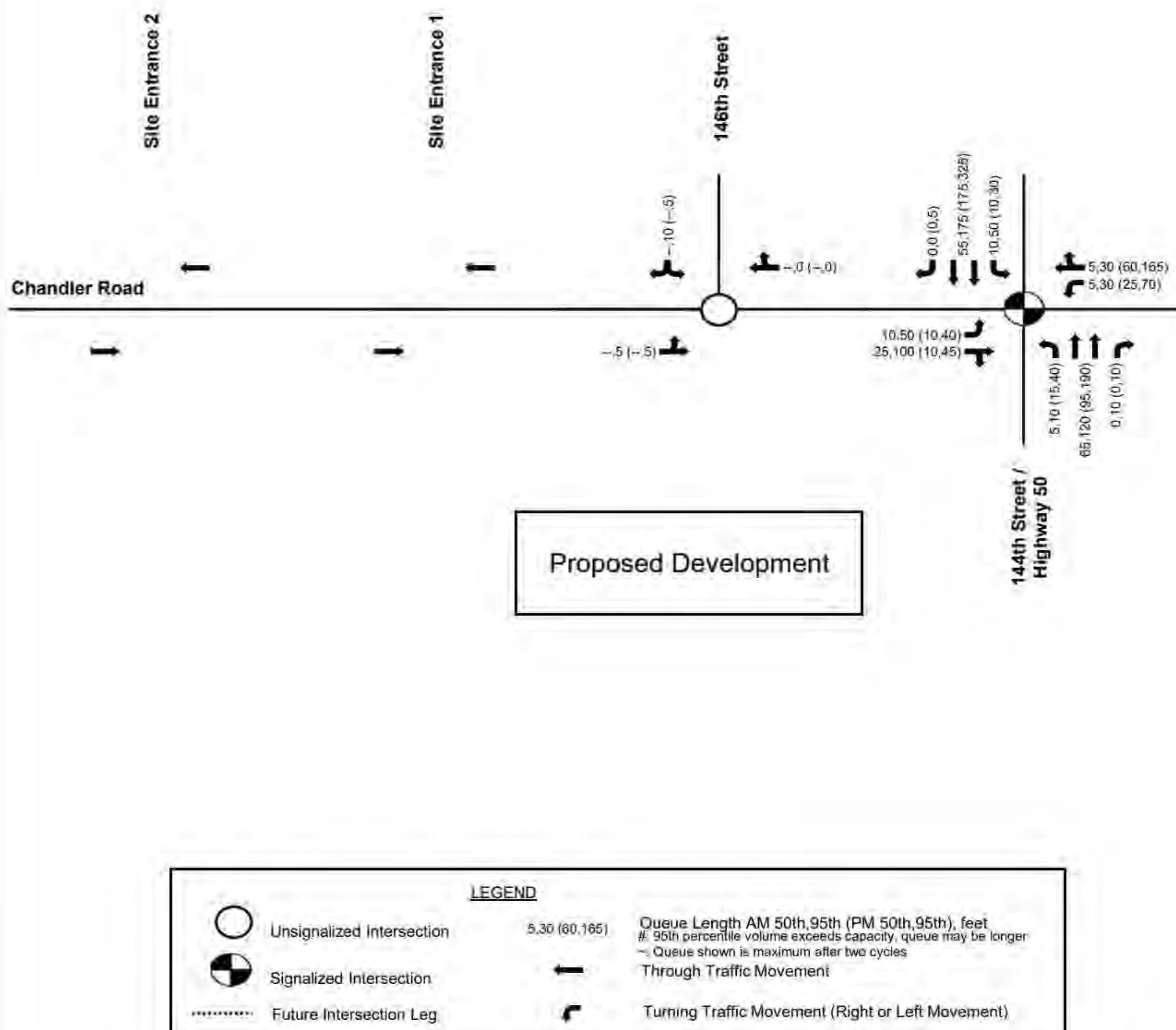
None of the proposed entrance intersections are anticipated to be above the threshold for a traffic signal in any scenario based on the Manual on Uniform Traffic

Control Devices (MUTCD) Warrant 3 (Peak Hour). The traffic signal warrant graphs are included in the appendix.

### **5.5 Turn Lane Warrants**

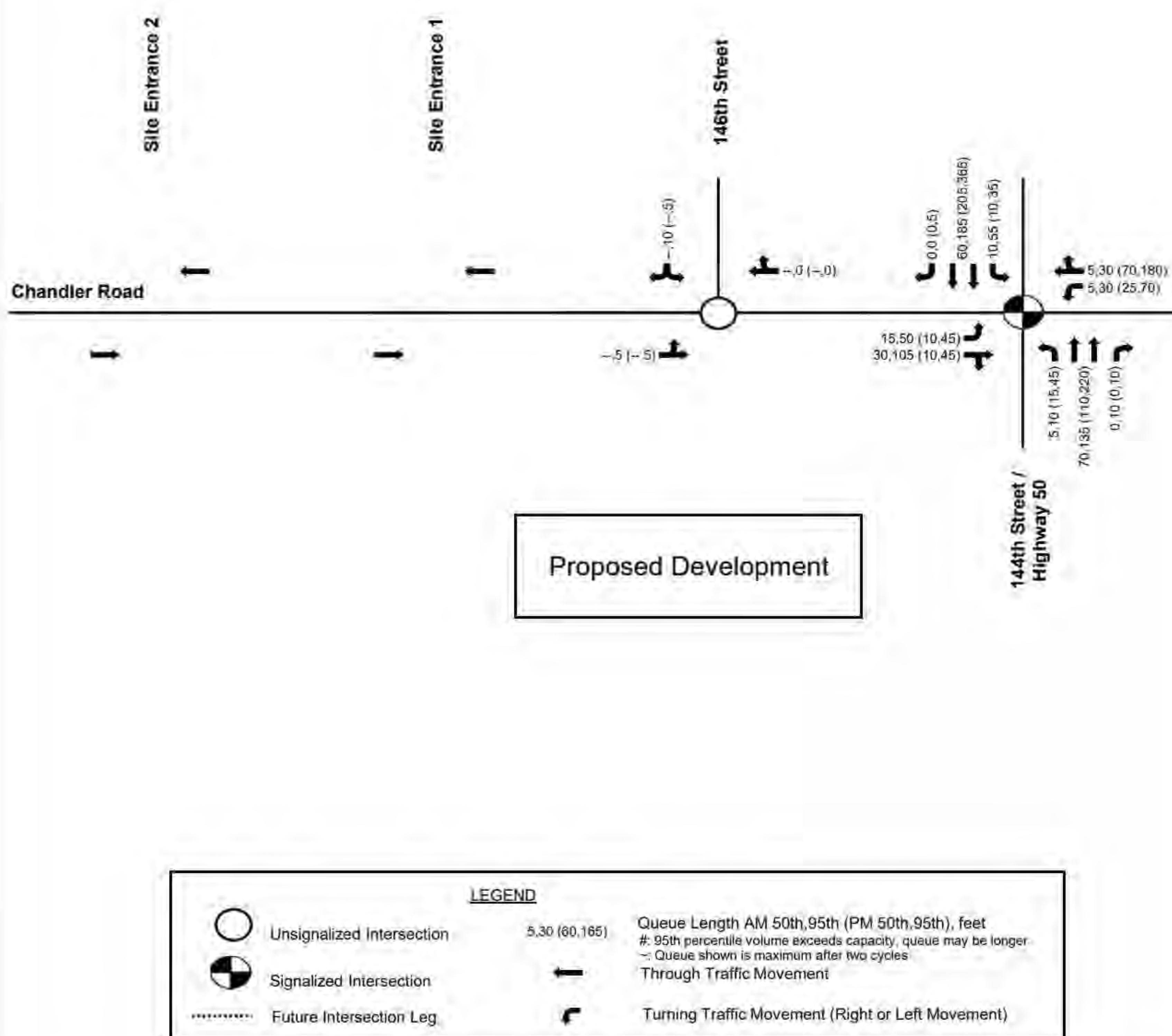
Right and left turn lane warrants were checked at the two proposed entrances into the site. None of these intersections are anticipated to be above the threshold for a right or left turn lane in any scenario, according to the NCHRP 279 report.

NO SCALE



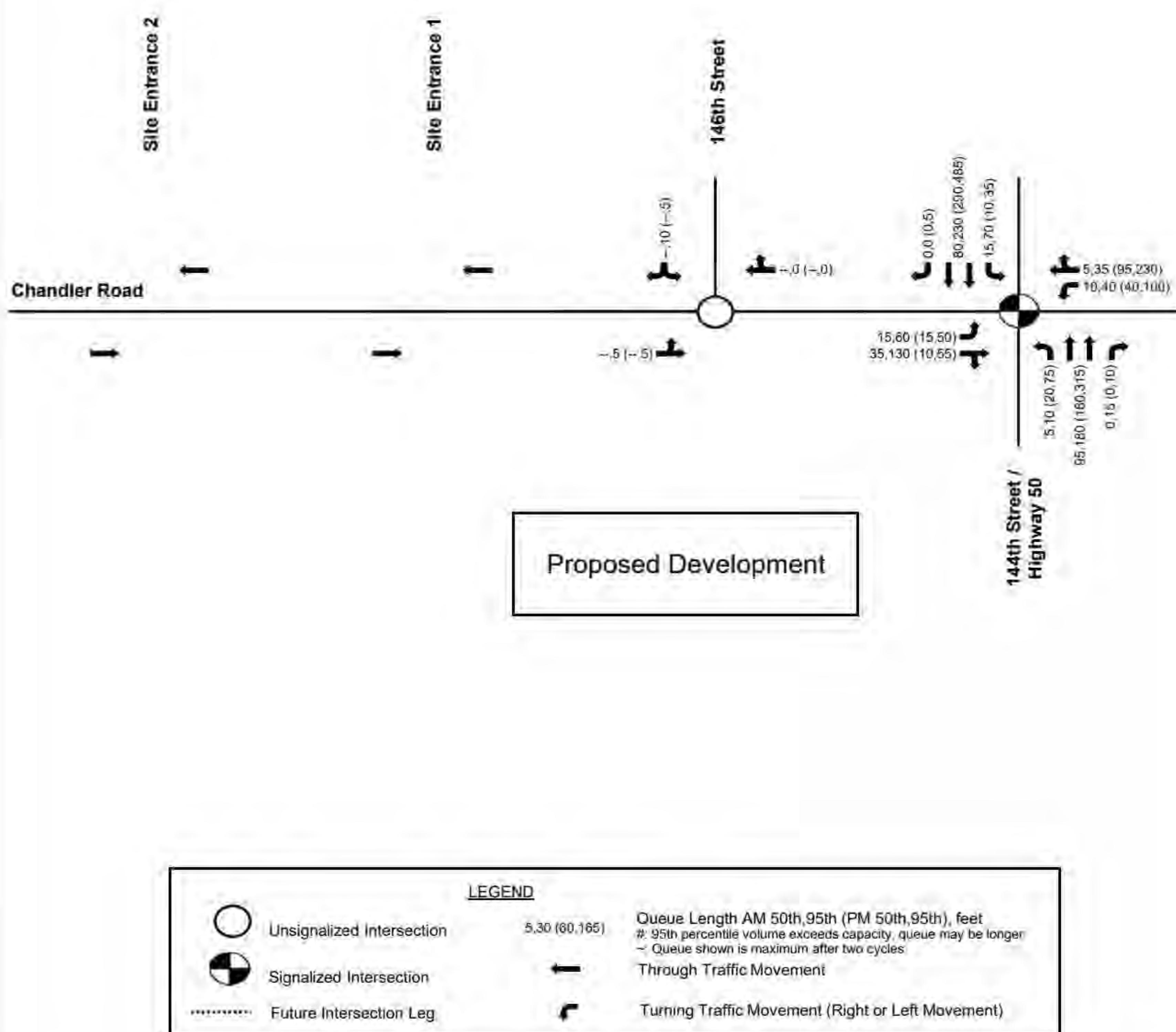
**FIGURE 28**  
**2023 BACKGROUND PEAK HOUR**  
**QUEUE LENGTHS**

NO SCALE



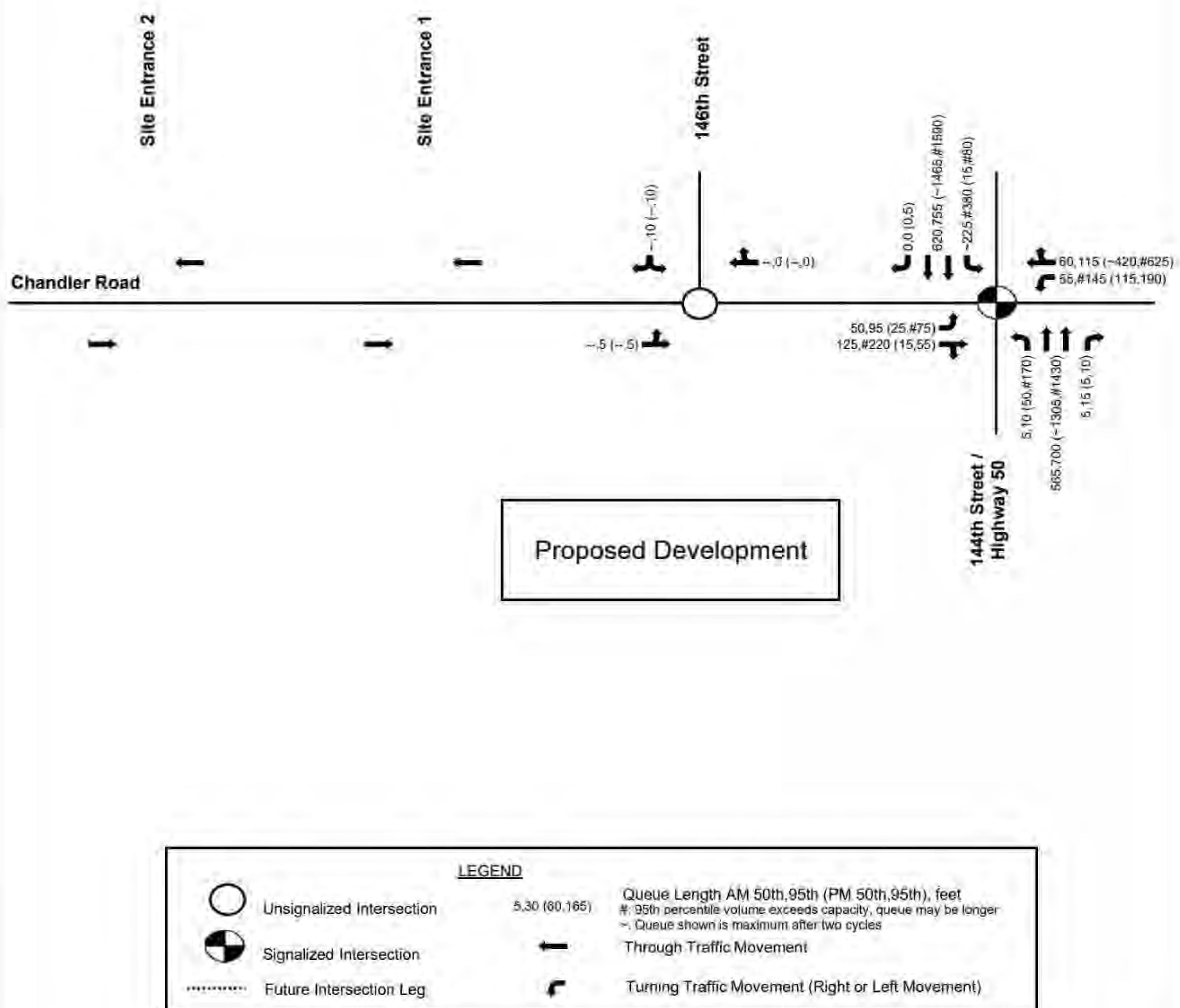
**FIGURE 29**  
**2025 BACKGROUND PEAK HOUR**  
**QUEUE LENGTHS**

NO SCALE



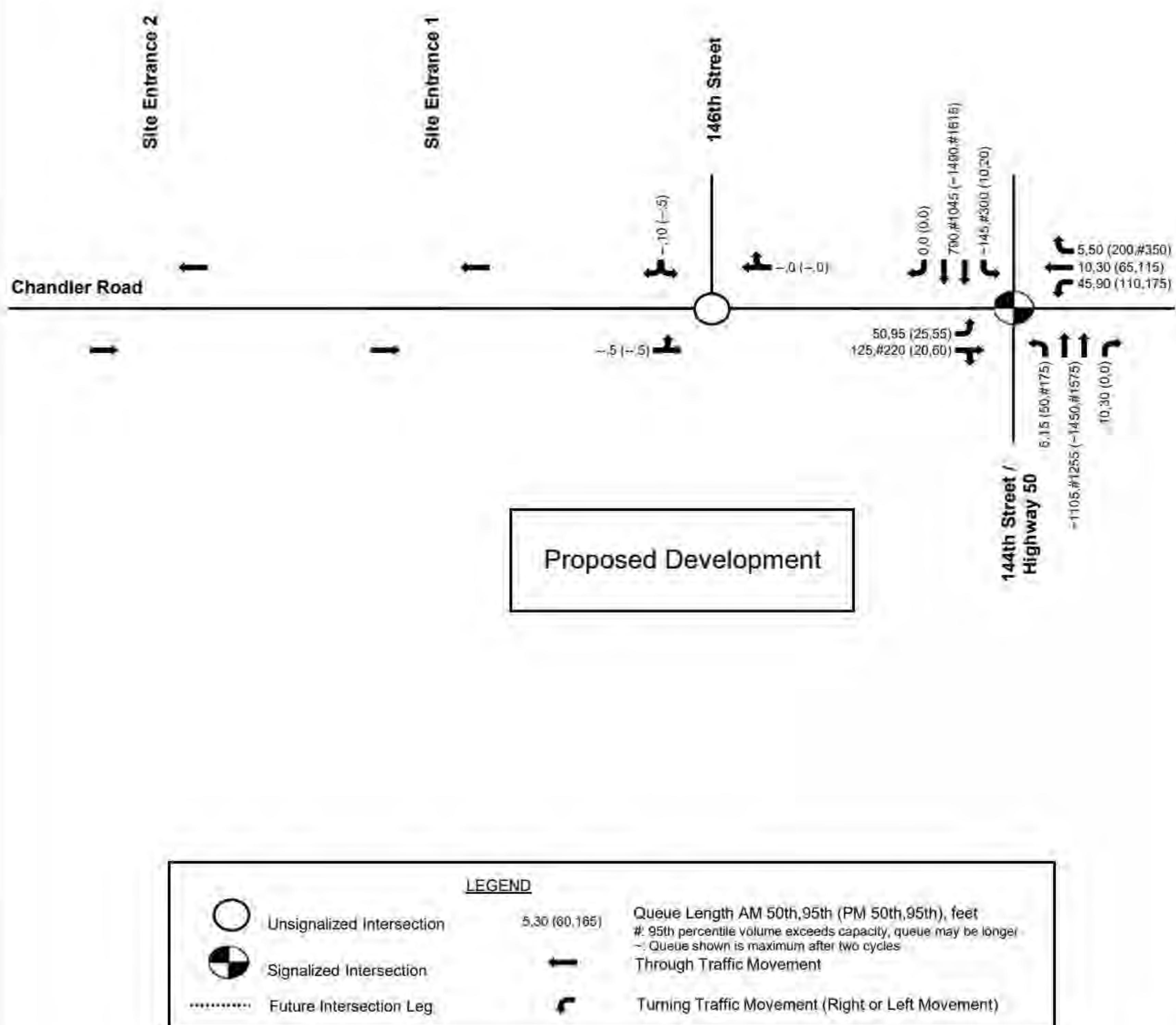
**FIGURE 30**  
**2030 BACKGROUND PEAK HOUR**  
**QUEUE LENGTHS**

NO SCALE



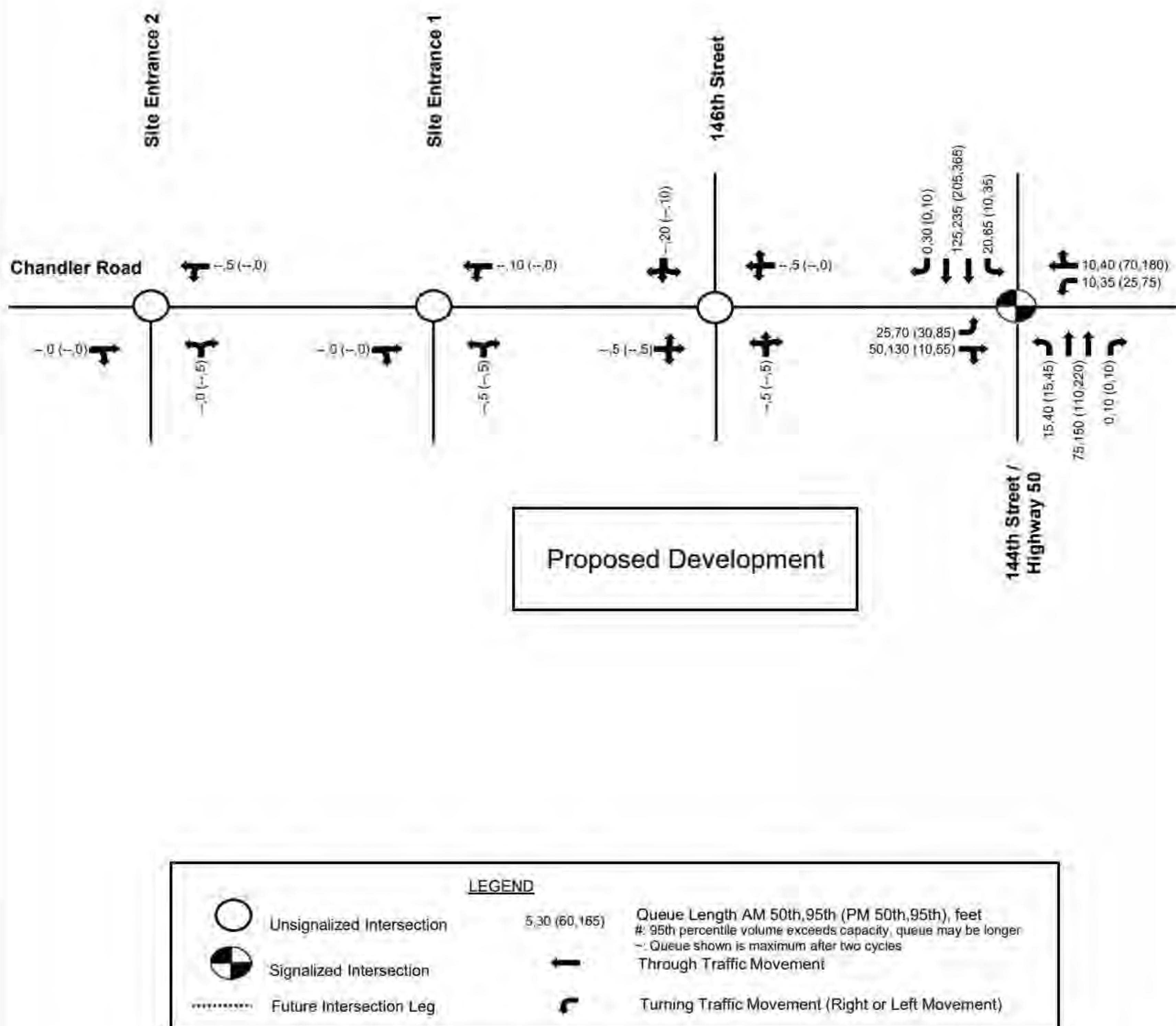
**FIGURE 31**  
**2050 BACKGROUND PEAK HOUR**  
**QUEUE LENGTHS**

NO SCALE



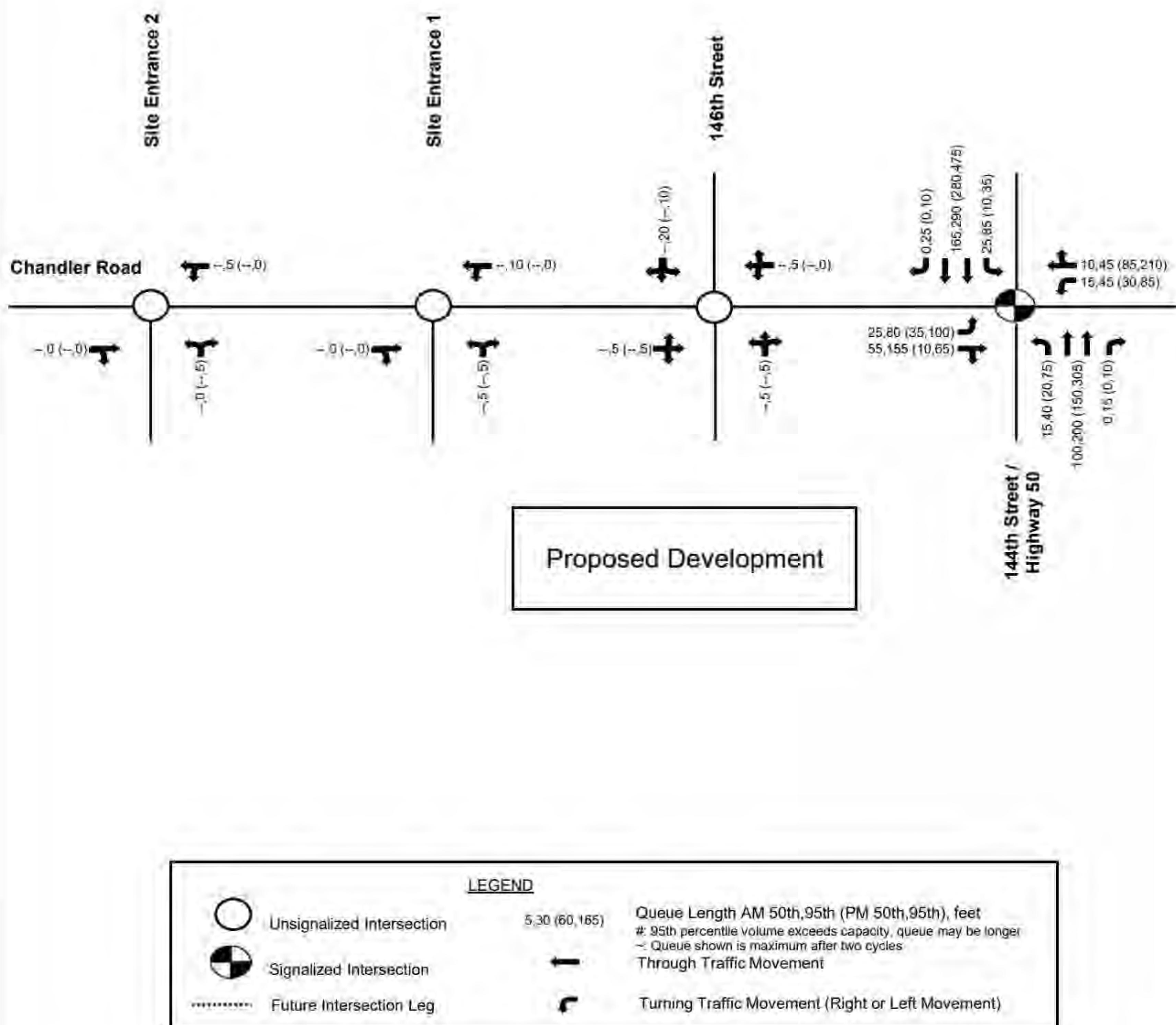
**FIGURE 32**  
**2050 BACKGROUND PEAK HOUR**  
**QUEUE LENGTHS WITH IMPROVEMENTS**

NO SCALE



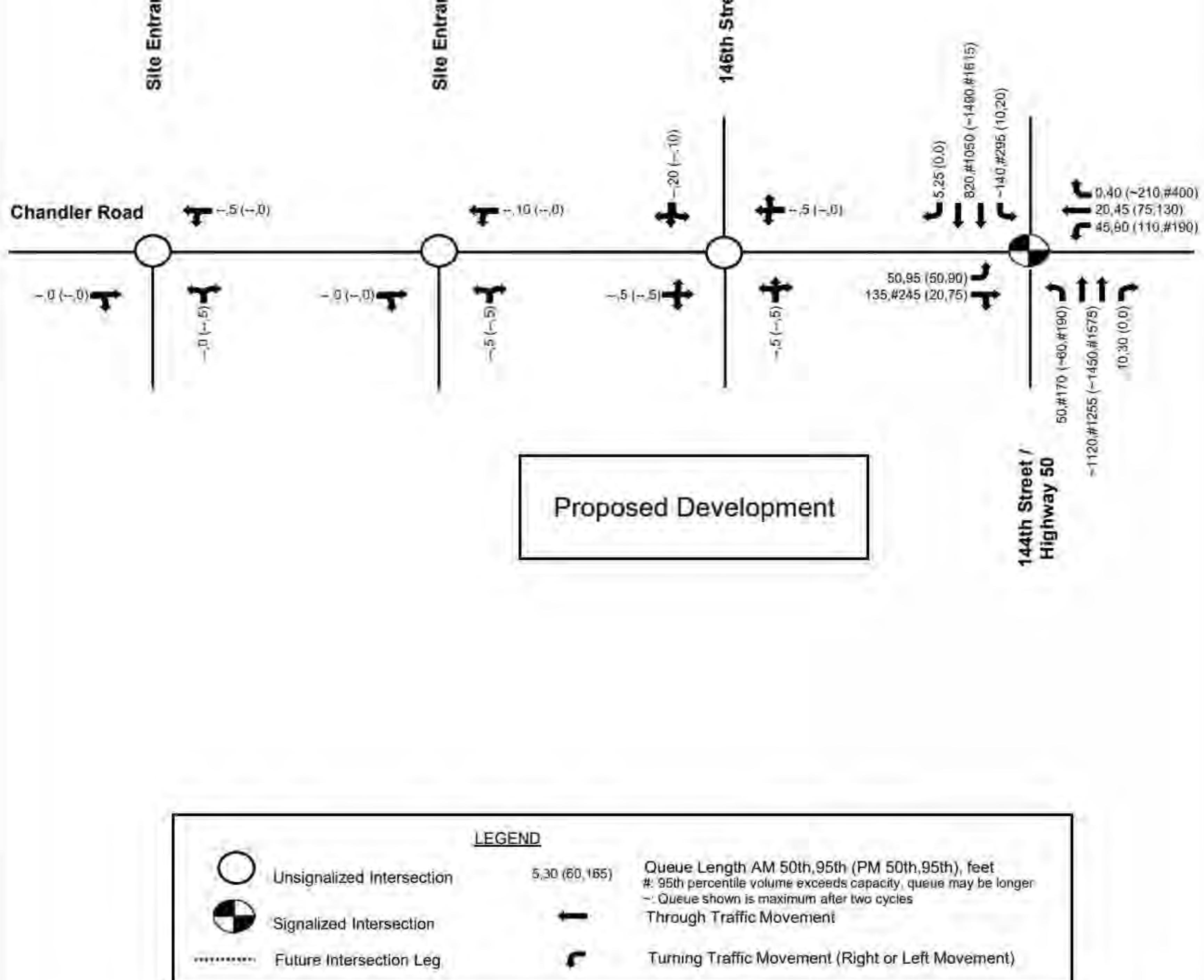
**FIGURE 33**  
**2025 BUILD-OUT PEAK HOUR**  
**QUEUE LENGTHS**

NO SCALE



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FIGURE 34  
2030 BUILD-OUT PEAK HOUR  
QUEUE LENGTHS



**FIGURE 35**  
**2050 BUILD-OUT PEAK HOUR**  
**QUEUE LENGTHS**

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## **CHAPTER 6: CONCLUSIONS AND RECOMMENDATIONS**

Following are the main conclusions and potential improvements:

- The site is anticipated to generate a total of 229 trips in the AM peak hour and 95 trips in the PM peak hour. In the AM peak hour, 202 vehicle trips will be entering the site and 27 trips exiting the site. For the PM peak hour, there will be 13 trips entering the site and 82 trips exiting the site.
- An annual growth rate of 3.5 percent was used along 144<sup>th</sup> Street. A 0.25 percent growth rate was used along Chandler Road adjacent to the site. The growth rates were determined based on MAPA projections.
- Synchro analysis shows that 144<sup>th</sup> Street/Highway 50 has the potential to be increased to three through lanes in the 2050 background scenario. In this same scenario, the existing traffic signal potentially needs to be improved to include a permissive/protected phase to the southbound, eastbound and westbound left turning movements. Finally, the westbound movement is anticipated to need to be improved to include a right turn lane at this same intersection. These improvements are all shown in the 2050 background scenario and do not include the Fenton Development traffic and are therefore, not due to the development.
- Traffic signal warrants were checked at the entrance intersections, no unsignalized intersections are anticipated to be above the threshold for a traffic signal in any scenario.
- None of the intersections along Chandler Road are anticipated to be above the threshold for a right or left turn lane.
- There appears to be one instance where the queue would be long enough to block an intersection. This is anticipated to occur at the intersection of 144<sup>th</sup> Street / Highway 50 and Chandler Road. The longest queue length occurs in the 2050 PM background scenario and the 2050 PM build-out scenario at the intersection of 144<sup>th</sup> Street / Highway 50 and Chandler Road. This 95<sup>th</sup> percentile length is estimated to be approximately 1,615 feet on the north leg of the intersection in both scenarios and is not affected by the site traffic.