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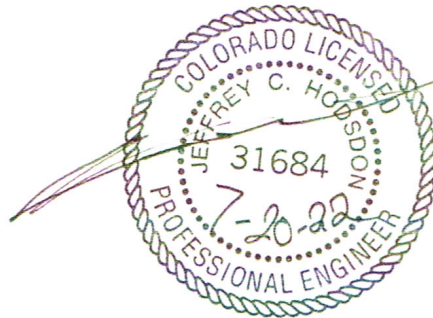
This is just for Filing 1.
 Please remove reference
 to Filing No. 2

1

Waterbury Filing Nos. 1 and 2
 Traffic Impact Analysis
 PUDSP215 SF237 2
 (LSC #204220)
 July 20, 2022

Traffic Engineer's Statement

This traffic report and supporting information were prepared under my responsible charge and they comport with the standard of care. So far as is consistent with the standard of care, said report was prepared in general conformance with the criteria established by the County for traffic reports.



Developer's Statement

I, the Developer, have read and will comply with all commitments made on my behalf within this report.

Pat R. Mantz

7/21/22
 Date

LSC Responses to TIS Redline Comments (on the PUD Study)

Page: 1

☰ Number: 1 Author: CDurham Subject: Callout Date: 4/26/2023 16:17:55

[This is just for Filing 1. Please remove reference to Filing No. 2](#)

↶ Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:21:35

LSC Response: Revised as requested

☰ Number: 2 Author: CDurham Subject: Text Box Date: 4/26/2023 16:17:12

[SF237](#)

↶ Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:21:38

LSC Response: Revised as requested

Waterbury Filing Nos. 1 ~~and 2~~¹

Traffic Impact Analysis

Prepared for:
4 Way Ranch Joint Venture, LLC
P.O. Box 50223
Colorado Springs, CO 80949

Contact: Mr. Peter Martz

JULY 20, 2022


LSC Transportation Consultants, Inc.

Prepared by: Jeffrey C. Hodsdon, P.E. and Kirstin D. Ferrin, P.E.

LSC #204220
PUDSP215



Number: 1 Author: CDurham Subject: Line Date: 4/26/2023 16:18:19

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:21:42

LSC Response: Revised as requested



LSC TRANSPORTATION CONSULTANTS, INC.
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July 20, 2022

ATTN: Peter Martz
4 Way Ranch Joint Venture, LLC
P.O. Box 50223
Colorado Springs, CO 80949

RE: Waterbury Filing Nos. 1 and 2
El Paso County, Colorado
Traffic Impact Analysis
PUDSP215 SF237
LSC #204220

Dear Peter:

This is just for Filing 1.
Please remove reference
to Filing No. 2

In response to your request, LSC Transportation Consultants, Inc. has prepared this updated traffic impact analysis for the Waterbury Filings Nos. 1 and 2 residential development in El Paso County, Colorado. As shown in Figure 1, the overall Waterbury PUD Development is located generally north of Stapleton Drive and east Eastonville Road in El Paso County, Colorado.

REPORT CONTENTS

change to "Filing No. 1
Final Plat"

This report is being prepared as part of a submittal to El Paso County. It identifies the traffic impacts of the proposed residential development. The report contains the following:

- The traffic count data and street conditions;
- Short-term and 2040 baseline/background traffic volume estimates;
- The projected average weekday and peak-hour vehicle trips to be generated by the site;
- The assignment of the site's projected traffic volumes to the key area streets and intersections for the short and long term and the resulting total traffic volumes for the short and long term;
- The resulting traffic impacts including level of service analysis at key intersections; and
- Findings and recommendations.

☰ Number: 1 Author: CDurham Subject: Text Box Date: 4/26/2023 16:18:56
SF237

↶ Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:21:47

LSC Response: Revised as requested

☰ Number: 2 Author: CDurham Subject: Callout Date: 4/26/2023 16:18:45
[This is just for Filing 1. Please remove reference to Filing No. 2](#)

↶ Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:22:09

LSC Response: Revised as requested

☰ Number: 3 Author: CDurham Subject: Callout Date: 4/26/2023 16:19:40
[change to "Filing No. 1 Final Plat"](#)

↶ Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:22:35

LSC Response: Revised as requested

PREVIOUS TRAFFIC REPORTS COMPLETED IN THE AREA

The overall Waterbury PUD Development Plan was previously studied in a traffic impact study by LSC dated January 10, 2013. This was essentially the “Master TIS” for the overall development. LSC has also completed the following site-specific traffic studies:

- *Waterbury Filing No. 1 Updated Traffic Impact Study*, January 6, 2014
- *Waterbury Phase 1 Filing Nos. 2 and 3 Updated Traffic Impact Analysis*, October 16, 2017
- *Waterbury Phase 2 Preliminary Plan Traffic Impact Analysis*, August 3, 2017

This report is an update to the Preliminary Plan Phase 1 reports.

A list of other traffic studies in the area of study completed within the past five years (that LSC is aware of) is presented in Appendix Table 1. This study accounts for the land use, trip generation and the roadway network included in these studies.

LAND USE AND ACCESS

Site Plan


Figure 2 shows the location of the entire Waterbury PUD development as well as the location of the currently proposed Filing Nos. 1 and 2. The currently proposed filings are planned to include 198 lots for single-family homes. This is two more lots than was assumed in the 2013 traffic study for the same area (the Phase 1 Preliminary Plan area). Access for these filings will be to a new full-movement intersection (Saybrook Road) on Stapleton Road 1,150 east of Bandanero Drive. A deviation for a full-movement intersection at Stapleton/Saybrook was previously approved. A deviation for the southbound approach laneage on Saybrook was also approved. Per the request by Staff, both of these prior-approved deviations are being resubmitted on the current deviation request form. In the future, Filing Nos. 1 and 2 will have additional access through the remaining Waterbury PUD development area to Eastonville Road and the future Dumont Drive.

This is just for Filing 1.
Please remove reference
to Filing No. 2


Sight Distance Analysis

Figure 3 shows sight-distance analysis at the proposed public street intersection to Stapleton Drive (Saybrook Road). Per the *El Paso County Engineering Criteria Manual ECM* Table 2-21, the required intersection sight distance at Saybrook Road is 555 feet, based on a design speed of 50 mph for Stapleton Drive. As shown in Figure 3, this requirement is met in both directions.

The required stopping sight distance from *ECM* Table 2-17 is 445 feet. As shown in Figure 3 this requirement is met in both directions.

 Number: 1 Author: CDurham Subject: Callout Date: 4/26/2023 16:21:07

[This is just for Filing 1. Please remove reference to Filing No. 2](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:22:56

LSC Response: Revised as requested

Pedestrian and Bicycle Accommodations

There are two existing schools located within two miles of the site, Falcon High School and Meridian Ranch Elementary. A future K-8 school site is located just north of Falcon High School. These schools are located north of Londonderry Drive and west of Eastonville Road. There is also a regional park located northwest of the site.

Figure 4 shows the school pedestrian routes. There are currently no sidewalks on Stapleton Drive and on Eastonville Road. [Indicate if there are plans for sidewalk to be installed in the future.](#) ¹

The following is a list of known and planned multi-modal and pedestrian accommodations in the vicinity of the site:

- A park n' ride facility is planned for a site near Meridian Road and US Highway 24.
- The Rock Island Regional Trail passes near to the site.
- Many of the area County roads have been or will be upgraded to provide paved shoulders for cyclists. Stapleton is shown as a future "bike route."
- The *MTCP* shows a future primary regional trail along Eastonville Road. Another future primary regional trail is shown extending west from Eastonville Road through Meridian Ranch.
- The Highway 24 PEL study also includes multi-modal elements.


ROADWAY AND TRAFFIC CONDITIONS


Area Roadways

The major roadways in the site's vicinity are shown in Figure 1 and are described below. Copies of the 2016 *El Paso County Major Transportation Corridors Plan (MTCP) 2040 Roadway Plan*, and 2016 *MTCP 2060 Corridor Preservation Plan (CPP)* with the site location identified on them have been attached to this report.

US Highway 24 (US Hwy 24) is generally a two-lane State Highway extending east/west across Colorado connecting the Buena Vista, Colorado Springs, and Limon areas. US Hwy 24 is planned to be widened to four lanes through the Falcon area. The US Hwy 24 PEL identifies this widening as a high priority with a timeline of less than 10 years. US Hwy 24 in the vicinity is classified as an EX – Expressway/Major Bypass by the Colorado Department of Transportation (CDOT). US Hwy 24 is shown as a four-lane Principal Arterial on the *MTCP* and the *Preserved Corridor Network Plan*. The posted speed limit on US Hwy 24 adjacent to the site is 65 miles per hour (mph).

Eastonville Road extends northeast from Meridian Road to past Hodgen Road. It is shown as a two-lane Minor Arterial on the *El Paso County Major Transportation Corridors Plan* and the *Preserved Corridor Network Plan*. Eastonville Road has a three-lane cross-section (one through lane in each direction plus a center two-way, left-turn lane) from Woodmen Hills Drive to Snaffle Bit Road (approximately midway between Judge Orr Road and Stapleton Road). Eastonville Road is a two-lane roadway north and south of this section. Eastonville Road is currently unpaved north of Londonderry

 Number: 1 Author: kdfer Subject: Text Box Date: 10/4/2024 11:13:27
[Indicate if there are plans for sidewalk to be installed in the future.](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:34:17

LSC Response: Revised as requested

Drive. Pikes Peak Rural Transportation Authority (PPRTA)-funded improvements are anticipated in the future for Eastonville Road. The *Conceptual Design Report Eastonville Road Project* prepared by Wilson & Company Inc. in April 2021 shows the section of Eastonville adjacent to the site as an urban 48-foot paved section with one through lane in each direction, a two-way, left-turn lane center median, and 6-foot paved shoulder. The posted speed limit north of Stapleton Drive is 35 mph.

Stapleton Drive is shown as an Urban four-lane Principal Arterial on the El Paso County *Major Transportation Corridors Plan* and El Paso County *Corridor Preservation Plan (CPP)*. Stapleton Drive extends east from Towner Drive to US Hwy 24. Stapleton continues southeast, then south as Curtis Road. It is planned to be ultimately extended west to connect with the Briargate Parkway extension. Stapleton Drive currently is a half-section of a four-lane Principal Arterial street (one through lane in each direction) between Meridian Road and US Hwy 24. The posted speed limit between Eastonville Road and US Hwy 24 is 45 mph.

Existing (2017-2020) Traffic Volumes

Figure 5 shows the existing morning and afternoon peak-hour traffic volumes at key intersections in the vicinity of the site. The morning peak hour was assumed to occur for one hour between 6:30 a.m. and 8:30 a.m. The afternoon peak hour was assumed to occur for one hour between 4:00 p.m. and 6:00 p.m. These volumes are based on manual intersection turning-movement counts conducted by LSC in May 2017, November 2018, December 2018, and December 2020 and data provided by CDOT for the intersection of Stapleton/US Highway 24 from December 2019. The count data sheets are attached for reference.

CDOT has newer information from 2021. ¹

Turning-movement counts were conducted at the intersection of US Hwy 24/Stapleton at the following times:

- Tuesday, December 3, 2019 – Thursday, December 5, 2019 – 6:00 am to 6:00 pm (by All Traffic Data Services, Inc.)
- Wednesday, December 16, 2020 – 7:00 to 9:00 a.m.
- Wednesday, December 16, 2020 – 4:00 to 6:00 p.m.

Figure 5 shows the results of both the December 2019 counts and the December 2020 counts as the more current counts were likely impacted by restrictions related the COVID-19 pandemic.

Turning movement counts were conducted at the intersection of Eastonville/Stapleton at the following times:

- Thursday, May 23, 2017 – 6:30 to 8:30 a.m.
- Thursday, May 11, 2017 – 4:00 to 6:00 p.m.

Turning movement counts were conducted at the intersection of Eastonville/Londonderry at the following times:

- Tuesday, December 11, 2018 – 6:30 to 8:30 a.m.
- Tuesday, December 11, 2018 – 4:00 to 6:00 p.m.

Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 08:42:38

[CDOT has newer information from 2021.](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 10:34:38

LSC Response: Updated data has been provided as requested

December 2020 count data which were likely impacted by restrictions related to the COVID-19 pandemic. The southeast-bound left-turn and through movements and the northwest-bound left-turn and through movements at the two-way, stop sign-controlled intersection of Stapleton/US Hwy 24 are currently operating at LOS F during the morning peak hour. The southeast-bound left-turn movement and the northwest-bound through movement are currently operating at LOS F during the afternoon peak hour.

Eastonville/Stapleton

The eastbound approach at the two-way stop-sign-controlled intersection of Stapleton/Eastonville is currently operating at LOS F during the morning peak hour. All other movements are currently operating at a LOS D or better during the peak hours.

Eastonville/Londonderry

The eastbound left-turn movement at the two-way, stop-sign-controlled intersection of Eastonville/Londonderry is currently operating at a LOS D during the morning peak hour.

Indicate what LOS other movements operate at. ¹

SHORT-TERM (YEAR 2021) BACKGROUND TRAFFIC

2028? One year after full buildout per Appendix B.2.2 ²

Background traffic is the traffic estimated to be on the adjacent roadways and at adjacent intersections without the proposed development's trip generation of site-generated traffic volumes. Background traffic includes the through traffic and the traffic generated by nearby developments but assumes zero traffic generated by the site. Figure 6 shows the projected background traffic volumes one year following the anticipated buildout of Phase 1 (2028).

In lieu of a general/"blanket" growth rate, LSC has developed small area traffic models for the Waterbury PUD, Meridian Ranch, Grandview Reserve and the Trails as part of previous work completed in the area. The results of these modeling efforts have been combined to estimate the background traffic volumes. These background traffic volumes have been based on the existing traffic volumes (from Figure 5) plus increases in traffic due to regional growth, including buildout of the following subdivisions in the vicinity of the site:

- Meridian Ranch Filings 1-3 and Filings 6-8;
- Meridian Ranch Estates Filings 2-3;
- Meridian Ranch Filing 11;
- Stonebridge at Meridian Ranch Filings 1, 2, and 3;
- Meridian Ranch Filing 9;
- The Vistas at Meridian Ranch Filing 1;
- WindingWalk at Meridian Ranch Filing 1;
- The Enclave at Stonebridge at Meridian Ranch;
- The Estates at Rolling Hills Ranch Filing Nos. 1 and 2; and
- The Rolling Hills Ranch at Meridian Ranch PUD Filings Nos. 1 and 2.

☰ Number: 1 Author: CDurham Subject: Text Box Date: 4/27/2023 08:48:02

[Indicate what LOS other movements operate at.](#)

↶ Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:13:35

LSC Response: Revised as requested

☰ Number: 2 Author: CDurham Subject: Callout Date: 4/27/2023 08:52:00

[2028? One year after full buildout per Appendix B.2.2](#)

↶ Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:13:49

LSC Response: The short-term year has been updated to 2030

Increases in through traffic on US Hwy 24 were estimated based a yearly growth rate of 2 percent per year. This growth rate was calculated from the CDOT 20-year growth factor for US Hwy 24 adjacent to the site. The short-term background traffic volumes assume Rex Road has been extended from its existing terminus to the Rolling Hills Ranch at Meridian Ranch PUD access but **not** to Eastonville Road. The short-term background traffic volumes also do not include any projected traffic from the Grandview Reserve as the initial phases are not anticipated to begin construction until 2023.

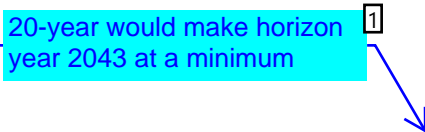
2040 BACKGROUND TRAFFIC 

Figure 7 shows the projected 20-year background traffic volumes for the year 2040. The 2040 background/baseline traffic volumes are based on the *Colorado Department of Transportation US Hwy 24 Planning and Environmental Linkages Study Final Corridor Conditions Report* dated December 2016 and on previous work completed by LSC in the area, including work done for the remainder of Waterbury, Meridian Ranch and Grandview Reserve developments. The 2040 traffic volumes shown in the PEL were based on the PPACG traffic demand model. The projected volume on US Hwy 24 adjacent to the site was shown to increase from 9,500 vehicles per day to 23,000 vehicles per day. This represents a 20-year growth rate of about 4.5 percent per year. The 2040 background traffic volumes do not include traffic from Waterbury Filings Nos. 1 and 2.

TRIP GENERATION

The site-generated vehicle trips were estimated using the nationally published trip generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Table 2 shows the trip generation estimates.

Waterbury Filings Nos. 1 and 2 is expected to generate about 1,867 vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 36 vehicles would enter and 103 vehicles would exit the site. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 117 vehicles would enter and 69 vehicles would exit the site.

DIRECTIONAL DISTRIBUTION AND ASSIGNMENT

The directional distribution of the site-generated traffic volumes on the area roadways is an important factor in determining the site's traffic impacts. Figure 8 shows the directional distribution estimates for the site-generated traffic volumes. The estimates have been based on the following factors: the recent traffic count data; the Pikes Peak Area Council of Governments' (PPACG) 2040 traffic projections, the site's location with respect to the nearby employment, commercial and activity centers, and the balance of the Falcon and Colorado Springs metropolitan areas; the site's proposed land use; the site's proposed access points; and the

Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 08:53:23

[20-year would make horizon year 2043 at a minimum](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:14:03

LSC Response: The long-term year has been updated to 2045

phasing of the existing and future roadway system serving the site. An initial trip distribution estimate based on data from the PPACG travel demand model was calculated by running a select zone analysis for the zone that includes this site (661) and then comparing those results to the 2040 model volumes. Engineering judgement and LSC estimates were then applied using the other factors listed to modify these percentages. The PPACG model output is attached.

When the distribution percentages (from Figure 8) were applied to the trip generation estimates (from Table 2), the site-generated traffic volumes on the area roadways were determined. Figures 9 and 10 shows the short-term and long-term site-generated traffic volume, respectively.

TOTAL TRAFFIC

Figure 11 shows the projected short-term (Year 1 2021) total traffic volumes. The short-term total traffic volumes are the sum of the short-term background traffic volumes (from Figure 6) plus the short-term site-generated traffic volumes (from Figure 9).


Figure 12 shows the projected 2 2040 total traffic volumes. The 2040 total traffic volumes are the sum of the 2040 background traffic volumes (from Figure 7) plus the long-term site-generated traffic volumes (from Figure 10).


PROJECTED LEVELS OF SERVICE

The key area intersections have been analyzed to determine the projected future levels of service based on the unsignalized method of analysis procedures from the *Highway Capacity Manual, 6th Edition* by the Transportation Research Board and Synchro signalized intersection procedures. Based on the criteria contained in the *ECM*, a peak hour factor of 0.85 was used for the short-term (Year 2021) analysis except for those intersections whose existing peak hour factor calculated from traffic counts conducted by LSC was higher than 0.85. In those cases, the existing peak hour factor was used. A peak hour factor of 0.95 was used for the long-term (Year 2040) analysis, except for the southbound through traffic on US Hwy 24 during the morning peak hour and the northbound through traffic on US Hwy 24 in the afternoon peak hour. Based on the existing peak hour factor and high traffic volumes projected for these movements, a future peak hour factor of 0.98 was used. The results of the analysis are contained in Figures 6, 7, 11, and 12. The level of service reports are attached.


Stapleton/Saybrook


The full-movement site access to Stapleton Drive (Saybrook Road) is projected to operate at a LOS C or better for all movements during the peak hours as a stop-sign controlled "T" intersection based on the projected short-term total traffic volumes. By 2040 it was assumed that Stapleton Drive would be constructed to its full cross section, a south leg would be added to the Stapleton/Saybrook Road to serve a future commercial development. Based on the 2040 total traffic volumes and the lane geometry shown in Figure 12 the minor approach movements are

 Number: 1 Author: CDurham Subject: Highlight Date: 4/27/2023 08:57:14
2021)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:14:15

LSC Response: The short-term year has been updated to 2030

 Number: 2 Author: CDurham Subject: Highlight Date: 4/27/2023 08:57:25
d 2040

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:14:27

LSC Response: The long-term year has been updated to 2045

intersection (or partial/half CFI), or a junior interchange. An alternate intersection design may be needed long-term to maintain an acceptable level of service.

Londonderry/Eastonville

Missing LOS designation 1

All movements at the stop-sign-controlled intersection of Londonderry/Eastonville are projected to operate at LOS C or better during the peak hour, based on the projected short-term total traffic volumes. By 2040 the eastbound left-turn movement is projected to operate at LOS if it were to remain as a two-way, stop-sign-controlled intersection. All movements at this intersection are projected to operate at a satisfactory level of service, if it is reconstructed as a modern roundabout or traffic-signal controlled. The *Conceptual Design Report Eastonville Road Project* prepared by Wilson & Company Inc. recommends a three-lane cross section on Eastonville Road adjacent to the site. However, by 2040, it may be necessary to provide two northbound and southbound through lanes to achieve an acceptable level of service.

Rex/Eastonville

In the short term, it was assumed that a new section of Rex Road would be constructed from Eastonville Road through the Grandview Reserve sketch plan area to US Hwy 24. It was assumed that the section of Rex Road just west of Eastonville Road through the Meridian Ranch development was not yet constructed. The intersection of Rex/Eastonville is projected to operate at LOS B or better for all movements during the peak hours as a stop sign-controlled "T" intersection, based on the projected short-term total traffic volumes.

By 2040, it was assumed that Rex Road would be completed between Meridian Road and US Hwy 24. Based on the projected 2040 total traffic volumes, the intersection of Rex/Meridian is projected to operate at LOS F for some of the minor approach volumes, if it is stop-sign-controlled. If this intersection is constructed as a one-lane modern roundabout or if it is traffic-signal-controlled, all movements are projected to operate at LOS D or better during the peak hours.

TRAFFIC SIGNAL WARRANT ANALYSIS

The intersections of Stapleton/Eastonville and Stapleton/US Hwy 24 were analyzed to determine when Four-Hour Vehicular Volume Traffic-Signal Warrant thresholds would be reached or exceeded, based on the projected short-term peak-hour traffic volumes. The satisfaction of warrants does not indicate that a signal must be installed. The decision to require a signal to be installed rests with the County (or CDOT in the case of US Highway 24/Stapleton).

Stapleton/Eastonville

Table 3 shows the results of the analysis for the intersection of Stapleton/Eastonville. The minor approach volumes were assumed to include either the eastbound left-turn, through, and

Missing LOS designation

LSC Response: This section has been revised

right-turn movements or the westbound left-turn and through movements (the right-turn movements were excluded, as there is an exclusive right-turn lane). Even if the threshold is met, based on both the eastbound and westbound approaches, it would only be considered to be met once for that hour. As shown in the Table 3, the thresholds for a Four-Hour Vehicular Volume Traffic-Signal Warrant are **not** projected to be met, based on the projected short-term (Year 2021) total traffic volumes.

Stapleton/US Hwy 24

Table 4 shows the signal warrant analysis for the intersection of Stapleton/US Hwy 24, based on the existing (2019) traffic volumes. The analysis assumes the minor approach includes the higher of either the southbound (Stapleton Drive) left-turn and through movements or northbound (Curtis Road) left-turn and through movements. This intersection currently meets the thresholds for a Four-Hour Vehicular Volume Traffic Signal Warrant for two of the four hours. Three additional hours are projected to meet the thresholds based on the short-term (Year 2021) background traffic volumes.

Gilbert & Stapleton int not analyzed
Bandanero & Stapleton int not analyzed

FUNCTIONAL CLASSIFICATIONS AND LANEAGE

Figure 13 shows the recommended functional classifications for the roadways in the vicinity of the site. Figure 14 shows the anticipated future street connections and classifications. The functional classifications and number of through lanes are consistent with the current El Paso County *MTCP*. Figure 13 also shows a comparison of the projected average weekday traffic volume (ADT) and the design ADT from the *ECM* for the key street segments in the vicinity of the site.

ROUNDBABOUT DESIGN EXHIBITS


A revised layout of the proposed Saybrook roundabout has been prepared. Please refer to the attached roundabout design exhibits which include a preliminary parameters summary table, dimensions and parameters figure, a fastest-path analysis, and truck-turning analysis. Per discussion with staff, upon review and approval of these exhibits by County staff, the completed roundabout design report **will be submitted**. The civil base drawing shown in grayscale on these exhibits has been revised based on the splitter islands, outer roundabout curb locations and center island shown on these exhibits.

TRANSPORTATION IMPROVEMENT FEE PROGRAM


The Waterbury Filing Nos. 1 and 2 will be required to participate in the Countywide Transportation Improvement Fee Program. They will join the ten-mil PID. The ten-mil PID building permit fee portion associated with this option is \$1,221 per single-family dwelling unit. Based on 198 lots, the total building permit fee would be \$241,758. Note: This is based on the current rate, which is subject to change. El Paso County updates this rate periodically.


 Number: 1 Author: eschoenheit Subject: Text Box Date: 4/20/2023 17:28:07

[Gilbert & Stapleton int not analyzed](#)[Bandanero & Stapleton int not analyzed](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:15:23

LSC Response: The requested intersections have been added to the updated TIS as requested

 Number: 2 Author: Jeff Rice - EPC Engineering Review Date: 4/27/2023 16:19:31
will be submitted

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:16:38

LSC Response: Noted

PUD DEVELOPMENT PLAN CONDITIONS OF APPROVAL

Verify current PUDSP
conditions of approval

1

The following is a list of the previous Waterbury conditions of approval. Table 5 shows the cost estimate and amount of money to be escrowed for each improvement. Each condition is represented by a line item or two in the table. The condition reference letters “a” through “g” are shown in the first column of the table.

a. US Hwy 24/Stapleton Drive Intersection: Additional design, construction, and/or deposit of funds for US Hwy 24/Stapleton Drive intersection per CDOT access permit conditions.

The Waterbury PUD study included escrow for the US Hwy 24/Stapleton Drive intersection per CDOT access permit conditions. This development will need to escrow funds as participation in a future traffic signal. The amount will be determined through the CDOT access-permit process. It is our understanding that this intersection is considered an “eligible intersection” with respect to a future traffic signal in the County Road Improvement Fee Program. Therefore, once a signal is installed, the applicant may be entitled to a credit and reimbursement for a portion of the amount escrowed to CDOT. The credit would be based on the Fee Program rules and would be based on the fee program signal-unit cost. As such any credit would likely be a pro-rated portion of the total amount escrowed.

b. US Hwy 24/Judge Orr Road Intersection: Additional design, construction, and/or deposit of funds for US Hwy 24/Judge Orr Road intersection per CDOT access permit conditions.


CDOT previously indicated that this project would not be required to complete any improvements or escrow any funds for future improvements at this intersection.

c. Eastonville Road/Stapleton Drive Intersection: Additional design, construction, and/or deposit of funds for Eastonville Road/Stapleton Drive intersection improvements and traffic signals, if warranted.

The traffic-signal warrant analysis indicates that a signal would not likely be warranted in the short term. The westbound half-section of Stapleton Drive has been constructed. The westbound left-turn lane, which has already been constructed as part of the northern half-section of Stapleton, will be able to be placed into service with the completion of the southern (eastbound) half of the intersection. The future construction of the eastbound left-turn lane will be completed with the south (eastbound) half of the intersection. The northbound and southbound auxiliary turn lanes will likely be constructed as part of the Eastonville PPRTA project. It is our understanding that this intersection is considered an “eligible intersection” with respect to a future traffic signal. Therefore, an escrow from this development would not be necessary.

Number: 1 Author: Jeff Rice - EPC Engineering Review Subject: Text Box Date: 4/27/2023 16:18:54

[Verify current PUDSP conditions of approval](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:16:57

LSC Response: This section has been updated based on the current PUDSP conditions of approval

1
Deviation was not submitted.
Please provide with next submittal

partial turn movement direct access for lots adjacent to Saybrook Road. The proposed modified cross section will allow for needed access while preserving operation of through movements.

STATUS: SUBMITTED LAST YEAR-UNDER REVIEW; Resubmitted on Updated Form

Prior Approved

- A deviation for traffic is requested and approved for a modification of the Saybrook Road (Urban Residential Collector) to allow left- and right-turn bays on southbound Saybrook (approaching Stapleton) to be designed for required stacking/storage plus a compact bay taper design.
STATUS: PRIOR APPROVED; Resubmitted on updated form per County request.
- A deviation to allow a proposed full-movement intersection on Stapleton Road about 2,200 feet from US Highway 24 and 1,345 feet from Dumont (future).
STATUS: PRIOR APPROVED; Resubmitted on updated form per County request.
- Note: A prior deviation was approved to defer construction of a westbound right-turn deceleration lane on Stapleton at Saybrook. This deviation no longer applies and is no longer requested or included in the application.
STATUS: PRIOR APPROVED BUT WITHDRAWN AS NO LONGER APPLICABLE.


CONCLUSIONS AND RECOMMENDATIONS

Trip Generation


Waterbury Filing Nos. 1 and 2 is expected to generate about 1,867 new external vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. During the morning peak hour, about 36 vehicles would enter and 103 vehicles would exit the site. During the afternoon peak hour, about 117 vehicles would enter and 69 vehicles would exit the site.

Level of Service

The intersection of Saybrook/Stapleton is projected to operate at an acceptable level of service in the short-term as a stop-sign controlled "T" intersection. By 2040 it was assumed that Stapleton Drive would be constructed to its full cross section, a south leg would be added to the Stapleton/Saybrook Road to serve a future commercial development. Based on the 2040 total traffic volumes and the lane geometry shown in Figure 12 the minor approach movements are projected to operate at LOS F during the afternoon peak hour if this intersection remains stop-sign controlled. If this intersection is converted to traffic signal control all movements at this intersection are projected to operate at LOS D or better during the peak hours.

 Number: 1 Author: CDurham Subject: Text Box Date: 4/27/2023 10:01:58

Deviation was not submitted. [Please provide with next submittal](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:17:27

LSC Response: Noted

This is just for Filing 1.
Please remove reference
to Filing No. 2

1

Table 2
Waterbury Filing Nos. 1 and 2
Trip Generation Estimate

Filing	ITE Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates ⁽¹⁾					Total Trips Generated				
				Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour		Average Weekday Traffic	Morning Peak Hour		Afternoon Peak Hour	
					In	Out	In	Out		In	Out	In	Out
1	210	Single-Family Detached Housing	115 DU ⁽²⁾	9.43	0.18	0.52	0.59	0.35	1,084	21	60	68	40
2	210	Single-Family Detached Housing	83 DU	9.43	0.18	0.52	0.59	0.35	783	15	43	49	29
			198 DU						1,867	36	103	117	69

Notes:

(1) Source: "Trip Generation, 11th Edition, 2021" by the Institute of Transportation Engineers (ITE)


(2) DU = dwelling units

Combine into a single 198
units, as this project is all
one filing


2

Source: LSC Transportation Consultants, Inc.


Jun-22

 Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:04:16


[This is just for Filing 1. Please remove reference to Filing No. 2](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:17:32

LSC Response: Revised as requested

 Number: 2 Author: CDurham Subject: Text Box Date: 4/27/2023 10:04:23

[Combine into a single 198 units, as this project is all one filing](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:17:37

LSC Response: Revised as requested

Table 5
Waterbury Filing Nos. 1 and 2
Waterbury Cost Estimate for Conditions of Approval

Prior Condition of Approval #	Improvement/Location	Type of Improvement	Quantity	Units	Unit Cost ⁽¹⁾	Total Estimated Cost	Percent for Filing Nos. 1&2	Filing Nos. 1&2 Amt.	
a)	US Hwy 24 & Stapleton Dr.	Signal Escrow ⁽²⁾	1	ea	\$650,000	\$650,000	6.22%	\$40,430	
b)	US 24 & Judge Orr Intersection	Intersection Improvements	NOT REQUIRED BY CDOT						1
c)	Eastonville Road & Stapleton Dr.	Signal	This intersection is considered an "eligible intersection" under the free impact program						1
c)	Eastonville Road & Stapleton Dr.	Northbound and Southbound Turn Lane Improvements	To be included in Eastonville Road PPRTA Project						
c)	Eastonville Road & Stapleton Dr.	Eastbound and Westbound Turn Lane Improvements	The westbound left-turn lane, which has already been constructed as part of the north half section of Stapleton, will be able to be placed into service with the completion of the southern (eastbound) half of the intersection. The future construction of the eastbound left-turn lane will be completed with the south (eastbound) half of the intersection.						
d)	Eastonville Road - Stapleton to Latigo	Final Grading and Paving	PPRTA Project						
e)	Stapleton/Bandanero Intersection	Intersection Reconfiguration Impr.	250	ft	\$27	\$6,750	3.00%	\$203	
f)	Stapleton/Dumont Intersection	Intersection Reconfiguration Impr.	To be completed with future phases of Waterbury or contributions to be collected with future Waterbury filings that connect to Dumont (if the 4 Way Ranch Commercial project constructs the road).						
g)	Stapleton Drive - US 24 to Eastonville	Roadway Segment 4-Lane Principal	800	ft	\$496	\$396,672	3.44%	\$13,639	
g)	Stapleton Drive - US 24 to Eastonville	Roadway Segment Half Principal Art.	4,965	ft	\$248	\$1,230,923	3.44%	\$42,323	
								\$96,594	

Notes:

(1) Source: CDOT Comment Letter dated November 19, 2021

(2) The Waterbury PUD study included escrow for the US Hwy 24/Stapleton Drive intersection per CDOT access permit conditions. This development will need to escrow funds as participation in a future traffic signal. The amount will be determined through the CDOT access permit process. It is our understanding that this intersection is considered an "eligible intersection" with respect to a future traffic signal in the County Road Improvement Fee Program. Therefore, once a signal is installed, the applicant may be entitled to a credit and reimbursement for a portion of the amount escrowed to CDOT. The credit would be based on the Fee Program rules and would be based on the fee program signal unit cost. As such any credit would likely be a prorated portion of the total amount escrowed.

Source: LSC Transportation Consultants, Inc.

Mar-22


Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:04:48
fee?

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:43:24


LSC Response: Revised to fee

Highlight what will be triggered with or dependent on Filing 1

Table 6 Waterbury Filing Nos. 1 and 2 Roadway Improvements				
Item #	Improvement	Trigger	Timing	Responsibility
Roadway Segment Improvements				
1	Eastonville - Stapleton to Latigo final grading and paving	dependent on PPRTA funding priorities	TBD by EPC; PPRTA "A-List" Project	PPRTA
2	Eastonville - Stapleton to Londonderry upgrade to Rural Minor Arterial (per MUTCD)	average daily traffic > 6,000 vehicles per day	dependent on PPRTA funding priorities	PPRTA
3	Eastonville - Londonderry to future Waterbury access upgrade from unimproved roadway to Rural Minor Arterial (per MUTCD)	average daily traffic > 300 vehicles per day	With future Waterbury filings or Initial Grandview Reserve filings or Construction of Rex to Eastonville	PPRTA or developers with fee reimbursement
4	Eastonville - Stapleton to Grandview Reserve south boundary upgrade to Rural Minor Arterial (per MUTCD)	average daily traffic > 20,000 vehicles per day	dependent on PPRTA funding priorities	PPRTA Grandview and other area developments if/as required
5	Stapleton Drive - US Hwy 24 to Eastonville Road complete southern (eastbound) half	average daily traffic > 18,000 vehicles per day	Shown in 2040 MTCP	El Paso County west of Eastonville Road; 4 Way Ranch Metro District east of Eastonville Road.
6	Widen US Hwy 24 to provide two lanes in each direction	dependent on CDOT funding priorities	Shown in US Highway 24 PEL Study; 2040 MTCP	CDOT
Stapleton/US Hwy 24 Intersection				
7	Convert from Two-Way, Stop-Sign Control to Signal Control	When Traffic Signal Warrant(s) are met. The decision on timing of traffic signal installation rests with the Colorado Department of Transportation	anticipated in the short-term	CDOT; along with any available escrow collected from area developments through the access permitting process.
8	Add dual left-turn lanes	As needed with future developments (Will require Items 5, 6, and 7 to be completed)	Future	Area developments as required
9	Potential long-term capacity upgrades (jughandle, a Jr Interchange, etc.)	When level of service degrades below acceptable levels	Shown in US Highway 24 PEL Study;	CDOT; along with any available escrow collected from area developments, including this project, through the access permitting process.
Eastonville/Stapleton				
10	Construct northbound and southbound left-turn lanes on Eastonville Rd. approaching Stapleton Dr.	---	Short-Term	PPRTA/El Paso County ⁽¹⁾
11	Signalization of the intersection of Stapleton/Eastonville.	Once warrants are met. The decision on timing of traffic signal installation rests with El Paso County Public Works.	anticipated in the short-term	eligible intersection under the fee impact program
Stapleton/Saybrook Intersection				
12	Constructed an eastbound left-turn lane on Stapleton Dr approaching Saybrook. This lane should be 335 feet long plus a 200-foot taper.	eastbound left-turn volume > 10 vph	With Waterbury Filing Nos. 1 and 2	Waterbury
13	Constructed a westbound right-turn deceleration lane on Stapleton Dr approaching Saybrook. This lane should be 235 feet long plus a 200-foot taper.	westbound right-turn volume > 25 vph	With Waterbury Filing Nos. 1 and 2	Waterbury
14	Constructed a westbound right-turn acceleration lane on Stapleton Dr at Saybrook. This lane should be 760 feet long plus a 180-foot taper.	southbound right-turn volume > 50 vph	With Future Waterbury Filings	Waterbury
15	Convert from Two-Way, Stop-Sign Control to Signal Control	When Traffic Signal Warrant(s) are met. The decision on timing of traffic signal installation rests with El Paso County	Future (Likely with commercial development on the south side of Stapleton)	Waterbury and/or other area developments
Notes:				
(1) The design of Eastonville Road will be performed by the Meridian Ranch developer. LSC anticipates that these turn lanes will be included in the project design. The project will be constructed by El Paso County as PPRTA project.				
Source: LSC Transportation Consultants, Inc. (September 2021)				

 Number: 1 Author: CDurham Subject: Text Box Date: 4/27/2023 10:05:00

[Highlight what will be triggered with or dependent on Filing 1](#)

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:43:37

LSC Response: Revised as requested





 Approximate Scale
 Scale: NTS

Figure 2
Site Plan

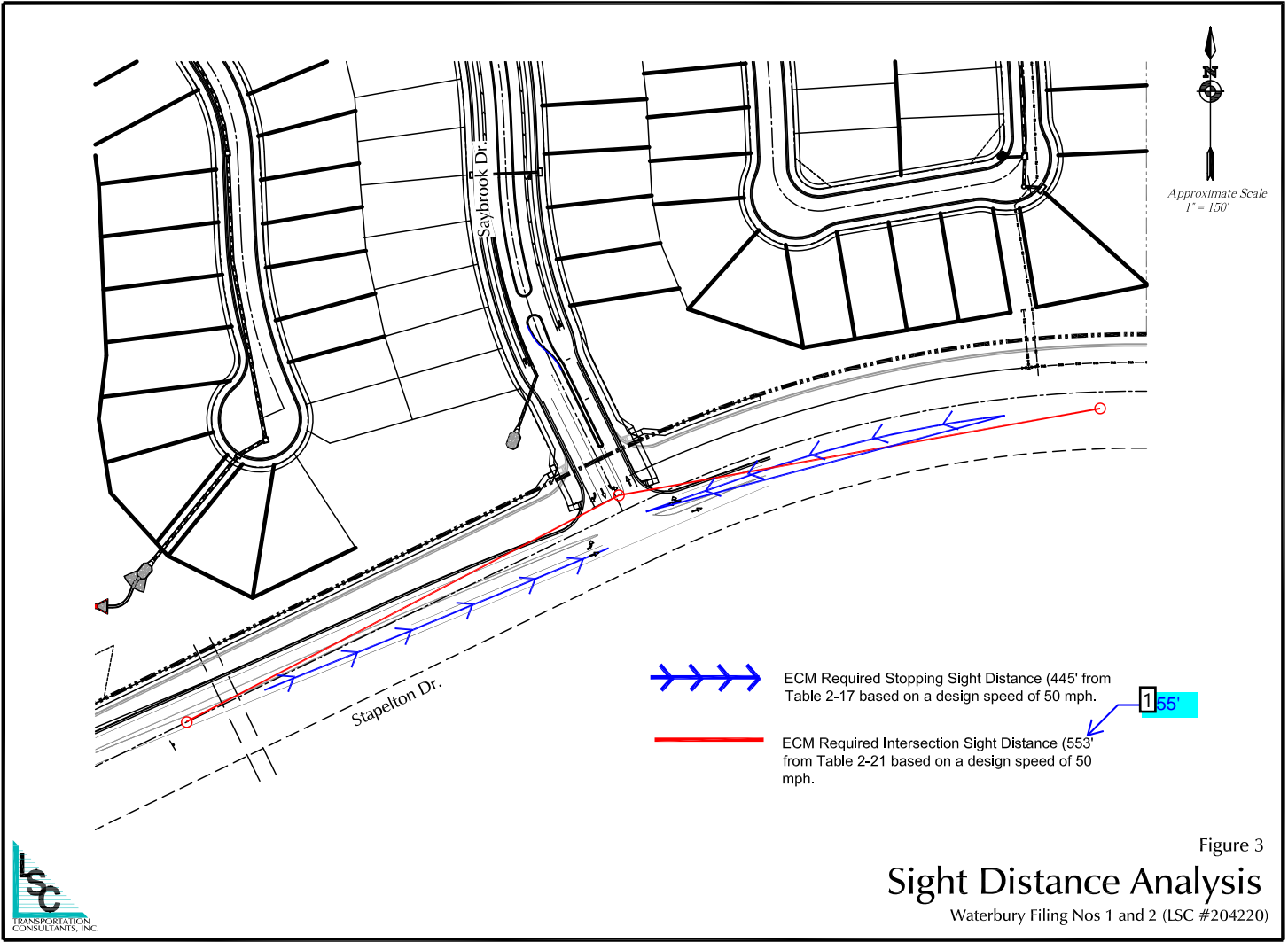
Waterbury Filing Nos 1 and 2 (LSC #204220)

Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:05:32

[This is just for Filing 1. Please remove reference to Filing No. 2](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:44:12

LSC Response: Revised as requested

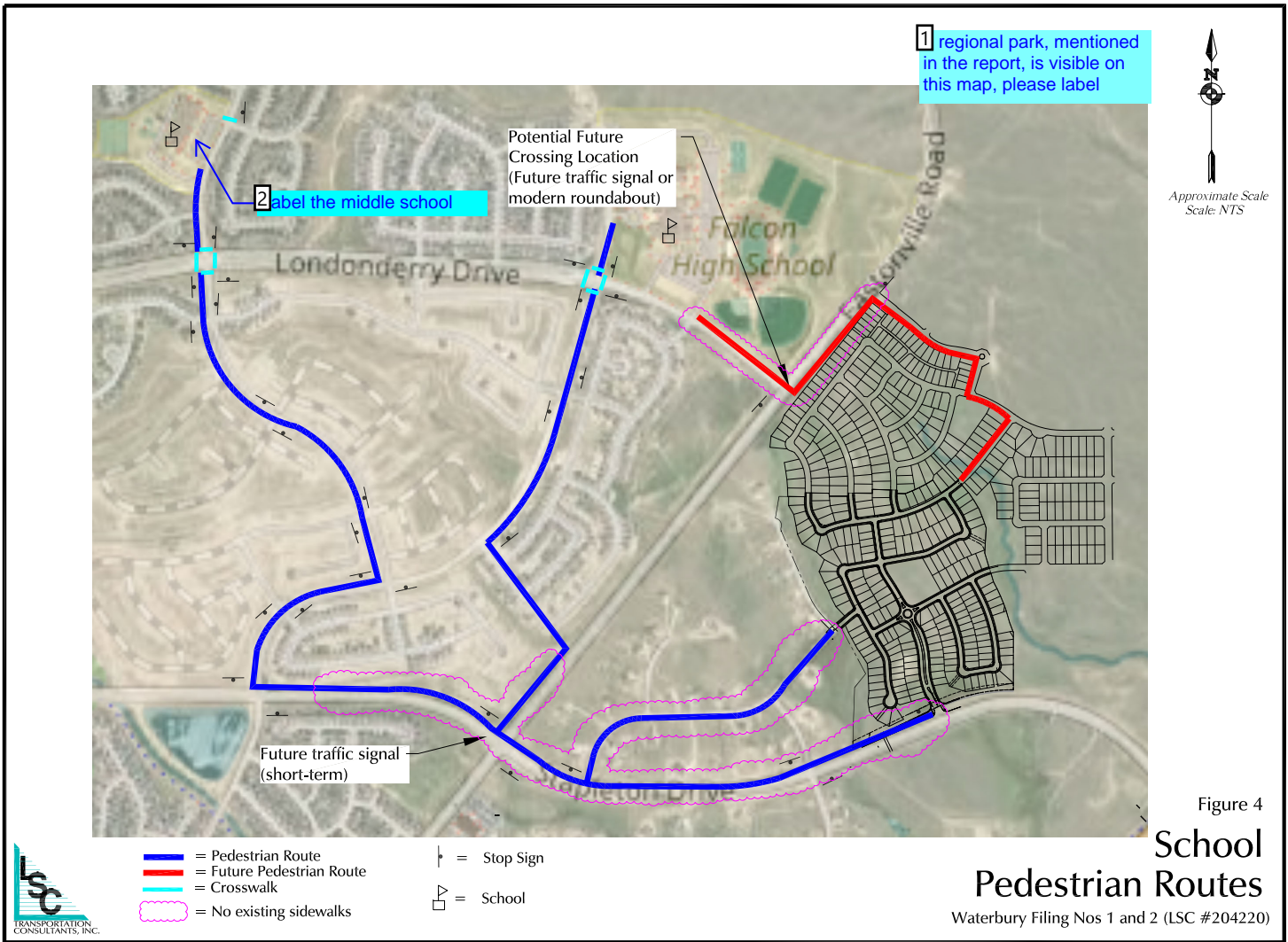


Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:05:52

555'

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:44:40

LSC Response: Revised as requested



Number: 1 Author: CDurham Subject: Text Box Date: 4/27/2023 10:06:04

[If regional park, mentioned in the report, is visible on this map, please label](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:45:42

LSC Response: The regional park is located north of the area shown in the figure. A label has been added showing the area north of Falcon High School as a future school site.

Number: 2 Author: CDurham Subject: Callout Date: 4/27/2023 10:06:16

[Label the middle school](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:45:16

LSC Response: Revised to add a label for Meridian Ranch Elementary School

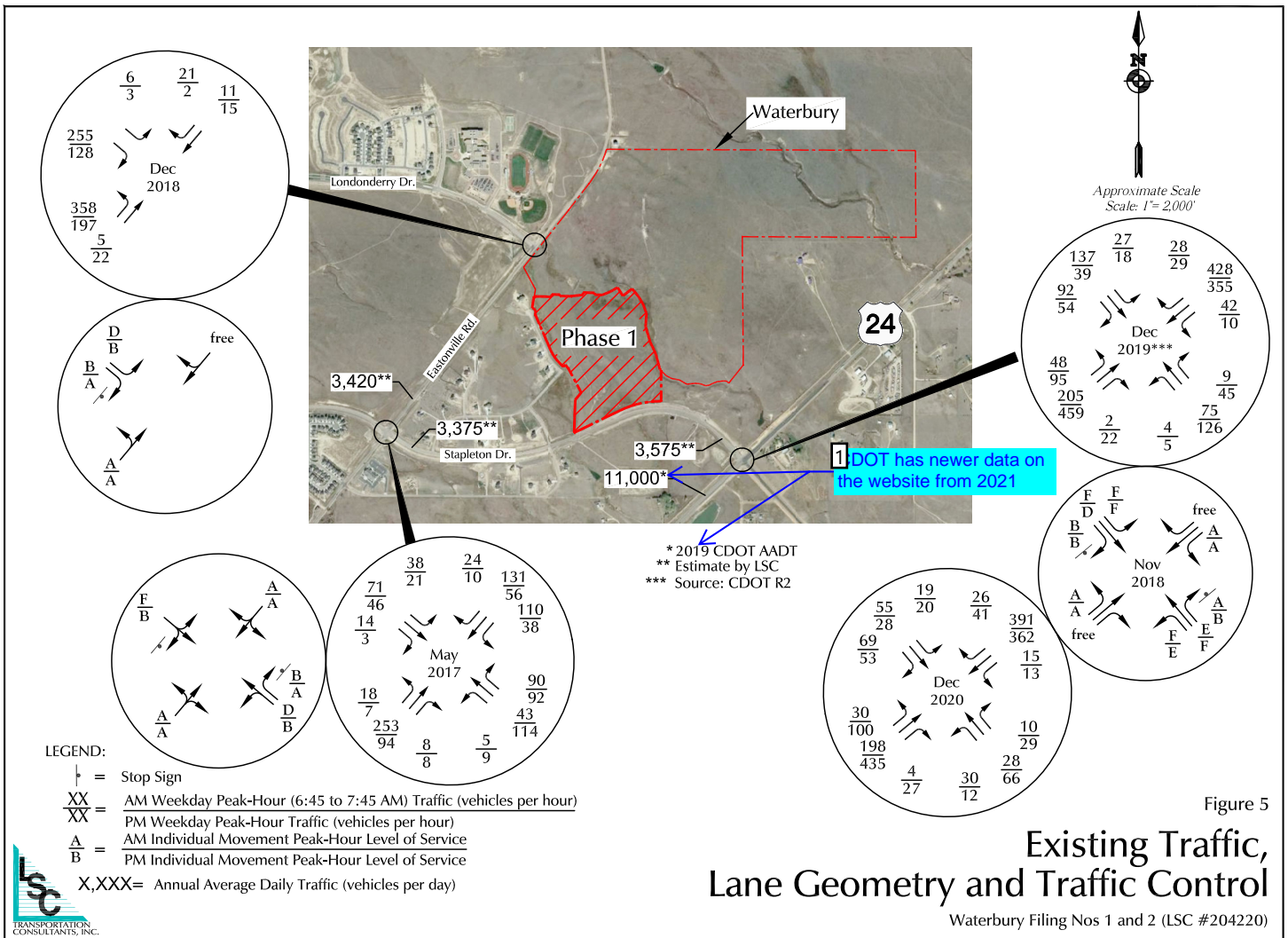


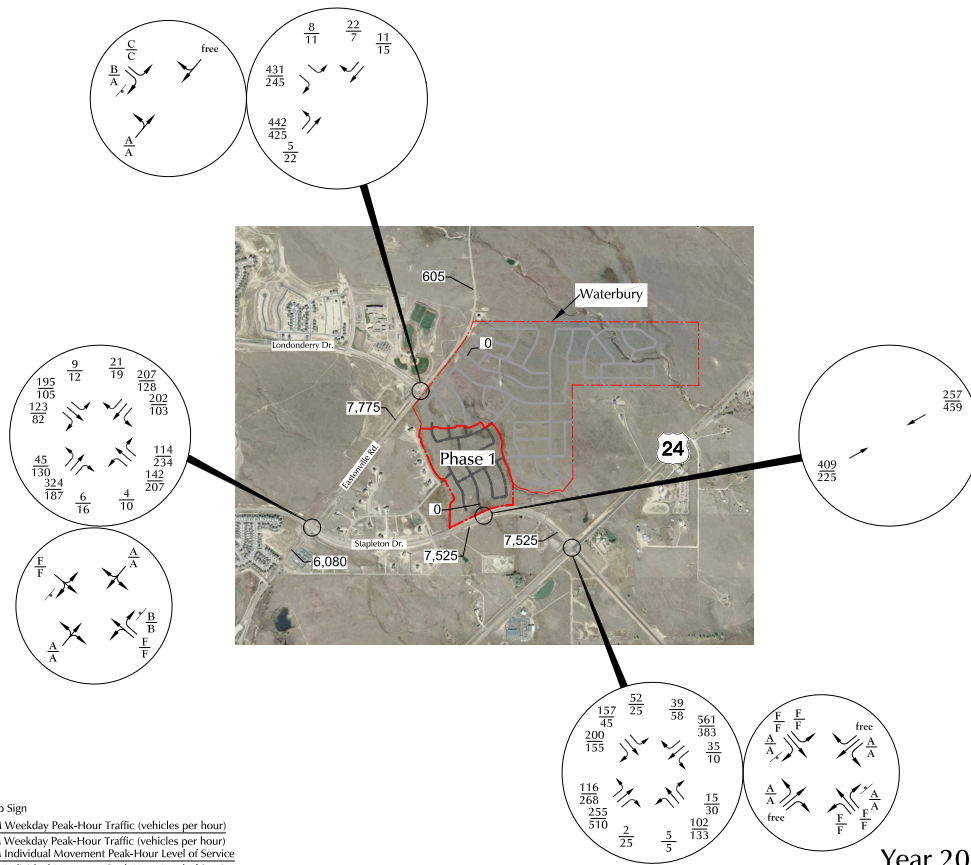
Figure 5
Existing Traffic, Lane Geometry and Traffic Control
 Waterbury Filing Nos 1 and 2 (LSC #204220)

Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:06:36

[CDOT has newer data on the website from 2021](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:46:16

LSC Response: This figure has been updated with current traffic count data



LEGEND:
 † = Stop Sign
 XX = AM Weekday Peak-Hour Traffic (vehicles per hour)
 YY = PM Weekday Peak-Hour Traffic (vehicles per hour)
 A/B = AM Individual Movement Peak-Hour Level of Service
 C/D = PM Individual Movement Peak-Hour Level of Service
 X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)

128? See comment in report, page 6

Year 2021 Background Traffic, Lane Geometry and Traffic Control

Figure 6

Waterbury Filing Nos 1 and 2 (LSC #204220)



Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:06:53

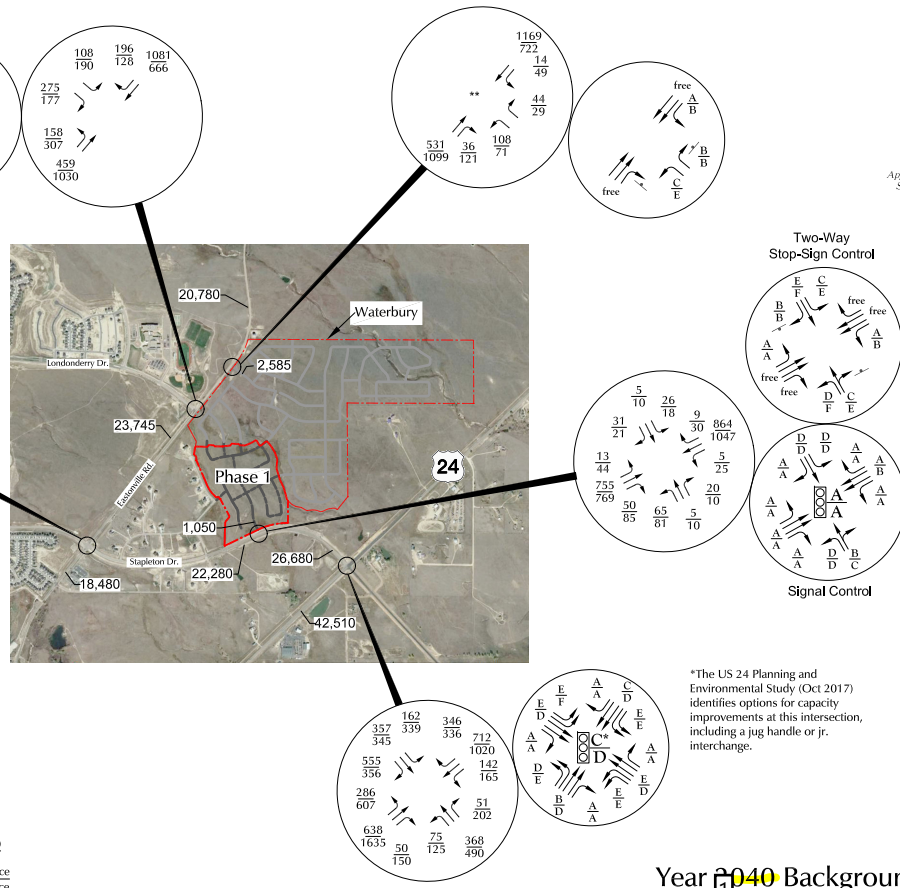
[2028? See comment in report, page 6](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:46:28

LSC Response: The short-term year has been revised to 2030

** The Conceptual Design Report Eastonville Road Project prepared by Wilson & Company Inc. recommends a three-lane cross section on Eastonville Road adjacent to the site, however based on potential future traffic volumes projected due to other area developments including the Grandview Reserve development located just north of Waterbury it may be necessary to provide two northbound and southbound through lanes to achieve an acceptable level of service.


LEGEND:
 † = Stop Sign
 XY = AM Weekday Peak-Hour Traffic (vehicles per hour)
 XX = PM Weekday Peak-Hour Traffic (vehicles per hour)
 A = AM Individual Movement Peak-Hour Level of Service
 B = PM Individual Movement Peak-Hour Level of Service
 X,XXX= Annual Average Daily Traffic (vehicles per day)=(CDOT 2016)




*The US 24 Planning and Environmental Study (Oct 2017) identifies options for capacity improvements at this intersection, including a jug handle or jr. interchange.

Year 2040 Background Traffic, Lane Geometry and Traffic Control
 Waterbury Filing Nos 1 and 2 (LSC #204220)



 Number: 1 Author: CDurham Subject: Highlight Date: 4/27/2023 10:07:05

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:46:43

LSC Response: The long-term year has been revised to 2045

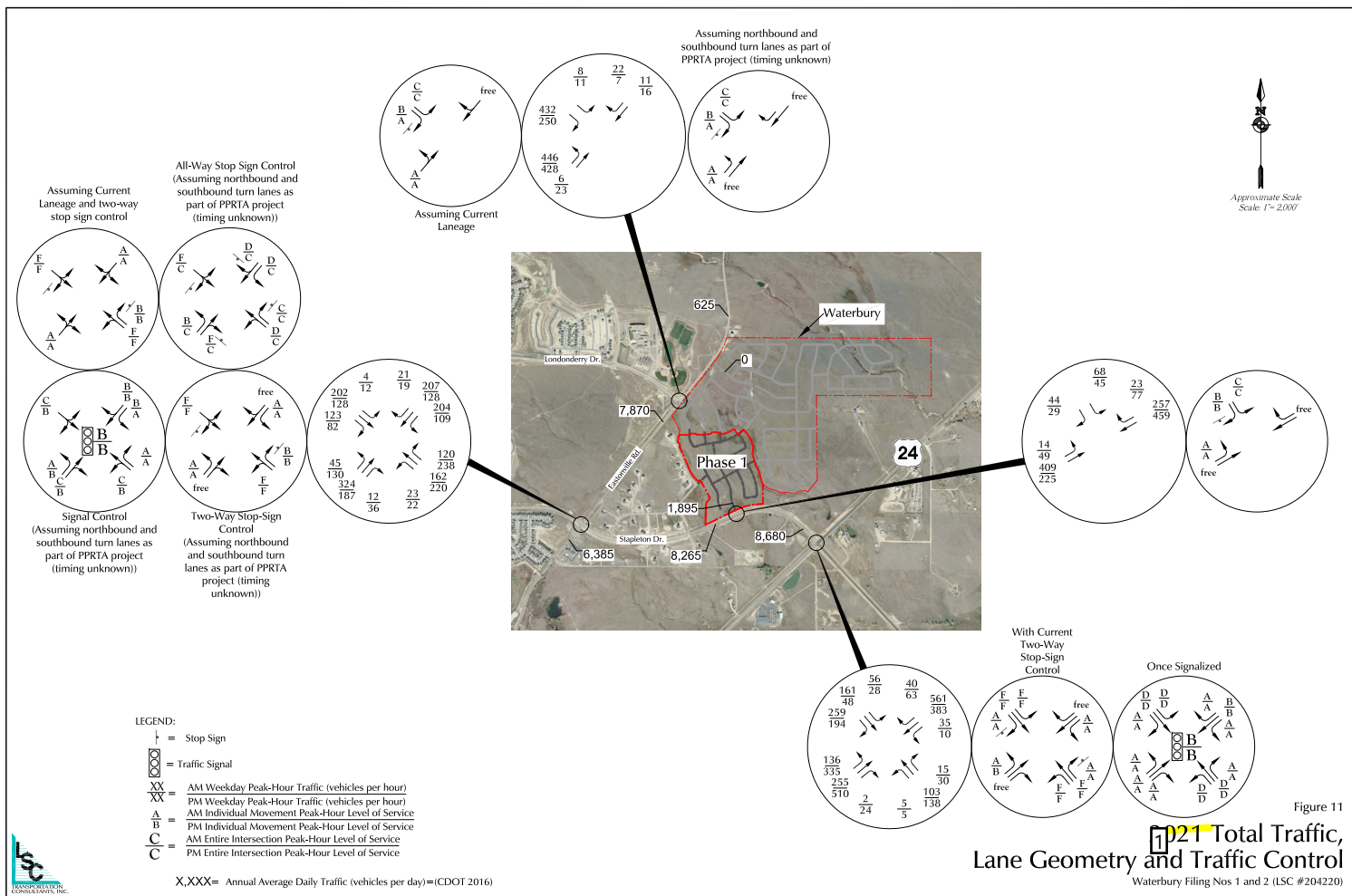






Figure 11
21 Total Traffic, Lane Geometry and Traffic Control
 Waterbury Filing Nos 1 and 2 (LSC #204220)

 Number: 1 Author: CDurham Subject: Highlight Date: 4/27/2023 10:07:24

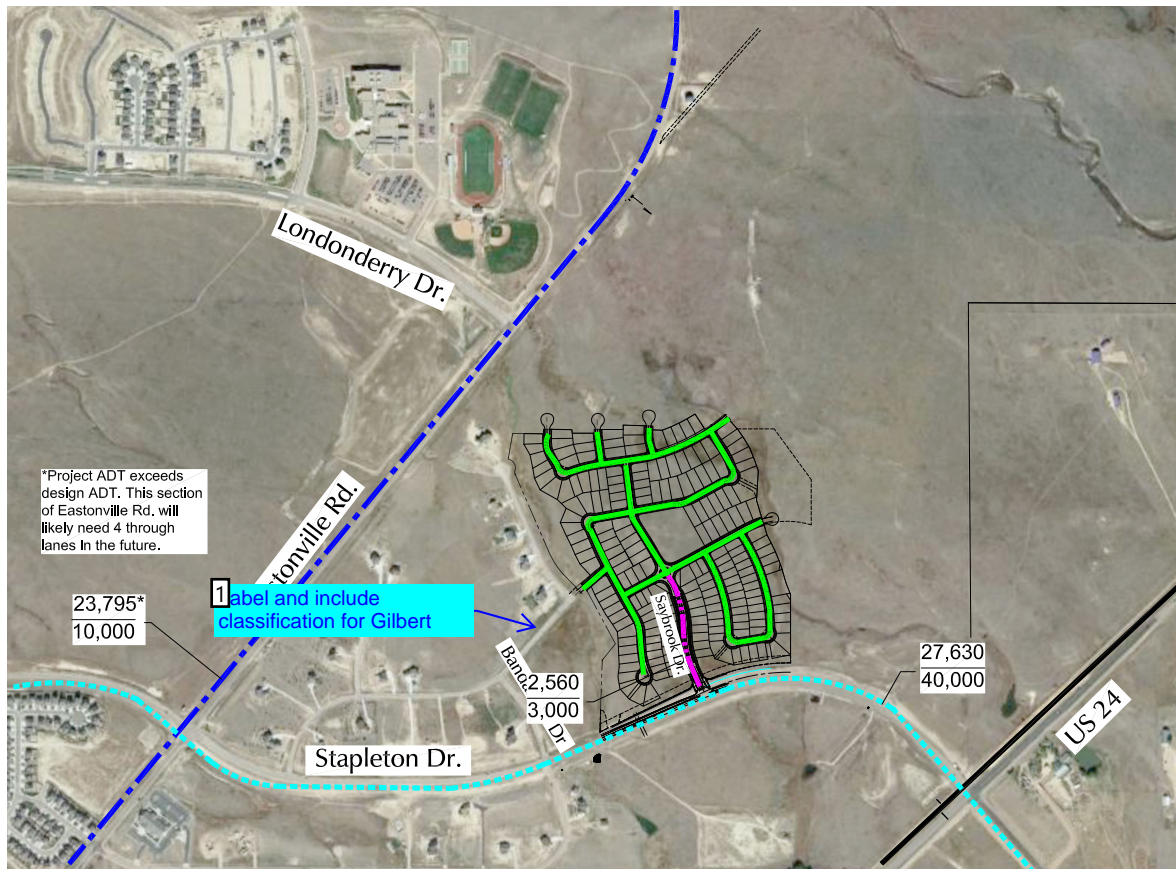
 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:46:47

LSC Response: The short-term year has been revised to 2030

 Number: 1 Author: CDurham Subject: Highlight Date: 4/27/2023 10:07:35

 Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:46:56

LSC Response: The long-term year has been revised to 2045



Approximate Scale
Scale: NTS

*Project ADT exceeds design ADT. This section of Eastonville Rd. will likely need 4 through lanes in the future.

Label and include classification for Gilbert

23,795*
10,000

Barto Dr.
2,560
3,000

27,630
40,000



- = Ex-Expressway (CDOT)
- - - = Urban Principal Arterial
- — — = Rural Minor Arterial
- · - · - = Urban Residential Collector
- — — — = Urban Local

$$\frac{XX}{XX} = \frac{\text{Projected 2040 Average Weekday Traffic (veh/day)}}{\text{ECM Design ADT (veh/day)}}$$

Figure 13
Recommended Street Classification
Waterbury Filing Nos 1 and 2 (LSC #204220)

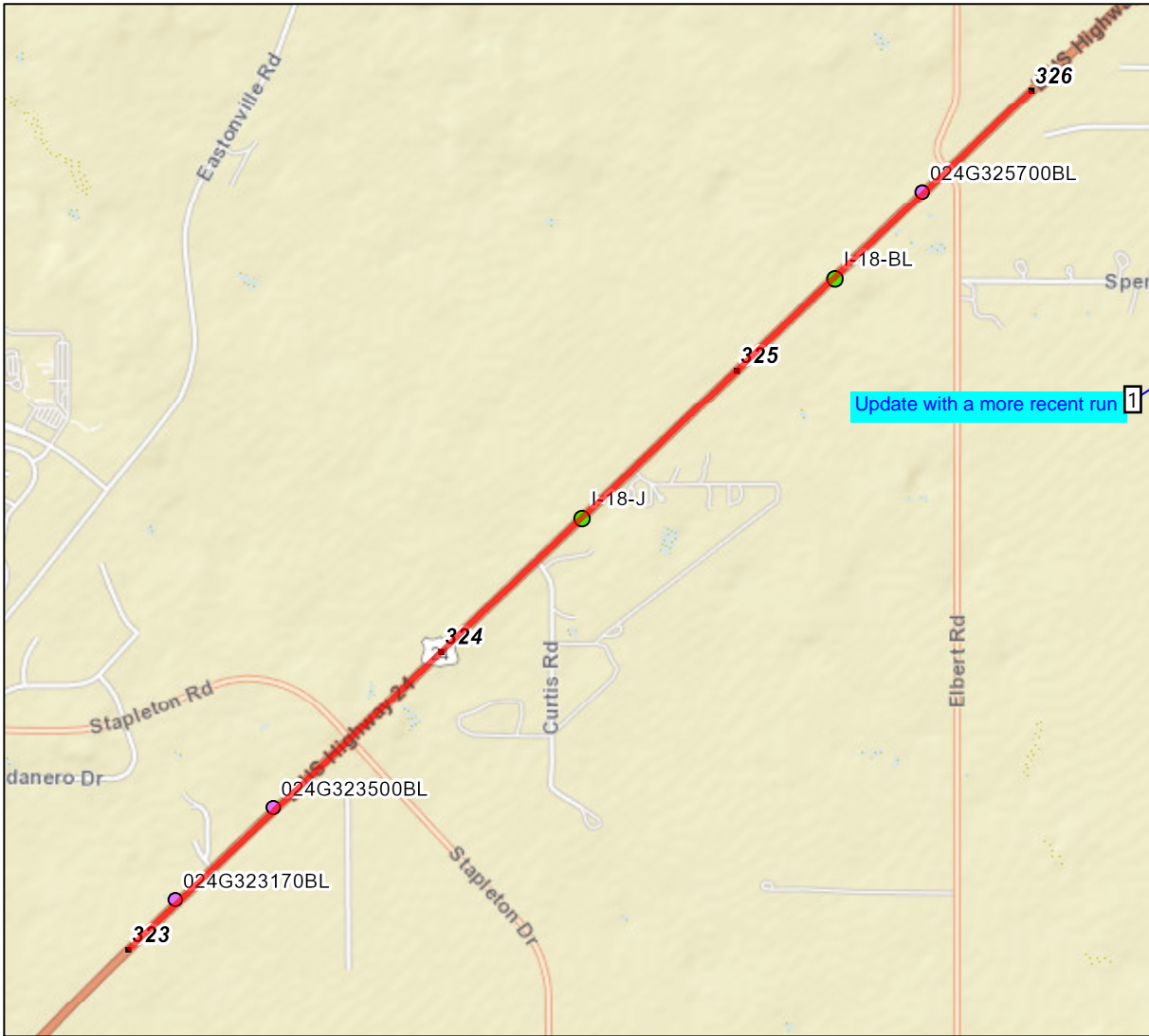
Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:07:51

[Label and include classification for Gilbert](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:47:05

LSC Response: Revised as requested

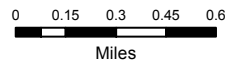
Route 024G From 323 to 326



Legend

- Route
- Milepoint
- Structures**
 - Major Structure
 - Minor Structure

Created:
Date: 7/8/2020
Time: 10:19:02 AM



The information contained in this map is based on the most currently available data and has been checked for accuracy. CDOT does not guarantee the accuracy of any information presented, is not liable in any respect for any errors or omissions, and is not responsible for determining "fitness for use".

Number: 1 Author: CDurham Subject: Callout Date: 4/27/2023 10:12:18

[Update with a more recent run](#)

Author: kdfer Subject: Sticky Note Date: 10/4/2024 11:47:28

LSC Response: A more recent version has been included with the updated TIS