

**16850 Stepler Road**  
**Traffic Study Letter**  
PCD File No.

P233

Updated with file number.

El Paso County, Colorado

Revise to Traffic Study Memorandum

Revised.

### Traffic Engineer's Statement

The attached 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.




\_\_\_\_\_  
Jeffrey R. Planck; PE #53006

\_\_\_\_\_  
April 20, 2023  
Date

### Developer's Statement

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

  
\_\_\_\_\_  
Mr. Charlie Stewart  
16850 Stepler Road  
Colorado Springs, Colorado 80908

\_\_\_\_\_  
4/25/23  
Date

Please also provide analysis of Settlers Ranch Road and Steppler Road and include a long term analysis as required and done in the recent Abert Ranch Subdivision (PCD File SF1911)

April 20, 2023

Mr. Charlie Stewart  
16850 Steppler Road

The traffic study for Abert Ranch Subdivision was obtained and utilized as background traffic. The intersection of Settlers Ranch Road and Steppler Road was evaluated as a secondary access for the 2040 horizon.

Study Letter

Revised to Memo

Dear Mr. Stewart,

This letter documents the results of a traffic study including trip generation, trip distribution, traffic assignment, and intersection analysis for the proposed 16850 Steppler Road single family development along Settlers Ranch Road to the north of Hodgen Road in El Paso County, Colorado. A road impact fee assessment as well as a sight distance evaluation are also both included in this traffic study. This traffic study supports a rezoning effort for the 36.2-acre parcel which has the potential to include approximately 14 single-family homes, each on approximately 2.5-acre lots. No subdivision plat is proposed at this stage. Of note, most of the single-family homes in the surrounding area are also on 2.5-acre lots. A vicinity map is attached in **Figure 1**. A conceptual site plan for the project is attached.

For purposes of this study, it was assumed that this project will be completed in the next several years. Therefore, analysis was conducted for the 2026 short-term horizon. Per scoping with El Paso County, a long-term horizon is not included in this study. This study follows El Paso County guidelines to serve as a Traffic Memorandum based on the daily trip generation being between 100 and 500 trips per day.

The intersection of Hodgen Road and Timber Meadow Drive (Intersection #1) and the Settler Ranch Road and Timber Meadow Drive (#2) intersection are incorporated into this traffic study in accordance with El Paso County standards and requirements. Access to the development is anticipated to be along Settlers Ranch Road and this access is also included for evaluation in this traffic study.

Regional access to 16850 Steppler Road will be provided by Interstate 25 (I-25), State Highway 83 (SH-83), and SH-105 while primary access to the site will be provided by SH-83, Hodgen Road, and Steppler Road. Direct access to the site will be provided by a proposed future access along Settlers Ranch Road to the northeast of the Settlers Ranch Rd and Timber Meadow Drive (#2) intersection.

**EXISTING ROADWAY NETWORK**

Hodgen Road is an east-west roadway with one through lane in each direction and a posted speed limit of 55 miles per hour within the study area. The El Paso County Major Transportation Corridor Plan (MTCP) identifies Hodgen Road as a minor arterial through the 2060 horizon.

Rural local roadways per criteria have a 30mph design & posted speed. Please revise.

Timber Meadows Drive is a Rural Collector roadway as identified in previous traffic studies by Settlers Ranch subdivision and per the existing 1500 ADT (fig 3). Revise accordingly.

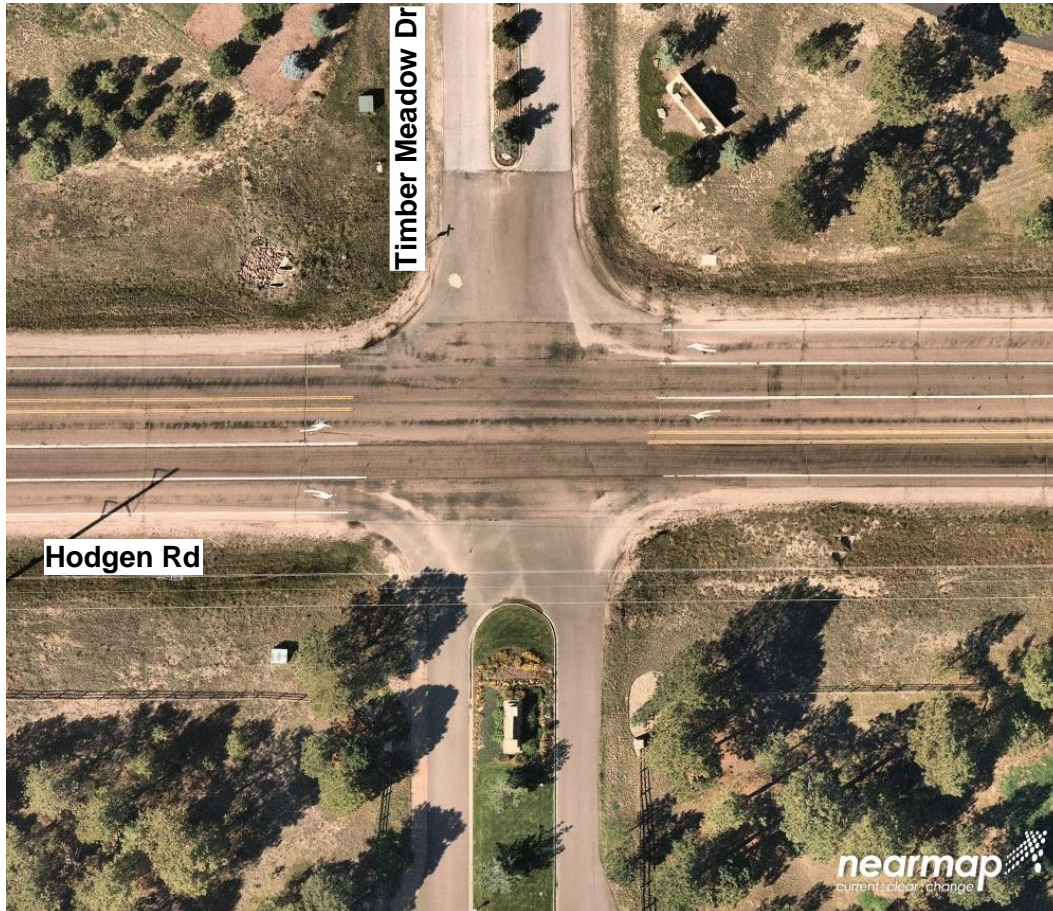
**Kimley»Horn**  
Revised to 30 mph.

6850 Steppler Road  
196639000  
Page 3

Timber Meadow Drive is a north-south roadway with one through lane in each direction and a posted speed limit of 30 miles per hour. This roadway operates as a two-lane local roadway classification based on the existing traffic volumes. Timber Meadows Drive has been categorized as a Rural Collector roadway in the revised traffic study.

Settlers Ranch Road provides one through lane in each direction. The posted speed limit along Settlers Ranch Road could be determined from Google Street View, but it is assumed to operate with a speed limit of 25 miles per hour as a local residential road. This roadway operates as a two-lane local roadway classification based on the existing and future traffic volumes.

The intersection of Hodgen Road and Timber Meadow Drive (#1) is an unsignalized intersection with stop control on the northbound and southbound Timber Meadow Drive approaches to the intersection. The eastbound and westbound Hodgen Road approaches each provide a left turn lane, a through lane, and a right turn lane in each direction. The northbound and southbound approach each provide one lane for shared left/through/right turning movements in each direction. An aerial photo that illustrates the existing intersection configuration is below (north is up).



Hodgen Road & Timber Meadow Drive (#1)

Please indicate what your background values account for besides the annual growth as it does not appear to account for the most current approved phase of the settler ranch subdivision Filing 2C (PCD File SF1818). Filing 2C added 11 lots to the existing 14 lots along Settlers Ranch Rd.

**EXISTING AND FUTURE TRAFFIC VOLUMES**

Existing turning movement counts were conducted at the study intersections on Thursday, April 6, 2023 during the morning peak hour and Wednesday, April 5, 2025 during the afternoon peak hour. The counts were taken under similar weather conditions during the other day. The traffic studies for Settlers Ranch Filing 2C (SF-1818), Settlers View SF-1818), and Abert Ranch Subdivision (SF-1911) were obtained and utilized as background traffic.

turning movement counts at these intersections were also taken during the morning and afternoon peak hours from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM. Traffic volumes are also shown in attached Figure 3 with count sheets attached. For purposes of this analysis, the volume traveling eastbound and westbound along Settlers Ranch Road from these traffic counts were conservatively assumed to carry through the project access along Settlers Ranch Road.

According to traffic projections provided by CDOT Online Transportation Information System (OTIS), SH-83 approximately two-thirds of a mile to the west of the site is expected to have an average 20-year growth factor of approximately 1.56. This equates to an annual growth rate of approximately 2.23 percent. This annual growth rate was used to calculate short-term 2026 background traffic projections at the study area intersections as shown in Figure 4. CDOT traffic projection information is attached.

**TRIP GENERATION**

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation rates is the *Trip Generation Manual*<sup>1</sup> published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. For this study, Kimley-Horn used the ITE Trip Generation Manual fitted curve equations that apply to Single-Family Detached Housing (ITE Code 210) for traffic associated with this development. The following Table 1 summarizes the estimated trip generation for traffic associated with the development (calculations attached).

**Table 1 – 16850 Stepler Road Traffic Generation**

| Land Use and Size  | Weekday Vehicles Trips |              |     |       |              |     |       |
|--|------------------------|--------------|-----|-------|--------------|-----|-------|
|  | Daily                  | AM Peak Hour |     |       | PM Peak Hour |     |       |
|  |                        | In           | Out | Total | In           | Out | Total |
| Single Family Detached Housing - 14 Dwelling Units (ITE 210) | 166                    | 3            | 9   | 12    | 10           | 6   | 16    |

As shown in the table and based on ITE Trip Generation calculations, 16850 Stepler Road is expected to generate approximately 166 weekday daily trips, with 12 of these trips occurring during the morning peak hour and 16 of these trips occurring during the afternoon peak hour.

<sup>1</sup> Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

**Settlers Ranch Road & Project Access (#3)**

The proposed 'T'-intersection of Settlers Ranch Road and Project Access (#3) is anticipated to be an unsignalized intersection with stop control on the northbound project access approach to the intersection with a recommended R1-1 "STOP" sign posted. The intersection is anticipated to operate well with one lane in each direction for shared turning movements and turn lanes are not anticipated to be needed or warranted at this intersection. With the addition of project traffic to this proposed intersection, the intersection movements are anticipated to operate at an acceptable LOS A through the 2026 horizon. **Table 5** provides the results of the level of service at this intersection.

**Table 5 – Settlers Ranch Road & Project Access (#3) LOS Results**

| Scenario     | AM Peak Hour    |     | PM Peak Hour    |     |
|--------------|-----------------|-----|-----------------|-----|
|              | Delay (sec/veh) | LOS | Delay (sec/veh) | LOS |
| Plus Project | 8.6             | A   | 8.6             | A   |
| Approach     | 0.0             | A   | 0.0             | A   |

refer to ECM table 2-21 and revise the distance accordingly throughout this paragraph due to the 30mph design speed

revise to 30 mph

**SIGHT DISTANCE EVALUATION**

It is recommended that sight triangles be provided at the project access along Settlers

Revised to include ECM Table 2-21 and 30 mph design speed.

to provide drivers exiting the project access a clear view of oncoming traffic. All objects within sight triangles must not obstruct drivers' views of the roadway. AASHTO standards were used along this roadway to determine the sight distance requirements. The following identifies sight distance requirements for the Settlers Ranch Road intersection associated with the project.

Revised.

With AASHTO standards and a residential roadway assumed speed limit of 25 miles per hour, the intersection sight distance for vehicles turning right from stop from the project access is 240 feet. Therefore, all obstructions for right turning vehicles from stop should be clear to the left within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line-of-sight distance of 240 feet located in the middle of the eastbound through lane along Settlers Ranch Road. The intersection sight distance for vehicles turning left from stop from the project access is 280 feet. Therefore, all obstructions for left-turning vehicles from stop should be clear to the right within the triangle created with a vertex point located 14.5 feet from the edge of the major road traveled way and a line-of-sight distance of 280 feet located in the middle of the westbound through lane along Settlers Ranch Road.

10 ft per ECM table 2-21 footnote 2

Further, Table 2-21 from the El Paso County Engineering Criteria Manual identifies an intersection sight distance of 280 feet for a two-lane roadway with a design speed of 25 miles per hour.

Updated to 10 feet.

Although the exact location of the proposed access along Settlers Ranch Road is not yet known at this time for the purposes of this traffic study, when this project access is determined and constructed, the sight triangles should be designated for vehicles turning out of the project access and onto Settlers Ranch Road. However, although the grade of

Settlers Ranch Road varies along the roadway, it should be noted the existing roadway alignment has very little sight obstructions adjacent to the roadway and it is not anticipated that this will become an issue.

Road Impact fees may be paid at time of building permit. Revise if necessary

**ROAD IMPACT FEE EVALUATION**

At the request of El Paso County, a road impact fee evaluation was conducted for this project based on the anticipated 14 single-family homes proposed to be constructed on this project. The road impact fee per dwelling unit for single-family homes based on El Paso County Impact Fee Schedule guidelines is \$3,830 per dwelling unit. Based on this per unit fee, this project would result in a total road impact fee of \$53,620. Upon plat recordation.

**CONCLUSIONS AND RECOMMENDATIONS**

Based on the traffic analysis presented in this report, Kimley-Horn and **Revised.** believes the 16850 Stepler Road project will be successfully incorporated into the existing and future roadway network. The following outlines the conclusions and recommendations from our traffic analysis:

- The project is proposed to construct approximately 14 single-family homes with project access anticipated to be gained along Settlers Ranch Road to the northeast of the Settlers Ranch Road and Timber Meadow Drive (#2) intersection. Access to the project is anticipated to be an unsignalized 'T'-intersection with stop control on the northbound project access approach to the intersection with an R1-1 "STOP" sign posted on this approach. Turn lanes are not anticipated to be needed at this intersection.
- The project is anticipated to generate approximately 166 weekday daily trips, with 12 of these trips occurring during the morning peak hour and 16 of these trips occurring during the afternoon peak hour.
- No improvements are anticipated to be needed at the Hodgen Road and Timber Meadow Drive (#1) or Settlers Ranch Road and Timber Meadow Drive (#2) intersections through the 2026 horizon with the addition of project traffic.
- Sight distance triangles should be provided at the proposed project access along Settlers Ranch Road, when constructed, based on the 280-foot intersection sight distance for vehicles turning from stop.
- The El Paso County road impact fee for the proposed 14 single-family homes in this project would result in a total of \$53,620 based on the \$3,830 per-unit fee for single-family homes.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

*Jeffrey R. Planck*

Jeffrey R. Planck, P.E.  
Project Traffic Engineer



-Please list any previous studies in the area (i.e. Abert Ranch, Settlers Ranch, Settlers View)

-Provide analysis of turn lane requirements at Timber Meadows and Hodgen. Per the total traffic volumes (figure 7) it appears that the threshold for a southbound dedicated right turn lane on Timber Meadows is met. Provide recommendations whether a dedicated right turn lane should be installed or if the queuing and widen radius that was allowed in the first fillings of Settlers ranch is sufficient. (previous TIS from Settlers Ranch will be uploaded onto EDARP for your use. See page 2 #7)

-With the addition of these 14 lots, the code maximum of 25 lots on a dead end road will be exceeded therefore a secondary access will be needed. Please discuss where the secondary access will be obtained. FYI: Abert Ranch worked with Settlers Ranch by providing a secondary emergency access through Settlers Ranch Rd to Stepler Rd from Abert Ranch Drive to the east. Consider working with Settlers Ranch to extend the gravel cul-de-sac to Abert Ranch Drive.

Figures

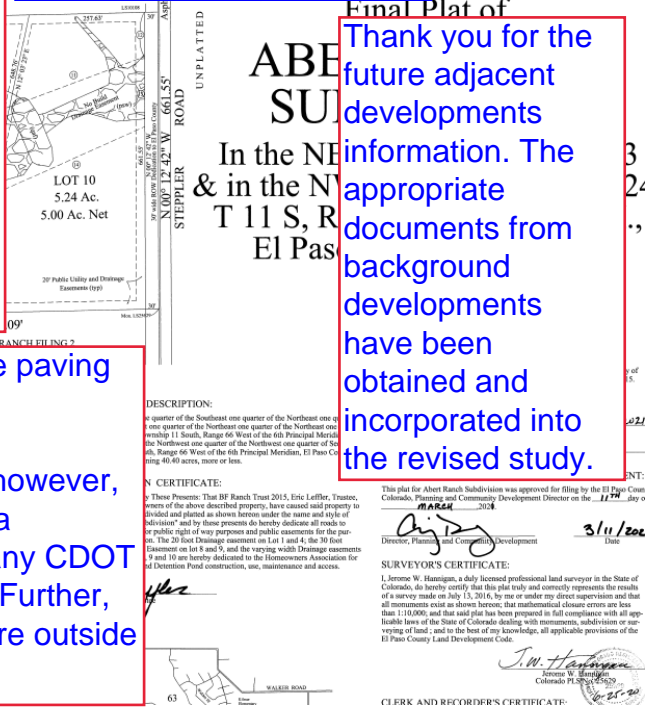
Adjacent development traffic studies have been listed in the revised study.

An evaluation has been provided for the potential need for a southbound right turn lane at the Timbers Meadow and Hodgen intersection. The pertinent information from page 2 of the original 2004 Settlers Ranch Traffic Memorandum has been documented in the study.

The need for a secondary access point has been discussed and evaluated in the traffic memorandum.

from PCD File SF1911 Plat #14702

14702



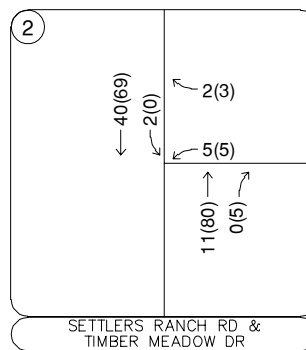
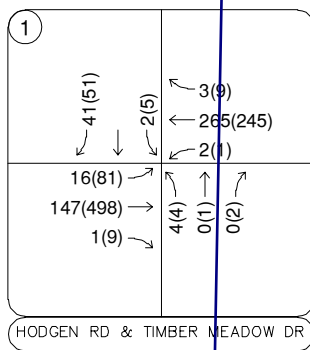
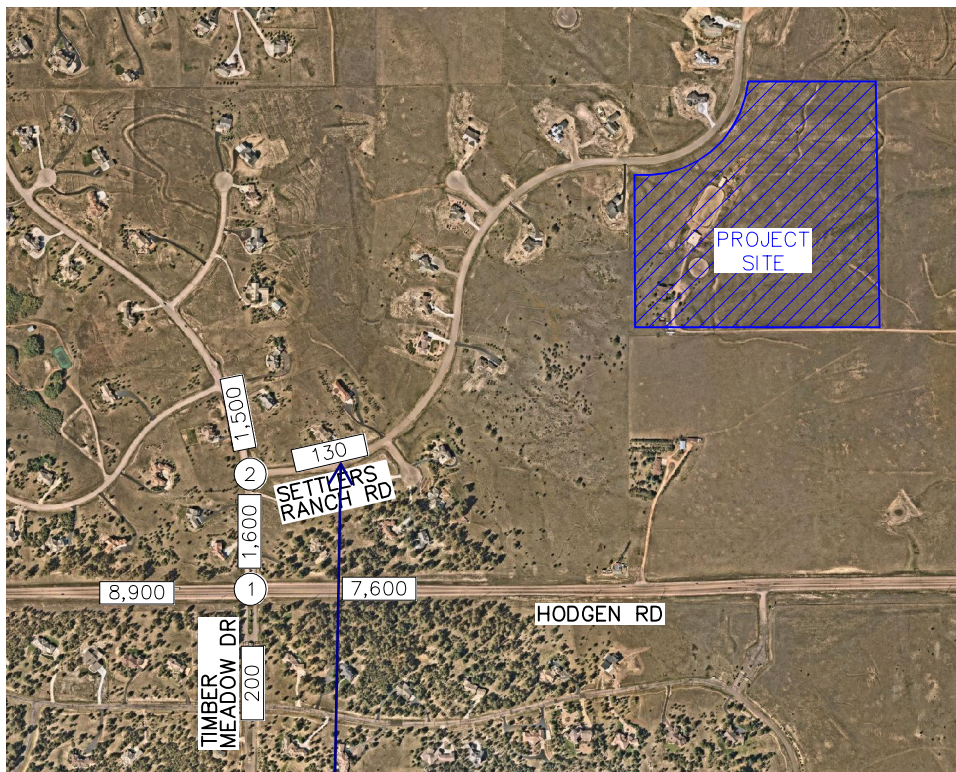
Thank you for the future adjacent developments information. The appropriate documents from background developments have been obtained and incorporated into the revised study.

Traffic contribution calculations have been provided for future paving of Stepler Road.

The traffic study has been sent to CDOT for referral review; however, a response has not been provided at this time. It is believed a development of this small magnitude is outside the limits of any CDOT requirements as the project is more than a mile from SH-83. Further, CDOT roadways were not evaluated in this study as they were outside the scope of this traffic memorandum.

Provide analysis of this subdivisions fair share contribution for the paving of Stepler Road. The adjacent subdivisions, Abert Ranch and Settlers View (PCD File SF1841) have each provided fair share contribution.

Additionally please contact CDOT regarding any requirements they may have. Please include any correspondence from CDOT in your report.



See comment on page 5 and adjust your analysis accordingly.

ADT updated to include future adjacent development traffic.

**LEGEND**

(X) Study Area Key Intersection

XXX(XXX) Weekday AM(PM) Peak Hour Traffic Volumes

XX,X00 Estimated Daily Traffic Volume

**FIGURE 4**  
 16850 STEPLER ROAD  
 EL PASO COUNTY, COLORADO  
 2026 BACKGROUND TRAFFIC VOLUMES