

# **Meadowlake Industrial Park Filing No. 1 Preliminary Plan Traffic Impact Study**

Prepared for:  
Meadowlake Developments, LLC  
P.O. Box 1385  
Colorado Springs, CO 80901

Contact: Kevin O'Neil

FEBRUARY 1, 2024

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LSC Transportation Consultants  
Prepared by: Jeffrey C. Hodsdon, P.E.

EPC PCD File No. SP236  
LSC #S234040



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**LSC TRANSPORTATION CONSULTANTS, INC.**  
2504 E. Pikes Peak Ave., Suite 304  
Colorado Springs, CO 80909  
(719) 633-2868  
FAX (719) 633-5430  
E-mail: [lsc@lsctrans.com](mailto:lsc@lsctrans.com)  
Website: <http://www.lsctrans.com>

February 1, 2024

Mr. Kevin O'Neil  
Meadowlake Developments, LLC  
P.O. Box 1385  
Colorado Springs, CO 80901

RE: Meadowlake Industrial Park  
El Paso County, CO  
Master Traffic Impact Study  
EPC PCD File No. SP236  
LSC #S234040

Dear Mr. O'Neil,

LSC Transportation Consultants, Inc. has prepared this traffic impact study for the proposed Meadowlake Industrial Park Filing No. 1 Preliminary Plan. Meadowlake Industrial Park is located northwest of the intersection of Falcon Highway/Curtis Road in El Paso County, Colorado. The 51.3-acre Filing No. 1 would be the first area to develop within the overall industrial park. The site is located within the eastern area of the overall industrial park along Curtis Road about one-quarter mile north of Falcon Highway. As part of this initial development, one site-access point is proposed to Curtis Road. This report has been prepared to accompany the Preliminary Plan submittal to El Paso County.

## **REPORT CONTENTS**

The preparation of this report included the following:

- An inventory of existing roadway and traffic conditions on major thoroughfares adjacent to the site, including surface conditions, functional classification, widths, pavement markings, traffic control signs, posted speed limits, intersection and access spacing, roadway and intersection alignments, roadway grades, and auxiliary turn lanes;
- Weekday peak-hour turning-movement traffic counts at the study-area intersections;
- Estimated average weekday traffic (ADT) volumes on Falcon Highway, Curtis Road, Meridian Road, Judge Orr Road, and US Highway 24 (US Hwy 24);
- Projections of 2025 short-term background traffic volumes;
- The proposed preliminary plan site land use and access plan;

- Estimates of average weekday and weekday peak-hour trip generation for the proposed preliminary plan land uses and the estimated directional distribution of site-generated vehicle trips on roadways and intersections adjacent to and in the vicinity of the site;
- Projected site-generated and resulting total peak-hour intersection traffic volumes at the following “study-area” intersections:
  - Curtis Road/north site access (full-movement)
  - Falcon Highway/Curtis Road
  - Curtis Road/Judge Orr Road
  - US Highway 24/Stapleton Road
- Projected total short-term daily and peak-hour traffic volumes at the study-area intersections;
- Projected short-term Intersection level of service analysis at the study-area intersections;
- Evaluation of the short-term projected intersection volumes to determine potential short-term requirements for any auxiliary right-/left-turn lanes at the proposed site-access points, based on the criteria in El Paso County’s *Engineering Criteria Manual (ECM)*; and
- Short-term roadway improvement recommendations and potential requirement for escrow contributions toward future improvements.

#### **LIST OF OTHER TRAFFIC REPORTS USED IN THE PREPARATION OF THIS REPORT**

- The July 29, 2022 Meadowlake Industrial Park Master TIS
- TIS Reports for Saddlehorn Ranch
- Esteban Rodriguez Sketch Plan Master Traffic Impact Study
- Davis Ranch Sketch Plan Master Traffic Impact Study

#### **STUDY AREA DETERMINATION**

##### **Study Area Basis for Individual Full TIS**

Per Section B.2.3.B of El Paso County’s *Engineering Criteria Manual (ECM)*:

*The limits of the transportation network to be studied shall be based on the size and extent of the proposed development, the existing and future land uses, and traffic conditions on and near the site.*

Additionally, off-site intersections which should be included for a full traffic impact study include those which meet the following criteria:

*Additional offsite major intersections where: the project contributes a 10 percent impact (during either the A.M. or P.M. peak hour) to any approach leg of the intersection where the intersection is operating at a LOS of C or better in the Short-Range Horizon*

LSC has calculated the percent increase in traffic for projected site-generated traffic volumes vs. existing traffic volumes. Site-generated trips only include those for Filing 1 only during the short term. Please refer to Appendix A for this analysis.

## LAND USE AND ACCESS

Figure 1 shows the site location relative to the adjacent and nearby roadways. The site is located northwest of the intersection of Falcon Highway/Curtis Road about one-quarter mile north of that intersection. Meadow Lake Airport is located north and west of Meadowlake Industrial Park. The parcel east of Curtis Road is currently vacant. The Saddlehorn Ranch development site is located to the northeast along the east side of Curtis Road.

FYI: please be aware that a condition of approval will be added to this prelim plan.

### Site Land Use

The preliminary plan is shown in Figure 2. The preliminary plan sheets are attached for reference. The site is zoned I-2. The Master TIS had assumed ITE Land Use "130 – Industrial Park" for this preliminary plan area. The anticipated development, for the purpose of this report, is best represented by ITE Land Use "150 – Warehousing."

**Note: The specific uses of this Preliminary Plan site shall be limited to those included in this Filing No. 1 Preliminary Plan traffic impact study (TIS) submitted with EPC PCD File No. SP236. The applicant shall be required to provide a revised traffic impact study to be submitted and approved prior to initiation of any uses beyond those included in this traffic impact study.**

The total Filing No. 1 Preliminary Plan acreage is 36.56. Based on the 0.29 floor area ratio (FAR) assumed in the rezone report, the estimated building square footage of the Filing No. 1 Preliminary Plan is 461,841 square feet (462 KSF).

### Site Access

One access is proposed to initially serve the preliminary plan area. This access, Sagebrush Street, will be a public street, and will intersect Curtis Road one-half mile north of Falcon Highway, consistent with the July 29, 2022 master TIS for the Meadowlake Industrial Park. This half-mile spacing between Curtis/Sagebrush would meet the ECM's access spacing requirement.

In the future, additional access points will be available with the future completion of the overall internal street system within the greater industrial park. These are shown in the July 29, 2022 TIS report.

## INTERSECTION SIGHT DISTANCE

### Entering Sight Distance

Intersection entering sight distance at the proposed Sagebrush/Curtis Road intersection (proposed site-access) would meet sight-distance requirements in *ECM* Table 2-21. The following are the existing sight-distance measurements. These measurements were conducted in the field by LSC. The measurements were taken from a driver's eye height of 3.5 feet to an approaching vehicle height of 3.5 feet.

- Greater than 1,000 feet looking north along Curtis Road from Sagebrush
- Greater than 1,000 feet looking south along Curtis Road from Sagebrush

The lines of sight for the proposed Sagebrush/Curtis Road intersection will need to be kept clear of any sight-distance obstructions. This includes landscaping, signage, etc. proposed as part of the site development.

### **Stopping Sight Distance to Downstream Intersection**

Stopping sight distance along Curtis Road approaching the proposed Sagebrush/Curtis intersection location meets stopping sight-distance requirements in *ECM* Table 2-17. The following are the existing sight-distance measurements. These measurements were conducted in the field by LSC. The measurements were taken from the driver's eye height of an approaching vehicle to a height of 3.5 feet at the center of each intersection.

- Greater than 1,000 feet south to Sagebrush from a southbound motorist on Curtis Road approaching the intersection from the north
- Greater than 1,000 feet north to Sagebrush from a northbound motorist on Curtis Road approaching the intersection from the south

## **ROAD AND TRAFFIC CONDITIONS AND *MTCP* CLASSIFICATION**

### **Existing Roadways**

Figure 1 and Figure 2 show the roads adjacent to and in the vicinity of the site. Adjacent roads serving the site are identified below followed by a brief description of each:

**US Highway (US) 24** is located about one mile north of the site (via Curtis Road) and about 1.5 miles west of the site (via Judge Orr Road). US Hwy 24 is also accessible from the southwest corner of the site via Falcon Highway. The travel distance to/from the intersection of US Hwy 24/Falcon Highway via Falcon Highway is about four miles.

This State Highway extends east/west across Colorado connecting the areas of Buena Vista, Colorado Springs, and Limon. US 24 is planned to be widened to four lanes through the Falcon area and is classified as an Expressway by the Colorado Department of Transportation (CDOT) and the 2016 *El Paso County Major Transportation Corridors Plan (MTCP)*.

**Judge Orr Road** is a two-lane roadway that extends east from Eastonville Road across most of El Paso County. It is shown on the *El Paso County 2040 Major Transportation Corridors Plan* and

the *Preserved Corridor Network Plan* as a four-lane Minor Arterial west of Curtis Road. Posted speed limits range from 45 to 55 miles per hour (mph). West of Curtis Road, the speed limit is 45 mph, while it generally increases to 55 mph east of Curtis Road. The intersection of US Hwy 24/Judge Orr is currently signalized. Due to the oblique angle of this intersection, the eastbound and westbound approaches are split-phased. The *US 24 Access Control Plan/PEL Study* shows future plans for realignment of Judge Orr at US Hwy 24 to improve the intersection and provide an intersection angle closer to 90 degrees.

**Curtis Road** is a two-lane roadway that extends south from the intersection of US 24/Stapleton Road intersection to Drennan Road. It is shown as a two-lane, rural Principal Arterial on El Paso County's *2040 Major Transportation Corridors Plan* and a four-lane Principal Arterial on the *Preserved Corridor Network Plan*. Adjacent to the site, the posted speed limit is 45 mph. Both intersections of Curtis Road/Judge Orr Road and Curtis Road/Falcon Highway are two-way, stop-sign controlled. The newer section north of Judge Orr, which connects to Stapleton Drive, was constructed to current *ECM* standards with paved shoulders, etc. Generally, Curtis Road is an "unimproved," two-lane paved road between Judge Orr and Falcon Highway. Interim improvements to Curtis Road are planned as part of the Saddlehorn Ranch development to the north along the Saddlehorn Ranch Curtis Road frontage. The TIS reports for Saddlehorn Ranch and the Saddlehorn Ranch roadway construction plans for Curtis Road are available, for reference, on the County EDARP system.

**Falcon Highway** extends from US Hwy 24 to Ellicott Highway and is classified as a two-lane Minor Arterial on the 2040 El Paso County *MTCP*. In the vicinity, the posted speed limit is 55 mph. Currently, the intersection of Falcon Highway/Curtis Road has auxiliary right- and left-turn lanes on the eastbound approach and auxiliary left-turn lanes on the westbound, northbound, and southbound approaches. The intersection is two-way, stop-sign controlled (TWSC), with the stop signs on the northbound and southbound approaches.

### Existing Traffic Volumes

Vehicular turning-movement counts were conducted at the study-area intersections. Figure 3 shows these turning-movement volumes (raw count data are attached) and the average weekday traffic volumes (estimated based on factored peak-hour count data) on the study-area roadways.

- Curtis Road/Falcon Highway
  - Wednesday, April 20, 2022 from 6:30 – 8:30 a.m.
  - Wednesday, April 20, 2022 from 4:00 – 6:00 p.m.
- Curtis Road/Judge Orr Road
  - Thursday, November 2, 2023 from 4:00 – 6:00 p.m.
  - Tuesday, November 7, 2023 from 6:30 – 8:30 a.m.
  - Thursday, April 21, 2022 from 6:30 – 8:30 a.m.
  - Thursday, April 21, 2022 from 4:00 – 6:00 p.m.
- US 24/Judge Orr Road
  - Tuesday, May 10, 2022 from 6:30 – 8:30 a.m.



- Tuesday, May 10, 2022 from 4:00 – 6:00 p.m.
- US 24/Meridian Road
  - Thursday, August 5, 2021 from 6:30 – 8:30 a.m.
  - Wednesday, August 4, 2021 from 4:00 – 6:00 p.m.
- US 24/Stapleton Drive
  - Wednesday, August 6, 2021 from 6:30 – 8:30 a.m.
  - Wednesday, August 6, 2021 from 4:00 – 6:00 p.m.
- New Meridian Road/Falcon Highway
  - Thursday, April 28, 2022 from 6:30 – 8:30 a.m.
  - Thursday, April 28, 2022 from 4:00 – 6:00 p.m.

### Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of congestion or delay at an intersection and is indicated on a scale from “A” to “F.” LOS A is indicative of little congestion or delay. LOS F indicates a high level of congestion or delay. Table 1 shows the level of service delay ranges for signalized and unsignalized intersections.

**Table 1: Intersection Levels of Service Delay Ranges**

Level of Service	Signalized Intersections	Unsignalized Intersections
	Average Control Delay (seconds per vehicle)	Average Control Delay (seconds per vehicle) <sup>(1)</sup>
A	10.0 sec or less	10.0 sec or less
B	10.1-20.0 sec	10.1-15.0 sec
C	20.1-35.0 sec	15.1-25.0 sec
D	35.1-55.0 sec	25.1-35.0 sec
E	55.1-80.0 sec	35.1-50.0 sec
F	80.1 sec or more	50.1 sec or more
(1) For unsignalized intersections, if V/C ratio is greater than 1.0 the level of service is LOS F, regardless of the projected average control delay per vehicle.		

Figure 3 also shows a summary of the existing levels of service, lane geometry and traffic control.

### PEDESTRIAN AND BICYCLE FACILITIES

The following 2040 non-motorized transportation improvement projects have been identified on Map 15 and Table 5 of El Paso County’s 2016 *MTCP*:

- M4 – Falcon Highway from Meridian Road to South Peyton Highway
  - Bicycle and secondary regional trail improvements (6.95 miles)
- M7 – Elbert Road from US 24 to Judge Orr Road

- Bicycle improvements (2.32 miles)  
M8 – Judge Orr Road from Eastonville Road to South Peyton Highway
- Bicycle improvements (2.98 miles)  
M9 – Stapleton Road from Meridian Road to US 24
- Bicycle improvements (2.56 miles)

## **TRIP GENERATION**

Estimates of the vehicle trips projected to be generated by Filing No. 1 of Meadowlake Industrial Park have been made using the nationally published trip-generation rates from *Trip Generation, 11<sup>th</sup> Edition, 2021* by the Institute of Transportation Engineers (ITE). Trip-generation rates from ITE Land Use Category 150 – “Warehousing” have been used to develop the trip-generation estimates for the preliminary plan site.

Table 2, attached, presents the estimated site trip generation.

The proposed Meadowlake Industrial Park Filing No. 1 is projected to generate about 790 new, external vehicle trips on the average weekday during a 24-hour period, with approximately half entering and half exiting the site. During the morning peak hour, approximately 60 entering vehicles and 18 exiting vehicles would be generated. Approximately 23 entering and 60 exiting vehicles (less internal capture trips) would be generated by the site during the evening peak hour.

## **TRIP DISTRIBUTION AND ASSIGNMENT**

### **Trip Directional Distribution**

Estimating the directional distribution of site-generated vehicle trips to the study-area roads and intersections is a necessary component in determining the site's traffic impacts. Figure 4 shows the percentages of the site-generated vehicle trips projected to be oriented to and from the site's major approaches. Estimates have been based on Figure 4 of the master TIS report.

### **Site-Generated Traffic**

#### Short-Term

Short-term site-generated traffic volumes have been estimated at the study-area intersections. The volumes have been calculated by applying the short-term directional-distribution percentages (from Figure 4) to the trip-generation estimates (from Table 2). Figure 5 shows the projected short-term site-generated traffic volumes for the weekday morning and evening peak hours.

### Long-Term (For Reference Only)

The July 29, 2022 TIS included estimates of the overall buildout long-term site-generated traffic volumes for the overall Meadowlake Industrial Park. Figures 7a, 7b, and 7c of that TIS showed those buildout volumes. **Appendix A** of this report includes a copy of the long-term distribution estimate from Figure 5 of that TIS report. Appendix A also includes the long-term site-generated traffic for the Filing No. 1 preliminary plan, based on that Figure 5 from the July 29, 2022 TIS report applied to the current trip-generation estimate (Table 2 of this report).

### **Short Term (2025) Baseline/Background Traffic Volumes**

The 2025 baseline/background traffic-volume estimates are shown in Figure 6. These estimates assume the following:

- A three (3) percent per year growth rate applied to existing volumes (includes minor volume-balancing adjustments to the 2022 Judge Orr Road/Curtis Road counts).
- Additionally, traffic projected for buildout of Saddlehorn Ranch Filing Nos. 1 and 2 has been included in the 2025 baseline volumes.
- A portion of the trips from the Esteban and Davis: Included Jane Davis TAZ 1, and one third of Esteban Rodriguez residential.

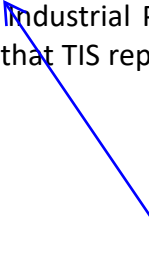
Note: the baseline/background volumes are exclusive of any trips to be generated by this preliminary plan area or the overall Meadowlake Industrial Park.

### **Short Term (2025) Baseline Plus Site-Generated Traffic Volumes**

Figure 7 shows the sum of the 2025 short-term total traffic (background traffic volumes from Figure 6 plus site-generated traffic volumes from Figure 5). These volumes represent the projected short-term **total** traffic (assuming buildout of the Filing No. 1 preliminary plan development).

### **Long Term Background and Total Traffic Volumes**

The July 29, 2022 "Master" TIS report included long-term/20-year-horizon projections for the overall Meadowlake Industrial Park, which included this initial preliminary plan development area. Please refer to that TIS report for long-term projected volumes, which assume buildout of the project.



please include  
excerpts of that report

## **LEVEL OF SERVICE ANALYSIS**

LOS values have been included on each figure for each turning movement/approach during the weekday morning and evening peak hours for the proposed site-access intersection and off-site intersections in the study area:

- Figure 3: Existing Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 6: 2025 Baseline Traffic, Lane Geometry, Traffic Control, and LOS
- Figure 7: 2025 Total Traffic (Baseline + Site), Lane Geometry, Traffic Control, and LOS

Please refer to the Master TIS report showing long-term projected levels of service assuming buildout of the project.

### **Curtis Road/Sagebrush Street (Full-Movement Site Access)**

All single-lane approaches and individual turning movements are projected to operate at LOS B or better during both the AM and PM peak hours of the short-term total scenario.

### **US 24/Stapleton Road**

Currently, the intersection of US 24/Stapleton is two-way stop-sign controlled (TWSC). The following turning movements currently operate at LOS E or worse, with or without the addition of site-generated traffic: northwest-bound left, northwest-bound through, southeast-bound left, and southeast-bound through.

Once signalized, all individual turning movements and the intersection overall would operate at LOS B or better during both short-term peak hours, with or without the addition of site-generated traffic.

### **Judge Orr Road/Curtis Road**

All individual approaches/turning movements at the intersection of Judge Orr/Curtis are projected to operate at LOS C or better during both short-term peak hours, with or without the addition of Filing 1 site-generated traffic.

### **Falcon Highway/Curtis Road**

#### Two-Way Stop Sign Control

If Falcon Highway/Curtis Road were to remain two-way stop sign-controlled, the following individual approaches/turning movements are projected to remain at LOS E or worse during both

short-term peak hours: northbound left-turn and southbound through/right, with or without the addition of site-generated traffic.

### All-Way Stop Sign Control

If the intersection of Falcon Highway/Curtis Road were to be converted from TWSC to AWSC, all individual turning movements would operate at LOS C or better during both peak hours of the 2025 Baseline Total traffic scenario.

## **AUXILIARY TURN-LANE ANALYSIS, INTERSECTION CONFIGURATION, AND TRAFFIC CONTROL**

### **Auxiliary Turn-Lane Requirements**

The need for auxiliary left- and right-turn lanes at the study area intersections has been evaluated to determine if lane improvements would be required, based on short-term total, traffic to meet the County's *Engineering Criteria Manual's* (ECM) auxiliary turn criteria.

Deceleration lanes shall meet design criteria specified in El Paso County's *Engineering Criteria Manual* (ECM Tables 2-24 and 2-27) or the Colorado State Highway Access Code (CDOT) for US Hwy 24.

**Table 3 (attached) presents details regarding auxiliary turn lanes at the study-area intersections.**

### **Turn-Lane Criteria**

Table 3 includes peak-hour auxiliary left- and right-turn lane requirements for each intersection. Roadway classifications for key area County thoroughfares are as follows:

- Principal Arterial – Curtis Road, Meridian Road
- Minor Arterial – Judge Orr Road, Falcon Highway

### **Curtis Road/Sagebrush Street (Site Access)**

The intersection of Sagebrush Street/Curtis Road will require a northbound left-turn deceleration lane.

### **Judge Orr Road/Curtis Road**

Based on November 2023 traffic counts, the eastbound AM peak-hour right-turn volume exceeds the ECM-threshold right turning volume of 50 vph for which a right-turn lane is prescribed. The current eastbound PM peak-hour volume does not currently exceed this threshold. The short-term baseline-plus-Filing No. 1 site-generated eastbound PM peak-hour volume is projected to exceed this threshold.

per thresholds an eastbound left is also required. Please include in the narrative.

Please also discuss the long term improvements that may be needed.

Also please indicate whether the existing turn lanes at this intersection require any modifications due to this developments traffic as indicated in the previous review comment. You may also refer to table 3 regarding the existing turn lanes and recommendations/responsibility for improvements.

Kevin O'Neil  
Meadowlake Industrial Park

Regarding short- or intermediate  
Access Code Section 3.5 (

Please clarify as this appears to state that the 150 vph has been exceeded. Also the above provision indicates the 20th year road volumes (i.e. long term) which are exceeded (205 vph right turn and 219 vph thru movement) It appears that the turn lane is triggered by this development. Please revise.

January 1, 2024  
Impact Study  
Highway

*"The auxiliary lanes required in the category design standards may be waived when the 20th year predicted roadway volumes conflicting with the turning vehicle are below the following minimum volume thresholds. The right turn deceleration lane may be dropped if the volume in the travel lane is predicted to be below 150 DHV."*

The AM nor PM peak-hour eastbound through-plus-right-turn volume is currently at the 150 vph level. For the short-term total (background plus site) traffic condition, the AM peak-hour eastbound through-plus-right turn lane volume is not shown remain below the 150 vph threshold and the PM peak-hour eastbound **right-turn** movement is not projected to exceed 50. However, the background intersection traffic movements are expected to increase over time, with either the PM peak-hour right-turn volume increasing to over 150 or the PM peak-hour right-turn movement increasing to over 150.

It appears that the turn lane is needed per comment above.

Additionally, identify if the other developments such as Saddlehorn are or have provided escrow for this turn lane. Identify the lane lengths needed as done in the previous submittal.

Filing No. 1 should escrow for pro rata share of this future

#### Falcon Highway/Curtis Road

The intersection of Falcon Highway/Curtis Road could potentially be signed AWSC during the short term once AWSC warrants are met, as all approaches would operate at LOS C or better in the short term with AWSC.

Note: The following auxiliary turn-lane upgrades would not be required if a roundabout were to be constructed at the intersection of Falcon Highway/Curtis Road. The auxiliary turn lanes may ultimately be needed with traffic signal control.

please clearly state whether this is needed due to this preliminary plan developments traffic which it appears it will be per the volume provided in the figure.

**Southbound right-turn deceleration lane (New Lane** – would be needed for signal control or if needed for operations – i.e., to maintain an adequate level of service at the intersection with TWSC or AWSC)

**Eastbound left-turn deceleration lane (lengthening)** on Falcon Highway would be needed assuming the current TWSC or signal control (if proposed/suggested trigger for improvements). Please refer to the **improvements table** for details. Based on the traffic projections, the recommended "trigger" of an eastbound left turn project (90th percentile) which exceeds 50 feet, is not likely to be met.

please provide queuing analysis showing that it has not been met with this development

Based on the short-term total traffic projections, the **westbound right turn** volume is projected to remain below the threshold of 50 vph for the westbound right turn movement. LSC recommends re-checking at the final plat and with future phases of the project. Meanwhile, fair share escrow amounts will be required with the final plat.

Provide turn lane characteristics of the required turn lanes and modifications

Please state whether or not any improvements are needed to Falcon Hwy due to this developments traffic per previous review comment.

## ROADWAY CLASSIFICATIONS

Primary internal streets within the Preliminary Plan will be classified as Urban, Non-Residential Collector streets. These include the main entry street, Sagebrush Street, and Greenfield Avenue, the main north-south street. The other streets shown on the Preliminary Plan will be Private Local streets. These include Wildflower Court, Mariposa Lily Court, and Wild Iris Way. Individual lot access will be to these private, local streets. The preliminary plan contains the proposed cross section for the Urban, Local (Private) streets.

the deviation approved for Saddlehorn indicated a 72' ROW and w/reservation for the remaining. Is there a reason for the 78'?

## ROADWAY SEGMENT IMPROVEMENTS

### Curtis Road

Please refer to Table 4, Roadway Improvements, for details. Curtis Road should ultimately be improved to a two-lane Principal Arterial. Dedication of right-of-way for one half of a two-lane Principal Arterial (78' from centerline) with ROW reservation for additional width of 90' from centerline for four-lane Principal Arterial corridor preservation would be required. Table 4, Roadway Improvements, calls out specific recommended short-term improvements to Curtis Road, between the south property line and the south terminus of the Saddlehorn Filing No. 1 improvements.

? please revise this statement as it appears to be copied from another report

## DEVIATIONS AND WAIVERS

### Potential Future Deviation – Not Currently Needed

The following potential deviation is not currently needed. When warrants require improvements, the deviation will be submitted then. Also refer to Filing No. 4 TIS comments in regard to this.

#### Curtis Road & Falcon Highway Intersection - Eastbound Left-Turn Lane Lengthening

A deviation to allow continued use of the existing lane and tapers and defer this improvement (based on short-term turning volumes /associated queue length). There is a drainage channel just to the west. The development would contribute a fair share escrow amount toward a future improvement. An Escrow Calculation Spreadsheet has been prepared and is attached to this report.

The future improvement would encompass bringing the existing turn lane up to ECM standards. The ECM criteria for turn lanes requires elements of deceleration distance plus stacking distance plus taper length. On a roadway with a 60-mph design speed (55 posted), the required full-width, left-turn lane length is 290 feet plus left-turn stacking/queuing distance. The required transition taper is 240 feet. For this turn lane, the stacking requirement would be 50 feet (100 feet based on long-term projections) and the resulting total prescribed turn lane length Redirect tapers as a ratio of 55:1 would also need to be part of the design.

Please explain why a deviation would not be needed as the current lane does not meet ECM standards. see comments above and on table

## **COUNTY ROAD IMPROVEMENT FEE PROGRAM**

### **Transportation Impact Fees**

*Per ECM Appendix B: State what the current applicable Transportation Impact Fees are and what option the developer will be selecting for payment.*

The applicant will be required to participate in this program. The PID option will be identified with the Plat submittal.

It is the responsibility of the applicant to present any credit requests to the road impact fee advisory committee for consideration.

### **MTCP Improvements**

*Per the County TIS Checklist: State whether the MTCP or other approved corridor study calls for the construction of improvements in the immediate area.*

The following roadway improvement projects have been identified as being needed by the year 2040 per Map 13 and Table 4 of El Paso County's 2016 *MTCP*. Note: this list below is not intended to suggest that this project must complete all these improvements, rather simply echoing a general list from the *MTCP* of nearby improvements called out on the *MTCP*, based on the collective impacts of new development in El Paso County in general. Please refer to Table 4 for specific recommendations with respect to this development.

U1 – Curtis Road from Judge Orr Road to State Highway 94 (\$35,549,000) (Note: See Improvements Table 4 Item No. 1.1)

- Existing conditions – 2-lane Rural Unimproved County Road
- Future conditions – 2-lane Principal Arterial

U5 – Falcon Highway from US Hwy 24 to 1 mile east of Curtis Road (\$16,509,000)

- Existing conditions – 2-lane Rural Unimproved County Road
- Future conditions – 2-lane Minor Arterial

C12 – Stapleton Road from Towner Road to Judge Orr Road (\$41,076,000) (Note: See Improvements Table 4 Item Nos. 4.1 and 4.2 regarding the intersection of US Highway 24/Stapleton and item Nos. 7.1 – 7.4 for the Judge Orr/Stapleton intersection)

- Existing conditions – 2-lane Principal Arterial
- Future conditions – 4-lane Principal Arterial



C14 – Judge Orr Road from Eastonville Road to Peyton Highway (38,248,000) (Note: See Improvements Table 4 Item No. 5.2 regarding the intersection of US Highway 24/Judge Orr Road and item Nos. 7.1 – 7.4 for the Judge Orr/Stapleton intersection)

- Existing conditions – 2-lane Minor Arterial
- Future conditions – 4-lane Minor Arterial

Per the County TIS Checklist: *State whether or not any improvements affected by the project are reimbursable under the current Major Transportation Corridors Plan (MTCP) and Road Fee program.*

Specific “eligible improvements” associated with this project – i.e., which improvements the project will need to construct and determine if those improvements will qualify as eligible for credit (and reimbursement) – are called out in the improvements table for any specific recommendations with respect to obligations for this development.

#### **MULTI-MODAL TRANSPORTATION AND TDM OPPORTUNITIES**

The following roadway improvement projects have been identified as being needed by the year 2040 per Map 15 and Table 5 of El Paso County’s 2016 *MTCP*:

M4 – Falcon Highway from Meridian Road to South Peyton Highway

- Bicycle and secondary regional trail improvements (6.95 miles)

M7 – Elbert Road from US Hwy 24 to Judge Orr Road

- Bicycle improvements (2.32 miles)

M8 – Judge Orr Road from Eastonville Road to South Peyton Highway

- Bicycle improvements (2.98 miles)

M9 – Stapleton Road from Meridian Road to US 24

- Bicycle improvements (2.56 miles)

Also, the Falcon Park-and-Ride facility recently opened at the intersection of Meridian Road/Swingline Road.

#### **CDOT PROCESS AND REQUIREMENTS**

- US Hwy 24/Stapleton is planned to be signalized. The CDOT comment letter dated October 31, 2023, indicated that the applicant will be required to escrow a fair share amount toward this future traffic signal. An access permit will be required to process the escrow.
- The letter identifies a required escrow amount of \$92,000.

**LSC Note:** There are a number of developments – in progress and future/planned - in the area which will also add traffic to this intersection and impact the 4-hour warrant. As

CDOT collects escrow for other developments, LSC recommends that as the collective impact trips (directly impacting the 4-hour warrant volumes) by area developments begins to exceed the 60-vehicle-per-hour denominator, fair-share recalculation of pro-rata share escrow amounts and credit be provided to developments according to the updated fair-share calculations. Also, once the signal is installed, credit should be provided from the Countywide Fee Program based on a ratio of fee program unit signal cost divided by the \$650,000 total signal cost.

- Please refer to the CDOT comment letter or Table 4 for detailed calculations and additional information.
- The CDOT comment letter and Table 4 list some other CDOT access permitting requirements for other offsite intersections.

## **IMPROVEMENTS TABLE**

Please refer to Table 4, which presents the recommendations for roadway improvements.

## **ESCROW ANALYSIS**

The escrow analysis will be provided with the plat submittal.

Note: There are a number of developments – in progress and future/planned – in the area which will also add traffic to these intersections needing turn lane improvements. As El Paso County collects escrow for other developments also impacting these turning movements, LSC recommends that as the collective impact trips directly impacting these turn movements, fair-share recalculation of pro-rata share escrow amounts and credit be provided to developments according to the updated fair-share calculations. Also, once the improvements are completed, applicable/allowable Countywide Fee Program credits for construction of intersection approach improvements (turn lanes) be applied based on a ratio of fee program unit cost divided by the improvement cost.

## **FINDINGS AND CONCLUSIONS**

- The proposed Meadowlake Industrial Park Filing No. 1 is projected to generate about 790 new, external vehicle trips on the average weekday during a 24-hour period, with approximately half entering and half exiting the site.
- During the morning peak hour, approximately 60 entering vehicles and 18 exiting vehicles would be generated.
- Approximately 23 entering and 60 exiting vehicles (less internal capture trips) would be generated by the site during the evening peak hour.
- Some stop-sign- controlled turning movements are projected to operate at LOS E or F in the 2025 short term horizon year. The short-term level of service would be C or better if AWSC

traffic control is utilized. The intersection of US Highway 24/Stapleton is projected to continue to have side street levels of service E or F until signalized.

- Please refer to the Improvements Table 4 for a detailed list of roadway system improvements and/or escrow requirements toward future improvements.
- Please refer to the "Auxiliary Turn-Lane Analysis" section above for recommendations.
- The major internal streets within the site will be designed to meet Urban Non-Residential Collector criteria prescribed in the *ECM*. Classifications for the **minor** internal roads will be private, local streets.
- CDOT State Highway Access Permit applications will be submitted at the site development plan stage of development, or in conjunction with the plat.

\* \* \* \* \*

Please contact me if you have any questions regarding this report.

Respectfully Submitted,

LSC TRANSPORTATION CONSULTANTS, INC.

By: Jeffrey C. Hodsdon, P.E.  
Principal

JCH/JAB:jas

Enclosures: Table 2 and Table 4

Figures 1-7

Traffic Count Reports

Synchro Los Reports

Appendix A

Appendix B

Preliminary Plan Sheets (for reference)

please provide these  
in the report

### Table 2: Trip-Generation Estimate

Table 2: Trip Generation Estimates																	
TAZ	ITE Land Use		Land Use Details			Trip Generation Rates <sup>2</sup>							Trips Generated				
			Value	Units	% Floor Area	Value	Units <sup>1</sup>	Average Weekday	A.M. Peak		P.M. Peak		Average Weekday	A.M. Peak		P.M. Peak	
	Code	Description							In	Out	In	Out		In	Out		
1	150	Warehousing	36.560	Acres	29%	462	KSF	1.71	0.13	0.04	0.05	0.13	790	60	18	23	60
<sup>1</sup> KSF = 1,000 square feet of building floor area																	
<sup>2</sup> Source: <i>Trip Generation, 11th Edition (2021)</i> by the Institute of Transportation Engineers (ITE)																	
9/22/2023																	

clarify that these are am/pm values

**Table 3**  
(page 1 of 3)  
**Auxiliary Turn Lane**  
**Meadowlake Industrial**  
**Filing No. 1 Preliminary Plan**

volume thresholds are met. see comments in narrative and revise

Judge Orr Rd + Curtis Rd/Stapleton Rd						
Criteria	SBL	WBL	NBL	EBL	EBR	WBR
Existing Traffic Control	Stop		Stop			
Assumed Short-Term Traffic Control	Stop		Stop			
Existing Volume (vph)	5 / 18	24 / 2	40 / 54	3 / 2	73 / 24	14 / 13
2025 Total Volume (vph)	5 / 34	28 / 3	61 / 77	7 / 7	87 / 45	25 / 13
Turn Lane Threshold Warrant (vph)	-	-	-	-	50	50
Volume Exceeds Threshold?	Existing	Existing	Existing	Existing	No**	No
Design Speed (mph)	50	60	50	50	50	60
Existing Turn Lane Lengths						
Total Length (ft)	535	495	520	522	-	-
Deceleration Length (ft)	265	240	265	250	-	-
Storage Length (ft)					-	-
Taper Length (ft)	270	255	255	272	-	-
ECM-Prescribed Turn Lane Lengths						
Total Length (ft)	485	580	535	435	435	530
Deceleration Length (ft)	235	290	235	235	235	290
Storage Length (ft)	50	50	100	0	0	0
Taper Length (ft)	200	240	200	200	200	240
Recommended Turn Lane Lengths						
Total Length (ft)	-	-	Escrow for	-	Escrow for	-
Deceleration Length (ft)	-	-	Future	-	Future	-
Storage Length (ft)	-	-	Improvement	-	Improvement	-
Taper Length (ft)	-	-	-	-	-	-
Notes about ECM Criteria						
Improvements Table Reference #	-	-	7.4	-	7.1	-
Meets ECM Criteria?	No*	No	No	Yes		-
Additional Notes	However, total length exceeds ECM; Currently a stop-controlled approach	Saddlehorn Filing 3 CD plans call for upgrade	Currently a stop-controlled approach	Storage length not required, as EBL lane not required	** Assuming CDOT Access Code provision as outlined in the report page 13.	
Date: 2/1/2024						

provide justification for not lengthening the turn lane with this prelim plan development as table 4 item 7.4 indicates long term and if signalized. revise as needed.

**Table 3**

(page 2 of 3)

**Auxiliary Turn Lane Analysis****Meadowlake Industrial Park****Filing No. 1 Preliminary Plan**

Curtis Rd + Sagebrush St				
Criteria	EBL	EBR	NBL	SBR
Existing Traffic Control				
Proposed Short-Term Traffic Control	Stop	Stop		
Existing Volume (vph)				
2025 Total Volume (vph)	8 / 26	10 / 34	38 / 13	22 / 9
Turn Lane Threshold Warrant (vph)	25	50	10	25
Volume Exceeds Threshold?	Yes	No	Yes	No
Design Speed (mph)	40	40	50	50
Existing Turn Lane Lengths				
Total Length (ft)				
Deceleration Length (ft)				
Storage Length (ft)				
Taper Length (ft)				
ECM-Prescribed Turn Lane Lengths (Short-Term)				
Total Length (ft)	365	365	485	435
Deceleration Length (ft)	155	155	235	235
Storage Length (ft)	50	50	50	0
Taper Length (ft)	160	160	200	200
Recommended Turn Lane Lengths				
Total Length (ft)	-	-	485	-
Deceleration Length (ft)	-	-	235	-
Storage Length (ft)	-	-	50	-
Taper Length (ft)	-	-	200	-
Notes about ECM Criteria				
Improvements Table Reference #	-	-	10b.2	10b.1
Meets ECM Criteria?	-	-	Yes	-
Additional Notes	Seperate EB exiting turn lanes not required based on LOS analysis; However, applicant may want to design to accommodate future development	Seperate EB exiting turn lanes not required based on LOS analysis; However, applicant may want to design to accommodate future development	NBL turn lane is required as part of this preliminary plan; However, applicant may want to design for longer stacking length to accommodate future development	SBR turn lane not required, as projected volume is < 25 vph; However, applicant may elect to build with other improvements to accommodate future development
Date: 2/1/2024				

per ECM thresholds for an aux. left turn lane are met and shall be provided.

**Table 3**  
(page 3 of 3)  
**Auxiliary Turn Lane Analysis**  
**Meadowlake Industrial Park**  
**Filing No. 1 Preliminary Plan**

Falcon Hwy + Curtis Rd							
Criteria	SBL	SBR	WBL	WBR	NBL	EBL	EBR
Existing Traffic Control	Stop	Stop			Stop		
Assumed Short-Term Traffic Control*	Stop	Stop			Stop		
Existing Volume (vph)	7 / 21	24 / 14	13 / 8	43 / 11	62 / 228	13 / 11	252 / 63
2025 Total Volume (vph)	8 / 25	53 / 57	14 / 8	49 / 13	66 / 242	51 / 48	267 / 67
Turn Lane Threshold Warrant (vph)	10	25	25	50	10	25	50
Volume Exceeds Threshold?	Existing	Yes*	Existing	No	Existing	Existing	Existing
Design Speed (mph)	50	50	60	60	50	60	60
Existing Turn Lane Lengths							
Total Length (ft)	405		350		510	395	395
Deceleration Length (ft)	295		275		365	275	275
Storage Length (ft)							
Taper Length (ft)	110		75		145	120	120
ECM-Prescribed Turn Lane Lengths							
Total Length (ft)	485	485	580	580	685	530	530
Deceleration Length (ft)	235	235	290	290	235	290	290
Storage Length (ft)	50	50	50	50	250		290
Taper Length (ft)	200	200	240	240	200	240	240
Recommended Turn Lane w/Filing No. 1 Preliminary Plan							
Total Length (ft)	-	Escrow for	-	Escrow for	-	Escrow for	-
Deceleration Length (ft)	-	Future	-	Future	-	Future	-
Storage Length (ft)	-	Improvement	-	Improvement	-	Improvement	-
Taper Length (ft)	-		-		-	-	-
Notes about ECM Criteria							
Improvements Table Reference #	-	8.2	-	8.4	8.5	8.3	-
Meets ECM Criteria?	-	-	-	-	-	No	-
Additional Notes	No changes required to existing turn lane approach. Please refer to the report narrative and improvements table for additional details.           *Currently a stop-controlled approach. Volume does not exceed threshold.           WBR turn lane not required during Filing 1, as projected volume is < 50 vph           Filing 1 site traffic would not add to volumes for the NBL turn lane           Escrow towards the cost of future lengthening           To be converted to a stop sign-controlled approach						

Date:2/1/2024 \* Please refer to the report - potential consideration of change to AWSC.

Table 4			
(page 1 of 3)			
Meadowlake Industrial Park			
Filing No. 1 Preliminary Plan			
Roadway Improvements			
Roadway Segment Improvements			
Item #	Improvement	Timing	Responsibility
1.1	Curtis Road (Short-Term) -- South property line of Filing No. 1 to south end of planned Saddlehorn improvements Upgrade to 2-lane Principal Arterial.	Filing No. 1 Preliminary Plan: Upgrade Curtis Road from the south property boundary north to the south end of the Saddlehorn Ranch improvements. Incorporate paved and gravel shoulders comparable to the Saddlehorn Ranch Filing No. 1 approved CDs. The left-turn lane may need to be positioned off-center to the west given ROW constraints on the east side. Standard redirect taper ratios should be used to shift through lanes. If the southbound right-turn lane is not constructed with this first preliminary plan, install the paved and gravel shoulders.  For the first 100+/- feet north and south of the access, install the radii in the anticipated ultimate location (to accommodate the width for a future SB RT decel and accel lanes plus shoulders) and pave a short temporary tapered pavement area to tie in with the the interim improvements. Also see turn lane improvements section of this table.	Applicant
Adjacent County Arterial Roadway ROW Requirements			
Item #	Improvement	Timing	Responsibility
2.1	Curtis Road 2-Lane Rural Principal Arterial 144' total future ROW (Note: 4-lane Rural Principal is 180')	With the Filing No. 1 Plat: Show dedication of 72' of 1/2 ROW on the west side along the site frontage (including the existing 30').	Applicant (west side - half ROW)
2.2	Curtis Road 4-Lane Rural Principal Arterial 180' right-of-way preservation	Filing No. 1 Preliminary Plan: Show 90' of 1/2 ROW preservation on the west side along the site frontage.	Applicant (west side - half ROW)
Internal Subdivision Roadways			
Item #	Improvement	Timing	Responsibility
3.1	Construct major internal streets to County Urban Non-Residential Collector Standards.	With Filing No. 1	Applicant
3.2	Construct minor internal streets as private local streets build to Urban, Local (private) standards with 30' of asphalt plus Typc C curb (optional) as shown on the Preliminary Plan.	With Filing No. 1, as development occurs	Applicant
CDOT Off-Site Intersections			
US Highway 24/Stapleton Intersection (CDOT)			
Item #	Improvement	Timing	Responsibility
4.1	Submit Access Permit Application to CDOT	Submit access permit application with the /plat stage of the development process.	Applicant
4.2	Escrow towards cost of signalization. CDOT Escrow for Participation in the cost of future signalization - \$92,000** (Note: Opportunity for County fee Program credit/reimbursement for a portion; also opportunity for cost recovery as other area project are required to escrow funds and if/when this development's overall fair share percentage is reduced accordingly in the future.	Escrow required w/the access permit process at the site development plan/Plat.	Applicant to escrow funds (as part of the CDOT access permit process) toward the future signal per the CDOT comment letter.
US Highway 24/Falcon Highway and US Highway 24/Judge Orr Intersections (CDOT)			
Item #	Improvement	Timing	Responsibility
5.1	<b>Falcon Highway with connection to SH 24G:</b> Submittal Access Permit Applications to CDOT will be required for the: - Falcon Highway with connection to SH24G A State Highway Access Permit(s) are required by El Paso County or the Development for escrows for the equal fair share amount of the intersection signal at these intersections. (Per CDOT review letter dated October 31, 2023).	Submit access permit application(s) at the platting/site development plan stage. A requirement for escrow as part of the required CDOT access permit process has been identified; however, no amount was specified in the comment letter and these intersections are already signalized.	Applicant (El Paso County will likely be the Permittee)
5.2	<b>Judge Orr Road connection to SH 24G</b> 'Submittal Access Permit Applications to CDOT will be required for the: - - Judge Orr Road with connection to SH24G A State Highway Access Permit(s) are required by El Paso County or the Development for escrows for the equal fair share amount of the intersection signal at these intersections. (Per CDOT review letter dated October 31, 2023).	Submit access permit application(s) at the Preliminary Plan or platting/site development plan stage.  A requirement for escrow as part of the required CDOT access permit process has been identified, however no amount was specified in the comment letter and these intersections are already signalized.	Applicant (El Paso County will likely be the Permittee)



Table 4 (page 2 of 3)			
Meadowlake Industrial Park			
Filing No. 1 Preliminary Plan			
Roadway Improvements			
El Paso County Off-Site Intersections			
Falcon Highway/Meridian Road Intersection			
6.1	<u>Short Term</u> Westbound right-turn deceleration lane	Currently warranted by ECM	Escrow toward improvement with Filing No. 1 Preliminary Plan (fee program credit per fee)
Judge Orr/Curtis Road Intersection			
Item #	Improvement	Timing	Responsibility
7.1	<u>Short Term</u> <b>Eastbound right-turn deceleration lane</b> - Escrow funds toward this future improvement.	Financial assurances to be provided as part of the final plat.	Applicant
7.2	<u>Short Term - Traffic Control</u> This TIS indicates the intersection would continue to operate at an acceptable LOS with the current TWSC in the 2025/Short Term based on the Background + Filing No. 1 Site Traffic Scenario.	This TIS indicates the intersection would continue to operate at an acceptable LOS with the current TWSC in the 2025/Short Term based on the Background + Filing No. 1 Site Traffic Scenario.	N/A
7.3	<u>Long Term (or Prior to 2040) - Traffic Control</u> This intersection is likely an eligible intersection for future signalization within the fee program. This TIS indicates the intersection would continue to operate at an acceptable LOS with the current TWSC in the 2025/Short Term.  Master Study: Participate on a pro-rata basis with a fair share contribution or upgrade the intersection, potentially including new traffic control, to mitigate anticipated substandard level of service, as necessary.	Once LOS of AWSC drops below acceptable levels; and/or once signal warrants are met. Depends on the pace and intensity of development of this site and the rate of other area development and associated background traffic growth. This TIS indicates the intersection would continue to operate at an acceptable LOS with the current TWSC in the 2025/Short Term based on the Background + Filing No. 1 Site Traffic Scenario.	The applicant will pay fee program traffic impact fees. This intersection is likely an eligible intersection for future signalization within the fee program.
7.4	<u>Long Term (if signalized in the future)</u> Lengthen northbound left-turn deceleration lane.	As needed based on future speed limit and turning volume/stacking length criteria.	Escrow for improvement or construction if warranted at the time of development (fee program credit per fee program provisions).
Adjacent & Access Intersections			
Curtis Road/Falcon Highway			
Item #	Improvement	Timing	Responsibility
8.1	<u>From Master Study (for Reference)</u> <u>Short Term/Long Term</u> Change to AWSC traffic control as necessary. Participate on a pro-rata basis with a fair share contribution toward upgrade the intersection, potentially including new traffic control, to mitigate substandard level of service, as necessary. Significant improvements may be needed in the short term if rapid site buildout and area growth occurs. Otherwise, intermediate term.	<u>From Master Study (for Reference)</u> Once LOS of AWSC drops below acceptable levels; and/or once signal warrants are met. Depends on the pace and intensity of development of this site and the rate of other area development and associated background traffic growth.	<u>From Master Study (for Reference)</u> The applicant will pay fee program traffic impact fees and any required intersection improvements (or participation) may be fee-program eligible for credit based on the program guidelines.
8.1a	<u>Short Term:</u> This TIS indicates the intersection would operate at LOS F/E (AM/PM) on the northbound approach with the current TWSC based on the in the 2025/Short Term based on the Background + Filing No. 1 Site Traffic Scenario. Consideration for interim conversion to AWSC.	Consider traffic-control change to interim AWSC once warrants for AWSC control are met.	add applicant
8.1b	<u>Long Term (or Prior to 2040)</u> This intersection is likely an eligible intersection for future signalization within the fee program. See above item 8.1a relative to the Short Term. A roundabout may also be considered.  Master Study (for reference:) Participate on a pro-rata basis with a fair share contribution or upgrade the intersection, potentially including new traffic control, to mitigate anticipated substandard level of service, as necessary.	Once LOS of AWSC control (interim change to AWSC in the short term) drops below acceptable levels and/or once signal warrants are met. Depends on the pace and intensity of development of this site and the rate of other area development and associated background traffic growth.	add applicant and/or other developments.
8.2	<u>Short Term (if planned to be signalized in the future)</u> Construct SB right-turn deceleration lane on Curtis Road approaching Falcon Highway.  ONLY In the case of a future signalized intersection or reverse of the TWSC stop-sign traffic control orientation, or as needed in the future for acceptable operations. See footnote below.	Only required upon Signalization or reversal of the stop-sign traffic control orientation, or as needed in the future for acceptable operations. See footnote below.  Escrow funds toward this future improvement with the site development plan /plat.	Applicant - Escrow for pro-rata share of improvement. Responsibility will likely be shared between this project and Saddlehorn Ranch, with the cost shared.
8.3	<u>Short Term</u> Escrow toward the cost of future <b>lengthening of the existing EB left-turn deceleration lane</b> on Falcon Highway approaching Curtis Road.	Note: EPC comments on Saddlehorn Filing No. 4 indicate "construct with Filing 4 if warranted based on 50' queuing length, per conditions of approval." A similar condition likely applies to this development.  Previously recommended "trigger" from Saddlehorn Ranch: once projected queue (95th percentile) exceeds 50 feet. LSC suggests the same trigger for this project. When warrants require improvements, a deviation would be submitted. A deviation request, if approved, would allow interim use of the existing lane and taper (based on short term total turning volumes /associated queue length). Deviation not required at this time.	Escrow for pro-rata share of future improvement. Responsibility will likely be shared between this project and Saddlehorn Ranch, with the cost shared.
8.4	<u>Short Term</u> <b>WB right-turn deceleration lane on Falcon Highway approaching Curtis Road.</b>  <u>From Master Study (for Reference)</u> Construct WB right-turn deceleration lane on Falcon Highway approaching Curtis Road.  This turn lane is not projected to be warranted based on Filing No. 1 Preliminary Plan projected volume.  Escrow toward the cost of future WB right-turn deceleration lane on Falcon Highway approaching Curtis Road.	This turn lane is not projected to be warranted based on Filing No. 1 Preliminary Plan projected volume.	Escrow for pro-rata share of improvement  please identify who will install this turn lane between the two developments as it is warranted per criteria
8.5	<u>From Master TIS:</u> <u>Long Term (if planned to be signalized in the future)</u> Lengthen northbound left-turn deceleration lane This Preliminary Plan is not projected to add to this northbound left turn lane in the short term as no access is planned for Falcon Highway with the Filing No. 1 Preliminary Plan.	<u>N/A with this Preliminary Plan</u> As needed based on future speed limit and turning volume/stacking length criteria	<u>N/A with this Preliminary Plan</u> Escrow for improvement or construction if warranted at the time of development (fee program credit per fee program provisions)

see comments on table 3 and revise

add: and any required improvements due to future development of the overall Meadowlake Industrial plan

queueing analysis has not been provided to determine whether it is triggered. The existing deficiency shall be installed by either Saddlehorn or this development

Table 4			
(page 3 of 3)			
Meadowlake Industrial Park			
Filing No. 1 Preliminary Plan			
Roadway Improvements			
Curtis Road/Sagebrush Street (Full-Movement Access)			
Item #	Improvement	Timing	Responsibility
	Short Term		
10a.1	<u>Short Term &amp; Long Term</u> Master Study: w/ Roundabout Option - Construct one-lane modern roundabout, expandable to a two-lane roundabout. Roundabout not proposed with the Preliminary Plan.	Roundabout not proposed with the Preliminary Plan.	N/A
OR			
10b.1	<u>Short Term</u> Southbound right-turn deceleration lane on Curtis Rd approaching the site access.	This turn lane is not projected to be warranted based on Filing No. 1 Preliminary Plan projected right turn volume.  The applicant may elect (volunteer) to install this turn lane as part of the access construction and required left turn lane improvement.  See design notes under item 1.	Applicant
10b.2	<u>Short Term</u> Northbound left-turn deceleration lane on Curtis Rd approaching the site access.  <u>See Design notes under item 1.1</u>	With site development plan/plat. This turn lane is projected to be warranted based on Filing No. 1 Preliminary Plan projected volumes.	Applicant
10b.3	<u>Short Term</u> Southbound right-turn acceleration lane on Curtis Rd for right-turning traffic exiting the site access.	This auxiliary lane is not projected to be warranted based on Filing No. 1 Preliminary Plan projected volume.	Applicant
10b.4a	<u>Short Term</u> Construct intersection w/Stop-sign control for the eastbound approach. See design notes under item 1.1.	With site development plan/plat.	Applicant
10b.4b	<u>Long Term</u> <i>From Master TIS: Install traffic signal</i> A signal warrant would not be met based on Filing No. 1 Preliminary Plan projected volume.	Once warranted - with future MLIP development, as necessary to maintain acceptable intersection operations.	Applicant
Item 4.2 Note: CDOT Formula taken from CDOT review letter:US24 & Stapleton: Based on the average AM & PM site-generated passenger cars directly impacting the 4-hour signal warrant, the Meadowlake Industrial Park Filing No. 1 development is required to escrow \$92,000 (8.5 new vehicles / 60 vehicles-to-warrant x \$650K/signal cost) to CDOT for the construction of the traffic signal.			
Item 8.2 Note: The default ECM trigger for this potential right turn lane is 25 vph, and the threshold would be met with 2025 background or site-generated (and total) traffic. However, since the southbound approach is currently Stop-sign controlled, the turn lane is not currently needed due to mitigate speed differential between through traffic and right turning traffic. LSC recommends the following triggers: o Once the intersection is signalized (if as signal is the selected future traffic control instead of a modern roundabout) or o If El Paso County switches the orientation of the stop signs such that Curtis is changed to the “major street” and Falcon Highway is changed to the “minor street” (the intersection remains two-way, stop-sign control). o If or needed for operations – i.e., to maintain an acceptable level of service as an intersection with TWSC or AWSC As none of these triggers are met based on short term total traffic volumes, escrow for pro-rata share of this potential improvement with the plat submittal. LSC suggests escrow in leu of lane construction as the above triggers are not met and the lane could potentially be "throw away" if a roundabout is selected as the future traffic control. The escrow for the southbound right turn lane could potentially be returned to the applicant, as it would not be necessary with a roundabout.			
LSC Transportation Consultants, Inc. (2/1/2024)			

you may also add a note similar to 10.b.4.b

revise to applicant as the future development of this Meadowlake site would drive this improvement.

Please clarify if this change will provide an acceptable LOS at this intersection.

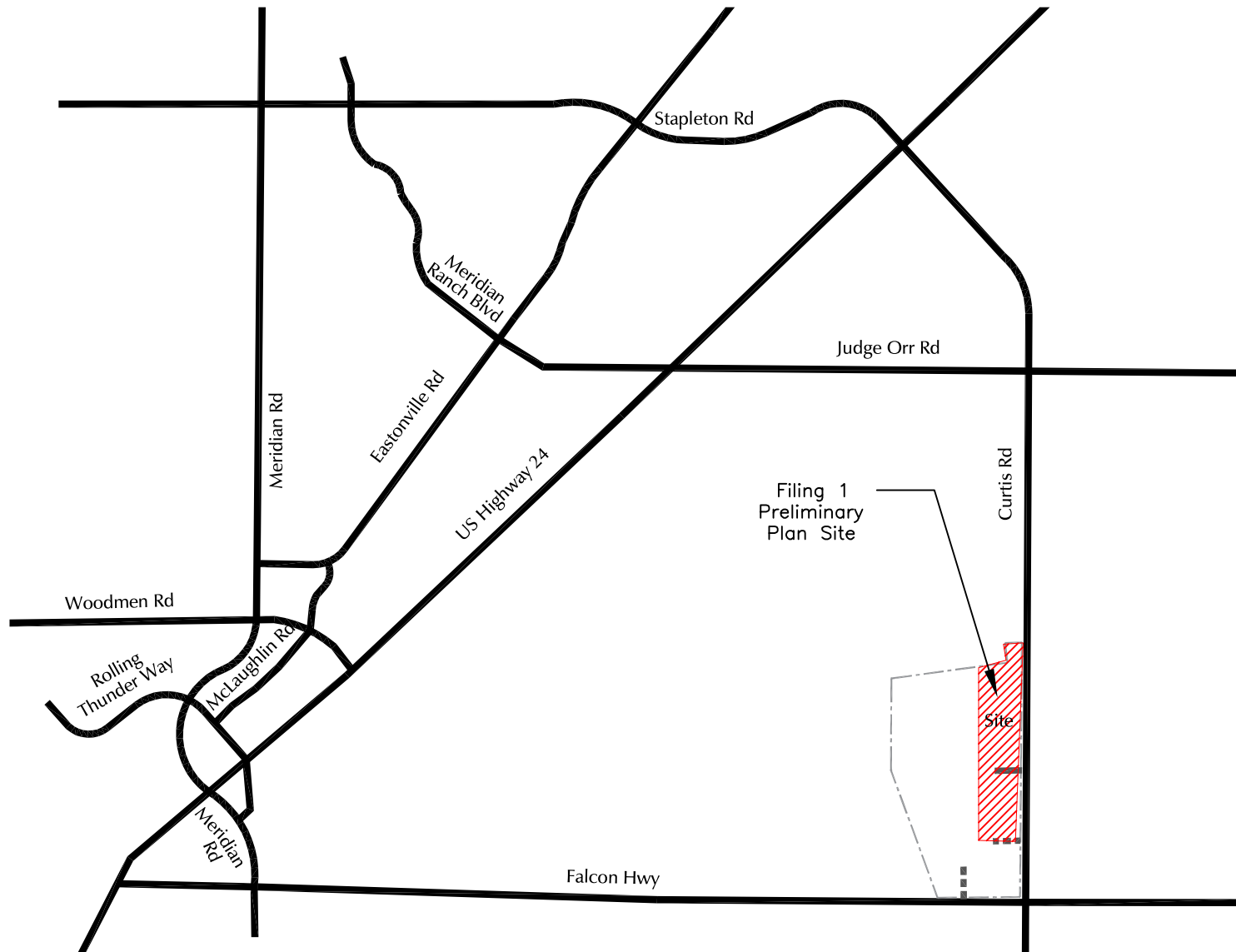


Figure 1  
Vicinity  
Map

Meadowlake Industrial Park Filing No. 1 Preliminary Plan (LSC #S234040)

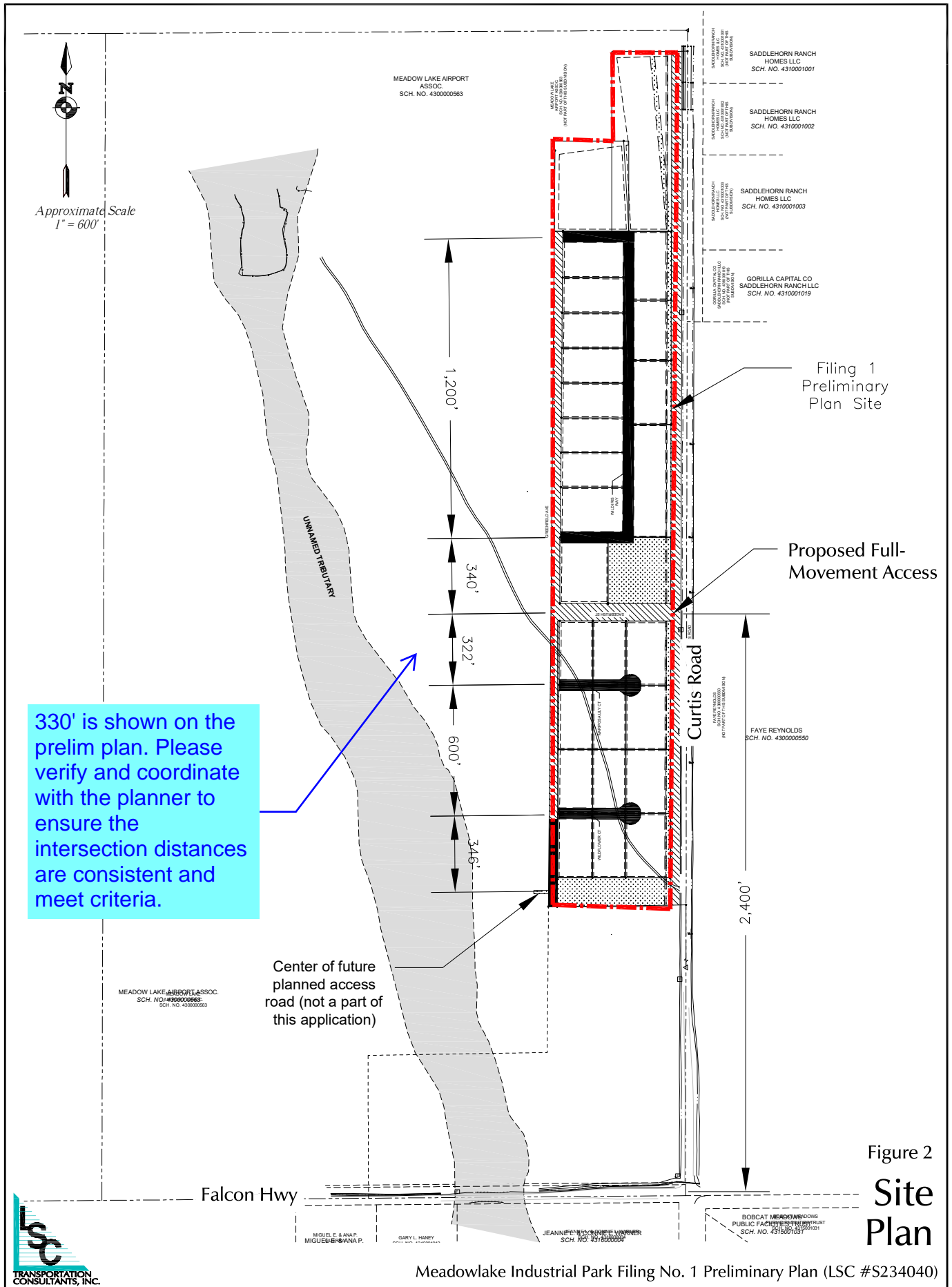


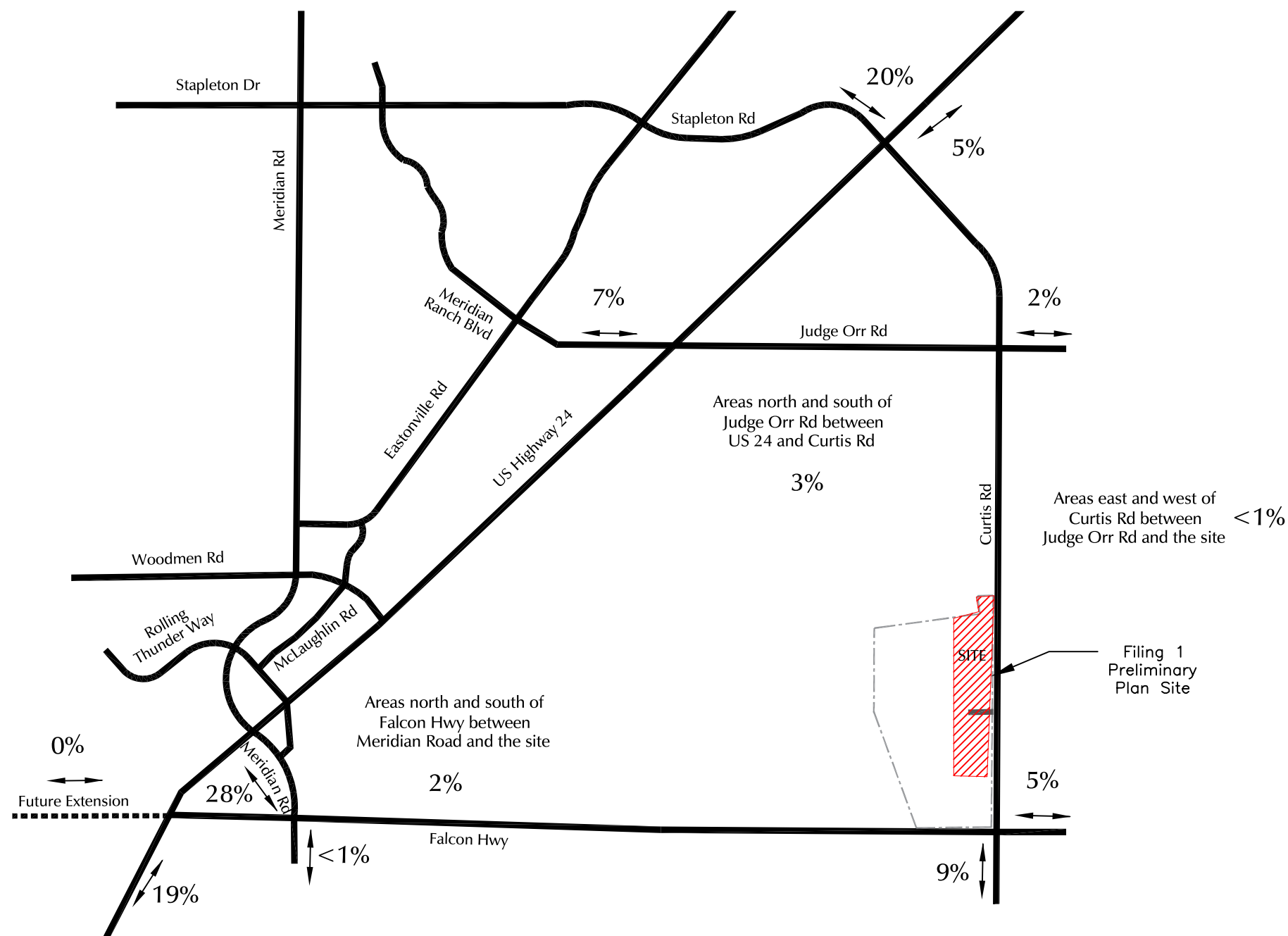
Figure 2  
**Site Plan**







Approximate Scale  
Scale: 1" = 3,000'

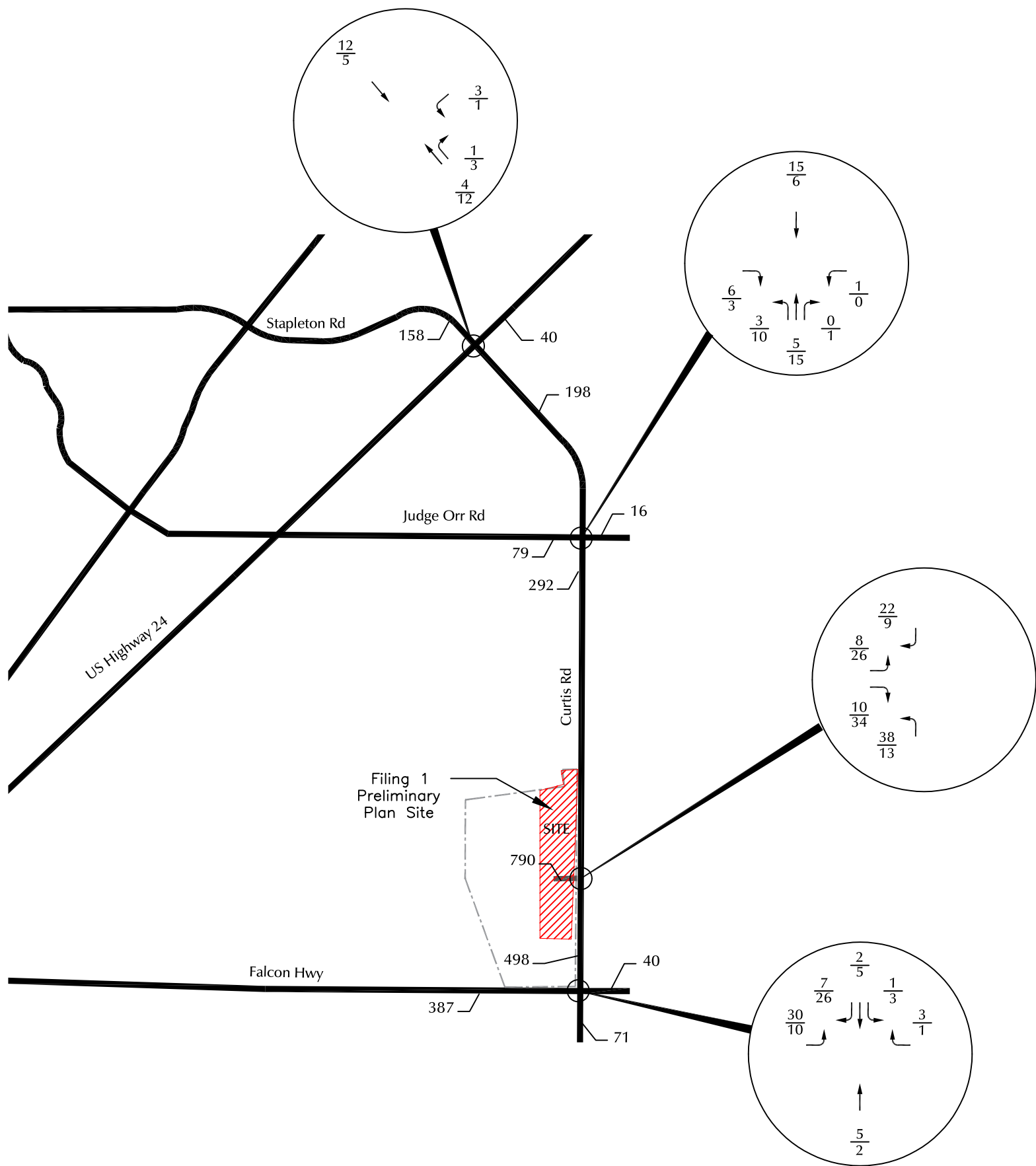


XX% = Directional Distribution of Site-Generated Trips

Figure 4

## Short-Term Directional Distribution

Meadowlake Industrial Park Filing No. 1 Preliminary Plan (LSC #S234040)



Approximate Scale  
 Scale: 1" = 3,000'



$\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
 $\frac{XX}{XX}$  = PM Weekday Peak-Hour Traffic (vehicles per hour)  
 X,XXX = Average Daily Traffic (vehicles per day)

Figure 5  
**Short-Term Site-Generated Traffic**  
 Meadowlake Industrial Park Filing No. 1 Preliminary Plan (LSC #S234040)



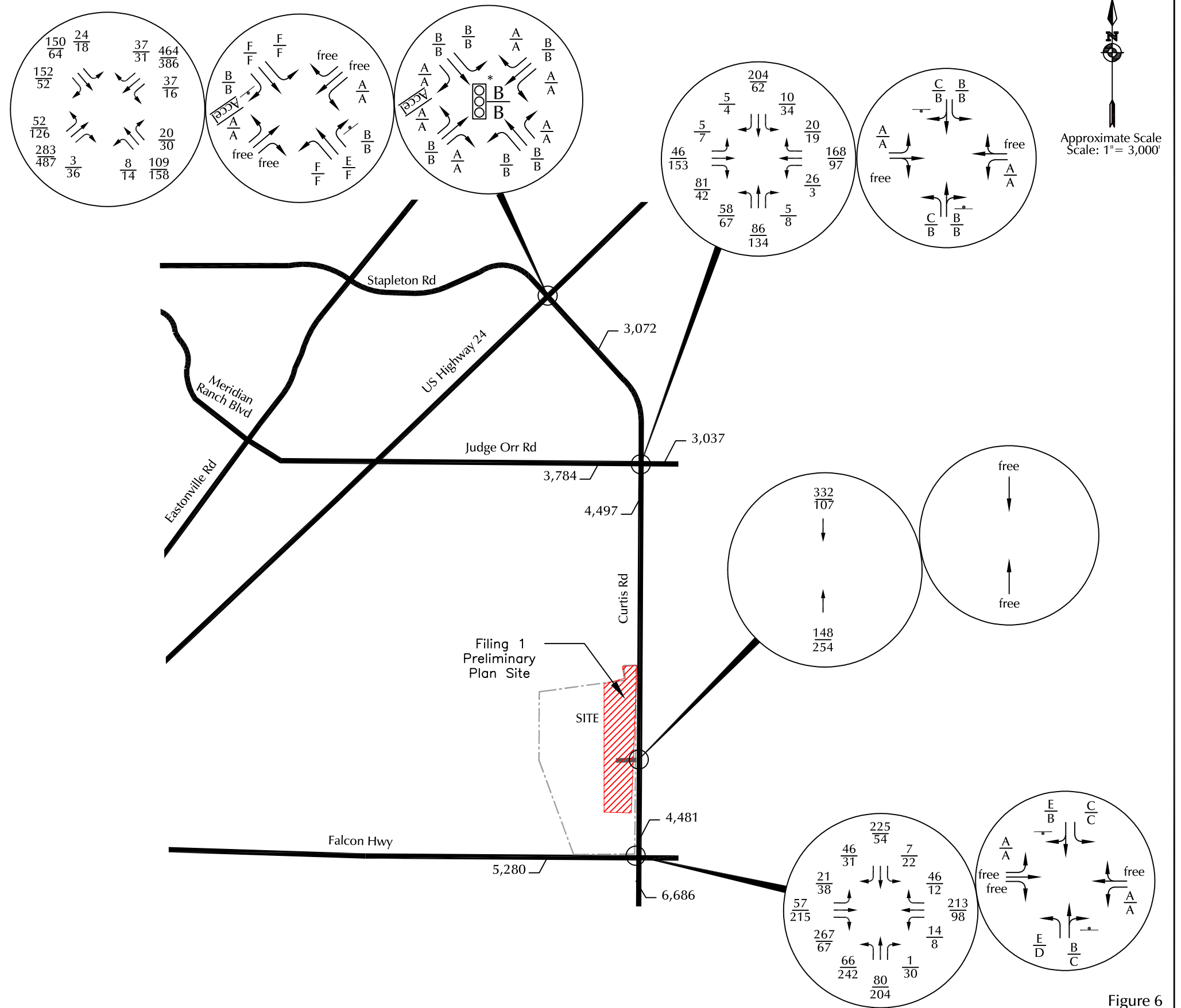


Figure 6  
2025 Background Traffic, Lane Geometry,  
Traffic Control, and Level of Service

Meadowlake Industrial Park Filing No. 1 Preliminary Plan (LSC #S234040)



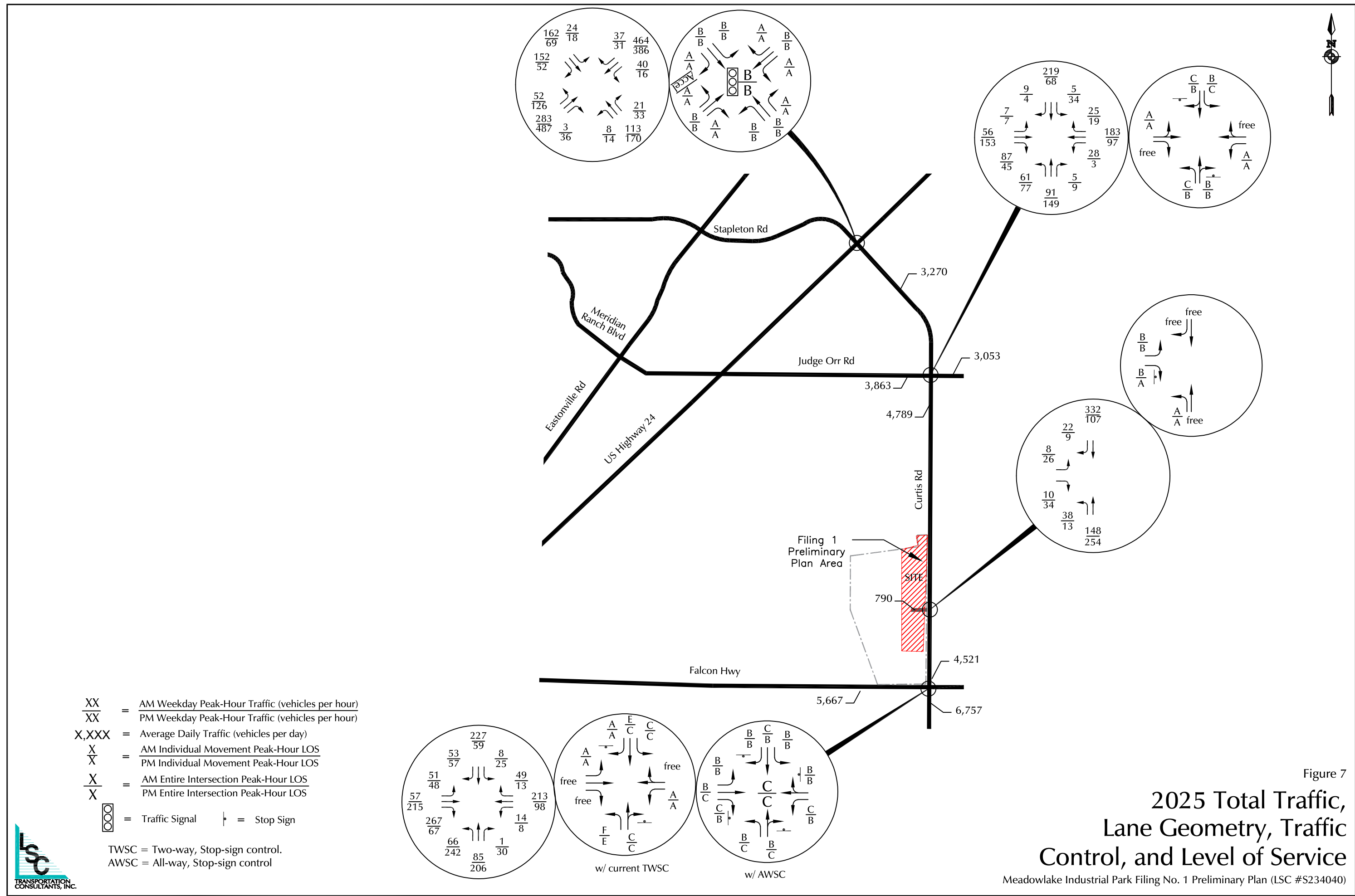


Figure 7  
**2025 Total Traffic,  
 Lane Geometry, Traffic  
 Control, and Level of Service**  
 Meadowlake Industrial Park Filing No. 1 Preliminary Plan (LSC #S234040)





$\frac{XX}{XX}$  = AM Weekday Peak-Hour Traffic (vehicles per hour)  
          = PM Weekday Peak-Hour Traffic (vehicles per hour)  
X,XXX = Average Daily Traffic (vehicles per day)

\*Expanded to show site-generated traffic at the Master TIS study area intersections, for reference, and used in the Appendix B study area determination

Appendix Figure A-2  
**Short-Term Site-Generated Traffic\***  
Meadowlake Industrial Park Filing No. 1 Preliminary Plan (LSC #S234040)

