



LSC TRANSPORTATION CONSULTANTS, INC.
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Copper Chase at Sterling Ranch
Traffic Technical Memorandum
(LSC #184990)
December 14, 2021

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.

A handwritten signature in blue ink, appearing to be 'J. M. [unclear]', written over a horizontal line.

12/20/21
Date

PUDSP-22-002

Copper Chase at Sterling Ranch

Traffic Technical Memorandum

Prepared for:

Mr. Jim Byers
Challenger Homes
8605 Explorer Drive, Suite 250
Colorado Springs, CO 80920

DECEMBER 14, 2021

LSC Transportation Consultants
Prepared by: Kirstin D. Ferrin, P.E.
Reviewed by: Jeffrey C. Hodsdon, P.E.

LSC #184990



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December 14, 2021

Mr. Jim Byers
Challenger Homes
8605 Explorer Drive, Suite 250
Colorado Springs, CO 80920

RE: Copper Chase at Sterling Ranch
El Paso County, CO
Traffic Technical Memorandum
LSC #184990

Dear Mr. Byers:

LSC Transportation Consultants, Inc. has prepared this traffic technical memorandum for the Copper Chase at Sterling Ranch residential development. As shown in Figure 1, the site is located east of Vollmer Road and north of the future extension of Marksheffel Road in El Paso County, Colorado. LSC recently prepared a traffic impact study (TIS) for the Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 (SF-20-015 & SF-19-001) that included trips by the currently-proposed development. This memorandum is intended as a site-specific, final plat traffic report for Copper Chase at Sterling Ranch.

REPORT CONTENTS

This report presents:

- A description of Sterling Ranch filings that are currently under review, currently proposed, and planned for the future;
- A comparison of the trip-generation estimates for Copper Chase, based on the currently-proposed land use (and current ITE trip-generation rates) and the land-use/trip-generation estimate assumed in the *Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS*;
- The recommended street classifications for the internal streets within the currently-proposed Copper Chase at Sterling Ranch;
- Improvements needed with Copper Chase at Sterling Ranch; and
- The project's obligation to the County roadway improvement fee program.

RECENT TRAFFIC REPORTS

- LSC prepared a traffic impact study (TIS) for Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2, dated June 23, 2021. This development was essentially accounted for within that recent report. The prior version of that report, a traffic impact analysis for the *Sterling Ranch Phase 2 Preliminary Plan*, is dated December 20, 2018.
- The LSC TIS report for the entire Sterling Ranch development was dated June 5, 2008.
- LSC also prepared a traffic impact analysis for the first phase of the Sterling Ranch development, dated March 16, 2015; a memorandum for Phases 1-3, dated October 2, 2017.
- The following site-specific, final-plat traffic reports have also been prepared:
 - *Branding Iron at Sterling Ranch Filing No. 1 and Homestead at Sterling Ranch Filing No. 1*, dated December 19, 2017
 - *Sterling Ranch Filing No. 2*, dated April 3, 2018
 - *Homestead at Sterling Ranch Filing No. 2*, dated March 3, 2020
 - *Branding Iron at Sterling Ranch Filing No. 2*, dated March 31, 2020 (revised May 6, 2020)
 - *Homestead North Phase 1*, dated October 19, 2021

LAND USE AND ACCESS

Copper Chase at Sterling Ranch is planned to include the 138 lots for single-family homes and is located east of Vollmer Road and north of the future extension of Marksheffel Road. Figure 2 shows the proposed site plan. This parcel was included in the Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS as a part of Traffic Analysis Zone (TAZ) 2 and was labeled “Future residential/Patio Homes.” That report assumed this parcel would be developed with 134 lots for single-family homes in the “intermediate” future.

Access is proposed to Alzadea Drive and Bynum Drive. Both of these “Urban Local” roadways are part of Sterling Ranch Filing No. 2 which is currently under review and the Copper Chase at Sterling Ranch access points are consistent with the access assumed in TIS for that filing.

TRIP GENERATION

Copper Chase at Sterling Ranch site-generated vehicle trips have been estimated using the nationally-published trip-generation rates from *Trip Generation, 11th Edition, 2021* by the Institute of Transportation Engineers (ITE). Table 1 shows the trip-generation estimate. Table 1 also shows estimates of the traffic expected to be generated for the same parcel in the *Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS*. The trip-generation estimate shown in that report was based on the

trip-generation rates for Single Family Detached Housing from the **10th Edition** of *Trip Generation*, which are slightly higher than the rates shown in the current 11th Edition.

Copper Chase at Sterling Ranch is expected to generate 1,301 vehicle trips on the average weekday, with about half entering and half exiting the site during a 24-hour period. This is about 36 more vehicle trips per day than was assumed in the *Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS*. During the morning peak hour, which generally occurs for one hour between 6:30 and 8:30 a.m., about 25 vehicles would enter and 71 vehicles would exit the site. Due to the change in trip-generation rates, this is the same number of entering trips and three **fewer** exiting trips than was assumed in the *Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS*. During the afternoon peak hour, which generally occurs for one hour between 4:15 and 6:15 p.m., about 82 vehicles would enter and 48 vehicles would exit the site. Due to the change in trip-generation rates, this is two **fewer** entering tips and one **fewer** exiting trip than was assumed in the *Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS*.

TOTAL TRAFFIC VOLUMES AND LEVELS OF SERVICE

Please refer to the intermediate-term and long-term peak-hour traffic-volume projections and level of service analysis in the *Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS*. No significant changes are projected to the results of that study.

Include a reference to the pertinent Figures in that report.

SUBDIVISION STREET CLASSIFICATIONS

All of the internal streets within Copper Chase at Sterling Ranch should be classified Urban Local.

Include discussion that roads will be private. Discuss deviations being requested for proposed roadways.

ROADWAY IMPROVEMENTS

Tables 4 and 5 from the *Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS* contained a summary of needed improvements and recommendations for auxiliary turn-lane lengths. No improvements beyond those required for Sterling Ranch Filing No 2 are anticipated with Copper Chase at Sterling Ranch.

ROADWAY IMPROVEMENT FEE PROGRAM

This project will be required to participate in the El Paso County Road Improvement Fee Program. Copper Chase at Sterling Ranch will join the ten-mil PID. The 2019 ten-mil PID building permit fee portion associated with this option is \$1,221 per single-family dwelling unit. Based on 138 lots, the total building permit fee would be \$168,498. Note: program fees are subject to change.

Include discussion of sight distance evaluations, including intersection & stopping distances.

* * * * *

Provide a summary table of all improvements necessary to be in place for this development.

Include discussion on continuity and adequacy of pedestrian and cycle facilities within study area

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/KDF:jas

Enclosures: Table 1
Figures 1-2

Table 1

**Table 1
Trip Generation Estimate
Copper Chase at Sterling Ranch**

Land Use Code	Land Use Description	Trip Generation Units	Trip Generation Rates				Total External Trips Generated					
			Average Weekday Traffic	Morning Peak Hour		Evening Peak Hour		Average Weekday Traffic	Morning Peak Hour		Evening Peak Hour	
				In	Out	In	Out		In	Out	In	Out
Trip Generation Estimate Based on the Currently Proposed Land Use⁽¹⁾												
210	Single-Family Detached Housing	138 DU ⁽²⁾	9.43	0.18	0.52	0.59	0.35	1,301	25	71	82	48
Trip Generation Estimate for the Same Parcel From the <i>Sterling Ranch Phase 2 and Sterling Ranch Filing No. 2 Traffic Impact Study</i>, June 23, 2021⁽³⁾												
210	Single-Family Detached Housing	134 DU	9.44	0.19	0.56	0.62	0.37	1,265	25	74	84	49
Change in Trip Generation Estimate								36	0	-3	-2	-1

Notes:

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

(2) DU = dwelling unit

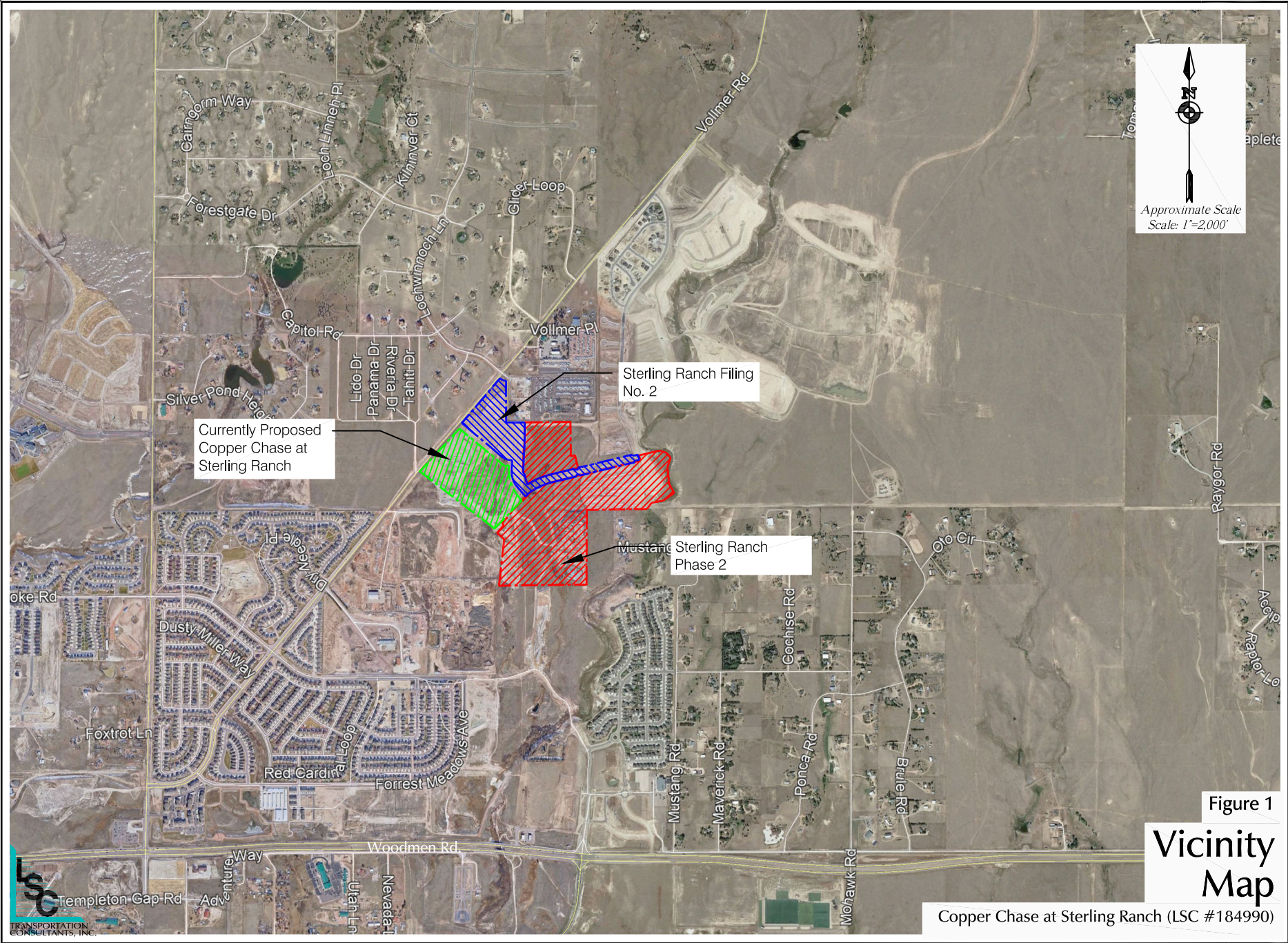
(3) Trip Generation Rates were based on "*Trip Generation, 10th Edition, 2017*" by the Institute of Transportation Engineers (ITE)

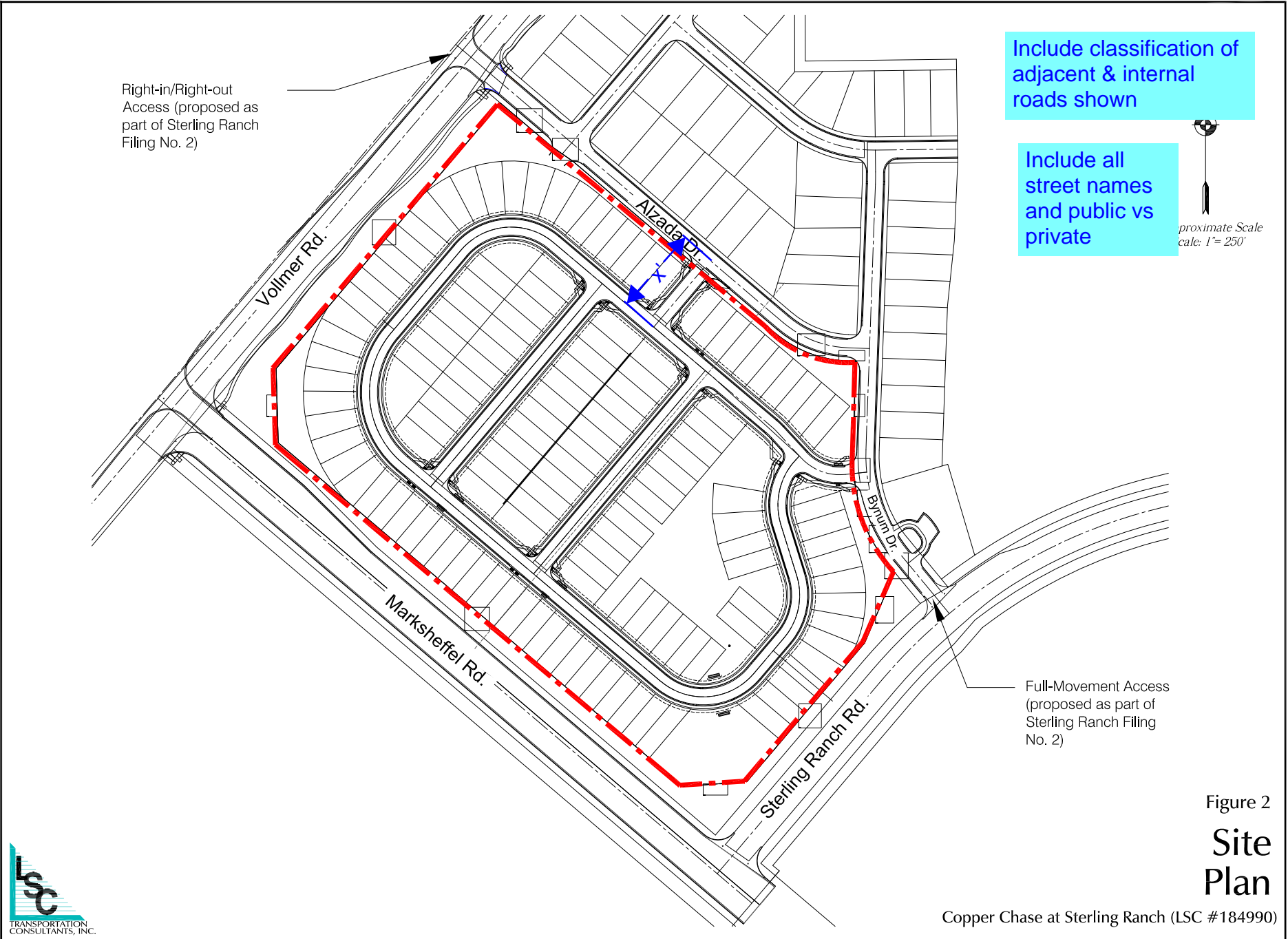
Source: LSC Transportation Consultants, Inc.

Dec-21

Figures 1-2

Include school pedestrian plan

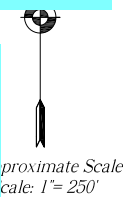




Right-in/Right-out Access (proposed as part of Sterling Ranch Filing No. 2)

Include classification of adjacent & internal roads shown

Include all street names and public vs private



Full-Movement Access (proposed as part of Sterling Ranch Filing No. 2)

Figure 2
Site Plan

Copper Chase at Sterling Ranch (LSC #184990)



PUDSP22002-R1-Traffic Impact Study.pdf Markup Summary

CDurham (10)

This project will be required to participate in Copper Chase at Sterling Ranch will join the portion associated with this option is \$1,22 the total building permit fee would be \$168

Include discussion of sight distance evaluations, including intersection & stopping distances.

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Include discussion of sight distance evaluations, including intersection & stopping distances.

the total building permit fee would be \$168.

Include discussion on continuity and adequacy of pedestrian and cycle facilities within study area.

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Include discussion on continuity and adequacy of pedestrian and cycle facilities within study area

* Sterling Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS. No ed to the results of that study.

CATIONS

1 Copper Chase at Sterling Ranch should be classified Urban Local Include discussion that roads will be private. Discuss deviations being requested for proposed roadways.
ng Ranch Filing No. 2 and Sterling Ranch Phase 2 TIS contained a note and recommendations for roadway section lengths. Be equared for Sterling Ranch Filing No 2 are anticipated with Copper

E PROGRAM

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Include discussion that roads will be private. Discuss deviations being requested for proposed roadways.

Include classification of adjacent & internal roads shown

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Include classification of adjacent & internal roads shown

Include all street names and public vs private

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Include all street names and public vs private



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Figures 1-2

Include school pedestrian plan

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Include school pedestrian plan

city road improvement fee Program.
2019 ten-mil PID building permit fee
city dwelling units. Based on 138 lots,
gram fees are subject to change.

Provide a summary table of all
improvements necessary to be in
place for this development.

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Provide a summary table of all improvements necessary to be in place for this development.

ask-hour traffic-volume projections and
s. 2 and Sterling Ranch Phase 2 TIS. No
body.
Include a reference to the
pertinent Figures in that report.

Ranch should be classified Urban Local.

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Include a reference to the pertinent Figures in that report.

4/28/22

PUDSP-22-002

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PUDSP-22-002