



NOTE: SAME REPORT AS SUBMITTED WITH PUDSP236 ON 3/11/24

LSC Responses to EPC-Comments-TIS-Phase-3

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

Please be sure to address comments from the previous submission

A preliminary design report for the roundabout will need to be provided.

Grandview Reserve Phases 2 & 3 Preliminary Plan & PUD Traffic Impact Analysis PUDSP-23-006 & 241 (LSC #S234340) March 4, 2024

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.



update the analysis of the 25 acre non-residential site to include school or alternative uses depicted on PUD Plan

Developer's Statement

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

Date

LSC Responses to EPC-Comments-TIS-Phase-3

Page: 1

☰ Number: 1 Author: khuhn Subject: Text Box Date: 3/14/2024 2:14:05 PM

NOTE: SAME REPORT AS SUBMITTED WITH PUDSP236 ON 3/11/24

☰ Number: 2 Author: Bret Subject: Engineer Date: 6/4/2024 2:32:46 PM

Please be sure to address comments from the previous submission

↻ Author: Kirstin Ferrin Subject: Sticky Note Date: 7/19/2024 2:49:28 PM
LSC Response: Noted

☰ Number: 3 Author: CDurham Subject: Text Box Date: 6/5/2024 1:18:29 PM

A preliminary design report for the roundabout will need to be provided.

↻ Author: Kirstin Ferrin Subject: Sticky Note Date: 7/19/2024 2:49:44 PM
LSC Response: Noted

☰ Number: 4 Author: CDurham Subject: Text Box Date: 6/5/2024 11:45:13 AM

& 241

↻ Author: Kirstin Ferrin Subject: Sticky Note Date: 7/19/2024 2:52:04 PM
LSC Response: Revised as requested.

☰ Number: 5 Author: dsdparsons Subject: Text Box Date: 6/6/2024 12:08:35 PM

update the analysis of the 25 acre non-residential site to include school or alternative uses depicted on PUD Plan

↻ Author: Kirstin Ferrin Subject: Sticky Note Date: 7/19/2024 2:51:53 PM
LSC Response: Revised as requested.

This paragraph appears to be repeated from the previous page. Please ensure all information is included in one paragraph and delete the second.

Rex Road extends east from Goodson Road to Estate Ridge Drive within the Meridian Ranch development. Rex Road is classified as an Urban Minor Arterial in the 2016 El Paso County *Major Transportation Corridors Plan (MTCP) 2040 Roadway Plan*. The posted speed limit on Rex Road is 45 mph between Meridian Road and Mount Gateway Drive and 35 mph east of Mount Gateway Drive. Rex Road is currently being constructed as a 2-lane Urban Minor Arterial from its existing terminus at Estate Ridge Drive to Eastonville Road. The new section is anticipated to be open to traffic by spring 2024. A short section is also proposed to be constructed east of Eastonville Road in the short-term future as part of the approved Grandview Reserve Phase 1 development and the currently proposed Grandview Reserve Phases 2 and 3. A graphic showing the proposed cross section has been attached. This cross section will require a deviation to the criteria contained in the *El Paso County Engineering Criteria Manual (ECM)*. In the future, Rex Road is planned to be constructed southeast through Grandview Reserve and will intersect US Highway 24 as part of future development within the Grandview Reserve Sketch Plan area, coordination with El Paso County, the Colorado Department of Transportation (CDOT), and other local agencies and associated applications to CDOT.


Existing Traffic Volumes

Figure 4a shows the existing morning and afternoon peak-hour traffic volumes at the intersections of Stapleton/US 24, Stapleton/Eastonville, and Londonderry/Eastonville. These volumes are based on manual intersection turning-movement counts conducted by LSC in April 2021 (Eastonville/Londonderry), October 2021 (Stapleton/Eastonville), and January 2023 (Stapleton/US Hwy 24).


The morning peak hour at the intersection of Stapleton/US Hwy 24 and Stapleton/Eastonville occurred from 6:45 a.m. to 7:40 a.m. The morning peak hour at the intersection of Eastonville/Londonderry occurred from 7:00 a.m. to 8:00 a.m. The afternoon peak hour at all three intersections occurred from 4:00 p.m. to 5:00 p.m. The northbound left-turn and eastbound right-turn volume at the intersection of Eastonville/Londonderry were adjusted (increased) to account for the minor differences due to seasonal variations and/or the difference in the peak hour. The count-data sheets are attached for reference.

Existing Levels of Service

Level of service (LOS) is a quantitative measure of the level of delay at an intersection. Level of service is indicated on a scale from "A" to "F." LOS A represents control delay of less than 10 seconds for unsignalized and signalized intersections. LOS F represents control delay of more than 50 seconds for unsignalized intersections and more than 80 seconds for signalized intersections. Table 1 shows the level of service delay ranges.

 Number: 1 Author: Bret Subject: Engineer Date: 6/4/2024 3:14:18 PM

This paragraph appears to be repeated from the previous page. Please ensure all information is included in one paragraph and delete the second.

 Author: Kirstin Ferrin Subject: Sticky Note Date: 7/19/2024 2:50:42 PM
LSC Response: Revised as requested.

Stapleton Drive/Eastonville Road (Intersection #13)

The eastbound approach at the intersection of Stapleton/Eastonville is currently operating at LOS F during the morning peak hour. Improvements to Eastonville from Snaffle Bit north to Rex Road in the vicinity of the site are under design as part of the PPRTA Eastonville Phase 1 project. It is our understanding that the intersection is planned to be converted to a modern one-lane roundabout in the short term. All approaches are projected to operate at LOS D or better based on the projected 2026 total traffic volumes.

By 2033, it was assumed that Stapleton Drive would be constructed to its full Principal Arterial cross section and that the roundabout at the intersection of Stapleton/Eastonville would be expanded to two lanes. Based on the estimated roundabout lane geometry and projected volumes, all approaches are projected to operate at LOS D or better through 2045.

US Highway 24/Stapleton Drive (Intersection #14)

The intersection of US Hwy 24/Stapleton is currently stop-sign controlled. The northbound and southbound left-turn movements and the northbound through movements are currently operating at LOS F during the peak hours. This intersection is planned to be signalized in the (potentially near-term) future. Once signalized, all movements are projected to operate at LOS D or better during the peak hours, based on the projected short-term total, intermediate-term total and 2045 total traffic volumes.

Per the approved Sketch Plan TIS, the intersections of Eastonville/Meridian Ranch/Judge Orr Road & Eastonville/McLaughline are to be analyzed with each preliminary plan submittal determining need for traffic signal. Please include. ¹

QUEUING ANALYSIS

A queuing analysis was performed using Synchro/SimTraffic for the two new full-movement intersections to Rex Road (Grange Trail and Edenvale Place) to determine the projected queue lengths, based on the 2045 total traffic volumes. The simulation was run five times. The queuing reports are attached. These queuing results have been used to develop auxiliary turn-lane recommendations.

The projected maximum westbound left-turn queue on Rex Road is 51-feet approaching Edenvale Place and 72-feet approaching Grange Trail.

FUNCTIONAL CLASSIFICATIONS AND LANEAGE

Figure 16 shows the recommended functional classifications for internal streets within Phases 1 through 3 and for the roadways in the vicinity of the site. The functional classifications for the major transportation corridors in the vicinity and number of through lanes are consistent with the current El Paso County *MTCP* and the Grandview Reserve Sketch Plan TIS report.

The projected average daily traffic on Eastonville Road north of Stapleton Drive is 20,000 vpd based on the projected 2045 total traffic volumes. The projected daily traffic volumes on this

☰ Number: 1 Author: CDurham Subject: Text Box Date: 6/5/2024 2:32:31 PM

Per the approved Sketch Plan TIS, the intersections of Eastonville/Meridian Ranch/Judge Orr Road & Eastonville/McLaughline are to be analyzed with each preliminary plan submittal determining need for traffic signal. Please include.

↩ Author: Kirstin Ferrin Subject: Sticky Note Date: 7/19/2024 2:51:04 PM

LSC Response: The additional analysis has been included in the updated TIS as requested.

DEVIATIONS TO ECM CRITERIA

Please provide Deviation Requests Associated with a PUD Modification from the ECM for each of these items for review. 1

The following deviations to the criteria contained in the El Paso County *Engineering Criteria Manual (ECM)* have been submitted as part of this application:

- Cross section of an Urban Minor Arterial for Rex Road adjacent to the site.
- Typical Urban Local cross section: The roadway where this modified section would be utilized will be an entry road for the subdivision. The increased right-of-way width will allow for a detached sidewalk which will allow for an enhancement of the landscaping along the entryway.
- Two waivers to the requirement for all "T" intersections to have a minimum of three access ramps.

TRANSPORTATION IMPROVEMENT FEE PROGRAM


Project Fees

This project will be required to participate in the El Paso County Road Improvement Fee Program. Grandview Reserve will join the ten-mil PID. The ten-mil PID building-permit fee portion associated with this option is \$1,458 per multi-family dwelling unit and \$1,221 per single-family dwelling unit. The total building-permit fee would be \$609,944 for the 418 townhomes and duplexes within Phase 2 and \$393,162 for the 322 single-family lots within Phase 3. It is likely that this amount would be paid incrementally with building permits associated with several individual final-plat applications.


Potentially Reimbursable Improvements Under the MTCP Fee Program

Nearby improvement projects potentially reimbursable under the Fee Program are (From MTCP Map No. 13):

- MTCP Project No. U19: Eastonville Road
- MTCP Project No. N4: Rex Road (extended between Eastonville & US Highway 24)
- MTCP Project No C12: Stapleton Road
- Also, potentially intersection improvements and traffic signals/roundabouts at major MTCP roadway intersections per fee program guidelines
- Also, potentially intersection improvements and traffic signals (or CDOT traffic signal escrows)/roundabouts at US 24 intersections with Rex Road and/or Stapleton Road per fee program guidelines

 Number: 1 Author: Bret Subject: Engineer Date: 6/4/2024 3:14:57 PM

Please provide Deviation Requests Associated with a PUD Modification from the ECM for each of these items for review.

 Author: Kirstin Ferrin Subject: Sticky Note Date: 7/19/2024 2:51:20 PM

LSC Response: The deviation requests will be included with this submittal.